

Input: Colorimetric Television Luminous System TLS18

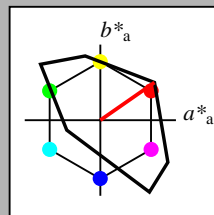
for hue  $h^* = lab^*h = 35/360 = 0.097$

LAB\*LCH, LAB\*NCH

D65: hue O

LCH\*Ma: 53 87 35

olv\*Ma: 1.0 0.0 0.0



TLS18; adapted (a) CIELAB data					
	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

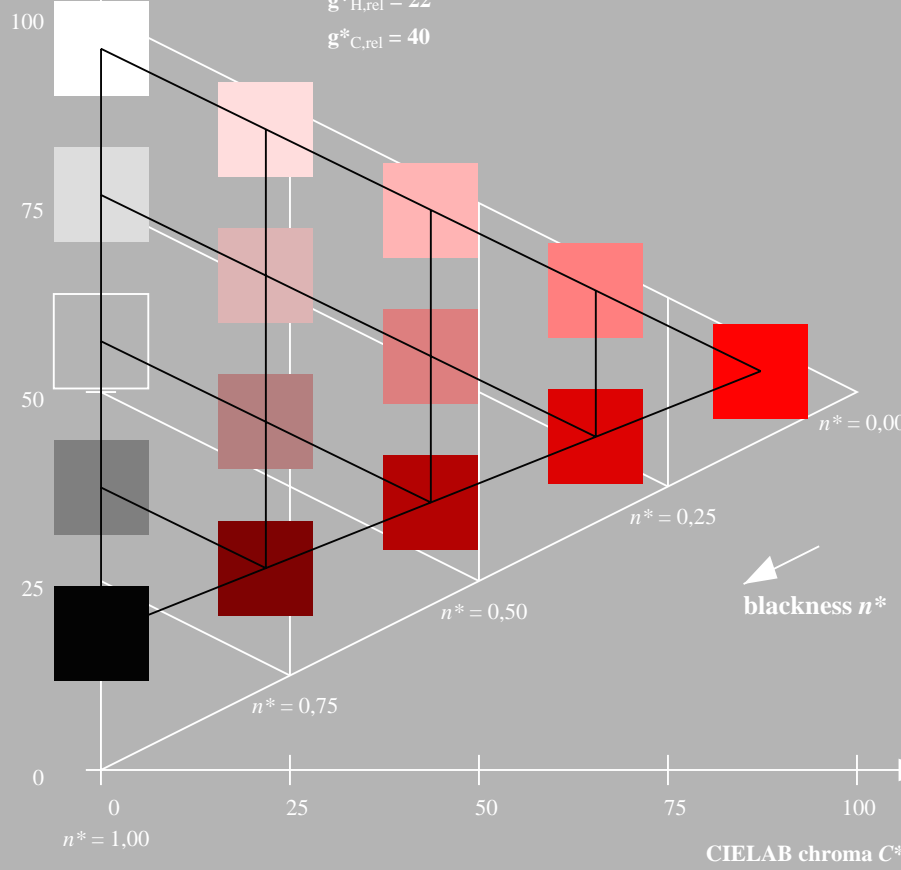
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



Output: Colorimetric Television Luminous System TLS18

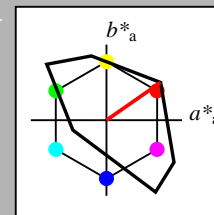
for hue  $h^* = lab^*h = 35/360 = 0.097$

LAB\*LCH, LAB\*NCH

D65: hue O

LCH\*Ma: 53 87 35

olv\*Ma: 1.0 0.0 0.0



TLS18; adapted (a) CIELAB data					
	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
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C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

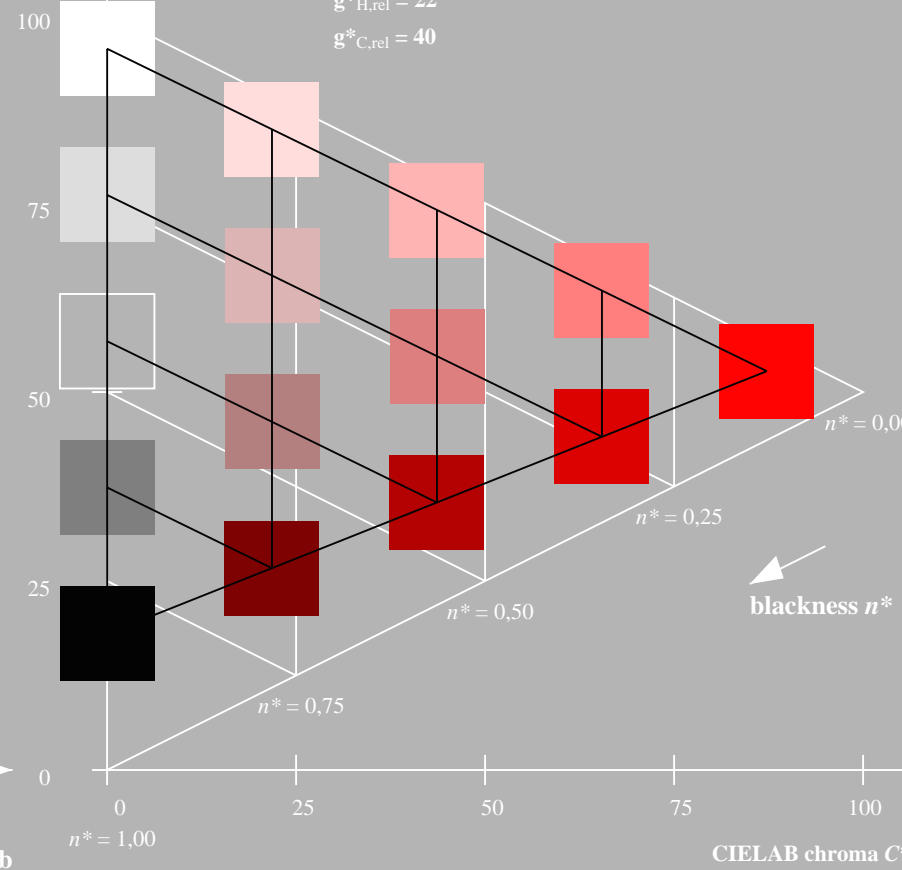
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



NE390-7, 5 step scales for constant CIELAB hue 35/360 = 0.097 (left)

5 step scales for constant CIELAB hue 35/360 = 0.097 (right)

BAM-test chart NE39; Colorimetric systems TLS18 & TLS18  
 D65: Coordinate systems of 5 step colour scales for 10 hues

input: `olv* setrgbcolor`  
 output: `olv* setrgbcolor / w* setgray`

See for similar files: <http://www.ps.bam.de/NE39/>  
 Technical information: <http://www.ps.bam.de>  
 Version 2.1, io=1,1, CIELAB

BAM registration: 20060101-NE39/10Q/Q39E00FP.PS/.PDF BAM material: code=rh4ta  
 application for evaluation and measurement of printer or monitor systems  
 /NE39/ Form: 1/10, Serie: 1/1, Page: 1 Page count: 1

