

Input: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 24/360 = 0.066$

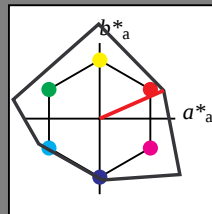
lab^*tch and lab^*nch

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

0,25

0,00

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,0$

chromaticness c^*

UE480-7, 5 step scales for constant CIELAB hue 24/360 = 0.066 (left)



BAM-test chart UE48; Colorimetric systems NCS11a & MRS18 input: *cmY0* setcmykcolor*

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

Output: Colorimetric Reflective System MRS18

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

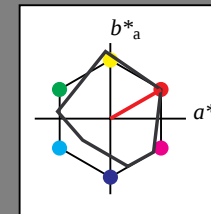
lab^*tch and lab^*nch

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

0,25

0,00

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

5 step scales for constant CIELAB hue 30/360 = 0.083 (right)

output: *no change compared to input*

Input: Colorimetric Reflective System NCS11

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

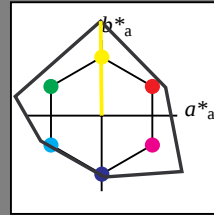
lab^*tch and lab^*nch

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

UE480-7, 5 step scales for constant CIELAB hue 91/360 = 0.252 (left)



BAM-test chart UE48; Colorimetric systems NCS11a & MRS18 input: *cmY0* setcmykcolor*

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

Output: Colorimetric Reflective System MRS18

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

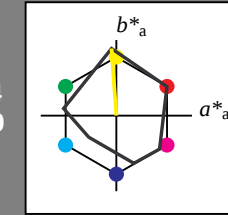
lab^*tch and lab^*nch

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

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

output: *no change compared to input*

Input: Colorimetric Reflective System NCS11

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

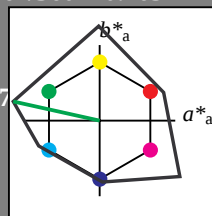
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 63 117 167

rgb*Ma: 0.0 1.0 0.0

triangle lightness

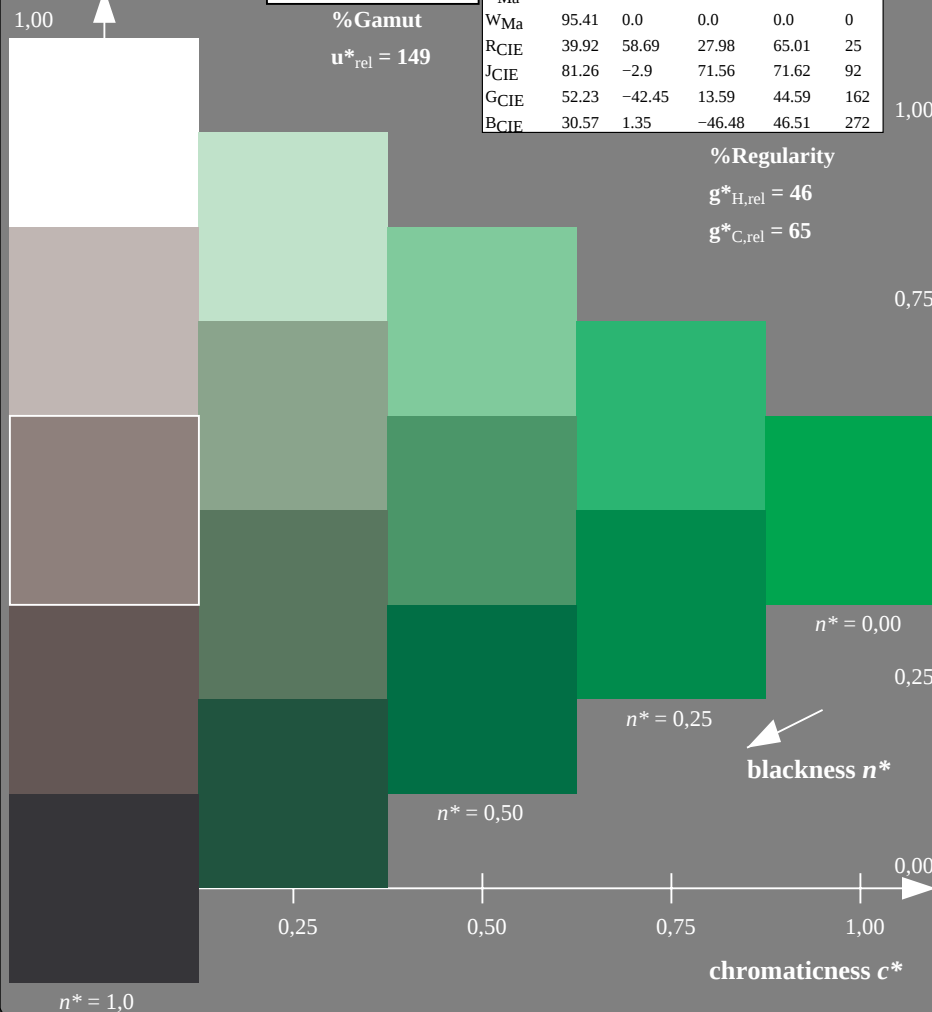


NCS11; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
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

