

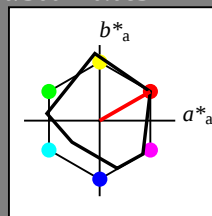
Input: Colorimetric Reflective System MRS18

for hue $h^* = \text{lab}^*h = 30/360 = 0.083$

lab^*tch and lab^*nch

D65: hue R
LCH*Ma: 50 77 30
rgb*Ma: 1.0 0.0 0.0

triangle lightness



MRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R _{Ma}	49.63	66.96	38.37	77.18	30
J _{Ma}	90.7	-6.36	88.75	88.98	94
G _{Ma}	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}	18.01	0.0	0.0	0.0	0
W _{Ma}	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

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

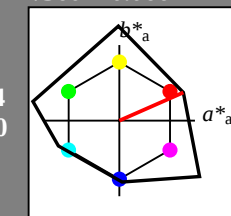
Output: Colorimetric Reflective System NCS11

for hue $h^* = \text{lab}^*h = 24/360 = 0.066$

lab^*tch and lab^*nch

D65: hue R
LCH*Ma: 47 92 24
rgb*Ma: 1.0 0.0 0.0

triangle lightness



NCS11; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R _{Ma}	47.15	84.64	37.25	92.48	24
J _{Ma}	91.37	-1.27	125.03	125.03	91
G _{Ma}	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

%Regularity

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

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

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

TE430-7, 5 step scales for constant CIELAB hue 30/360 = 0.083 (left)

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

BAM-test chart TE43; Colorimetric systems MRS18 & NCS11a input: $\text{olv}^* \text{setrgbcolor}$

D65: 5 step colour scales and coordinate data for 10 hues

output: no change compared to input

Input: Colorimetric Reflective System MRS18

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

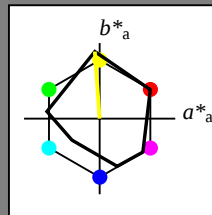
$lab \cdot tch$ and $lab \cdot nch$

D65: hue J

LCH*Ma: 91 89 94

rgb*Ma: 1.0 1.0 0.0

triangle lightness



MRS18; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R _{Ma}	49.63	66.96	38.37	77.18	30
J _{Ma}	90.7	-6.36	88.75	88.98	94
G _{Ma}	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}	18.01	0.0	0.0	0.0	0
W _{Ma}	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

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

Output: Colorimetric Reflective System NCS11

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

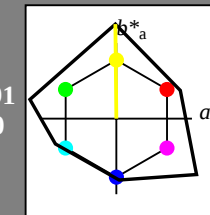
$lab \cdot tch$ and $lab \cdot nch$

D65: hue J

LCH*Ma: 91 125 91

rgb*Ma: 1.0 1.0 0.0

triangle lightness



NCS11; adapted (a) CIELAB data						
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	
* _a	R _{Ma}	47.15	84.64	37.25	92.48	24
	J _{Ma}	91.37	-1.27	125.03	125.03	91
	G _{Ma}	63.07	-114.28	25.35	117.06	167
	G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
	B _{Ma}	49.01	3.65	-81.19	81.28	273
	B50R _{Ma}	44.06	106.09	-73.93	129.32	325
	N _{Ma}	10.99	0.0	0.0	0.0	0
	W _{Ma}	95.41	0.0	0.0	0.0	0
	R _{CIE}	39.92	58.69	27.98	65.01	25
	J _{CIE}	81.26	-2.9	71.56	71.62	92
G _{CIE}	52.23	-42.45	13.59	44.59	162	
B _{CIE}	30.57	1.35	-46.48	46.51	272	

%Regularity

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

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

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

TE430-7, 5 step scales for constant CIELAB hue 94/360 = 0.261 (left)

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

BAM-test chart TE43; Colorimetric systems MRS18 & NCS11a input: $olv^* \cdot setrgbcolor$

D65: 5 step colour scales and coordinate data for 10 hues

output: no change compared to input

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab \cdot h = 172/360 = 0.479$

