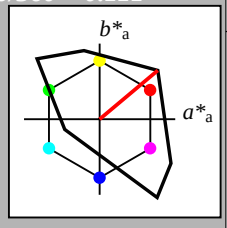
Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

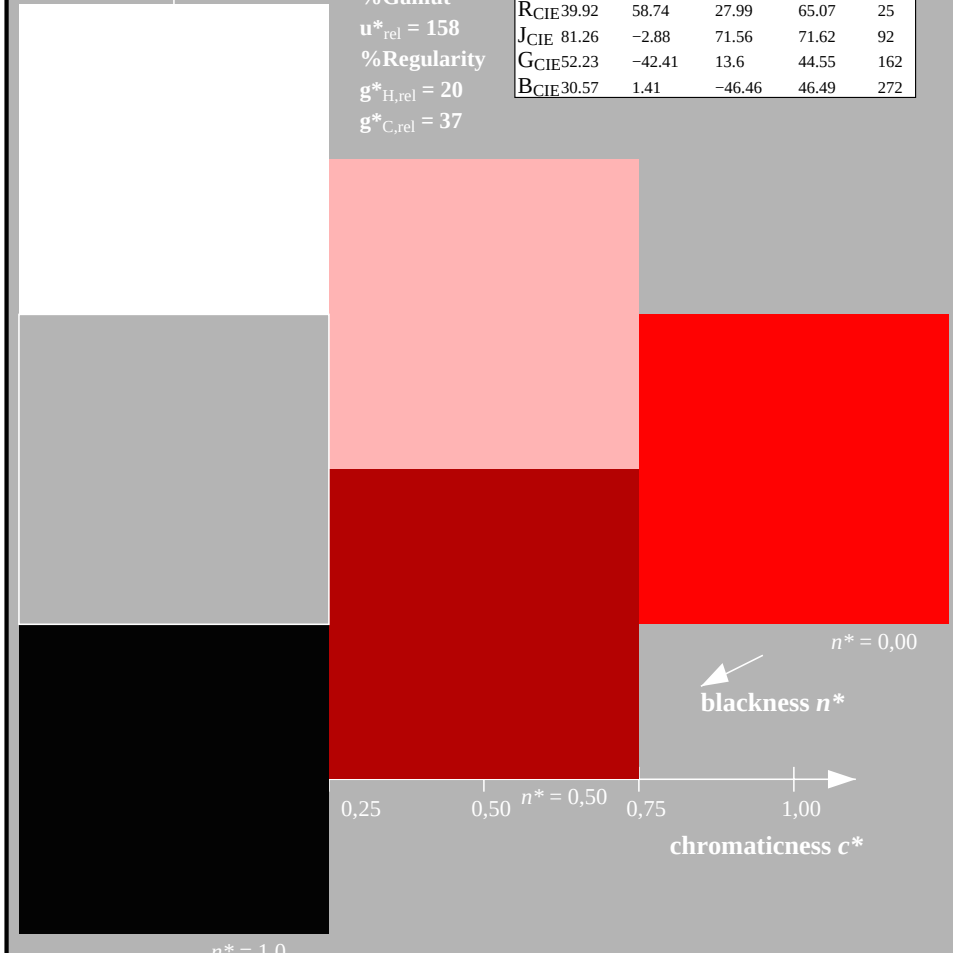
triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	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

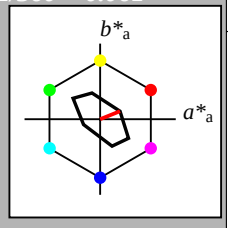
%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37



Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

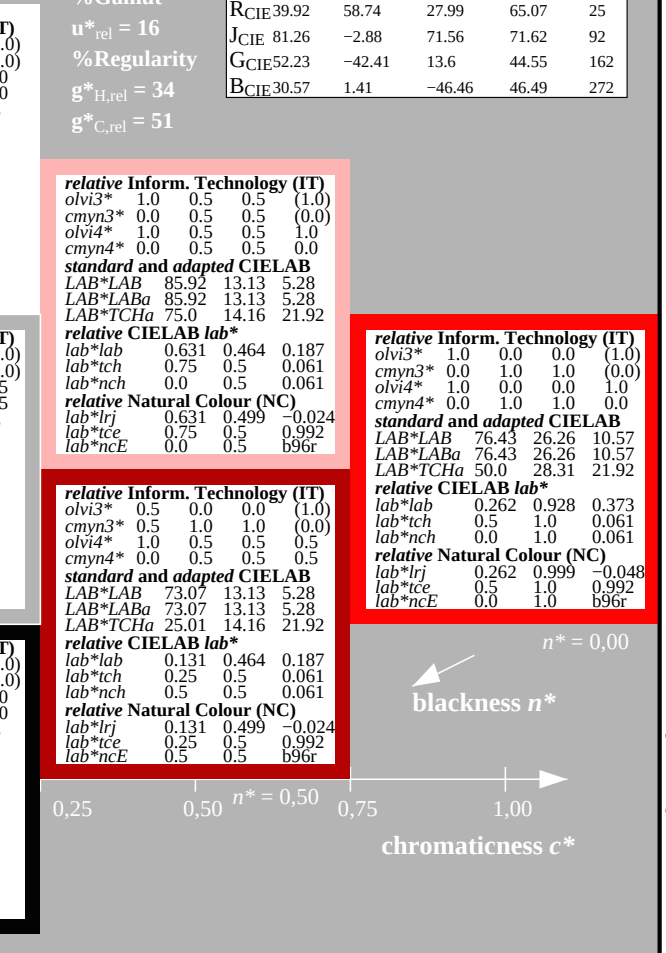
*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r



NE030−7, 3 step scales for constant CIELAB hue 40/360 = 0.111 (left)
3 step scales for constant CIELAB hue 22/360 = 0.061 (right)

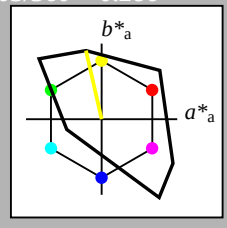
BAM-test chart NE03; Colorimetric systems TLS00 & TLS70
D65: 3 step colour scales and coordinate data for 10 hues

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

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 103/360 = 0.286**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

