

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab \cdot h = 30/360 = 0.083$

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

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

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

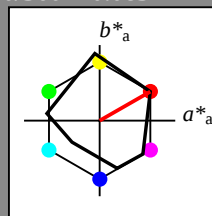
$g^*_{C,rel} = 65$

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
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

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

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

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 $h^* = lab \cdot h = 24/360 = 0.066$

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

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

triangle lightness

1,00

%Gamut

$u^*_{rel} = 149$

%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

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

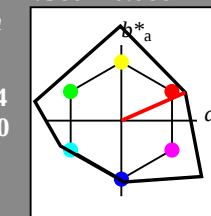
$g^*_{C,rel} = 65$

0,00

%Regularity

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

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



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

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

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

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

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: $olv^* \cdot setrgbcolor$

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

output: $olv^* \cdot setrgbcolor / w^* \cdot setgray$

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

1,00

%Gamut

$u^*_{rel} = 91$

%Regularity

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

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

0,75

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

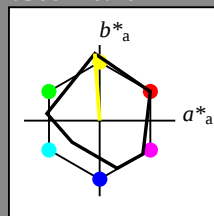
$g^*_{C,rel} = 65$

0,25

%Regularity

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

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



MRS18; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
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
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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

%Regularity

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

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

0,75

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

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

1,00

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

0,75

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

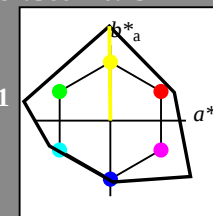
$g^*_{C,rel} = 52$

0,25

%Regularity

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

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



NCS11; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

%Regularity

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

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

0,75

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

0,75

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

0,75

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

0,75

%Regularity

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

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

0,25

%Regularity

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

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

0,00

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

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

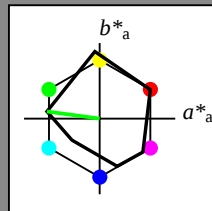
$g^*_{C,rel} = 65$

0,25

%Regularity

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

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



MRS18; adapted (a) CIELAB data					
	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
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

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

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

0,75

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%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

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

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

0,75

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

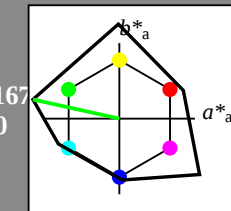
$g^*_{C,rel} = 65$

0,25

%Regularity

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

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



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

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

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

0,75

%Regularity

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

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

0,25

%Regularity

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

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

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

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

%Regularity

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0,75

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

TE430-7, 5 step scales for constant CIELAB hue 172/360 = 0.479 (left)

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

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

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

output: $olv^* \text{ setrgbcolor} / w^* \text{ setgray}$

Input: Colorimetric Reflective System MRS18

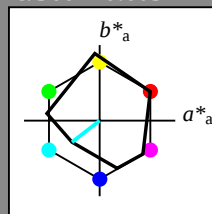
for hue $h^* = lab \cdot h = 218/360 = 0.605$

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

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

triangle lightness

1,00



% Gamut

$u^*_{rel} = 91$

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*TCMa	98.99	0.01	0.0		
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*trj	1.0	0.0	-		
lab*tce	1.0	0.0	-		
lab*nce	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	0.75	
cmyn4*	0.0	0.0	0.0	0.25	
standard and adapted CIELAB					
LAB*LAB	74.31	0.02	0.0		
LAB*LABa	74.31	0.0	0.0		
LAB*TCMa	75.0	0.01	-		
relative CIELAB lab*					
lab*lab	0.75	0.0	0.0		
lab*tch	0.75	0.0	-		
lab*nch	0.25	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	-		

