

Input: Colorimetric Reflective System NCS11

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

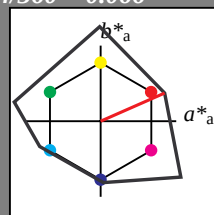
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 47 92 24

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

Output: Colorimetric Reflective System NCS11

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

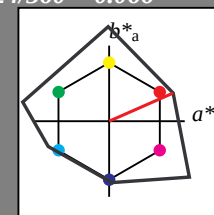
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 47 92 24

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



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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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GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

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 -

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

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

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

standard and adapted CIELAB
LAB*LAB 53.21 0.04 0.0
LAB*LABa 53.21 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

relative Inform. Technology (IT)
olvi3* 1.0 0.5 0.5 (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 42.34 18.63
LAB*LABa 71.27 42.31 18.62
LAB*TCHa 75.0 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*lrj 0.714 0.5 -0.011
lab*tce 0.75 0.5 0.996
lab*nce 0.0 0.5 b98r

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

standard and adapted CIELAB
LAB*LAB 29.07 42.38 18.64
LAB*LABa 29.07 42.31 18.62
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 0.5 0.5 0.066

relative Natural Colour (NC)
lab*lrj 0.214 0.5 -0.011
lab*tce 0.25 0.5 0.996
lab*nce 0.5 0.5 b98r

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

standard and adapted CIELAB
LAB*LAB 47.15 84.68 37.26
LAB*LABa 47.15 84.63 37.24
LAB*TCHa 50.0 92.46 23.75

relative CIELAB lab*
lab*lab 0.428 0.915 0.403
lab*tch 0.5 1.0 0.066
lab*nch 0.0 1.0 0.066

relative Natural Colour (NC)
lab*lrj 0.428 1.0 -0.023
lab*tce 0.5 1.0 0.996
lab*nce 0.0 1.0 b98r

Input: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 91/360 = 0.252$

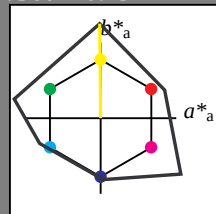
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 91 125 91

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
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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

Output: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 91/360 = 0.252$

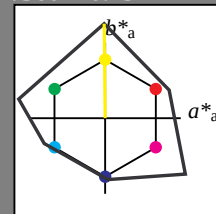
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 91 125 91

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



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%Regularity

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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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GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

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

relative CIELAB lab*
 $lab^*lab = 1.0 \ 0.0 \ 0.0$
 $lab^*tch = 1.0 \ 0.0 \ -$
 $lab^*nch = 0.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 1.0 \ 0.0 \ 0.0$
 $lab^*tce = 1.0 \ 0.0 \ -$
 $lab^*nce = 0.0 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 53.21 \ 0.04 \ 0.0$
 $LAB^*LABa = 53.21 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab = 0.5 \ 0.0 \ 0.0$
 $lab^*tch = 0.5 \ 0.0 \ -$
 $lab^*nch = 0.5 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.5 \ 0.0 \ 0.0$
 $lab^*tce = 0.5 \ 0.0 \ -$
 $lab^*nce = 0.5 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 11.01 \ 0.07 \ 0.01$
 $LAB^*LABa = 11.01 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab = 0.0 \ 0.0 \ 0.0$
 $lab^*tch = 0.0 \ 0.0 \ -$
 $lab^*nch = 1.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.0 \ 0.0 \ 0.0$
 $lab^*tce = 0.0 \ 0.0 \ -$
 $lab^*nce = 1.0 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 93.38 \ -0.62 \ 62.5$
 $LAB^*LABa = 93.38 \ -0.63 \ 62.5$
 $LAB^*TCHa = 75.0 \ 62.5 \ 90.59$

relative CIELAB lab*
 $lab^*lab = 0.976 \ -0.004 \ 0.5$
 $lab^*tch = 0.75 \ 0.5 \ 0.252$
 $lab^*nch = 0.0 \ 0.5 \ 0.252$

relative Natural Colour (NC)
 $lab^*lrj = 0.976 \ 0.02 \ 0.499$
 $lab^*tce = 0.75 \ 0.5 \ 0.243$
 $lab^*nce = 0.0 \ 0.5 \ r97j$

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

standard and adapted CIELAB
 $LAB^*LAB = 51.18 \ -0.59 \ 62.51$
 $LAB^*LABa = 51.18 \ -0.63 \ 62.5$
 $LAB^*TCHa = 25.01 \ 62.5 \ 90.59$

relative CIELAB lab*
 $lab^*lab = 0.476 \ -0.004 \ 0.5$
 $lab^*tch = 0.25 \ 0.5 \ 0.252$
 $lab^*nch = 0.5 \ 0.5 \ 0.252$

relative Natural Colour (NC)
 $lab^*lrj = 0.476 \ 0.02 \ 0.499$
 $lab^*tce = 0.25 \ 0.5 \ 0.243$
 $lab^*nce = 0.5 \ 0.5 \ r97j$

