

Input: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 38/360 = 0.106$

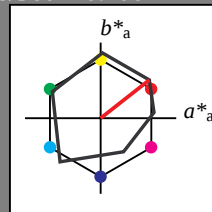
lab^*tch and lab^*nch

A: hue O

LCH*Ma: 48 82 38

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 96$

%Regularity

$g^*_{H,rel} = -385$

$g^*_{C,rel} = 62$

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 95.6 0.43 4.65
LAB*LABa 95.6 0.0 0.0
LAB*TCHa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 56.86 0.8 2.08
LAB*LABa 56.86 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 1.0$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	47.94	64.42	50.58	81.9	38
Y _{Ma}	92.62	2.41	86.36	86.39	88
L _{Ma}	50.9	-63.82	35.02	72.81	151
C _{Ma}	51.25	-53.68	-57.69	78.82	227
V _{Ma}	25.72	30.34	-44.37	53.76	304
M _{Ma}	56.25	70.59	7.57	70.99	6
N _{Ma}	18.11	0.0	0.0	0.0	0
W _{Ma}	95.6	0.0	0.0	0.0	0
R _{CIE}	47.79	60.85	41.08	73.41	34
J _{CIE}	83.82	6.52	66.9	67.22	84
G _{CIE}	49.0	-36.83	2.78	36.95	176
B _{CIE}	25.14	-18.35	-56.22	59.15	252

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 71.77 32.86 28.36
LAB*LABa 71.77 32.2 25.28
LAB*TCHa 75.0 40.94 38.14

relative CIELAB lab*
lab*lab 0.692 0.393 0.309
lab*tch 0.75 0.5 0.106
lab*nch 0.0 0.5 0.106

relative Natural Colour (NC)
lab*lrj 0.692 0.496 0.064
lab*tce 0.75 0.5 0.02
lab*nce 0.0 0.5 0.08j

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 33.03 33.24 25.79
LAB*LABa 33.03 32.2 25.28
LAB*TCHa 25.01 40.94 38.14

relative CIELAB lab*
lab*lab 0.193 0.393 0.309
lab*tch 0.25 0.5 0.106
lab*nch 0.5 0.5 0.106

relative Natural Colour (NC)
lab*lrj 0.193 0.496 0.064
lab*tce 0.25 0.5 0.02
lab*nce 0.5 0.5 0.08j

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

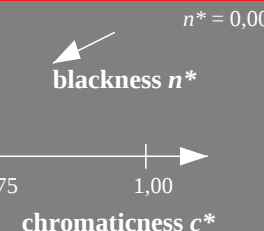
relative Natural Colour (NC)
lab*lrj 0.0 0.0 0.0
lab*tce 0.0 0.0 -
lab*nce 1.0 0.0 -

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -



$n^* = 0.00$

blackness n^*

chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 35/360 = 0.097$

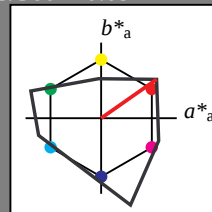
lab^*tch and lab^*nch

A: hue O

LCH*Ma: 66 90 35

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 141$

%Regularity

$g^*_{H,rel} = 39$

$g^*_{C,rel} = 43$

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 0.0
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 47.72 0.0 0.0
LAB*LABa 47.72 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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* 0.0 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 80.48 36.66 25.69
LAB*LABa 80.48 36.66 25.69
LAB*TCHa 75.0 44.77 35.02

relative CIELAB lab*
lab*lab 0.843 0.409 0.287
lab*tch 0.75 0.5 0.097
lab*nch 0.0 0.5 0.097

relative Natural Colour (NC)
lab*lrj 0.843 0.5 0.007
lab*tce 0.75 0.5 0.002
lab*nce 0.0 0.5 0.00j

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 32.79 36.66 25.69
LAB*LABa 32.79 36.66 25.69
LAB*TCHa 25.01 44.77 35.02

relative CIELAB lab*
lab*lab 0.344 0.409 0.287
lab*tch 0.25 0.5 0.097
lab*nch 0.5 0.5 0.097

relative Natural Colour (NC)
lab*lrj 0.344 0.5 0.007
lab*tce 0.25 0.5 0.002
lab*nce 0.5 0.5 0.00j

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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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* 0.0 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	65.56	73.34	51.39	89.55	35
Y _{Ma}	94.78	-3.49	52.24	52.36	94
L _{Ma}	77.48	-92.97	36.0	99.71	159
C _{Ma}	78.36	-82.69	-22.74	85.77	195
V _{Ma}	12.55	38.81	-114.81	121.2	289
M _{Ma}	66.71	76.08	-29.8	81.71	339
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	47.79	61.74	42.56	74.99	35
J _{CIE}	83.82	7.06	70.78	71.13	84
G _{CIE}	49.0	-35.95	4.34	36.22	173
B _{CIE}	25.14	-17.24	-56.24	58.84	253

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 80.48 36.66 25.69
LAB*LABa 80.48 36.66 25.69
LAB*TCHa 75.0 44.77 35.02

relative CIELAB lab*
lab*lab 0.843 0.409 0.287
lab*tch 0.75 0.5 0.097
lab*nch 0.0 0.5 0.097

relative Natural Colour (NC)
lab*lrj 0.843 0.5 0.007
lab*tce 0.75 0.5 0.002
lab*nce 0.0 0.5 0.00j

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 32.79 36.66 25.69
LAB*LABa 32.79 36.66 25.69
LAB*TCHa 25.01 44.77 35.02

relative CIELAB lab*
lab*lab 0.344 0.409 0.287
lab*tch 0.25 0.5 0.097
lab*nch 0.5 0.5 0.097

relative Natural Colour (NC)
lab*lrj 0.344 0.5 0.007
lab*tce 0.25 0.5 0.002
lab*nce 0.5 0.5 0.00j

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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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* 0.0 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 0.0 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 65.56 73.33 51.38
LAB*LABa 65.56 73.33 51.38
LAB*TCHa 50.0 89.53 35.02

relative CIELAB lab*
lab*lab 0.687 0.819 0.574
lab*tch 0.5 1.0 0.097
lab*nch 0.0 1.0 0.097

relative Natural Colour (NC)
lab*lrj 0.687 1.0 0.014
lab*tce 0.5 1.0 0.002
lab*nce 0.0 1.0 0.00j