relative Inform. Technology (IT)					
olvi3*	0.5	0.5	0.5	(1.0)	
cmyn3*	0.5	0.5	0.5	(0.0)	
olvi4*	1.0	1.0	1.0	0.5	
cmyn4*	0.0	0.0	0.0	0.5	
standard and adapted CIELAB					
LAB*LAB	53.21	0.04	0.0		
LAB*LABa	53.21	0.0	0.0		
LAB*TCMa	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*trj	0.5	0.0	0.0		
lab*tce	0.5	0.0	0.0		
lab*nce	0.5	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	0.25	
cmyn4*	0.0	0.0	0.0	0.75	
standard and adapted CIELAB					
LAB*LAB	32.11	0.05	0.01		
LAB*LABa	32.11	0.0	0.0		
LAB*TCMa	25.0	0.01	-		
relative CIELAB lab*					
lab*lab	0.25	0.0	0.0		
lab*tch	0.25	0.0	-		
lab*nch	0.75	0.0	-		
relative Natural Colour (NC)					
lab*trj	0.25	0.0	0.0		
lab*tce	0.75	0.0	0.0		
lab*nce	0.75	0.0	-		

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

$n^* = 1,0$

Output: Colorimetric Reflective System NCS11

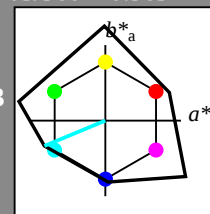
for hue $h^* = lab \cdot h = 203/360 = 0.563$

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

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

triangle lightness

1,00



% Gamut

$u^*_{rel} = 149$

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

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

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

relative Inform. Technology (IT)					
olvi3*	0.75	1.0	1.0	(1.0)	
cmyn3*	0.25	0.0	0.0	(0.0)	
olvi4*	0.75	1.0	1.0	1.0	
cmyn4*	0.25	0.0	0.0	0.0	
standard and adapted CIELAB					
LAB*LAB	86.42	-20.12	-8.35		
LAB*LABa	86.42	-20.13	-8.35		
LAB*TCMa	87.5	21.81	202.54		
relative CIELAB lab*					
lab*lab	0.893	-0.23	-0.095		
lab*tch	0.875	0.25	0.563		
lab*nch	0.0	0.25	0.563		
relative Natural Colour (NC)					
lab*trj	0.893	-0.208	-0.136		
lab*tce	0.875	0.25	0.592		
lab*nce	0.0	0.25	0.563		

