

Input: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 24/360 = 0.066$

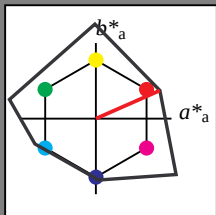
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 47 92 24

rgb*Ma: 1.0 0.0 0.0

triangle lightness t^*



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 0.0 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)
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 0.0 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)
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*LABa 32.11 0.08 0.0
LAB*TCHa 25.00 0.01 0.0

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)
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 0.07 0.01
LAB*LABa 11.01 0.07 0.01
LAB*TCHa 0.01 0.01 0.0

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

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 0.07 0.01
LAB*LABa 11.01 0.07 0.01
LAB*TCHa 0.01 0.01 0.0

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

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* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olvi4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 71.27 42.31 18.63
LAB*LABa 71.27 42.31 18.63
LAB*TCHa 75.00 46.23 23.75

relative CIELAB lab*
lab*lab 0.714 0.458 0.201
lab*tch 0.75 0.5 0.066
lab*nch 0.0 0.5 0.066
relative Natural Colour (NC)
lab*trj 0.714 0.5 -0.011
lab*tce 0.75 0.5 0.996
lab*nce 0.0 0.5 0.996

relative Inform. Technology (IT)
olvi3* 0.75 0.25 0.25 (1.0)
cmyn3* 0.25 0.75 0.75 (0.0)
olvi4* 1.0 0.5 0.5 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 50.17 42.37 18.64
LAB*LABa 50.17 42.37 18.64
LAB*TCHa 50.00 46.24 23.75

relative CIELAB lab*
lab*lab 0.464 0.458 0.201
lab*tch 0.5 0.5 0.066
lab*nch 0.0 0.5 0.066
relative Natural Colour (NC)
lab*trj 0.464 0.5 -0.011
lab*tce 0.5 0.5 0.996
lab*nce 0.0 0.5 0.996

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.0 (1.0)
cmyn3* 0.5 0.0 0.0 (0.0)
olvi4* 1.0 0.5 0.5 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 30.11 63.53 27.95
LAB*LABa 30.11 63.53 27.95
LAB*TCHa 30.51 69.35 23.75

relative CIELAB lab*
lab*lab 0.321 0.686 0.302
lab*tch 0.375 0.75 0.066
lab*nch 0.0 0.75 0.066
relative Natural Colour (NC)
lab*trj 0.321 0.75 -0.017
lab*tce 0.375 0.75 0.996
lab*nce 0.0 0.75 0.996

relative Inform. Technology (IT)
olvi3* 0.25 0.0 0.0 (1.0)
cmyn3* 0.25 0.0 0.0 (0.0)
olvi4* 1.0 0.5 0.5 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 29.07 42.38 18.64
LAB*LABa 29.07 42.38 18.64
LAB*TCHa 25.01 46.23 23.75

relative CIELAB lab*
lab*lab 0.214 0.458 0.201
lab*tch 0.25 0.5 0.066
lab*nch 0.0 0.5 0.066
relative Natural Colour (NC)
lab*trj 0.214 0.5 -0.011
lab*tce 0.25 0.5 0.996
lab*nce 0.0 0.5 0.996

relative Inform. Technology (IT)
olvi3* 0.107 0.229 0.101
cmyn3* 0.125 0.25 0.066
olvi4* 1.0 0.5 0.5 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 20.04 21.22 9.33
LAB*LABa 20.04 21.22 9.33
LAB*TCHa 12.51 23.75

relative CIELAB lab*
lab*lab 0.107 0.229 0.101
lab*tch 0.125 0.25 0.066
lab*nch 0.0 0.5 0.066
relative Natural Colour (NC)
lab*trj 0.107 0.25 0.005
lab*tce 0.125 0.25 0.996
lab*nce 0.0 0.5 0.996

Output: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 24/360 = 0.066$

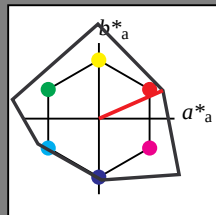
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 47 92 24

rgb*Ma: 1.0 0.0 0.0

triangle lightness t^*



relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
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cmyn4* 0.0 0.0 0.0 (0.0)
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LAB*LAB 95.41 0.0 -0.01
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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)
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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)
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)
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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)
olvi3* 0.25 0.25 0.25 (1.0)
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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

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
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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 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

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
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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
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%Regularity

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

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

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olvi4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 71.27 42.31 18.63
LAB*LABa 71.27 42.31 18.63
LAB*TCHa 75.00 46.23 23.75

relative CIELAB lab*
lab*lab 0.714 0.458 0.201
lab*tch 0.75 0.5 0.066
lab*nch 0.0 0.5 0.066
relative Natural Colour (NC)
lab*trj 0.714 0.5 -0.011
lab*tce 0.75 0.5 0.996
lab*nce 0.0 0.5 0.996

relative Inform. Technology (IT)
olvi3* 0.75 0.25 0.25 (1.0)
cmyn3* 0.25 0.75 0.75 (0.0)
olvi4* 1.0 0.5 0.5 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 50.17 42.37 18.64
LAB*LABa 50.17 42.37 18.64
LAB*TCHa 50.00 46.24 23.75

relative CIELAB lab*
lab*lab 0.464 0.458 0.201
lab*tch 0.5 0.5 0.066
lab*nch 0.0 0.5 0.066
relative Natural Colour (NC)
lab*trj 0.464 0.5 -0.011
lab*tce 0.5 0.5 0.996
lab*nce 0.0 0.5 0.996