Input: Colorimetric Television Luminous System TLS18

for hue  $h^* = lab^*h = 103/360 = 0.287$

LAB\*LCH, LAB\*NCH

D65: hue Y

LCH\*Ma: 93 87 103

olv\*Ma: 1.0 1.0 0.0

CIELAB lightness  $L^*$

%Gamut

$u^*_{rel} = 118$

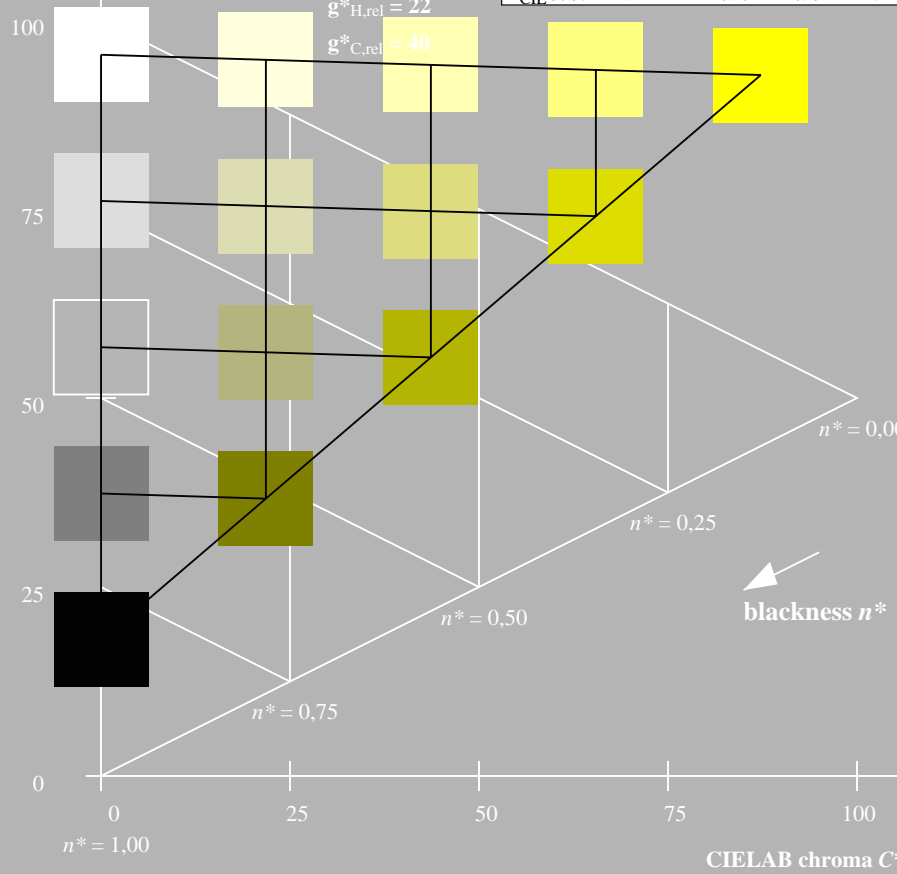
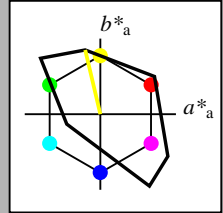
%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
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M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272



NE390-7, 5 step scales for constant CIELAB hue 103/360 = 0.287 (left)

Output: Colorimetric Television Luminous System TLS18

for hue  $h^* = lab^*h = 103/360 = 0.287$

LAB\*LCH, LAB\*NCH

D65: hue Y

LCH\*Ma: 93 87 103

olv\*Ma: 1.0 1.0 0.0

CIELAB lightness  $L^*$

%Gamut

$u^*_{rel} = 118$

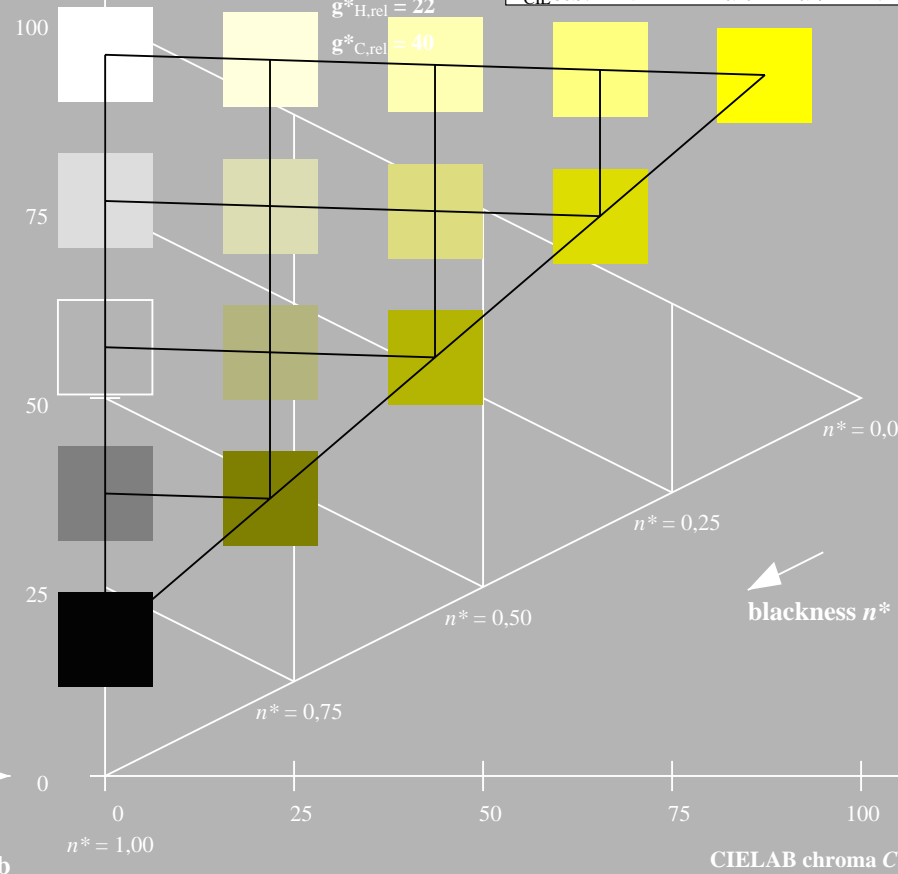
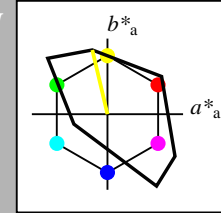
%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
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M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272



5 step scales for constant CIELAB hue 103/360 = 0.287 (right)

BAM-test chart NE39; Colorimetric systems TLS18 & TLS18  
 D65: Coordinate systems of 5 step colour scales for 10 hues

input: `olv* setrgbcolor`  
 output: `olv* setrgbcolor / w* setgray`

See for similar files: <http://www.ps.bam.de/NE39/>  
 Technical information: <http://www.ps.bam.de>  
 Version 2.1, io=1,1, CIELAB

BAM registration: 20060101-NE39/10Q/Q39E01FP.PS/.PDF BAM material: code=rh4ta  
 application for evaluation and measurement of printer or monitor systems  
 /NE39/ Form: 2/10, Serie: 1/1, Page: 2 Page count: 2

Input: Colorimetric Television Luminous System TLS18

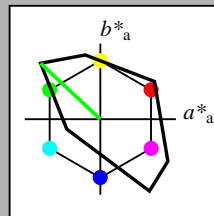
for hue  $h^* = lab^*h = 137/360 = 0.38$

LAB\*LCH, LAB\*NCH

D65: hue L

LCH\*Ma: 84 108 137

olv\*Ma: 0.0 1.0 0.0



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

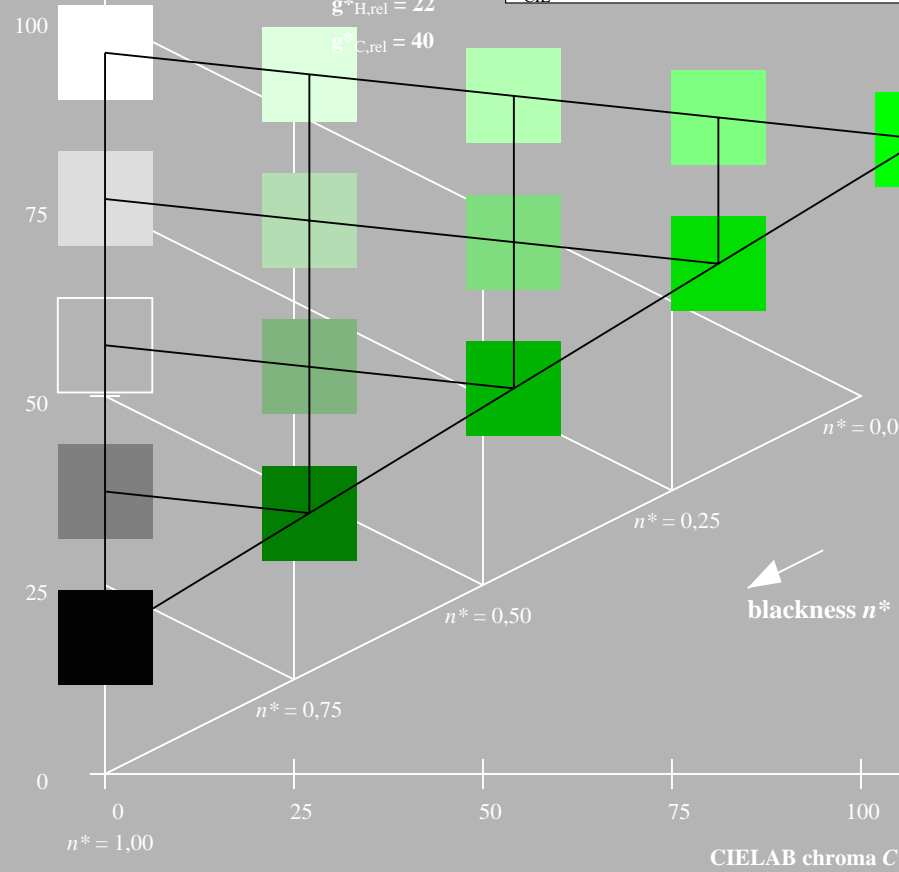
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



Output: Colorimetric Television Luminous System TLS18

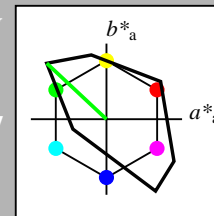
for hue  $h^* = lab^*h = 137/360 = 0.38$