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 32.79 36.66 25.69
LAB*LABa 32.79 36.66 25.69
LAB*TCHa 25.01 44.77 35.02

relative CIELAB lab*
lab*lab 0.344 0.409 0.287
lab*tch 0.25 0.5 0.097
lab*nch 0.5 0.5 0.097

relative Natural Colour (NC)
lab*lrj 0.344 0.5 0.007
lab*tce 0.25 0.5 0.002
lab*nce 0.5 0.5 0.00j

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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0

Input: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 88/360 = 0.246$

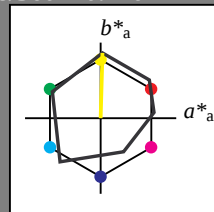
lab^*tch and lab^*nch

A: hue Y

LCH*Ma: 93 86 88

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 96$

%Regularity

$g^*_{H,rel} = -385$

$g^*_{C,rel} = 62$

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 95.6 0.43 4.65
LAB*LABa 95.6 0.0 0.0
LAB*TCHa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 56.86 0.8 2.08
LAB*LABa 56.86 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 1.0$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	64.42	50.58	81.9	38
YMa	92.62	2.41	86.36	86.39	88
LMa	50.9	-63.82	35.02	72.81	151
CMa	51.25	-53.68	-57.69	78.82	227
VMa	25.72	30.34	-44.37	53.76	304
MMa	56.25	70.59	7.57	70.99	6
NMa	18.11	0.0	0.0	0.0	0
WMa	95.6	0.0	0.0	0.0	0
RCIE	47.79	60.85	41.08	73.41	34
JCIE	83.82	6.52	66.9	67.22	84
GCIE	49.0	-36.83	2.78	36.95	176
BCIE	25.14	-18.35	-56.22	59.15	252

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 94.1 1.65 47.73
LAB*LABa 94.1 1.21 43.17
LAB*TCHa 75.0 43.19 88.4

relative CIELAB lab*
lab*lab 0.981 0.014 0.5
lab*tch 0.75 0.5 0.246
lab*nch 0.0 0.5 0.246

relative Natural Colour (NC)
lab*lrj 0.981 -0.033 0.499
lab*tce 0.75 0.5 0.261
lab*nce 0.0 0.5 j04g

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 55.37 2.02 45.16
LAB*LABa 55.37 1.21 43.17
LAB*TCHa 25.01 43.19 88.4

relative CIELAB lab*
lab*lab 0.481 0.014 0.5
lab*tch 0.25 0.5 0.246
lab*nch 0.5 0.5 0.246

relative Natural Colour (NC)
lab*lrj 0.481 -0.033 0.499
lab*tce 0.25 0.5 0.261
lab*nce 0.5 0.5 j04g

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 0.00$
blackness n^*

chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 94/360 = 0.261$

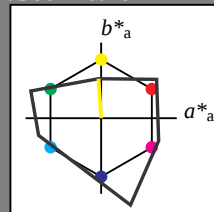
lab^*tch and lab^*nch

A: hue Y

LCH*Ma: 95 52 94

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 141$

%Regularity

$g^*_{H,rel} = 39$

$g^*_{C,rel} = 43$

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 0.0
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 47.72 0.0 0.0
LAB*LABa 47.72 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 1.0$

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 95.09 -1.74 26.11
LAB*LABa 95.09 -1.74 26.11
LAB*TCHa 75.0 26.17 93.83

relative CIELAB lab*
lab*lab 0.997 -0.032 0.499
lab*tch 0.75 0.5 0.261
lab*nch 0.0 0.5 0.261

relative Natural Colour (NC)
lab*lrj 0.997 -0.083 0.493
lab*tce 0.75 0.5 0.277
lab*nce 0.0 0.5 j10g

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 47.4 -1.74 26.11
LAB*LABa 47.4 -1.74 26.11
LAB*TCHa 25.01 26.17 93.83

relative CIELAB lab*
lab*lab 0.497 -0.032 0.499
lab*tch 0.25 0.5 0.261
lab*nch 0.5 0.5 0.261

relative Natural Colour (NC)
lab*lrj 0.497 -0.083 0.493
lab*tce 0.25 0.5 0.277
lab*nce 0.5 0.5 j10g

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 0.00$
blackness n^*

chromaticness c^*

SE100-7, 3 step scales for constant CIELAB hue 88/360 = 0.246 (left)

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

BAM-test chart SE10; Colorimetric systems ORS18 & TLS00

A: 2 coordinate data of 3 step colour scales for 10 hues

input: `cmY0* setcmykcolor`

output: *no change compared to input*

Input: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 151/360 = 0.42$

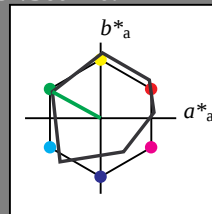
lab^*tch and lab^*nch

A: hue L

LCH*Ma: 51 73 151

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 96$

%Regularity

$g^*_{H,rel} = -385$

$g^*_{C,rel} = 62$

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 95.6 0.43 4.65
LAB*LABa 95.6 0.0 0.0
LAB*TCHa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 56.86 0.8 2.08
LAB*LABa 56.86 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 1.0$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	64.42	50.58	81.9	38
YMa	92.62	2.41	86.36	86.39	88
LMa	50.9	-63.82	35.02	72.81	151
CMa	51.25	-53.68	-57.69	78.82	227
VMa	25.72	30.34	-44.37	53.76	304
MMa	56.25	70.59	7.57	70.99	6
NMa	18.11	0.0	0.0	0.0	0
WMa	95.6	0.0	0.0	0.0	0
RCIE	47.79	60.85	41.08	73.41	34
JCIE	83.82	6.52	66.9	67.22	84
GCIE	49.0	-36.83	2.78	36.95	176
BCIE	25.14	-18.35	-56.22	59.15	252

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 73.25 -31.25 20.68
LAB*LABa 73.25 -31.9 17.51
LAB*TCHa 75.0 36.4 151.25

relative CIELAB lab*
lab*lab 0.712 -0.437 0.24
lab*tch 0.75 0.5 0.42
lab*nch 0.0 0.5 0.42

relative Natural Colour (NC)
lab*lrj 0.712 -0.455 0.204
lab*tce 0.75 0.5 0.433
lab*nce 0.0 0.5 0.73g