$lab \cdot tch$ and $lab \cdot nch$

D65: hue G
LCH*Ma: 52 70 172
rgb*Ma: 0.0 1.0 0.0

triangle lightness

1,00

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,75

%Regularity

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

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

0,50

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,25

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

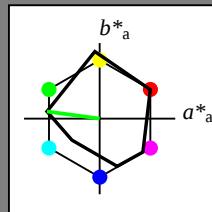
$g^*_{C,rel} = 65$

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$



MRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R _{Ma}	49.63	66.96	38.37	77.18	30
J _{Ma}	90.7	-6.36	88.75	88.98	94
G _{Ma}	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}	18.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.66	26.98	64.56	25
J _{CIE}	81.26	-2.17	67.76	67.79	92
G _{CIE}	52.23	-42.26	11.75	43.87	164
B _{CIE}	30.57	1.15	-46.84	46.87	271

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,75

%Regularity

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

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

0,50

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,25

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

Output: Colorimetric Reflective System NCS11

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

$lab \cdot tch$ and $lab \cdot nch$

D65: hue G
LCH*Ma: 63 117 167
rgb*Ma: 0.0 1.0 0.0

triangle lightness

1,00

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

0,75

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,50

%Regularity

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

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

0,25

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

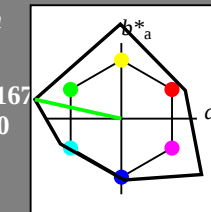
$g^*_{C,rel} = 52$

0,00

%Regularity

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

$g^*_{C,rel} = 52$



NCS11; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R _{Ma}	47.15	84.64	37.25	92.48	24
J _{Ma}	91.37	-1.27	125.03	125.03	91
G _{Ma}	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.69	27.98	65.01	25
J _{CIE}	81.26	-2.9	71.56	71.62	92
G _{CIE}	52.23	-42.45	13.59	44.59	162
B _{CIE}	30.57	1.35	-46.48	46.51	272

%Regularity

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

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

0,75

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,50

%Regularity

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

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

0,25

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

%Regularity

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

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

0,75

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,50

%Regularity

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

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

0,25

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

%Regularity

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

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

0,75

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,50

%Regularity

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

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

0,25

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

%Regularity

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

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

0,75

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,50

%Regularity

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

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

0,25

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

0,00

%Regularity

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

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

0,00

%Regularity

$g^*_{H,rel} = 41$

$g^$

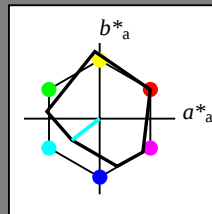
Input: Colorimetric Reflective System MRS18

for hue $h^* = lab \cdot h = 218/360 = 0.605$

$lab \cdot tch$ and $lab \cdot nch$

D65: hue G50B
LCH*Ma: 45 46 218
rgb*Ma: 0.0 1.0 1.0

triangle lightness



MRS18; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}	18.01	0.0	0.0	0.0	0
W _{Ma}	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

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,0$

chromaticness c^*

TE430-7, 5 step scales for constant CIELAB hue 218/360 = 0.605 (left)



BAM-test chart TE43; Colorimetric systems MRS18 & NCS11a input: $olv^* \cdot setrgbcolor$
D65: 5 step colour scales and coordinate data for 10 hues

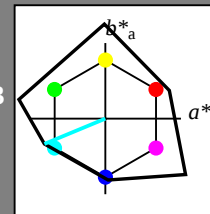
Output: Colorimetric Reflective System NCS11

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

$lab \cdot tch$ and $lab \cdot nch$

D65: hue G50B
LCH*Ma: 59 87 203
rgb*Ma: 0.0 1.0 1.0

triangle lightness



NCS11; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

%Regularity

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

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

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

5 step scales for constant CIELAB hue 203/360 = 0.563 (right)

output: no change compared to input

Input: Colorimetric Reflective System MRS18

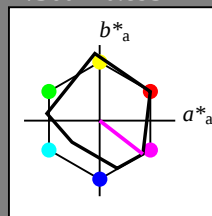
for hue $h^* = lab \cdot h = 322/360 = 0.895$

$lab \cdot tch$ and $lab \cdot nch$

D65: hue B50R
LCH*Ma: 35 72 322
rgb*Ma: 1.0 0.0 1.0

triangle lightness

1,00



MRS18; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R _{Ma}	49.63	66.96	38.37	77.18	30
J _{Ma}	90.7	-6.36	88.75	88.98	94
G _{Ma}	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}	18.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.66	26.98	64.56	25
J _{CIE}	81.26	-2.17	67.76	67.79	92
G _{CIE}	52.23	-42.26	11.75	43.87	164
B _{CIE}	30.57	1.15	-46.84	46.87	271