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

standard and adapted CIELAB
 $LAB^*LAB = 91.36 \ -1.26 \ 125.0$
 $LAB^*LABa = 91.36 \ -1.27 \ 125.0$
 $LAB^*TCHa = 50.0 \ 125.01 \ 90.59$

relative CIELAB lab*
 $lab^*lab = 0.952 \ -0.009 \ 1.0$
 $lab^*tch = 0.5 \ 1.0 \ 0.252$
 $lab^*nch = 0.0 \ 1.0 \ 0.252$

relative Natural Colour (NC)
 $lab^*lrj = 0.952 \ 0.041 \ 0.999$
 $lab^*tce = 0.5 \ 1.0 \ 0.243$
 $lab^*nce = 0.0 \ 1.0 \ r97j$

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

blackness n^*

$n^* = 1,0$

UE090-7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

BAM-test chart UE09; Colorimetric systems NCS11a & NCS11ainput: $cmv0^* setcmykcolor$

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

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

output: no change compared to input

Input: Colorimetric Reflective System NCS11

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

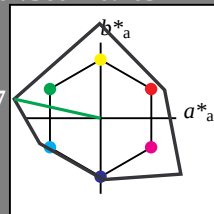
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 63 117 167

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

NCS11; adapted (a) CIELAB data					
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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

Output: Colorimetric Reflective System NCS11

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

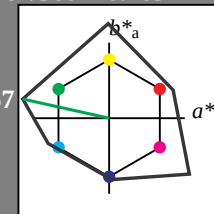
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 63 117 167

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



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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

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*TCa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 53.21 0.04 0.0
LAB*LABa 53.21 0.0 0.0
LAB*TCa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCa 0.01 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 79.24 -57.1 12.67
LAB*LABa 79.24 -57.12 12.67
LAB*TCa 75.0 58.52 167.5

relative CIELAB lab*
lab*lab 0.808 -0.487 0.108
lab*tch 0.75 0.5 0.465
lab*nch 0.0 0.5 0.465

relative Natural Colour (NC)
lab*lrj 0.808 -0.497 -0.037
lab*tce 0.75 0.5 0.512
lab*nce 0.0 0.5 g04b

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

standard and adapted CIELAB
LAB*LAB 37.04 -57.07 12.69
LAB*LABa 37.04 -57.12 12.67
LAB*TCa 25.01 58.52 167.5

relative CIELAB lab*
lab*lab 0.309 -0.487 0.108
lab*tch 0.25 0.5 0.465
lab*nch 0.5 0.5 0.465

relative Natural Colour (NC)
lab*lrj 0.309 -0.497 -0.037
lab*tce 0.25 0.5 0.512
lab*nce 0.5 0.5 g04b

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

standard and adapted CIELAB
LAB*LAB 63.07 -114.225.35
LAB*LABa 63.07 -114.225.34
LAB*TCa 50.0 117.04 167.5

relative CIELAB lab*
lab*lab 0.617 -0.975 0.216
lab*tch 0.5 1.0 0.465
lab*nch 0.0 1.0 0.465

relative Natural Colour (NC)
lab*lrj 0.617 -0.996 -0.074
lab*tce 0.5 1.0 0.512
lab*nce 0.0 1.0 g04b

blackness n^*
chromaticness c^*

blackness n^*
chromaticness c^*

blackness n^*
chromaticness c^*

blackness n^*
chromaticness c^*

UE090-7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

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

BAM-test chart UE09; Colorimetric systems NCS11a & NCS11ainput: $cmv0^* setcmykcolor$