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.0 (1.0)
cmyn3* 0.5 0.0 0.0 (0.0)
olvi4* 1.0 0.5 0.5 (0.0)
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standard and adapted CIELAB
LAB*LAB 30.11 63.53 27.95
LAB*LABa 30.11 63.53 27.95
LAB*TCHa 30.51 69.35 23.75

relative CIELAB lab*
lab*lab 0.321 0.686 0.302
lab*tch 0.375 0.75 0.066
lab*nch 0.0 0.75 0.066
relative Natural Colour (NC)
lab*trj 0.321 0.75 -0.017
lab*tce 0.375 0.75 0.996
lab*nce 0.0 0.75 0.996

relative Inform. Technology (IT)
olvi3* 0.25 0.0 0.0 (1.0)
cmyn3* 0.25 0.0 0.0 (0.0)
olvi4* 1.0 0.5 0.5 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 29.07 42.38 18.64
LAB*LABa 29.07 42.38 18.64
LAB*TCHa 25.01 46.23 23.75

relative CIELAB lab*
lab*lab 0.214 0.458 0.201
lab*tch 0.25 0.5 0.066
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relative Natural Colour (NC)
lab*trj 0.214 0.5 -0.011
lab*tce 0.25 0.5 0.996
lab*nce 0.0 0.5 0.996

relative Inform. Technology (IT)
olvi3* 0.107 0.229 0.101
cmyn3* 0.125 0.25 0.066
olvi4* 1.0 0.5 0.5 (0.0)
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standard and adapted CIELAB
LAB*LAB 20.04 21.22 9.33
LAB*LABa 20.04 21.22 9.33
LAB*TCHa 12.51 23.75

relative CIELAB lab*
lab*lab 0.107 0.229 0.101
lab*tch 0.125 0.25 0.066
lab*nch 0.0 0.5 0.066
relative Natural Colour (NC)
lab*trj 0.107 0.25 0.005
lab*tce 0.125 0.25 0.996
lab*nce 0.0 0.5 0.996

UE59-7, 5 step scales for constant CIELAB hue 24/360 = 0.066 (left)

5 step scales for constant CIELAB hue 24/360 = 0.066 (right)

BAM-test chart UE59; Colorimetric systems ORS18 & ORS18

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

input: `cmv0* setcmvcolor`

output: `Startup (S) data dependend`

Input: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 167/360 = 0.465$

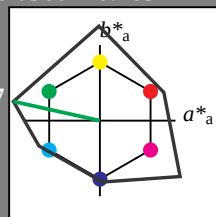
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 63 117 167

rgb*Ma: 0.0 1.0 0.0

triangle lightness t^*



$u^*_{rel} = 149$

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*LABb 95.41 0.0 0.0
LAB*LABc 95.41 0.0 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*LABa 74.31 0.02 0.0
LAB*LABb 74.31 0.02 0.0
LAB*LABc 74.31 0.02 0.0

relative CIELAB lab*
lab*lab 0.904 -0.243 0.054
lab*tch 0.875 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.904 -0.243 -0.018
lab*trc 0.875 0.25 0.512
lab*ncc 0.0 0.25 0.465

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*LABa 53.21 0.04 0.0
LAB*LABb 53.21 0.04 0.0
LAB*LABc 53.21 0.04 0.0

relative CIELAB lab*
lab*lab 0.654 -0.243 0.054
lab*tch 0.625 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.654 -0.243 -0.018
lab*trc 0.625 0.25 0.512
lab*ncc 0.0 0.25 0.465

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 0.07 0.01
LAB*LABa 32.11 0.07 0.01
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LAB*LABc 32.11 0.07 0.01

relative CIELAB lab*
lab*lab 0.404 -0.243 0.054
lab*tch 0.375 0.25 0.465
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relative Natural Colour (NC)
lab*trj 0.404 -0.243 -0.018
lab*trc 0.375 0.25 0.512
lab*ncc 0.0 0.25 0.465

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olvi3* 0.0 0.0 0.0 (1.0)
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LAB*LAB 11.01 0.07 0.01
LAB*LABa 11.01 0.07 0.01
LAB*LABb 11.01 0.07 0.01
LAB*LABc 11.01 0.07 0.01

relative CIELAB lab*
lab*lab 0.154 -0.243 0.054
lab*tch 0.125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.154 -0.243 -0.018
lab*trc 0.125 0.25 0.512
lab*ncc 0.0 0.25 0.465

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 0.01 0.01 0.01
LAB*LABa 0.01 0.01 0.01
LAB*LABb 0.01 0.01 0.01
LAB*LABc 0.01 0.01 0.01

relative CIELAB lab*
lab*lab 0.0154 -0.243 0.054
lab*tch 0.0125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.0154 -0.243 -0.018
lab*trc 0.0125 0.25 0.512
lab*ncc 0.0 0.25 0.465

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*LABa 0.0 0.0 0.0
LAB*LABb 0.0 0.0 0.0
LAB*LABc 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.00154 -0.243 0.054
lab*tch 0.00125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.00154 -0.243 -0.018
lab*trc 0.00125 0.25 0.512
lab*ncc 0.0 0.25 0.465