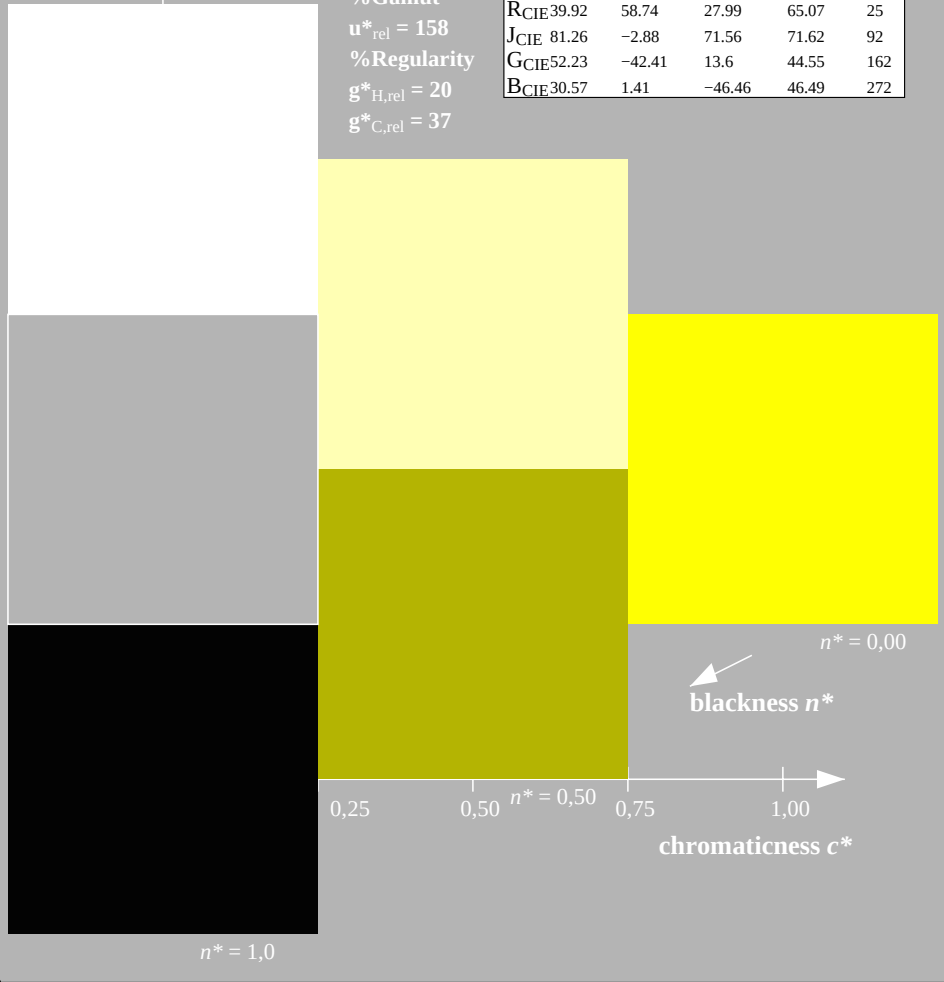
triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	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

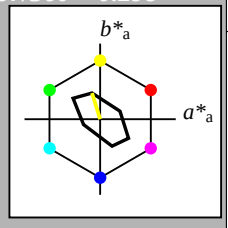
%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37



Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

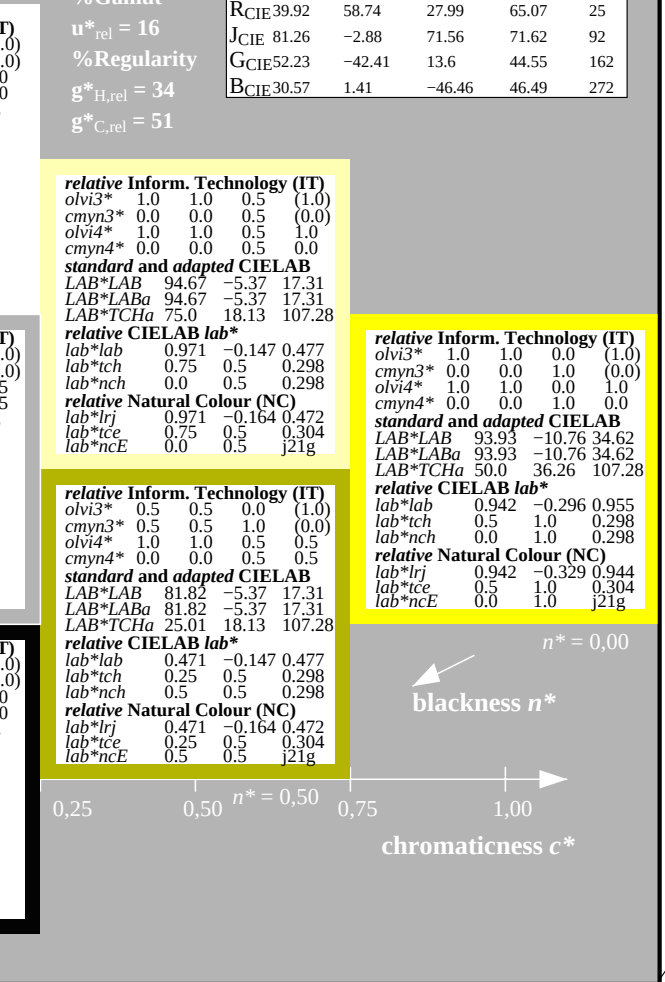
*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g



NE030−7, 3 step scales for constant CIELAB hue 103/360 = 0.286 (left)
3 step scales for constant CIELAB hue 107/360 = 0.298 (right)

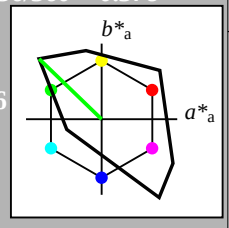
BAM-test chart NE03; Colorimetric systems TLS00 & TLS70
D65: 3 step colour scales and coordinate data for 10 hues

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

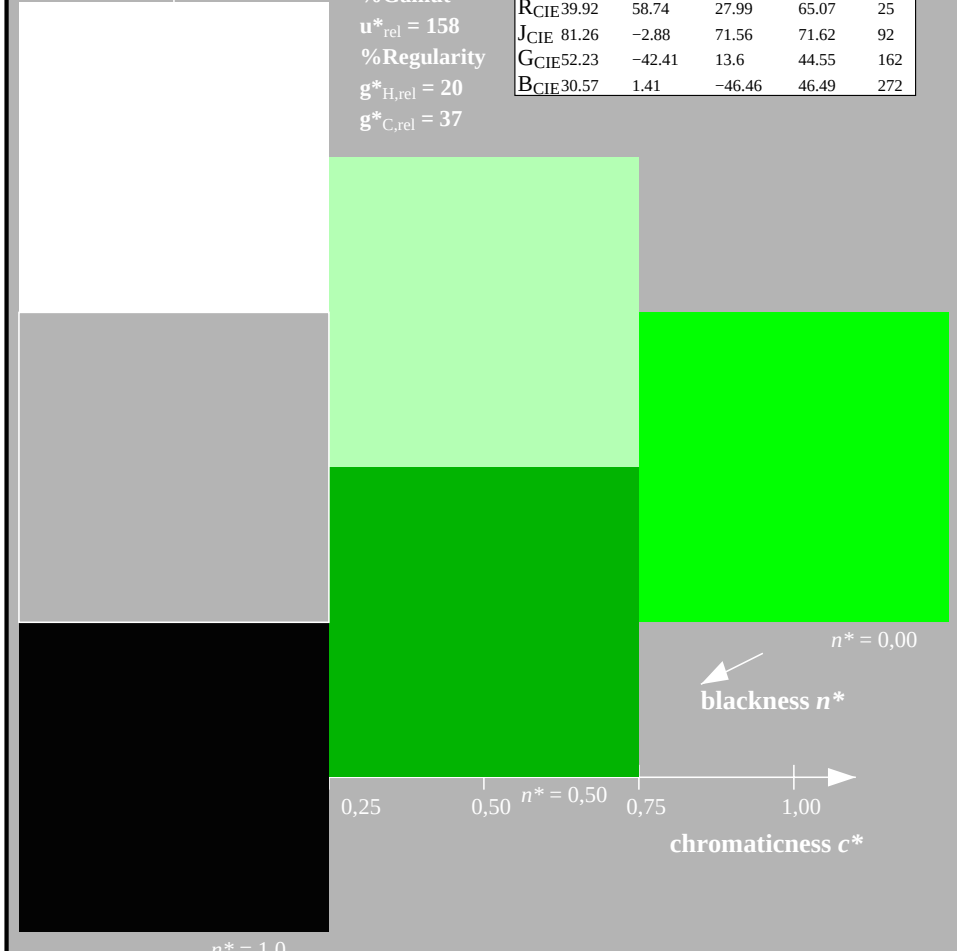
triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	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