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

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

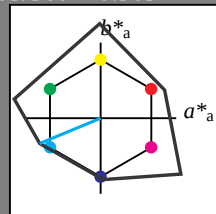
lab^*tch and lab^*nch

D65: hue G50B

LCH*Ma: 59 87 203

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

Output: Colorimetric Reflective System NCS11

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

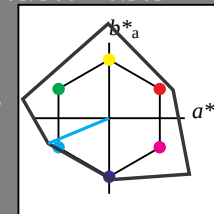
lab^*tch and lab^*nch

D65: hue G50B

LCH*Ma: 59 87 203

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

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

relative CIELAB lab*
 $lab^*lab = 1.0 \ 0.0 \ 0.0$
 $lab^*tch = 1.0 \ 0.0 \ -$
 $lab^*nch = 0.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 1.0 \ 0.0 \ 0.0$
 $lab^*tce = 1.0 \ 0.0 \ -$
 $lab^*nce = 0.0 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 53.21 \ 0.04 \ 0.0$
 $LAB^*LABa = 53.21 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab = 0.5 \ 0.0 \ 0.0$
 $lab^*tch = 0.5 \ 0.0 \ -$
 $lab^*nch = 0.5 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.5 \ 0.0 \ 0.0$
 $lab^*tce = 0.5 \ 0.0 \ -$
 $lab^*nce = 0.5 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 11.01 \ 0.07 \ 0.01$
 $LAB^*LABa = 11.01 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab = 0.0 \ 0.0 \ 0.0$
 $lab^*tch = 0.0 \ 0.0 \ -$
 $lab^*nch = 1.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.0 \ 0.0 \ 0.0$
 $lab^*tce = 0.0 \ 0.0 \ -$
 $lab^*nce = 1.0 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 77.43 \ -40.26 \ -16.71$
 $LAB^*LABa = 77.43 \ -40.29 \ -16.72$
 $LAB^*TCHa = 75.0 \ 43.63 \ 202.54$

relative CIELAB lab*
 $lab^*lab = 0.787 \ -0.461 \ -0.191$
 $lab^*tch = 0.75 \ 0.5 \ 0.563$
 $lab^*nch = 0.0 \ 0.5 \ 0.563$

relative Natural Colour (NC)
 $lab^*lrj = 0.787 \ -0.418 \ -0.272$
 $lab^*tce = 0.75 \ 0.5 \ 0.592$
 $lab^*nce = 0.0 \ 0.5 \ g36b$

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

standard and adapted CIELAB
 $LAB^*LAB = 35.23 \ -40.23 \ -16.7$
 $LAB^*LABa = 35.23 \ -40.29 \ -16.72$
 $LAB^*TCHa = 25.01 \ 43.63 \ 202.54$

relative CIELAB lab*
 $lab^*lab = 0.287 \ -0.461 \ -0.191$
 $lab^*tch = 0.25 \ 0.5 \ 0.563$
 $lab^*nch = 0.5 \ 0.5 \ 0.563$

relative Natural Colour (NC)
 $lab^*lrj = 0.287 \ -0.418 \ -0.272$
 $lab^*tce = 0.25 \ 0.5 \ 0.592$
 $lab^*nce = 0.5 \ 0.5 \ g36b$

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

standard and adapted CIELAB
 $LAB^*LAB = 59.47 \ -80.55 \ -33.44$
 $LAB^*LABa = 59.47 \ -80.59 \ -33.44$
 $LAB^*TCHa = 50.0 \ 87.26 \ 202.54$

relative CIELAB lab*
 $lab^*lab = 0.574 \ -0.922 \ -0.382$
 $lab^*tch = 0.5 \ 1.0 \ 0.563$
 $lab^*nch = 0.0 \ 1.0 \ 0.563$

relative Natural Colour (NC)
 $lab^*lrj = 0.574 \ -0.836 \ -0.546$
 $lab^*tce = 0.5 \ 1.0 \ 0.592$
 $lab^*nce = 0.0 \ 1.0 \ g36b$

Input: Colorimetric Reflective System NCS11

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

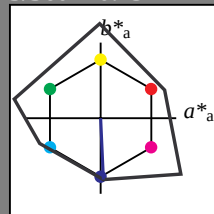
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 49 81 273

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

Output: Colorimetric Reflective System NCS11

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

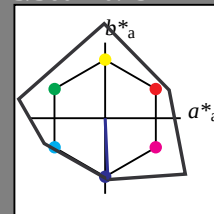
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 49 81 273

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

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

relative CIELAB lab*
 $lab^*lab = 1.0 \ 0.0 \ 0.0$
 $lab^*tch = 1.0 \ 0.0 \ -$
 $lab^*nch = 0.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 1.0 \ 0.0 \ 0.0$
 $lab^*tce = 1.0 \ 0.0 \ -$
 $lab^*nce = 0.0 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 53.21 \ 0.04 \ 0.0$
 $LAB^*LABa = 53.21 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab = 0.5 \ 0.0 \ 0.0$
 $lab^*tch = 0.5 \ 0.0 \ -$
 $lab^*nch = 0.5 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.5 \ 0.0 \ 0.0$
 $lab^*tce = 0.5 \ 0.0 \ -$
 $lab^*nce = 0.5 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 11.01 \ 0.07 \ 0.01$
 $LAB^*LABa = 11.01 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab = 0.0 \ 0.0 \ 0.0$
 $lab^*tch = 0.0 \ 0.0 \ -$
 $lab^*nch = 1.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.0 \ 0.0 \ 0.0$
 $lab^*tce = 0.0 \ 0.0 \ -$
 $lab^*nce = 1.0 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 72.21 \ 1.85 \ -40.58$
 $LAB^*LABa = 72.21 \ 1.82 \ -40.58$
 $LAB^*TCHa = 75.0 \ 40.63 \ 272.57$

relative CIELAB lab*
 $lab^*lab = 0.725 \ 0.022 \ -0.498$
 $lab^*tch = 0.75 \ 0.5 \ 0.757$
 $lab^*nch = 0.0 \ 0.5 \ 0.757$

relative Natural Colour (NC)
 $lab^*lrj = 0.725 \ 0.006 \ -0.499$
 $lab^*tce = 0.75 \ 0.5 \ 0.752$
 $lab^*nce = 0.0 \ 0.5 \ b00r$