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*LABa 0.0 0.0 0.0
LAB*LABb 0.0 0.0 0.0
LAB*LABc 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.000154 -0.243 0.054
lab*tch 0.000125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.000154 -0.243 -0.018
lab*trc 0.000125 0.25 0.512
lab*ncc 0.0 0.25 0.465

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*LABa 0.0 0.0 0.0
LAB*LABb 0.0 0.0 0.0
LAB*LABc 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.0000154 -0.243 0.054
lab*tch 0.0000125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.0000154 -0.243 -0.018
lab*trc 0.0000125 0.25 0.512
lab*ncc 0.0 0.25 0.465

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*LABa 0.0 0.0 0.0
LAB*LABb 0.0 0.0 0.0
LAB*LABc 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.00000154 -0.243 0.054
lab*tch 0.00000125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.00000154 -0.243 -0.018
lab*trc 0.00000125 0.25 0.512
lab*ncc 0.0 0.25 0.465

UE59-7, 5 step scales for constant CIELAB hue 167/360 = 0.465 (left)

BAM-test chart UE59; Colorimetric systems ORS18 & ORS18
D65: 2 coordinate data of 5 step colour scales for 10 hues

Output: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 167/360 = 0.465$

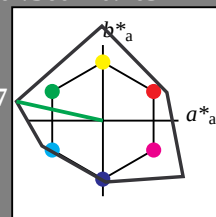
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 63 117 167

rgb*Ma: 0.0 1.0 0.0

triangle lightness t^*



$u^*_{rel} = 149$

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*LABb 95.41 0.0 0.0
LAB*LABc 95.41 0.0 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*LABa 74.31 0.02 0.0
LAB*LABb 74.31 0.02 0.0
LAB*LABc 74.31 0.02 0.0

relative CIELAB lab*
lab*lab 0.904 -0.243 0.054
lab*tch 0.875 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.904 -0.243 -0.018
lab*trc 0.875 0.25 0.512
lab*ncc 0.0 0.25 0.465

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*LABa 53.21 0.04 0.0
LAB*LABb 53.21 0.04 0.0
LAB*LABc 53.21 0.04 0.0

relative CIELAB lab*
lab*lab 0.654 -0.243 0.054
lab*tch 0.625 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.654 -0.243 -0.018
lab*trc 0.625 0.25 0.512
lab*ncc 0.0 0.25 0.465

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 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*LABb 32.11 0.07 0.01
LAB*LABc 32.11 0.07 0.01

relative CIELAB lab*
lab*lab 0.404 -0.243 0.054
lab*tch 0.375 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.404 -0.243 -0.018
lab*trc 0.375 0.25 0.512
lab*ncc 0.0 0.25 0.465

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 0.07 0.01
LAB*LABa 11.01 0.07 0.01
LAB*LABb 11.01 0.07 0.01
LAB*LABc 11.01 0.07 0.01

relative CIELAB lab*
lab*lab 0.154 -0.243 0.054
lab*tch 0.125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.154 -0.243 -0.018
lab*trc 0.125 0.25 0.512
lab*ncc 0.0 0.25 0.465

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 0.01 0.01 0.01
LAB*LABa 0.01 0.01 0.01
LAB*LABb 0.01 0.01 0.01
LAB*LABc 0.01 0.01 0.01

relative CIELAB lab*
lab*lab 0.00154 -0.243 0.054
lab*tch 0.00125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.00154 -0.243 -0.018
lab*trc 0.00125 0.25 0.512
lab*ncc 0.0 0.25 0.465

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*LABa 0.0 0.0 0.0
LAB*LABb 0.0 0.0 0.0
LAB*LABc 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.000154 -0.243 0.054
lab*tch 0.000125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.000154 -0.243 -0.018
lab*trc 0.000125 0.25 0.512
lab*ncc 0.0 0.25 0.465

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*LABa 0.0 0.0 0.0
LAB*LABb 0.0 0.0 0.0
LAB*LABc 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.0000154 -0.243 0.054
lab*tch 0.0000125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.0000154 -0.243 -0.018
lab*trc 0.0000125 0.25 0.512
lab*ncc 0.0 0.25 0.465

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*LABa 0.0 0.0 0.0
LAB*LABb 0.0 0.0 0.0
LAB*LABc 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.00000154 -0.243 0.054
lab*tch 0.00000125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.00000154 -0.243 -0.018
lab*trc 0.00000125 0.25 0.512
lab*ncc 0.0 0.25 0.465

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*LABa 0.0 0.0 0.0
LAB*LABb 0.0 0.0 0.0
LAB*LABc 0.0 0.0 0.0

relative CIELAB lab*
lab*lab 0.000000154 -0.243 0.054
lab*tch 0.000000125 0.25 0.465
lab*nch 0.0 0.25 0.465
relative Natural Colour (NC)
lab*trj 0.000000154 -0.243 -0.018
lab*trc 0.000000125 0.25 0.512
lab*ncc 0.0 0.25 0.465