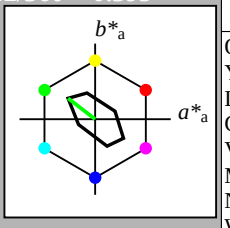
%Gamut
u*rel = 158
%Regularity
g*H,rel = 20
g*C,rel = 37



Output: Colorimetric Television Luminous System TLS70
for hue *h* = lab*h = 142/360 = 0.395*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u*rel = 16
%Regularity
g*H,rel = 34
g*C,rel = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

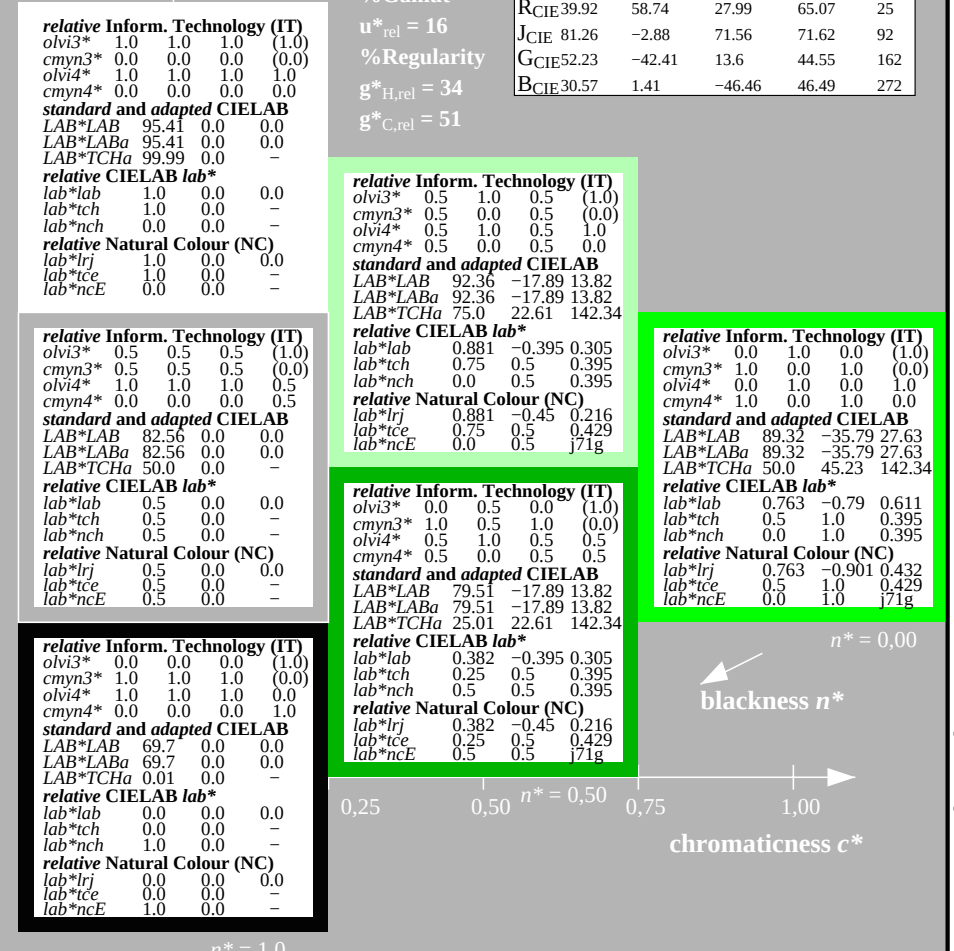
*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g



NE030−7, 3 step scales for constant CIELAB hue 136/360 = 0.378 (left)
3 step scales for constant CIELAB hue 142/360 = 0.395 (right)

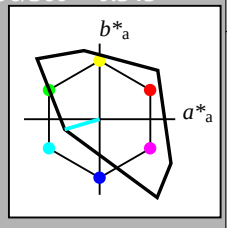
BAM-test chart NE03; Colorimetric systems TLS00 & TLS70
D65: 3 step colour scales and coordinate data for 10 hues

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

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

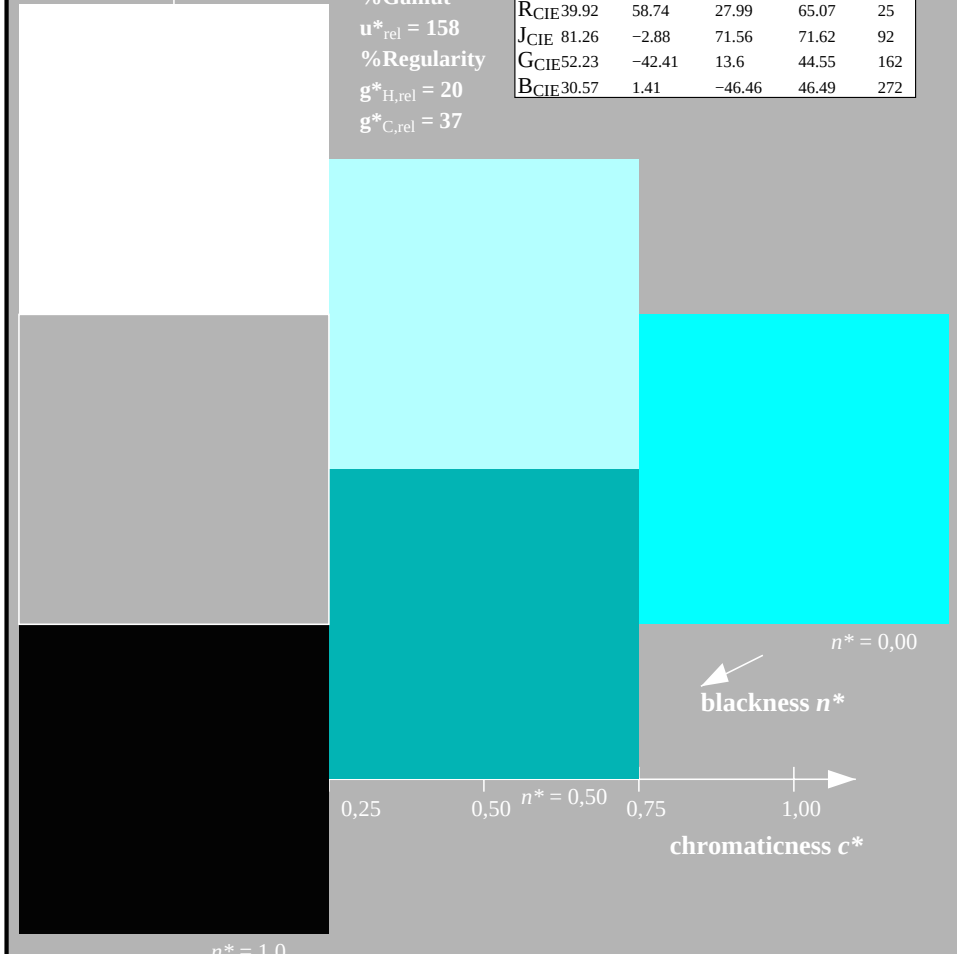
triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37



***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

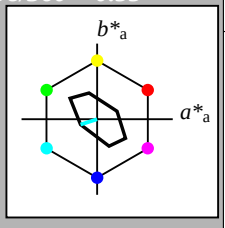
***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