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 34.51 -30.88 18.11
LAB*LABa 34.51 -31.9 17.51
LAB*TCHa 25.01 36.4 151.25

relative CIELAB lab*
lab*lab 0.212 -0.437 0.24
lab*tch 0.25 0.5 0.42
lab*nch 0.5 0.5 0.42

relative Natural Colour (NC)
lab*lrj 0.212 -0.455 0.204
lab*tce 0.25 0.5 0.433
lab*nce 0.5 0.5 0.73g

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 0.00$

blackness n^*

chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 159/360 = 0.441$

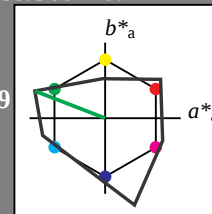
lab^*tch and lab^*nch

A: hue L

LCH*Ma: 77 100 159

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 141$

%Regularity

$g^*_{H,rel} = 39$

$g^*_{C,rel} = 43$

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 0.0
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 47.72 0.0 0.0
LAB*LABa 47.72 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 1.0$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	65.56	73.34	51.39	89.55	35
YMa	94.78	-3.49	52.24	52.36	94
LMa	77.48	-92.97	36.0	99.71	159
CMa	78.36	-82.69	-22.74	85.77	195
VMa	12.55	38.81	-114.81	121.2	289
MMa	66.71	76.08	-29.8	81.71	339
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	47.79	61.74	42.56	74.99	35
JCIE	83.82	7.06	70.78	71.13	84
GCIE	49.0	-35.95	4.34	36.22	173
BCIE	25.14	-17.24	-56.24	58.84	253

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 86.44 -46.47 18.0
LAB*LABa 86.44 -46.47 18.0
LAB*TCHa 75.0 49.84 158.83

relative CIELAB lab*
lab*lab 0.906 -0.465 0.18
lab*tch 0.75 0.5 0.441
lab*nch 0.0 0.5 0.441

relative Natural Colour (NC)
lab*lrj 0.906 -0.483 0.125
lab*tce 0.75 0.5 0.46
lab*nce 0.0 0.5 0.83g

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 38.75 -46.47 18.0
LAB*LABa 38.75 -46.47 18.0
LAB*TCHa 25.01 49.84 158.83

relative CIELAB lab*
lab*lab 0.406 -0.465 0.18
lab*tch 0.25 0.5 0.441
lab*nch 0.5 0.5 0.441

relative Natural Colour (NC)
lab*lrj 0.406 -0.483 0.125
lab*tce 0.25 0.5 0.46
lab*nce 0.5 0.5 0.83g

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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 0.00$

blackness n^*

chromaticness c^*

SE100-7, 3 step scales for constant CIELAB hue 151/360 = 0.42 (left)

3 step scales for constant CIELAB hue 159/360 = 0.441 (right)

BAM-test chart SE10; Colorimetric systems ORS18 & TLS00

A: 2 coordinate data of 3 step colour scales for 10 hues

input: $cmY0^* setcmykcolor$

output: no change compared to input

Input: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 227/360 = 0.631$

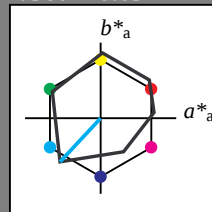
lab^*tch and lab^*nch

A: hue C

LCH*Ma: 51 79 227

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 96$

%Regularity

$g^*_{H,rel} = -385$

$g^*_{C,rel} = 62$

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 95.6 0.43 4.65
LAB*LABa 95.6 0.0 0.0
LAB*TCHa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 56.86 0.8 2.08
LAB*LABa 56.86 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 1.0$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	64.42	50.58	81.9	38
YMa	92.62	2.41	86.36	86.39	88
LMa	50.9	-63.82	35.02	72.81	151
CMa	51.25	-53.68	-57.69	78.82	227
VMa	25.72	30.34	-44.37	53.76	304
MMa	56.25	70.59	7.57	70.99	6
NMa	18.11	0.0	0.0	0.0	0
WMa	95.6	0.0	0.0	0.0	0
RCIE	47.79	60.85	41.08	73.41	34
JCIE	83.82	6.52	66.9	67.22	84
GCIE	49.0	-36.83	2.78	36.95	176
BCIE	25.14	-18.35	-56.22	59.15	252

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 73.42 -26.18 -25.65
LAB*LABa 73.42 -26.83 -28.84
LAB*TCHa 75.0 39.4 227.06

relative CIELAB lab*
lab*lab 0.714 -0.34 -0.365
lab*tch 0.75 0.5 0.631
lab*nch 0.0 0.5 0.631

relative Natural Colour (NC)
lab*lrj 0.714 -0.244 -0.435
lab*tce 0.75 0.5 0.668
lab*nce 0.0 0.5 0.676

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 34.68 -25.81 -28.22
LAB*LABa 34.68 -26.83 -28.84
LAB*TCHa 25.01 39.4 227.06

relative CIELAB lab*
lab*lab 0.214 -0.34 -0.365
lab*tch 0.25 0.5 0.631
lab*nch 0.5 0.5 0.631

relative Natural Colour (NC)
lab*lrj 0.214 -0.244 -0.435
lab*tce 0.25 0.5 0.668
lab*nce 0.5 0.5 0.676

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 0.00$

blackness n^*

chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 195/360 = 0.543$

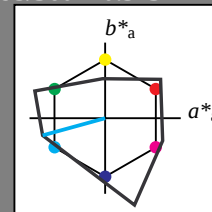
lab^*tch and lab^*nch

A: hue C

LCH*Ma: 78 86 195

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 141$

%Regularity

$g^*_{H,rel} = 39$

$g^*_{C,rel} = 43$

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 0.0
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 47.72 0.0 0.0
LAB*LABa 47.72 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 0.0 0.0 (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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 1.0$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	65.56	73.34	51.39	89.55	35
YMa	94.78	-3.49	52.24	52.36	94
LMa	77.48	-92.97	36.0	99.71	159
CMa	78.36	-82.69	-22.74	85.77	195
VMa	12.55	38.81	-114.81	121.2	289
MMa	66.71	76.08	-29.8	81.71	339
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	47.79	61.74	42.56	74.99	35
JCIE	83.82	7.06	70.78	71.13	84
GCIE	49.0	-35.95	4.34	36.22	173
BCIE	25.14	-17.24	-56.24	58.84	253