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

1,00

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	98.99	0.01	0.0		

relative CIELAB lab*					
lab*lab	1.0	0.0	0.0		
lab*tch	1.0	0.0	0.0		
lab*nch	0.0	0.0	0.0		
lab*trj	1.0	0.0	0.0		
lab*tce	1.0	0.0	0.0		
lab*nce	0.0	0.0	0.0		

relative Inform. Technology (IT)					
olvi3*	0.75	0.75	0.75	(1.0)	
cmyn3*	0.25	0.25	0.25	(0.0)	
olvi4*	1.0	1.0	1.0	(1.0)	
cmyn4*	0.0	0.0	0.0	(0.0)	
standard and adapted CIELAB					
LAB*LAB	74.31	0.02	0.0		
LAB*LABa	74.31	0.0	0.0		
LAB*TCHa	75.0	0.01	0.0		

relative CIELAB lab*					
lab*lab	0.75	0.0	0.0		
lab*tch	0.75	0.0	0.0		
lab*nch	0.25	0.0	0.0		
lab*trj	0.75	0.0	0.0		
lab*tce	0.75	0.0	0.0		
lab*nce	0.25	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	(1.0)	
cmyn4*	0.0	0.0	0.0	(0.0)	
standard and adapted CIELAB					
LAB*LAB	53.21	0.04	0.0		
LAB*LABa	53.21	0.0	0.0		
LAB*TCHa	50.0	0.01	0.0		

relative CIELAB lab*					
lab*lab	0.5	0.0	0.0		
lab*tch	0.5	0.0	0.0		
lab*nch	0.5	0.0	0.0		
lab*trj	0.5	0.0	0.0		
lab*tce	0.5	0.0	0.0		
lab*nce	0.5	0.0	0.0		

relative Inform. Technology (IT)					
olvi3*	0.25	0.25	0.25	(1.0)	
cmyn3*	0.75	0.75	0.75	(0.0)	
olvi4*	1.0	1.0	1.0	(1.0)	
cmyn4*	0.0	0.0	0.0	(0.0)	
standard and adapted CIELAB					
LAB*LAB	32.11	0.05	0.01		
LAB*LABa	32.11	0.0	0.0		
LAB*TCHa	25.0	0.01	0.0		

relative CIELAB lab*					
lab*lab	0.25	0.0	0.0		
lab*tch	0.25	0.0	0.0		
lab*nch	0.75	0.0	0.0		
lab*trj	0.25	0.0	0.0		
lab*tce	0.25	0.0	0.0		
lab*nce	0.75	0.0	0.0		

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

relative CIELAB lab*					
lab*lab	0.0	0.0	0.0		
lab*tch	0.0	0.0	0.0		
lab*nch	1.0	0.0	0.0		
lab*trj	0.0	0.0	0.0		
lab*tce	0.0	0.0	0.0		
lab*nce	1.0	0.0	0.0		

$n^* = 1,0$

TE430-7, 5 step scales for constant CIELAB hue 322/360 = 0.895 (left)



BAM-test chart TE43; Colorimetric systems MRS18 & NCS11a input: $olv^* setrgbcolor$

D65: 5 step colour scales and coordinate data for 10 hues

Output: Colorimetric Reflective System NCS11

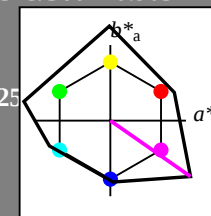
for hue $h^* = lab \cdot h = 325/360 = 0.903$

$lab \cdot tch$ and $lab \cdot nch$

D65: hue B50R
LCH*Ma: 44 129 325
rgb*Ma: 1.0 0.0 1.0

triangle lightness

1,00



NCS11; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R _{Ma}	47.15	84.64	37.25	92.48	24
J _{Ma}	91.37	-1.27	125.03	125.03	91
G _{Ma}	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.69	27.98	65.01	25
J _{CIE}	81.26	-2.9	71.56	71.62	92
G _{CIE}	52.23	-42.45	13.59	44.59	162
B _{CIE}	30.57	1.35	-46.48	46.51	272

