

Input: Colorimetric Natural Reflective System CNS18

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

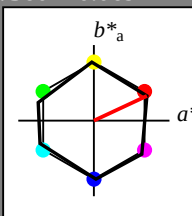
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 57 77 25

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 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*TCa 99.99 0.01 -

relative Inform. Technology (IT)
olv3* 1.0 0.75 0.75 (1.0)
cmyn3* 0.0 0.25 0.25 (0.0)
olv4* 1.0 0.75 0.75 (1.0)
cmyn4* 0.0 0.25 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 85.73 17.53 8.17
LAB*LABa 85.73 17.53 8.17
LAB*TCa 97.5 19.34 25.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCa 75.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 17.54 8.18
LAB*LABa 66.38 17.54 8.18
LAB*TCa 62.5 19.35 25.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCa 50.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 17.54 8.18
LAB*LABa 47.03 17.54 8.18
LAB*TCa 42.5 19.35 25.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 37.37 0.0 0.0
LAB*LABa 37.37 0.0 0.0
LAB*TCa 30.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 27.69 17.53 8.17
LAB*LABa 27.69 17.53 8.17
LAB*TCa 22.5 19.34 25.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCa 10.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 8.03 0.0 0.0
LAB*LABa 8.03 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

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

%Regularity

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

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

relative Inform. Technology (IT)
olv3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olv4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 76.05 35.07 16.35
LAB*LABa 76.05 35.07 16.35
LAB*TCa 75.0 38.69 25.0

relative Inform. Technology (IT)
olv3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olv4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.37 52.6 24.53
LAB*LABa 66.37 52.6 24.53
LAB*TCa 62.5 58.04 25.0

relative Inform. Technology (IT)
olv3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olv4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 56.7 70.13 32.7
LAB*LABa 56.7 70.13 32.7
LAB*TCa 50.0 77.38 25.0

relative Inform. Technology (IT)
olv3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olv4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 46.27 18.55 8.65
LAB*LABa 46.27 18.55 8.65
LAB*TCa 42.5 20.46 25.0

VE650-7, 5 step scales for constant CIELAB hue 25/360 = 0.069 (left)

BAM-test chart VE65; Colorimetric systems CNS18 & TLS18

D65: 2 coordinate data of 5 step colour scales for 10 hues

Output: Colorimetric Television Luminous System TLS18

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

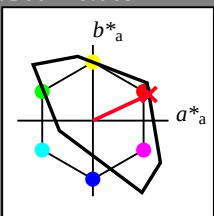
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 54 82 25

olv*Ma: 1.0 0.0 0.14

triangle lightness t^*



relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 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*TCa 99.99 0.01 -

relative Inform. Technology (IT)
olv3* 1.0 0.75 0.75 (1.0)
cmyn3* 0.0 0.25 0.25 (0.0)
olv4* 1.0 0.75 0.75 (1.0)
cmyn4* 0.0 0.25 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 84.97 18.54 8.64
LAB*LABa 84.97 18.54 8.64
LAB*TCa 87.5 20.46 25.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCa 75.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 17.54 8.18
LAB*LABa 66.38 17.54 8.18
LAB*TCa 62.5 19.35 25.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCa 50.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 17.54 8.18
LAB*LABa 47.03 17.54 8.18
LAB*TCa 42.5 19.35 25.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 37.37 0.0 0.0
LAB*LABa 37.37 0.0 0.0
LAB*TCa 30.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 27.69 17.53 8.17
LAB*LABa 27.69 17.53 8.17
LAB*TCa 22.5 19.34 25.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCa 10.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 8.03 0.0 0.0
LAB*LABa 8.03 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*LABa 0.0 0.0 0.0
LAB*TCa 0.0 0.01 -

TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	52.76	71.63	49.88	87.29	35
YMa	92.74	-20.02	84.97	87.3	103
LMa	84.0	-78.98	73.94	108.2	137
CMa	87.14	-44.41	-13.11	46.32	196
VMa	35.47	64.92	-95.06	115.12	304
MMa	59.01	89.33	-55.67	105.26	328
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

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

relative Inform. Technology (IT)
olv3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olv4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 74.53 37.09 17.29
LAB*LABa 74.53 37.09 17.29
LAB*TCa 75.0 40.92 25.0

relative Inform. Technology (IT)
olv3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olv4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 64.1 55.64 25.94
LAB*LABa 64.1 55.64 25.94
LAB*TCa 62.5 61.39 25.0

Input: Colorimetric Natural Reflective System CNS18

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

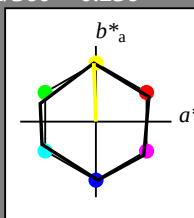
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 57 77 92

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



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

%Regularity

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

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

relative Inform. Technology (IT)	
olv3*	1.0 1.0 1.0 (1.0)
olv4*	0.0 0.0 0.0 (0.0)
olv5*	1.0 1.0 1.0 (1.0)
olv6*	0.0 0.0 0.0 (0.0)
olv7*	1.0 1.0 1.0 (1.0)
olv8*	0.0 0.0 0.0 (0.0)
olv9*	1.0 1.0 1.0 (1.0)
olv10*	0.0 0.0 0.0 (0.0)
olv11*	1.0 1.0 1.0 (1.0)
olv12*	0.0 0.0 0.0 (0.0)
olv13*	1.0 1.0 1.0 (1.0)
olv14*	0.0 0.0 0.0 (0.0)
olv15*	1.0 1.0 1.0 (1.0)
olv16*	0.0 0.0 0.0 (0.0)
olv17*	1.0 1.0 1.0 (1.0)
olv18*	0.0 0.0 0.0 (0.0)
olv19*	1.0 1.0 1.0 (1.0)
olv20*	0.0 0.0 0.0 (0.0)
olv21*	1.0 1.0 1.0 (1.0)
olv22*	0.0 0.0 0.0 (0.0)
olv23*	1.0 1.0 1.0 (1.0)
olv24*	0.0 0.0 0.0 (0.0)
olv25*	1.0 1.0 1.0 (1.0)
olv26*	0.0 0.0 0.0 (0.0)
olv27*	1.0 1.0 1.0 (1.0)
olv28*	0.0 0.0 0.0 (0.0)
olv29*	1.0 1.0 1.0 (1.0)
olv30*	0.0 0.0 0.0 (0.0)
olv31*	1.0 1.0 1.0 (1.0)
olv32*	0.0 0.0 0.0 (0.0)
olv33*	1.0 1.0 1.0 (1.0)
olv34*	0.0 0.0 0.0 (0.0)
olv35*	1.0 1.0 1.0 (1.0)
olv36*	0.0 0.0 0.0 (0.0)
olv37*	1.0 1.0 1.0 (1.0)
olv38*	0.0 0.0 0.0 (0.0)
olv39*	1.0 1.0 1.0 (1.0)
olv40*	0.0 0.0 0.0 (0.0)
olv41*	1.0 1.0 1.0 (1.0)
olv42*	0.0 0.0 0.0 (0.0)
olv43*	1.0 1.0 1.0 (1.0)
olv44*	0.0 0.0 0.0 (0.0)
olv45*	1.0 1.0 1.0 (1.0)
olv46*	0.0 0.0 0.0 (0.0)
olv47*	1.0 1.0 1.0 (1.0)
olv48*	0.0 0.0 0.0 (0.0)
olv49*	1.0 1.0 1.0 (1.0)
olv50*	0.0 0.0 0.0 (0.0)
olv51*	1.0 1.0 1.0 (1.0)
olv52*	0.0 0.0 0.0 (0.0)
olv53*	1.0 1.0 1.0 (1.0)
olv54*	0.0 0.0 0.0 (0.0)
olv55*	1.0 1.0 1.0 (1.0)
olv56*	0.0 0.0 0.0 (0.0)
olv57*	1.0 1.0 1.0 (1.0)
olv58*	0.0 0.0 0.0 (0.0)
olv59*	1.0 1.0 1.0 (1.0)
olv60*	0.0 0.0 0.0 (0.0)
olv61*	1.0 1.0 1.0 (1.0)
olv62*	0.0 0.0 0.0 (0.0)
olv63*	1.0 1.0 1.0 (1.0)
olv64*	0.0 0.0 0.0 (0.0)
olv65*	1.0 1.0 1.0 (1.0)
olv66*	0.0 0.0 0.0 (0.0)
olv67*	1.0 1.0 1.0 (1.0)
olv68*	0.0 0.0 0.0 (0.0)
olv69*	1.0 1.0 1.0 (1.0)
olv70*	0.0 0.0 0.0 (0.0)
olv71*	1.0 1.0 1.0 (1.0)
olv72*	0.0 0.0 0.0 (0.0)
olv73*	1.0 1.0 1.0 (1.0)
olv74*	0.0 0.0 0.0 (0.0)
olv75*	1.0 1.0 1.0 (1.0)
olv76*	0.0 0.0 0.0 (0.0)
olv77*	1.0 1.0 1.0 (1.0)
olv78*	0.0 0.0 0.0 (0.0)
olv79*	1.0 1.0 1.0 (1.0)
olv80*	0.0 0.0 0.0 (0.0)
olv81*	1.0 1.0 1.0 (1.0)
olv82*	0.0 0.0 0.0 (0.0)
olv83*	1.0 1.0 1.0 (1.0)
olv84*	0.0 0.0 0.0 (0.0)
olv85*	1.0 1.0 1.0 (1.0)
olv86*	0.0 0.0 0.0 (0.0)
olv87*	1.0 1.0 1.0 (1.0)
olv88*	0.0 0.0 0.0 (0.0)
olv89*	1.0 1.0 1.0 (1.0)
olv90*	0.0 0.0 0.0 (0.0)
olv91*	1.0 1.0 1.0 (1.0)
olv92*	0.0 0.0 0.0 (0.0)
olv93*	1.0 1.0 1.0 (1.0)
olv94*	0.0 0.0 0.0 (0.0)
olv95*	1.0 1.0 1.0 (1.0)
olv96*	0.0 0.0 0.0 (0.0)
olv97*	1.0 1.0 1.0 (1.0)
olv98*	0.0 0.0 0.0 (0.0)
olv99*	1.0 1.0 1.0 (1.0)
olv100*	0.0 0.0 0.0 (0.0)

