

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab \cdot h = 40/360 = 0.111$

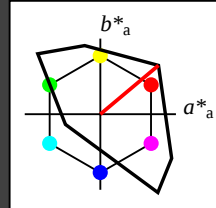
$lab \cdot tch$ and $lab \cdot nch$

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_m	50.5	76.92	64.55	100.42	40
Y_m	92.66	-20.69	90.75	93.08	103
L_m	83.63	-82.75	79.9	115.04	136
C_m	86.88	-46.16	-13.55	48.12	196
V_m	30.39	76.06	-103.59	128.52	306
M_m	57.3	94.35	-58.41	110.97	328
N_m	0.01	0.0	0.0	0.0	0
W_m	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	-2.88	71.56	71.62	92
G_{CIE}	52.23	-42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS70

for hue $h^* = lab \cdot h = 22/360 = 0.061$

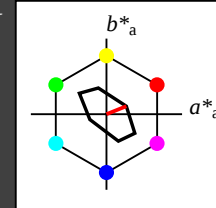
$LAB \cdot LCH$, $LAB \cdot NCH$

D65: hue O

LCH*Ma: 76 28 22

olv*Ma: 1.0 0.0 0.0

CIELAB lightness L^*



%Gamut

$u^*_{rel} = 16$

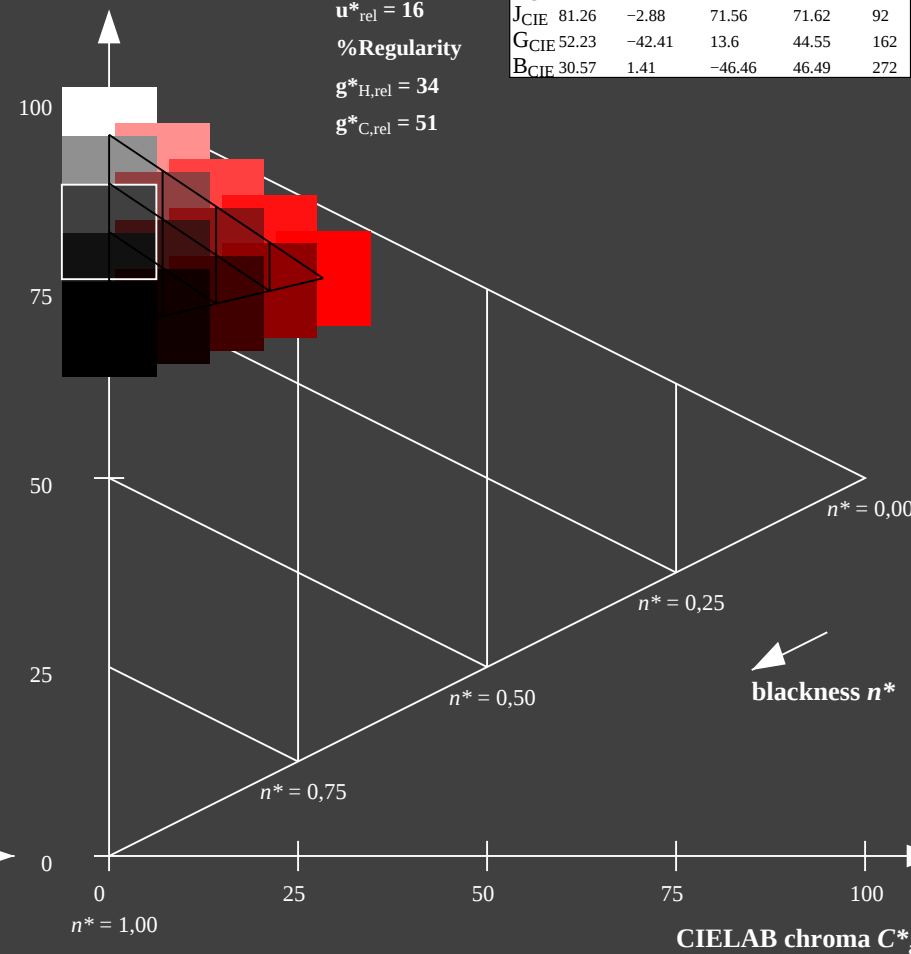
%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_m	76.43	26.27	10.57	28.32	22
Y_m	93.93	-10.76	34.63	36.27	107
L_m	89.32	-35.8	27.64	45.24	142
C_m	90.93	-21.95	-7.07	23.07	198
V_m	72.1	15.76	-35.63	38.97	294
M_m	78.5	37.52	-25.23	45.22	326
N_m	69.7	0.0	0.0	0.0	0
W_m	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	-2.88	71.56	71.62	92
G_{CIE}	52.23	-42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	-46.46	46.49	272



NE230-7, 5 step scales for constant CIELAB hue 40/360 = 0.111 (left)

5 step scales for constant CIELAB hue 22/360 = 0.061 (right)

BAM-test chart NE23; Colorimetric systems TLS00 & TLS70

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

input: $olv \cdot setrgbcolor$

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

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab \cdot h = 103/360 = 0.286$