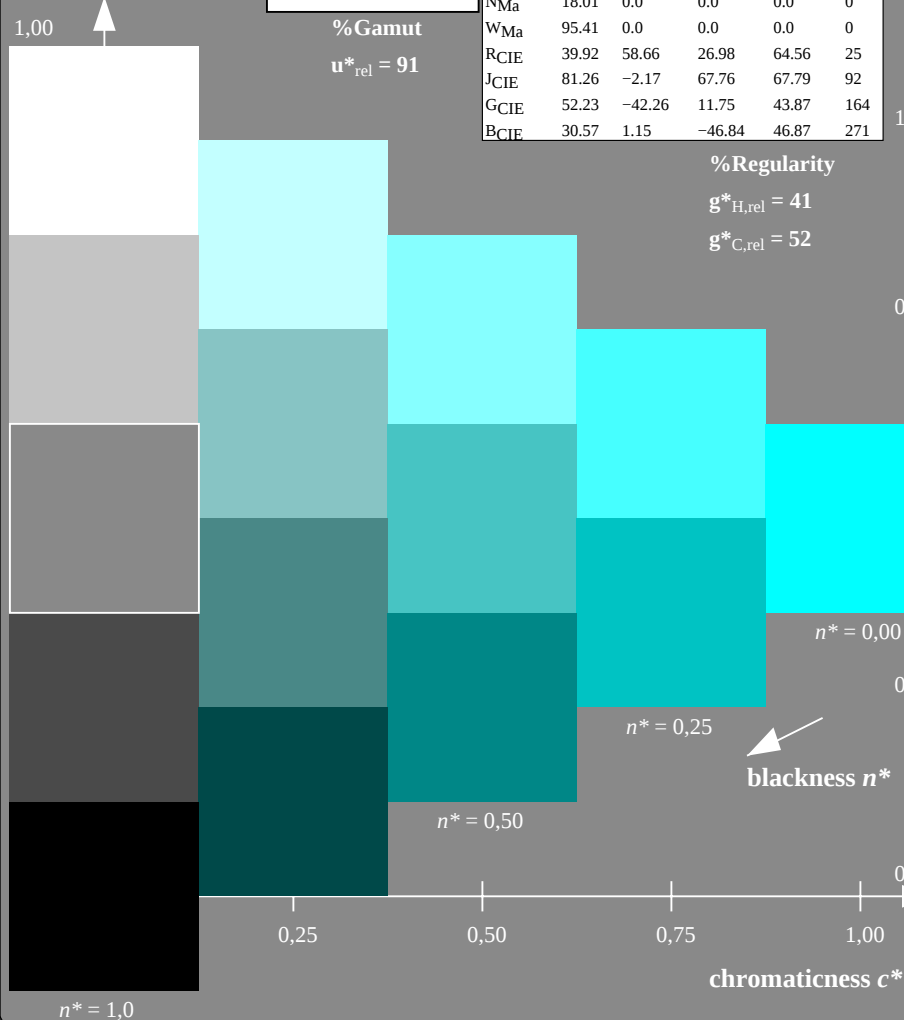
relative Inform. Technology (IT)					
olvi3*	0.5	0.75	0.75	(1.0)	
cmyn3*	0.5	0.25	0.25	(0.0)	
olvi4*	0.75	1.0	1.0	0.75	
cmyn4*	0.5	0.0	0.0	0.25	
standard and adapted CIELAB					
LAB*LAB	65.32	-20.11	-8.35		
LAB*LABa	65.32	-20.14	-8.36		
LAB*TCMa	62.5	21.82	202.54		
relative CIELAB lab*					
lab*lab	0.5	0.75	0.75	-0.191	
lab*tch	0.5	0.75	0.563		
lab*nch	0.0	0.5	0.563		
relative Natural Colour (NC)					
lab*trj	0.787	-0.418	-0.272		
lab*tce	0.5	0.75	0.592		
lab*nce	0.0	0.5	0.563		

relative Inform. Technology (IT)					
olvi3*	0.25	0.75	0.75	(1.0)	
cmyn3*	0.75	0.25	0.25	(0.0)	
olvi4*	0.5	1.0	1.0	0.75	
cmyn4*	0.5	0.0	0.0	0.25	
standard and adapted CIELAB					
LAB*LAB	56.33	-40.26	-16.71		
LAB*LABa	56.33	-40.3	-16.72		
LAB*TCMa	50.0	43.64	202.54		
relative CIELAB lab*					
lab*lab	0.537	-0.461	-0.191		
lab*tch	0.5	0.5	0.563		
lab*nch	0.25	0.5	0.563		
relative Natural Colour (NC)					
lab*trj	0.537	-0.418	-0.272		
lab*tce	0.5	0.5	0.592		
lab*nce	0.25	0.5	0.563		

relative Inform. Technology (IT)					
olvi3*	0.0	0.5	0.5	(1.0)	
cmyn3*	1.0	0.5	0.5	(0.0)	
olvi4*	0.5	1.0	1.0	0.5	
cmyn4*	0.5	0.0	0.0	0.5	
standard and adapted CIELAB					
LAB*LAB	35.23	-40.23	-16.7		
LAB*LABa	35.23	-40.29	-16.72		
LAB*TCMa	25.01	43.63	202.54		
relative CIELAB lab*					
lab*lab	0.287	-0.461	-0.191		
lab*tch	0.25	0.5	0.563		
lab*nch	0.5	0.5	0.563		
relative Natural Colour (NC)					
lab*trj	0.287	-0.418	-0.272		
lab*tce	0.25	0.5	0.592		
lab*nce	0.5	0.5	0.563		

relative Inform. Technology (IT)					
olvi3*	0.0	0.0	0.0	(1.0)	
cmyn3*	1.0	0.75	0.75	(0.0)	
olvi4*	1.0	1.0	1.0	0.0	
cmyn4*	0.0	0.0	0.0	1.0	
standard and adapted CIELAB					
LAB*LAB	11.01	0.07	0.01		
LAB*LABa	11.01	0.0	0.0		
LAB*TCMa	0.01	0.0	-		
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*trj	0.0	0.0	0.0		
lab*tce	1.0	0.0	0.0		
lab*nce	1.0	0.0	-		