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

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



UE480-7, 5 step scales for constant CIELAB hue 167/360 = 0.465 (left)

BAM-test chart UE48; Colorimetric systems NCS11a & MRS18 input: *cmy0* setcmykcolor*

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

Output: Colorimetric Reflective System MRS18

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

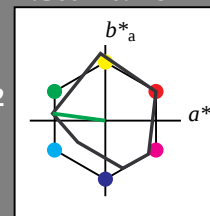
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 52 70 172

rgb*Ma: 0.0 1.0 0.0

triangle lightness

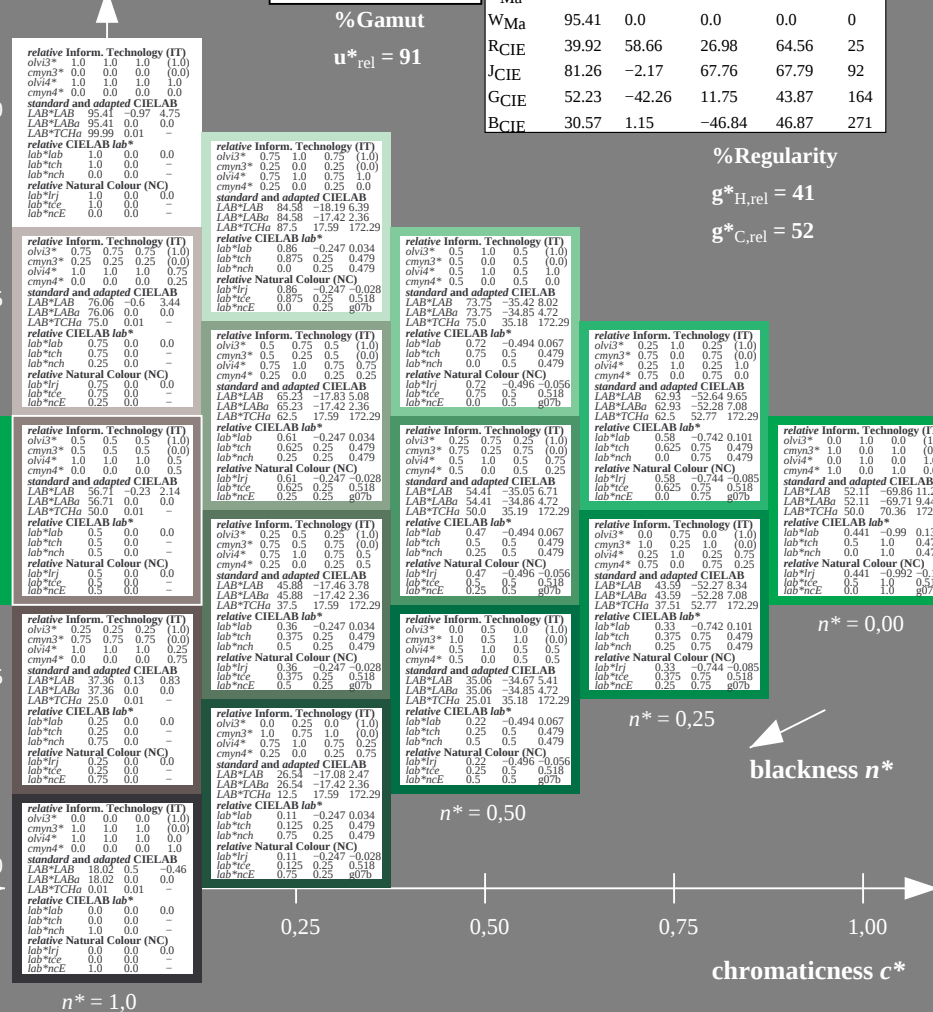


MRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}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