5 step scales for constant CIELAB hue 167/360 = 0.465 (right)

input: `cmv0* setcmvcolor`
output: `Startup (S) data dependent`

Input: Colorimetric Reflective System NCS11

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

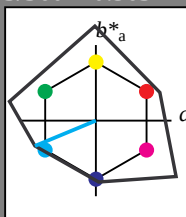
lab^*tch and lab^*nch

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*LABa 95.41 0.0 0.0
LAB*LABb 95.41 0.0 0.0
LAB*LABc 95.41 0.0 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*LABb 74.31 0.02 0.0
LAB*LABc 74.31 0.02 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 (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*LABb 53.21 0.04 0.0
LAB*LABc 53.21 0.04 0.0

relative CIELAB lab*
lab*lab 0.644 -0.23 -0.095
lab*tch 0.625 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.644 -0.208 -0.136
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 (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*LABb 32.11 0.07 0.01
LAB*LABc 32.11 0.07 0.01

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 (0.0)
cmyn3* 1.0 1.0 1.0 (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 11.01 0.07 0.01
LAB*LABa 11.01 0.07 0.01
LAB*LABb 11.01 0.07 0.01
LAB*LABc 11.01 0.07 0.01

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 (0.0)
cmyn3* 1.0 1.0 1.0 (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 0.01 0.01 0.01
LAB*LABa 0.01 0.01 0.01
LAB*LABb 0.01 0.01 0.01
LAB*LABc 0.01 0.01 0.01

relative CIELAB lab*
lab*lab 0.0144 -0.23 -0.095
lab*tch 0.0125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.0144 -0.208 -0.136
lab*tce 0.0125 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 1.0 1.0 (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 0.001 0.001 0.001
LAB*LABa 0.001 0.001 0.001
LAB*LABb 0.001 0.001 0.001
LAB*LABc 0.001 0.001 0.001

relative CIELAB lab*
lab*lab 0.00144 -0.23 -0.095
lab*tch 0.00125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.00144 -0.208 -0.136
lab*tce 0.00125 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 1.0 1.0 (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 0.0001 0.0001 0.0001
LAB*LABa 0.0001 0.0001 0.0001
LAB*LABb 0.0001 0.0001 0.0001
LAB*LABc 0.0001 0.0001 0.0001

relative CIELAB lab*
lab*lab 0.000144 -0.23 -0.095
lab*tch 0.000125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.000144 -0.208 -0.136
lab*tce 0.000125 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 1.0 1.0 (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 0.00001 0.00001 0.00001
LAB*LABa 0.00001 0.00001 0.00001
LAB*LABb 0.00001 0.00001 0.00001
LAB*LABc 0.00001 0.00001 0.00001

relative CIELAB lab*
lab*lab 0.0000144 -0.23 -0.095
lab*tch 0.0000125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.0000144 -0.208 -0.136
lab*tce 0.0000125 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 1.0 1.0 (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 0.000001 0.000001 0.000001
LAB*LABa 0.000001 0.000001 0.000001
LAB*LABb 0.000001 0.000001 0.000001
LAB*LABc 0.000001 0.000001 0.000001

relative CIELAB lab*
lab*lab 0.00000144 -0.23 -0.095
lab*tch 0.00000125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.00000144 -0.208 -0.136
lab*tce 0.00000125 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 1.0 1.0 (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 0.0000001 0.0000001 0.0000001
LAB*LABa 0.0000001 0.0000001 0.0000001
LAB*LABb 0.0000001 0.0000001 0.0000001
LAB*LABc 0.0000001 0.0000001 0.0000001

relative CIELAB lab*
lab*lab 0.000000144 -0.23 -0.095
lab*tch 0.000000125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.000000144 -0.208 -0.136
lab*tce 0.000000125 0.25 0.592
lab*nce 0.0 0.25 0.592

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* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olvi4* 0.5 0.5 0.5 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 77.43 -40.26 -16.71
LAB*LABa 77.43 -40.26 -16.71
LAB*LABb 77.43 -40.26 -16.71
LAB*LABc 77.43 -40.26 -16.71

relative CIELAB lab*
lab*lab 0.787 -0.461 -0.191
lab*tch 0.775 0.0 0.5
lab*nch 0.0 0.5 0.563
relative Natural Colour (NC)
lab*trj 0.787 -0.418 -0.272
lab*tce 0.775 0.0 0.592
lab*nce 0.0 0.5 0.592

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 0.5 0.5 0.5 (0.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 56.33 -40.3 -16.72
LAB*LABa 56.33 -40.3 -16.72
LAB*LABb 56.33 -40.3 -16.72
LAB*LABc 56.33 -40.3 -16.72

relative CIELAB lab*
lab*lab 0.644 -0.23 -0.095
lab*tch 0.625 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.644 -0.208 -0.136
lab*tce 0.625 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olvi4* 0.5 0.5 0.5 (0.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 -40.3 -16.72
LAB*LABa 32.11 -40.3 -16.72
LAB*LABb 32.11 -40.3 -16.72
LAB*LABc 32.11 -40.3 -16.72

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 (0.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olvi4* 0.5 0.5 0.5 (0.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 11.01 -40.3 -16.72
LAB*LABa 11.01 -40.3 -16.72
LAB*LABb 11.01 -40.3 -16.72
LAB*LABc 11.01 -40.3 -16.72

