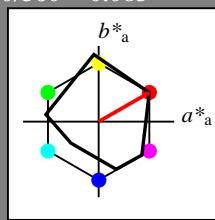
**Input: Colorimetric Reflective System MRS18**for hue  $h^* = lab^*h = 30/360 = 0.083$  $lab^*tch$  and  $lab^*nch$ 

D65: hue R

LCH\*Ma: 50 77 30

rgb\*Ma: 1.0 0.0 0.0

triangle lightness

**MRS18; adapted (a) CIELAB data**

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

1,00



%Gamut

 $u^*_{rel} = 91$ 

	$L^*$	$a^*$	$b^*$	$C^*_{ab,a}$	$h^*_{ab,a}$
relative Inform. Technology (IT)	olv3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.5	0.0	(0.0)	
olv4*	1.0	1.0	0.0		
cmyn4*	0.0	0.0	0.0		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	0.0	0.0	0.0		
LAB* <sup>tch</sup>	95.41	0.0	0.0		
LAB* <sup>nch</sup>	99.99	0.01	-		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.0	0.0	0.0		
lab* <sup>tch</sup>	1.0	0.0	-		
lab* <sup>nch</sup>	1.0	0.0	-		
relative Natural Colour (NC)					
lab* <sup>trj</sup>	1.0	0.0	-		
lab* <sup>ice</sup>	1.0	0.0	-		
lab* <sup>nCE</sup>	1.0	0.0	-		
relative Inform. Technology (IT)	olv3*	1.0	0.75	1.0	(1.0)
cmyn3*	0.0	0.25	0.0	(0.0)	
olv4*	1.0	0.75	1.0		
cmyn4*	0.0	0.25	0.0		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	83.34	21.15	9.31		
LAB* <sup>tch</sup>	87.5	23.11	23.75		
LAB* <sup>nch</sup>	91.37	24.34	18.63		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.85	0.29	0.101		
lab* <sup>tch</sup>	0.85	0.25	0.066		
lab* <sup>nch</sup>	0.85	0.25	0.066		
relative Inform. Technology (IT)	olv3*	1.0	1.0	0.75	(1.0)
cmyn3*	0.0	0.25	0.25	(0.0)	
olv4*	1.0	1.0	0.75		
cmyn4*	0.0	0.25	0.25		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	74.31	0.02	0.0		
LAB* <sup>tch</sup>	74.31	0.0	0.0		
LAB* <sup>nch</sup>	75.01	0.01	-		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.75	0.0	0.0		
lab* <sup>tch</sup>	0.75	0.0	0.0		
lab* <sup>nch</sup>	0.75	0.0	0.0		
relative Natural Colour (NC)					
lab* <sup>trj</sup>	0.75	0.0	0.0		
lab* <sup>ice</sup>	0.75	0.0	0.0		
lab* <sup>nCE</sup>	0.75	0.0	0.0		
relative Inform. Technology (IT)	olv3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)	
olv4*	0.5	0.5	0.5		
cmyn4*	0.0	0.0	0.5		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	53.53	0.04	0.0		
LAB* <sup>tch</sup>	50.01	0.01	0.0		
LAB* <sup>nch</sup>	50.01	0.01	-		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.607	0.229	0.001		
lab* <sup>tch</sup>	0.607	0.229	0.001		
lab* <sup>nch</sup>	0.607	0.229	0.001		
relative Inform. Technology (IT)	olv3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)	
olv4*	0.5	0.5	0.5		
cmyn4*	0.0	0.0	0.5		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	62.22	21.2	9.31		
LAB* <sup>tch</sup>	62.24	21.16	9.31		
LAB* <sup>nch</sup>	62.25	21.12	23.75		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.607	0.229	0.001		
lab* <sup>tch</sup>	0.607	0.229	0.001		
lab* <sup>nch</sup>	0.607	0.229	0.001		
relative Inform. Technology (IT)	olv3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)	
olv4*	0.5	0.5	0.5		
cmyn4*	0.0	0.0	0.5		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	50.17	47.37	18.64		
LAB* <sup>tch</sup>	50.17	47.37	18.64		
LAB* <sup>nch</sup>	50.17	47.37	23.75		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.607	0.229	0.001		
lab* <sup>tch</sup>	0.607	0.229	0.001		
lab* <sup>nch</sup>	0.607	0.229	0.001		
relative Inform. Technology (IT)	olv3*	0.5	0.25	0.25	(1.0)
cmyn3*	0.25	0.25	0.25	(0.0)	
olv4*	0.5	0.25	0.25		
cmyn4*	0.25	0.25	0.25		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	32.11	0.05	0.01		
LAB* <sup>tch</sup>	32.11	0.01	0.01		
LAB* <sup>nch</sup>	32.11	0.01	-		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.25	0.0	0.0		
lab* <sup>tch</sup>	0.25	0.0	0.0		
lab* <sup>nch</sup>	0.25	0.0	0.0		
relative Natural Colour (NC)					
lab* <sup>trj</sup>	0.25	0.0	0.0		
lab* <sup>ice</sup>	0.25	0.0	0.0		
lab* <sup>nCE</sup>	0.25	0.0	0.0		
relative Inform. Technology (IT)	olv3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)	
olv4*	0.5	0.5	0.5		
cmyn4*	0.0	0.0	0.5		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	31.11	0.05	0.01		
LAB* <sup>tch</sup>	31.11	0.01	0.01		
LAB* <sup>nch</sup>	31.11	0.01	-		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.351	0.229	0.101		
lab* <sup>tch</sup>	0.351	0.229	0.101		
lab* <sup>nch</sup>	0.351	0.229	0.101		
relative Inform. Technology (IT)	olv3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.75	0.75	0.75	(0.0)	
olv4*	1.0	1.0	1.0		
cmyn4*	0.0	0.0	0.75		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	32.11	0.05	0.01		
LAB* <sup>tch</sup>	32.11	0.01	0.01		
LAB* <sup>nch</sup>	32.11	0.01	-		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.351	0.229	0.101		
lab* <sup>tch</sup>	0.351	0.229	0.101		
lab* <sup>nch</sup>	0.351	0.229	0.101		
relative Inform. Technology (IT)	olv3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.75	0.75	0.75	(0.0)	
olv4*	1.0	1.0	1.0		
cmyn4*	0.0	0.0	0.75		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	31.11	0.05	0.01		
LAB* <sup>tch</sup>	31.11	0.01	0.01		
LAB* <sup>nch</sup>	31.11	0.01	-		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.351	0.229	0.101		
lab* <sup>tch</sup>	0.351	0.229	0.101		
lab* <sup>nch</sup>	0.351	0.229	0.101		
relative Inform. Technology (IT)	olv3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.75	0.75	0.75	(0.0)	
olv4*	1.0	1.0	1.0		
cmyn4*	0.0	0.0	0.75		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	30.04	21.22	9.31		
LAB* <sup>tch</sup>	30.04	21.15	9.31		
LAB* <sup>nch</sup>	30.04	21.11	23.75		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.351	0.229	0.101		
lab* <sup>tch</sup>	0.351	0.229	0.101		
lab* <sup>nch</sup>	0.351	0.229	0.101		
relative Inform. Technology (IT)	olv3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.75	0.75	0.75	(0.0)	
olv4*	1.0	1.0	1.0		
cmyn4*	0.0	0.0	0.75		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	29.07	21.22	9.31		
LAB* <sup>tch</sup>	29.07	21.15	9.31		
LAB* <sup>nch</sup>	29.07	21.11	23.75		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.351	0.229	0.101		
lab* <sup>tch</sup>	0.351	0.229	0.101		
lab* <sup>nch</sup>	0.351	0.229	0.101		
relative Inform. Technology (IT)	olv3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.75	0.75	0.75	(0.0)	
olv4*	1.0	1.0	1.0		
cmyn4*	0.0	0.0	0.75		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	28.00	21.22	9.31		
LAB* <sup>tch</sup>	28.00	21.15	9.31		
LAB* <sup>nch</sup>	28.00	21.11	23.75		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.351	0.229	0.101		
lab* <sup>tch</sup>	0.351	0.229	0.101		
lab* <sup>nch</sup>	0.351	0.229	0.101		
relative Inform. Technology (IT)	olv3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.75	0.75	0.75	(0.0)	
olv4*	1.0	1.0	1.0		
cmyn4*	0.0	0.0	0.75		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	27.00	21.22	9.31		
LAB* <sup>tch</sup>	27.00	21.15	9.31		
LAB* <sup>nch</sup>	27.00	21.11	23.75		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.351	0.229	0.101		
lab* <sup>tch</sup>	0.351	0.229	0.101		
lab* <sup>nch</sup>	0.351	0.229	0.101		
relative Inform. Technology (IT)	olv3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.75	0.75	0.75	(0.0)	
olv4*	1.0	1.0	1.0		
cmyn4*	0.0	0.0	0.75		
standard and adapted CIELAB					
LAB* <sup>lab</sup>	26.00	21.22	9.31		
LAB* <sup>tch</sup>	26.00	21.15	9.31		
LAB* <sup>nch</sup>	26.00	21.11	23.75		
relative CIELAB lab*					
lab* <sup>lab</sup>	0.351	0.229	0.101		
lab* <sup>tch</sup>	0.351	0.229	0.101		
lab* <sup>nch</sup>	0.351	0.229	0.101		



