

Input: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 38/360 = 0.105$

lab^*tch and lab^*nch

A: hue 0

LCH*Ma: 48 83 38

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



% Gamut

$u^*_{rel} = 93$

% Regularity

$g^*_{rel} = 57$

$g^*_{Crel} = 59$

relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 -0.98 4.75
LAB*LAB0 95.41 0.0 0.0
LAB*TCHe 99.91 0.01 -

relative CIELAB lab*
lab*lab 1.0 0.5 0.0 (1.0)
lab*tch 1.0 0.0 - (0.0)
lab*nch 0.0 0.0 - (0.0)
relative Natural Colour (NC)
lab*lrj 1.0 0.0 0.0 (1.0)
lab*tce 1.0 0.0 0.0 (1.0)
lab*nce 0.0 0.0 - (0.0)

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 -0.24 2.14
LAB*LAB0 56.71 0.0 0.0
LAB*TCHe 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.5 0.0 0.0 (1.0)
lab*tch 0.5 0.0 - (0.0)
lab*nch 0.5 0.0 - (0.0)
relative Natural Colour (NC)
lab*lrj 0.5 0.0 0.0 (1.0)
lab*tce 0.5 0.0 0.0 (1.0)
lab*nce 0.5 0.0 - (0.0)

relative Inform. Technology (IT)
olv3* 0.0 1.0 1.0 (0.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.02 0.5 -0.47
LAB*LAB0 18.02 0.0 0.0
LAB*TCHe 0.01 0.01 -

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

$n^* = 1.0$

ORS18; adapted (a) CIELAB data

$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
QMa 47.94	65.39	50.52	82.63	38
YMa 90.37	-10.26	91.75	92.32	96
LMa 50.39	-62.83	34.96	71.91	151
CMa 58.62	-30.34	-45.01	54.3	236
VMa 25.72	31.1	-44.4	54.22	305
MMa 48.13	75.28	-8.36	75.74	354
NMa 18.01	0.0	0.0	0.0	0
WMa 95.41	0.0	0.0	0.0	0
RCie 39.92	58.66	26.98	64.57	25
GCie 81.26	-2.16	67.76	67.79	92
BCie 52.23	-42.25	11.76	43.87	164
BCie 30.57	1.15	-46.84	46.86	271

relative Inform. Technology (IT)
olv3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olv4* 1.0 0.5 1.0 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 71.67 32.15 28.41
LAB*LAB0 71.67 32.69 25.25
LAB*TCHe 75.0 41.31 37.69

relative CIELAB lab*
lab*lab 0.693 0.396 0.306
lab*tch 0.75 0.5 0.105
lab*nch 0.0 0.5 0.105
relative Natural Colour (NC)
lab*lrj 0.693 0.477 0.15
lab*tce 0.75 0.5 0.048
lab*nce 0.0 0.5 0.15

relative Inform. Technology (IT)
olv3* 0.5 0.0 0.0 (1.0)
cmyn3* 0.5 1.0 1.0 (0.0)
olv4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 32.98 32.9 25.85
LAB*LAB0 32.98 32.69 25.25
LAB*TCHe 25.01 41.31 37.69

relative CIELAB lab*
lab*lab 0.193 0.396 0.306
lab*tch 0.25 0.5 0.105
lab*nch 0.5 1.0 0.105
relative Natural Colour (NC)
lab*lrj 0.193 0.477 0.15
lab*tce 0.25 0.5 0.048
lab*nce 0.5 0.5 0.15

relative Inform. Technology (IT)
olv3* 1.0 0.0 0.0 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 1.0 0.0 1.0 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 47.94 65.3 52.06
LAB*LAB0 47.94 65.37 50.51
LAB*TCHe 50.0 82.63 37.69

relative CIELAB lab*
lab*lab 0.387 0.791 0.611
lab*tch 0.387 0.54 0.299
lab*nch 0.0 1.0 0.105
relative Natural Colour (NC)
lab*lrj 0.387 0.54 0.299
lab*tce 0.5 1.0 0.048
lab*nce 0.0 1.0 0.15

$n^* = 0.00$

blackness n^*

chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 40/360 = 0.111$

lab^*tch and lab^*nch

A: hue 0

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



% Gamut

$u^*_{rel} = 158$

% Regularity

$g^*_{rel} = 20$

$g^*_{Crel} = 37$

relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 95.41 0.0 0.0
LAB*LAB0 95.41 0.0 0.0
LAB*TCHe 99.91 0.01 -

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

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 47.72 0.0 0.0
LAB*LAB0 47.72 0.0 0.0
LAB*TCHe 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.5 0.0 0.0 (1.0)
lab*tch 0.5 0.0 - (0.0)
lab*nch 0.5 0.0 - (0.0)
relative Natural Colour (NC)
lab*lrj 0.5 0.0 0.0 (1.0)
lab*tce 0.5 0.0 0.0 (1.0)
lab*nce 0.5 0.0 - (0.0)

relative Inform. Technology (IT)
olv3* 0.0 1.0 1.0 (0.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 0.03 0.0 0.0
LAB*LAB0 0.03 0.0 0.0
LAB*TCHe 0.01 0.01 -

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

$n^* = 1.0$

TLS00; adapted (a) CIELAB data

$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
QMa 50.5	76.92	64.55	100.42	40
YMa 92.66	-20.69	90.75	93.08	103
LMa 83.63	-82.75	79.9	115.04	136
CMa 86.88	-46.16	-13.55	48.12	196
VMa 30.39	76.06	-103.59	128.52	306
MMa 57.3	94.35	-58.41	110.97	328
NMa 0.01	0.0	0.0	0.0	0
WMa 95.41	0.0	0.0	0.0	0
RCie 39.92	58.74	27.99	65.07	25
GCie 81.26	-2.88	71.56	71.62	92
BCie 52.23	-42.41	13.6	44.55	162
BCie 30.57	1.41	-46.46	46.49	272

relative Inform. Technology (IT)
olv3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olv4* 1.0 0.5 1.0 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 72.95 38.45 32.27
LAB*LAB0 72.95 38.45 32.27
LAB*TCHe 75.0 50.2 40.0

relative CIELAB lab*
lab*lab 0.765 0.383 0.321
lab*tch 0.75 0.5 0.111
lab*nch 0.0 0.5 0.111
relative Natural Colour (NC)
lab*lrj 0.765 0.471 0.167
lab*tce 0.75 0.5 0.054
lab*nce 0.0 0.5 0.121

relative Inform. Technology (IT)
olv3* 0.5 0.0 0.0 (1.0)
cmyn3* 0.5 1.0 1.0 (0.0)
olv4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 25.26 38.45 32.27
LAB*LAB0 25.26 38.45 32.27
LAB*TCHe 25.01 40.2 40.0

relative CIELAB lab*
lab*lab 0.265 0.383 0.321
lab*tch 0.25 0.5 0.111
lab*nch 0.5 1.0 0.111
relative Natural Colour (NC)
lab*lrj 0.265 0.471 0.167
lab*tce 0.25 0.5 0.054
lab*nce 0.5 0.5 0.121

$n^* = 0.00$

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 40/360 = 0.111 (right)

input: $cmv0^* \text{ setcmkcolor}$

output: $cmv0^* / 000n^* \text{ setcmkcolor}$