$n^* = 0,50$



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



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

5 step scales for constant CIELAB hue 203/360 =

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab^*h = 290/360 = 0.806$

lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 37 67 290

rgb*Ma: 0.0 0.0 1.0

triangle lightness

1,00

%Gamut

$u^*_{rel} = 91$

%Regularity

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

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

0,75

0,50

0,25

0,00

blackness n^*

chromaticness c^*

0,25

0,50

0,75

1,00

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

0,25

0,50

0,75

1,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,0$

0,25

0,50

0,75

1,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,0$

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

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

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

0,75

0,50

0,25

0,00

blackness n^*

chromaticness c^*

0,25

0,50

0,75

1,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,0$

0,25

0,50

0,75

1,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,0$

0,25

0,50

0,75

1,00

Output: Colorimetric Reflective System NCS11

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

lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 49 81 273

rgb*Ma: 0.0 0.0 1.0

triangle lightness

1,00

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

0,75

0,50

0,25

0,00

blackness n^*

chromaticness c^*

0,25

0,50

0,75

1,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,0$

0,25

0,50

0,75

1,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,0$

0,25

0,50

0,75

1,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

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

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

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

0,75

0,50

0,25

0,00

blackness n^*

chromaticness c^*

0,25

0,50

0,75

1,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,0$

0,25

0,50

0,75

1,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,0$

0,25

0,50

0,75

1,00

TE430-7, 5 step scales for constant CIELAB hue 290/360 = 0.806 (left)

5 step scales for constant CIELAB hue 273/360 = 0.757 (right)

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

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

output: $olv^* setrgbcolor / w^* setgray$

Input: Colorimetric Reflective System MRS18

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

lab^*tch and lab^*nch

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

triangle lightness

1,00

% Gamut

$u^*_{rel} = 91$

% Regularity

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

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

0,75

0,50

0,25

0,00

blackness n^*

chromaticness c^*

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

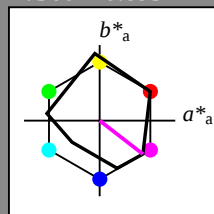
$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$



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

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

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

0,75

0,50

0,25

0,00

blackness n^*

chromaticness c^*

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

Output: Colorimetric Reflective System NCS11

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

lab^*tch and lab^*nch

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

triangle lightness

1,00

% Gamut

$u^*_{rel} = 149$

% Regularity

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

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

0,75

0,50

0,25

0,00

blackness n^*

chromaticness c^*

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

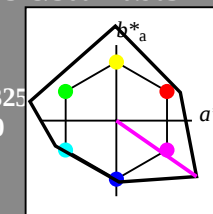
$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$



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

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

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

0,75

0,50

0,25

0,00

blackness n^*

chromaticness c^*

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,00$

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

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

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

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

output: $olv^* setrgbcolor / w^* setgray$

Input: Colorimetric Reflective System MRS18

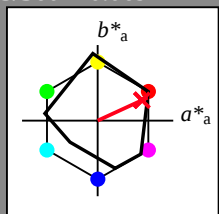
for hue $h^* = lab \cdot h = 25/360 = 0.069$