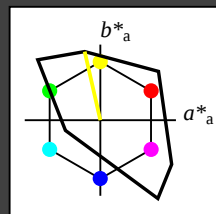
$lab \cdot tch$ and $lab \cdot nch$

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

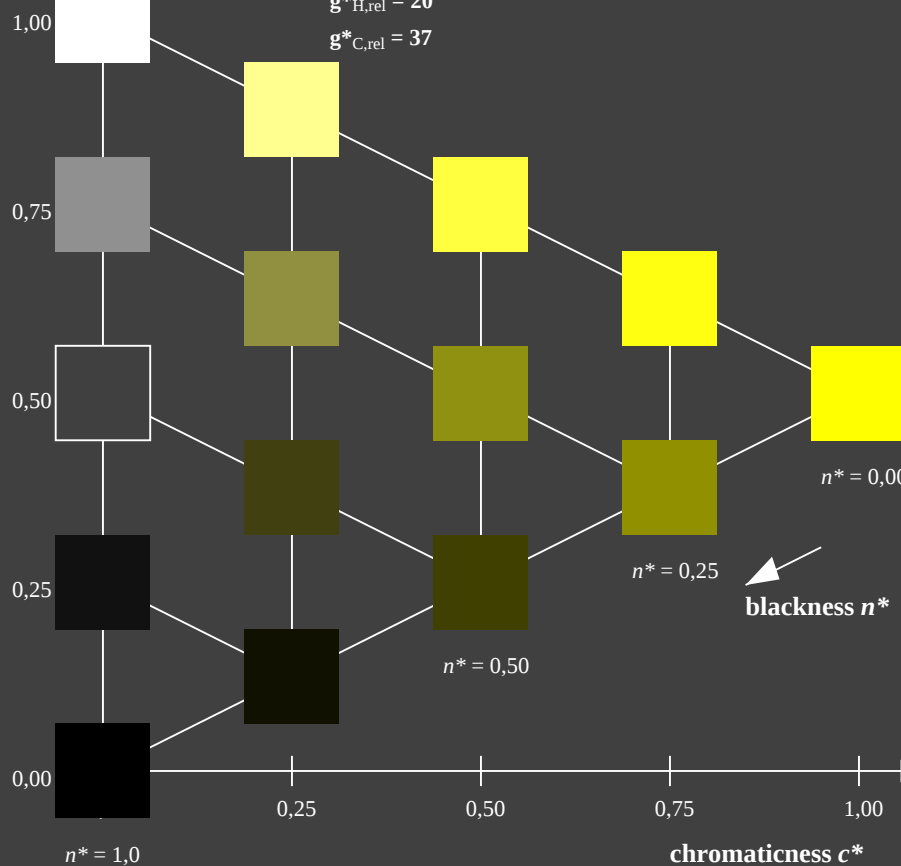
%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _m	50.5	76.92	64.55	100.42	40
Y _m	92.66	-20.69	90.75	93.08	103
L _m	83.63	-82.75	79.9	115.04	136
C _m	86.88	-46.16	-13.55	48.12	196
V _m	30.39	76.06	-103.59	128.52	306
M _m	57.3	94.35	-58.41	110.97	328
N _m	0.01	0.0	0.0	0.0	0
W _m	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



NE230-7, 5 step scales for constant CIELAB hue 103/360 = 0.286 (left)

Output: Colorimetric Television Luminous System TLS70

for hue $h^* = lab \cdot h = 107/360 = 0.298$

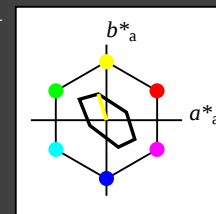
$LAB \cdot LCH$, $LAB \cdot NCH$

D65: hue Y

LCH*Ma: 94 36 107

olv*Ma: 1.0 1.0 0.0

CIELAB lightness L^*



%Gamut

$u^*_{rel} = 16$

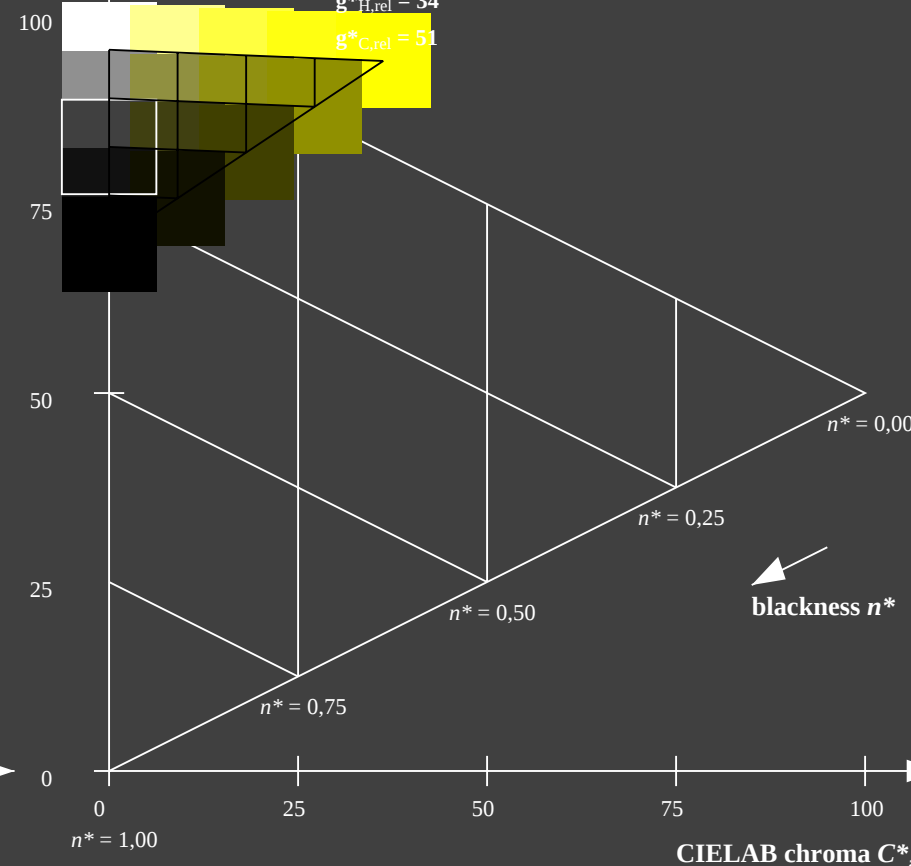
%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _m	76.43	26.27	10.57	28.32	22
Y _m	93.93	-10.76	34.63	36.27	107
L _m	89.32	-35.8	27.64	45.24	142
C _m	90.93	-21.95	-7.07	23.07	198
V _m	72.1	15.76	-35.63	38.97	294
M _m	78.5	37.52	-25.23	45.22	326
N _m	69.7	0.0	0.0	0.0	0
W _m	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



5 step scales for constant CIELAB hue 107/360 = 0.298 (right)