## Input: Colorimetric Reflective System MRS18

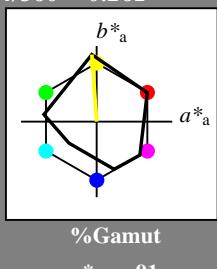
for hue  $h^* = lab^*h = 94/360 = 0.261$  $lab^*tch$  and  $lab^*nch$ 

D65: hue J

LCH\*Ma: 91 89 94

rgb\*Ma: 1.0 1.0 0.0

triangle lightness

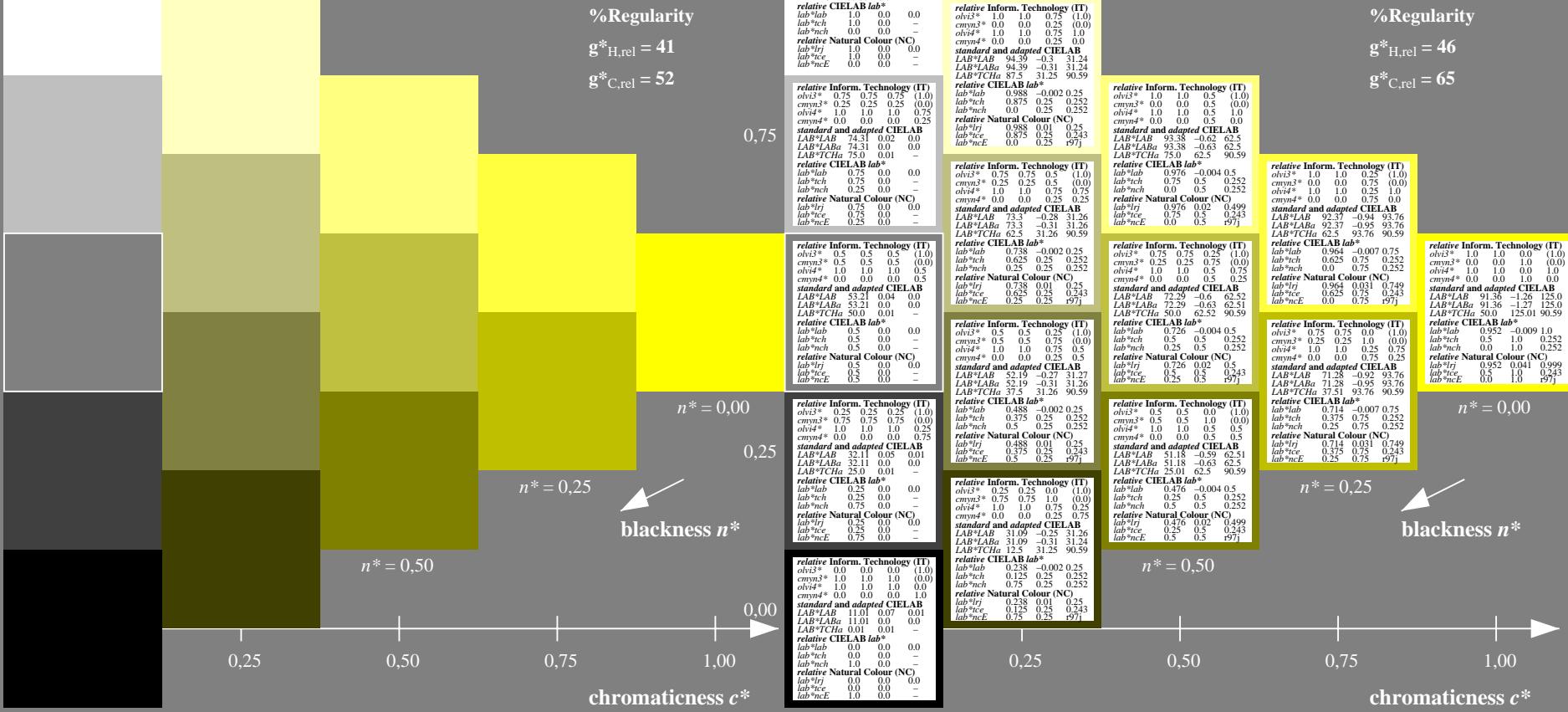


## MRS18; adapted (a) CIELAB data

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

 $g^*_{H,rel} = 41$  $g^*_{C,rel} = 52$ 

## Output: Colorimetric Reflective System NCS11

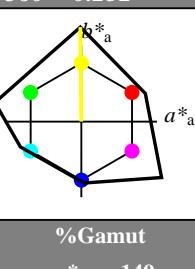
for hue  $h^* = lab^*h = 91/360 = 0.252$  $lab^*tch$  and  $lab^*nch$ 