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

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



5 step scales for constant CIELAB hue 172/360 = 0.479 (right)

output: no change compared to input

Input: Colorimetric Reflective System NCS11

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

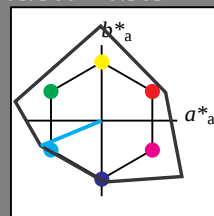
lab*tch and lab*nch

D65: hue G50B

LCH*Ma: 59 87 203

rgb*Ma: 0.0 1.0 1.0

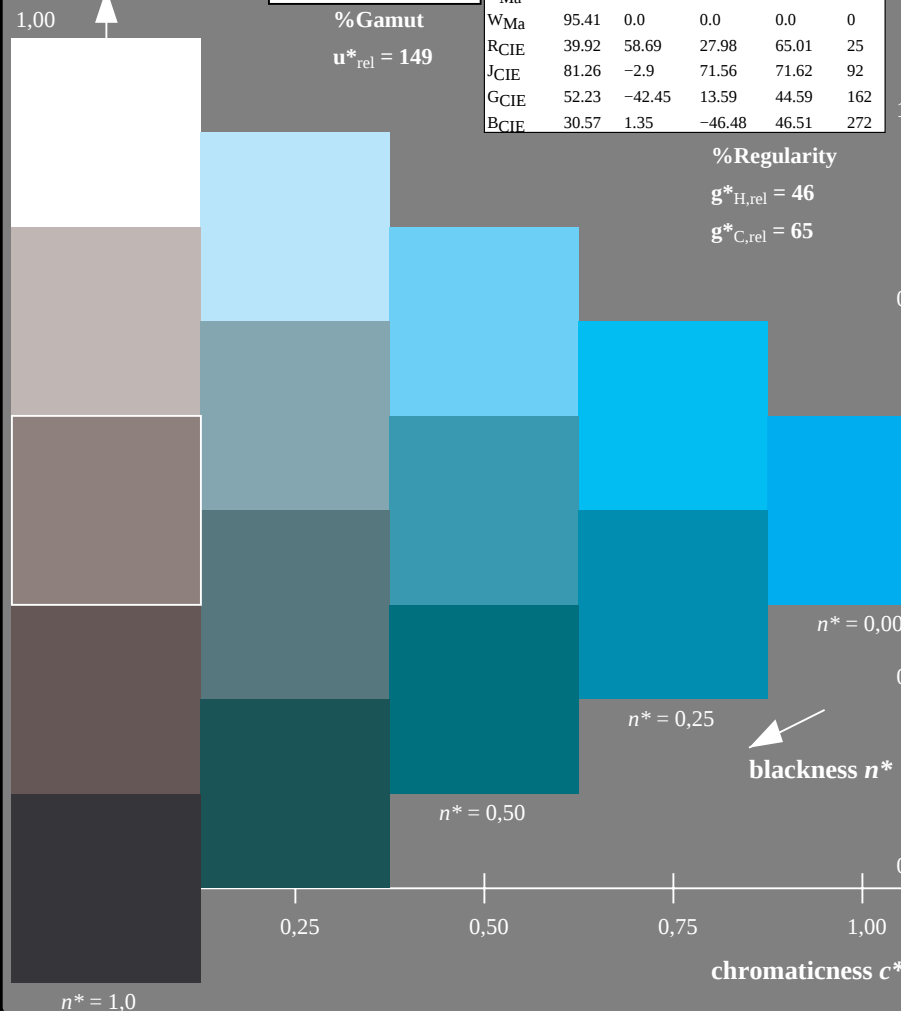
triangle lightness



% Gamut
 $u^*_{rel} = 149$

NCS11; adapted (a) CIELAB data					
	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R _{Ma}	47.15	84.64	37.25	92.48	24.49
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
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

$$g^*_{H_{rel}} = 46$$
$$g^*_{C,rel} = 65$$


UE480-7, 5 step scales for constant CIELAB hue 203/360 = 0.563 (left)

BAM-test chart UE48; Colorimetric systems NCS11a & MRS18 input: *cmy0** *setcmykcolor*

