

	L	V
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Input: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 203/360 = 0.563$

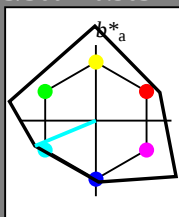
lab^*tch and lab^*nch

D65: hue G50B

LCH*Ma: 59 87 203

rgb*Ma: 0.0 1.0 1.0

triangle lightness t^*



% Gamut

$u^*_{rel} = 149$

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*Lab 95.41 0.0 0.0
LAB*TCa 99.99 0.01 0.0

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)
olvi3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (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 74.31 0.02 0.0
LAB*Lab 74.31 0.02 0.0
LAB*TCa 75.00 0.01 0.0

relative CIELAB lab*
lab*lab 0.893 -0.23 -0.095
lab*tch 0.875 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.893 -0.208 -0.136
lab*tce 0.875 0.25 0.592
lab*nce 0.0 0.25 0.592

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 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 53.21 0.04 0.0
LAB*Lab 53.21 0.04 0.0
LAB*TCa 50.00 0.01 0.0

relative CIELAB lab*
lab*lab 0.625 0.25 0.563
lab*tch 0.625 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.625 0.25 0.592
lab*tce 0.625 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (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 32.11 0.08 0.0
LAB*Lab 32.11 0.08 0.0
LAB*TCa 30.00 0.01 0.0

relative CIELAB lab*
lab*lab 0.394 -0.23 -0.095
lab*tch 0.375 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.394 -0.208 -0.136
lab*tce 0.375 0.25 0.592
lab*nce 0.0 0.25 0.592

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 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 11.01 0.0 0.0
LAB*Lab 11.01 0.0 0.0
LAB*TCa 0.01 0.01 0.0

relative CIELAB lab*
lab*lab 0.144 -0.23 -0.095
lab*tch 0.125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.144 -0.208 -0.136
lab*tce 0.125 0.25 0.592
lab*nce 0.0 0.25 0.592

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 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*Lab 0.0 0.0 0.0
LAB*TCa 0.0 0.0 0.0

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

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
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LAB*LAB 0.0 0.0 0.0
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relative CIELAB lab*
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lab*tch 0.0 0.0 0.0
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relative Natural Colour (NC)
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lab*tce 0.0 0.0 0.0
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
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standard and adapted CIELAB
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lab*tch 0.0 0.0 0.0
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relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*tce 0.0 0.0 0.0
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
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cmyn3* 1.0 1.0 1.0 (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 0.0 0.0 0.0
LAB*Lab 0.0 0.0 0.0
LAB*TCa 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 0.0 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 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*Lab 0.0 0.0 0.0
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relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 0.0 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 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
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olvi4* 1.0 1.0 1.0 (1.0)
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standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
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relative CIELAB lab*
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relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*tce 0.0 0.0 0.0
lab*nce 0.0 0.0 0.0

NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

% Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

blackness n^*

$n^* = 0.00$

chromaticness c^*

$c^* = 0.00$

$n^* = 0.25$

$n^* = 0.50$

$n^* = 0.75$

$n^* = 1.00$

$n^* = 1.25$

$n^* = 1.50$

$n^* = 1.75$

$n^* = 2.00$

$n^* = 2.25$

$n^* = 2.50$

$n^* = 2.75$

$n^* = 3.00$

$n^* = 3.25$

$n^* = 3.50$

$n^* = 3.75$

$n^* = 4.00$

$n^* = 4.25$

$n^* = 4.50$

$n^* = 4.75$

$n^* = 5.00$

$n^* = 5.25$

$n^* = 5.50$

$n^* = 5.75$

$n^* = 6.00$

$n^* = 6.25$

$n^* = 6.50$

Output: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 203/360 = 0.563$

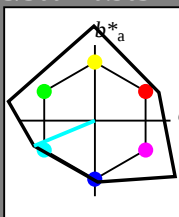
lab^*tch and lab^*nch

D65: hue G50B

LCH*Ma: 59 87 203

rgb*Ma: 0.0 1.0 1.0

triangle lightness t^*



% Gamut

$u^*_{rel} = 149$

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*Lab 95.41 0.0 0.0
LAB*TCa 99.99 0.01 0.0