D65: hue J

LCH\*Ma: 91 125 91

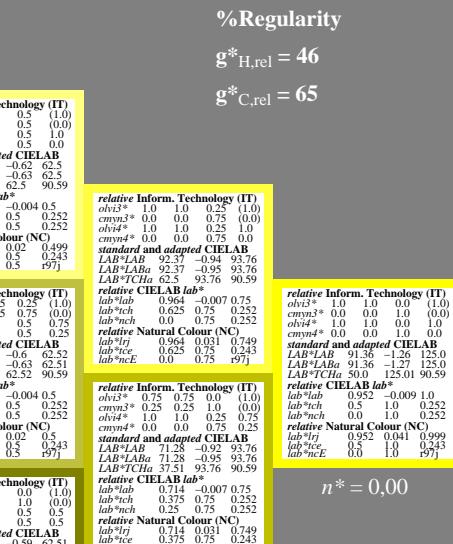
rgb\*Ma: 1.0 1.0 0.0

triangle lightness



## NCS11; adapted (a) CIELAB data

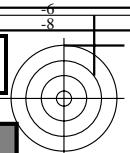
	$L^*$	$a^*$	$b^*$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	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



BAM registration: 20060101-TE43/10Q/Q43E01NP.PS/.PDF  
application for evaluation and measurement of printer or monitor systems

/TE43/ Form: 2/10, Serie: 1/1, Page: 2  
Page: count: 2

BAM material: code=rha4ta

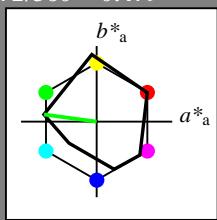
**Input: Colorimetric Reflective System MRS18**for hue  $h^* = lab^*h = 172/360 = 0.479$  $lab^*tch$  and  $lab^*nch$ 

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
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

1,00

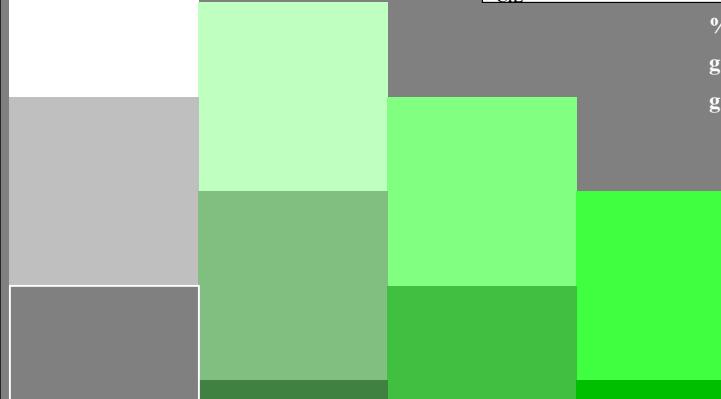


%Gamut

 $u^*_{rel} = 91$ **%Regularity**

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

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

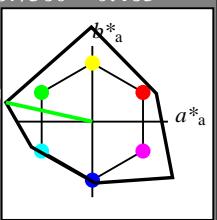
**Output: Colorimetric Reflective System NCS11**for hue  $h^* = lab^*h = 167/360 = 0.465$  $lab^*tch$  and  $lab^*nch$ 

D65: hue G

LCH\*Ma: 63 117 167

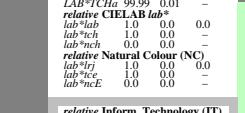
rgb\*Ma: 0.0 1.0 0.0

triangle lightness

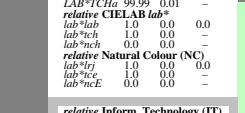


	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	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

1,00

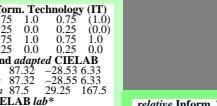
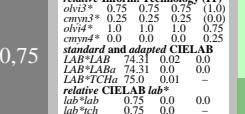


	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	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

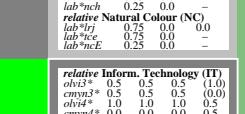
**%Regularity**

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

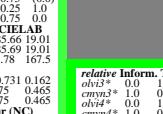
$$g^*_{C,rel} = 65$$



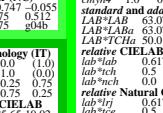
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	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



	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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



	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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



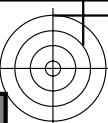
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	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



	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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



	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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</		



## Input: Colorimetric Reflective System MRS18

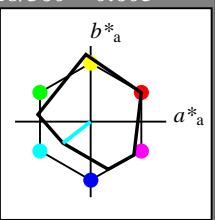
for hue  $h^* = lab^*h = 218/360 = 0.605$  $lab^*tch$  and  $lab^*nch$ 

D65: hue G50B

LCH\*Ma: 45 46 218

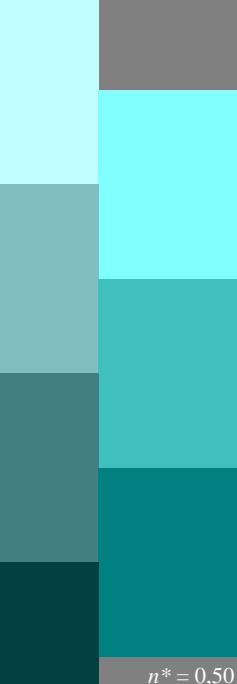
rgb\*Ma: 0.0 1.0 1.0

triangle lightness



## MRS18; adapted (a) CIELAB data

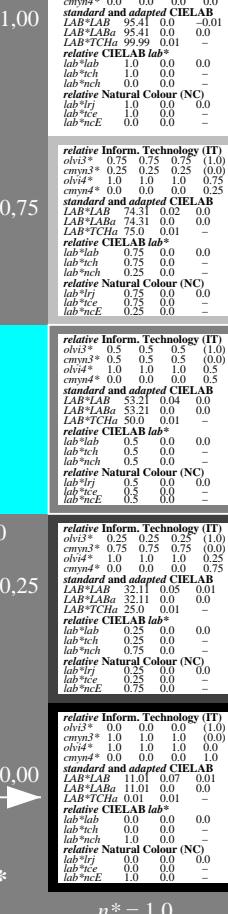
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
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

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

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



## Output: Colorimetric Reflective System NCS11

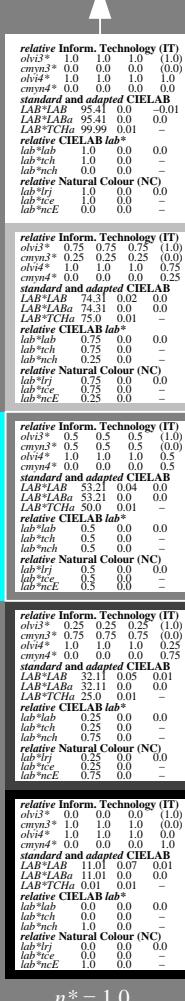
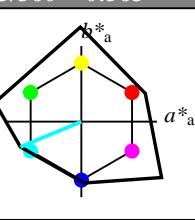
for hue  $h^* = lab^*h = 203/360 = 0.563$  $lab^*tch$  and  $lab^*nch$ 