LAB\*LCH, LAB\*NCH

D65: hue L

LCH\*Ma: 84 108 137

olv\*Ma: 0.0 1.0 0.0



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

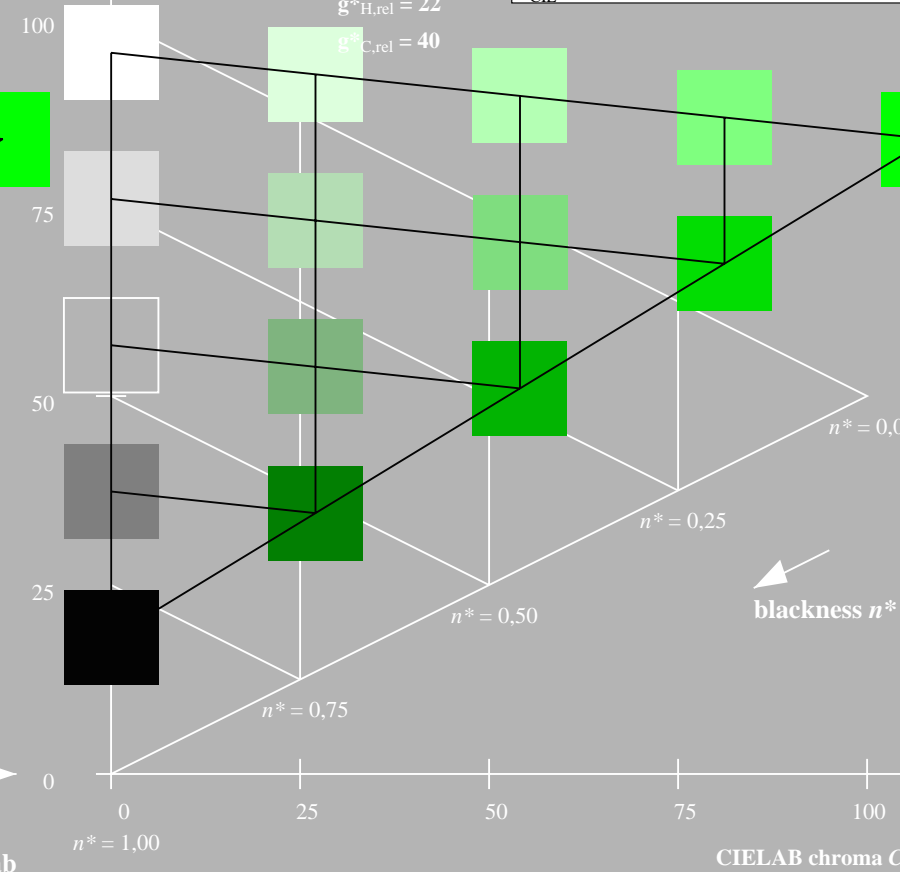
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



NE390-7, 5 step scales for constant CIELAB hue 137/360 = 0.38 (left)

5 step scales for constant CIELAB hue 137/360 = 0.38 (right)

BAM-test chart NE39; Colorimetric systems TLS18 & TLS18

D65: Coordinate systems of 5 step colour scales for 10 hues

input: `olv* setrgbcolor`

output: `olv* setrgbcolor / w* setgray`

Input: Colorimetric Television Luminous System TLS18

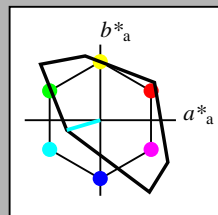
for hue  $h^* = lab^*h = 196/360 = 0.546$

LAB\*LCH, LAB\*NCH

D65: hue C

LCH\*Ma: 87 46 196

olv\*Ma: 0.0 1.0 1.0



**TLS18; adapted (a) CIELAB data**

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

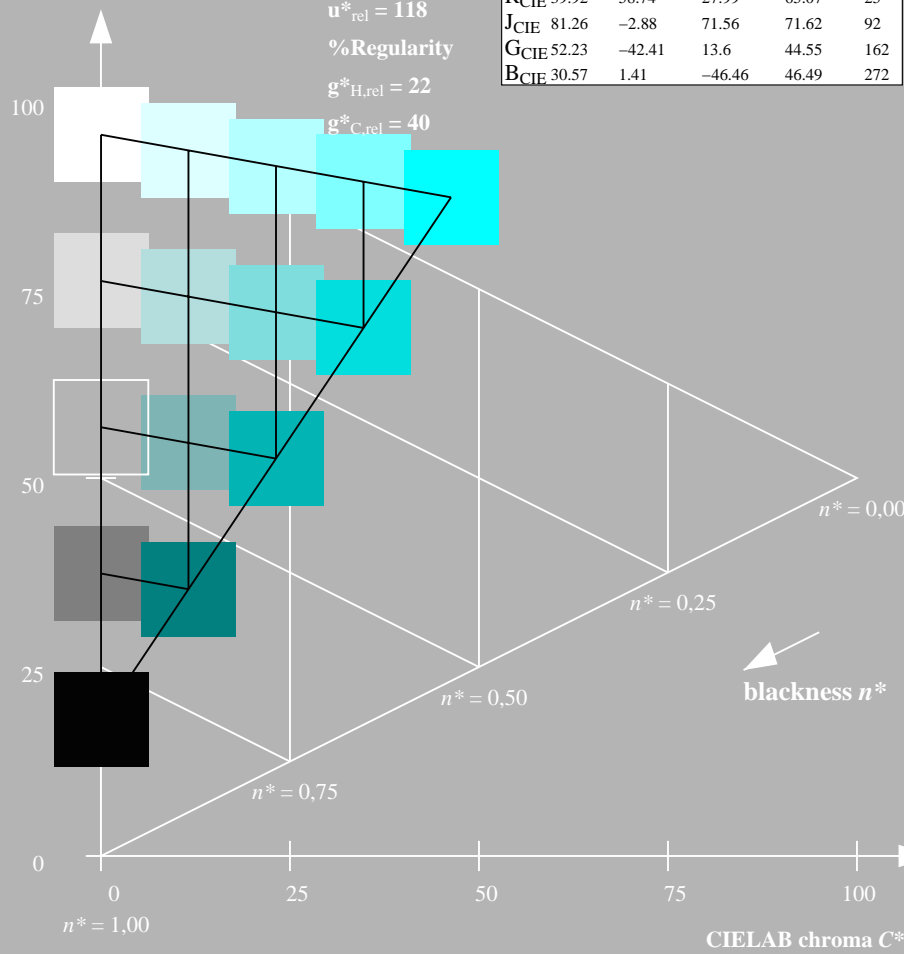
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



NE390-7, 5 step scales for constant CIELAB hue 196/360 = 0.546 (left)

Output: Colorimetric Television Luminous System TLS18

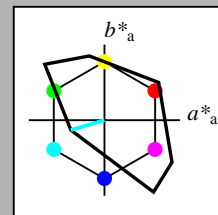
for hue  $h^* = lab^*h = 196/360 = 0.546$

LAB\*LCH, LAB\*NCH

D65: hue C

LCH\*Ma: 87 46 196

olv\*Ma: 0.0 1.0 1.0



**TLS18; adapted (a) CIELAB data**

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
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N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

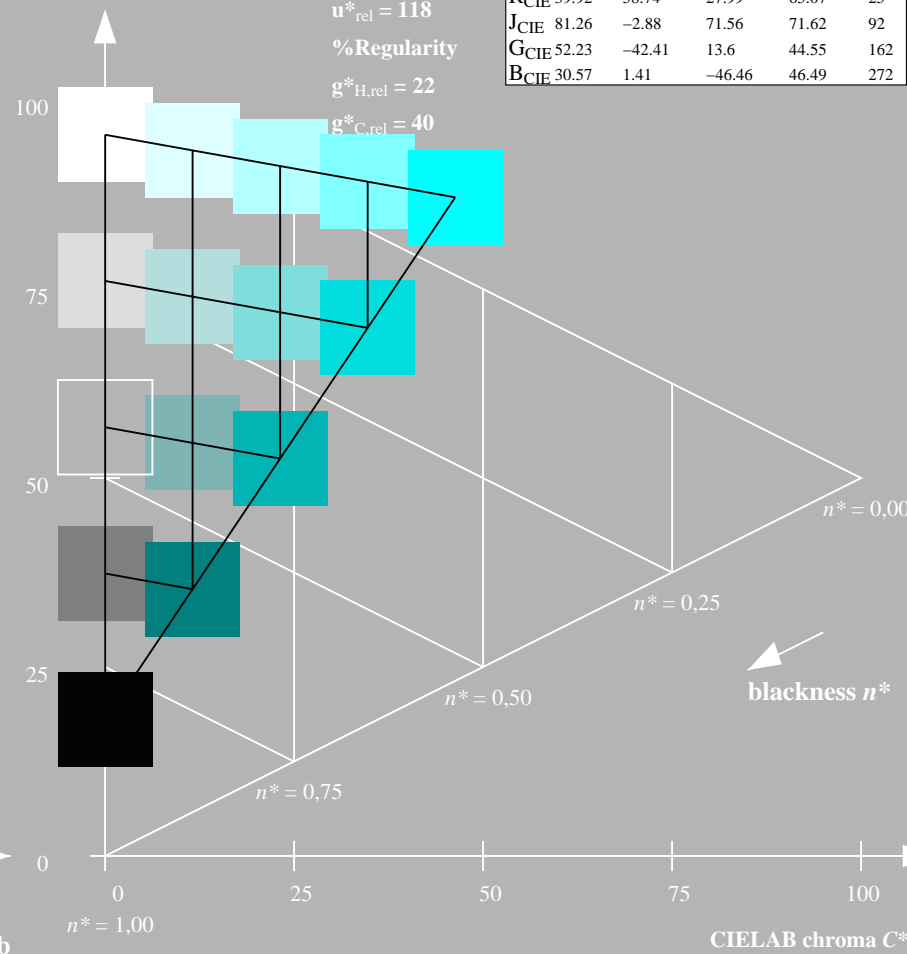
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