%Regularity

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

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

1,00

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	82.57	26.53	-18.47		
LAB*LABa	82.57	26.51	-18.47		
LAB*TCHa	87.5	2.32	325.12		

relative CIELAB lab*					
lab*lab	0.848	0.205	-0.142		
lab*tch	0.875	0.25	0.903		
lab*nch	0.0	0.25	0.903		
lab*trj	0.848	0.168	-0.184		
lab*tce	0.875	0.25	0.867		
lab*nce	0.0	0.25	0.867		

relative Inform. Technology (IT)					
olvi3*	0.75	0.75	0.75	(1.0)	
cmyn3*	0.25	0.25	0.25	(0.0)	
olvi4*	1.0	1.0	1.0	(1.0)	
cmyn4*	0.0	0.0	0.0	(0.0)	
standard and adapted CIELAB					
LAB*LAB	69.73	33.03	-36.95		
LAB*LABa	69.73	33.03	-36.95		
LAB*TCHa	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		
lab*trj	0.696	0.336	-0.369		
lab*tce	0.75	0.5	0.867		
lab*nce	0.0	0.5	0.867		

relative Inform. Technology (IT)					
olvi3*	0.5	0.5	0.5	(1.0)	
cmyn3*	0.5	0.5	0.5	(0.0)	
olvi4*	1.0	1.0	1.0	(1.0)	
cmyn4*	0.0	0.0	0.0	(0.0)	
standard and adapted CIELAB					
LAB*LAB	48.63	53.09	-36.95		
LAB*LABa	48.63	53.04	-36.96		
LAB*TCHa	50.0	64.66	325.12		

relative CIELAB lab*					
lab*lab	0.446	0.336	-0.369		
lab*tch	0.5	0.5	0.903		
lab*nch	0.0	0.5	0.903		
lab*trj	0.446	0.336	-0.369		
lab*tce	0.5	0.5	0.867		
lab*nce	0.0	0.5	0.867		

relative Inform. Technology (IT)					
olvi3*	0.25	0.25	0.25	(1.0)	
cmyn3*	0.75	0.75	0.75	(0.0)	
olvi4*	1.0	1.0	1.0	(1.0)	
cmyn4*	0.0	0.0	0.0	(0.0)	
standard and adapted CIELAB					
LAB*LAB	27.53	53.1	-36.94		
LAB*LABa	27.53	53.03	-36.95		
LAB*TCHa	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	0.0	0.5	0.903		
lab*trj	0.196	0.336	-0.369		
lab*tce	0.25	0.5	0.867		
lab*nce	0.0	0.5	0.867		

relative Inform. Technology (IT)					
olvi3*	0.0	0.0	0.0	(1.0)	
cmyn3*	1.0	1.0	1.0	(0.0)	
olvi4*	1.0	1.0	1.0	(1.0)	
cmyn4*	0.0	0.0	0.0	(0.0)	
standard and adapted CIELAB					
LAB*LAB	19.26	26.51	-18.47		
LAB*LABa	19.26	26.51	-18.47		
LAB*TCHa	12.5	32.32	325.12		

relative CIELAB lab*					
lab*lab	0.098	0.205	-0.142		
lab*tch	0.125	0.25	0.903		
lab*nch	0.0	0.25	0.903		
lab*trj	0.098	0.168	-0.184		
lab*tce	0.125	0.25	0.867		
lab*nce	0.0	0.25	0.867		

$n^* = 0,50$

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



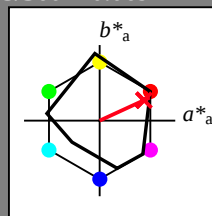
output: no change compared to input

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab \cdot h = 25/360 = 0.069$

$lab \cdot tch$ and $lab \cdot nch$

D65: hue R
LCH*Ma: 48 73 25
rgb*Ma: 1.0 0.0 0.1
triangle lightness



MRS18; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}	18.01	0.0	0.0	0.0	0
W _{Ma}	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

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

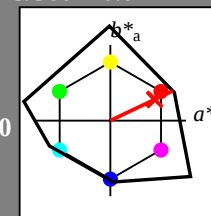
chromaticness c^*

Output: Colorimetric Reflective System NCS11

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

$lab \cdot tch$ and $lab \cdot nch$

D65: hue R
LCH*Ma: 48 91 25
rgb*Ma: 1.0 0.02 0.0
triangle lightness



NCS11; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

%Regularity

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

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

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

TE430-7, 5 step scales for constant CIELAB hue 25/360 = 0.069 (left)