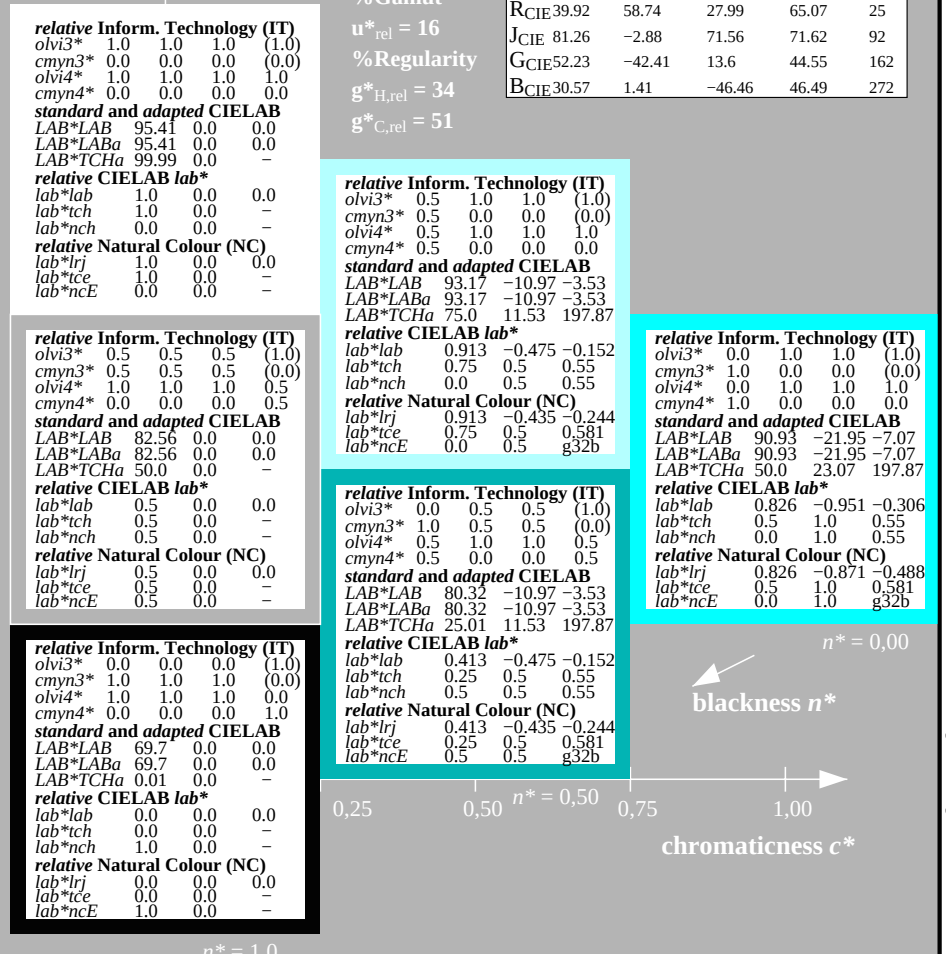
triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u*$_{rel}$ = 16
%Regularity
g*$_{H,rel}$ = 34
g*$_{C,rel}$ = 51



***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	0.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0 (1.0)
*cmyn3**	0.5	0.0	0.0 (0.0)
*olvi4**	0.5	1.0	1.0 1.0
*cmyn4**	0.5	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5 (1.0)
*cmyn3**	1.0	0.5	0.5 (0.0)
*olvi4**	0.5	1.0	1.0 0.5
*cmyn4**	0.5	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

NE030−7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)
3 step scales for constant CIELAB hue 198/360 = 0.55 (right)

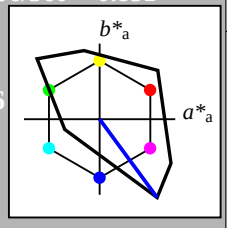
BAM-test chart NE03; Colorimetric systems TLS00 & TLS70
D65: 3 step colour scales and coordinate data for 10 hues

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

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

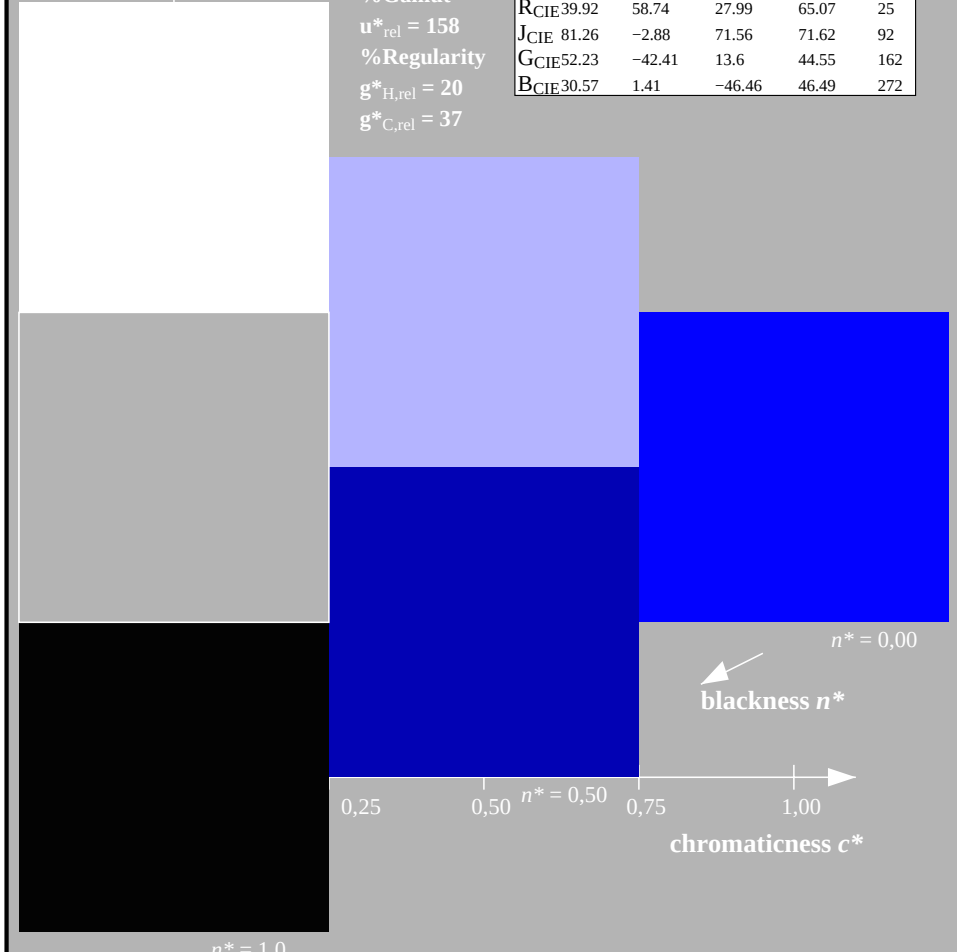
triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	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

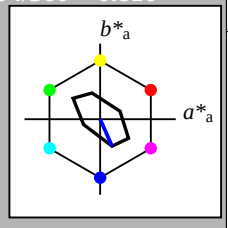
%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37



Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

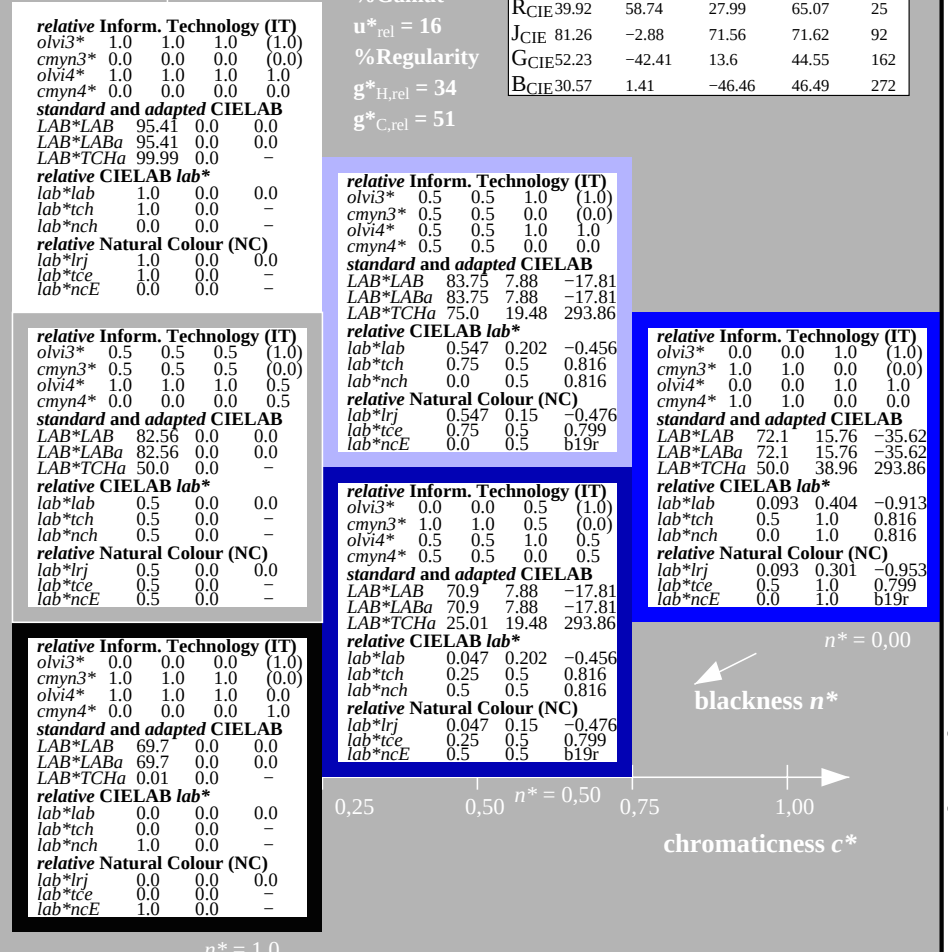
triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51



***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0 (1.0)
*cmyn3**	0.5	0.5	0.0 (0.0)
*olvi4**	0.5	0.5	1.0 1.0
*cmyn4**	0.5	0.5	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5 (1.0)
*cmyn3**	1.0	1.0	0.5 (0.0)
*olvi4**	0.5	0.5	1.0 0.5
*cmyn4**	0.5	0.5	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0 (1.0)
*cmyn3**	1.0	1.0	0.0 (0.0)
*olvi4**	0.0	0.0	1.0 1.0
*cmyn4**	1.0	1.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

NE030−7, 3 step scales for constant CIELAB hue 306/360 = 0.851 (left)
3 step scales for constant CIELAB hue 294/360 = 0.816 (right)

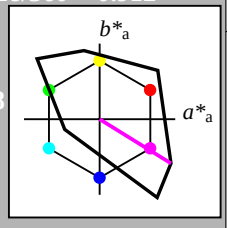
BAM-test chart NE03; Colorimetric systems TLS00 & TLS70
D65: 3 step colour scales and coordinate data for 10 hues

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

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 328/360 = 0.912**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

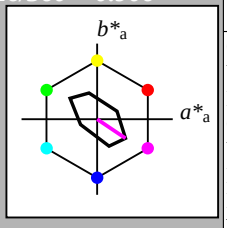
	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	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

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

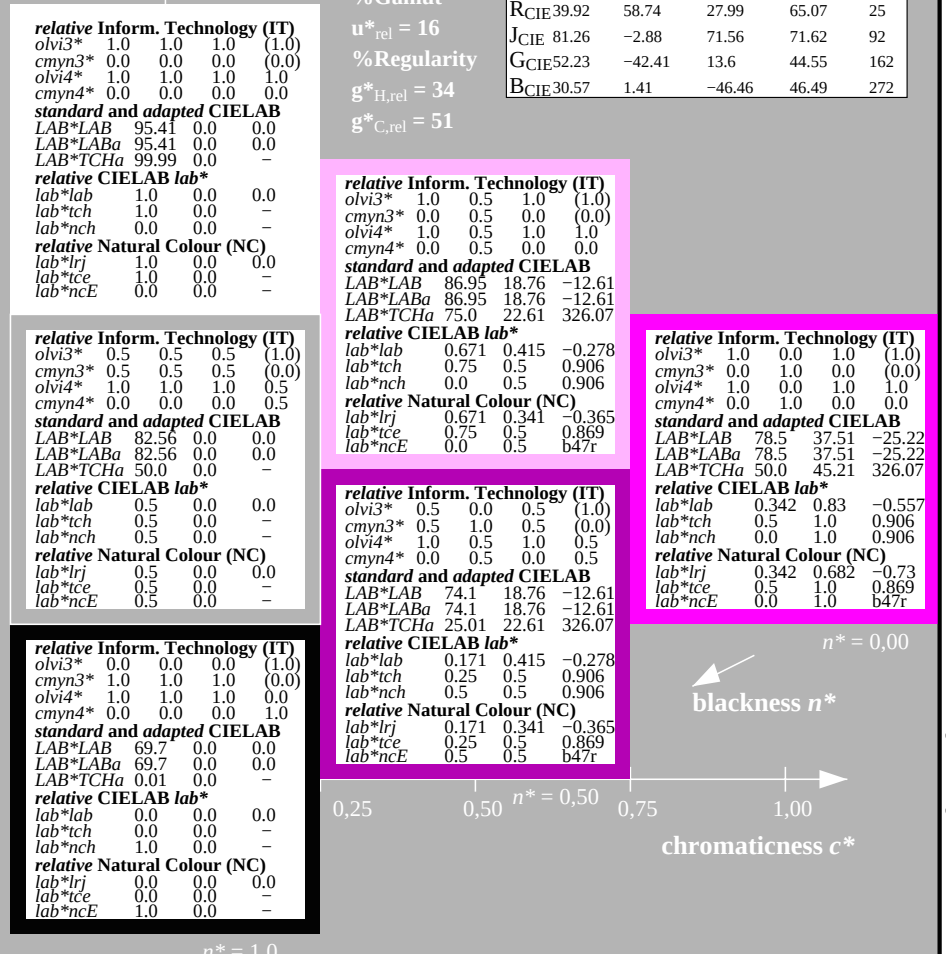
triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51



***relative* Inform. Technology (IT)**				
*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	95.41	0.0	0.0	
*LAB*LABa*	95.41	0.0	0.0	
*LAB*TCHa*	99.99	0.0	–	
relative* CIELAB *lab*				
*lab*lab*	1.0	0.0	0.0	
*lab*tch*	1.0	0.0	–	
*lab*nch*	0.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	1.0	0.0	0.0	
*lab*tce*	1.0	0.0	–	
*lab*ncE*	0.0	0.0	–	

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	82.56	0.0	0.0	
*LAB*LABa*	82.56	0.0	0.0	
*LAB*TCHa*	50.0	0.0	–	
relative* CIELAB *lab*				
*lab*lab*	0.5	0.0	0.0	
*lab*tch*	0.5	0.0	–	
*lab*nch*	0.5	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.5	0.0	0.0	
*lab*tce*	0.5	0.0	–	
*lab*ncE*	0.5	0.0	–	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	69.7	0.0	0.0	
*LAB*LABa*	69.7	0.0	0.0	
*LAB*TCHa*	0.01	0.0	–	
relative* CIELAB *lab*				
*lab*lab*	0.0	0.0	0.0	
*lab*tch*	0.0	0.0	–	
*lab*nch*	1.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.0	0.0	0.0	
*lab*tce*	0.0	0.0	–	
*lab*ncE*	1.0	0.0	–	