D65: hue G50B

LCH\*Ma: 59 87 203

rgb\*Ma: 0.0 1.0 1.0

triangle lightness



## %Regularity

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

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

## 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

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

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

## relative Inform. Technology (IT)

olv3\* 1.0 1.0 1.0 (1,0)

cmyn3\* 0.5 0.0 0.0 (0,0)

olv4\* 1.0 1.0 1.0

cmyn4\* 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 0.0 0.0 0.0

LAB\*TChA 99.99 0.01 -

relative CIELAB lab\*

lab\*tch 0.0 0.0 0.0

lab\*nch 0.0 0.0 0.0

relative Natural Colour (NC)

lab\*irj 0.0 0.0 0.0

lab\*ice 0.0 0.0 0.0

lab\*ncE 0.0 0.0 0.0

relative Inform. Technology (IT)

olv3\* 0.5 0.5 0.5 (1,0)

cmyn3\* 0.25 0.25 0.25 (0,0)

olv4\* 1.0 1.0 1.0

cmyn4\* 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\*tch 0.75 0.0 0.0

lab\*nch 0.75 0.0 0.0

relative Natural Colour (NC)

lab\*irj 0.75 0.0 0.0

lab\*ice 0.75 0.0 0.0

lab\*ncE 0.75 0.0 0.0

relative Inform. Technology (IT)

olv3\* 0.25 0.25 0.25 (1,0)

cmyn3\* 0.125 0.125 0.125 (0,0)

olv4\* 0.5 0.5 0.5

cmyn4\* 0.25 0.25 0.25

standard and adapted CIELAB

LAB\*LAB 56.33 0.02 0.0

LAB\*TChA 56.33 0.0 0.0

relative CIELAB lab\*

lab\*tch 0.894 0.25 0.592

lab\*nch 0.894 0.25 0.592

relative Natural Colour (NC)

lab\*irj 0.894 0.25 0.592

lab\*ice 0.894 0.25 0.592

lab\*ncE 0.894 0.25 0.592

relative Inform. Technology (IT)

olv3\* 0.25 0.25 0.25 (1,0)

cmyn3\* 0.125 0.125 0.125 (0,0)

olv4\* 0.5 0.5 0.5

cmyn4\* 0.25 0.25 0.25

standard and adapted CIELAB

LAB\*LAB 56.33 0.02 0.0

LAB\*TChA 56.33 0.0 0.0

relative CIELAB lab\*

lab\*tch 0.894 0.25 0.592

lab\*nch 0.894 0.25 0.592

relative Natural Colour (NC)

lab\*irj 0.894 0.25 0.592

lab\*ice 0.894 0.25 0.592

lab\*ncE 0.894 0.25 0.592

relative Inform. Technology (IT)

olv3\* 0.25 0.25 0.25 (1,0)

cmyn3\* 0.125 0.125 0.125 (0,0)

olv4\* 0.5 0.5 0.5

cmyn4\* 0.25 0.25 0.25

standard and adapted CIELAB

LAB\*LAB 56.33 0.02 0.0

LAB\*TChA 56.33 0.0 0.0

relative CIELAB lab\*

lab\*tch 0.894 0.25 0.592

lab\*nch 0.894 0.25 0.592

relative Natural Colour (NC)

lab\*irj 0.894 0.25 0.592

lab\*ice 0.894 0.25 0.592

lab\*ncE 0.894 0.25 0.592

relative Inform. Technology (IT)

olv3\* 0.25 0.25 0.25 (1,0)

cmyn3\* 0.125 0.125 0.125 (0,0)

olv4\* 0.5 0.5 0.5

cmyn4\* 0.25 0.25 0.25

standard and adapted CIELAB

LAB\*LAB 56.33 0.02 0.0

LAB\*TChA 56.33 0.0 0.0

relative CIELAB lab\*

lab\*tch 0.894 0.25 0.592

lab\*nch 0.894 0.25 0.592

relative Natural Colour (NC)

lab\*irj 0.894 0.25 0.592

lab\*ice 0.894 0.25 0.592

lab\*ncE 0.894 0.25 0.592

relative Inform. Technology (IT)

olv3\* 0.25 0.25 0.25 (1,0)

cmyn3\* 0.125 0.125 0.125 (0,0)

olv4\* 0.5 0.5 0.5

cmyn4\* 0.25 0.25 0.25

standard and adapted CIELAB

LAB\*LAB 56.33 0.02 0.0

LAB\*TChA 56.33 0.0 0.0

relative CIELAB lab\*

lab\*tch 0.894 0.25 0.592

lab\*nch 0.894 0.25 0.592

relative Natural Colour (NC)

lab\*irj 0.894 0.25 0.592

lab\*ice 0.894 0.25 0.592

lab\*ncE 0.894 0.25 0.592

relative Inform. Technology (IT)

olv3\* 0.25 0.25 0.25 (1,0)

cmyn3\* 0.125 0.125 0.125 (0,0)

olv4\* 0.5 0.5 0.5

cmyn4\* 0.25 0.25 0.25

standard and adapted CIELAB

LAB\*LAB 56.33 0.02 0.0

LAB\*TChA 56.33 0.0 0.0

relative CIELAB lab\*

lab\*tch 0.894 0.25 0.592

lab\*nch 0.894 0.25 0.592

relative Natural Colour (NC)

lab\*irj 0.894 0.25 0.592

lab\*ice 0.894 0.25 0.592

lab\*ncE 0.894 0.25 0.592

relative Inform. Technology (IT)

olv3\* 0.25 0.25 0.25 (1,0)

cmyn3\* 0.125 0.125 0.125 (0,0)

olv4\* 0.5 0.5 0.5

cmyn4\* 0.25 0.25 0.25

standard and adapted CIELAB

LAB\*LAB 56.33 0.02 0.0

LAB\*TChA 56.33 0.0 0.0

relative CIELAB lab\*

lab\*tch 0.894 0.25 0.592

lab\*nch 0.894 0.25 0.592

relative Natural Colour (NC)

lab\*irj 0.894 0.25 0.592

lab\*ice 0.894 0.25 0.592

lab\*ncE 0.894 0.25 0.592

relative Inform. Technology (IT)

olv3\* 0.25 0.25 0.25 (1,0)

cmyn3\* 0.125 0.125 0.125 (0,0)

olv4\* 0.5 0.5 0.5

cmyn4\* 0.25 0.25 0.25

standard and adapted CIELAB

LAB\*LAB 56.33 0.02 0.0

LAB\*TChA 56.33 0.0 0.0

relative CIELAB lab\*

lab\*tch 0.894 0.25 0.592

lab\*nch 0.894 0.25 0.592

relative Natural Colour (NC)

lab\*irj 0.894 0.25 0.592

lab\*ice 0.894 0.25 0.592

lab\*ncE 0.894 0.25 0.592

relative Inform. Technology (IT)

olv3\* 0.25 0.25 0.25 (1,0)