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 (0.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olvi4* 0.5 0.5 0.5 (0.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 0.01 -40.3 -16.72
LAB*LABa 0.01 -40.3 -16.72
LAB*LABb 0.01 -40.3 -16.72
LAB*LABc 0.01 -40.3 -16.72

relative CIELAB lab*
lab*lab 0.0144 -0.23 -0.095
lab*tch 0.0125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.0144 -0.208 -0.136
lab*tce 0.0125 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olvi4* 0.5 0.5 0.5 (0.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 0.001 -40.3 -16.72
LAB*LABa 0.001 -40.3 -16.72
LAB*LABb 0.001 -40.3 -16.72
LAB*LABc 0.001 -40.3 -16.72

relative CIELAB lab*
lab*lab 0.00144 -0.23 -0.095
lab*tch 0.00125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.00144 -0.208 -0.136
lab*tce 0.00125 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olvi4* 0.5 0.5 0.5 (0.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0001 -40.3 -16.72
LAB*LABa 0.0001 -40.3 -16.72
LAB*LABb 0.0001 -40.3 -16.72
LAB*LABc 0.0001 -40.3 -16.72

relative CIELAB lab*
lab*lab 0.000144 -0.23 -0.095
lab*tch 0.000125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.000144 -0.208 -0.136
lab*tce 0.000125 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olvi4* 0.5 0.5 0.5 (0.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 0.00001 -40.3 -16.72
LAB*LABa 0.00001 -40.3 -16.72
LAB*LABb 0.00001 -40.3 -16.72
LAB*LABc 0.00001 -40.3 -16.72

relative CIELAB lab*
lab*lab 0.0000144 -0.23 -0.095
lab*tch 0.0000125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.0000144 -0.208 -0.136
lab*tce 0.0000125 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olvi4* 0.5 0.5 0.5 (0.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 0.000001 -40.3 -16.72
LAB*LABa 0.000001 -40.3 -16.72
LAB*LABb 0.000001 -40.3 -16.72
LAB*LABc 0.000001 -40.3 -16.72

relative CIELAB lab*
lab*lab 0.00000144 -0.23 -0.095
lab*tch 0.00000125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.00000144 -0.208 -0.136
lab*tce 0.00000125 0.25 0.592
lab*nce 0.0 0.25 0.592

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (0.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olvi4* 0.5 0.5 0.5 (0.0)
cmyn4* 0.5 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 0.0000001 -40.3 -16.72
LAB*LABa 0.0000001 -40.3 -16.72
LAB*LABb 0.0000001 -40.3 -16.72
LAB*LABc 0.0000001 -40.3 -16.72

relative CIELAB lab*
lab*lab 0.000000144 -0.23 -0.095
lab*tch 0.000000125 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.000000144 -0.208 -0.136
lab*tce 0.000000125 0.25 0.592
lab*nce 0.0 0.25 0.592

Output: Colorimetric Reflective System NCS11

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

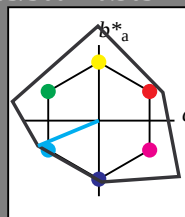
lab^*tch and lab^*nch

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*LABa 95.41 0.0 0.0
LAB*LABb 95.41 0.0 0.0
LAB*LABc 95.41 0.0 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*LABb 74.31 0.02 0.0
LAB*LABc 74.31 0.02 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 (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*LABb 53.21 0.04 0.0
LAB*LABc 53.21 0.04 0.0

relative CIELAB lab*
lab*lab 0.644 -0.23 -0.095
lab*tch 0.625 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*trj 0.644 -0.208 -0.136
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 (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

A diagram of a 1D lattice with sites labeled L and V. The lattice is represented by a horizontal line with several vertical tick marks. A green rectangular box labeled 'L' is positioned under the second tick mark from the left. A blue rectangular box labeled 'V' is positioned under the fifth tick mark from the left. The boxes are adjacent to each other.

Input: Colorimetric Reflective System NCS11

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

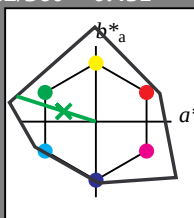
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 65 110 162