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 86.88 -41.33 -11.36
LAB*LABa 86.88 -41.33 -11.36
LAB*TCHa 75.0 42.88 195.38

relative CIELAB lab*
lab*lab 0.911 -0.481 -0.132
lab*tch 0.75 0.5 0.543
lab*nch 0.0 0.5 0.543

relative Natural Colour (NC)
lab*lrj 0.911 -0.452 -0.211
lab*tce 0.75 0.5 0.57
lab*nce 0.0 0.5 0.576

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 39.19 -41.33 -11.36
LAB*LABa 39.19 -41.33 -11.36
LAB*TCHa 25.01 42.88 195.38

relative CIELAB lab*
lab*lab 0.411 -0.481 -0.132
lab*tch 0.25 0.5 0.543
lab*nch 0.5 0.5 0.543

relative Natural Colour (NC)
lab*lrj 0.411 -0.452 -0.211
lab*tce 0.25 0.5 0.57
lab*nce 0.5 0.5 0.576

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 0.0 0.0 (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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 0.00$

blackness n^*

chromaticness c^*

SE100-7, 3 step scales for constant CIELAB hue 227/360 = 0.631 (left)

3 step scales for constant CIELAB hue 195/360 = 0.543 (right)

BAM-test chart SE10; Colorimetric systems ORS18 & TLS00

A: 2 coordinate data of 3 step colour scales for 10 hues

input: $cmv0^* setcmvcolor$

output: no change compared to input

Input: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 304/360 = 0.845$

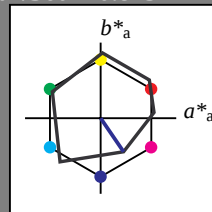
lab^*tch and lab^*nch

A: hue V

LCH*Ma: 26 54 304

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 96$

%Regularity

$g^*_{H,rel} = -385$

$g^*_{C,rel} = 62$

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 95.6 0.43 4.65
LAB*LABa 95.6 0.0 0.0
LAB*TCHa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 56.86 0.8 2.08
LAB*LABa 56.86 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 1.0$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	64.42	50.58	81.9	38
YMa	92.62	2.41	86.36	86.39	88
LMa	50.9	-63.82	35.02	72.81	151
CMa	51.25	-53.68	-57.69	78.82	227
VMa	25.72	30.34	-44.37	53.76	304
MMa	56.25	70.59	7.57	70.99	6
NMa	18.11	0.0	0.0	0.0	0
WMa	95.6	0.0	0.0	0.0	0
RCIE	47.79	60.85	41.08	73.41	34
JCIE	83.82	6.52	66.9	67.22	84
GCIE	49.0	-36.83	2.78	36.95	176
BCIE	25.14	-18.35	-56.22	59.15	252

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 60.66 15.94 -19.84
LAB*LABa 60.66 15.17 -22.17
LAB*TCHa 75.0 26.87 304.36

relative CIELAB lab*
lab*lab 0.549 0.282 -0.412
lab*tch 0.75 0.5 0.845
lab*nch 0.0 0.5 0.845

relative Natural Colour (NC)
lab*lrj 0.549 0.274 -0.417
lab*tce 0.75 0.5 0.842
lab*nce 0.0 0.5 0.842

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 21.92 16.31 -22.41
LAB*LABa 21.92 15.17 -22.17
LAB*TCHa 25.01 26.87 304.36

relative CIELAB lab*
lab*lab 0.049 0.282 -0.412
lab*tch 0.25 0.5 0.845
lab*nch 0.5 0.5 0.845

relative Natural Colour (NC)
lab*lrj 0.049 0.274 -0.417
lab*tce 0.25 0.5 0.842
lab*nce 0.5 0.5 0.842

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 0.00$

blackness n^*

chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 289/360 = 0.802$

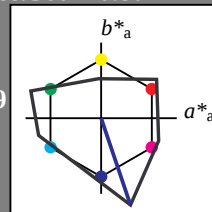
lab^*tch and lab^*nch

A: hue V

LCH*Ma: 13 121 289

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 141$

%Regularity

$g^*_{H,rel} = 39$

$g^*_{C,rel} = 43$

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 0.0
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 47.72 0.0 0.0
LAB*LABa 47.72 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 1.0$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	65.56	73.34	51.39	89.55	35
YMa	94.78	-3.49	52.24	52.36	94
LMa	77.48	-92.97	36.0	99.71	159
CMa	78.36	-82.69	-22.74	85.77	195
VMa	12.55	38.81	-114.81	121.2	289
MMa	66.71	76.08	-29.8	81.71	339
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	47.79	61.74	42.56	74.99	35
JCIE	83.82	7.06	70.78	71.13	84
GCIE	49.0	-35.95	4.34	36.22	173
BCIE	25.14	-17.24	-56.24	58.84	253

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 53.98 19.4 -57.39
LAB*LABa 53.98 19.4 -57.39
LAB*TCHa 75.0 60.59 288.68

relative CIELAB lab*
lab*lab 0.566 0.16 -0.473
lab*tch 0.75 0.5 0.802
lab*nch 0.0 0.5 0.802

relative Natural Colour (NC)
lab*lrj 0.566 0.193 -0.46
lab*tce 0.75 0.5 0.813
lab*nce 0.0 0.5 0.813

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 6.29 19.4 -57.39
LAB*LABa 6.29 19.4 -57.39
LAB*TCHa 25.01 60.59 288.68

relative CIELAB lab*
lab*lab 0.066 0.16 -0.473
lab*tch 0.25 0.5 0.802
lab*nch 0.5 0.5 0.802

relative Natural Colour (NC)
lab*lrj 0.066 0.193 -0.46
lab*tce 0.25 0.5 0.813
lab*nce 0.5 0.5 0.813

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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 0.00$

blackness n^*

chromaticness c^*

SE100-7, 3 step scales for constant CIELAB hue 304/360 = 0.845 (left)

3 step scales for constant CIELAB hue 289/360 = 0.802 (right)