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

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

triangle lightness

1,00



% Gamut

$u^*_{rel} = 91$

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

relative Inform. Technology (IT)					
olvi3*	1.0	1.0	1.0	1.0	1.0
cmyn3*	0.0	0.0	0.0	0.0	0.0
olvi4*	1.0	1.0	1.0	1.0	1.0
cmyn4*	0.0	0.0	0.0	0.0	0.0
standard and adapted CIELAB	LAB*LAB	95.41	0.0	-0.01	-
LAB*LABa	95.41	0.0	0.0	-	-
LAB*TCa	95.99	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	-	-
relative Natural Colour (NC)					
lab*lrj	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	1.0
cmyn3*	0.25	0.25	0.25	0.0	0.0
olvi4*	1.0	1.0	1.0	0.75	0.75
cmyn4*	0.0	0.0	0.0	0.25	0.25
standard and adapted CIELAB	LAB*LAB	74.31	0.02	0.0	-
LAB*LABa	74.31	0.0	0.0	-	-
LAB*TCa	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	-	-
relative Natural Colour (NC)					
lab*lrj	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	1.0
cmyn3*	0.5	0.5	0.5	0.0	0.0
olvi4*	1.0	1.0	1.0	0.5	0.5
cmyn4*	0.0	0.0	0.0	0.5	0.5
standard and adapted CIELAB	LAB*LAB	53.21	0.04	0.0	-
LAB*LABa	53.21	0.0	0.0	-	-
LAB*TCa	50.0	0.01	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*lrj	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	1.0
cmyn3*	0.25	0.25	0.25	0.0	0.0
olvi4*	1.0	1.0	1.0	0.25	0.25
cmyn4*	0.0	0.0	0.0	0.25	0.25
standard and adapted CIELAB	LAB*LAB	32.11	0.05	0.01	-
LAB*LABa	32.11	0.0	0.0	-	-
LAB*TCa	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	0.25	0.0	0.0	-	-
relative Natural Colour (NC)					
lab*lrj	0.25	0.0	0.0	-	-
lab*tce	0.25	0.0	0.0	-	-
lab*nce	0.25	0.0	0.0	-	-

relative Inform. Technology (IT)					
olvi3*	0.1	0.1	0.1	1.0	1.0
cmyn3*	0.1	0.1	0.1	0.0	0.0
olvi4*	1.0	1.0	1.0	0.1	0.1
cmyn4*	0.0	0.0	0.0	0.1	0.1
standard and adapted CIELAB	LAB*LAB	20.3	0.07	0.01	-
LAB*LABa	20.3	0.0	0.0	-	-
LAB*TCa	20.3	0.0	0.0	-	-
relative CIELAB lab*					
lab*lab	0.1	0.0	0.0	-	-
lab*tch	0.1	0.0	0.0	-	-
lab*nch	0.1	0.0	0.0	-	-
relative Natural Colour (NC)					
lab*lrj	0.1	0.0	0.0	-	-
lab*tce	0.1	0.0	0.0	-	-
lab*nce	0.1	0.0	0.0	-	-

relative Inform. Technology (IT)					
olvi3*	0.05	0.05	0.05	1.0	1.0
cmyn3*	0.05	0.05	0.05	0.0	0.0
olvi4*	1.0	1.0	1.0	0.05	0.05
cmyn4*	0.0	0.0	0.0	0.05	0.05
standard and adapted CIELAB	LAB*LAB	11.01	0.07	0.01	-
LAB*LABa	11.01	0.0	0.0	-	-
LAB*TCa	11.01	0.0	0.0	-	-
relative CIELAB lab*					
lab*lab	0.05	0.0	0.0	-	-
lab*tch	0.05	0.0	0.0	-	-
lab*nch	0.05	0.0	0.0	-	-
relative Natural Colour (NC)					
lab*lrj	0.05	0.0	0.0	-	-
lab*tce	0.05	0.0	0.0	-	-
lab*nce	0.05	0.0	0.0	-	-

relative Inform. Technology (IT)					
olvi3*	0.025	0.025	0.025	1.0	1.0
cmyn3*	0.025	0.025	0.025	0.0	0.0
olvi4*	1.0	1.0	1.0	0.025	0.025
cmyn4*	0.0	0.0	0.0	0.025	0.025
standard and adapted CIELAB	LAB*LAB	6.001	0.09	0.01	-
LAB*LABa	6.001	0.0	0.0	-	-
LAB*TCa	6.001	0.0	0.0	-	-
relative CIELAB lab*					
lab*lab	0.025	0.0	0.0	-	-
lab*tch	0.025	0.0	0.0	-	-
lab*nch	0.025	0.0	0.0	-	-
relative Natural Colour (NC)					
lab*lrj	0.025	0.0	0.0	-	-
lab*tce	0.025	0.0	0.0	-	-
lab*nce	0.025	0.0	0.0	-	-