5 step scales for constant CIELAB hue 196/360 = 0.546 (right)

BAM-test chart NE39; Colorimetric systems TLS18 & TLS18  
 D65: Coordinate systems of 5 step colour scales for 10 hues

input: `olv* setrgbcolor`  
 output: `olv* setrgbcolor / w* setgray`

Input: Colorimetric Television Luminous System TLS18

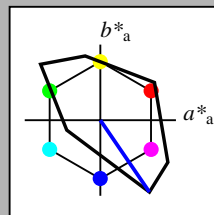
for hue  $h^* = lab^*h = 304/360 = 0.845$

LAB\*LCH, LAB\*NCH

D65: hue V

LCH\*Ma: 35 115 304

olv\*Ma: 0.0 0.0 1.0



**TLS18; adapted (a) CIELAB data**

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

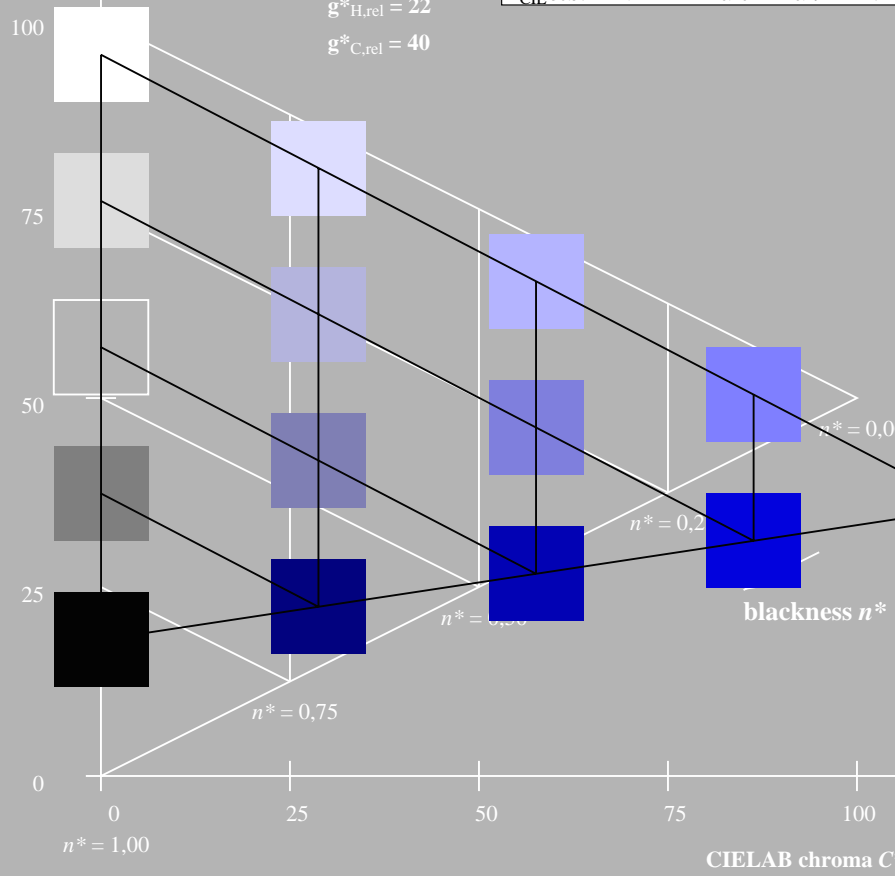
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



NE390-7, 5 step scales for constant CIELAB hue 304/360 = 0.845 (left)

Output: Colorimetric Television Luminous System TLS18

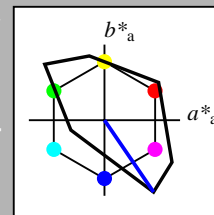
for hue  $h^* = lab^*h = 304/360 = 0.845$

LAB\*LCH, LAB\*NCH

D65: hue V

LCH\*Ma: 35 115 304

olv\*Ma: 0.0 0.0 1.0



**TLS18; adapted (a) CIELAB data**

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

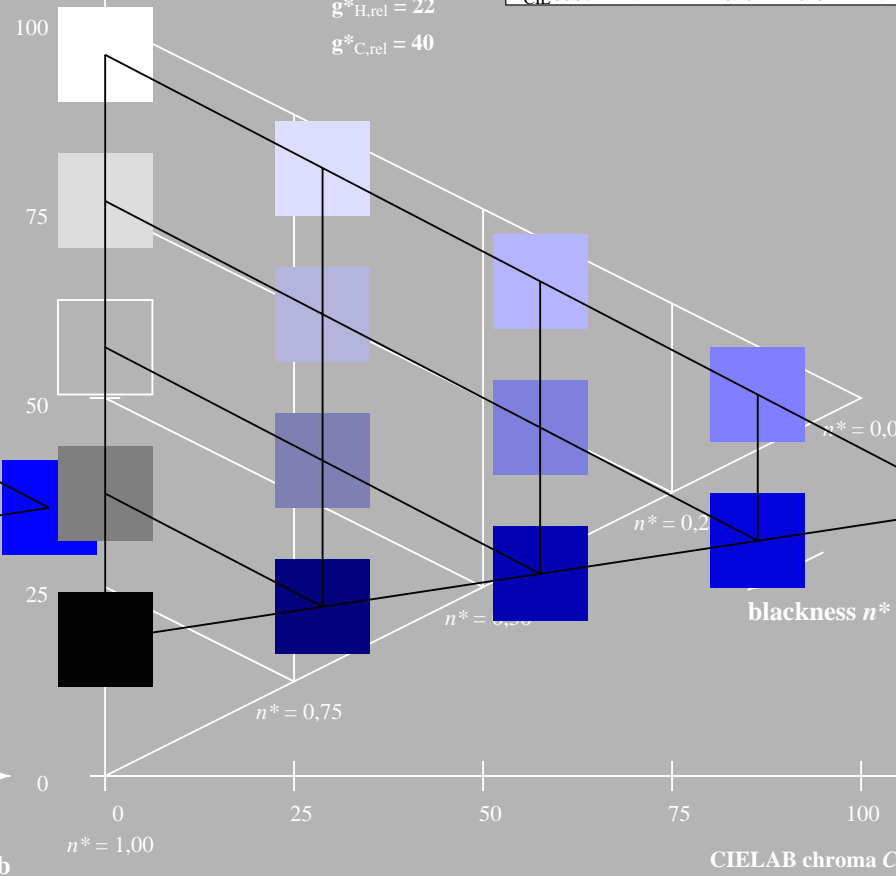
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



5 step scales for constant CIELAB hue 304/360 = 0.845 (right)

BAM-test chart NE39; Colorimetric systems TLS18 & TLS18  
 D65: Coordinate systems of 5 step colour scales for 10 hues

input: `olv* setrgbcolor`  
 output: `olv* setrgbcolor / w* setgray`

Input: Colorimetric Television Luminous System TLS18

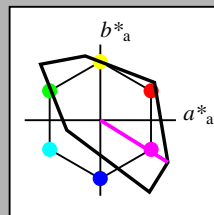
for hue  $h^* = lab^*h = 328/360 = 0.911$