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

standard and adapted CIELAB
 $LAB^*LAB = 30.01 \ 1.89 \ -40.56$
 $LAB^*LABa = 30.01 \ 1.82 \ -40.58$
 $LAB^*TCHa = 25.01 \ 40.63 \ 272.57$

relative CIELAB lab*
 $lab^*lab = 0.225 \ 0.022 \ -0.498$
 $lab^*tch = 0.25 \ 0.5 \ 0.757$
 $lab^*nch = 0.5 \ 0.5 \ 0.757$

relative Natural Colour (NC)
 $lab^*lrj = 0.225 \ 0.006 \ -0.499$
 $lab^*tce = 0.25 \ 0.5 \ 0.752$
 $lab^*nce = 0.5 \ 0.5 \ b00r$

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

standard and adapted CIELAB
 $LAB^*LAB = 49.02 \ 3.7 \ -81.16$
 $LAB^*LABa = 49.02 \ 3.65 \ -81.18$
 $LAB^*TCHa = 50.0 \ 81.27 \ 272.57$

relative CIELAB lab*
 $lab^*lab = 0.45 \ 0.045 \ -0.998$
 $lab^*tch = 0.5 \ 1.0 \ 0.757$
 $lab^*nch = 0.0 \ 1.0 \ 0.757$

relative Natural Colour (NC)
 $lab^*lrj = 0.45 \ 0.013 \ -0.999$
 $lab^*tce = 0.5 \ 1.0 \ 0.752$
 $lab^*nce = 0.0 \ 1.0 \ b00r$

BAM-test chart UE09; Colorimetric systems NCS11a & NCS11ainput: $cmv0^* setcmykcolor$

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

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

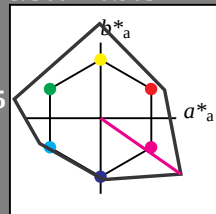
lab^*tch and lab^*nch

D65: hue B50R

LCH*Ma: 44 129 325

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

Output: Colorimetric Reflective System NCS11

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

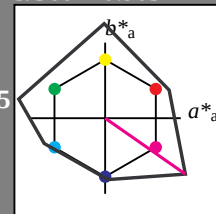
lab^*tch and lab^*nch

D65: hue B50R

LCH*Ma: 44 129 325

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

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*TCa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 53.21 0.04 0.0
LAB*LABa 53.21 0.0 0.0
LAB*TCa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCa 0.01 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 69.73 53.06 -36.95
LAB*LABa 69.73 53.03 -36.95
LAB*TCa 75.0 64.65 325.12

relative CIELAB lab*
lab*lab 0.696 0.41 -0.285
lab*tch 0.75 0.5 0.903
lab*nch 0.0 0.5 0.903

relative Natural Colour (NC)
lab*lrj 0.696 0.336 -0.369
lab*tce 0.75 0.5 0.867
lab*nce 0.0 0.5 b46r

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

standard and adapted CIELAB
LAB*LAB 27.53 53.1 -36.94
LAB*LABa 27.53 53.03 -36.95
LAB*TCa 25.01 64.65 325.12

relative CIELAB lab*
lab*lab 0.196 0.41 -0.285
lab*tch 0.25 0.5 0.903
lab*nch 0.5 0.5 0.903

relative Natural Colour (NC)
lab*lrj 0.196 0.336 -0.369
lab*tce 0.25 0.5 0.867
lab*nce 0.5 0.5 b46r

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

standard and adapted CIELAB
LAB*LAB 44.06 106.12 -73.91
LAB*LABa 44.06 106.07 -73.92
LAB*TCa 50.0 129.29 325.12

relative CIELAB lab*
lab*lab 0.392 0.82 -0.571
lab*tch 0.5 1.0 0.903
lab*nch 0.0 1.0 0.903

relative Natural Colour (NC)
lab*lrj 0.392 0.673 -0.739
lab*tce 0.5 1.0 0.867
lab*nce 0.0 1.0 b46r

blackness n^*

chromaticness c^*

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

output: no change compared to input

UE090-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

BAM-test chart UE09; Colorimetric systems NCS11a & NCS11ainput: $cmv0^* setcmvcolor$
D65: 3 step colour scales and coordinate data for 10 hues