relative Inform. Technology (IT)	
olv3*	1.0 1.0 1.0 (1.0)
olv4*	0.0 0.0 0.0 (0.0)
olv5*	1.0 1.0 1.0 (1.0)
olv6*	0.0 0.0 0.0 (0.0)
olv7*	1.0 1.0 1.0 (1.0)
olv8*	0.0 0.0 0.0 (0.0)
olv9*	1.0 1.0 1.0 (1.0)
olv10*	0.0 0.0 0.0 (0.0)
olv11*	1.0 1.0 1.0 (1.0)
olv12*	0.0 0.0 0.0 (0.0)
olv13*	1.0 1.0 1.0 (1.0)
olv14*	0.0 0.0 0.0 (0.0)
olv15*	1.0 1.0 1.0 (1.0)
olv16*	0.0 0.0 0.0 (0.0)
olv17*	1.0 1.0 1.0 (1.0)
olv18*	0.0 0.0 0.0 (0.0)
olv19*	1.0 1.0 1.0 (1.0)
olv20*	0.0 0.0 0.0 (0.0)
olv21*	1.0 1.0 1.0 (1.0)
olv22*	0.0 0.0 0.0 (0.0)
olv23*	1.0 1.0 1.0 (1.0)
olv24*	0.0 0.0 0.0 (0.0)
olv25*	1.0 1.0 1.0 (1.0)
olv26*	0.0 0.0 0.0 (0.0)
olv27*	1.0 1.0 1.0 (1.0)
olv28*	0.0 0.0 0.0 (0.0)
olv29*	1.0 1.0 1.0 (1.0)
olv30*	0.0 0.0 0.0 (0.0)
olv31*	1.0 1.0 1.0 (1.0)
olv32*	0.0 0.0 0.0 (0.0)
olv33*	1.0 1.0 1.0 (1.0)
olv34*	0.0 0.0 0.0 (0.0)
olv35*	1.0 1.0 1.0 (1.0)
olv36*	0.0 0.0 0.0 (0.0)
olv37*	1.0 1.0 1.0 (1.0)
olv38*	0.0 0.0 0.0 (0.0)
olv39*	1.0 1.0 1.0 (1.0)
olv40*	0.0 0.0 0.0 (0.0)
olv41*	1.0 1.0 1.0 (1.0)
olv42*	0.0 0.0 0.0 (0.0)
olv43*	1.0 1.0 1.0 (1.0)
olv44*	0.0 0.0 0.0 (0.0)
olv45*	1.0 1.0 1.0 (1.0)
olv46*	0.0 0.0 0.0 (0.0)
olv47*	1.0 1.0 1.0 (1.0)
olv48*	0.0 0.0 0.0 (0.0)
olv49*	1.0 1.0 1.0 (1.0)
olv50*	0.0 0.0 0.0 (0.0)
olv51*	1.0 1.0 1.0 (1.0)
olv52*	0.0 0.0 0.0 (0.0)
olv53*	1.0 1.0 1.0 (1.0)
olv54*	0.0 0.0 0.0 (0.0)
olv55*	1.0 1.0 1.0 (1.0)
olv56*	0.0 0.0 0.0 (0.0)
olv57*	1.0 1.0 1.0 (1.0)
olv58*	0.0 0.0 0.0 (0.0)
olv59*	1.0 1.0 1.0 (1.0)
olv60*	0.0 0.0 0.0 (0.0)
olv61*	1.0 1.0 1.0 (1.0)
olv62*	0.0 0.0 0.0 (0.0)
olv63*	1.0 1.0 1.0 (1.0)
olv64*	0.0 0.0 0.0 (0.0)
olv65*	1.0 1.0 1.0 (1.0)
olv66*	0.0 0.0 0.0 (0.0)
olv67*	1.0 1.0 1.0 (1.0)
olv68*	0.0 0.0 0.0 (0.0)
olv69*	1.0 1.0 1.0 (1.0)
olv70*	0.0 0.0 0.0 (0.0)
olv71*	1.0 1.0 1.0 (1.0)
olv72*	0.0 0.0 0.0 (0.0)
olv73*	1.0 1.0 1.0 (1.0)
olv74*	0.0 0.0 0.0 (0.0)
olv75*	1.0 1.0 1.0 (1.0)
olv76*	0.0 0.0 0.0 (0.0)
olv77*	1.0 1.0 1.0 (1.0)
olv78*	0.0 0.0 0.0 (0.0)
olv79*	1.0 1.0 1.0 (1.0)
olv80*	0.0 0.0 0.0 (0.0)
olv81*	1.0 1.0 1.0 (1.0)
olv82*	0.0 0.0 0.0 (0.0)
olv83*	1.0 1.0 1.0 (1.0)
olv84*	0.0 0.0 0.0 (0.0)
olv85*	1.0 1.0 1.0 (1.0)
olv86*	0.0 0.0 0.0 (0.0)
olv87*	1.0 1.0 1.0 (1.0)
olv88*	0.0 0.0 0.0 (0.0)
olv89*	1.0 1.0 1.0 (1.0)
olv90*	0.0 0.0 0.0 (0.0)
olv91*	1.0 1.0 1.0 (1.0)
olv92*	0.0 0.0 0.0 (0.0)
olv93*	1.0 1.0 1.0 (1.0)
olv94*	0.0 0.0 0.0 (0.0)
olv95*	1.0 1.0 1.0 (1.0)
olv96*	0.0 0.0 0.0 (0.0)
olv97*	1.0 1.0 1.0 (1.0)
olv98*	0.0 0.0 0.0 (0.0)
olv99*	1.0 1.0 1.0 (1.0)
olv100*	0.0 0.0 0.0 (0.0)