5 step scales for constant CIELAB hue 25/360 = 0.071 (right)

BAM-test chart TE43; Colorimetric systems MRS18 & NCS11a input: $olv^* \cdot setrgbcolor$

D65: 5 step colour scales and coordinate data for 10 hues

output: no change compared to input

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab \cdot h = 92/360 = 0.255$

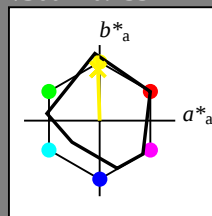
$lab \cdot tch$ and $lab \cdot nch$

D65: hue J

LCH*Ma: 89 86 92

rgb*Ma: 1.0 0.95 0.0

triangle lightness



MRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}	18.01	0.0	0.0	0.0	0
W _{Ma}	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

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

Output: Colorimetric Reflective System NCS11

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

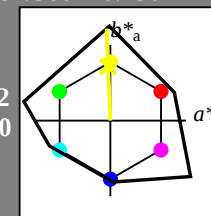
$lab \cdot tch$ and $lab \cdot nch$

D65: hue J

LCH*Ma: 90 122 92

rgb*Ma: 0.97 1.0 0.0

triangle lightness



NCS11; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

%Regularity

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

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

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

TE430-7, 5 step scales for constant CIELAB hue 92/360 = 0.255 (left)

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

BAM-test chart TE43; Colorimetric systems MRS18 & NCS11a input: $olv^* \cdot setrgbcolor$

D65: 5 step colour scales and coordinate data for 10 hues

output: no change compared to input

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab^*h = 164/360 = 0.457$

lab^*tch and lab^*nch

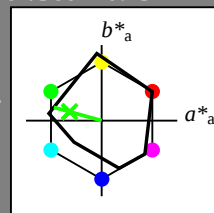
D65: hue G

LCH*Ma: 56 66 164

rgb*Ma: 0.1 1.0 0.0

triangle lightness

1,00



MRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R _{Ma}	49.63	66.96	38.37	77.18	30
J _{Ma}	90.7	-6.36	88.75	88.98	94
G _{Ma}	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}	18.01	0.0	0.0	0.0	0
W _{Ma}	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

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

1,00

0,75

0,25

0,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

0,00

$n^* = 1,0$

chromaticness c^*

TE430-7, 5 step scales for constant CIELAB hue 164/360 = 0.457 (left)



BAM-test chart TE43; Colorimetric systems MRS18 & NCS11a input: $olv^* setrgbcolor$

D65: 5 step colour scales and coordinate data for 10 hues

Output: Colorimetric Reflective System NCS11

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

lab^*tch and lab^*nch

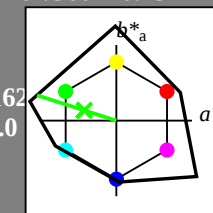
D65: hue G

LCH*Ma: 65 110 162

rgb*Ma: 0.08 1.0 0.0

triangle lightness

1,00



%Gamut

$u^*_{rel} = 149$

relative Inform. Technology (IT)

$olv^*_{3*} 1.0 1.0 1.0 (1.0)$
 $cmyn^*_{3*} 0.0 0.0 0.0 (0.0)$
 $olv^*_{4*} 1.0 1.0 1.0 (1.0)$
 $cmyn^*_{4*} 0.0 0.0 0.0 (0.0)$

standard and adapted CIELAB

$LAB^*LAB 95.41 0.0 -0.01$

$LAB^*TCha 95.41 0.0 0.0$

relative CIELAB lab*

$lab^*lab 1.0 0.0 0.0$

$lab^*tch 1.0 0.0 0.0$

$lab^*nch 0.0 0.0 0.0$

relative Natural Colour (NC)

$lab^*trj 1.0 0.0 0.0$

$lab^*tce 1.0 0.0 0.0$

$lab^*nce 0.0 0.0 0.0$

relative Inform. Technology (IT)