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

Output: Colorimetric Reflective System MRS18

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

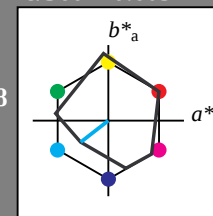
lab*tch and lab*nch

D65: hue G50B

LCH*Ma: 45 46 218

rgb*Ma: 0.0 1.0 1.0

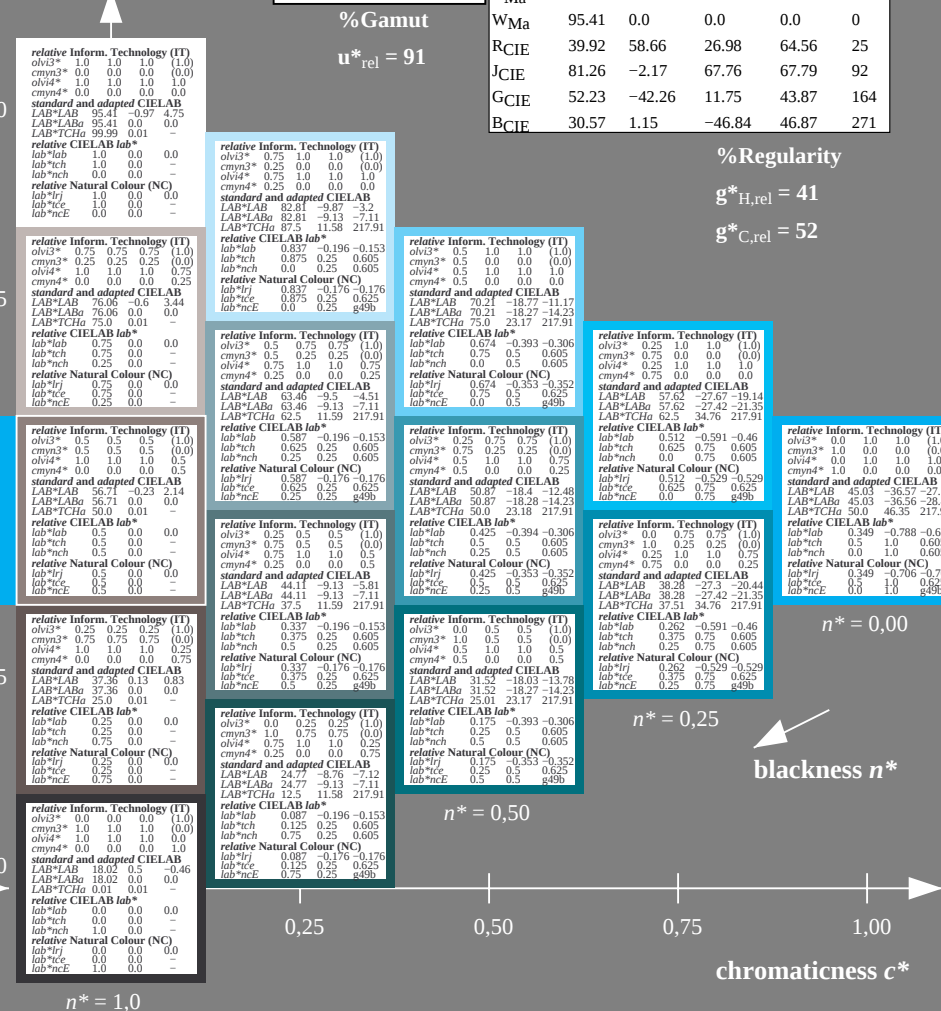
triangle lightness



%Gamut
u*_{rel} = 91

MRS18; adapted (a) CIELAB data						
	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	h^*_{ab}	
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	161	
B _{CIE}	30.57	1.15	-46.84	46.87	274	

%Regularity

$$g^*_{Hrel} = 41$$
$$g^*_{C,rel} = 52$$
5 step scales for constant CIELAB hue $218/360 = 0.605$ (right)

3 input: *cmY0** *setcmykcolor*

output: *no change* compared to input

Input: Colorimetric Reflective System NCS11

for hue $h^* = \text{lab}^*h = 273/360 = 0.757$

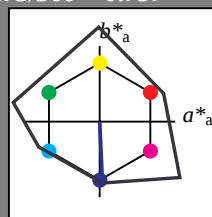
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 49 81 273

rgb*Ma: 0.0 0.0 1.0

triangle lightness



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

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,0$

chromaticness c^*

Output: Colorimetric Reflective System MRS18

for hue $h^* = \text{lab}^*h = 290/360 = 0.806$

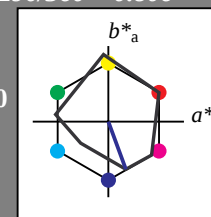
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 37 67 290

rgb*Ma: 0.0 0.0 1.0

triangle lightness



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

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

UE480-7, 5 step scales for constant CIELAB hue 273/360 = 0.757 (left)

5 step scales for constant CIELAB hue 290/360 = 0.806 (right)

BAM-test chart UE48; Colorimetric systems NCS11a & MRS18 input: *cmY0* setcmykcolor*

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

output: *no change compared to input*

Input: Colorimetric Reflective System NCS11

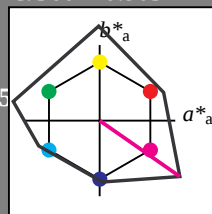
for hue $h^* = lab^*h = 325/360 = 0.903$