rgb*Ma: 0.08 1.0 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)
olvi4*	0.0 0.0 0.0 (0.0)
olvi5*	1.0 1.0 1.0 (1.0)
olvi6*	0.0 0.0 0.0 (0.0)
olvi7*	0.0 0.0 0.0 (0.0)
olvi8*	0.0 0.0 0.0 (0.0)
olvi9*	0.0 0.0 0.0 (0.0)
olvi10*	0.0 0.0 0.0 (0.0)
olvi11*	0.0 0.0 0.0 (0.0)
olvi12*	0.0 0.0 0.0 (0.0)
olvi13*	0.0 0.0 0.0 (0.0)
olvi14*	0.0 0.0 0.0 (0.0)
olvi15*	0.0 0.0 0.0 (0.0)
olvi16*	0.0 0.0 0.0 (0.0)
olvi17*	0.0 0.0 0.0 (0.0)
olvi18*	0.0 0.0 0.0 (0.0)
olvi19*	0.0 0.0 0.0 (0.0)
olvi20*	0.0 0.0 0.0 (0.0)
olvi21*	0.0 0.0 0.0 (0.0)
olvi22*	0.0 0.0 0.0 (0.0)
olvi23*	0.0 0.0 0.0 (0.0)
olvi24*	0.0 0.0 0.0 (0.0)
olvi25*	0.0 0.0 0.0 (0.0)
olvi26*	0.0 0.0 0.0 (0.0)
olvi27*	0.0 0.0 0.0 (0.0)
olvi28*	0.0 0.0 0.0 (0.0)
olvi29*	0.0 0.0 0.0 (0.0)
olvi30*	0.0 0.0 0.0 (0.0)
olvi31*	0.0 0.0 0.0 (0.0)
olvi32*	0.0 0.0 0.0 (0.0)
olvi33*	0.0 0.0 0.0 (0.0)
olvi34*	0.0 0.0 0.0 (0.0)
olvi35*	0.0 0.0 0.0 (0.0)
olvi36*	0.0 0.0 0.0 (0.0)
olvi37*	0.0 0.0 0.0 (0.0)
olvi38*	0.0 0.0 0.0 (0.0)
olvi39*	0.0 0.0 0.0 (0.0)
olvi40*	0.0 0.0 0.0 (0.0)
olvi41*	0.0 0.0 0.0 (0.0)
olvi42*	0.0 0.0 0.0 (0.0)
olvi43*	0.0 0.0 0.0 (0.0)
olvi44*	0.0 0.0 0.0 (0.0)
olvi45*	0.0 0.0 0.0 (0.0)
olvi46*	0.0 0.0 0.0 (0.0)
olvi47*	0.0 0.0 0.0 (0.0)
olvi48*	0.0 0.0 0.0 (0.0)
olvi49*	0.0 0.0 0.0 (0.0)
olvi50*	0.0 0.0 0.0 (0.0)
olvi51*	0.0 0.0 0.0 (0.0)
olvi52*	0.0 0.0 0.0 (0.0)
olvi53*	0.0 0.0 0.0 (0.0)
olvi54*	0.0 0.0 0.0 (0.0)
olvi55*	0.0 0.0 0.0 (0.0)
olvi56*	0.0 0.0 0.0 (0.0)
olvi57*	0.0 0.0 0.0 (0.0)
olvi58*	0.0 0.0 0.0 (0.0)
olvi59*	0.0 0.0 0.0 (0.0)
olvi60*	0.0 0.0 0.0 (0.0)
olvi61*	0.0 0.0 0.0 (0.0)
olvi62*	0.0 0.0 0.0 (0.0)
olvi63*	0.0 0.0 0.0 (0.0)
olvi64*	0.0 0.0 0.0 (0.0)
olvi65*	0.0 0.0 0.0 (0.0)
olvi66*	0.0 0.0 0.0 (0.0)
olvi67*	0.0 0.0 0.0 (0.0)
olvi68*	0.0 0.0 0.0 (0.0)
olvi69*	0.0 0.0 0.0 (0.0)
olvi70*	0.0 0.0 0.0 (0.0)
olvi71*	0.0 0.0 0.0 (0.0)
olvi72*	0.0 0.0 0.0 (0.0)
olvi73*	0.0 0.0 0.0 (0.0)
olvi74*	0.0 0.0 0.0 (0.0)
olvi75*	0.0 0.0 0.0 (0.0)
olvi76*	0.0 0.0 0.0 (0.0)
olvi77*	0.0 0.0 0.0 (0.0)
olvi78*	0.0 0.0 0.0 (0.0)
olvi79*	0.0 0.0 0.0 (0.0)
olvi80*	0.0 0.0 0.0 (0.0)
olvi81*	0.0 0.0 0.0 (0.0)
olvi82*	0.0 0.0 0.0 (0.0)
olvi83*	0.0 0.0 0.0 (0.0)
olvi84*	0.0 0.0 0.0 (0.0)
olvi85*	0.0 0.0 0.0 (0.0)
olvi86*	0.0 0.0 0.0 (0.0)
olvi87*	0.0 0.0 0.0 (0.0)
olvi88*	0.0 0.0 0.0 (0.0)
olvi89*	0.0 0.0 0.0 (0.0)
olvi90*	0.0 0.0 0.0 (0.0)
olvi91*	0.0 0.0 0.0 (0.0)
olvi92*	0.0 0.0 0.0 (0.0)
olvi93*	0.0 0.0 0.0 (0.0)
olvi94*	0.0 0.0 0.0 (0.0)
olvi95*	0.0 0.0 0.0 (0.0)
olvi96*	0.0 0.0 0.0 (0.0)
olvi97*	0.0 0.0 0.0 (0.0)
olvi98*	0.0 0.0 0.0 (0.0)
olvi99*	0.0 0.0 0.0 (0.0)
olvi100*	0.0 0.0 0.0 (0.0)