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)
olvi3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (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 74.31 0.02 0.0
LAB*Lab 74.31 0.02 0.0
LAB*TCa 75.00 0.01 0.0

relative CIELAB lab*
lab*lab 0.893 -0.23 -0.095
lab*tch 0.875 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.893 -0.208 -0.136
lab*tce 0.875 0.25 0.592
lab*nce 0.0 0.25 0.592

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 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 53.21 0.04 0.0
LAB*Lab 53.21 0.04 0.0
LAB*TCa 50.00 0.01 0.0

relative CIELAB lab*
lab*lab 0.625 0.25 0.563
lab*tch 0.625 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.625 0.25 0.592
lab*tce 0.625 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (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 32.11 0.08 0.0
LAB*Lab 32.11 0.08 0.0
LAB*TCa 30.00 0.01 0.0

relative CIELAB lab*
lab*lab 0.394 -0.23 -0.095
lab*tch 0.375 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.394 -0.208 -0.136
lab*tce 0.375 0.25 0.592
lab*nce 0.0 0.25 0.592

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 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 11.01 0.0 0.0
LAB*Lab 11.01 0.0 0.0
LAB*TCa 0.01 0.01 0.0

relative CIELAB lab*
lab*lab 0.144 -0.23 -0.095
lab*tch 0.125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.144 -0.208 -0.136
lab*tce 0.125 0.25 0.592
lab*nce 0.0 0.25 0.592

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 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*Lab 0.0 0.0 0.0
LAB*TCa 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 0.0 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 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*Lab 0.0 0.0 0.0
LAB*TCa 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 0.0 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 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*Lab 0.0 0.0 0.0
LAB*TCa 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 0.0 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 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
LAB*Lab 0.0 0.0 0.0
LAB*TCa 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 0.0 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 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
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standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
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LAB*TCa 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
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lab*tce 0.0 0.0 0.0
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olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
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cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0 0.0 0.0
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LAB*TCa 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 0.0 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 0.0 0.0 0.0

NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

% Regularity

$g^*_{H,rel} = 46$

Input: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 273/360 = 0.757$

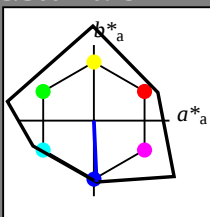
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 49 81 273

rgb*Ma: 0.0 0.0 1.0

triangle lightness t^*



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
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N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
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BCIE	30.57	1.35	-46.48	46.51	272

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*Lab 95.41 0.0 0.0
LAB*TC_{Ha} 99.99 0.01 0.0

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*trc 1.0 0.0 0.0
lab*ncc 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (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 74.31 0.02 0.0
LAB*Lab 74.31 0.02 0.0
LAB*TC_{Ha} 75.0 0.01 -

relative CIELAB lab*
lab*lab 0.863 0.011 -0.249
lab*tch 0.875 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.863 0.003 -0.249
lab*trc 0.875 0.25 0.752
lab*ncc 0.0 0.25 0.752

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 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 53.21 0.04 0.0
LAB*Lab 53.21 0.04 0.0
LAB*TC_{Ha} 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.75 0.25 0.757
lab*tch 0.75 0.25 0.757
lab*nch 0.25 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.75 0.25 0.757
lab*trc 0.75 0.25 0.757
lab*ncc 0.25 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (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 32.11 0.08 0.0
LAB*Lab 32.11 0.08 0.0
LAB*TC_{Ha} 30.0 0.01 -

relative CIELAB lab*
lab*lab 0.625 0.25 0.752
lab*tch 0.625 0.25 0.752
lab*nch 0.25 0.25 0.752
relative Natural Colour (NC)
lab*trj 0.613 0.003 -0.249
lab*trc 0.625 0.25 0.752
lab*ncc 0.25 0.25 0.752