BAM-test chart SE10; Colorimetric systems ORS18 & TLS00

A: 2 coordinate data of 3 step colour scales for 10 hues

input: $cmY0^* setcmykcolor$

output: no change compared to input

Input: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 6/360 = 0.017$

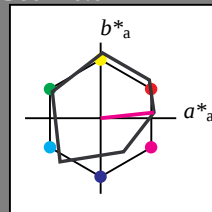
lab^*tch and lab^*nch

A: hue M

LCH*Ma: 56 71 6

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 96$

%Regularity

$g^*_{H,rel} = -385$

$g^*_{C,rel} = 62$

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 95.6 0.43 4.65
LAB*LABa 95.6 0.0 0.0
LAB*TCHa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 56.86 0.8 2.08
LAB*LABa 56.86 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 1.0$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	64.42	50.58	81.9	38
YMa	92.62	2.41	86.36	86.39	88
LMa	50.9	-63.82	35.02	72.81	151
CMa	51.25	-53.68	-57.69	78.82	227
VMa	25.72	30.34	-44.37	53.76	304
MMa	56.25	70.59	7.57	70.99	6
NMa	18.11	0.0	0.0	0.0	0
WMa	95.6	0.0	0.0	0.0	0
RCIE	47.79	60.85	41.08	73.41	34
JCIE	83.82	6.52	66.9	67.22	84
GCIE	49.0	-36.83	2.78	36.95	176
BCIE	25.14	-18.35	-56.22	59.15	252

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 75.92 35.91 7.13
LAB*LABa 75.92 35.29 3.78
LAB*TCHa 75.0 35.49 6.12

relative CIELAB lab*
lab*lab 0.746 0.497 0.053
lab*tch 0.75 0.5 0.017
lab*nch 0.0 0.5 0.017

relative Natural Colour (NC)
lab*lrj 0.746 0.476 -0.151
lab*tce 0.75 0.5 0.951
lab*nce 0.0 0.5 b80r

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 37.18 36.28 4.56
LAB*LABa 37.18 35.29 3.78
LAB*TCHa 25.01 35.49 6.12

relative CIELAB lab*
lab*lab 0.246 0.497 0.053
lab*tch 0.25 0.5 0.017
lab*nch 0.5 0.5 0.017

relative Natural Colour (NC)
lab*lrj 0.246 0.476 -0.151
lab*tce 0.25 0.5 0.951
lab*nce 0.5 0.5 b80r

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 0.00$
blackness n^*

chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 339/360 = 0.941$

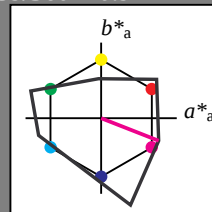
lab^*tch and lab^*nch

A: hue M

LCH*Ma: 67 82 339

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 141$

%Regularity

$g^*_{H,rel} = 39$

$g^*_{C,rel} = 43$

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 0.0
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 47.72 0.0 0.0
LAB*LABa 47.72 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 1.0$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	65.56	73.34	51.39	89.55	35
YMa	94.78	-3.49	52.24	52.36	94
LMa	77.48	-92.97	36.0	99.71	159
CMa	78.36	-82.69	-22.74	85.77	195
VMa	12.55	38.81	-114.81	121.2	289
MMa	66.71	76.08	-29.8	81.71	339
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	47.79	61.74	42.56	74.99	35
JCIE	83.82	7.06	70.78	71.13	84
GCIE	49.0	-35.95	4.34	36.22	173
BCIE	25.14	-17.24	-56.24	58.84	253

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 81.05 38.03 -14.89
LAB*LABa 81.05 38.03 -14.89
LAB*TCHa 75.0 40.85 338.6

relative CIELAB lab*
lab*lab 0.85 0.465 -0.181
lab*tch 0.75 0.5 0.941
lab*nch 0.0 0.5 0.941

relative Natural Colour (NC)
lab*lrj 0.85 0.407 -0.29
lab*tce 0.75 0.5 0.901
lab*nce 0.0 0.5 b60r

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 33.36 38.03 -14.89
LAB*LABa 33.36 38.03 -14.89
LAB*TCHa 25.01 40.85 338.6

relative CIELAB lab*
lab*lab 0.35 0.465 -0.181
lab*tch 0.25 0.5 0.941
lab*nch 0.5 0.5 0.941

relative Natural Colour (NC)
lab*lrj 0.35 0.407 -0.29
lab*tce 0.25 0.5 0.901
lab*nce 0.5 0.5 b60r

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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 0.00$
blackness n^*

chromaticness c^*

BAM-test chart SE10; Colorimetric systems ORS18 & TLS00

A: 2 coordinate data of 3 step colour scales for 10 hues

3 step scales for constant CIELAB hue 339/360 = 0.941 (right)

input: $cmY0^* setcmykcolor$

output: no change compared to input

Input: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 34/360 = 0.095$

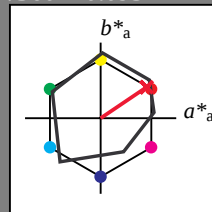
lab^*tch and lab^*nch

A: hue R

LCH*Ma: 49 79 34

olv*Ma: 1.0 0.0 0.15

triangle lightness t^*



%Gamut

$u^*_{rel} = 96$

%Regularity

$g^*_{H,rel} = -385$

$g^*_{C,rel} = 62$

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 95.6 0.43 4.65
LAB*LABa 95.6 0.0 0.0
LAB*TCHa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 56.86 0.8 2.08
LAB*LABa 56.86 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 1,0$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	64.42	50.58	81.9	38
YMa	92.62	2.41	86.36	86.39	88
LMa	50.9	-63.82	35.02	72.81	151
CMa	51.25	-53.68	-57.69	78.82	227
VMa	25.72	30.34	-44.37	53.76	304
MMa	56.25	70.59	7.57	70.99	6
NMa	18.11	0.0	0.0	0.0	0
WMa	95.6	0.0	0.0	0.0	0
RCIE	47.79	60.85	41.08	73.41	34
JCIE	83.82	6.52	66.9	67.22	84
GCIE	49.0	-36.83	2.78	36.95	176
BCIE	25.14	-18.35	-56.22	59.15	252

relative Inform. Technology (IT)
olvi3* 1.0 0.5 0.575 (1.0)
cmyn3* 0.0 0.5 0.425 (0.0)
olvi4* 1.0 0.5 0.575 1.0
cmyn4* 0.0 0.5 0.425 0.0

standard and adapted CIELAB
LAB*LAB 72.39 33.32 25.17
LAB*LABa 72.39 32.67 22.05
LAB*TCHa 75.0 39.41 34.02

relative CIELAB lab*
lab*lab 0.7 0.414 0.28
lab*tch 0.75 0.5 0.095
lab*nch 0.0 0.5 0.095

relative Natural Colour (NC)
lab*lrj 0.7 0.5 0.0
lab*tce 0.75 0.5 1.0
lab*nce 0.0 0.5 0.999