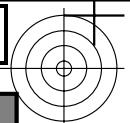
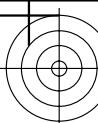
cmyn3\* 0.125 0.125 0.125 (0,0)

olv4\* 0.5 0.5 0.5

cmyn4\* 0.25 0.25 0.25

standard and adapted CIELAB

LAB\*LAB 56.33 0.02 0.0

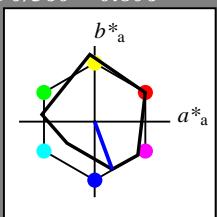
**Input: Colorimetric Reflective System MRS18**for hue  $h^* = lab^*h = 290/360 = 0.806$  $lab^*tch$  and  $lab^*nch$ 

D65: hue B

LCH\*Ma: 37 67 290

rgb\*Ma: 0.0 0.0 1.0

triangle lightness

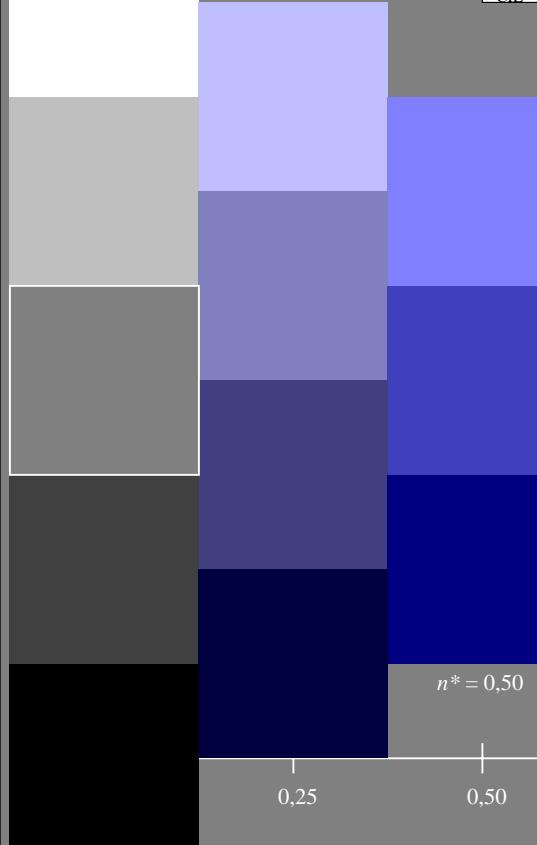
**MRS18; adapted (a) CIELAB data**

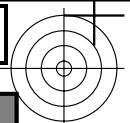
	$L^*$	$a^*$	$b^*$	$C^*$	$h^*$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	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

1,00



%Gamut

 $u^*_{rel} = 91$  $n^* = 0,50$  $n^* = 0,25$  $n^* = 0,00$  $n^* = 0,25$  $n^* = 0,50$  $n^* = 1,00$

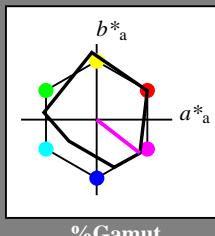
**Input: Colorimetric Reflective System MRS18**for hue  $h^* = lab^*h = 322/360 = 0.895$  $lab^*tch$  and  $lab^*nch$ 

D65: hue B50R

LCH\*Ma: 35 72 322

rgb\*Ma: 1.0 0.0 1.0

triangle lightness

**MRS18; adapted (a) CIELAB data**

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

1,00



%Gamut

 $u^*_{rel} = 91$ 

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

BAM-test chart TE43; Colorimetric systems MRS18 &amp; NCS11a

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

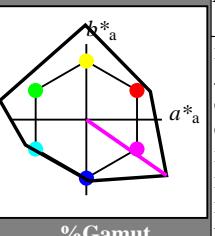
**Output: Colorimetric Reflective System NCS11**for hue  $h^* = lab^*h = 325/360 = 0.903$  $lab^*tch$  and  $lab^*nch$ 

D65: hue B50R

LCH\*Ma: 44 129 325

rgb\*Ma: 1.0 0.0 1.0

triangle lightness



%Gamut

 $u^*_{rel} = 149$ 

relative Inform. Technology (IT)					
olv3*	1.0	1.0	1.0	(1.0)	
cmy3*	0.0	0.0	0.0	(0.0)	
olv4*	1.0	1.0	1.0	(1.0)	
cmy4*	0.0	0.0	0.0	(0.0)	

## standard and adapted CIELAB

LAB\*LAB 0.02 0.00

LAB\*TCh Ma 95.41 0.01

LAB\*TCh a 99.99 0.01

## relative CIELAB lab\*

lab\*tch 0.0 0.0 0.0

lab\*nch 1.0 0.0 0.0

lab\*irj 0.0 0.0 0.0

lab\*ice 1.0 0.0 0.0

lab\*ncE 0.0 0.0 0.0

## relative Natural Colour (NC)

lab\*lrj 0.75 0.0 0.0

lab\*ice 0.75 0.0 0.0

lab\*ncE 0.25 0.0 0.0

## standard and adapted CIELAB

LAB\*LAB 74.31 0.02

LAB\*TCh Ma 74.31 0.00

LAB\*TCh a 75.01 0.01

## relative CIELAB lab\*

lab\*tch 0.75 0.0 0.0

lab\*nch 0.75 0.0 0.0

lab\*irj 0.75 0.0 0.0

lab\*ice 0.75 0.0 0.0

lab\*ncE 0.25 0.0 0.0

## relative Inform. Technology (IT)

olv3\* 0.5 0.5 0.5

cmy3\* 0.5 0.5 0.5

olv4\* 1.0 1.0 1.0

cmy4\* 0.0 0.0 0.5

## standard and adapted CIELAB

LAB\*LAB 53.01 0.04

LAB\*TCh Ma 53.01 0.00

LAB\*TCh a 50.01 0.01

relative CIELAB lab\*

lab\*tch 0.598 0.205 -0.142

lab\*nch 0.875 0.25 0.903

lab\*irj 0.0 0.25 0.903

lab\*ice 0.875 0.25 0.867

lab\*ncE 0.0 0.25 0.867

relative Natural Colour (NC)

lab\*lrj 0.598 0.168 -0.184

lab\*ice 0.375 0.25 0.867

lab\*ncE 0.25 0.25 0.867

relative CIELAB lab\*

lab\*tch 0.848 0.168 -0.184

lab\*nch 0.25 0.25 0.867

lab\*irj 0.0 0.25 0.867

lab\*ice 0.848 0.168 -0.184

lab\*ncE 0.25 0.25 0.867

relative Inform. Technology (IT)