Input: Colorimetric Reflective System NCS11

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

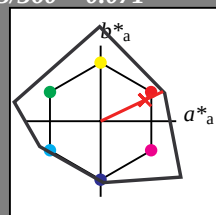
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 48 91 25

olv*Ma: 1.0 0.02 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

Output: Colorimetric Reflective System NCS11

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

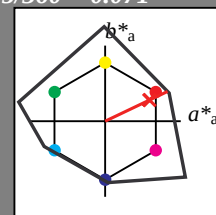
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 48 91 25

olv*Ma: 1.0 0.02 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

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

relative CIELAB lab^*
 $lab^*lab = 1.0 \ 0.0 \ 0.0$
 $lab^*tch = 1.0 \ 0.0 \ -$
 $lab^*nch = 0.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 1.0 \ 0.0 \ 0.0$
 $lab^*tce = 1.0 \ 0.0 \ -$
 $lab^*nce = 0.0 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 53.21 \ 0.04 \ 0.0$
 $LAB^*LABa = 53.21 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

relative CIELAB lab^*
 $lab^*lab = 0.5 \ 0.0 \ 0.0$
 $lab^*tch = 0.5 \ 0.0 \ -$
 $lab^*nch = 0.5 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.5 \ 0.0 \ 0.0$
 $lab^*tce = 0.5 \ 0.0 \ -$
 $lab^*nce = 0.5 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 11.01 \ 0.07 \ 0.01$
 $LAB^*LABa = 11.01 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

relative CIELAB lab^*
 $lab^*lab = 0.0 \ 0.0 \ 0.0$
 $lab^*tch = 0.0 \ 0.0 \ -$
 $lab^*nch = 1.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.0 \ 0.0 \ 0.0$
 $lab^*tce = 0.0 \ 0.0 \ -$
 $lab^*nce = 1.0 \ 0.0 \ -$

relative Inform. Technology (IT)
 $olvi3^* = 1.0 \ 0.512 \ 0.5 \ (1.0)$
 $cmyn3^* = 0.0 \ 0.488 \ 0.5 \ (0.0)$
 $olvi4^* = 1.0 \ 0.512 \ 0.5 \ 1.0$
 $cmyn4^* = 0.0 \ 0.488 \ 0.5 \ 0.0$

standard and adapted CIELAB
 $LAB^*LAB = 71.81 \ 41.31 \ 19.68$
 $LAB^*LABa = 71.81 \ 41.28 \ 19.68$
 $LAB^*TCHa = 75.0 \ 45.73 \ 25.49$

relative CIELAB lab^*
 $lab^*lab = 0.72 \ 0.451 \ 0.215$
 $lab^*tch = 0.75 \ 0.5 \ 0.071$
 $lab^*nch = 0.0 \ 0.5 \ 0.071$

relative Natural Colour (NC)
 $lab^*lrj = 0.72 \ 0.5 \ 0.0$
 $lab^*tce = 0.75 \ 0.5 \ 0.0$
 $lab^*nce = 0.0 \ 0.5 \ r00j$

relative Inform. Technology (IT)
 $olvi3^* = 0.5 \ 0.012 \ 0.0 \ (1.0)$
 $cmyn3^* = 0.5 \ 0.988 \ 1.0 \ (0.0)$
 $olvi4^* = 1.0 \ 0.512 \ 0.5 \ 0.5$
 $cmyn4^* = 0.0 \ 0.488 \ 0.5 \ 0.5$

standard and adapted CIELAB
 $LAB^*LAB = 29.6 \ 41.35 \ 19.69$
 $LAB^*LABa = 29.6 \ 41.29 \ 19.67$
 $LAB^*TCHa = 25.01 \ 45.73 \ 25.47$

relative CIELAB lab^*
 $lab^*lab = 0.22 \ 0.451 \ 0.215$
 $lab^*tch = 0.25 \ 0.5 \ 0.071$
 $lab^*nch = 0.5 \ 0.5 \ 0.071$

relative Natural Colour (NC)
 $lab^*lrj = 0.22 \ 0.5 \ 0.0$
 $lab^*tce = 0.25 \ 0.5 \ 1.0$
 $lab^*nce = 0.5 \ 0.5 \ b99r$

relative Inform. Technology (IT)
 $olvi3^* = 1.0 \ 0.024 \ 0.0 \ (1.0)$
 $cmyn3^* = 0.0 \ 0.976 \ 1.0 \ (0.0)$
 $olvi4^* = 1.0 \ 0.024 \ 0.0 \ 1.0$
 $cmyn4^* = 0.0 \ 0.976 \ 1.0 \ 0.0$

standard and adapted CIELAB
 $LAB^*LAB = 48.21 \ 82.61 \ 39.36$
 $LAB^*LABa = 48.21 \ 82.57 \ 39.35$
 $LAB^*TCHa = 50.0 \ 91.46 \ 25.48$

relative CIELAB lab^*
 $lab^*lab = 0.441 \ 0.903 \ 0.43$
 $lab^*tch = 0.5 \ 1.0 \ 0.071$
 $lab^*nch = 0.0 \ 1.0 \ 0.071$

relative Natural Colour (NC)
 $lab^*lrj = 0.441 \ 1.0 \ 0.0$
 $lab^*tce = 0.5 \ 1.0 \ 1.0$
 $lab^*nce = 0.0 \ 1.0 \ b99r$