***relative* Inform. Technology (IT)**				
*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	86.95	18.76	−12.61	
*LAB*LABa*	86.95	18.76	−12.61	
*LAB*TCHa*	75.0	22.61	326.07	
relative* CIELAB *lab*				
*lab*lab*	0.671	0.415	−0.278	
*lab*tch*	0.75	0.5	0.906	
*lab*nch*	0.0	0.5	0.906	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.671	0.341	−0.365	
*lab*tce*	0.75	0.5	0.869	
*lab*ncE*	0.0	0.5	b47r	

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	74.1	18.76	−12.61	
*LAB*LABa*	74.1	18.76	−12.61	
*LAB*TCHa*	25.01	22.61	326.07	
relative* CIELAB *lab*				
*lab*lab*	0.171	0.415	−0.278	
*lab*tch*	0.25	0.5	0.906	
*lab*nch*	0.5	0.5	0.906	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.171	0.341	−0.365	
*lab*tce*	0.25	0.5	0.869	
*lab*ncE*	0.5	0.5	b47r	

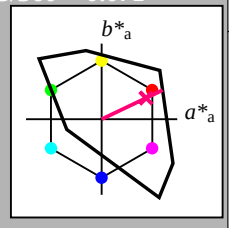
***relative* Inform. Technology (IT)**				
*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	78.5	37.51	−25.22	
*LAB*LABa*	78.5	37.51	−25.22	
*LAB*TCHa*	50.0	45.21	326.07	
relative* CIELAB *lab*				
*lab*lab*	0.342	0.83	−0.557	
*lab*tch*	0.5	1.0	0.906	
*lab*nch*	0.0	1.0	0.906	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.342	0.682	−0.73	
*lab*tce*	0.5	1.0	0.869	
*lab*ncE*	0.0	1.0	b47r	

NE030−7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)
3 step scales for constant CIELAB hue 326/360 = 0.906 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

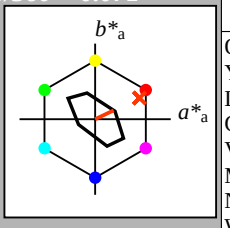
	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	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

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

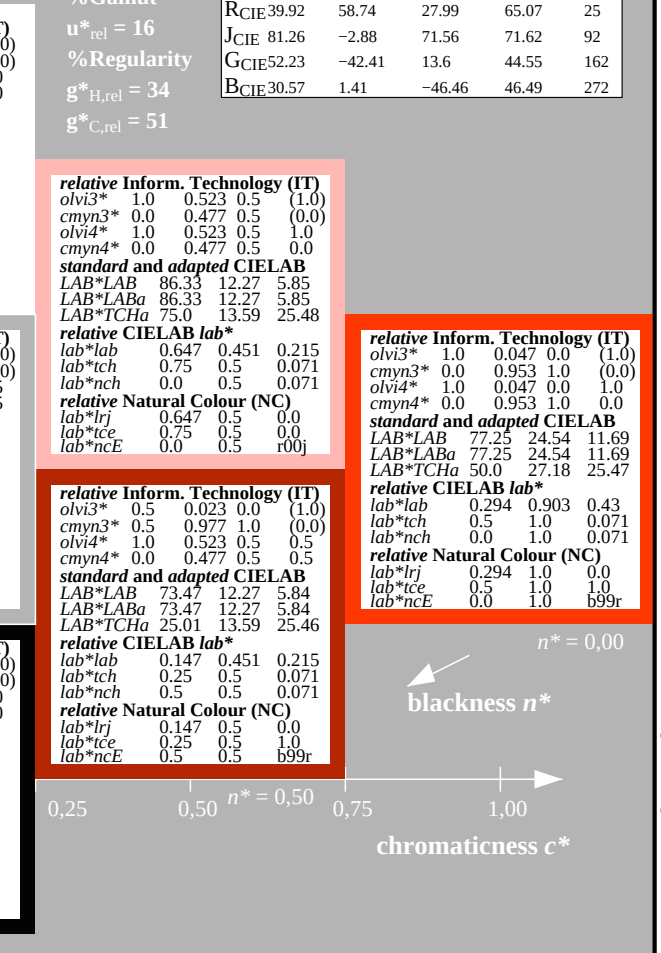
*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r



NE030−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

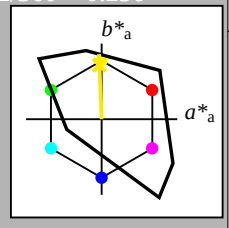
BAM-test chart NE03; Colorimetric systems TLS00 & TLS70
D65: 3 step colour scales and coordinate data for 10 hues

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

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

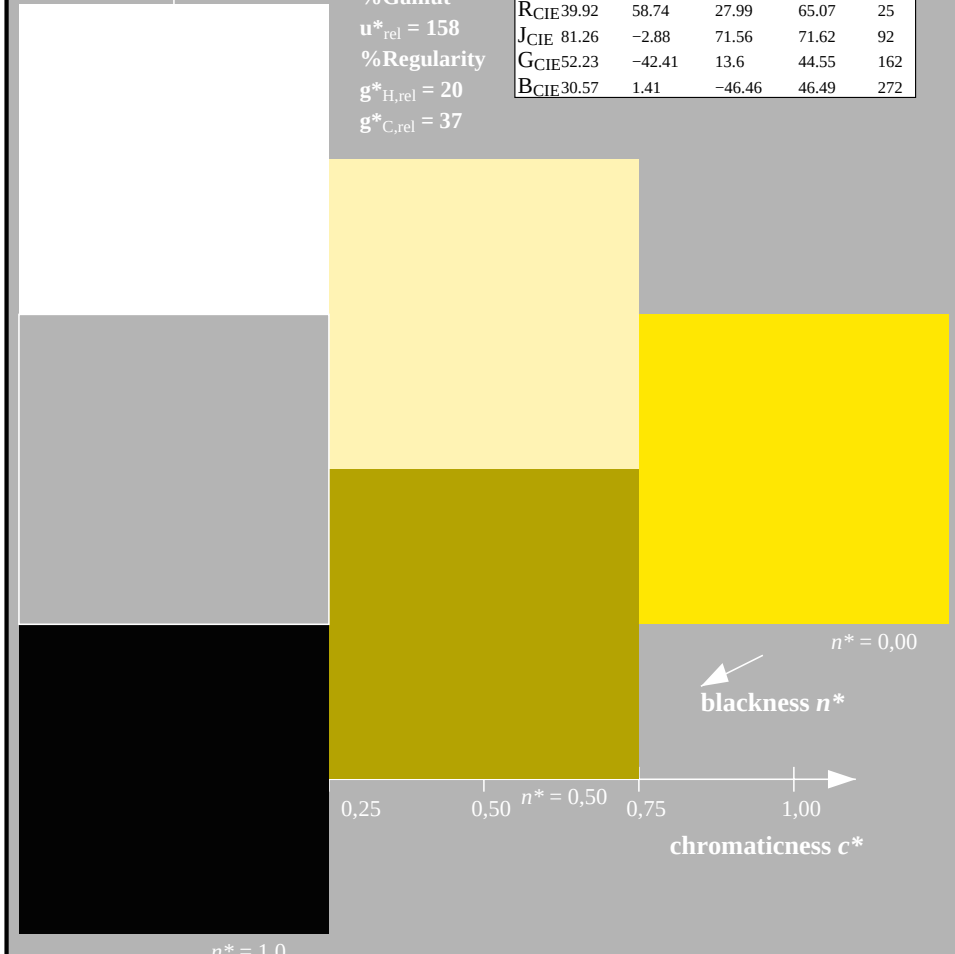
triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37