BAM-test chart NE23; Colorimetric systems TLS00 & TLS70

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

input: $olv \cdot setrgbcolor$

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

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 136/360 = 0.378$

lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*

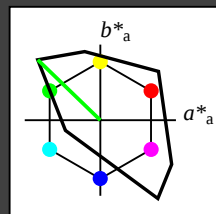
$u^*_{rel} = 158$

%Gamut

$g^*_{H,rel} = 20$

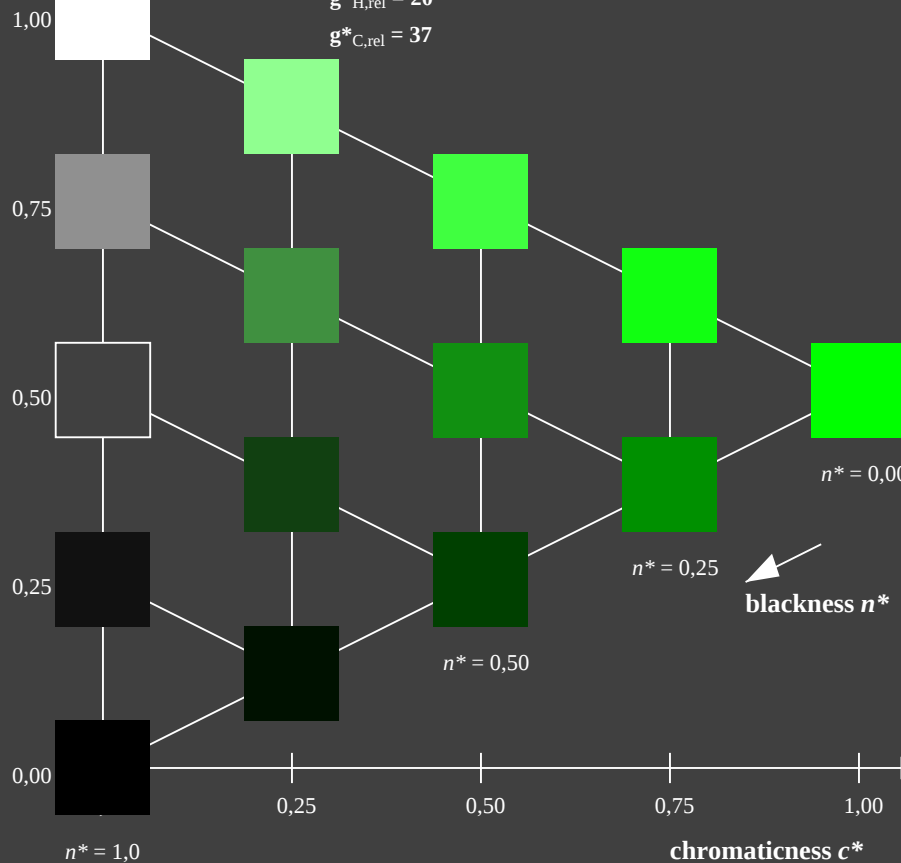
%Regularity

$g^*_{C,rel} = 37$



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _m	50.5	76.92	64.55	100.42	40
Y _m	92.66	-20.69	90.75	93.08	103
L _m	83.63	-82.75	79.9	115.04	136
C _m	86.88	-46.16	-13.55	48.12	196
V _m	30.39	76.06	-103.59	128.52	306
M _m	57.3	94.35	-58.41	110.97	328
N _m	0.01	0.0	0.0	0.0	0
W _m	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



NE230-7, 5 step scales for constant CIELAB hue 136/360 = 0.378 (left)

Output: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 142/360 = 0.395$

LAB^*LCH , LAB^*NCH

D65: hue L

LCH*Ma: 89 45 142

olv*Ma: 0.0 1.0 0.0

CIELAB lightness L^*

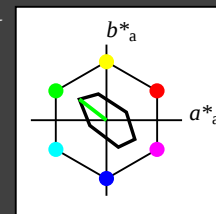
%Gamut

$u^*_{rel} = 16$

%Regularity

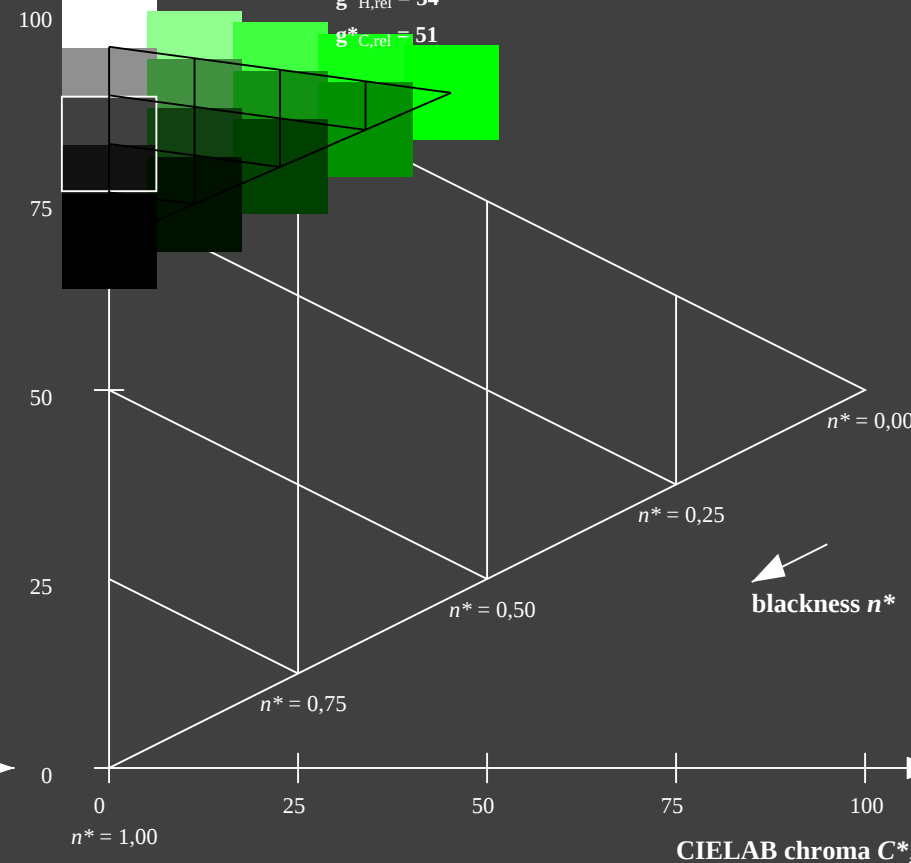
$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _m	76.43	26.27	10.57	28.32	22
Y _m	93.93	-10.76	34.63	36.27	107
L _m	89.32	-35.8	27.64	45.24	142
C _m	90.93	-21.95	-7.07	23.07	198
V _m	72.1	15.76	-35.63	38.97	294
M _m	78.5	37.52	-25.23	45.22	326
N _m	69.7	0.0	0.0	0.0	0
W _m	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