relative Inform. Technology (IT)	
olv3*	1.0 1.0 1.0 (1.0)
olv4*	0.0 0.0 0.0 (0.0)
olv5*	1.0 1.0 1.0 (1.0)
olv6*	0.0 0.0 0.0 (0.0)
olv7*	1.0 1.0 1.0 (1.0)
olv8*	0.0 0.0 0.0 (0.0)
olv9*	1.0 1.0 1.0 (1.0)
olv10*	0.0 0.0 0.0 (0.0)
olv11*	1.0 1.0 1.0 (1.0)
olv12*	0.0 0.0 0.0 (0.0)
olv13*	1.0 1.0 1.0 (1.0)
olv14*	0.0 0.0 0.0 (0.0)
olv15*	1.0 1.0 1.0 (1.0)
olv16*	0.0 0.0 0.0 (0.0)
olv17*	1.0 1.0 1.0 (1.0)
olv18*	0.0 0.0 0.0 (0.0)
olv19*	1.0 1.0 1.0 (1.0)
olv20*	0.0 0.0 0.0 (0.0)
olv21*	1.0 1.0 1.0 (1.0)
olv22*	0.0 0.0 0.0 (0.0)
olv23*	1.0 1.0 1.0 (1.0)
olv24*	0.0 0.0 0.0 (0.0)
olv25*	1.0 1.0 1.0 (1.0)
olv26*	0.0 0.0 0.0 (0.0)
olv27*	1.0 1.0 1.0 (1.0)
olv28*	0.0 0.0 0.0 (0.0)
olv29*	1.0 1.0 1.0 (1.0)
olv30*	0.0 0.0 0.0 (0.0)
olv31*	1.0 1.0 1.0 (1.0)
olv32*	0.0 0.0 0.0 (0.0)
olv33*	1.0 1.0 1.0 (1.0)
olv34*	0.0 0.0 0.0 (0.0)
olv35*	1.0 1.0 1.0 (1.0)
olv36*	0.0 0.0 0.0 (0.0)
olv37*	1.0 1.0 1.0 (1.0)
olv38*	0.0 0.0 0.0 (0.0)
olv39*	1.0 1.0 1.0 (1.0)
olv40*	0.0 0.0 0.0 (0.0)
olv41*	1.0 1.0 1.0 (1.0)
olv42*	0.0 0.0 0.0 (0.0)
olv43*	1.0 1.0 1.0 (1.0)
olv44*	0.0 0.0 0.0 (0.0)
olv45*	1.0 1.0 1.0 (1.0)
olv46*	0.0 0.0 0.0 (0.0)
olv47*	1.0 1.0 1.0 (1.0)
olv48*	0.0 0.0 0.0 (0.0)
olv49*	1.0 1.0 1.0 (1.0)
olv50*	0.0 0.0 0.0 (0.0)
olv51*	1.0 1.0 1.0 (1.0)
olv52*	0.0 0.0 0.0 (0.0)
olv53*	1.0 1.0 1.0 (1.0)
olv54*	0.0 0.0 0.0 (0.0)
olv55*	1.0 1.0 1.0 (1.0)
olv56*	0.0 0.0 0.0 (0.0)
olv57*	1.0 1.0 1.0 (1.0)
olv58*	0.0 0.0 0.0 (0.0)
olv59*	1.0 1.0 1.0 (1.0)
olv60*	0.0 0.0 0.0 (0.0)
olv61*	1.0 1.0 1.0 (1.0)
olv62*	0.0 0.0 0.0 (0.0)
olv63*	1.0 1.0 1.0 (1.0)
olv64*	0.0 0.0 0.0 (0.0)
olv65*	1.0 1.0 1.0 (1.0)
olv66*	0.0 0.0 0.0 (0.0)
olv67*	1.0 1.0 1.0 (1.0)
olv68*	0.0 0.0 0.0 (0.0)
olv69*	1.0 1.0 1.0 (1.0)
olv70*	0.0 0.0 0.0 (0.0)
olv71*	1.0 1.0 1.0 (1.0)
olv72*	0.0 0.0 0.0 (0.0)
olv73*	1.0 1.0 1.0 (1.0)
olv74*	0.0 0.0 0.0 (0.0)
olv75*	1.0 1.0 1.0 (1.0)
olv76*	0.0 0.0 0.0 (0.0)
olv77*	1.0 1.0 1.0 (1.0)
olv78*	0.0 0.0 0.0 (0.0)
olv79*	1.0 1.0 1.0 (1.0)
olv80*	0.0 0.0 0.0 (0.0)
olv81*	1.0 1.0 1.0 (1.0)
olv82*	0.0 0.0 0.0 (0.0)
olv83*	1.0 1.0 1.0 (1.0)
olv84*	0.0 0.0 0.0 (0.0)
olv85*	1.0 1.0 1.0 (1.0)
olv86*	0.0 0.0 0.0 (0.0)
olv87*	1.0 1.0 1.0 (1.0)
olv88*	0.0 0.0 0.0 (0.0)
olv89*	1.0 1.0 1.0 (1.0)
olv90*	0.0 0.0 0.0 (0.0)
olv91*	1.0 1.0 1.0 (1.0)
olv92*	0.0 0.0 0.0 (0.0)
olv93*	1.0 1.0 1.0 (1.0)
olv94*	0.0 0.0 0.0 (0.0)
olv95*	1.0 1.0 1.0 (1.0)
olv96*	0.0 0.0 0.0 (0.0)
olv97*	1.0 1.0 1.0 (1.0)
olv98*	0.0 0.0 0.0 (0.0)
olv99*	1.0 1.0 1.0 (1.0)
olv100*	0.0 0.0 0.0 (0.0)

relative Inform. Technology (IT)			
olv3*	1.0	1.0	0.25 (1.0)
cmyn3*	0.0	0.0	0.75 (0.0)
olv4*	1.0	1.0	0.25 1.0
cmyn4*	0.0	0.0	0.75 0.0
standard and adapted CIELAB			
LAB*LAB	66.37	-2.02	58.01
LAB*AB ₀	66.37	-2.02	58.01

Input: Colorimetric Natural Reflective System CNS18

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

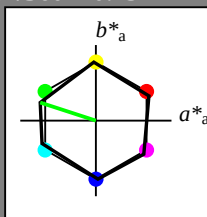
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 57 77 162

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



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

%Regularity

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

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

relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 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*ABa 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 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 1.0 0.0 0.0
lab*tce 1.0 0.0 0.0
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*ABa 76.07 0.0 0.0
LAB*TChA 75.00 0.01 -

relative CIELAB lab*
lab*lab 0.75 0.0 0.0
lab*tch 0.75 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.75 0.0 0.0
lab*tce 0.75 0.0 0.0
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (0.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*ABa 56.72 0.0 0.0
LAB*TChA 50.00 0.01 -

relative CIELAB lab*
lab*lab 0.5 0.0 0.0
lab*tch 0.5 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.5 0.0 0.0
lab*tce 0.5 0.0 0.0
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 37.37 0.0 0.0
LAB*ABa 37.37 0.0 0.0
LAB*TChA 25.00 0.01 -

relative CIELAB lab*
lab*lab 0.25 0.0 0.0
lab*tch 0.25 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.25 0.0 0.0
lab*tce 0.25 0.0 0.0
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (1.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 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 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*tce 0.0 0.0 0.0
lab*nce 1.0 0.0 0.0

$n^* = 1.0$

relative Inform. Technology (IT)
olv3* 0.75 1.0 0.75 (1.0)
cmyn3* 0.25 0.0 0.25 (0.0)
olv4* 1.0 0.75 1.0 (1.0)
cmyn4* 0.25 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 85.73 -18.39 5.98
LAB*ABa 85.73 -18.39 5.98
LAB*TChA 97.5 19.34 162.0

relative CIELAB lab*
lab*lab 0.875 -0.237 0.077
lab*tch 0.875 0.25 0.45
lab*nch 0.0 0.25 0.45
relative Natural Colour (NC)
lab*trj 0.875 -0.249 0.001
lab*tce 0.875 0.25 0.499
lab*nce 0.0 0.25 0.999

relative Inform. Technology (IT)
olv3* 0.5 0.75 0.5 (1.0)
cmyn3* 0.5 0.25 0.5 (0.0)
olv4* 0.75 1.0 0.75 (1.0)
cmyn4* 0.25 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 -18.39 5.98
LAB*ABa 66.38 -18.39 5.98
LAB*TChA 62.5 19.35 162.0

relative CIELAB lab*
lab*lab 0.625 -0.237 0.077
lab*tch 0.625 0.25 0.45
lab*nch 0.0 0.25 0.45
relative Natural Colour (NC)
lab*trj 0.625 -0.249 0.001
lab*tce 0.625 0.25 0.499
lab*nce 0.0 0.25 0.999

relative Inform. Technology (IT)
olv3* 0.25 0.5 0.25 (1.0)
cmyn3* 0.75 0.25 0.75 (0.0)
olv4* 0.75 1.0 0.75 (1.0)
cmyn4* 0.25 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 -36.8 11.96
LAB*ABa 56.71 -36.8 11.96
LAB*TChA 50.0 38.7 162.0

relative CIELAB lab*
lab*lab 0.375 -0.475 0.154
lab*tch 0.375 0.25 0.45
lab*nch 0.0 0.25 0.45
relative Natural Colour (NC)
lab*trj 0.375 -0.499 0.003
lab*tce 0.375 0.25 0.499
lab*nce 0.0 0.25 0.999

relative Inform. Technology (IT)
olv3* 0.0 0.5 0.0 (1.0)
cmyn3* 1.0 0.5 0.0 (0.0)
olv4* 0.5 1.0 0.5 (1.0)
cmyn4* 0.5 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 37.37 -36.8 11.96
LAB*ABa 37.37 -36.8 11.96
LAB*TChA 25.01 38.69 162.0

relative CIELAB lab*
lab*lab 0.125 -0.474 0.154
lab*tch 0.125 0.25 0.45
lab*nch 0.0 0.25 0.45
relative Natural Colour (NC)
lab*trj 0.125 -0.499 0.003
lab*tce 0.125 0.25 0.499
lab*nce 0.0 0.25 0.999

relative Inform. Technology (IT)
olv3* 0.125 0.25 0.125 (1.0)
cmyn3* 0.125 0.25 0.125 (0.0)
olv4* 0.125 1.0 0.125 (1.0)
cmyn4* 0.125 0.0 0.125 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 0.0 0.0
LAB*TChA 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.125 0.25 0.125 (1.0)
lab*tch 0.125 0.25 0.125 (0.0)
lab*nch 0.0 0.125 0.125 (0.0)
relative Natural Colour (NC)
lab*trj 0.125 0.25 0.125 (1.0)
lab*tce 0.125 0.25 0.125 (0.0)
lab*nce 0.0 0.125 0.125 (0.0)