LAB\*LCH, LAB\*NCH

D65: hue M

LCH\*Ma: 59 105 328

olv\*Ma: 1.0 0.0 1.0



**TLS18; adapted (a) CIELAB data**

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

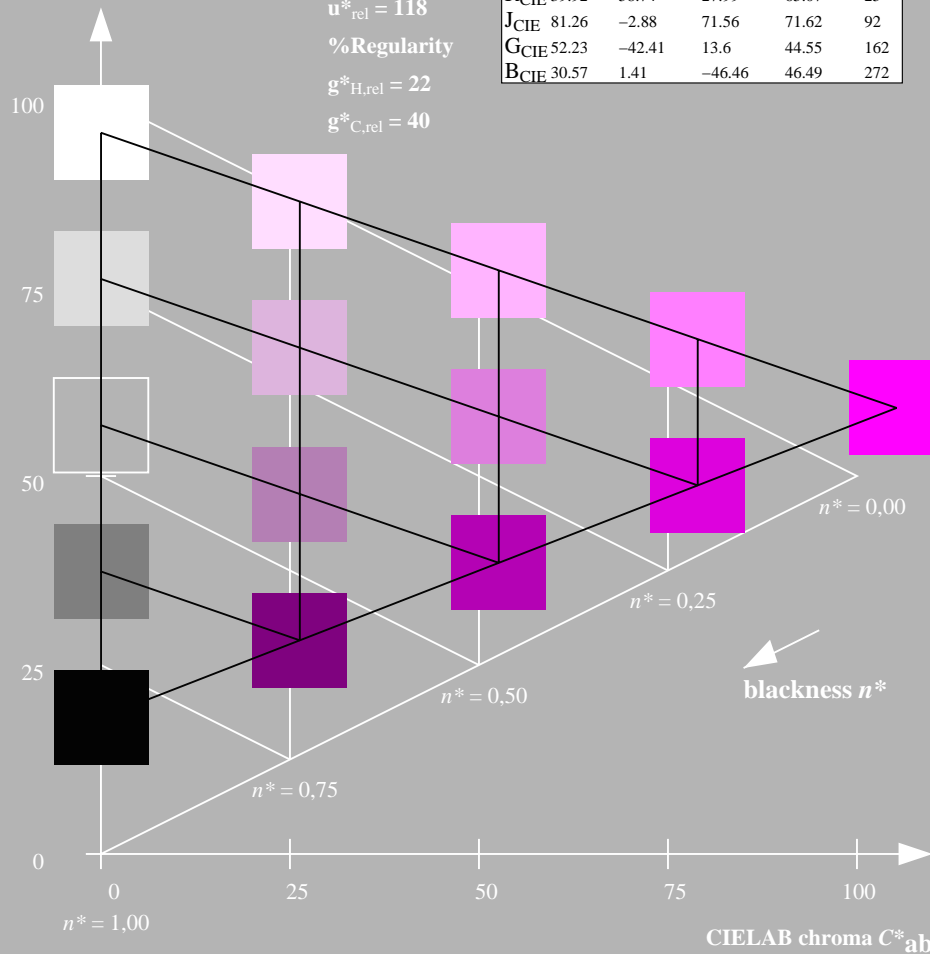
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



NE390-7, 5 step scales for constant CIELAB hue 328/360 = 0.911 (left)

Output: Colorimetric Television Luminous System TLS18

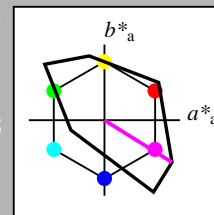
for hue  $h^* = lab^*h = 328/360 = 0.911$

LAB\*LCH, LAB\*NCH

D65: hue M

LCH\*Ma: 59 105 328

olv\*Ma: 1.0 0.0 1.0



**TLS18; adapted (a) CIELAB data**

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

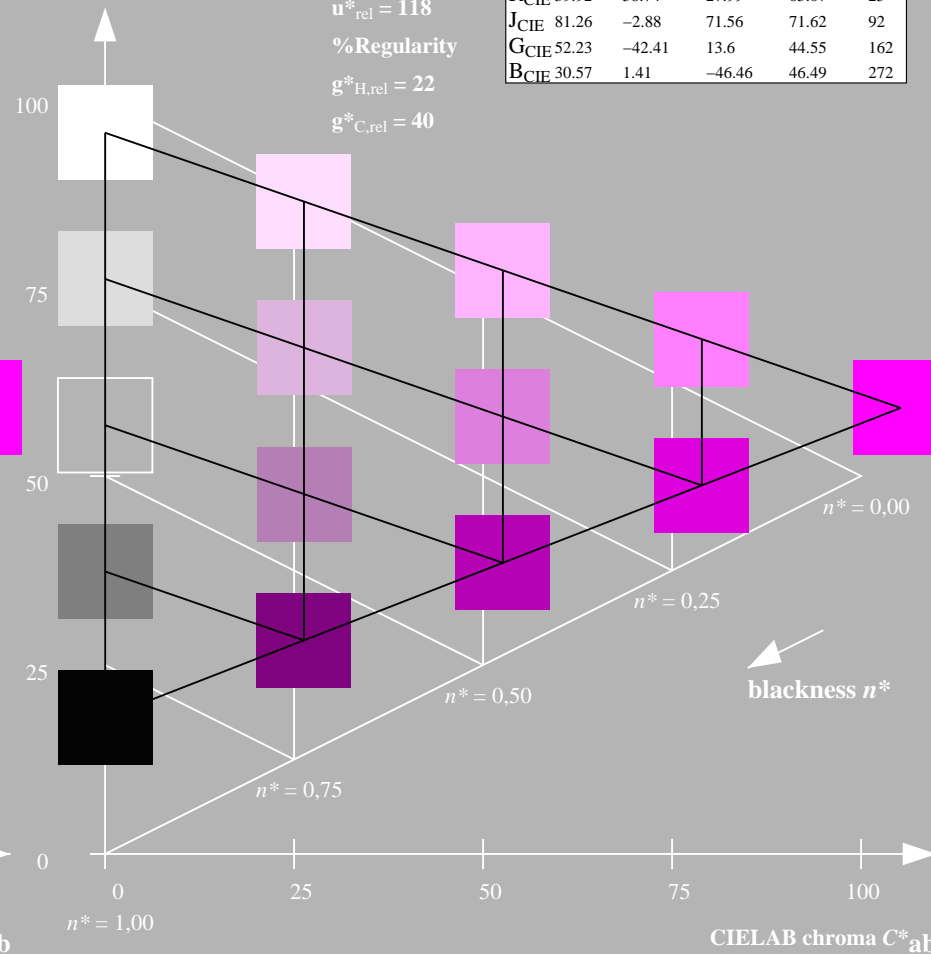
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



5 step scales for constant CIELAB hue 328/360 = 0.911 (right)

BAM-test chart NE39; Colorimetric systems TLS18 & TLS18  
 D65: Coordinate systems of 5 step colour scales for 10 hues

input: `olv* setrgbcolor`  
 output: `olv* setrgbcolor / w* setgray`

See for similar files: <http://www.ps.bam.de/NE39/>  
 Technical information: <http://www.ps.bam.de>  
 Version 2.1, io=1,1, CIELAB

BAM registration: 20060101-NE39/10Q/Q39E05FP.PS/.PDF BAM material: code=rh4ta  
 application for evaluation and measurement of printer or monitor systems  
 /NE39/ Form: 6/10, Serie: 1/1, Page: 6 Page count: 6

Input: Colorimetric Television Luminous System TLS18

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

LAB\*LCH, LAB\*NCH

D65: hue R

LCH\*Ma: 54 82 25

olv\*Ma: 1.0 0.0 0.14

CIELAB lightness  $L^*$

%Gamut

$u^*_{rel} = 118$

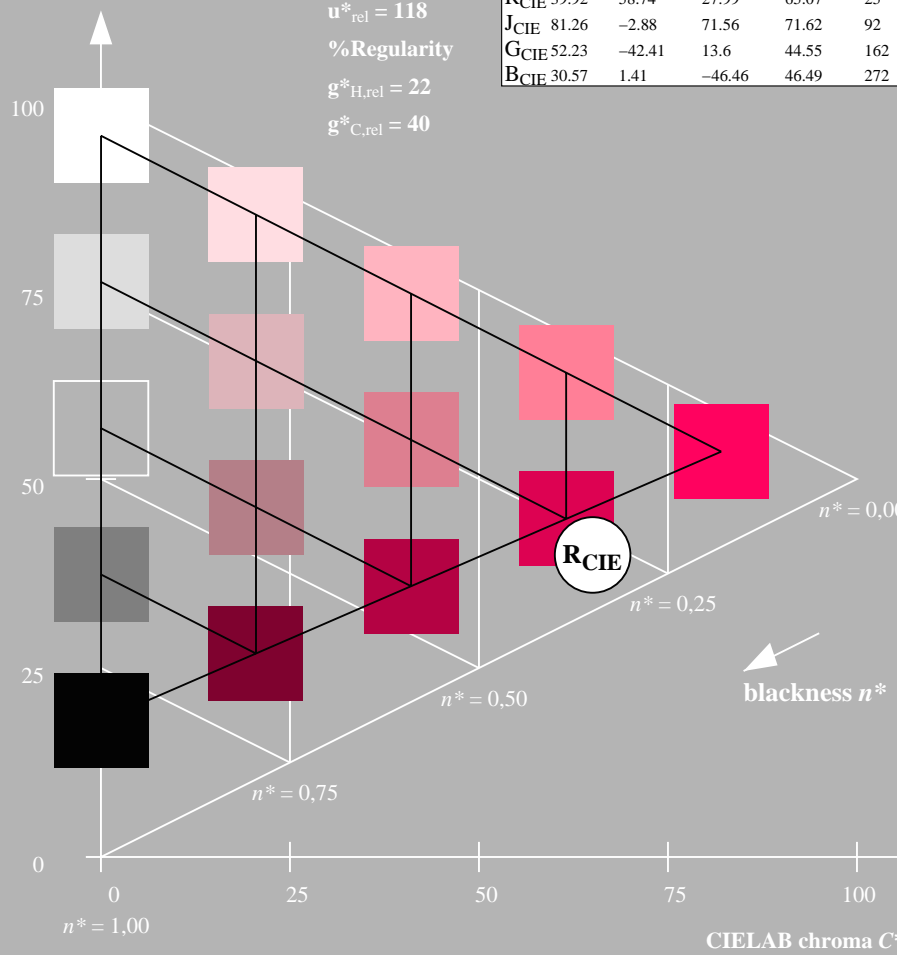
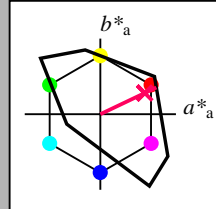
%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