5 step scales for constant CIELAB hue 142/360 = 0.395 (right)

BAM-test chart NE23; Colorimetric systems TLS00 & TLS70

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

input: $olv^*setrgbcolor$

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

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab \cdot h = 196/360 = 0.545$

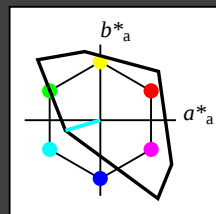
$lab \cdot tch$ and $lab \cdot nch$

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

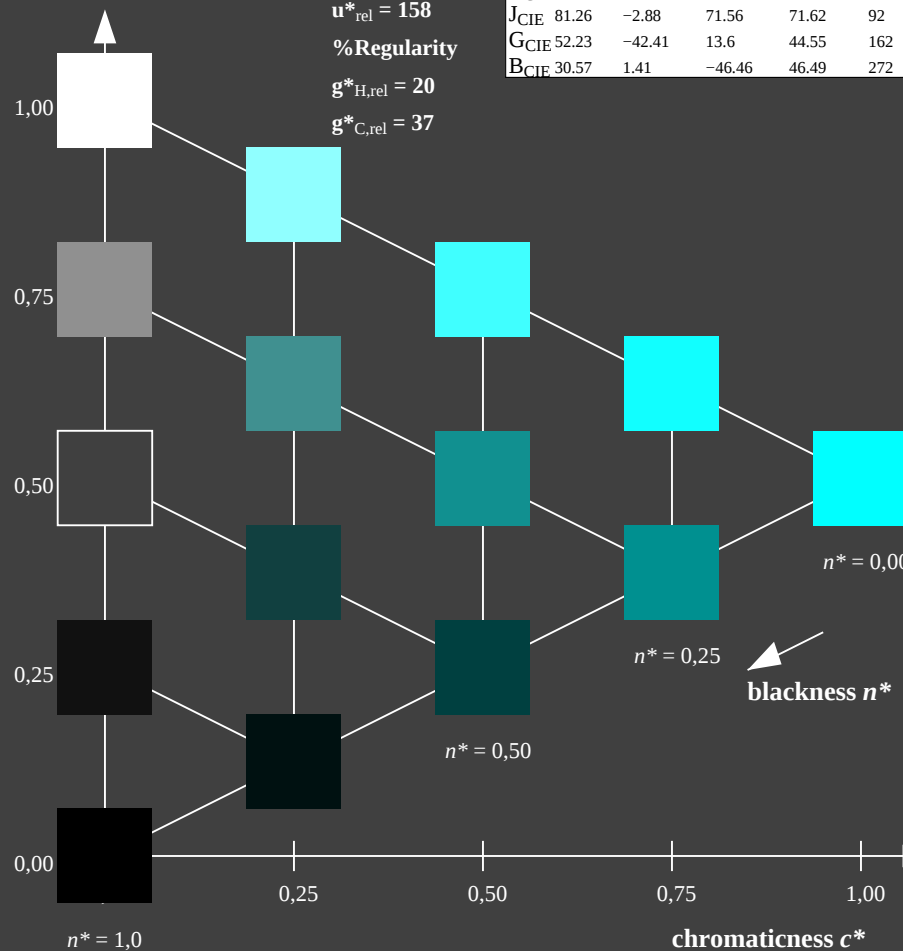
%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_m	50.5	76.92	64.55	100.42	40
Y_m	92.66	-20.69	90.75	93.08	103
L_m	83.63	-82.75	79.9	115.04	136
C_m	86.88	-46.16	-13.55	48.12	196
V_m	30.39	76.06	-103.59	128.52	306
M_m	57.3	94.35	-58.41	110.97	328
N_m	0.01	0.0	0.0	0.0	0
W_m	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	-2.88	71.56	71.62	92
G_{CIE}	52.23	-42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	-46.46	46.49	272



NE230-7, 5 step scales for constant CIELAB hue 196/360 = 0.545 (left)