$n^* = 0.50$

relative Inform. Technology (IT)
olv3* 0.5 1.0 0.5 (1.0)
cmyn3* 0.5 0.0 0.5 (0.0)
olv4* 0.5 1.0 0.5 (1.0)
cmyn4* 0.5 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 -36.8 11.96
LAB*ABa 76.07 -36.8 11.96
LAB*TChA 75.0 38.69 162.0

relative CIELAB lab*
lab*lab 0.75 -0.474 0.154
lab*tch 0.75 0.25 0.45
lab*nch 0.0 0.25 0.45
relative Natural Colour (NC)
lab*trj 0.75 -0.499 0.003
lab*tce 0.75 0.25 0.499
lab*nce 0.0 0.25 0.999

relative Inform. Technology (IT)
olv3* 0.25 1.0 0.25 (1.0)
cmyn3* 0.75 0.25 0.75 (0.0)
olv4* 0.25 1.0 0.25 (1.0)
cmyn4* 0.25 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 -36.8 11.96
LAB*ABa 56.71 -36.8 11.96
LAB*TChA 50.0 38.7 162.0

relative CIELAB lab*
lab*lab 0.375 -0.712 0.232
lab*tch 0.375 0.25 0.45
lab*nch 0.0 0.25 0.45
relative Natural Colour (NC)
lab*trj 0.375 -0.749 0.004
lab*tce 0.375 0.25 0.499
lab*nce 0.0 0.25 0.999

relative Inform. Technology (IT)
olv3* 0.0 0.75 0.0 (1.0)
cmyn3* 1.0 0.25 1.0 (0.0)
olv4* 0.25 1.0 0.25 (1.0)
cmyn4* 0.25 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 37.37 -36.8 11.96
LAB*ABa 37.37 -36.8 11.96
LAB*TChA 25.01 38.69 162.0

relative CIELAB lab*
lab*lab 0.125 -0.712 0.232
lab*tch 0.125 0.25 0.45
lab*nch 0.0 0.25 0.45
relative Natural Colour (NC)
lab*trj 0.125 -0.749 0.004
lab*tce 0.125 0.25 0.499
lab*nce 0.0 0.25 0.999

relative Inform. Technology (IT)
olv3* 0.0 0.25 0.0 (1.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olv4* 0.25 0.0 0.25 (1.0)
cmyn4* 0.25 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 0.0 0.0
LAB*TChA 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.25 0.0 (1.0)
lab*tch 0.0 0.25 0.0 (0.0)
lab*nch 0.0 0.0 0.25 (0.0)
relative Natural Colour (NC)
lab*trj 0.0 0.25 0.0 (1.0)
lab*tce 0.0 0.25 0.0 (0.0)
lab*nce 0.0 0.0 0.25 (0.0)

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (1.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 0.0 0.0
LAB*TChA 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0 (1.0)
lab*tch 0.0 0.0 0.0 (0.0)
lab*nch 1.0 0.0 0.0 (0.0)
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0 (1.0)
lab*tce 0.0 0.0 0.0 (0.0)
lab*nce 1.0 0.0 0.0 (0.0)

$n^* = 0.25$

relative Inform. Technology (IT)
olv3* 0.25 0.0 0.25 (1.0)
cmyn3* 0.75 0.0 0.75 (0.0)
olv4* 0.25 1.0 0.25 (1.0)
cmyn4* 0.75 0.0 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 -36.8 11.96
LAB*ABa 56.71 -36.8 11.96
LAB*TChA 50.0 38.7 162.0

relative CIELAB lab*
lab*lab 0.375 -0.712 0.232
lab*tch 0.375 0.25 0.45
lab*nch 0.0 0.25 0.45
relative Natural Colour (NC)
lab*trj 0.375 -0.749 0.004
lab*tce 0.375 0.25 0.499
lab*nce 0.0 0.25 0.999

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 0.0 1.0 (0.0)
olv4* 0.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (1.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 0.0 0.0
LAB*TChA 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0 (1.0)
lab*tch 0.0 0.0 0.0 (0.0)
lab*nch 1.0 0.0 0.0 (0.0)
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0 (1.0)
lab*tce 0.0 0.0 0.0 (0.0)
lab*nce 1.0 0.0 0.0 (0.0)

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 0.0 1.0 (0.0)
olv4* 0.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (1.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 0.0 0.0
LAB*TChA 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0 (1.0)
lab*tch 0.0 0.0 0.0 (0.0)
lab*nch 1.0 0.0 0.0 (0.0)
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0 (1.0)
lab*tce 0.0 0.0 0.0 (0.0)
lab*nce 1.0 0.0 0.0 (0.0)

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 0.0 1.0 (0.0)
olv4* 0.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (1.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 0.0 0.0
LAB*TChA 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0 (1.0)
lab*tch 0.0 0.0 0.0 (0.0)
lab*nch 1.0 0.0 0.0 (0.0)
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0 (1.0)
lab*tce 0.0 0.0 0.0 (0.0)
lab*nce 1.0 0.0 0.0 (0.0)

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 0.0 1.0 (0.0)
olv4* 0.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (1.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 0.0 0.0
LAB*TChA 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0 (1.0)
lab*tch 0.0 0.0 0.0 (0.0)
lab*nch 1.0 0.0 0.0 (0.0)
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0 (1.0)
lab*tce 0.0 0.0 0.0 (0.0)
lab*nce 1.0 0.0 0.0 (0.0)

$n^* = 0.00$

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 -36.8 11.96
LAB*ABa 56.71 -36.8 11.96
LAB*TChA 50.0 38.7 162.0

relative CIELAB lab*
lab*lab 0.5 -0.95 0.309
lab*tch 0.5 0.0 0.45
lab*nch 0.0 1.0 0.45
relative Natural Colour (NC)
lab*trj 0.5 -0.999 0.005
lab*tce 0.5 0.0 0.499
lab*nce 0.0 1.0 0.999

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 0.25 1.0 0.25 (1.0)
cmyn4* 0.75 0.0 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 37.37 -36.8 11.96
LAB*ABa 37.37 -36.8 11.96
LAB*TChA 25.01 38.69 162.0

relative CIELAB lab*
lab*lab 0.125 -0.95 0.309
lab*tch 0.125 0.25 0.45
lab*nch 0.0 0.25 0.45
relative Natural Colour (NC)
lab*trj 0.125 -0.999 0.005
lab*tce 0.125 0.25 0.499
lab*nce 0.0 0.25 0.999

relative Inform. Technology (IT)
olv3* 0.0 0.25 0.0 (1.0)
cmyn3* 1.0 0.25 1.0 (0.0)
olv4* 0.0 0.25 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (1.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 0.0 0.0
LAB*TChA 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.25 0.0 (1.0)
lab*tch 0.0 0.25 0.0 (0.0)
lab*nch 1.0 0.0 0.0 (0.0)
relative Natural Colour (NC)
lab*trj 0.0 0.25 0.0 (1.0)
lab*tce 0.0 0.25 0.0 (0.0)
lab*nce 1.0 0.0 0.0 (0.0)

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (1.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 0.0 0.0
LAB*TChA 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0 (1.0)
lab*tch 0.0 0.0 0.0 (0.0)
lab*nch 1.0 0.0 0.0 (0.0)
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0 (1.0)
lab*tce 0.0 0.0 0.0 (0.0)
lab*nce 1.0 0.0 0.0 (0.0)

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (1.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*ABa 18.03 0.0 0.0
LAB*TChA 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0 (1.0)
lab*tch 0.0 0.0 0.0 (0.0)
lab*nch 1.0 0.0 0.0 (0.0)
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0 (1.0)
lab*tce 0.0 0.0 0.0 (0.0)
lab*nce 1.0 0.0 0.0 (0.0)

$n^* = 1.0$

Output: Colorimetric Television Luminous System TLS18

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

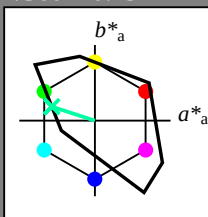
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 86 60 162

olv*Ma: 0.0 1.0 0.64

triangle lightness t^*



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	52.76	71.63	49.88	87.29	35
YMa	92.74	-20.02	84.97	87.3	103
Lma	84.0	-78.98	73.94	108.2	137
Cma	87.14	-44.41	-13.11	46.32	196
Vma	35.47	64.92	-95.06	115.12	304
Mma	59.01	89.33	-55.67	105.26	328
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

Input: Colorimetric Natural Reflective System CNS18

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

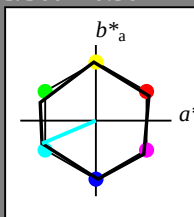
lab^*tch and lab^*nch

D65: hue G50B

LCH*Ma: 57 77 203

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



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

%Regularity

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

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

relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 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 Inform. Technology (IT)
olv3* 0.75 1.0 1.0 (1.0)
cmyn3* 0.25 0.0 0.0 (0.0)
olv4* 0.75 1.0 1.0 (1.0)
cmyn4* 0.25 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 85.73 -17.79 -7.55
LAB*LABa 85.73 -17.79 -7.55
LAB*TCHa 97.5 19.34 203.0

relative Inform. Technology (IT)
olv3* 0.5 1.0 1.0 (1.0)
cmyn3* 0.5 0.0 0.0 (0.0)
olv4* 0.5 1.0 1.0 (1.0)
cmyn4* 0.5 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.05 -35.61 -15.11
LAB*LABa 76.05 -35.61 -15.11
LAB*TCHa 75.0 38.69 203.0

relative Inform. Technology (IT)
olv3* 0.25 1.0 1.0 (1.0)
cmyn3* 0.25 0.0 0.0 (0.0)
olv4* 0.25 1.0 1.0 (1.0)
cmyn4* 0.25 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 66.37 -53.42 -22.67
LAB*LABa 66.37 -53.42 -22.67
LAB*TCHa 62.5 58.04 203.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCHa 75.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 66.38 -17.8 -7.55
LAB*LABa 66.38 -17.8 -7.55
LAB*TCHa 62.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.5 0.75 0.75 (1.0)
cmyn3* 0.5 0.25 0.25 (0.0)
olv4* 0.75 1.0 1.0 (0.75)
cmyn4* 0.5 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 56.71 -35.61 -15.11
LAB*LABa 56.71 -35.61 -15.11
LAB*TCHa 50.0 38.7 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 0.25 1.0 1.0 0.75
cmyn4* 0.25 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 47.03 -53.42 -22.67
LAB*LABa 47.03 -53.42 -22.67
LAB*TCHa 37.5 58.04 203.0