TLS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272



NE390-7, 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS18

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

LAB\*LCH, LAB\*NCH

D65: hue R

LCH\*Ma: 54 82 25

olv\*Ma: 1.0 0.0 0.14

CIELAB lightness  $L^*$

%Gamut

$u^*_{rel} = 118$

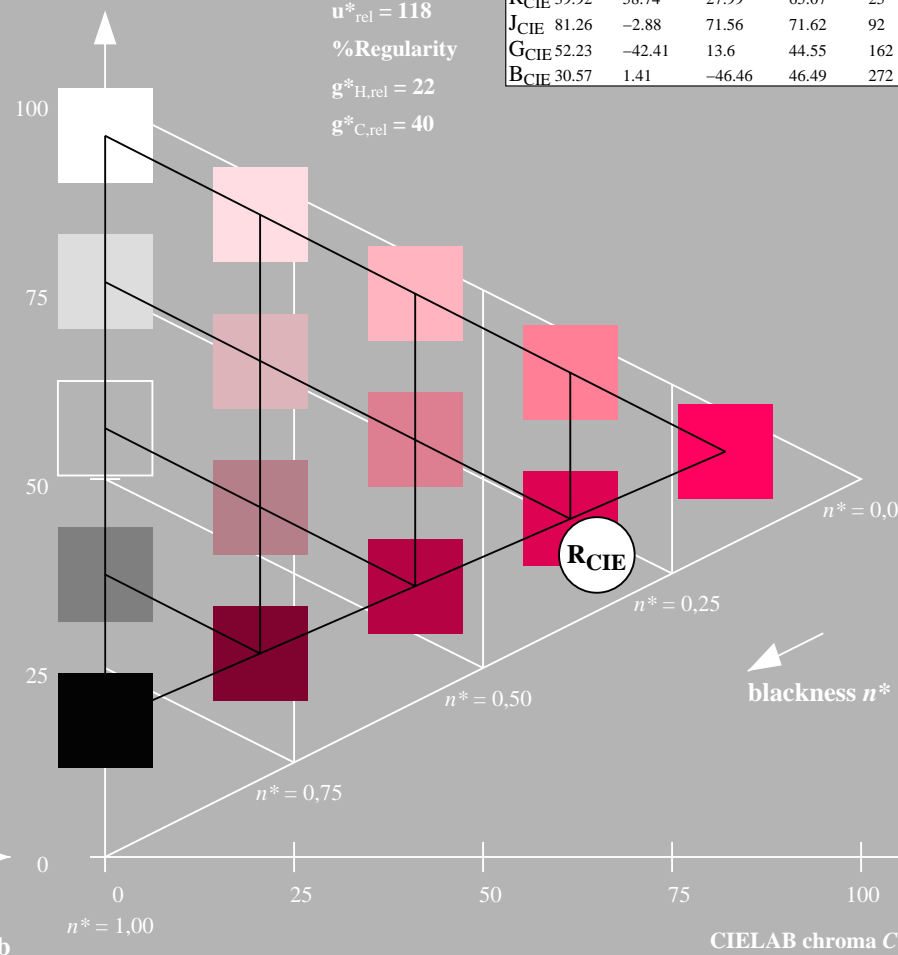
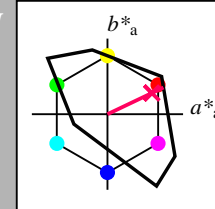
%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

TLS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272



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

BAM-test chart NE39; Colorimetric systems TLS18 & TLS18  
 D65: Coordinate systems of 5 step colour scales for 10 hues

input: `olv* setrgbcolor`  
 output: `olv* setrgbcolor / w* setgray`

Input: Colorimetric Television Luminous System TLS18

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

LAB\*LCH, LAB\*NCH

D65: hue J

LCH\*Ma: 85 79 92

olv\*Ma: 1.0 0.82 0.0

CIELAB lightness  $L^*$

%Gamut

$u^*_{rel} = 118$

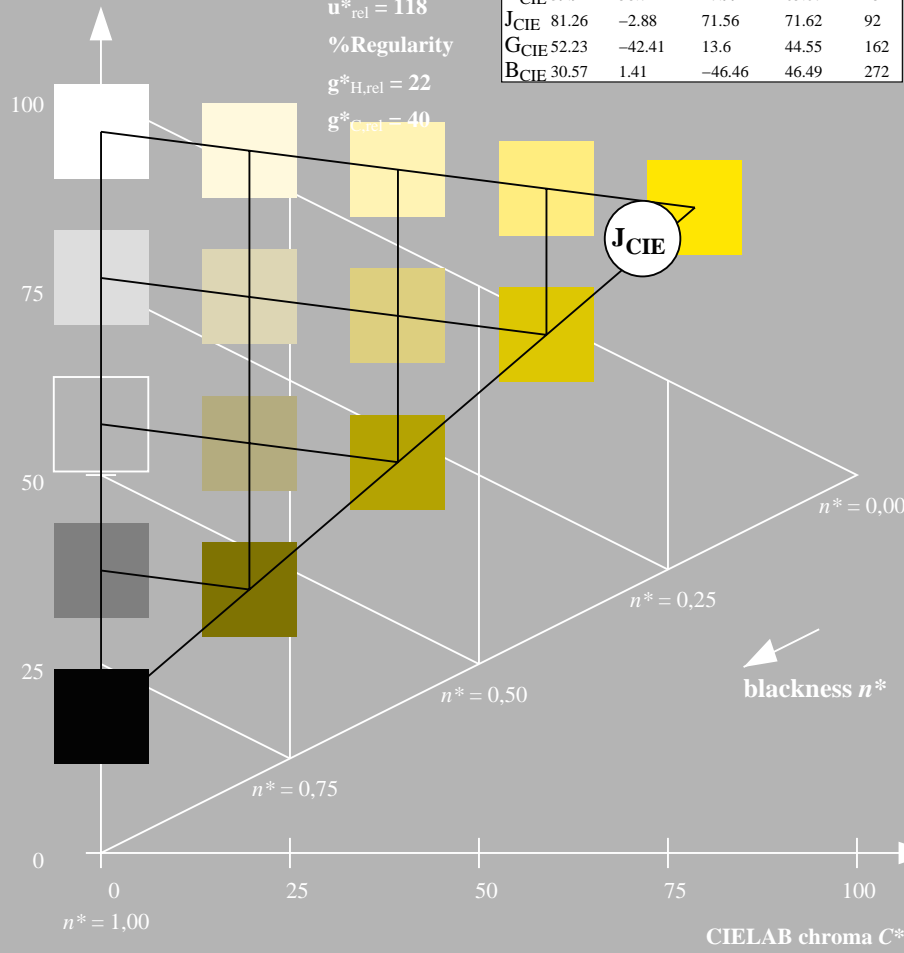
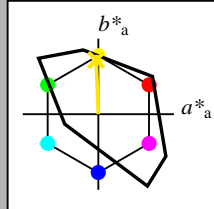
%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272