BAM-test chart UE09; Colorimetric systems NCS11a & NCS11ainput: $cmv0^* setcmykcolor$

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

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

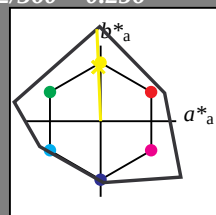
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 90 122 92

olv*Ma: 0.97 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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	

Output: Colorimetric Reflective System NCS11

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

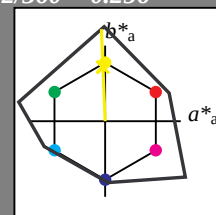
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 90 122 92

olv*Ma: 0.97 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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	

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 -

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

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

relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olvi4* 1.0 1.0 1.0 0.5
cmyn4* 0.0 0.0 0.0 0.5
standard and adapted CIELAB
LAB*LAB 53.21 0.04 0.0
LAB*LABa 53.21 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olvi4* 1.0 1.0 1.0 0.0
cmyn4* 0.0 0.0 0.0 1.0
standard and adapted CIELAB
LAB*LAB 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

relative Inform. Technology (IT)
olvi3* 0.984 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 -2.46 60.89
LAB*TCHa 75.0 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*lrj 0.971 0.0 0.5
lab*tce 0.75 0.5 0.25
lab*nce 0.0 0.5 r99j

relative Inform. Technology (IT)
olvi3* 0.484 0.5 0.0 (1.0)
cmyn3* 0.516 0.5 1.0 (0.0)
olvi4* 0.984 1.0 0.5 0.5
cmyn4* 0.016 0.0 0.5 0.5
standard and adapted CIELAB
LAB*LAB 50.72 -2.42 60.89
LAB*LABa 50.72 -2.47 60.88
LAB*TCHa 25.01 60.93 92.33

relative CIELAB lab*
lab*lab 0.471 -0.019 0.499
lab*tch 0.25 0.5 0.256
lab*nch 0.5 0.5 0.256
relative Natural Colour (NC)
lab*lrj 0.471 0.0 0.5
lab*tce 0.25 0.5 0.25
lab*nce 0.5 0.5 r00g

relative Inform. Technology (IT)
olvi3* 0.967 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* 0.032 0.0 1.0 0.0
standard and adapted CIELAB
LAB*LAB 90.45 -4.92 121.77
LAB*LABa 90.45 -4.93 121.77
LAB*TCHa 50.0 121.87 92.32

relative CIELAB lab*
lab*lab 0.941 -0.04 0.999
lab*tch 0.5 1.0 0.256
lab*nch 0.0 1.0 0.256
relative Natural Colour (NC)
lab*lrj 0.941 0.0 1.0
lab*tce 0.5 1.0 0.25
lab*nce 0.0 1.0 r99j

blackness n^*

chromaticness c^*

0,25 0,50 0,75 1,00

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

blackness n^*

chromaticness c^*

0,25 0,50 0,75 1,00

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

UE090-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

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

BAM-test chart UE09; Colorimetric systems NCS11a & NCS11ainput: $cmv0^* setcmykcolor$

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

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

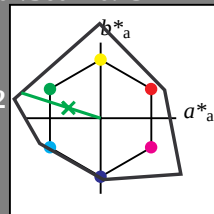
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 65 110 162

olv*Ma: 0.08 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

Output: Colorimetric Reflective System NCS11

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

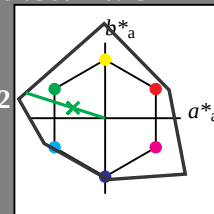
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 65 110 162

olv*Ma: 0.08 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

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

relative CIELAB lab*
 $lab^*lab = 1.0 \ 0.0 \ 0.0$
 $lab^*tch = 1.0 \ 0.0 \ -$
 $lab^*nch = 0.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 1.0 \ 0.0 \ 0.0$
 $lab^*tce = 1.0 \ 0.0 \ -$
 $lab^*nce = 0.0 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 53.21 \ 0.04 \ 0.0$
 $LAB^*LABa = 53.21 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab = 0.5 \ 0.0 \ 0.0$
 $lab^*tch = 0.5 \ 0.0 \ -$
 $lab^*nch = 0.5 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.5 \ 0.0 \ 0.0$
 $lab^*tce = 0.5 \ 0.0 \ -$
 $lab^*nce = 0.5 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 11.01 \ 0.07 \ 0.01$
 $LAB^*LABa = 11.01 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab = 0.0 \ 0.0 \ 0.0$
 $lab^*tch = 0.0 \ 0.0 \ -$
 $lab^*nch = 1.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.0 \ 0.0 \ 0.0$
 $lab^*tce = 0.0 \ 0.0 \ -$
 $lab^*nce = 1.0 \ 0.0 \ -$