***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

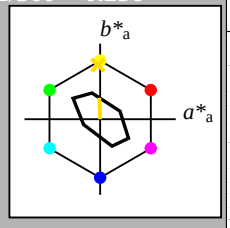
***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

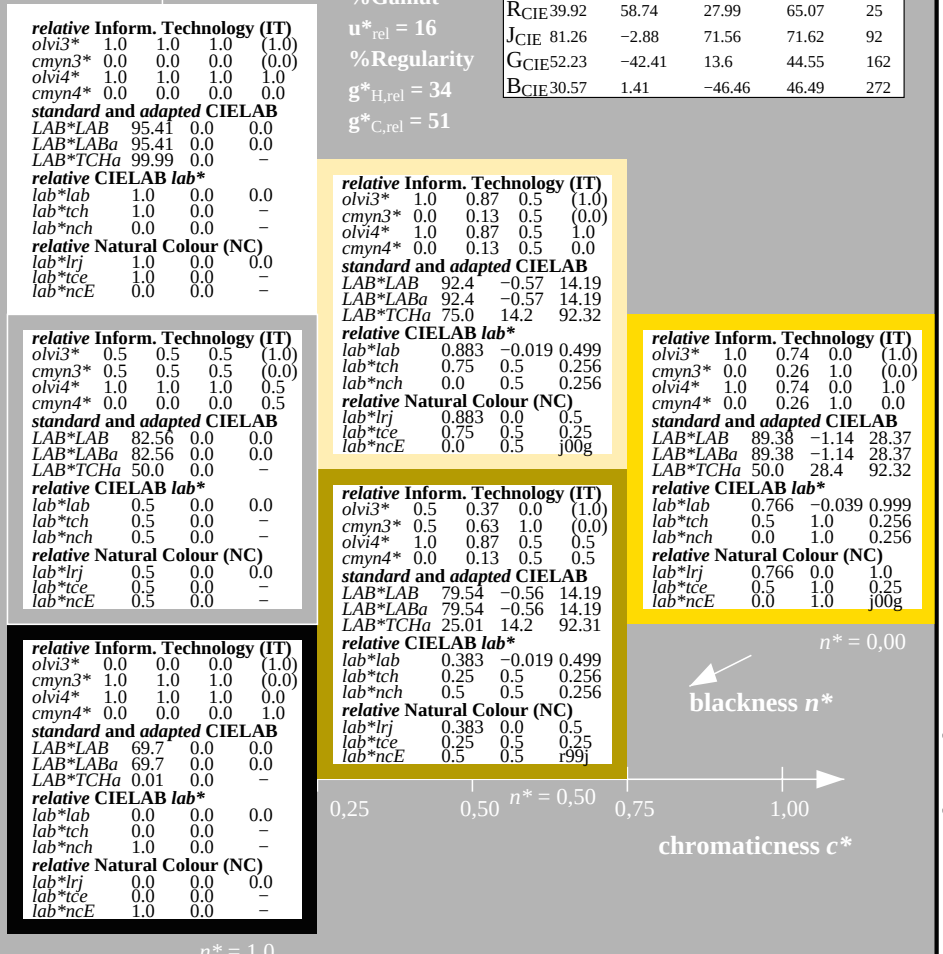
triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51



***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5 (1.0)
*cmyn3**	0.0	0.13	0.5 (0.0)
*olvi4**	1.0	0.87	0.5 1.0
*cmyn4**	0.0	0.13	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0 (1.0)
*cmyn3**	0.5	0.63	1.0 (0.0)
*olvi4**	1.0	0.87	0.5 0.5
*cmyn4**	0.0	0.13	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0 (1.0)
*cmyn3**	0.0	0.26	1.0 (0.0)
*olvi4**	1.0	0.74	0.0 1.0
*cmyn4**	0.0	0.26	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

NE030−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

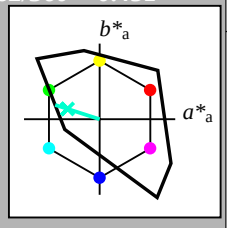
BAM-test chart NE03; Colorimetric systems TLS00 & TLS70
D65: 3 step colour scales and coordinate data for 10 hues

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

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

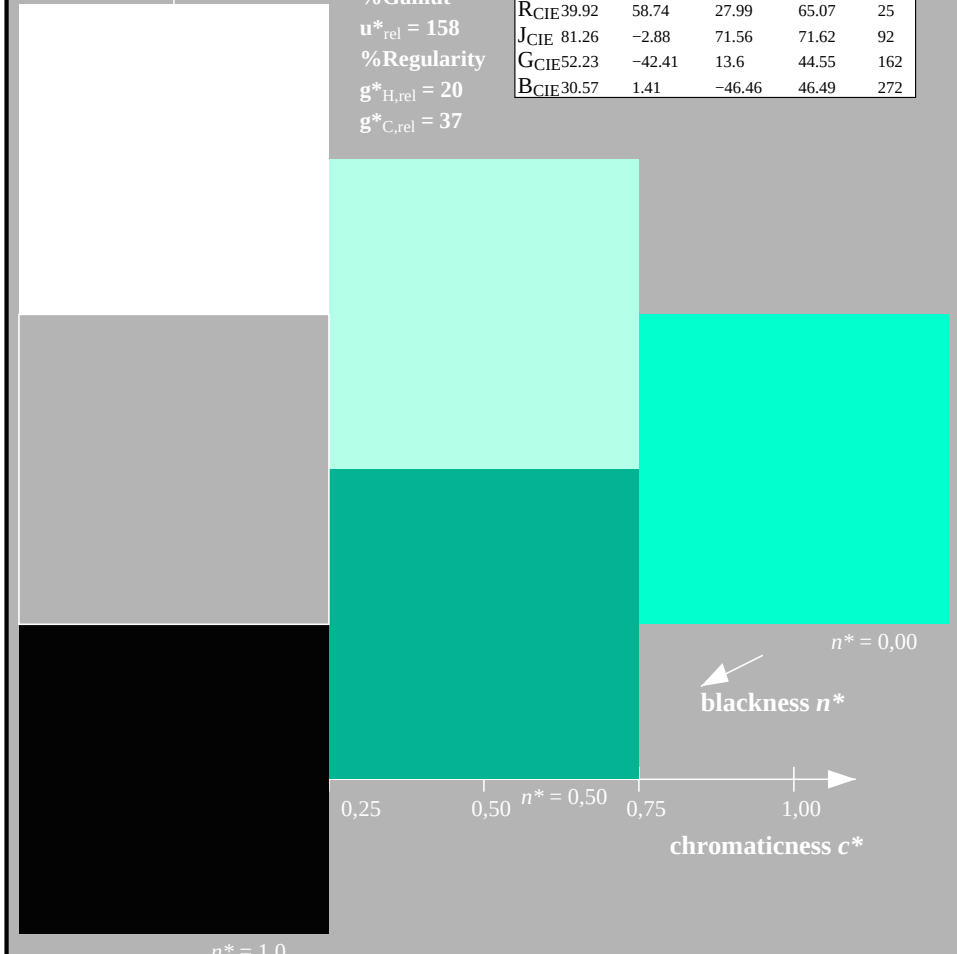
triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37