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

$u^*_{rel} = 149$

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

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	-0.97	4.75		
LAB*LABa	95.41	0.0	0.0		
LAB*LABb	95.41	0.0	0.0		
LAB*LABc	95.41	0.0	0.0		
LAB*LABd	95.41	0.0	0.0		
LAB*LABe	95.41	0.0	0.0		
LAB*LABf	95.41	0.0	0.0		
LAB*LABg	95.41	0.0	0.0		
LAB*LABh	95.41	0.0	0.0		
LAB*LABi	95.41	0.0	0.0		
LAB*LABj	95.41	0.0	0.0		
LAB*LABk	95.41	0.0	0.0		
LAB*LABl	95.41	0.0	0.0		
LAB*LABm	95.41	0.0	0.0		
LAB*LABn	95.41	0.0	0.0		
LAB*LABo	95.41	0.0	0.0		
LAB*LABp	95.41	0.0	0.0		
LAB*LABq	95.41	0.0	0.0		
LAB*LABr	95.41	0.0	0.0		
LAB*LABs	95.41	0.0	0.0		
LAB*LABt	95.41	0.0	0.0		
LAB*LABu	95.41	0.0	0.0		
LAB*LABv	95.41	0.0	0.0		
LAB*LABw	95.41	0.0	0.0		
LAB*LABx	95.41	0.0	0.0		
LAB*LABy	95.41	0.0	0.0		
LAB*LABz	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	1.0	0.0	0.0		
lab*trj	1.0	0.0	0.0		
lab*trk	1.0	0.0	0.0		
lab*trl	1.0	0.0	0.0		
lab*trm	1.0	0.0	0.0		
lab*trn	1.0	0.0	0.0		
lab*tro	1.0	0.0	0.0		
lab*trp	1.0	0.0	0.0		
lab*trq	1.0	0.0	0.0		
lab*trr	1.0	0.0	0.0		
lab*trs	1.0	0.0	0.0		
lab*trt	1.0	0.0	0.0		
lab*tru	1.0	0.0	0.0		
lab*trv	1.0	0.0	0.0		
lab*trw	1.0	0.0	0.0		
lab*trx	1.0	0.0	0.0		
lab*try	1.0	0.0	0.0		
lab*trz	1.0	0.0	0.0		

relative Natural Colour (NC)					
lab*lab	1.0	0.0	0.0		
lab*tch	1.0	0.0	0.0		
lab*nch	1.0	0.0	0.0		
lab*trj	1.0	0.0	0.0		
lab*trk	1.0	0.0	0.0		
lab*trl	1.0	0.0	0.0		
lab*trm	1.0	0.0	0.0		
lab*trn	1.0	0.0	0.0		
lab*tro	1.0	0.0	0.0		
lab*trp	1.0	0.0	0.0		
lab*trq	1.0	0.0	0.0		
lab*trr	1.0	0.0	0.0		
lab*trs	1.0	0.0	0.0		
lab*trt	1.0	0.0	0.0		
lab*tru	1.0	0.0	0.0		
lab*trv	1.0	0.0	0.0		
lab*trw	1.0	0.0	0.0		
lab*trx	1.0	0.0	0.0		
lab*try	1.0	0.0	0.0		
lab*trz	1.0	0.0	0.0		

relative Inform. Technology (IT)					
olvi3*	0.75	0.75	0.75	0.75	(1.0)
cmyn3*	0.25	0.25	0.25	0.25	(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	76.06	-0.6	3.44		
LAB*LABa	76.06	0.0	0.0		
LAB*LABb	76.06	0.0	0.0		
LAB*LABc	76.06	0.0	0.0		
LAB*LABd	76.06	0.0	0.0		
LAB*LABe	76.06	0.0	0.0		
LAB*LABf	76.06	0.0	0.0		
LAB*LABg	76.06	0.0	0.0		
LAB*LABh	76.06	0.0	0.0		
LAB*LABi	76.06	0.0	0.0		
LAB*LABj	76.06	0.0	0.0		
LAB*LABk	76.06	0.0	0.0		
LAB*LABl	76.06	0.0	0.0		
LAB*LABm	76.06	0.0	0.0		
LAB*LABn	76.06	0.0	0.0		
LAB*LABo	76.06	0.0	0.0		
LAB*LABp	76.06	0.0	0.0		
LAB*LABq	76.06	0.0	0.0		
LAB*LABr	76.06	0.0	0.0		
LAB*LABs	76.06	0.0	0.0		
LAB*LABt	76.06	0.0	0.0		
LAB*LABu	76.06	0.0	0.0		
LAB*LABv	76.06	0.0	0.0		
LAB*LABw	76.06	0.0	0.0		
LAB*LABx	76.06	0.0	0.0		
LAB*LABy	76.06	0.0	0.0		
LAB*LABz	76.06	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	0.75	0.0	0.0		
lab*trj	0.75	0.0	0.0		
lab*trk	0.75	0.0	0.0		
lab*trl	0.75	0.0	0.0		
lab*trm	0.75	0.0	0.0		
lab*trn	0.75	0.0	0.0		
lab*tro	0.75	0.0	0.0		
lab*trp	0.75	0.0	0.0		
lab*trq	0.75	0.0	0.0		
lab*trr	0.75	0.0	0.0		
lab*trs	0.75	0.0	0.0		
lab*trt	0.75	0.0	0.0		
lab*tru	0.75	0.0	0.0		
lab*trv	0.75	0.0	0.0		
lab*trw	0.75	0.0	0.0		
lab*trx	0.75	0.0	0.0		
lab*try	0.75	0.0	0.0		
lab*trz	0.75	0.0	0.0		