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (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 11.18 0.00 0.0
LAB*Lab 11.18 0.00 0.0
LAB*TC_{Ha} 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.382 0.034 -0.748
lab*tch 0.382 0.034 -0.748
lab*nch 0.0 0.382 0.757
relative Natural Colour (NC)
lab*trj 0.382 0.009 -0.749
lab*trc 0.382 0.034 -0.748
lab*ncc 0.0 0.382 0.757

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (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 32.11 0.08 0.0
LAB*Lab 32.11 0.08 0.0
LAB*TC_{Ha} 30.0 0.01 -

relative CIELAB lab*
lab*lab 0.382 0.034 -0.748
lab*tch 0.382 0.034 -0.748
lab*nch 0.0 0.382 0.757
relative Natural Colour (NC)
lab*trj 0.382 0.009 -0.749
lab*trc 0.382 0.034 -0.748
lab*ncc 0.0 0.382 0.757

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (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 11.18 0.00 0.0
LAB*Lab 11.18 0.00 0.0
LAB*TC_{Ha} 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.382 0.034 -0.748
lab*tch 0.382 0.034 -0.748
lab*nch 0.0 0.382 0.757
relative Natural Colour (NC)
lab*trj 0.382 0.009 -0.749
lab*trc 0.382 0.034 -0.748
lab*ncc 0.0 0.382 0.757

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (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 11.01 0.07 0.01
LAB*Lab 11.01 0.07 0.01
LAB*TC_{Ha} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.113 0.011 -0.249
lab*tch 0.125 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.113 0.003 -0.249
lab*trc 0.125 0.25 0.752
lab*ncc 0.0 0.25 0.752

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (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 11.01 0.07 0.01
LAB*Lab 11.01 0.07 0.01
LAB*TC_{Ha} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.113 0.011 -0.249
lab*tch 0.125 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.113 0.003 -0.249
lab*trc 0.125 0.25 0.752
lab*ncc 0.0 0.25 0.752

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (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 11.01 0.07 0.01
LAB*Lab 11.01 0.07 0.01
LAB*TC_{Ha} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.113 0.011 -0.249
lab*tch 0.125 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.113 0.003 -0.249
lab*trc 0.125 0.25 0.752
lab*ncc 0.0 0.25 0.752

TE590-7, 5 step scales for constant CIELAB hue 273/360 = 0.757 (left)

Output: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 273/360 = 0.757$

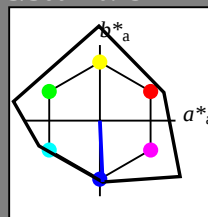
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 49 81 273

rgb*Ma: 0.0 0.0 1.0

triangle lightness t^*



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*Lab 95.41 0.0 0.0
LAB*TC_{Ha} 99.99 0.01 0.0

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*trc 1.0 0.0 0.0
lab*ncc 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (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 74.31 0.02 0.0
LAB*Lab 74.31 0.02 0.0
LAB*TC_{Ha} 75.0 0.01 -

relative CIELAB lab*
lab*lab 0.863 0.011 -0.249
lab*tch 0.875 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.863 0.003 -0.249
lab*trc 0.875 0.25 0.752
lab*ncc 0.0 0.25 0.752

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 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 53.21 0.04 0.0
LAB*Lab 53.21 0.04 0.0
LAB*TC_{Ha} 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.75 0.25 0.757
lab*tch 0.75 0.25 0.757
lab*nch 0.25 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.75 0.25 0.757
lab*trc 0.75 0.25 0.757
lab*ncc 0.25 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (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 32.11 0.08 0.0
LAB*Lab 32.11 0.08 0.0
LAB*TC_{Ha} 30.0 0.01 -

relative CIELAB lab*
lab*lab 0.625 0.25 0.752
lab*tch 0.625 0.25 0.752
lab*nch 0.25 0.25 0.752
relative Natural Colour (NC)
lab*trj 0.613 0.003 -0.249
lab*trc 0.625 0.25 0.752
lab*ncc 0.25 0.25 0.752