relative Inform. Technology (IT)	
olvi3*	0.771 1.0 0.75 (1.0)
olvi4*	0.229 0.0 0.25 (0.0)
olvi5*	0.771 1.0 0.75 (1.0)
olvi6*	0.229 0.0 0.25 (0.0)
olvi7*	0.229 0.0 0.25 (0.0)
olvi8*	0.229 0.0 0.25 (0.0)
olvi9*	0.229 0.0 0.25 (0.0)
olvi10*	0.229 0.0 0.25 (0.0)
olvi11*	0.229 0.0 0.25 (0.0)
olvi12*	0.229 0.0 0.25 (0.0)
olvi13*	0.229 0.0 0.25 (0.0)
olvi14*	0.229 0.0 0.25 (0.0)
olvi15*	0.229 0.0 0.25 (0.0)
olvi16*	0.229 0.0 0.25 (0.0)
olvi17*	0.229 0.0 0.25 (0.0)
olvi18*	0.229 0.0 0.25 (0.0)
olvi19*	0.229 0.0 0.25 (0.0)
olvi20*	0.229 0.0 0.25 (0.0)
olvi21*	0.229 0.0 0.25 (0.0)
olvi22*	0.229 0.0 0.25 (0.0)
olvi23*	0.229 0.0 0.25 (0.0)
olvi24*	0.229 0.0 0.25 (0.0)
olvi25*	0.229 0.0 0.25 (0.0)
olvi26*	0.229 0.0 0.25 (0.0)
olvi27*	0.229 0.0 0.25 (0.0)
olvi28*	0.229 0.0 0.25 (0.0)
olvi29*	0.229 0.0 0.25 (0.0)
olvi30*	0.229 0.0 0.25 (0.0)
olvi31*	0.229 0.0 0.25 (0.0)
olvi32*	0.229 0.0 0.25 (0.0)
olvi33*	0.229 0.0 0.25 (0.0)
olvi34*	0.229 0.0 0.25 (0.0)
olvi35*	0.229 0.0 0.25 (0.0)
olvi36*	0.229 0.0 0.25 (0.0)
olvi37*	0.229 0.0 0.25 (0.0)
olvi38*	0.229 0.0 0.25 (0.0)
olvi39*	0.229 0.0 0.25 (0.0)
olvi40*	0.229 0.0 0.25 (0.0)
olvi41*	0.229 0.0 0.25 (0.0)
olvi42*	0.229 0.0 0.25 (0.0)
olvi43*	0.229 0.0 0.25 (0.0)
olvi44*	0.229 0.0 0.25 (0.0)
olvi45*	0.229 0.0 0.25 (0.0)
olvi46*	0.229 0.0 0.25 (0.0)
olvi47*	0.229 0.0 0.25 (0.0)
olvi48*	0.229 0.0 0.25 (0.0)
olvi49*	0.229 0.0 0.25 (0.0)
olvi50*	0.229 0.0 0.25 (0.0)
olvi51*	0.229 0.0 0.25 (0.0)
olvi52*	0.229 0.0 0.25 (0.0)
olvi53*	0.229 0.0 0.25 (0.0)
olvi54*	0.229 0.0 0.25 (0.0)
olvi55*	0.229 0.0 0.25 (0.0)
olvi56*	0.229 0.0 0.25 (0.0)
olvi57*	0.229 0.0 0.25 (0.0)
olvi58*	0.229 0.0 0.25 (0.0)
olvi59*	0.229 0.0 0.25 (0.0)
olvi60*	0.229 0.0 0.25 (0.0)
olvi61*	0.229 0.0 0.25 (0.0)
olvi62*	0.229 0.0 0.25 (0.0)
olvi63*	0.229 0.0 0.25 (0.0)
olvi64*	0.229 0.0 0.25 (0.0)
olvi65*	0.229 0.0 0.25 (0.0)
olvi66*	0.229 0.0 0.25 (0.0)
olvi67*	0.229 0.0 0.25 (0.0)
olvi68*	0.229 0.0 0.25 (0.0)
olvi69*	0.229 0.0 0.25 (0.0)
olvi70*	0.229 0.0 0.25 (0.0)
olvi71*	0.229 0.0 0.25 (0.0)
olvi72*	0.229 0.0 0.25 (0.0)
olvi73*	0.229 0.0 0.25 (0.0)
olvi74*	0.229 0.0 0.25 (0.0)
olvi75*	0.229 0.0 0.25 (0.0)
olvi76*	0.229 0.0 0.25 (0.0)
olvi77*	0.229 0.0 0.25 (0.0)
olvi78*	0.229 0.0 0.25 (0.0)
olvi79*	0.229 0.0 0.25 (0.0)
olvi80*	0.229 0.0 0.25 (0.0)
olvi81*	0.229 0.0 0.25 (0.0)
olvi82*	0.229 0.0 0.25 (0.0)
olvi83*	0.229 0.0 0.25 (0.0)
olvi84*	0.229 0.0 0.25 (0.0)
olvi85*	0.229 0.0 0.25 (0.0)
olvi86*	0.229 0.0 0.25 (0.0)
olvi87*	0.229 0.0 0.25 (0.0)
olvi88*	0.229 0.0 0.25 (0.0)
olvi89*	0.229 0.0 0.25 (0.0)
olvi90*	0.229 0.0 0.25 (0.0)
olvi91*	0.229 0.0 0.25 (0.0)
olvi92*	0.229 0.0 0.25 (0.0)
olvi93*	0.229 0.0 0.25 (0.0)
olvi94*	0.229 0.0 0.25 (0.0)
olvi95*	0.229 0.0 0.25 (0.0)
olvi96*	0.229 0.0 0.25 (0.0)
olvi97*	0.229 0.0 0.25 (0.0)
olvi98*	0.229 0.0 0.25 (0.0)
olvi99*	0.229 0.0 0.25 (0.0)
olvi100*	0.229 0.0 0.25 (0.0)

