

Input: Colorimetric Reflective System MRS18a

for hue $h^* = lab^*h = 31/360 = 0.086$
 lab^*tch and lab^*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness t^*

MRS18a; adapted (a) CIELAB data

	$L^* = L_a^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
RMa	49.63	66.8	40.02	77.87	31
GMa	90.7	-7.27	93.19	93.48	94
JMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut
 $u^*_{rel} = 92$
%Regularity
 $g^*_{H,rel} = 42$
 $g^*_{C,rel} = 49$

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 0.01 0.0
 LAB^*LABa 95.41 0.0 0.0
 LAB^*TCHa 39.99 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 1.0 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)
 $olv3^* = 1.0$ 0.5 0.5 (1.0)
 $cmyn3^* = 0.0$ 0.5 0.5 (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 72.52 33.43 20.01
 LAB^*LABa 72.52 33.43 20.01
 LAB^*TCHa 75.0 38.93 30.93
relative CIELAB lab*
 lab^*lab 0.704 0.429 0.257
 lab^*tch 0.75 0.5 0.086
 lab^*nch 0.0 0.5 0.086
relative Natural Colour (NC)
 lab^*lrj 0.704 0.496 0.064
 lab^*tce 0.75 0.5 0.02
 lab^*nce 0.0 0.5 r[08]

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 33.82 33.47 20.03
 LAB^*LABa 33.82 33.47 20.03
 LAB^*TCHa 25.01 38.93 30.93
relative CIELAB lab*
 lab^*lab 0.204 0.429 0.257
 lab^*tch 0.25 0.5 0.086
 lab^*nch 0.0 0.5 0.086
relative Natural Colour (NC)
 lab^*lrj 0.204 0.496 0.064
 lab^*tce 0.25 0.5 r[08]
 lab^*nce 0.0 0.5 r[08]

relative Inform. Technology (IT)
 $olv3^* = 1.0$ 1.0 1.0 (1.0)
 $cmyn3^* = 0.0$ 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 0.1 0.02
 LAB^*LABa 18.02 0.0 0.0
 LAB^*TCHa 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)
 lab^*nce 1.0 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 0.05 0.0
 LAB^*LABa 56.71 0.0 0.0
 LAB^*TCHa 30.0 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 0.0 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)
 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 0.05 0.0
 LAB^*LABa 56.71 0.0 0.0
 LAB^*TCHa 30.0 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 0.0 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)
 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 0.05 0.0
 LAB^*LABa 56.71 0.0 0.0
 LAB^*TCHa 30.0 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 0.0 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)
 lab^*nce 0.0 0.0 - (0.0)

Output: Colorimetric Reflective System ORS18

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

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness t^*

ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.84	96
JMa	50.9	-62.79	34.95	71.87	151
GMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	271

%Gamut
 $u^*_{rel} = 93$
%Regularity
 $g^*_{H,rel} = 57$
 $g^*_{C,rel} = 59$

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 0.5 (1.0)
 $cmyn4^* = 0.0$ 0.5 0.5 (0.0)
standard and adapted CIELAB
 LAB^*LAB 71.67 32.15 28.41
 LAB^*LABa 71.67 32.15 28.41
 LAB^*TCHa 75.0 41.3 37.7
relative CIELAB lab*
 lab^*lab 1.0 0.5 0.0 (1.0)
 lab^*tch 1.0 0.0 - (0.0)
 lab^*nch 1.0 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)
 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 56.71 0.05 0.0
 LAB^*LABa 56.71 0.0 0.0
 LAB^*TCHa 30.0 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 0.0 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)
 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 32.98 32.9 25.8
 LAB^*LABa 32.98 32.98 25.8
 LAB^*TCHa 25.01 31.3 37.7
relative CIELAB lab*
 lab^*lab 0.193 0.396 0.306
 lab^*tch 0.25 0.5 0.105
 lab^*nch 0.0 0.5 0.105
relative Natural Colour (NC)
 lab^*lrj 0.193 0.477 0.15
 lab^*tce 0.25 0.5 0.048
 lab^*nce 0.0 0.5 r[19]

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 18.02 0.5 -0.46
 LAB^*LABa 18.02 0.0 0.0
 LAB^*TCHa 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)
 lab^*nce 1.0 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 18.02 0.5 -0.46
 LAB^*LABa 18.02 0.0 0.0
 LAB^*TCHa 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)
 lab^*nce 1.0 0.0 - (0.0)

relative Inform. Technology (IT)
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 $cmyn4^* = 0.0$ 0.0 0.0 (0.0)
standard and adapted CIELAB
 LAB^*LAB 18.02 0.5 -0.46
 LAB^*LABa 18.02 0.0 0.0
 LAB^*TCHa 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)
 lab^*nce 1.0 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 18.02 0.5 -0.46
 LAB^*LABa 18.02 0.0 0.0
 LAB^*TCHa 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)
 lab^*nce 1.0 0.0 - (0.0)

$n^* = 0.00$
blackness n^*

chromaticness c^*

$n^* = 0.50$

$n^* = 1.0$

$n^* = 0.00$
blackness n^*

chromaticness c^*

$n^* = 0.50$

$n^* = 1.0$

$n^* = 0.00$
blackness n^*

chromaticness c^*

$n^* = 0.50$

$n^* = 1.0$

$n^* = 0.00$
blackness n^*

chromaticness c^*

$n^* = 0.50$

$n^* = 1.0$

BAM-test chart TE16; Colorimetric systems MRS18a & ORS18 input: $olv^* = \text{setrgcolor}$
D65: 2 coordinate data of 3 step colour scales for 10 hues output: no change compared to input