olv3\* 0.75 0.75 0.75

cmy3\* 0.25 0.25 0.25

olv4\* 1.0 1.0 1.0

cmy4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 48.63 0.03

LAB\*TCh Ma 48.63 0.03

LAB\*TCh a 48.63 0.03

relative CIELAB lab\*

lab\*tch 0.542 0.615 -0.428

lab\*nch 0.25 0.75 0.903

lab\*irj 0.0 0.75 0.903

lab\*ice 0.544 0.504 0.554

lab\*ncE 0.0 0.75 0.846

relative Inform. Technology (IT)

olv3\* 0.75 0.75 0.75

cmy3\* 0.25 0.25 0.25

olv4\* 1.0 1.0 1.0

cmy4\* 0.0 0.75 0.25

standard and adapted CIELAB

LAB\*LAB 44.06 106.12

LAB\*TCh Ma 44.06 106.12

LAB\*TCh a 50.0 129.29

relative CIELAB lab\*

lab\*tch 0.539 0.392 -0.571

lab\*nch 0.25 0.75 0.903

lab\*irj 0.0 0.75 0.903

lab\*ice 0.392 0.673 0.739

lab\*ncE 0.0 0.75 0.846

relative Inform. Technology (IT)

olv3\* 0.75 0.75 0.75

cmy3\* 0.25 0.25 0.25

olv4\* 1.0 1.0 1.0

cmy4\* 0.0 0.75 0.25

standard and adapted CIELAB

LAB\*LAB 37.51 96.97

LAB\*TCh a 35.8 96.97

relative CIELAB lab\*

lab\*tch 0.529 0.615 -0.428

lab\*nch 0.375 0.75 0.903

lab\*irj 0.0 0.75 0.903

lab\*ice 0.348 0.504 -0.554

lab\*ncE 0.25 0.75 0.846

relative Inform. Technology (IT)

olv3\* 0.75 0.75 0.75

cmy3\* 0.25 0.25 0.25

olv4\* 1.0 1.0 1.0

cmy4\* 0.0 0.75 0.25

standard and adapted CIELAB

LAB\*LAB 19.26 26.58

LAB\*TCh a 19.26 26.58

relative CIELAB lab\*

lab\*tch 0.098 0.205 -0.142

lab\*nch 0.0 0.25 0.903

lab\*irj 0.0 0.25 0.903

lab\*ice 0.098 0.168 -0.184

lab\*ncE 0.75 0.25 0.846

relative Inform. Technology (IT)

olv3\* 0.75 0.75 0.75

cmy3\* 0.25 0.25 0.25

olv4\* 1.0 1.0 1.0

cmy4\* 0.0 0.75 0.25

standard and adapted CIELAB

LAB\*LAB 11.01 0.07

LAB\*TCh a 11.01 0.07

relative CIELAB lab\*

lab\*tch 0.0 0.0 0.0

lab\*nch 1.0 0.0 0.0

lab\*irj 0.0 0.0 0.0

lab\*ice 0.0 0.0 0.0

lab\*ncE 0.0 0.0 0.0

relative Inform. Technology (IT)

olv3\* 0.75 0.75 0.75

cmy3\* 0.25 0.25 0.25

olv4\* 1.0 1.0 1.0

cmy4\* 0.0 0.75 0.25

standard and adapted CIELAB

LAB\*LAB 0.0 0.0 0.0

LAB\*TCh a 0.0 0.0 0.0

relative CIELAB lab\*

lab\*tch 0.0 0.0 0.0

lab\*nch 0.0 0.0 0.0

lab\*irj 0.0 0.0 0.0

lab\*ice 0.0 0.0 0.0

lab\*ncE 0.0 0.0 0.0

relative Inform. Technology (IT)

olv3\* 0.75 0.75 0.75

cmy3\* 0.25 0.25 0.25

olv4\* 1.0 1.0 1.0

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$



Input: olv\* setrgbcolor  
 Output: no change compared to input

## Output: Colorimetric Reflective System NCS11

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

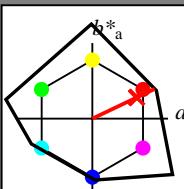
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

rgb\*Ma: 1.0 0.0 0.1

triangle lightness



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

1,00

%Regularity

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

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

0,75

%Regularity

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

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

0,50

%Regularity

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

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

0,25

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,50

%Regularity

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

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

0,75

%Regularity

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

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

1,00

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,50

%Regularity

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

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

0,75

%Regularity

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

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

1,00

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,50

%Regularity

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

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

0,75

%Regularity

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

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

1,00

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,50

%Regularity

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

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

0,75

%Regularity

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

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

1,00

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,50

%Regularity

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

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

0,75

%Regularity

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

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

1,00

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,50

%Regularity

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

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

0,75

%Regularity

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

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

1,00

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,50

%Regularity

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

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

0,75

%Regularity

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

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

1,00

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,50

%Regularity

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

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

0,75

%Regularity

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

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

1,00

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,50

%Regularity

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

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

0,75

%Regularity

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

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

1,00

%Regularity

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

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

0,00

%Regularity

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

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

0,25

%Regularity

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

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

0,50

%Regularity

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

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

0,75

%Regularity

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

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

1,00

%Regularity

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

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

0,00

%Regularity

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

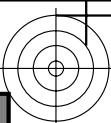
$g^*_{C,rel} = 65$

0,25

%Regularity

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

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



## Input: Colorimetric Reflective System MRS18

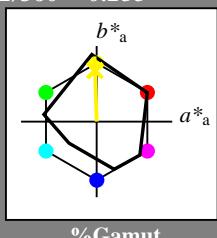
for hue  $h^* = lab^*h = 92/360 = 0.255$  $lab^*tch$  and  $lab^*nch$ 

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
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