$olv^*_{3*} 0.75 0.75 0.75 (1.0)$

$cmyn^*_{3*} 0.25 0.25 0.25 (0.0)$

$olv^*_{4*} 1.0 1.0 1.0 (1.0)$

$cmyn^*_{4*} 0.0 0.0 0.0 (0.0)$

standard and adapted CIELAB

$LAB^*LAB 74.31 0.02 0.0$

$LAB^*TCha 74.31 0.0 0.0$

relative CIELAB lab*

$lab^*lab 0.75 0.0 0.0$

$lab^*tch 0.75 0.0 0.0$

$lab^*nch 0.25 0.0 0.0$

relative Natural Colour (NC)

$lab^*trj 0.75 0.0 0.0$

$lab^*tce 0.25 0.0 0.0$

$lab^*nce 0.25 0.0 0.0$

relative Inform. Technology (IT)

$olv^*_{3*} 0.5 0.5 0.5 (1.0)$

$cmyn^*_{3*} 0.5 0.5 0.5 (0.0)$

$olv^*_{4*} 1.0 1.0 1.0 (1.0)$

$cmyn^*_{4*} 0.0 0.0 0.0 (0.0)$

standard and adapted CIELAB

$LAB^*LAB 53.21 0.04 0.0$

$LAB^*TCha 53.21 0.0 0.0$

relative CIELAB lab*

$lab^*lab 0.5 0.0 0.0$

$lab^*tch 0.5 0.0 0.0$

$lab^*nch 0.5 0.0 0.0$

relative Natural Colour (NC)

$lab^*trj 0.5 0.0 0.0$

$lab^*tce 0.5 0.0 0.0$

$lab^*nce 0.5 0.0 0.0$

relative Inform. Technology (IT)

$olv^*_{3*} 0.25 0.25 0.25 (1.0)$

$cmyn^*_{3*} 0.75 0.75 0.75 (0.0)$

$olv^*_{4*} 1.0 1.0 1.0 (1.0)$

$cmyn^*_{4*} 0.0 0.0 0.0 (0.0)$

standard and adapted CIELAB

$LAB^*LAB 32.11 0.07 0.01$

$LAB^*TCha 32.11 0.0 0.0$

relative CIELAB lab*

$lab^*lab 0.25 0.0 0.0$

$lab^*tch 0.25 0.0 0.0$

$lab^*nch 0.75 0.0 0.0$

relative Natural Colour (NC)

$lab^*trj 0.25 0.0 0.0$

$lab^*tce 0.25 0.0 0.0$

$lab^*nce 0.75 0.0 0.0$

%Regularity

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

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

0,75

0,25

0,00

$n^* = 0,00$

$n^* = 0,25$

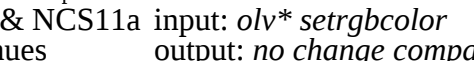
$n^* = 0,50$

0,00

$n^* = 1,0$

chromaticness c^*

5 step scales for constant CIELAB hue 162/360 = 0.451 (right)



output: no change compared to input

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab \cdot h = 271/360 = 0.754$

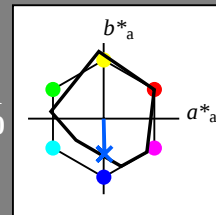
$lab \cdot tch$ and $lab \cdot nch$

D65: hue B

LCH*Ma: 40 50 271

rgb*Ma: 0.0 0.37 1.0

triangle lightness



MRS18; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}	18.01	0.0	0.0	0.0	0
W _{Ma}	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

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,0$

chromaticness c^*

Output: Colorimetric Reflective System NCS11

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

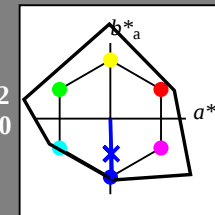
$lab \cdot tch$ and $lab \cdot nch$

D65: hue B

LCH*Ma: 49 80 272

rgb*Ma: 0.0 0.02 1.0

triangle lightness



NCS11; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

%Regularity

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

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

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

TE430-7, 5 step scales for constant CIELAB hue 271/360 = 0.754 (left)

5 step scales for constant CIELAB hue 272/360 = 0.755 (right)

BAM-test chart TE43; Colorimetric systems MRS18 & NCS11a input: $olv^* setrgbcolor$

D65: 5 step colour scales and coordinate data for 10 hues

output: no change compared to input