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.075 (1.0)
cmyn3* 0.5 1.0 0.925 (0.0)
olvi4* 1.0 0.5 0.575 0.5
cmyn4* 0.0 0.5 0.425 0.5

standard and adapted CIELAB
LAB*LAB 33.65 33.7 22.6
LAB*LABa 33.65 32.67 22.06
LAB*TCHa 25.01 39.42 34.03

relative CIELAB lab*
lab*lab 0.201 0.414 0.28
lab*tch 0.25 0.5 0.095
lab*nch 0.5 0.5 0.095

relative Natural Colour (NC)
lab*lrj 0.201 0.5 0.0
lab*tce 0.25 0.5 0.0
lab*nce 0.5 0.5 0.001

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olvi4* 1.0 1.0 1.0 0.0
cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 0.0 0.15 (1.0)
cmyn3* 0.0 1.0 0.85 (0.0)
olvi4* 1.0 0.0 0.15 1.0
cmyn4* 0.0 1.0 0.85 0.0

standard and adapted CIELAB
LAB*LAB 49.19 66.21 45.68
LAB*LABa 49.19 65.33 44.11
LAB*TCHa 50.0 78.83 34.02

relative CIELAB lab*
lab*lab 0.401 0.829 0.559
lab*tch 0.5 1.0 0.095
lab*nch 0.0 1.0 0.095

relative Natural Colour (NC)
lab*lrj 0.401 1.0 0.0
lab*tce 0.5 1.0 0.0
lab*nce 0.0 1.0 0.001

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 47.72 0.0 0.0
LAB*LABa 47.72 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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* 0.0 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 0,00$

blackness n^*

chromaticness c^*

$n^* = 0,50$

$n^* = 1,0$

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 35/360 = 0.096$

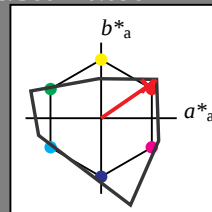
lab^*tch and lab^*nch

A: hue R

LCH*Ma: 66 89 35

olv*Ma: 1.0 0.0 0.01

triangle lightness t^*



%Gamut

$u^*_{rel} = 141$

%Regularity

$g^*_{H,rel} = 39$

$g^*_{C,rel} = 43$

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 0.0
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 47.72 0.0 0.0
LAB*LABa 47.72 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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* 0.0 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 0.505 (1.0)
cmyn3* 0.0 0.5 0.495 (0.0)
olvi4* 1.0 0.5 0.505 1.0
cmyn4* 0.0 0.5 0.495 0.0

standard and adapted CIELAB
LAB*LAB 80.48 36.68 25.28
LAB*LABa 80.48 36.68 25.28
LAB*TCHa 75.0 44.55 34.58

relative CIELAB lab*
lab*lab 0.844 0.412 0.284
lab*tch 0.75 0.5 0.096
lab*nch 0.0 0.5 0.096

relative Natural Colour (NC)
lab*lrj 0.844 0.5 0.0
lab*tce 0.75 0.5 1.0
lab*nce 0.0 0.5 0.999

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.005 (1.0)
cmyn3* 0.5 1.0 0.995 (0.0)
olvi4* 1.0 0.5 0.505 0.5
cmyn4* 0.0 0.5 0.495 0.5

standard and adapted CIELAB
LAB*LAB 32.79 36.68 25.29
LAB*LABa 32.79 36.68 25.29
LAB*TCHa 25.01 44.55 34.59

relative CIELAB lab*
lab*lab 0.344 0.412 0.284
lab*tch 0.25 0.5 0.096
lab*nch 0.5 0.5 0.096

relative Natural Colour (NC)
lab*lrj 0.344 0.5 0.0
lab*tce 0.25 0.5 0.0
lab*nce 0.5 0.5 0.001

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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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* 0.0 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	65.56	73.34	51.39	89.55	35
YMa	94.78	-3.49	52.24	52.36	94
LMa	77.48	-92.97	36.0	99.71	159
CMa	78.36	-82.69	-22.74	85.77	195
VMa	12.55	38.81	-114.81	121.2	289
MMa	66.71	76.08	-29.8	81.71	339
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	47.79	61.74	42.56	74.99	35
JCIE	83.82	7.06	70.78	71.13	84
GCIE	49.0	-35.95	4.34	36.22	173
BCIE	25.14	-17.24	-56.24	58.84	253

relative Inform. Technology (IT)
olvi3* 1.0 0.5 0.505 (1.0)
cmyn3* 0.0 0.5 0.495 (0.0)
olvi4* 1.0 0.5 0.505 1.0
cmyn4* 0.0 0.5 0.495 0.0

standard and adapted CIELAB
LAB*LAB 80.48 36.68 25.28
LAB*LABa 80.48 36.68 25.28
LAB*TCHa 75.0 44.55 34.58

relative CIELAB lab*
lab*lab 0.844 0.412 0.284
lab*tch 0.75 0.5 0.096
lab*nch 0.0 0.5 0.096

relative Natural Colour (NC)
lab*lrj 0.844 0.5 0.0
lab*tce 0.75 0.5 1.0
lab*nce 0.0 0.5 0.999

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.005 (1.0)
cmyn3* 0.5 1.0 0.995 (0.0)
olvi4* 1.0 0.5 0.505 0.5
cmyn4* 0.0 0.5 0.495 0.5

standard and adapted CIELAB
LAB*LAB 32.79 36.68 25.29
LAB*LABa 32.79 36.68 25.29
LAB*TCHa 25.01 44.55 34.59

relative CIELAB lab*
lab*lab 0.344 0.412 0.284
lab*tch 0.25 0.5 0.096
lab*nch 0.5 0.5 0.096

relative Natural Colour (NC)
lab*lrj 0.344 0.5 0.0
lab*tce 0.25 0.5 0.0
lab*nce 0.5 0.5 0.001

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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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* 0.0 0.0 0.0 (1.0)
cmyn3* 1.