Output: Colorimetric Television Luminous System TLS70

for hue $h^* = lab \cdot h = 198/360 = 0.55$

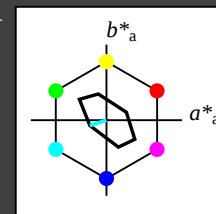
$LAB \cdot LCH$, $LAB \cdot NCH$

D65: hue C

LCH*Ma: 91 23 198

olv*Ma: 0.0 1.0 1.0

CIELAB lightness L^*



%Gamut

$u^*_{rel} = 16$

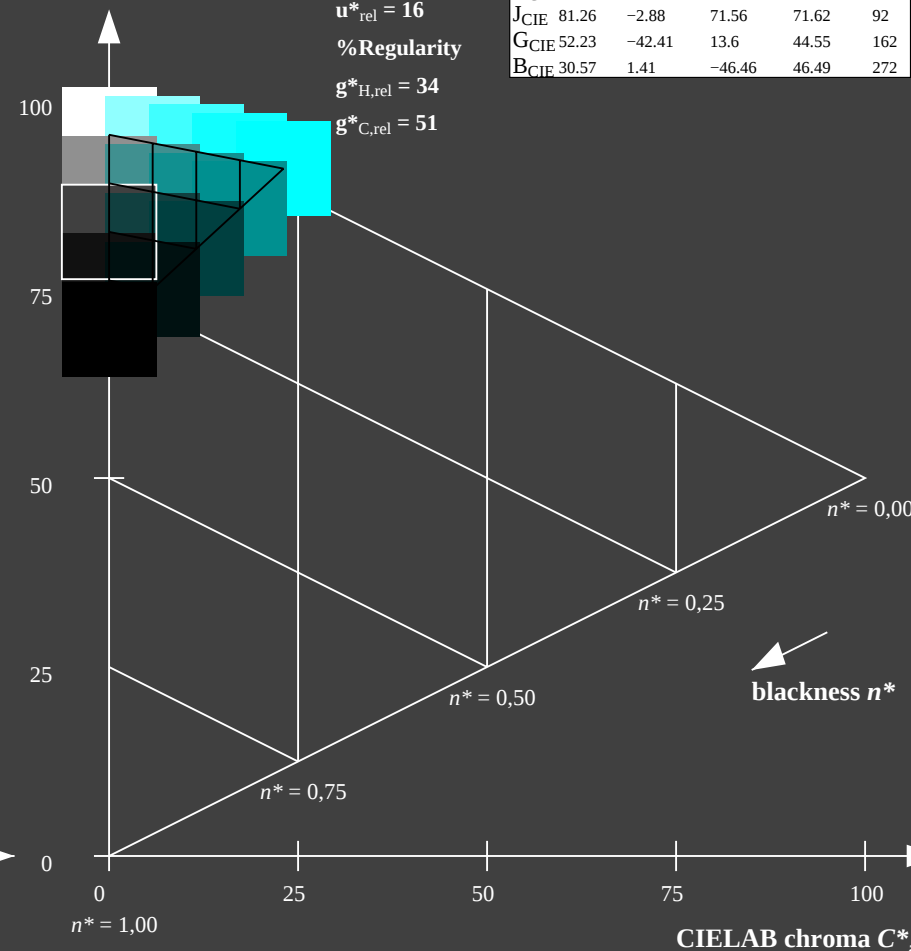
%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_m	76.43	26.27	10.57	28.32	22
Y_m	93.93	-10.76	34.63	36.27	107
L_m	89.32	-35.8	27.64	45.24	142
C_m	90.93	-21.95	-7.07	23.07	198
V_m	72.1	15.76	-35.63	38.97	294
M_m	78.5	37.52	-25.23	45.22	326
N_m	69.7	0.0	0.0	0.0	0
W_m	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	-2.88	71.56	71.62	92
G_{CIE}	52.23	-42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	-46.46	46.49	272



5 step scales for constant CIELAB hue 198/360 = 0.55 (right)

BAM-test chart NE23; Colorimetric systems TLS00 & TLS70

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

input: $olv \cdot setrgbcolor$

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

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab \cdot h = 328/360 = 0.912$

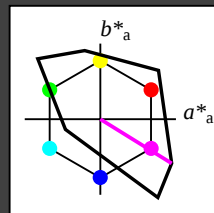
$lab \cdot tch$ and $lab \cdot nch$

D65: hue M

LCH*Ma: 57 111 328

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

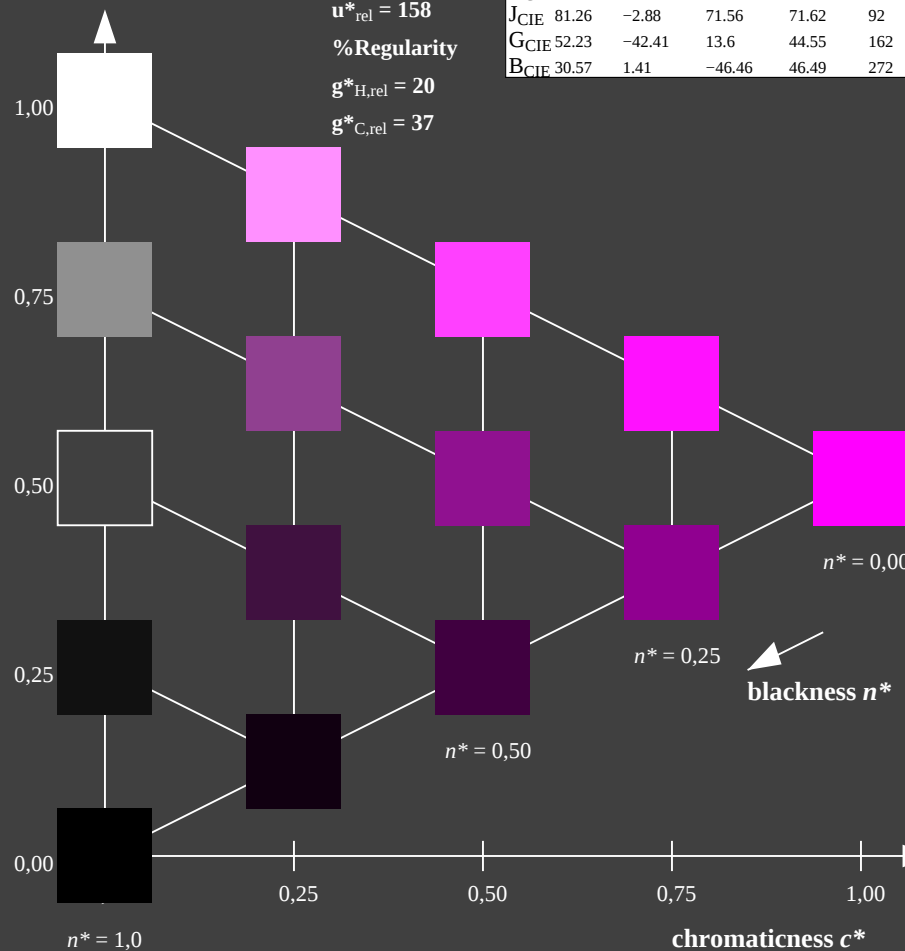
%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_m	50.5	76.92	64.55	100.42	40
Y_m	92.66	-20.69	90.75	93.08	103
L_m	83.63	-82.75	79.9	115.04	136
C_m	86.88	-46.16	-13.55	48.12	196
V_m	30.39	76.06	-103.59	128.52	306
M_m	57.3	94.35	-58.41	110.97	328
N_m	0.01	0.0	0.0	0.0	0
W_m	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	-2.88	71.56	71.62	92
G_{CIE}	52.23	-42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	-46.46	46.49	272



NE230-7, 5 step scales for constant CIELAB hue 328/360 = 0.912 (left)