relative Inform. Technology (IT)					
olvi3*	0.01	0.01	0.01	1.0	1.0
cmyn3*	0.01	0.01	0.01	0.0	0.0
olvi4*	1.0	1.0	1.0	0.01	0.01
cmyn4*	0.0	0.0	0.0	0.01	0.01
standard and adapted CIELAB	LAB*LAB	3.001	0.1	0.01	-
LAB*LABa	3.001	0.0	0.0	-	-
LAB*TCa	3.001	0.0	0.0	-	-
relative CIELAB lab*					
lab*lab	0.01	0.0	0.0	-	-
lab*tch	0.01	0.0	0.0	-	-
lab*nch	0.01	0.0	0.0	-	-
relative Natural Colour (NC)					
lab*lrj	0.01	0.0	0.0	-	-
lab*tce	0.01	0.0	0.0	-	-
lab*nce	0.01	0.0	0.0	-	-

relative Inform. Technology (IT)					
olvi3*	0.005	0.005	0.005	1.0	1.0
cmyn3*	0.005	0.005	0.005	0.0	0.0
olvi4*	1.0	1.0	1.0	0.005	0.005
cmyn4*	0.0	0.0	0.0	0.005	0.005
standard and adapted CIELAB	LAB*LAB	1.501	0.1	0.01	-
LAB*LABa	1.501	0.0	0.0	-	-
LAB*TCa	1.501	0.0	0.0	-	-
relative CIELAB lab*					
lab*lab	0.005	0.0	0.0	-	-
lab*tch	0.005	0.0	0.0	-	-
lab*nch	0.005	0.0	0.0	-	-
relative Natural Colour (NC)					
lab*lrj	0.005	0.0	0.0	-	-
lab*tce	0.005	0.0	0.0	-	-
lab*nce	0.005	0.0	0.0	-	-

relative Inform. Technology (IT)					
olvi3*	0.0025	0.0025	0.0025	1.0	1.0
cmyn3*	0.0025	0.0025	0.0025	0.0	0.0
olvi4*	1.0	1.0	1.0	0.0025	0.0025
cmyn4*	0.0	0.0	0.0	0.0025	0.0025
standard and adapted CIELAB	LAB*LAB	0.751	0.1	0.01	-
LAB*LABa	0.751	0.0	0.0	-	-
LAB*TCa	0.751	0.0	0.0	-	-
relative CIELAB lab*					
lab*lab	0.0025	0.0	0.0	-	-
lab*tch	0.0025	0.0	0.0	-	-
lab*nch	0.0025	0.0	0.0	-	-
relative Natural Colour (NC)					
lab*lrj	0.0025	0.0	0.0	-	-
lab*tce	0.0025	0.0	0.0	-	-
lab*nce	0.0025	0.0	0.0	-	-

relative Inform. Technology (IT)					
olvi3*	0.001	0.001	0.001	1.0	1.0
cmyn3*	0.001	0.001	0.001	0.0	0.0
olvi4*	1.0	1.0	1.0	0.001	0.001
cmyn4*	0.0	0.0	0.0	0.001	0.001
standard and adapted CIELAB	LAB*LAB	0.376	0.1	0.01	-
LAB*LABa	0.376	0.0	0.0	-	-
LAB*TCa	0.376	0.0	0.0	-	-
relative CIELAB lab*					
lab*lab	0.001	0.0	0.0	-	-
lab*tch	0.001	0.0	0.0	-	-
lab*nch	0.001	0.0	0.0	-	-
relative Natural Colour (NC)					
lab*lrj	0.001	0.0	0.0	-	-
lab*tce	0.001	0.0	0.0	-	-
lab*nce	0.001	0.0	0.0	-	-