relative Inform. Technology (IT)
 $olvi3^* = 0.541 \ 1.0 \ 0.5 \ (1.0)$
 $cmyn3^* = 0.459 \ 0.0 \ 0.5 \ (0.0)$
 $olvi4^* = 0.541 \ 1.0 \ 1.0$
 $cmyn4^* = 0.459 \ 0.0 \ 0.5 \ 0.0$

standard and adapted CIELAB
 $LAB^*LAB = 80.4 \ -52.43 \ 16.79$
 $LAB^*LABa = 80.4 \ -52.45 \ 16.79$
 $LAB^*TCHa = 75.0 \ 55.08 \ 162.25$

relative CIELAB lab*
 $lab^*lab = 0.822 \ -0.475 \ 0.152$
 $lab^*tch = 0.75 \ 0.5 \ 0.451$
 $lab^*nch = 0.0 \ 0.5 \ 0.451$

relative Natural Colour (NC)
 $lab^*lrj = 0.822 \ -0.499 \ 0.0$
 $lab^*tce = 0.75 \ 0.5 \ 0.5$
 $lab^*nce = 0.0 \ 0.5 \ 0.99g$

relative Inform. Technology (IT)
 $olvi3^* = 0.041 \ 0.5 \ 0.0 \ (1.0)$
 $cmyn3^* = 0.959 \ 0.5 \ 1.0 \ (0.0)$
 $olvi4^* = 0.541 \ 1.0 \ 0.5 \ 0.5$
 $cmyn4^* = 0.459 \ 0.0 \ 0.5 \ 0.5$

standard and adapted CIELAB
 $LAB^*LAB = 38.2 \ -52.41 \ 16.8$
 $LAB^*LABa = 38.2 \ -52.46 \ 16.78$
 $LAB^*TCHa = 25.01 \ 55.09 \ 162.27$

relative CIELAB lab*
 $lab^*lab = 0.322 \ -0.475 \ 0.152$
 $lab^*tch = 0.25 \ 0.5 \ 0.451$
 $lab^*nch = 0.5 \ 0.5 \ 0.451$

relative Natural Colour (NC)
 $lab^*lrj = 0.322 \ -0.499 \ 0.0$
 $lab^*tce = 0.25 \ 0.5 \ 0.5$
 $lab^*nce = 0.5 \ 0.5 \ g00b$

relative Inform. Technology (IT)
 $olvi3^* = 0.083 \ 1.0 \ 0.0 \ (1.0)$
 $cmyn3^* = 0.917 \ 0.0 \ 1.0 \ (0.0)$
 $olvi4^* = 0.083 \ 1.0 \ 0.0 \ 1.0$
 $cmyn4^* = 0.917 \ 0.0 \ 1.0 \ 0.0$

standard and adapted CIELAB
 $LAB^*LAB = 65.41 \ -104.893.58$
 $LAB^*LABa = 65.41 \ -104.9233.57$
 $LAB^*TCHa = 50.0 \ 110.17 \ 162.26$

relative CIELAB lab*
 $lab^*lab = 0.645 \ -0.951 \ 0.305$
 $lab^*tch = 0.5 \ 1.0 \ 0.451$
 $lab^*nch = 0.0 \ 1.0 \ 0.451$

relative Natural Colour (NC)
 $lab^*lrj = 0.645 \ -0.999 \ 0.0$
 $lab^*tce = 0.5 \ 1.0 \ 0.5$
 $lab^*nce = 0.0 \ 1.0 \ g00b$

Input: Colorimetric Reflective System NCS11

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

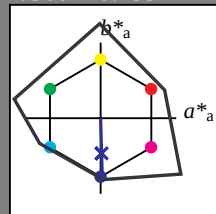
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 49 80 272

olv*Ma: 0.0 0.02 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

Output: Colorimetric Reflective System NCS11

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

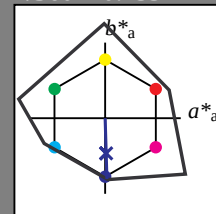
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 49 80 272

olv*Ma: 0.0 0.02 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

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

relative CIELAB lab*
 $lab^*lab = 1.0 \ 0.0 \ 0.0$
 $lab^*tch = 1.0 \ 0.0 \ -$
 $lab^*nch = 0.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 1.0 \ 0.0 \ 0.0$
 $lab^*tce = 1.0 \ 0.0 \ -$
 $lab^*nce = 0.0 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 53.21 \ 0.04 \ 0.0$
 $LAB^*LABa = 53.21 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab = 0.5 \ 0.0 \ 0.0$
 $lab^*tch = 0.5 \ 0.0 \ -$
 $lab^*nch = 0.5 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.5 \ 0.0 \ 0.0$
 $lab^*tce = 0.5 \ 0.0 \ -$
 $lab^*nce = 0.5 \ 0.0 \ -$