Output: Colorimetric Television Luminous System TLS70

for hue $h^* = lab \cdot h = 326/360 = 0.906$

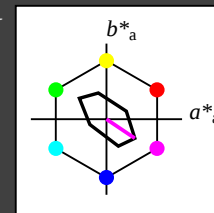
$LAB \cdot LCH$, $LAB \cdot NCH$

D65: hue M

LCH*Ma: 79 45 326

olv*Ma: 1.0 0.0 1.0

CIELAB lightness L^*



%Gamut

$u^*_{rel} = 16$

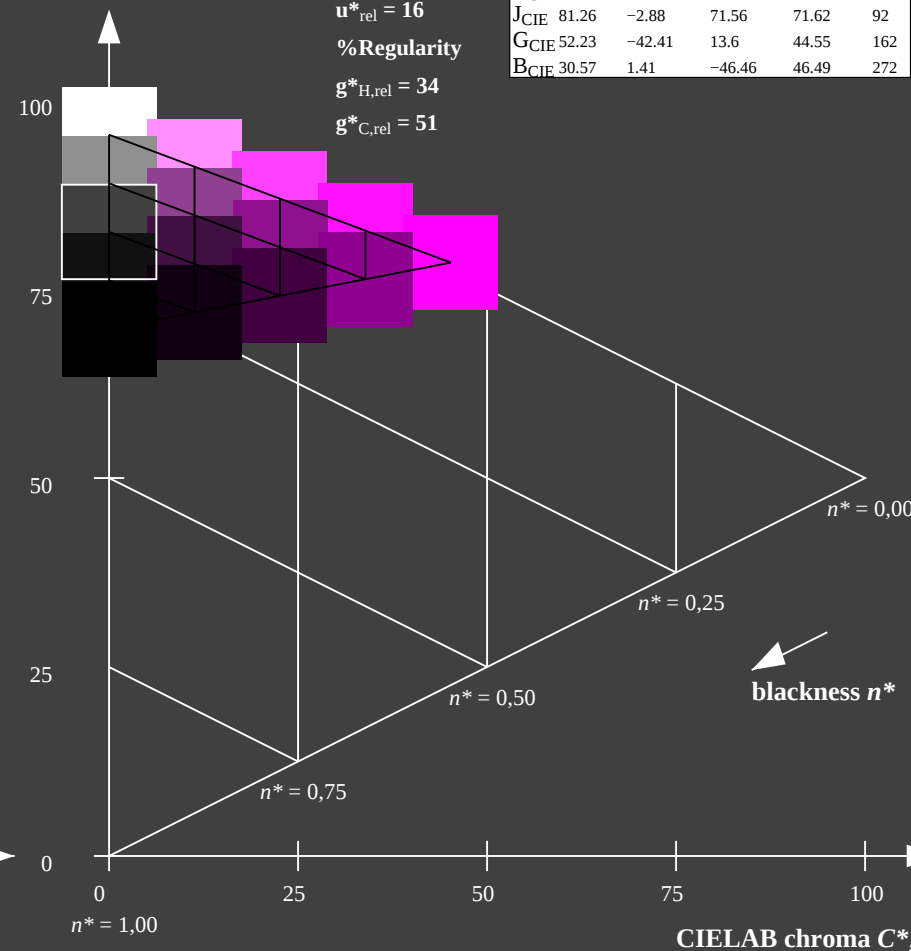
%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_m	76.43	26.27	10.57	28.32	22
Y_m	93.93	-10.76	34.63	36.27	107
L_m	89.32	-35.8	27.64	45.24	142
C_m	90.93	-21.95	-7.07	23.07	198
V_m	72.1	15.76	-35.63	38.97	294
M_m	78.5	37.52	-25.23	45.22	326
N_m	69.7	0.0	0.0	0.0	0
W_m	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	-2.88	71.56	71.62	92
G_{CIE}	52.23	-42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	-46.46	46.49	272



5 step scales for constant CIELAB hue 326/360 = 0.906 (right)

BAM-test chart NE23; Colorimetric systems TLS00 & TLS70

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

input: $olv \cdot setrgbcolor$

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

Input: Colorimetric Television Luminous System TLS00

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

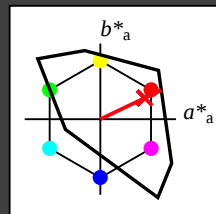
$lab \cdot tch$ and $lab \cdot nch$

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

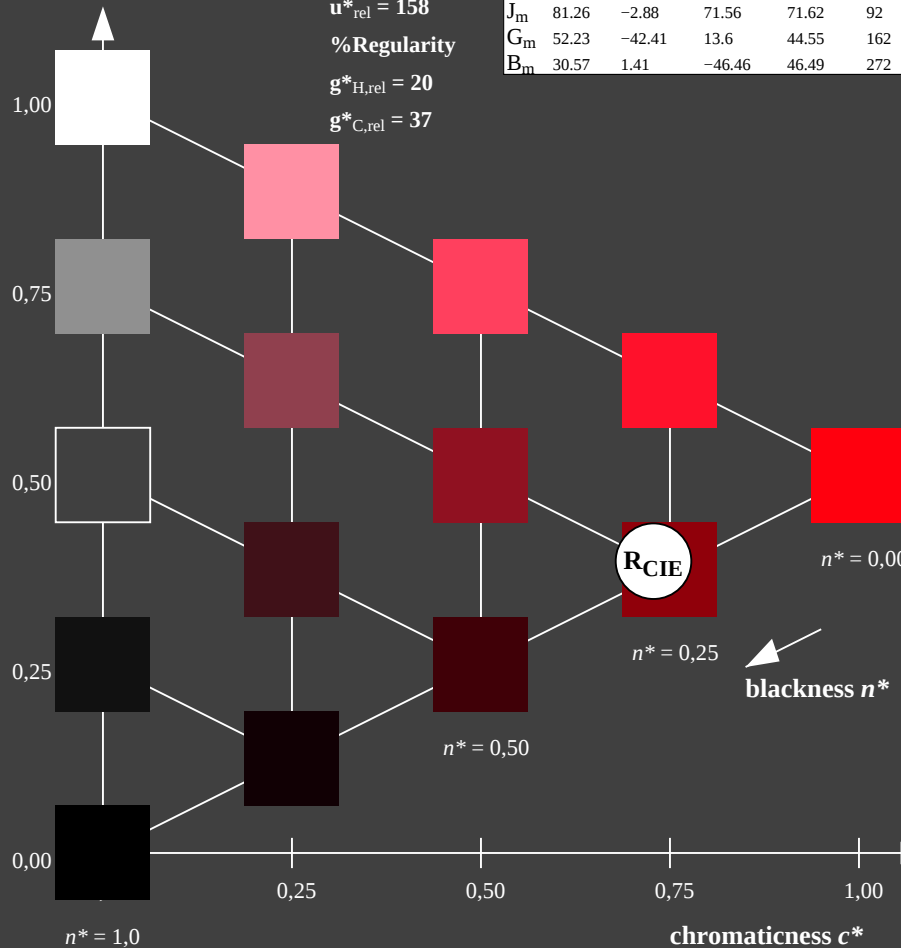
%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_m	50.5	76.92	64.55	100.42	40
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N_m	0.01	0.0	0.0	0.0	0
W_m	95.41	0.0	0.0	0.0	0
R_m	39.92	58.74	27.99	65.07	25
J_m	81.26	-2.88	71.56	71.62	92
G_m	52.23	-42.41	13.6	44.55	162
B_m	30.57	1.41	-46.46	46.49	272