relative Natural Colour (NC)					
lab*lab	0.75	0.0	0.0		
lab*tch	0.75	0.0	0.0		
lab*nch	0.75	0.0	0.0		
lab*trj	0.75	0.0	0.0		
lab*trk	0.75	0.0	0.0		
lab*trl	0.75	0.0	0.0		
lab*trm	0.75	0.0	0.0		
lab*trn	0.75	0.0	0.0		
lab*tro	0.75	0.0	0.0		
lab*trp	0.75	0.0	0.0		
lab*trq	0.75	0.0	0.0		
lab*trr	0.75	0.0	0.0		
lab*trs	0.75	0.0	0.0		
lab*trt	0.75	0.0	0.0		
lab*tru	0.75	0.0	0.0		
lab*trv	0.75	0.0	0.0		
lab*trw	0.75	0.0	0.0		
lab*trx	0.75	0.0	0.0		
lab*try	0.75	0.0	0.0		
lab*trz	0.75	0.0	0.0		

relative Inform. Technology (IT)					
olvi3*	0.5	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	0.5	(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	56.71	0.23	2.14		
LAB*LABa	56.71	0.0	0.0		
LAB*LABb	56.71	0.0	0.0		
LAB*LABc	56.71	0.0	0.0		
LAB*LABd	56.71	0.0	0.0		
LAB*LABe	56.71	0.0	0.0		
LAB*LABf	56.71	0.0	0.0		
LAB*LABg	56.71	0.0	0.0		
LAB*LABh	56.71	0.0	0.0		
LAB*LABi	56.71	0.0	0.0		
LAB*LABj	56.71	0.0	0.0		
LAB*LABk	56.71	0.0	0.0		
LAB*LABl	56.71	0.0	0.0		
LAB*LABm	56.71	0.0	0.0		
LAB*LABn	56.71	0.0	0.0		
LAB*LABo	56.71	0.0	0.0		
LAB*LABp	56.71	0.0	0.0		
LAB*LABq	56.71	0.0	0.0		
LAB*LABr	56.71	0.0	0.0		
LAB*LABs	56.71	0.0	0.0		
LAB*LABt	56.71	0.0	0.0		
LAB*LABu	56.71	0.0	0.0		
LAB*LABv	56.71	0.0	0.0		
LAB*LABw	56.71	0.0	0.0		
LAB*LABx	56.71	0.0	0.0		
LAB*LABy	56.71	0.0	0.0		
LAB*LABz	56.71	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		
lab*trj	0.5	0.0	0.0		
lab*trk	0.5	0.0	0.0		
lab*trl	0.5	0.0	0.0		
lab*trm	0.5	0.0	0.0		
lab*trn	0.5	0.0	0.0		
lab*tro	0.5	0.0	0.0		
lab*trp	0.5	0.0	0.0		
lab*trq	0.5	0.0	0.0		
lab*trr	0.5	0.0	0.0		
lab*trs	0.5	0.0	0.0		
lab*trt	0.5	0.0	0.0		
lab*tru	0.5	0.0	0.0		
lab*trv	0.5	0.0	0.0		
lab*trw	0.5	0.0	0.0		
lab*trx	0.5	0.0	0.0		
lab*try	0.5	0.0	0.0		
lab*trz	0.5	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	0.0	
cmyn4*	0.0	0.0	0.0	1.0	
standard and adapted CIELAB					
LAB*LAB	18.02	0.5	-0.46		

Input: Colorimetric Reflective System NCS11

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

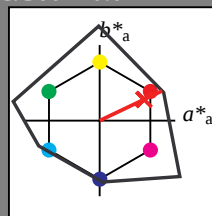
lab^*tch and lab^*nch

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^*

Output: Colorimetric Reflective System MRS18

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

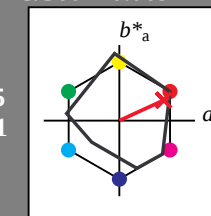
lab^*tch and lab^*nch

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^*

UE480-7, 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)