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (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 11.18 0.00 0.0
LAB*Lab 11.18 0.00 0.0
LAB*TC_{Ha} 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.382 0.034 -0.748
lab*tch 0.382 0.034 -0.748
lab*nch 0.0 0.382 0.757
relative Natural Colour (NC)
lab*trj 0.382 0.009 -0.749
lab*trc 0.382 0.034 -0.748
lab*ncc 0.0 0.382 0.757

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (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 32.11 0.08 0.0
LAB*Lab 32.11 0.08 0.0
LAB*TC_{Ha} 30.0 0.01 -

relative CIELAB lab*
lab*lab 0.382 0.034 -0.748
lab*tch 0.382 0.034 -0.748
lab*nch 0.0 0.382 0.757
relative Natural Colour (NC)
lab*trj 0.382 0.009 -0.749
lab*trc 0.382 0.034 -0.748
lab*ncc 0.0 0.382 0.757

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (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 11.18 0.00 0.0
LAB*Lab 11.18 0.00 0.0
LAB*TC_{Ha} 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.382 0.034 -0.748
lab*tch 0.382 0.034 -0.748
lab*nch 0.0 0.382 0.757
relative Natural Colour (NC)
lab*trj 0.382 0.009 -0.749
lab*trc 0.382 0.034 -0.748
lab*ncc 0.0 0.382 0.757

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (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 11.01 0.07 0.01
LAB*Lab 11.01 0.07 0.01
LAB*TC_{Ha} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.113 0.011 -0.249
lab*tch 0.125 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.113 0.003 -0.249
lab*trc 0.125 0.25 0.752
lab*ncc 0.0 0.25 0.752

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (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 11.01 0.07 0.01
LAB*Lab 11.01 0.07 0.01
LAB*TC_{Ha} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.113 0.011 -0.249
lab*tch 0.125 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.113 0.003 -0.249
lab*trc 0.125 0.25 0.752
lab*ncc 0.0 0.25 0.752

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (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 11.01 0.07 0.01
LAB*Lab 11.01 0.07 0.01
LAB*TC_{Ha} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.113 0.011 -0.249
lab*tch 0.125 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.113 0.003 -0.249
lab*trc 0.125 0.25 0.752
lab*ncc 0.0 0.25 0.752

5 step scales for constant CIELAB hue 273/360 = 0.757 (right)

BAM-test chart TE59; Colorimetric systems NCS11a & NCS11a input: $olv^* setrgbcolor$

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

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

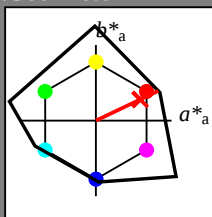
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 48 91 25

rgb*Ma: 1.0 0.02 0.0

triangle lightness t^*



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

BAM-test chart TE59; Colorimetric systems NCS11a & NCS11a input: $olv^* setrgbcolor$

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

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

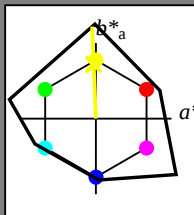
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 90 122 92

rgb*Ma: 0.97 1.0 0.0

triangle lightness t^*



% Gamut

$u^*_{rel} = 149$

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TCHa 99.99 0.01 0.0

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)
olvi3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (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 74.31 0.02 0.0
LAB*LABa 74.31 0.02 0.0
LAB*TCHa 75.00 0.01 0.0

relative CIELAB lab*
lab*lab 0.75 0.75 0.75 (1.0)
lab*tch 0.75 0.75 0.75 (1.0)
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.75 0.75 0.75 (1.0)
lab*tce 0.75 0.75 0.75 (1.0)
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.5 (0.0)
cmyn3* 0.5 0.5 0.5 (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 53.21 0.04 0.0
LAB*LABa 53.21 0.04 0.0
LAB*TCHa 50.00 0.01 0.0