NE230-7, 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS70

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

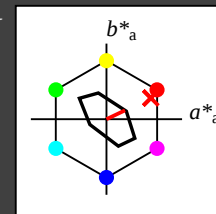
$LAB \cdot LCH$, $LAB \cdot NCH$

D65: hue R

LCH*Ma: 77 27 25

olv*Ma: 1.0 0.05 0.0

CIELAB lightness L^*



%Gamut

$u^*_{rel} = 16$

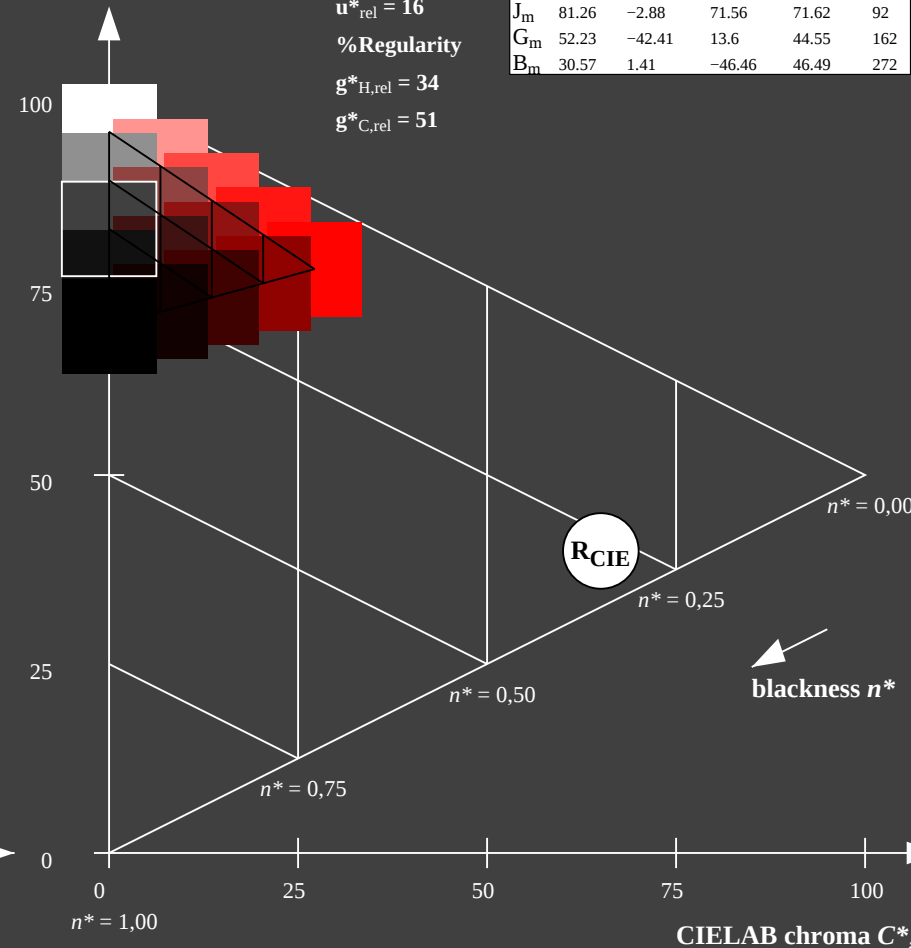
%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
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L_m	89.32	-35.8	27.64	45.24	142
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M_m	78.5	37.52	-25.23	45.22	326
N_m	69.7	0.0	0.0	0.0	0
W_m	95.41	0.0	0.0	0.0	0
R_m	39.92	58.74	27.99	65.07	25
J_m	81.26	-2.88	71.56	71.62	92
G_m	52.23	-42.41	13.6	44.55	162
B_m	30.57	1.41	-46.46	46.49	272