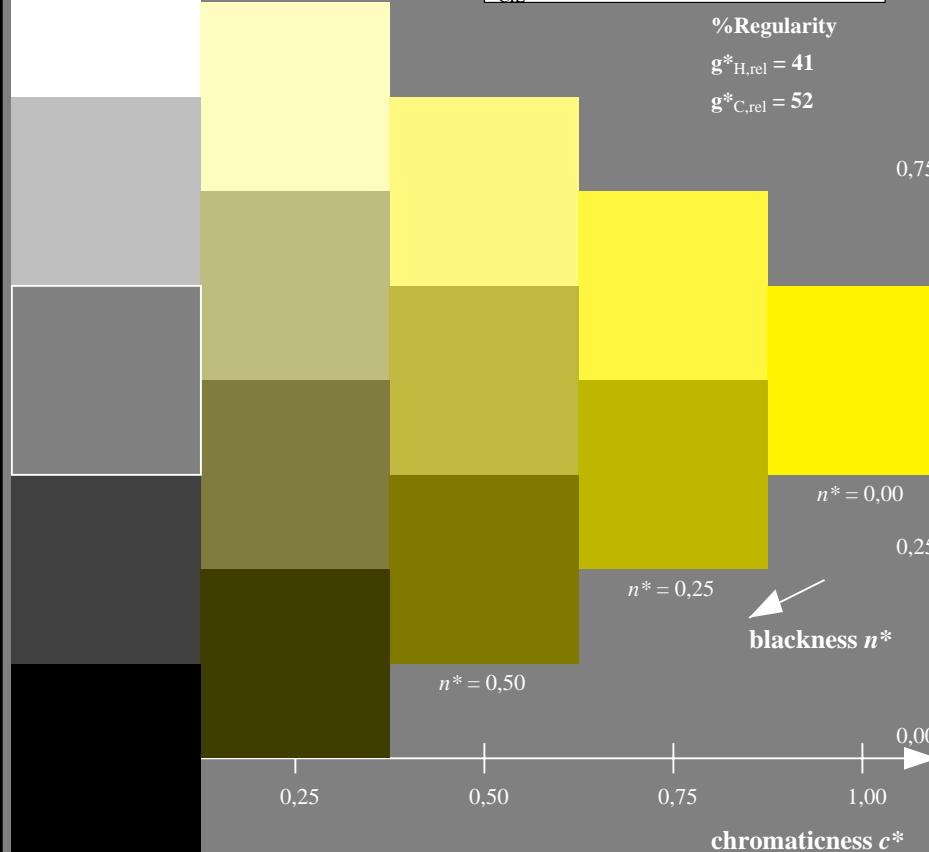
See for similar files:

<http://www.ps.bam.de/TE43/>

Technical information:

<http://www.ps.bam.de>

Version 2.1, io=1,1



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

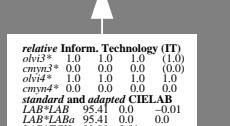
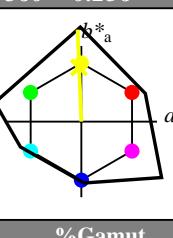
for hue  $h^* = lab^*h = 92/360 = 0.256$  $lab^*tch$  and  $lab^*nch$ 

D65: hue J

LCH\*Ma: 90 122 92

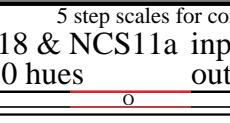
rgb\*Ma: 0.97 1.0 0.0

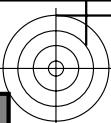
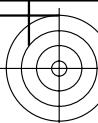
triangle lightness



	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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





## Input: Colorimetric Reflective System MRS18

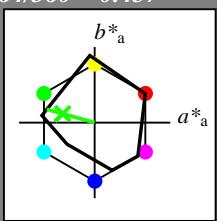
for hue  $h^* = lab^*h = 164/360 = 0.457$  $lab^*tch$  and  $lab^*nch$ 

D65: hue G

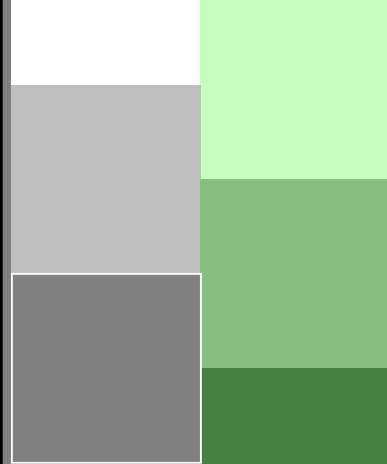
LCH\*Ma: 56 66 164

rgb\*Ma: 0.1 1.0 0.0

triangle lightness



1,00

 $n^* = 1,0$ 

0,25

 $n^* = 0,50$  $n^* = 0,25$  $n^* = 0,00$ chromaticness  $c^*$ blackness  $n^*$ 

## 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

## Output: Colorimetric Reflective System NCS11

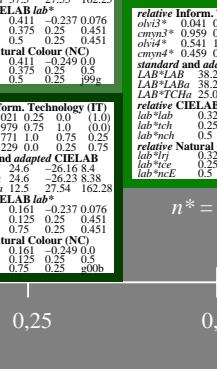
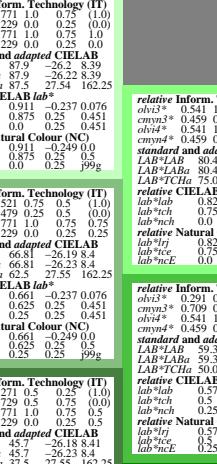
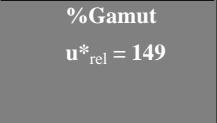
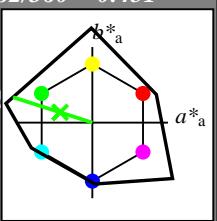
for hue  $h^* = lab^*h = 162/360 = 0.451$  $lab^*tch$  and  $lab^*nch$ 

D65: hue G

LCH\*Ma: 65 110 162

rgb\*Ma: 0.08 1.0 0.0

triangle lightness

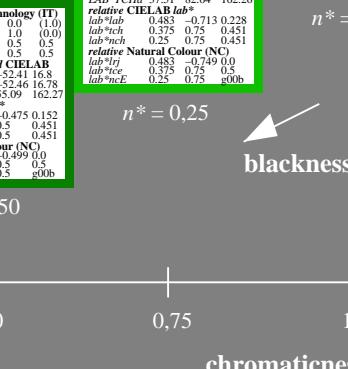
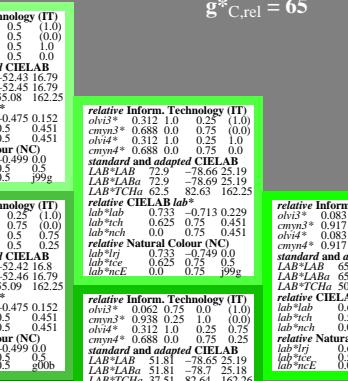


%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$  $n^* = 0,00$ blackness  $n^*$ chromaticness  $c^*$ 

## NCS11; adapted (a) CIELAB data

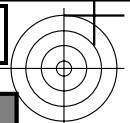
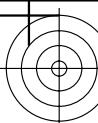
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	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

 $n^* = 1,0$ 

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:  $olv^* setrgbcolor$  output: no change compared to input

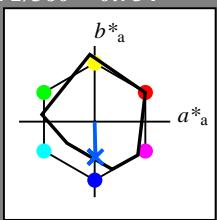
**Input: Colorimetric Reflective System MRS18**for hue  $h^* = lab^*h = 271/360 = 0.754$  $lab^*tch$  and  $lab^*nch$ 

D65: hue B

LCH\*Ma: 40 50 271

rgb\*Ma: 0.0 0.37 1.0

triangle lightness

**MRS18; adapted (a) CIELAB data**

	$L^*$	$a^*$	$b^*$	$C^*$	$h^*$
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