NE390-7, 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS18

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

LAB\*LCH, LAB\*NCH

D65: hue J

LCH\*Ma: 85 79 92

olv\*Ma: 1.0 0.82 0.0

CIELAB lightness  $L^*$

%Gamut

$u^*_{rel} = 118$

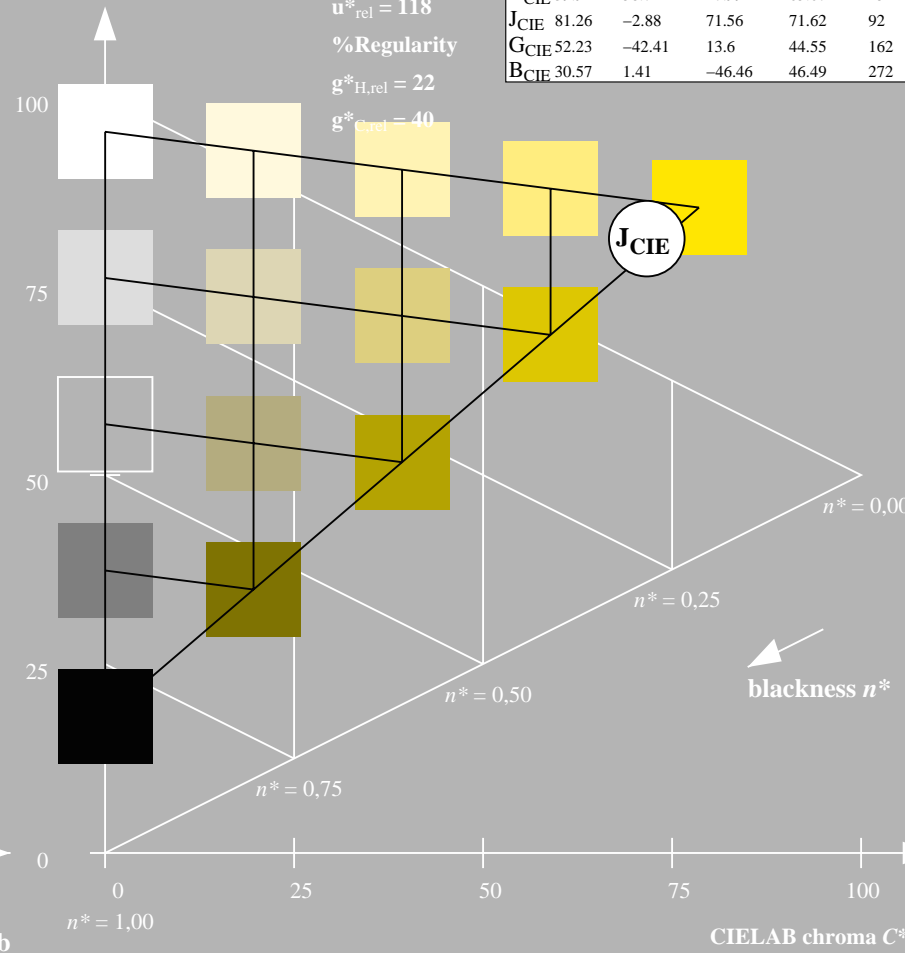
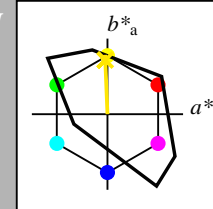
%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272



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

BAM-test chart NE39; Colorimetric systems TLS18 & TLS18  
 D65: Coordinate systems of 5 step colour scales for 10 hues

input: `olv* setrgbcolor`  
 output: `olv* setrgbcolor / w* setgray`

See for similar files: <http://www.ps.bam.de/NE39/>  
 Technical information: <http://www.ps.bam.de>  
 Version 2.1, io=1,1, CIELAB

BAM registration: 20060101-NE39/10Q/Q39E07FP.PS/.PDF BAM material: code=rh4ta  
 application for evaluation and measurement of printer or monitor systems  
 /NE39/ Form: 8/10, Serie: 1/1, Page: 8 Page count: 8



Input: Colorimetric Television Luminous System TLS18

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

LAB\*LCH, LAB\*NCH

D65: hue G

LCH\*Ma: 86 60 162

olv\*Ma: 0.0 1.0 0.64

CIE LAB lightness  $L^*$

%Gamut

$u^*_{rel} = 118$

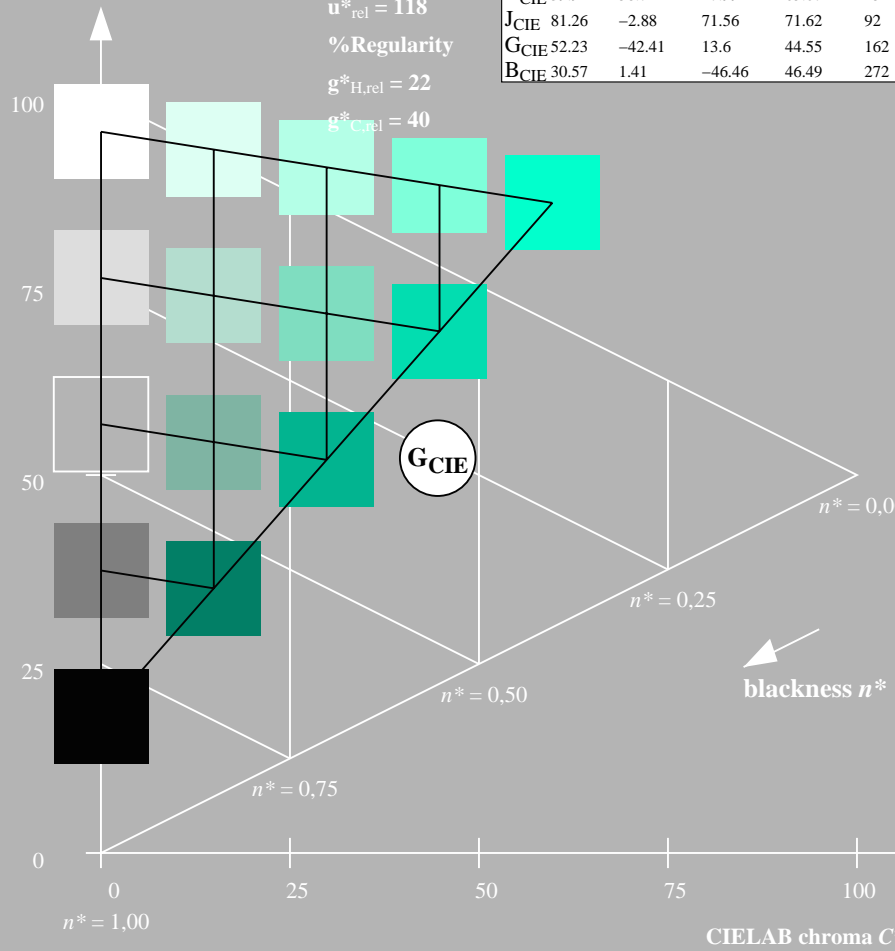
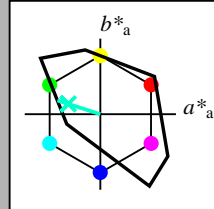
%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272



NE390-7, 5 step scales for constant CIE LAB hue 162/360 = 0.451 (left)

Output: Colorimetric Television Luminous System TLS18

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

LAB\*LCH, LAB\*NCH

D65: hue G

LCH\*Ma: 86 60 162

olv\*Ma: 0.0 1.0 0.64

CIE LAB lightness  $L^*$

%Gamut

$u^*_{rel} = 118$

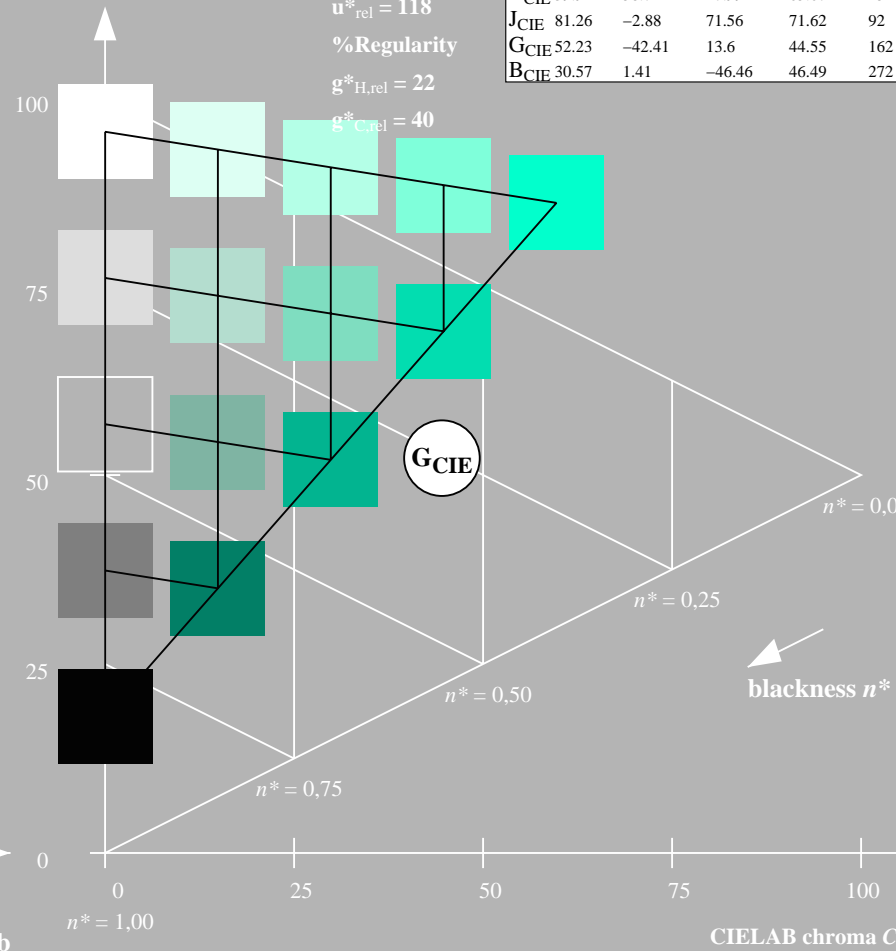
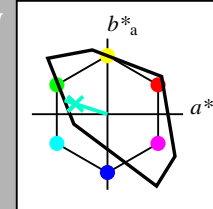
%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272