relative Inform. Technology (IT)
olv3* 0.75 0.5 0.5 (0.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 1.0 1.0 1.0 0.5
cmyn4* 0.0 0.0 0.0 0.5
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCHa 50.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.5 0.5 (0.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 1.0 1.0 1.0 0.5
cmyn4* 0.0 0.0 0.0 0.5
standard and adapted CIELAB
LAB*LAB 47.03 -17.8 -7.55
LAB*LABa 47.03 -17.8 -7.55
LAB*TCHa 37.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (0.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 1.0 1.0 1.0 0.5
cmyn4* 0.0 0.0 0.0 0.5
standard and adapted CIELAB
LAB*LAB 37.51 -58.04 -20.30
LAB*LABa 37.51 -58.04 -20.30
LAB*TCHa 37.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.5 0.5 (0.0)
cmyn3* 0.25 0.5 0.5 (0.0)
olv4* 0.25 1.0 1.0 0.5
cmyn4* 0.25 0.0 0.0 0.5
standard and adapted CIELAB
LAB*LAB 27.36 -53.42 -22.67
LAB*LABa 27.36 -53.42 -22.67
LAB*TCHa 27.36 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
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 Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 85.73 -17.79 -7.55
LAB*LABa 85.73 -17.79 -7.55
LAB*TCHa 97.5 19.34 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCHa 75.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 66.38 -17.8 -7.55
LAB*LABa 66.38 -17.8 -7.55
LAB*TCHa 62.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCHa 50.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 47.03 -17.8 -7.55
LAB*LABa 47.03 -17.8 -7.55
LAB*TCHa 37.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 37.51 -58.04 -20.30
LAB*LABa 37.51 -58.04 -20.30
LAB*TCHa 37.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 27.36 -53.42 -22.67
LAB*LABa 27.36 -53.42 -22.67
LAB*TCHa 27.36 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
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 Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 85.73 -17.79 -7.55
LAB*LABa 85.73 -17.79 -7.55
LAB*TCHa 97.5 19.34 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCHa 75.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 66.38 -17.8 -7.55
LAB*LABa 66.38 -17.8 -7.55
LAB*TCHa 62.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCHa 50.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 47.03 -17.8 -7.55
LAB*LABa 47.03 -17.8 -7.55
LAB*TCHa 37.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 37.51 -58.04 -20.30
LAB*LABa 37.51 -58.04 -20.30
LAB*TCHa 37.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 27.36 -53.42 -22.67
LAB*LABa 27.36 -53.42 -22.67
LAB*TCHa 27.36 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
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 Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 85.73 -17.79 -7.55
LAB*LABa 85.73 -17.79 -7.55
LAB*TCHa 97.5 19.34 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCHa 75.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 66.38 -17.8 -7.55
LAB*LABa 66.38 -17.8 -7.55
LAB*TCHa 62.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCHa 50.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 47.03 -17.8 -7.55
LAB*LABa 47.03 -17.8 -7.55
LAB*TCHa 37.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 37.51 -58.04 -20.30
LAB*LABa 37.51 -58.04 -20.30
LAB*TCHa 37.5 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 27.36 -53.42 -22.67
LAB*LABa 27.36 -53.42 -22.67
LAB*TCHa 27.36 19.35 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
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 Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 85.73 -17.79 -7.55
LAB*LABa 85.73 -17.79 -7.55
LAB*TCHa 97.5 19.34 203.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCHa 75.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 66.38 -17.8 -7.55
LAB*LABa 66.38 -17.8 -7.55
LAB*TCHa 62.5 19.35 203.0

VE650-7, 5 step scales for constant CIELAB hue 203/360 = 0.564 (left)

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

BAM-test chart VE65; Colorimetric systems CNS18 & TLS18

D65: 2 coordinate data of 5 step colour scales for 10 hues

input: olv* setrgbcolor

output: no change compared to input

Input: Colorimetric Natural Reflective System CNS18

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

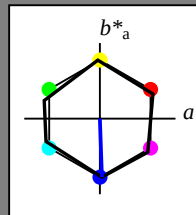
lab^*tch and lab^*nch

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

%Regularity

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

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

relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 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 Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 0.75 0.75 0.75 (1.0)
cmyn4* 0.25 0.25 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 85.73 0.68 -19.32
LAB*LABa 85.73 0.68 -19.32
LAB*TCHa 97.5 19.34 272.0

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 76.05 1.35 -38.66
LAB*LABa 76.05 1.35 -38.66
LAB*TCHa 75.0 38.69 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 0.25 0.25 0.25 (1.0)
cmyn4* 0.75 0.75 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 66.37 2.03 -58.0
LAB*LABa 66.37 2.03 -58.0
LAB*TCHa 62.5 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 56.7 2.7 -77.33
LAB*LABa 56.7 2.7 -77.33
LAB*TCHa 50.0 77.38 272.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCHa 75.0 0.01

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 0.68 -19.33
LAB*LABa 66.38 0.68 -19.33
LAB*TCHa 62.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 0.25 0.25 0.25 (1.0)
cmyn4* 0.75 0.75 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 1.35 -38.67
LAB*LABa 56.71 1.35 -38.67
LAB*TCHa 50.0 38.7 272.0

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 2.03 -58.0
LAB*LABa 47.03 2.03 -58.0
LAB*TCHa 37.51 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 0.75 0.75 0.75 (1.0)
cmyn4* 0.25 0.25 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 66.37 2.03 -58.0
LAB*LABa 66.37 2.03 -58.0
LAB*TCHa 62.5 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCHa 50.0 0.01

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 0.68 -19.33
LAB*LABa 47.03 0.68 -19.33
LAB*TCHa 37.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 0.68 -19.33
LAB*LABa 66.38 0.68 -19.33
LAB*TCHa 62.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 0.25 0.25 0.25 (1.0)
cmyn4* 0.75 0.75 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 1.35 -38.67
LAB*LABa 56.71 1.35 -38.67
LAB*TCHa 50.0 38.7 272.0

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 2.03 -58.0
LAB*LABa 47.03 2.03 -58.0
LAB*TCHa 37.51 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCHa 75.0 0.01

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 0.68 -19.33
LAB*LABa 66.38 0.68 -19.33
LAB*TCHa 62.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 0.25 0.25 0.25 (1.0)
cmyn4* 0.75 0.75 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 1.35 -38.67
LAB*LABa 56.71 1.35 -38.67
LAB*TCHa 50.0 38.7 272.0

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 2.03 -58.0
LAB*LABa 47.03 2.03 -58.0
LAB*TCHa 37.51 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 0.75 0.75 0.75 (1.0)
cmyn4* 0.25 0.25 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 66.37 2.03 -58.0
LAB*LABa 66.37 2.03 -58.0
LAB*TCHa 62.5 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCHa 50.0 0.01

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 0.68 -19.33
LAB*LABa 47.03 0.68 -19.33
LAB*TCHa 37.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 0.68 -19.33
LAB*LABa 66.38 0.68 -19.33
LAB*TCHa 62.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 0.25 0.25 0.25 (1.0)
cmyn4* 0.75 0.75 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 1.35 -38.67
LAB*LABa 56.71 1.35 -38.67
LAB*TCHa 50.0 38.7 272.0

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 2.03 -58.0
LAB*LABa 47.03 2.03 -58.0
LAB*TCHa 37.51 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCHa 75.0 0.01

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 0.68 -19.33
LAB*LABa 66.38 0.68 -19.33
LAB*TCHa 62.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 0.25 0.25 0.25 (1.0)
cmyn4* 0.75 0.75 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 1.35 -38.67
LAB*LABa 56.71 1.35 -38.67
LAB*TCHa 50.0 38.7 272.0

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 2.03 -58.0
LAB*LABa 47.03 2.03 -58.0
LAB*TCHa 37.51 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 0.75 0.75 0.75 (1.0)
cmyn4* 0.25 0.25 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 66.37 2.03 -58.0
LAB*LABa 66.37 2.03 -58.0
LAB*TCHa 62.5 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCHa 50.0 0.01

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 0.68 -19.33
LAB*LABa 47.03 0.68 -19.33
LAB*TCHa 37.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 0.68 -19.33
LAB*LABa 66.38 0.68 -19.33
LAB*TCHa 62.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 0.25 0.25 0.25 (1.0)
cmyn4* 0.75 0.75 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 1.35 -38.67
LAB*LABa 56.71 1.35 -38.67
LAB*TCHa 50.0 38.7 272.0

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 2.03 -58.0
LAB*LABa 47.03 2.03 -58.0
LAB*TCHa 37.51 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCHa 75.0 0.01

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 0.68 -19.33
LAB*LABa 66.38 0.68 -19.33
LAB*TCHa 62.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 0.25 0.25 0.25 (1.0)
cmyn4* 0.75 0.75 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 1.35 -38.67
LAB*LABa 56.71 1.35 -38.67
LAB*TCHa 50.0 38.7 272.0

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 2.03 -58.0
LAB*LABa 47.03 2.03 -58.0
LAB*TCHa 37.51 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 0.75 0.75 0.75 (1.0)
cmyn4* 0.25 0.25 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 66.37 2.03 -58.0
LAB*LABa 66.37 2.03 -58.0
LAB*TCHa 62.5 58.04 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCHa 50.0 0.01