Input: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 84/360 = 0.235$

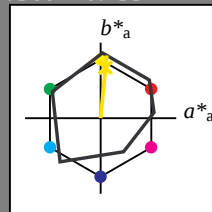
lab^*tch and lab^*nch

A: hue J

LCH*Ma: 89 83 84

olv*Ma: 1.0 0.91 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 96$

%Regularity

$g^*_{H,rel} = -385$

$g^*_{C,rel} = 62$

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 95.6 0.43 4.65
LAB*LABa 95.6 0.0 0.0
LAB*TCHa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 56.86 0.8 2.08
LAB*LABa 56.86 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 1.0$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	64.42	50.58	81.9	38
YMa	92.62	2.41	86.36	86.39	88
LMa	50.9	-63.82	35.02	72.81	151
CMa	51.25	-53.68	-57.69	78.82	227
VMa	25.72	30.34	-44.37	53.76	304
MMa	56.25	70.59	7.57	70.99	6
NMa	18.11	0.0	0.0	0.0	0
WMa	95.6	0.0	0.0	0.0	0
RCIE	47.79	60.85	41.08	73.41	34
JCIE	83.82	6.52	66.9	67.22	84
GCIE	49.0	-36.83	2.78	36.95	176
BCIE	25.14	-18.35	-56.22	59.15	252

relative Inform. Technology (IT)
olvi3* 1.0 0.954 0.5 (1.0)
cmyn3* 0.0 0.046 0.5 (0.0)
olvi4* 1.0 0.954 0.5 1.0
cmyn4* 0.0 0.046 0.5 0.0

standard and adapted CIELAB
LAB*LAB 92.06 4.5 45.96
LAB*LABa 92.06 4.04 41.54
LAB*TCHa 75.0 41.73 84.45

relative CIELAB lab*
lab*lab 0.954 0.048 0.498
lab*tch 0.75 0.5 0.235
lab*nch 0.0 0.5 0.235

relative Natural Colour (NC)
lab*lrj 0.954 0.0 0.5
lab*tce 0.75 0.5 0.25
lab*nce 0.0 0.5 j00g

relative Inform. Technology (IT)
olvi3* 0.5 0.454 0.0 (1.0)
cmyn3* 0.5 0.546 1.0 (0.0)
olvi4* 1.0 0.954 0.5 0.5
cmyn4* 0.0 0.046 0.5 0.5

standard and adapted CIELAB
LAB*LAB 53.32 4.88 43.38
LAB*LABa 53.32 4.05 41.53
LAB*TCHa 25.01 41.73 84.44

relative CIELAB lab*
lab*lab 0.454 0.048 0.498
lab*tch 0.25 0.5 0.235
lab*nch 0.5 0.5 0.235

relative Natural Colour (NC)
lab*lrj 0.454 0.0 0.5
lab*tce 0.25 0.5 0.25
lab*nce 0.5 0.5 r99j

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 0.50$

relative Inform. Technology (IT)
olvi3* 1.0 0.908 0.0 (1.0)
cmyn3* 0.0 0.092 1.0 (0.0)
olvi4* 1.0 0.908 0.0 1.0
cmyn4* 0.0 0.092 1.0 0.0

standard and adapted CIELAB
LAB*LAB 88.52 8.58 87.26
LAB*LABa 88.52 8.08 83.07
LAB*TCHa 50.0 83.46 84.44

relative CIELAB lab*
lab*lab 0.909 0.097 0.995
lab*tch 0.5 1.0 0.235
lab*nch 0.0 1.0 0.235

relative Natural Colour (NC)
lab*lrj 0.909 0.0 1.0
lab*tce 0.5 1.0 0.25
lab*nce 0.0 1.0 j00g

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

standard and adapted CIELAB
LAB*LAB 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 1.0$

chromaticness c^*

blackness n^*

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 84/360 = 0.234$

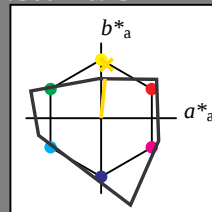
lab^*tch and lab^*nch

A: hue J

LCH*Ma: 91 52 84

olv*Ma: 1.0 0.89 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 141$

%Regularity

$g^*_{H,rel} = 39$

$g^*_{C,rel} = 43$

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 0.0
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 47.72 0.0 0.0
LAB*LABa 47.72 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 1.0$

chromaticness c^*

blackness n^*

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	65.56	73.34	51.39	89.55	35
YMa	94.78	-3.49	52.24	52.36	94
LMa	77.48	-92.97	36.0	99.71	159
CMa	78.36	-82.69	-22.74	85.77	195
VMa	12.55	38.81	-114.81	121.2	289
MMa	66.71	76.08	-29.8	81.71	339
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	47.79	61.74	42.56	74.99	35
JCIE	83.82	7.06	70.78	71.13	84
GCIE	49.0	-35.95	4.34	36.22	173
BCIE	25.14	-17.24	-56.24	58.84	253

relative Inform. Technology (IT)
olvi3* 1.0 0.943 0.5 (1.0)
cmyn3* 0.0 0.057 0.5 (0.0)
olvi4* 1.0 0.943 0.5 1.0
cmyn4* 0.0 0.057 0.5 0.0

standard and adapted CIELAB
LAB*LAB 93.43 2.59 26.07
LAB*LABa 93.43 2.59 26.07
LAB*TCHa 75.0 26.2 84.32

relative CIELAB lab*
lab*lab 0.979 0.049 0.497
lab*tch 0.75 0.5 0.234
lab*nch 0.0 0.5 0.234

relative Natural Colour (NC)
lab*lrj 0.979 0.0 0.5
lab*tce 0.75 0.5 0.25
lab*nce 0.0 0.5 j00g

relative Inform. Technology (IT)
olvi3* 0.5 0.443 0.0 (1.0)
cmyn3* 0.5 0.557 1.0 (0.0)
olvi4* 1.0 0.943 0.5 0.5
cmyn4* 0.0 0.057 0.5 0.5

standard and adapted CIELAB
LAB*LAB 45.74 2.6 26.07
LAB*LABa 45.74 2.6 26.07
LAB*TCHa 25.01 26.2 84.3

relative CIELAB lab*
lab*lab 0.479 0.05 0.497
lab*tch 0.25 0.5 0.234
lab*nch 0.5 0.5 0.234

relative Natural Colour (NC)
lab*lrj 0.479 0.0 0.5
lab*tce 0.25 0.5 0.25
lab*nce 0.5 0.5 r99j