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

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*TCHa 25.00 0.01 0.0

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

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*TCHa 25.00 0.01 0.0

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

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*TCHa 25.00 0.01 0.0

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

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*TCHa 25.00 0.01 0.0

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

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*TCHa 25.00 0.01 0.0

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

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*TCHa 25.00 0.01 0.0

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

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*TCHa 25.00 0.01 0.0

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

NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)
olvi3* 0.984 1.0 0.5 (1.0)
cmyn3* 0.016 0.0 0.5 (0.0)
olvi4* 0.984 1.0 0.5 (1.0)
cmyn4* 0.016 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 92.92 -2.44 60.89
LAB*LABa 92.92 -2.44 60.89
LAB*TCHa 75.00 60.94 92.32

relative CIELAB lab*
lab*lab 0.971 -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*trj 0.971 0.0 0.5
lab*tce 0.75 0.5 0.256
lab*nce 0.0 0.5 0.256

relative Inform. Technology (IT)
olvi3* 0.734 0.75 0.25 (1.0)
cmyn3* 0.266 0.25 0.75 (0.0)
olvi4* 0.984 1.0 0.5 (1.0)
cmyn4* 0.016 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 71.83 -2.44 60.9
LAB*LABa 71.83 -2.44 60.9
LAB*TCHa 50.00 60.94 92.32

relative CIELAB lab*
lab*lab 0.726 0.75 0.0 (1.0)
lab*tch 0.625 0.75 0.256
lab*nch 0.0 0.75 0.256
relative Natural Colour (NC)
lab*trj 0.726 0.75 0.0 (1.0)
lab*tce 0.625 0.75 0.256
lab*nce 0.0 0.75 0.256

relative Inform. Technology (IT)
olvi3* 0.596 1.0 0.0 (1.0)
cmyn3* 0.033 0.0 1.0 (0.0)
olvi4* 0.968 1.0 0.0 (1.0)
cmyn4* 0.024 0.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 90.45 -4.92 121.77
LAB*LABa 90.45 -4.92 121.77
LAB*TCHa 50.00 121.87 92.32

relative CIELAB lab*
lab*lab 0.596 -0.029 0.749
lab*tch 0.5 0.0 0.256
lab*nch 0.0 1.0 0.256
relative Natural Colour (NC)
lab*trj 0.596 0.0 0.5
lab*tce 0.5 0.0 0.256
lab*nce 0.0 1.0 0.256

relative Inform. Technology (IT)
olvi3* 0.484 0.5 0.0 (1.0)
cmyn3* 0.508 0.5 0.75 (0.0)
olvi4* 0.982 1.0 0.75 (0.0)
cmyn4* 0.008 0.0 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 51.96 -1.18 30.46
LAB*LABa 51.96 -1.18 30.46
LAB*TCHa 37.50 30.47 92.33

relative CIELAB lab*
lab*lab 0.485 -0.029 0.749
lab*tch 0.375 0.75 0.256
lab*nch 0.0 0.75 0.256
relative Natural Colour (NC)
lab*trj 0.485 0.0 0.75
lab*tce 0.375 0.75 0.256
lab*nce 0.0 0.75 0.256

relative Inform. Technology (IT)
olvi3* 0.484 0.5 0.0 (1.0)
cmyn3* 0.508 0.5 0.75 (0.0)
olvi4* 0.982 1.0 0.75 (0.0)
cmyn4* 0.008 0.0 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 51.96 -1.18 30.46
LAB*LABa 51.96 -1.18 30.46
LAB*TCHa 37.50 30.47 92.33

relative CIELAB lab*
lab*lab 0.485 -0.029 0.749
lab*tch 0.375 0.75 0.256
lab*nch 0.0 0.75 0.256
relative Natural Colour (NC)
lab*trj 0.485 0.0 0.75
lab*tce 0.375 0.75 0.256
lab*nce 0.0 0.75 0.256

relative Inform. Technology (IT)
olvi3* 0.484 0.5 0.0 (1.0)
cmyn3* 0.508 0.5 0.75 (0.0)
olvi4* 0.982 1.0 0.75 (0.0)
cmyn4* 0.008 0.0 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 51.96 -1.18 30.46
LAB*LABa 51.96 -1.18 30.46
LAB*TCHa 37.50 30.47 92.33