5 step scales for constant CIELAB hue 25/360 = 0.069 (right)

BAM-test chart UE48; Colorimetric systems NCS11a & MRS18 input: $cmY0^* setcmykcolor$

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

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

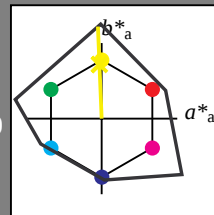
lab^*tch and lab^*nch

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^*

$n^* = 1,0$

UE480-7, 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)



BAM-test chart UE48; Colorimetric systems NCS11a & MRS18 input: *cmY0* setcmykcolor*

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

Output: Colorimetric Reflective System MRS18

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

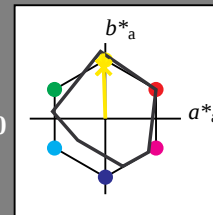
lab^*tch and lab^*nch

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

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

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

$n^* = 0,00$

0,25

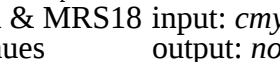
$n^* = 0,25$

$n^* = 0,50$

chromaticness c^*

$n^* = 1,0$

5 step scales for constant CIELAB hue 92/360 = 0.255 (right)



output: *no change compared to input*

Input: Colorimetric Reflective System NCS11

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

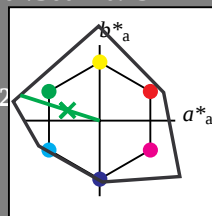
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 65 110 162

rgb*Ma: 0.08 1.0 0.0

triangle lightness

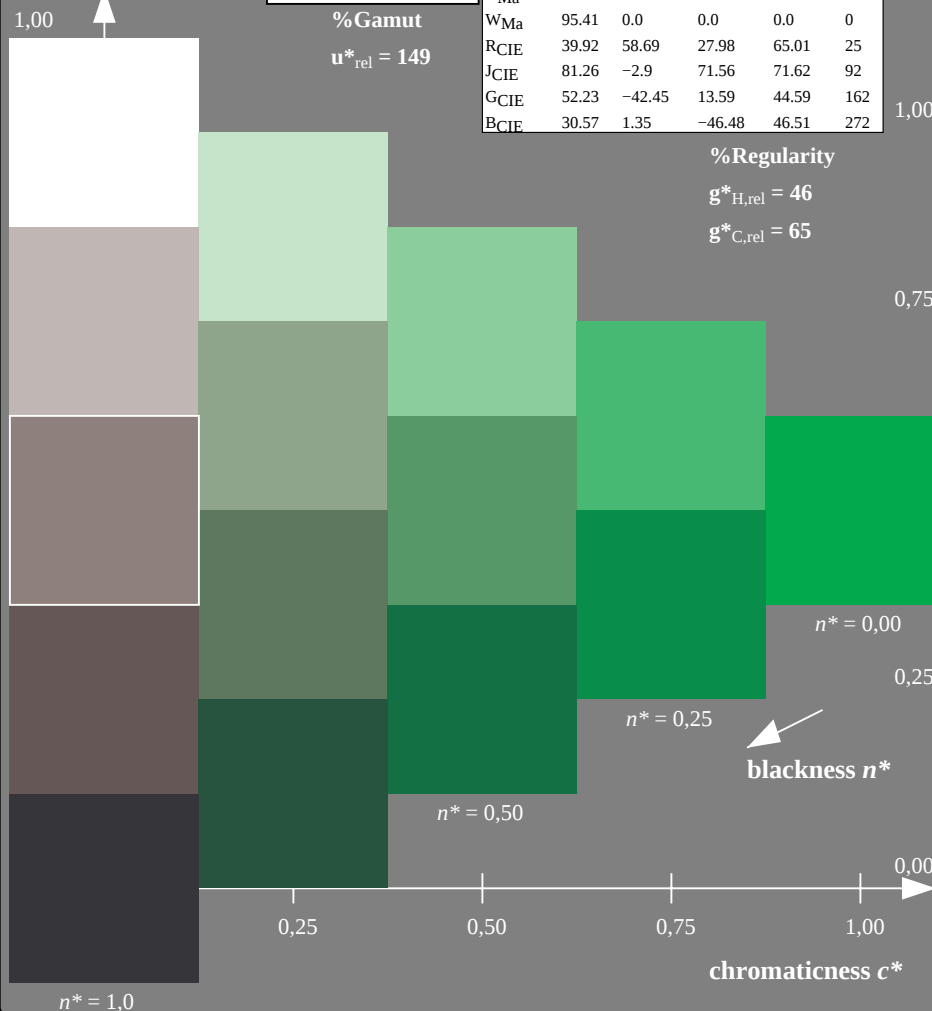


NCS11; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
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