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

BAM-test chart NE39; Colorimetric systems TLS18 & TLS18  
 D65: Coordinate systems of 5 step colour scales for 10 hues

input: `olv* setrgbcolor`  
 output: `olv* setrgbcolor / w* setgray`

Input: Colorimetric Television Luminous System TLS18

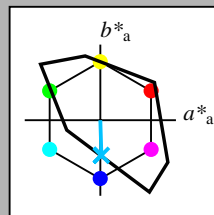
for hue  $h^* = lab^*h = 272/360 = 0.755$

LAB\*LCH, LAB\*NCH

D65: hue B

LCH\*Ma: 65 48 272

olv\*Ma: 0.0 0.58 1.0



**TLS18; adapted (a) CIELAB data**

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

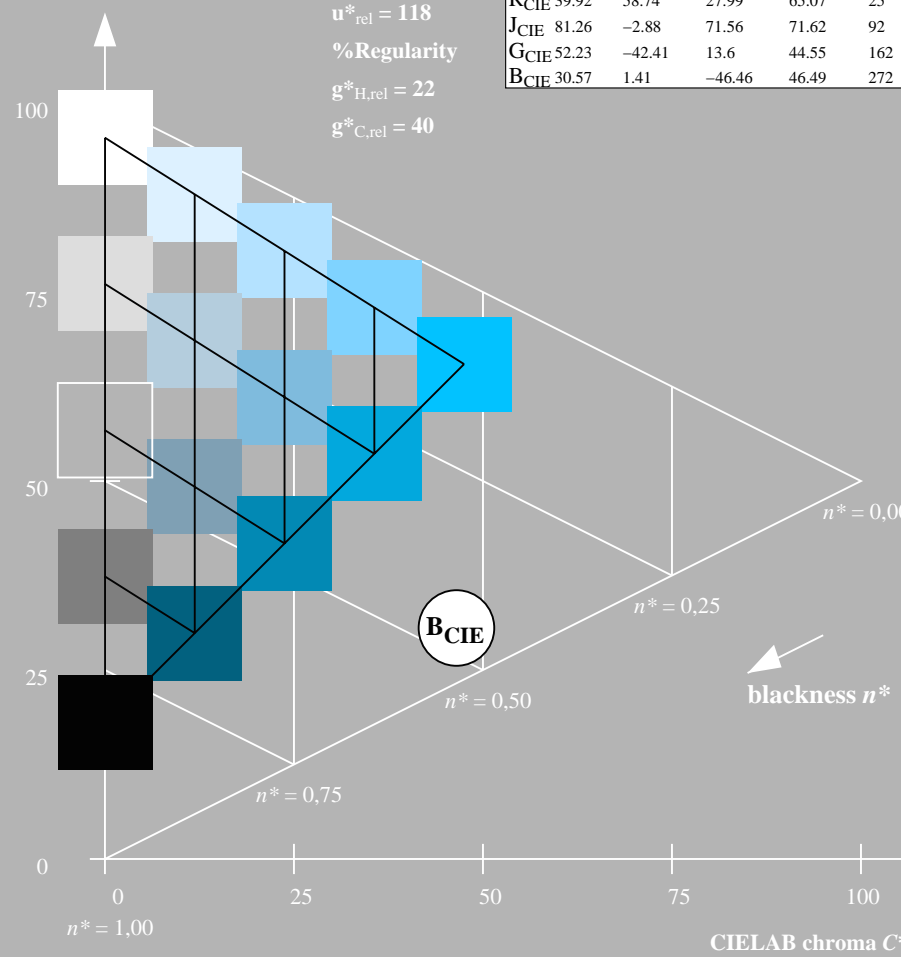
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



NE390-7, 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS18

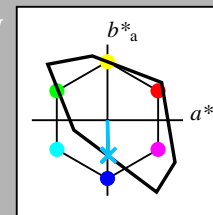
for hue  $h^* = lab^*h = 272/360 = 0.755$

LAB\*LCH, LAB\*NCH

D65: hue B

LCH\*Ma: 65 48 272

olv\*Ma: 0.0 0.58 1.0



**TLS18; adapted (a) CIELAB data**

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	52.76	71.63	49.88	87.29	35
Y <sub>Ma</sub>	92.74	-20.02	84.97	87.3	103
L <sub>Ma</sub>	84.0	-78.98	73.94	108.2	137
C <sub>Ma</sub>	87.14	-44.41	-13.11	46.32	196
V <sub>Ma</sub>	35.47	64.92	-95.06	115.12	304
M <sub>Ma</sub>	59.01	89.33	-55.67	105.26	328
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.74	27.99	65.07	25
J <sub>CIE</sub>	81.26	-2.88	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.41	13.6	44.55	162
B <sub>CIE</sub>	30.57	1.41	-46.46	46.49	272

CIELAB lightness  $L^*$

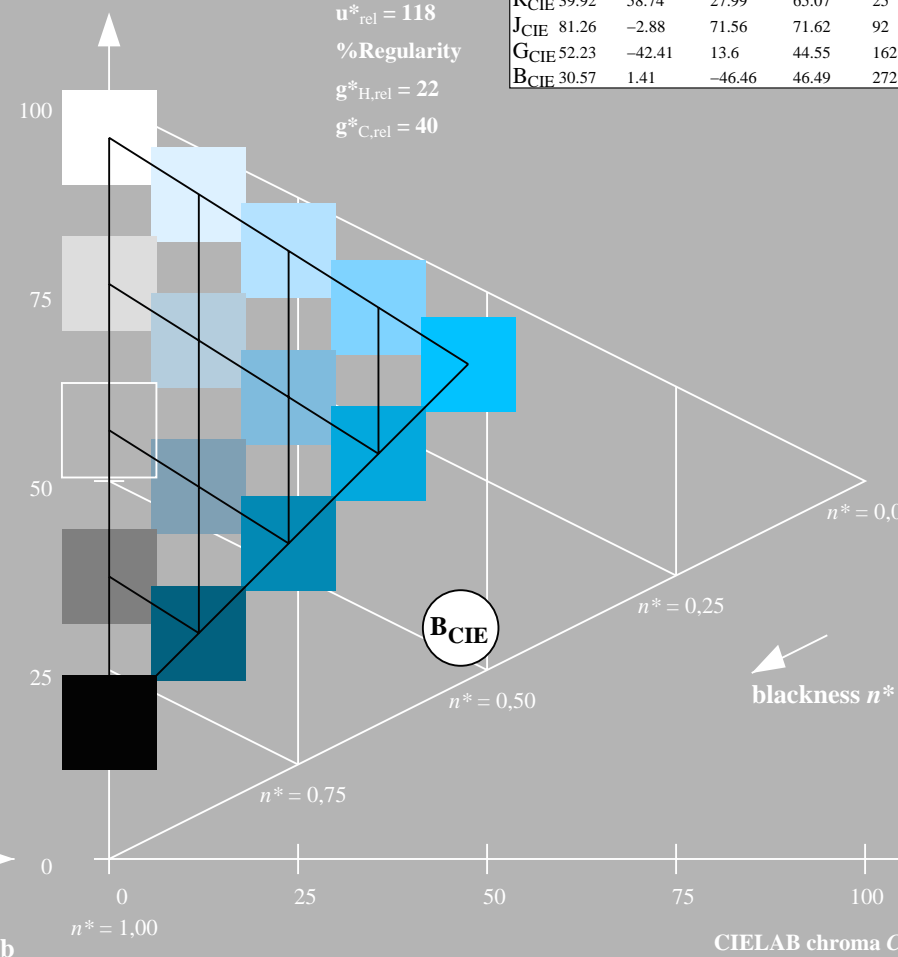
%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$



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

BAM-test chart NE39; Colorimetric systems TLS18 & TLS18  
 D65: Coordinate systems of 5 step colour scales for 10 hues

input: `olv* setrgbcolor`  
 output: `olv* setrgbcolor / w* setgray`