relative CIELAB lab*
lab*lab 0.485 -0.029 0.749
lab*tch 0.375 0.75 0.256
lab*nch 0.0 0.75 0.256
relative Natural Colour (NC)
lab*trj 0.485 0.0 0.75
lab*tce 0.375 0.75 0.256
lab*nce 0.0 0.75 0.256

relative Inform. Technology (IT)
olvi3* 0.484 0.5 0.0 (1.0)
cmyn3* 0.508 0.5 0.75 (0.0)
olvi4* 0.982 1.0 0.75 (0.0)
cmyn4* 0.008 0.0 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 51.96 -1.18 30.46
LAB*LABa 51.96 -1.18 30.46
LAB*TCHa 37.50 30.47 92.33

relative CIELAB lab*
lab*lab 0.485 -0.029 0.749
lab*tch 0.375 0.75 0.256
lab*nch 0.0 0.75 0.256
relative Natural Colour (NC)
lab*trj 0.485 0.0 0.75
lab*tce 0.375 0.75 0.256
lab*nce 0.0 0.75 0.256

relative Inform. Technology (IT)
olvi3* 0.484 0.5 0.0 (1.0)
cmyn3* 0.508 0.5 0.75 (0.0)
olvi4* 0.982 1.0 0.75 (0.0)
cmyn4* 0.008 0.0 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 51.96 -1.18 30.46
LAB*LABa 51.96 -1.18 30.46
LAB*TCHa 37.50 30.47 92.33

relative CIELAB lab*
lab*lab 0.485 -0.029 0.749
lab*tch 0.375 0.75 0.256
lab*nch 0.0 0.75 0.256
relative Natural Colour (NC)
lab*trj 0.485 0.0 0.75
lab*tce 0.375 0.75 0.256
lab*nce 0.0 0.75 0.256

relative Inform. Technology (IT)
olvi3* 0.484 0.5 0.0 (1.0)
cmyn3* 0.508 0.5 0.75 (0.0)
olvi4* 0.982 1.0 0.75 (0.0)
cmyn4* 0.008 0.0 0.75 (0.0)
standard and adapted CIELAB
LAB*LAB 51.96 -1.18 30.46
LAB*LABa 51.96 -1.18 30.46
LAB*TCHa 37.50 30.47 92.33

relative CIELAB lab*
lab*lab 0.485 -0.029 0.749
lab*tch 0.375 0.75 0.256
lab*nch 0.0 0.75 0.256
relative Natural Colour (NC)
lab*trj 0.485 0.0 0.75
lab*tce 0.375 0.75 0.256
lab*nce 0.0 0.75 0.256

$n^* = 0.00$

$n^* = 0.25$

$n^* = 0.50$

$n^* = 1.00$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

Output: Colorimetric Reflective System NCS11

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

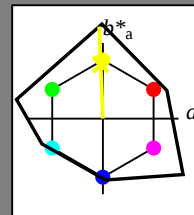
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 90 122 92

rgb*Ma: 0.97 1.0 0.0

triangle lightness t^*



% Gamut

$u^*_{rel} = 149$

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
LAB*LABa 95.41 0.0 0.0
LAB*TCHa 99.99 0.01 0.0

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)
olvi3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (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 74.31 0.02 0.0
LAB*LABa 74.31 0.02 0.0
LAB*TCHa 75.00 0.01 0.0

relative CIELAB lab*
lab*lab 0.75 0.75 0.75 (1.0)
lab*tch 0.75 0.75 0.75 (1.0)
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.75 0.75 0.75 (1.0)
lab*tce 0.75 0.75 0.75 (1.0)
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.5 (0.0)
cmyn3* 0.5 0.5 0.5 (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 53.21 0.04 0.0
LAB*LABa 53.21 0.04 0.0
LAB*TCHa 50.00 0.01 0.0

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

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*TCHa 25.00 0.01 0.0

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

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*TCHa 25.00 0.01 0.0

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

output: no change compared to input