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

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



UE480-7, 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System MRS18

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

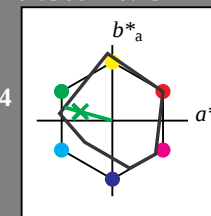
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 56 66 164

rgb*Ma: 0.1 1.0 0.0

triangle lightness

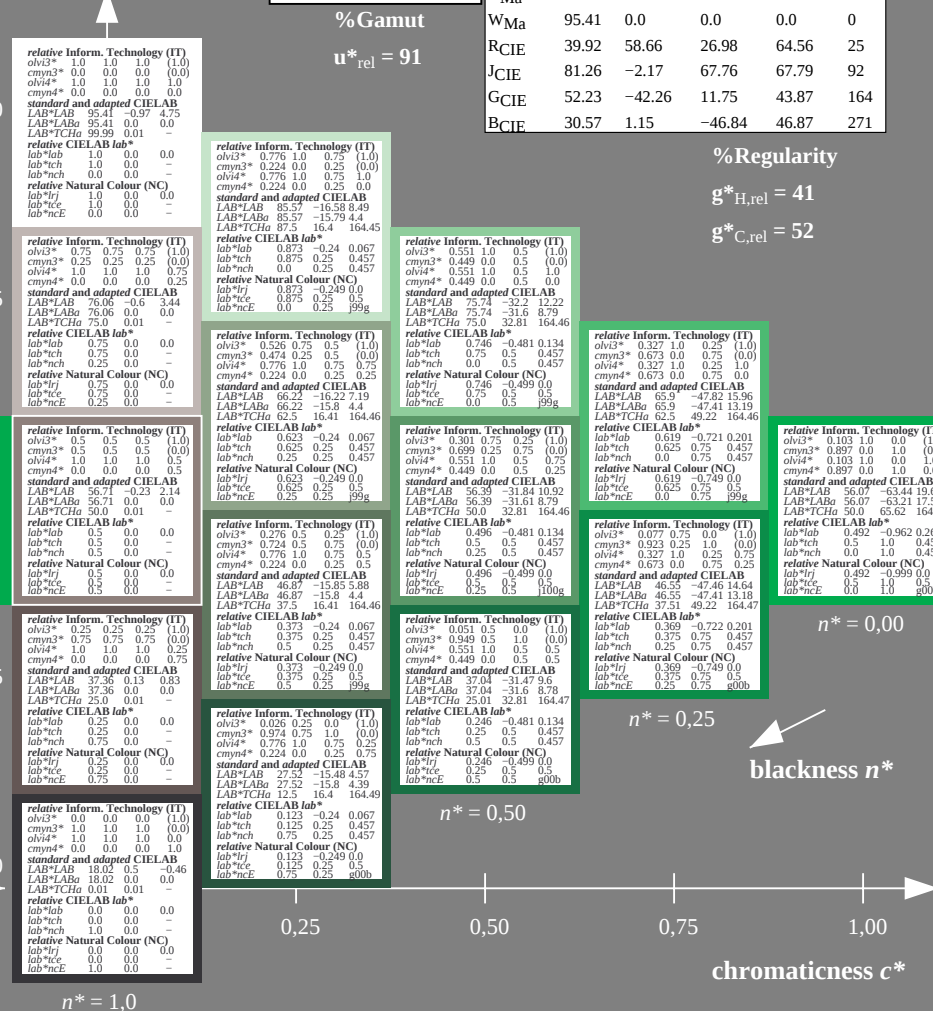


MRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}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

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

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



5 step scales for constant CIELAB hue 164/360 = 0.457 (right)

BAM-test chart UE48; Colorimetric systems NCS11a & MRS18 input: *cmY0* setcmykcolor*

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

output: *no change compared to input*

Input: Colorimetric Reflective System NCS11

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

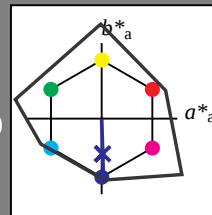
lab^*tch and lab^*nch

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

blackness n^*

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,0$

chromaticness c^*

UE480-7, 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)



BAM-test chart UE48; Colorimetric systems NCS11a & MRS18 input: $cmY0^* setcmykcolor$

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

Output: Colorimetric Reflective System MRS18

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

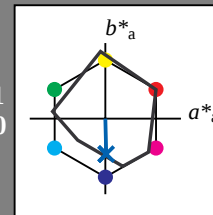
lab^*tch and lab^*nch

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

blackness n^*

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,0$

chromaticness c^*

5 step scales for constant CIELAB hue 271/360 = 0.754 (right)

BAM material: code=rh4ta

output: no change compared to input