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

BAM-test chart NE23; Colorimetric systems TLS00 & TLS70

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

input: $olv \cdot setrgbcolor$

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

r / w^* setgray

Page: count: 8

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

Input: Colorimetric Television Luminous System TLS00

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

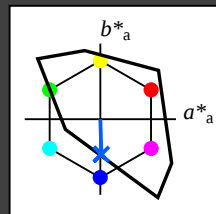
$lab \cdot tch$ and $lab \cdot nch$

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

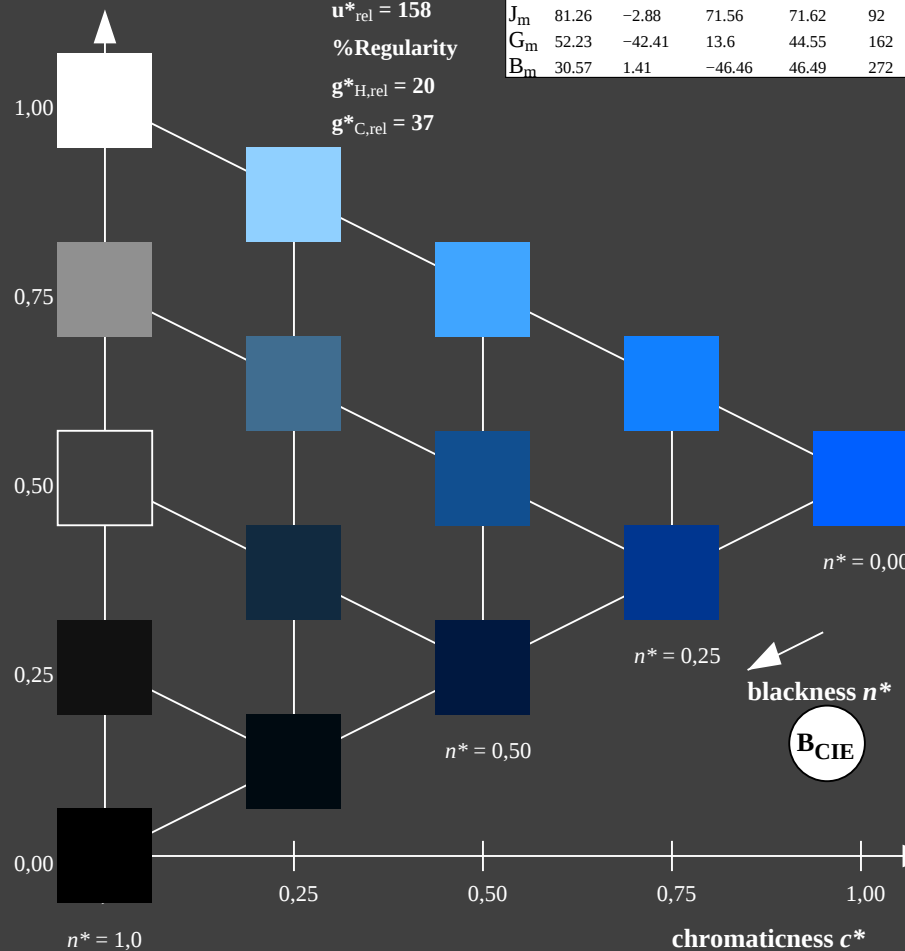
%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _m	50.5	76.92	64.55	100.42	40
Y _m	92.66	-20.69	90.75	93.08	103
L _m	83.63	-82.75	79.9	115.04	136
C _m	86.88	-46.16	-13.55	48.12	196
V _m	30.39	76.06	-103.59	128.52	306
M _m	57.3	94.35	-58.41	110.97	328
N _m	0.01	0.0	0.0	0.0	0
W _m	95.41	0.0	0.0	0.0	0
R _m	39.92	58.74	27.99	65.07	25
J _m	81.26	-2.88	71.56	71.62	92
G _m	52.23	-42.41	13.6	44.55	162
B _m	30.57	1.41	-46.46	46.49	272



NE230-7, 5 step scales for constant CIE LAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS70

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

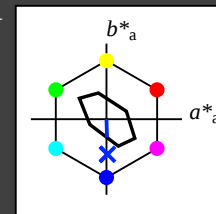
$LAB \cdot LCH$, $LAB \cdot NCH$

D65: hue B

LCH*Ma: 80 24 272

olv*Ma: 0.0 0.4 1.0

CIE LAB lightness L^*



%Gamut

$u^*_{rel} = 16$

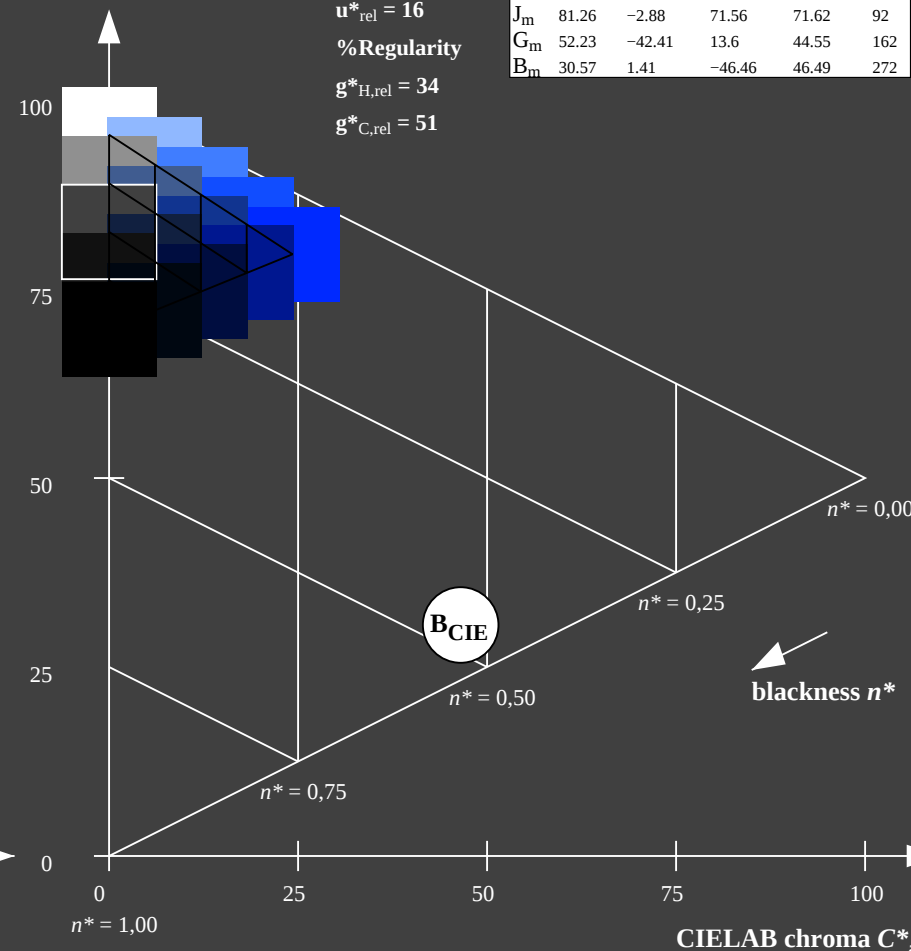
%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _m	76.43	26.27	10.57	28.32	22
Y _m	93.93	-10.76	34.63	36.27	107
L _m	89.32	-35.8	27.64	45.24	142
C _m	90.93	-21.95	-7.07	23.07	198
V _m	72.1	15.76	-35.63	38.97	294
M _m	78.5	37.52	-25.23	45.22	326
N _m	69.7	0.0	0.0	0.0	0
W _m	95.41	0.0	0.0	0.0	0
R _m	39.92	58.74	27.99	65.07	25
J _m	81.26	-2.88	71.56	71.62	92
G _m	52.23	-42.41	13.6	44.55	162
B _m	30.57	1.41	-46.46	46.49	272



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

BAM-test chart NE23; Colorimetric systems TLS00 & TLS70

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

input: $olv \cdot setrgbcolor$

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