relative Inform. Technology (IT)	
olvi3*	0.771 1.0 0.75 (1.0)
olvi4*	0.229 0.0 0.25 (0.0)
olvi5*	0.771 1.0 0.75 (1.0)
olvi6*	0.229 0.0 0.25 (0.0)
olvi7*	0.229 0.0 0.25 (0.0)
olvi8*	0.229 0.0 0.25 (0.0)
olvi9*	0.229 0.0 0.25 (0.0)
olvi10*	0.229 0.0 0.25 (0.0)
olvi11*	0.229 0.0 0.25 (0.0)
olvi12*	0.229 0.0 0.25 (0.0)
olvi13*	0.229 0.0 0.25 (0.0)
olvi14*	0.229 0.0 0.25 (0.0)
olvi15*	0.229 0.0 0.25 (0.0)
olvi16*	0.229 0.0 0.25 (0.0)
olvi17*	0.229 0.0 0.25 (0.0)
olvi18*	0.229 0.0 0.25 (0.0)
olvi19*	0.229 0.0 0.25 (0.0)
olvi20*	0.229 0.0 0.25 (0.0)
olvi21*	0.229 0.0 0.25 (0.0)
olvi22*	0.229 0.0 0.25 (0.0)
olvi23*	0.229 0.0 0.25 (0.0)
olvi24*	0.229 0.0 0.25 (0.0)
olvi25*	0.229 0.0 0.25 (0.0)
olvi26*	0.229 0.0 0.25 (0.0)
olvi27*	0.229 0.0 0.25 (0.0)
olvi28*	0.229 0.0 0.25 (0.0)
olvi29*	0.229 0.0 0.25 (0.0)
olvi30*	0.229 0.0 0.25 (0.0)
olvi31*	0.229 0.0 0.25 (0.0)
olvi32*	0.229 0.0 0.25 (0.0)
olvi33*	0.229 0.0 0.25 (0.0)
olvi34*	0.229 0.0 0.25 (0.0)
olvi35*	0.229 0.0 0.25 (0.0)
olvi36*	0.229 0.0 0.25 (0.0)
olvi37*	0.229 0.0 0.25 (0.0)
olvi38*	0.229 0.0 0.25 (0.0)
olvi39*	0.229 0.0 0.25 (0.0)
olvi40*	0.229 0.0 0.25 (0.0)
olvi41*	0.229 0.0 0.25 (0.0)
olvi42*	0.229 0.0 0.25 (0.0)
olvi43*	0.229 0.0 0.25 (0.0)
olvi44*	0.229 0.0 0.25 (0.0)
olvi45*	0.229 0.0 0.25 (0.0)
olvi46*	0.229 0.0 0.25 (0.0)
olvi47*	0.229 0.0 0.25 (0.0)
olvi48*	0.229 0.0 0.25 (0.0)
olvi49*	0.229 0.0 0.25 (0.0)
olvi50*	0.229 0.0 0.25 (0.0)
olvi51*	0.229 0.0 0.25 (0.0)
olvi52*	0.229 0.0 0.25 (0.0)
olvi53*	0.229 0.0 0.25 (0.0)
olvi54*	0.229 0.0 0.25 (0.0)
olvi55*	0.229 0.0 0.25 (0.0)
olvi56*	0.229 0.0 0.25 (0.0)
olvi57*	0.229 0.0 0.25 (0.0)
olvi58*	0.229 0.0 0.25 (0.0)
olvi59*	0.229 0.0 0.25 (0.0)
olvi60*	0.229 0.0 0.25 (0.0)
olvi61*	0.229 0.0 0.25 (0.0)
olvi62*	0.229 0.0 0.25 (0.0)
olvi63*	0.229 0.0 0.25 (0.0)
olvi64*	0.229 0.0 0.25 (0.0)
olvi65*	0.229 0.0 0.25 (0.0)
olvi66*	0.229 0.0 0.25 (0.0)
olvi67*	0.229 0.0 0.25 (0.0)
olvi68*	0.229 0.0 0.25 (0.0)
olvi69*	0.229 0.0 0.25 (0.0)
olvi70*	0.229 0.0 0.25 (0.0)
olvi71*	0.229 0.0 0.25 (0.0)
olvi72*	0.229 0.0 0.25 (0.0)
olvi73*	0.229 0.0 0.25 (0.0)
olvi74*	0.229 0.0 0.25 (0.0)
olvi75*	0.229 0.0 0.25 (0.0)
olvi76*	0.229 0.0 0.25 (0.0)
olvi77*	0.229 0.0 0.25 (0.0)
olvi78*	0.229 0.0 0.25 (0.0)
olvi79*	0.229 0.0 0.25 (0.0)
olvi80*	0.229 0.0 0.25 (0.0)
olvi81*	0.229 0.0 0.25 (0.0)
olvi82*	0.229 0.0 0.25 (0.0)
olvi83*	0.229 0.0 0.25 (0.0)
olvi84*	0.229 0.0 0.25 (0.0)
olvi85*	0.229 0.0 0.25 (0.0)
olvi86*	0.229 0.0 0.25 (0.0)
olvi87*	0.229 0.0 0.25 (0.0)
olvi88*	0.229 0.0 0.25 (0.0)
olvi89*	0.229 0.0 0.25 (0.0)
olvi90*	0.229 0.0 0.25 (0.0)
olvi91*	0.229 0.0 0.25 (0.0)
olvi92*	0.229 0.0 0.25 (0.0)
olvi93*	0.229 0.0 0.25 (0.0)
olvi94*	0.229 0.0 0.25 (0.0)
olvi95*	0.229 0.0 0.25 (0.0)
olvi96*	0.229 0.0 0.25 (0.0)
olvi97*	0.229 0.0 0.25 (0.0)
olvi98*	0.229 0.0 0.25 (0.0)
olvi99*	0.229 0.0 0.25 (0.0)
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