%Gamut  
 $u^*_{rel} = 91$ 

%Regularity  
 $g^*_{H,rel} = 41$   
 $g^*_{C,rel} = 52$

1,00  
0,75  
0,50  
0,25  
0,00  
-0,25  
-0,50  
-0,75  
-1,00chromaticness  $c^*$ 

$n^* = 0,00$   
 $n^* = 0,25$   
 $n^* = 0,50$   
 $n^* = 0,75$   
 $n^* = 1,00$

blackness  $n^*$ 

0,25 0,50 0,75 1,00

0,00

0,25 0,50 0,75 1,00

0,00

0,25 0,50 0,75 1,00

0,00

0,25 0,50 0,75 1,00

0,00

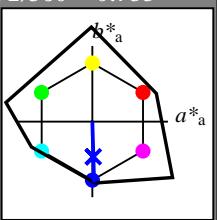
**Output: Colorimetric Reflective System NCS11**for hue  $h^* = lab^*h = 272/360 = 0.755$  $lab^*tch$  and  $lab^*nch$ 

D65: hue B

LCH\*Ma: 49 80 272

rgb\*Ma: 0.0 0.02 1.0

triangle lightness

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

%Regularity  
 $g^*_{H,rel} = 41$   
 $g^*_{C,rel} = 52$

1,00  
0,75  
0,50  
0,25  
0,00  
-0,25  
-0,50  
-0,75  
-1,00chromaticness  $c^*$ 

$n^* = 0,00$   
 $n^* = 0,25$   
 $n^* = 0,50$   
 $n^* = 0,75$   
 $n^* = 1,00$

blackness  $n^*$ 

0,25 0,50 0,75 1,00

0,00

0,25 0,50 0,75 1,00

0,00

0,25 0,50 0,75 1,00

0,00

**NCS11; adapted (a) CIELAB data**

	$L^*$	$a^*$	$b^*$	$C^*$	$h^*$
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  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

	$L^*$	$a^*$	$b^*$	$C^*$	$h^*$
relative Inform. Technology (IT) $olv^*$	1.0	1.0	1.0	(1.0)	
$cmy3^*$	0.5	0.5	0.5	(0.0)	
$olv^*$	1.0	1.0	1.0		
$cmy4^*$	0.0	0.0	0.0		
standard and adapted CIELAB					
$LAB^*LAB$	74.31	0.02	0.0		
$LAB^*LCh$	74.31	0.0	0.0		
$LAB^*Ch$	75.01	0.01	0.0		
relative CIELAB lab*					
$lab^*lab$	0.75	0.75	0.75		
$lab^*tch$	0.75	0.75	0.75		
$lab^*nch$	0.0	0.0	0.0		
relative Natural Colour (NC)					
$lab^*lrc$	1.0	0.0	0.0		
$lab^*nrc$	0.0	0.0	0.0		
relative Inform. Technology (IT) $olv^*$	0.5	0.5	0.5	(1.0)	
$cmy3^*$	0.25	0.25	0.25	(0.0)	
$olv^*$	1.0	1.0	1.0		
$cmy4^*$	0.0	0.0	0.0		
standard and adapted CIELAB					
$LAB^*LAB$	53.53	0.04	0.0		
$LAB^*LCh$	53.53	0.01	0.0		
$LAB^*Ch$	53.51	0.01	0.0		
$LAB^*TCh$	50.01	0.01	0.0		
relative CIELAB lab*					
$lab^*lab$	0.613	0.007	-0.249		
$lab^*tch$	0.875	0.25	0.25		
$lab^*nch$	0.0	0.25	0.755		
relative Inform. Technology (IT) $olv^*$	0.5	0.5	0.5	(1.0)	
$cmy3^*$	0.25	0.25	0.25	(0.0)	
$olv^*$	1.0	1.0	1.0		
$cmy4^*$	0.0	0.0	0.0		
standard and adapted CIELAB					
$LAB^*LAB$	32.11	0.05	0.01		
$LAB^*LCh$	32.11	0.01	0.0		
$LAB^*Ch$	25.01	0.01	0.0		
$LAB^*TCh$	25.01	0.01	0.0		
relative CIELAB lab*					
$lab^*lab$	0.25	0.0	0.0		
$lab^*tch$	0.25	0.0	0.0		
$lab^*nch$	0.0	0.0	0.0		
relative Natural Colour (NC)					
$lab^*lrc$	0.25	0.0	0.0		
$lab^*nrc$	0.25	0.0	0.0		
relative Inform. Technology (IT) $olv^*$	0.5	0.5	0.5	(0.0)	
$cmy3^*$	0.25	0.25	0.25	(0.0)	
$olv^*$	1.0	1.0	1.0		
$cmy4^*$	0.0	0.0	0.0		
standard and adapted CIELAB					
$LAB^*LAB$	11.01	0.07	0.01		
$LAB^*LCh$	11.01	0.01	0.0		
$LAB^*Ch$	0.01	0.01	0.0		
$LAB^*TCh$	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		
relative Natural Colour (NC)					
$lab^*lrc$	0.0	0.0	0.0		
$lab^*nrc$	0.0	0.0	0.0		
relative Inform. Technology (IT) $olv^*$	1.0	1.0	1.0	(0.0)	
$cmy3^*$	0.5	0.5	0.5	(0.0)	
$olv^*$	0.75	0.75	0.75		
$cmy4^*$	0.0	0.0	0.0		
standard and adapted CIELAB					
$LAB^*LAB$	20.54	0.66	-0.08		
$LAB^*LCh$	20.54	0.39	-0.20		
$LAB^*Ch$	12.53	0.12	0.01		
$LAB^*TCh$	12.53	0.01	0.0		
relative CIELAB lab*					
$lab^*lab$	0.113	0.007	-0.249		
$lab^*tch$	0.125	0.25	0.25		
$lab^*nch$	0.75	0.25	0.755		
relative Natural Colour (NC)					
$lab^*lrc$	0.113	0.0	-0.249		
$lab^*nrc$	0.75	0.25	0.600		

$n^* = 0,00$   
 $n^* = 0,25$   
 $n^* = 0,50$   
 $n^* = 0,75$   
 $n^* = 1,00$

$n^* = 0,00$   
 $n^* = 0,25$   
 $n^* = 0,50$   
 $n^* = 0,75$   
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$n^* = 0,00$   
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$n^* = 0,00$   
 $n^* = 0,25$   
 $n^* = 0,50$   
 $n^* = 0,75$   
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$n^* = 0,00$   
 $n^* = 0,25$   
 $n^* = 0,50$   
 $n^* = 0,75$   
 $n^* = 1,00$

$n^* = 0,00$   
 $n^* = 0,25$   
 $n^* = 0,50$   
 $n^* = 0,75$   
 $n^* = 1,00$

$n^* = 0,00$   
 $n^* = 0,25$   
 $n^* = 0,50$   
 $n^* = 0,75$   
 $n^* = 1,00$

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:  $olv^* setrgbcolor$

output: no change compared to input