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 0.68 -19.33
LAB*LABa 47.03 0.68 -19.33
LAB*TCHa 37.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 0.68 -19.33
LAB*LABa 66.38 0.68 -19.33
LAB*TCHa 62.5 19.35 272.0

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 0.25 0.25 0.25 (1.0)
cmyn4* 0.75 0.75 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 1.35 -38.67
LAB*LABa 56.71 1.35 -38.67
LAB*TCHa 50.0 38.7 272.0

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 0.0 0.0 0.0 (1.0)
cmyn4* 1.0 1.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 2.03 -58.0
LAB*LABa 47.03 2.03 -58.0
LAB*TCHa 37.51 58.04 272.0

VE650-7, 5 step scales for constant CIELAB hue 272/360 = 0.756 (left)

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

BAM-test chart VE65; Colorimetric systems CNS18 & TLS18

D65: 2 coordinate data of 5 step colour scales for 10 hues

input: olv* setrgbcolor

output: no change compared to input

Input: Colorimetric Natural Reflective System CNS18

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

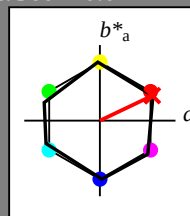
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 57 77 25

olv*Ma: 1.0 0.01 0.0

triangle lightness t^*



% Gamut

$u^*_{rel} = 100$

relative Inform. Technology (IT)

olv3*	1.0	1.0	1.0	(1.0)
olv4*	0.0	0.0	0.0	(0.0)
olv5*	0.0	0.0	0.0	(0.0)
olv6*	0.0	0.0	0.0	(0.0)
olv7*	0.0	0.0	0.0	(0.0)
olv8*	0.0	0.0	0.0	(0.0)
olv9*	0.0	0.0	0.0	(0.0)
olv10*	0.0	0.0	0.0	(0.0)
olv11*	0.0	0.0	0.0	(0.0)
olv12*	0.0	0.0	0.0	(0.0)
olv13*	0.0	0.0	0.0	(0.0)
olv14*	0.0	0.0	0.0	(0.0)
olv15*	0.0	0.0	0.0	(0.0)
olv16*	0.0	0.0	0.0	(0.0)
olv17*	0.0	0.0	0.0	(0.0)
olv18*	0.0	0.0	0.0	(0.0)
olv19*	0.0	0.0	0.0	(0.0)
olv20*	0.0	0.0	0.0	(0.0)
olv21*	0.0	0.0	0.0	(0.0)
olv22*	0.0	0.0	0.0	(0.0)
olv23*	0.0	0.0	0.0	(0.0)
olv24*	0.0	0.0	0.0	(0.0)
olv25*	0.0	0.0	0.0	(0.0)
olv26*	0.0	0.0	0.0	(0.0)
olv27*	0.0	0.0	0.0	(0.0)
olv28*	0.0	0.0	0.0	(0.0)
olv29*	0.0	0.0	0.0	(0.0)
olv30*	0.0	0.0	0.0	(0.0)
olv31*	0.0	0.0	0.0	(0.0)
olv32*	0.0	0.0	0.0	(0.0)
olv33*	0.0	0.0	0.0	(0.0)
olv34*	0.0	0.0	0.0	(0.0)
olv35*	0.0	0.0	0.0	(0.0)
olv36*	0.0	0.0	0.0	(0.0)
olv37*	0.0	0.0	0.0	(0.0)
olv38*	0.0	0.0	0.0	(0.0)
olv39*	0.0	0.0	0.0	(0.0)
olv40*	0.0	0.0	0.0	(0.0)
olv41*	0.0	0.0	0.0	(0.0)
olv42*	0.0	0.0	0.0	(0.0)
olv43*	0.0	0.0	0.0	(0.0)
olv44*	0.0	0.0	0.0	(0.0)
olv45*	0.0	0.0	0.0	(0.0)
olv46*	0.0	0.0	0.0	(0.0)
olv47*	0.0	0.0	0.0	(0.0)
olv48*	0.0	0.0	0.0	(0.0)
olv49*	0.0	0.0	0.0	(0.0)
olv50*	0.0	0.0	0.0	(0.0)
olv51*	0.0	0.0	0.0	(0.0)
olv52*	0.0	0.0	0.0	(0.0)
olv53*	0.0	0.0	0.0	(0.0)
olv54*	0.0	0.0	0.0	(0.0)
olv55*	0.0	0.0	0.0	(0.0)
olv56*	0.0	0.0	0.0	(0.0)
olv57*	0.0	0.0	0.0	(0.0)
olv58*	0.0	0.0	0.0	(0.0)
olv59*	0.0	0.0	0.0	(0.0)
olv60*	0.0	0.0	0.0	(0.0)
olv61*	0.0	0.0	0.0	(0.0)
olv62*	0.0	0.0	0.0	(0.0)
olv63*	0.0	0.0	0.0	(0.0)
olv64*	0.0	0.0	0.0	(0.0)
olv65*	0.0	0.0	0.0	(0.0)
olv66*	0.0	0.0	0.0	(0.0)
olv67*	0.0	0.0	0.0	(0.0)
olv68*	0.0	0.0	0.0	(0.0)
olv69*	0.0	0.0	0.0	(0.0)
olv70*	0.0	0.0	0.0	(0.0)
olv71*	0.0	0.0	0.0	(0.0)
olv72*	0.0	0.0	0.0	(0.0)
olv73*	0.0	0.0	0.0	(0.0)
olv74*	0.0	0.0	0.0	(0.0)
olv75*	0.0	0.0	0.0	(0.0)
olv76*	0.0	0.0	0.0	(0.0)
olv77*	0.0	0.0	0.0	(0.0)
olv78*	0.0	0.0	0.0	(0.0)
olv79*	0.0	0.0	0.0	(0.0)
olv80*	0.0	0.0	0.0	(0.0)
olv81*	0.0	0.0	0.0	(0.0)
olv82*	0.0	0.0	0.0	(0.0)
olv83*	0.0	0.0	0.0	(0.0)
olv84*	0.0	0.0	0.0	(0.0)
olv85*	0.0	0.0	0.0	(0.0)
olv86*	0.0	0.0	0.0	(0.0)
olv87*	0.0	0.0	0.0	(0.0)
olv88*	0.0	0.0	0.0	(0.0)
olv89*	0.0	0.0	0.0	(0.0)
olv90*	0.0	0.0	0.0	(0.0)
olv91*	0.0	0.0	0.0	(0.0)
olv92*	0.0	0.0	0.0	(0.0)
olv93*	0.0	0.0	0.0	(0.0)
olv94*	0.0	0.0	0.0	(0.0)
olv95*	0.0	0.0	0.0	(0.0)
olv96*	0.0	0.0	0.0	(0.0)
olv97*	0.0	0.0	0.0	(0.0)
olv98*	0.0	0.0	0.0	(0.0)
olv99*	0.0	0.0	0.0	(0.0)
olv100*	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*Lab	56.7	70.15	32.71	77.4	25
LAB*Lab	56.7	-2.69	77.35	77.4	92
LAB*Lab	56.7	-73.6	23.92	77.4	162
LAB*Lab	56.7	-71.24	-30.23	77.4	203
LAB*Lab	56.7	2.7	-77.34	77.4	272
LAB*Lab	56.7	63.4	-44.38	77.4	325
LAB*Lab	18.01	0.0	0.0	0.0	0
LAB*Lab	95.41	0.0	0.0	0.0	0
LAB*Lab	39.92	58.74	27.99	65.07	25
LAB*Lab	81.26	-2.88	71.56	71.62	92
LAB*Lab	52.23	-42.41	13.6	44.55	162
LAB*Lab	30.57	1.41	-46.46	46.49	272

%Regularity

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

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

relative Inform. Technology (IT)