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

standard and adapted CIELAB
 $LAB^*LAB = 11.01 \ 0.07 \ 0.01$
 $LAB^*LABa = 11.01 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab = 0.0 \ 0.0 \ 0.0$
 $lab^*tch = 0.0 \ 0.0 \ -$
 $lab^*nch = 1.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj = 0.0 \ 0.0 \ 0.0$
 $lab^*tce = 0.0 \ 0.0 \ -$
 $lab^*nce = 1.0 \ 0.0 \ -$

relative Inform. Technology (IT)
 $olvi3^* = 0.5 \ 0.508 \ 1.0 \ (1.0)$
 $cmyn3^* = 0.5 \ 0.492 \ 0.0 \ (0.0)$
 $olvi4^* = 0.5 \ 0.508 \ 1.0 \ 1.0$
 $cmyn4^* = 0.5 \ 0.492 \ 0.0 \ 0.0$

standard and adapted CIELAB
 $LAB^*LAB = 72.29 \ 1.2 \ -40.21$
 $LAB^*LABa = 72.29 \ 1.17 \ -40.21$
 $LAB^*TCHa = 75.0 \ 40.24 \ 271.66$

relative CIELAB lab*
 $lab^*lab = 0.726 \ 0.014 \ -0.499$
 $lab^*tch = 0.75 \ 0.5 \ 0.755$
 $lab^*nch = 0.0 \ 0.5 \ 0.755$

relative Natural Colour (NC)
 $lab^*lrj = 0.726 \ 0.0 \ -0.499$
 $lab^*tce = 0.75 \ 0.5 \ 0.75$
 $lab^*nce = 0.0 \ 0.5 \ g99b$

relative Inform. Technology (IT)
 $olvi3^* = 0.0 \ 0.008 \ 0.5 \ (1.0)$
 $cmyn3^* = 1.0 \ 0.992 \ 0.5 \ (0.0)$
 $olvi4^* = 0.5 \ 0.508 \ 1.0 \ 0.5$
 $cmyn4^* = 0.5 \ 0.492 \ 0.0 \ 0.5$

standard and adapted CIELAB
 $LAB^*LAB = 30.09 \ 1.24 \ -40.2$
 $LAB^*LABa = 30.09 \ 1.18 \ -40.21$
 $LAB^*TCHa = 25.01 \ 40.24 \ 271.67$

relative CIELAB lab*
 $lab^*lab = 0.226 \ 0.015 \ -0.499$
 $lab^*tch = 0.25 \ 0.5 \ 0.755$
 $lab^*nch = 0.5 \ 0.5 \ 0.755$

relative Natural Colour (NC)
 $lab^*lrj = 0.226 \ 0.0 \ -0.499$
 $lab^*tce = 0.25 \ 0.5 \ 0.75$
 $lab^*nce = 0.5 \ 0.5 \ b00r$

relative Inform. Technology (IT)
 $olvi3^* = 0.0 \ 0.016 \ 1.0 \ (1.0)$
 $cmyn3^* = 1.0 \ 0.984 \ 0.0 \ (0.0)$
 $olvi4^* = 0.0 \ 0.016 \ 1.0 \ 1.0$
 $cmyn4^* = 1.0 \ 0.984 \ 0.0 \ 0.0$

standard and adapted CIELAB
 $LAB^*LAB = 49.18 \ 2.39 \ -80.42$
 $LAB^*LABa = 49.18 \ 2.34 \ -80.43$
 $LAB^*TCHa = 50.0 \ 80.48 \ 271.67$

relative CIELAB lab*
 $lab^*lab = 0.452 \ 0.029 \ -0.998$
 $lab^*tch = 0.5 \ 1.0 \ 0.755$
 $lab^*nch = 0.0 \ 1.0 \ 0.755$

relative Natural Colour (NC)
 $lab^*lrj = 0.452 \ 0.0 \ -0.999$
 $lab^*tce = 0.5 \ 1.0 \ 0.75$
 $lab^*nce = 0.0 \ 1.0 \ b00r$

BAM-test chart UE09; Colorimetric systems NCS11a & NCS11ainput: $cmv0^* setcmykcolor$

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

output: no change compared to input