relative Inform. Technology (IT)					
olvi3*	0.0005	0.0005	0.0005	1.0	1.0
cmyn3*	0.0005	0.0005	0.0005	0.0	0.0
olvi4*	1.0	1.0	1.0	0.0005	0.0005
cmyn4*	0.0	0.0	0.0	0.0005	0.0005
standard and adapted CIELAB	LAB*LAB	0.188	0.1	0.01	-
LAB*LABa	0.188	0.0	0.0	-	-
LAB*TCa	0.188	0.0	0.0	-	-
relative CIELAB lab*					
lab*lab	0.0005	0.0	0.0	-	-
lab*tch	0.0005	0.0	0.0	-	-
lab*nch	0.0005	0.0	0.0	-	-
relative Natural Colour (NC)					
lab*lrj	0.0005	0.0	0.0	-	-
lab*tce	0.0005	0.0	0.0	-	-
lab*nce	0.0005	0.0	0.0	-	-

Input: Colorimetric Reflective System MRS18

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

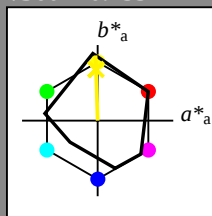
$lab \cdot tch$ and $lab \cdot nch$

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	$C^*_{ab,a}$	$h^*_{ab,a}$
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

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

0,00

$n^* = 1,0$

chromaticness c^*

TE430-7, 5 step scales for constant CIELAB hue 92/360 = 0.255 (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 $h^* = lab \cdot h = 92/360 = 0.256$

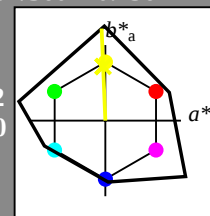
$lab \cdot tch$ and $lab \cdot nch$

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	$C^*_{ab,a}$	$h^*_{ab,a}$
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

$n^* = 0,25$

$n^* = 0,50$

0,00

$n^* = 1,0$

chromaticness c^*

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

output: $olv^* \cdot setrgbcolor / w^* \cdot setgray$

Input: Colorimetric Reflective System MRS18

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

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

D65: hue G
LCH*Ma: 56 66 164
rgb*Ma: 0.1 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

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

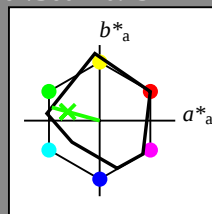
$g^*_{C,rel} = 65$

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 $h^* = lab \cdot h = 162/360 = 0.451$

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

D65: hue G
LCH*Ma: 65 110 162
rgb*Ma: 0.08 1.0 0.0

triangle lightness

1,00

% Gamut

$u^*_{rel} = 149$

% 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

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

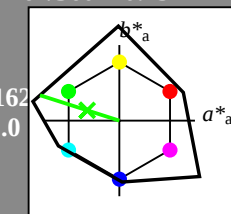
$g^*_{C,rel} = 52$

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

$u^*_{rel} = 149$

% 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

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

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

$u^*_{rel} = 149$

% 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

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

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

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

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

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

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

output: $olv^* \text{ setrgbcolor} / w^* \text{ setgray}$

Input: Colorimetric Reflective System MRS18

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

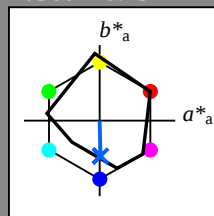
$lab \cdot tch$ and $lab \cdot nch$

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

$n^* = 0,25$

$n^* = 0,50$

0,25

0,50

0,75

1,00

chromaticness c^*

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



BAM-test chart TE43; Colorimetric systems MRS18 & NCS11a

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

Output: Colorimetric Reflective System NCS11

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

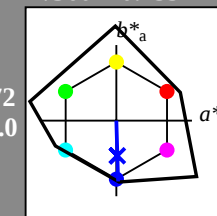
$lab \cdot tch$ and $lab \cdot nch$

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

$n^* = 0,25$

$n^* = 0,50$

0,25

0,50

0,75

1,00

chromaticness c^*

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

BAM material: code=rhda4

application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