olv3*	1.0	0.505	0.5	(1.0)
olv4*	0.0	0.495	0.5	(0.0)
olv5*	0.0	0.505	0.5	(0.0)
olv6*	0.0	0.495	0.5	(0.0)
olv7*	0.0	0.505	0.5	(0.0)
olv8*	0.0	0.495	0.5	(0.0)
olv9*	0.0	0.505	0.5	(0.0)
olv10*	0.0	0.495	0.5	(0.0)
olv11*	0.0	0.505	0.5	(0.0)
olv12*	0.0	0.495	0.5	(0.0)
olv13*	0.0	0.505	0.5	(0.0)
olv14*	0.0	0.495	0.5	(0.0)
olv15*	0.0	0.505	0.5	(0.0)
olv16*	0.0	0.495	0.5	(0.0)
olv17*	0.0	0.505	0.5	(0.0)
olv18*	0.0	0.495	0.5	(0.0)
olv19*	0.0	0.505	0.5	(0.0)
olv20*	0.0	0.495	0.5	(0.0)
olv21*	0.0	0.505	0.5	(0.0)
olv22*	0.0	0.495	0.5	(0.0)
olv23*	0.0	0.505	0.5	(0.0)
olv24*	0.0	0.495	0.5	(0.0)
olv25*	0.0	0.505	0.5	(0.0)
olv26*	0.0	0.495	0.5	(0.0)
olv27*	0.0	0.505	0.5	(0.0)
olv28*	0.0	0.495	0.5	(0.0)
olv29*	0.0	0.505	0.5	(0.0)
olv30*	0.0	0.495	0.5	(0.0)
olv31*	0.0	0.505	0.5	(0.0)
olv32*	0.0	0.495	0.5	(0.0)
olv33*	0.0	0.505	0.5	(0.0)
olv34*	0.0	0.495	0.5	(0.0)
olv35*	0.0	0.505	0.5	(0.0)
olv36*	0.0	0.495	0.5	(0.0)
olv37*	0.0	0.505	0.5	(0.0)
olv38*	0.0	0.495	0.5	(0.0)
olv39*	0.0	0.505	0.5	(0.0)
olv40*	0.0	0.495	0.5	(0.0)
olv41*	0.0	0.505	0.5	(0.0)
olv42*	0.0	0.495	0.5	(0.0)
olv43*	0.0	0.505	0.5	(0.0)
olv44*	0.0	0.495	0.5	(0.0)
olv45*	0.0	0.505	0.5	(0.0)
olv46*	0.0	0.495	0.5	(0.0)
olv47*	0.0	0.505	0.5	(0.0)
olv48*	0.0	0.495	0.5	(0.0)
olv49*	0.0	0.505	0.5	(0.0)
olv50*	0.0	0.495	0.5	(0.0)
olv51*	0.0	0.505	0.5	(0.0)
olv52*	0.0	0.495	0.5	(0.0)
olv53*	0.0	0.505	0.5	(0.0)
olv54*	0.0	0.495	0.5	(0.0)
olv55*	0.0	0.505	0.5	(0.0)
olv56*	0.0	0.495	0.5	(0.0)
olv57*	0.0	0.505	0.5	(0.0)
olv58*	0.0	0.495	0.5	(0.0)
olv59*	0.0	0.505	0.5	(0.0)
olv60*	0.0	0.495	0.5	(0.0)
olv61*	0.0	0.505	0.5	(0.0)
olv62*	0.0	0.495	0.5	(0.0)
olv63*	0.0	0.505	0.5	(0.0)
olv64*	0.0	0.495	0.5	(0.0)
olv65*	0.0	0.505	0.5	(0.0)
olv66*	0.0	0.495	0.5	(0.0)
olv67*	0.0	0.505	0.5	(0.0)
olv68*	0.0	0.495	0.5	(0.0)
olv69*	0.0	0.505	0.5	(0.0)
olv70*	0.0	0.495	0.5	(0.0)
olv71*	0.0	0.505	0.5	(0.0)
olv72*	0.0	0.495	0.5	(0.0)
olv73*	0.0	0.505	0.5	(0.0)
olv74*	0.0	0.495	0.5	(0.0)
olv75*	0.0	0.505	0.5	(0.0)
olv76*	0.0	0.495	0.5	(0.0)
olv77*	0.0	0.505	0.5	(0.0)
olv78*	0.0	0.495	0.5	(0.0)
olv79*	0.0	0.505	0.5	(0.0)
olv80*	0.0	0.495	0.5	(0.0)
olv81*	0.0	0.505	0.5	(0.0)
olv82*	0.0	0.495	0.5	(0.0)
olv83*	0.0	0.505	0.5	(0.0)
olv84*	0.0	0.495	0.5	(0.0)
olv85*	0.0	0.505	0.5	(0.0)
olv86*	0.0	0.495	0.5	(0.0)
olv87*	0.0	0.505	0.5	(0.0)
olv88*	0.0	0.495	0.5	(0.0)
olv89*	0.0	0.505	0.5	(0.0)
olv90*	0.0	0.495	0.5	(0.0)
olv91*	0.0	0.505	0.5	(0.0)
olv92*	0.0	0.495	0.5	(0.0)
olv93*	0.0	0.505	0.5	(0.0)
olv94*	0.0	0.495	0.5	(0.0)
olv95*	0.0	0.505	0.5	(0.0)
olv96*	0.0	0.495	0.5	(0.0)
olv97*	0.0	0.505	0.5	(0.0)
olv98*	0.0	0.495	0.5	(0.0)
olv99*	0.0	0.505	0.5	(0.0)
olv100*	0.0	0.495	0.5	(0.0)

standard and adapted CIELAB

LAB*Lab	56.7	70.15	32.71	77.4	25
LAB*Lab	56.7	-2.69	77.35	77.4	92
LAB*Lab	56.7	-73.6	23.92	77.4	162
LAB*Lab	56.7	-71.24	-30.23	77.4	203
LAB*Lab	56.7	2.7	-77.34	77.4	272
LAB*Lab	56.7	63.4	-44.38	77.4	325
LAB*Lab	18.01	0.0	0.0	0.0	0
LAB*Lab	95.41	0.0	0.0	0.0	0
LAB*Lab	39.92	58.74	27.99	65.07	25
LAB*Lab	81.26	-2.88	71.56	71.62	92
LAB*Lab	52.23	-42.41	13.6	44.55	162
LAB*Lab	30.57	1.41	-46.46	46.49	272

relative Inform. Technology (IT)			
olv3*	0.75	0.255	0.25
cmyn3*	0.25	0.745	0.75
olv4*	1.0	0.505	0.5
cmyn4*	0.0	0.495	0.5
standard and adapted CIELAB			
LAB*LAB	56.71	34.75	16.56
LAB*LAB ₀	56.71	34.75	16.56

Input: Colorimetric Natural Reflective System CNS18

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

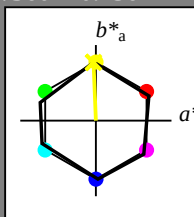
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 57 77 92

olv*Ma: 0.99 1.0 0.0

triangle lightness t^*



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

%Regularity

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

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

relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 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 Inform. Technology (IT)
olv3* 0.999 1.0 0.75 (1.0)
cmyn3* 0.001 0.0 0.25 (0.0)
olv4* 0.999 1.0 0.75 (1.0)
cmyn4* 0.001 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 85.73 -0.76 19.26
LAB*LABa 85.73 -0.76 19.26
LAB*TCHa 87.5 19.27 92.29

relative Inform. Technology (IT)
olv3* 0.997 1.0 0.5 (1.0)
cmyn3* 0.003 0.0 0.5 (0.0)
olv4* 0.997 1.0 0.5 (1.0)
cmyn4* 0.003 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 76.05 -1.54 38.52
LAB*LABa 76.05 -1.54 38.52
LAB*TCHa 75.0 38.55 92.3

relative Inform. Technology (IT)
olv3* 0.998 1.0 0.25 (1.0)
cmyn3* 0.004 0.0 0.25 (0.0)
olv4* 0.998 1.0 0.25 (1.0)
cmyn4* 0.004 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 66.37 -2.32 57.78
LAB*LABa 66.37 -2.32 57.78
LAB*TCHa 62.5 57.83 92.31

relative Inform. Technology (IT)
olv3* 0.998 1.0 0.0 (1.0)
cmyn3* 0.006 0.0 0.0 (0.0)
olv4* 0.998 1.0 0.0 (1.0)
cmyn4* 0.006 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 56.7 -3.09 77.03
LAB*LABa 56.7 -3.09 77.03
LAB*TCHa 50.0 77.1 92.31

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*LABa 76.07 0.0 0.0
LAB*TCHa 75.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.5 (1.0)
cmyn3* 0.25 0.25 0.5 (0.0)
olv4* 1.0 1.0 0.5 (1.0)
cmyn4* 0.0 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 -0.77 19.26
LAB*LABa 66.38 -0.77 19.26
LAB*TCHa 62.5 19.28 92.31

relative Inform. Technology (IT)
olv3* 0.747 0.75 0.25 (1.0)
cmyn3* 0.253 0.25 0.25 (0.0)
olv4* 0.997 1.0 0.5 (1.0)
cmyn4* 0.003 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 -1.55 38.52
LAB*LABa 56.71 -1.55 38.52
LAB*TCHa 50.0 38.55 92.31

relative Inform. Technology (IT)
olv3* 0.747 0.75 0.0 (1.0)
cmyn3* 0.253 0.25 0.0 (0.0)
olv4* 0.997 1.0 0.0 (1.0)
cmyn4* 0.003 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 -2.32 57.78
LAB*LABa 47.03 -2.32 57.78
LAB*TCHa 37.5 57.82 92.31

relative Inform. Technology (IT)
olv3* 0.746 0.75 0.0 (1.0)
cmyn3* 0.254 0.25 0.0 (0.0)
olv4* 0.996 1.0 0.0 (1.0)
cmyn4* 0.004 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 -2.32 57.78
LAB*LABa 47.03 -2.32 57.78
LAB*TCHa 37.5 57.82 92.31