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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 0.00$

chromaticness c^*

blackness n^*

BAM-test chart SE10; Colorimetric systems ORS18 & TLS00

A: 2 coordinate data of 3 step colour scales for 10 hues

input: $cmY0^* setcmykcolor$

output: no change compared to input

Input: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 176/360 = 0.488$

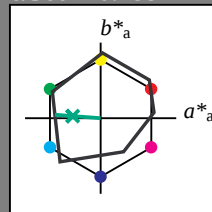
lab^*tch and lab^*nch

A: hue G

LCH*Ma: 51 61 176

olv*Ma: 0.0 1.0 0.33

triangle lightness t^*



%Gamut

$u^*_{rel} = 96$

%Regularity

$g^*_{H,rel} = -385$

$g^*_{C,rel} = 62$

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 95.6 0.43 4.65
LAB*LABa 95.6 0.0 0.0
LAB*TCHa 99.99 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 56.86 0.8 2.08
LAB*LABa 56.86 0.0 0.0
LAB*TCHa 50.0 0.01 -

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

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

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 1.0$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	64.42	50.58	81.9	38
YMa	92.62	2.41	86.36	86.39	88
LMa	50.9	-63.82	35.02	72.81	151
CMa	51.25	-53.68	-57.69	78.82	227
VMa	25.72	30.34	-44.37	53.76	304
MMa	56.25	70.59	7.57	70.99	6
NMa	18.11	0.0	0.0	0.0	0
WMa	95.6	0.0	0.0	0.0	0
RCIE	47.79	60.85	41.08	73.41	34
JCIE	83.82	6.52	66.9	67.22	84
GCIE	49.0	-36.83	2.78	36.95	176
BCIE	25.14	-18.35	-56.22	59.15	252

relative Inform. Technology (IT)
olvi3* 0.5 1.0 0.664 (1.0)
cmyn3* 0.5 0.0 0.336 (0.0)
olvi4* 0.5 1.0 0.664 1.0
cmyn4* 0.5 0.0 0.336 0.0

standard and adapted CIELAB
LAB*LAB 73.3 -29.59 5.45
LAB*LABa 73.3 -30.23 2.28
LAB*TCHa 75.0 30.33 175.69

relative CIELAB lab*
lab*lab 0.712 -0.497 0.038
lab*tch 0.75 0.5 0.488
lab*nch 0.0 0.5 0.488

relative Natural Colour (NC)
lab*lrj 0.712 -0.499 0.0
lab*tce 0.75 0.5 0.5
lab*nce 0.0 0.5 g00b

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.164 (1.0)
cmyn3* 1.0 0.5 0.836 (0.0)
olvi4* 0.5 1.0 0.664 0.5
cmyn4* 0.5 0.0 0.336 0.5

standard and adapted CIELAB
LAB*LAB 34.57 -29.21 2.89
LAB*LABa 34.57 -30.23 2.29
LAB*TCHa 25.01 30.33 175.68

relative CIELAB lab*
lab*lab 0.212 -0.497 0.038
lab*tch 0.25 0.5 0.488
lab*nch 0.5 0.5 0.488

relative Natural Colour (NC)
lab*lrj 0.212 -0.499 0.0
lab*tce 0.25 0.5 0.5
lab*nce 0.5 0.5 199g

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 0.00$

blackness n^*

chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 173/360 = 0.481$

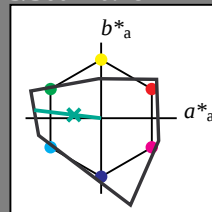
lab^*tch and lab^*nch

A: hue G

LCH*Ma: 78 89 173

olv*Ma: 0.0 1.0 0.43

triangle lightness t^*



%Gamut

$u^*_{rel} = 141$

%Regularity

$g^*_{H,rel} = 39$

$g^*_{C,rel} = 43$

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 0.0
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 47.72 0.0 0.0
LAB*LABa 47.72 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 0.03 0.0 0.0
LAB*LABa 0.03 0.0 0.0
LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 -
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 -

$n^* = 1.0$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	65.56	73.34	51.39	89.55	35
YMa	94.78	-3.49	52.24	52.36	94
LMa	77.48	-92.97	36.0	99.71	159
CMa	78.36	-82.69	-22.74	85.77	195
VMa	12.55	38.81	-114.81	121.2	289
MMa	66.71	76.08	-29.8	81.71	339
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	47.79	61.74	42.56	74.99	35
JCIE	83.82	7.06	70.78	71.13	84
GCIE	49.0	-35.95	4.34	36.22	173
BCIE	25.14	-17.24	-56.24	58.84	253

relative Inform. Technology (IT)
olvi3* 0.5 1.0 0.715 (1.0)
cmyn3* 0.5 0.0 0.285 (0.0)
olvi4* 0.5 1.0 0.716 1.0
cmyn4* 0.5 0.0 0.284 0.0

standard and adapted CIELAB
LAB*LAB 86.63 -44.26 5.34
LAB*LABa 86.63 -44.26 5.34
LAB*TCHa 75.0 44.59 173.12

relative CIELAB lab*
lab*lab 0.908 -0.495 0.06
lab*tch 0.75 0.5 0.481
lab*nch 0.0 0.5 0.481

relative Natural Colour (NC)
lab*lrj 0.908 -0.499 0.0
lab*tce 0.75 0.5 0.5
lab*nce 0.0 0.5 g00b

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.215 (1.0)
cmyn3* 1.0 0.5 0.785 (0.0)
olvi4* 0.5 1.0 0.715 0.5
cmyn4* 0.5 0.0 0.285 0.5

standard and adapted CIELAB
LAB*LAB 38.94 -44.26 5.35
LAB*LABa 38.94 -44.26 5.35
LAB*TCHa 25.01 44.59 173.11

relative CIELAB lab*
lab*lab 0.408 -0.495 0.06
lab*tch 0.25 0.5 0.481
lab*nch 0.5 0.5 0.481

relative Natural Colour (NC)
lab*lrj 0.408 -0.499 0.0
lab*tce 0.25 0.5 0.5
lab*nce 0.5 0.5 199g

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

standard and adapted CIELAB
LAB*LAB 18.12 1.18 -0.49
LAB*LABa 18.12 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 -

$n^* = 0.00$

blackness n^*

chromaticness c^*

SE100-7, 3 step scales for constant CIELAB hue 176/360 = 0.488 (left)

3 step scales for constant CIELAB hue 173/360 = 0.481 (right)

BAM-test chart SE10; Colorimetric systems ORS18 & TLS00

A: 2 coordinate data of 3 step colour scales for 10 hues

input: `cmv0* setcmkcolor`

output: *no change compared to input*