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.0 (1.0)
cmyn3* 0.25 0.25 0.0 (0.0)
olv4* 1.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCHa 50.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.749 0.75 0.5 (1.0)
cmyn3* 0.251 0.25 0.5 (0.0)
olv4* 0.999 1.0 0.5 (1.0)
cmyn4* 0.001 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 66.38 -0.77 19.26
LAB*LABa 66.38 -0.77 19.26
LAB*TCHa 62.5 19.28 92.31

relative Inform. Technology (IT)
olv3* 0.749 0.75 0.25 (1.0)
cmyn3* 0.251 0.25 0.25 (0.0)
olv4* 0.999 1.0 0.25 (1.0)
cmyn4* 0.001 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 -1.55 38.52
LAB*LABa 56.71 -1.55 38.52
LAB*TCHa 50.0 38.55 92.31

relative Inform. Technology (IT)
olv3* 0.749 0.75 0.0 (1.0)
cmyn3* 0.251 0.25 0.0 (0.0)
olv4* 0.999 1.0 0.0 (1.0)
cmyn4* 0.001 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 -2.32 57.78
LAB*LABa 47.03 -2.32 57.78
LAB*TCHa 37.5 57.82 92.31

relative Inform. Technology (IT)
olv3* 0.748 0.75 0.0 (1.0)
cmyn3* 0.252 0.25 0.0 (0.0)
olv4* 0.998 1.0 0.0 (1.0)
cmyn4* 0.002 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 -2.32 57.78
LAB*LABa 47.03 -2.32 57.78
LAB*TCHa 37.5 57.82 92.31

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 56.72 0.0 0.0
LAB*LABa 56.72 0.0 0.0
LAB*TCHa 50.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.499 0.5 0.25 (1.0)
cmyn3* 0.501 0.5 0.25 (0.0)
olv4* 0.999 1.0 0.25 (1.0)
cmyn4* 0.001 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 -2.32 57.78
LAB*LABa 47.03 -2.32 57.78
LAB*TCHa 37.5 57.82 92.31

relative Inform. Technology (IT)
olv3* 0.497 0.5 0.0 (1.0)
cmyn3* 0.503 0.5 0.0 (0.0)
olv4* 0.997 1.0 0.0 (1.0)
cmyn4* 0.003 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 -1.55 38.52
LAB*LABa 56.71 -1.55 38.52
LAB*TCHa 50.0 38.55 92.31

relative Inform. Technology (IT)
olv3* 0.497 0.5 0.25 (1.0)
cmyn3* 0.503 0.5 0.25 (0.0)
olv4* 0.997 1.0 0.25 (1.0)
cmyn4* 0.003 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 -2.32 57.78
LAB*LABa 47.03 -2.32 57.78
LAB*TCHa 37.5 57.82 92.31

relative Inform. Technology (IT)
olv3* 0.496 0.5 0.25 (1.0)
cmyn3* 0.504 0.5 0.25 (0.0)
olv4* 0.996 1.0 0.25 (1.0)
cmyn4* 0.004 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 47.03 -2.32 57.78
LAB*LABa 47.03 -2.32 57.78
LAB*TCHa 37.5 57.82 92.31

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 37.37 -0.77 19.26
LAB*LABa 37.37 -0.77 19.26
LAB*TCHa 25.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.0 (1.0)
cmyn3* 0.75 0.75 0.0 (0.0)
olv4* 1.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 37.37 -0.77 19.26
LAB*LABa 37.37 -0.77 19.26
LAB*TCHa 25.0 0.01 -

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.5 (1.0)
cmyn3* 0.75 0.75 0.5 (0.0)
olv4* 1.0 1.0 0.5 (1.0)
cmyn4* 0.0 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 27.69 -0.77 19.25
LAB*LABa 27.69 -0.77 19.25
LAB*TCHa 12.5 19.27 92.31

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.0 (1.0)
cmyn3* 0.75 0.75 0.0 (0.0)
olv4* 1.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 27.69 -0.77 19.25
LAB*LABa 27.69 -0.77 19.25
LAB*TCHa 12.5 19.27 92.31

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.25 (0.0)
olv4* 1.0 1.0 0.25 (1.0)
cmyn4* 0.0 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 27.69 -0.77 19.25
LAB*LABa 27.69 -0.77 19.25
LAB*TCHa 12.5 19.27 92.31

relative Inform. Technology (IT)
olv3* 0.25 0.25 0.0 (1.0)
cmyn3* 0.75 0.75 0.0 (0.0)
olv4* 1.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.249 0.25 0.5 (1.0)
cmyn3* 0.751 0.75 0.5 (0.0)
olv4* 0.999 1.0 0.5 (1.0)
cmyn4* 0.001 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 27.69 -0.77 19.25
LAB*LABa 27.69 -0.77 19.25
LAB*TCHa 12.5 19.27 92.31

relative Inform. Technology (IT)
olv3* 0.247 0.25 0.0 (1.0)
cmyn3* 0.753 0.75 0.0 (0.0)
olv4* 0.997 1.0 0.0 (1.0)
cmyn4* 0.003 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.247 0.25 0.25 (1.0)
cmyn3* 0.753 0.75 0.25 (0.0)
olv4* 0.997 1.0 0.25 (1.0)
cmyn4* 0.003 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.246 0.25 0.25 (1.0)
cmyn3* 0.754 0.75 0.25 (0.0)
olv4* 0.996 1.0 0.25 (1.0)
cmyn4* 0.004 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.125 0.25 0.0 (1.0)
cmyn3* 0.875 0.75 0.0 (0.0)
olv4* 0.999 1.0 0.0 (1.0)
cmyn4* 0.001 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.125 0.25 0.25 (1.0)
cmyn3* 0.875 0.75 0.25 (0.0)
olv4* 0.999 1.0 0.25 (1.0)
cmyn4* 0.001 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.125 0.25 0.0 (1.0)
cmyn3* 0.875 0.75 0.0 (0.0)
olv4* 0.999 1.0 0.0 (1.0)
cmyn4* 0.001 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.125 0.25 0.25 (1.0)
cmyn3* 0.875 0.75 0.25 (0.0)
olv4* 0.999 1.0 0.25 (1.0)
cmyn4* 0.001 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.5 (1.0)
cmyn3* 1.0 1.0 0.5 (0.0)
olv4* 1.0 1.0 0.5 (1.0)
cmyn4* 0.0 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olv4* 1.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.25 (1.0)
cmyn3* 1.0 1.0 0.25 (0.0)
olv4* 1.0 1.0 0.25 (1.0)
cmyn4* 0.0 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olv4* 1.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.5 (1.0)
cmyn3* 1.0 1.0 0.5 (0.0)
olv4* 1.0 1.0 0.5 (1.0)
cmyn4* 0.0 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olv4* 1.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.25 (1.0)
cmyn3* 1.0 1.0 0.25 (0.0)
olv4* 1.0 1.0 0.25 (1.0)
cmyn4* 0.0 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olv4* 1.0 1.0 0.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.03 0.0 0.0
LAB*LABa 18.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

VE650-7, 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)

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

BAM-test chart VE65; Colorimetric systems CNS18 & TLS18

D65: 2 coordinate data of 5 step colour scales for 10 hues

input: olv* setrgbcolor

output: no change compared to input

Input: Colorimetric Natural Reflective System CNS18

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

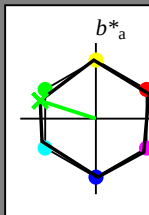
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 57 77 162

olv*Ma: 0.0 1.0 0.01

triangle lightness t^*



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

%Regularity

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

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

relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 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*ABa 95.41 0.0 0.0
LAB*TCha 99.99 0.01

relative Inform. Technology (IT)
olv3* 0.75 1.0 0.75 (1.0)
cmyn3* 0.25 0.0 0.25 (0.0)
olv4* 0.75 1.0 0.75 (1.0)
cmyn4* 0.25 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 85.73 -18.38 5.9
LAB*ABa 85.73 -18.38 5.9
LAB*TCha 97.5 19.31 162.22

relative Inform. Technology (IT)
olv3* 0.5 1.0 0.5 (1.0)
cmyn3* 0.5 0.0 0.5 (0.0)
olv4* 0.5 1.0 0.5 (1.0)
cmyn4* 0.5 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 76.05 -36.78 11.8
LAB*ABa 76.05 -36.78 11.8
LAB*TCha 75.0 38.64 162.22

relative Inform. Technology (IT)
olv3* 0.25 1.0 0.25 (1.0)
cmyn3* 0.25 0.0 0.25 (0.0)
olv4* 0.25 1.0 0.25 (1.0)
cmyn4* 0.25 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 66.37 -55.18 17.7
LAB*ABa 66.37 -55.18 17.7
LAB*TCha 62.5 57.96 162.22

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*ABa 76.07 0.0 0.0
LAB*TCha 75.0 0.01

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*ABa 76.07 0.0 0.0
LAB*TCha 75.0 0.01

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*ABa 76.07 0.0 0.0
LAB*TCha 75.0 0.01

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
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LAB*TCha 75.0 0.01

relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
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LAB*TCha 75.0 0.01

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olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
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relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
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relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
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relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
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relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
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relative Inform. Technology (IT)
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cmyn3* 0.25 0.25 0.25 (0.0)
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relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
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relative Inform. Technology (IT)
olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
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standard and adapted CIELAB
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olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
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cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
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olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
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standard and adapted CIELAB
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LAB*TCha 75.0 0.01

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standard and adapted CIELAB
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cmyn3* 0.25 0.25 0.25 (0.0)
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standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
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LAB*TCha 75.0 0.01

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olv3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 76.07 0.0 0.0
LAB*ABa 76.07 0.0 0.0
LAB*TCha 75.0 0.01

VE650-7, 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)

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

BAM-test chart VE65; Colorimetric systems CNS18 & TLS18

D65: 2 coordinate data of 5 step colour scales for 10 hues

input: olv* setrgbcolor

output: no change compared to input