***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

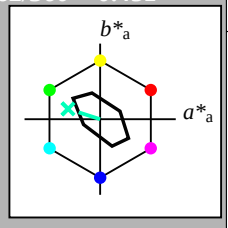
***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

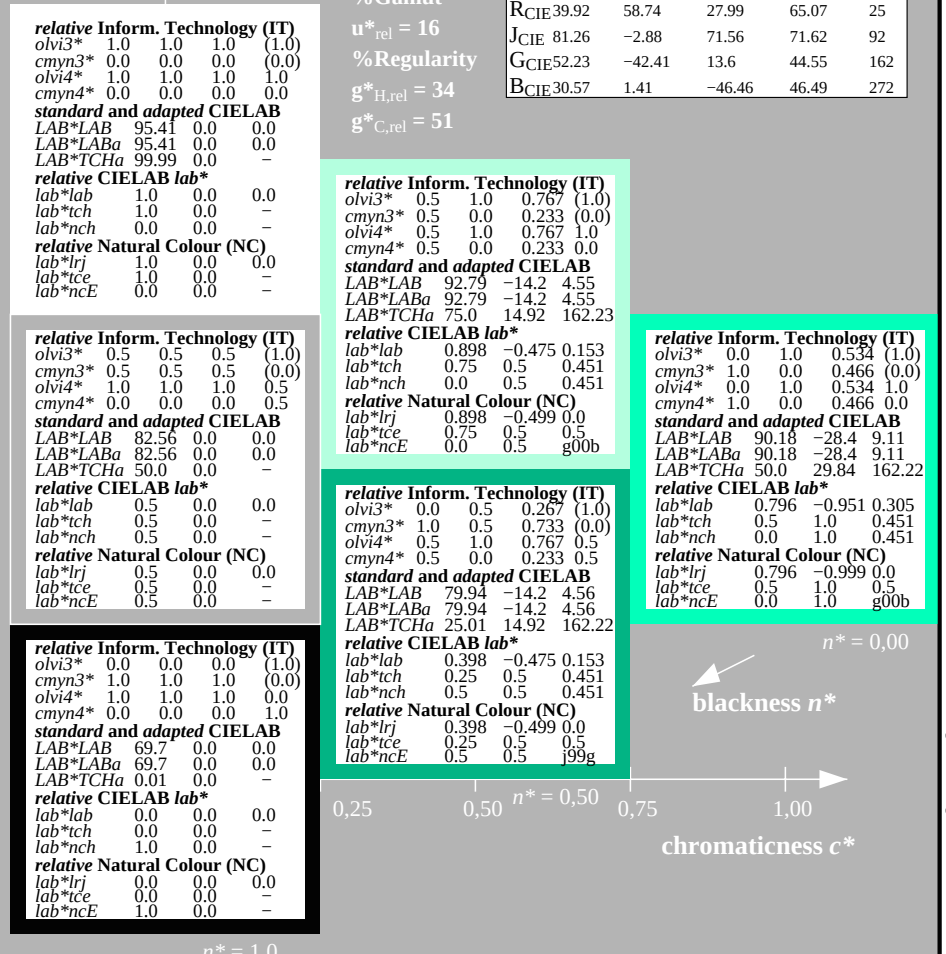
triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	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

%Gamut
u*$_{rel}$ = 16
%Regularity
g*$_{H,rel}$ = 34
g*$_{C,rel}$ = 51



***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767 (1.0)
*cmyn3**	0.5	0.0	0.233 (0.0)
*olvi4**	0.5	1.0	0.767 1.0
*cmyn4**	0.5	0.0	0.233 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267 (1.0)
*cmyn3**	1.0	0.5	0.733 (0.0)
*olvi4**	0.5	1.0	0.767 0.5
*cmyn4**	0.5	0.0	0.233 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534 (1.0)
*cmyn3**	1.0	0.0	0.466 (0.0)
*olvi4**	0.0	1.0	0.534 1.0
*cmyn4**	1.0	0.0	0.466 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

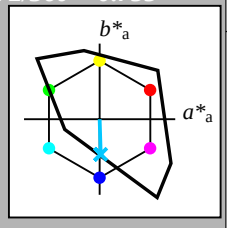
*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

NE030−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

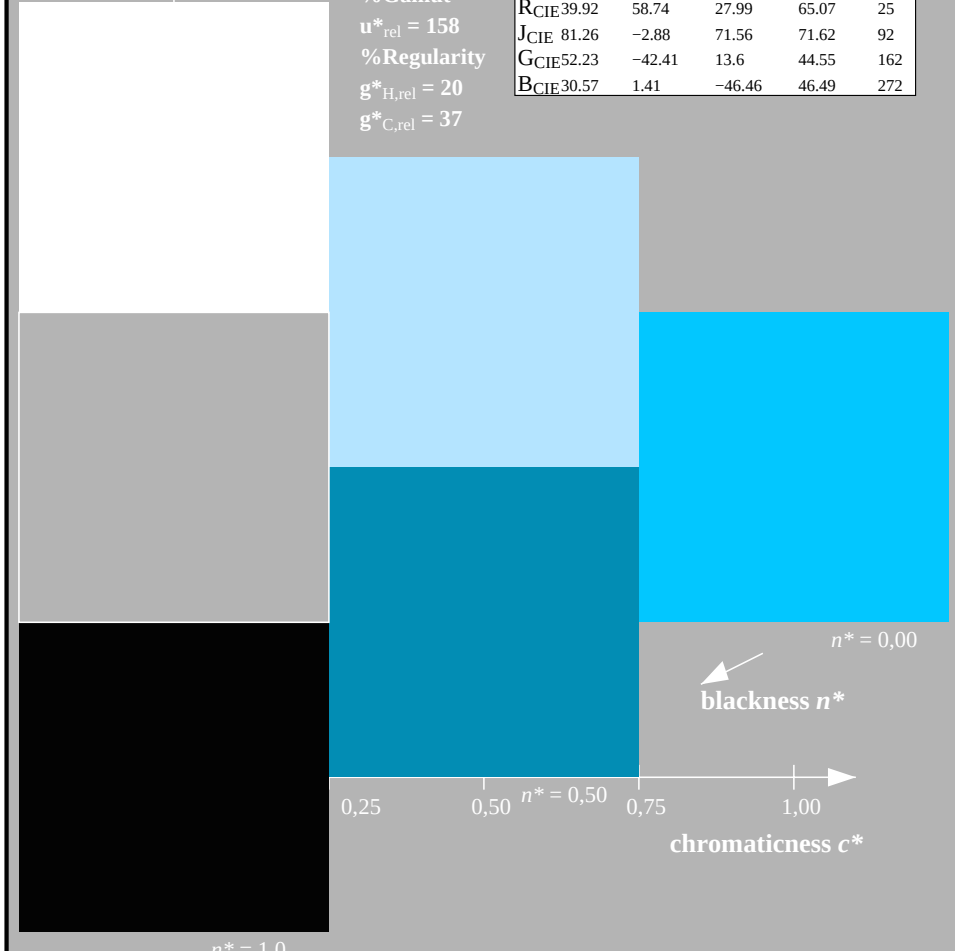
triangle lightness *t**



%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

TLS00; adapted (a) CIELAB data

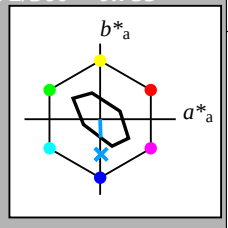
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	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*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



%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_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	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

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

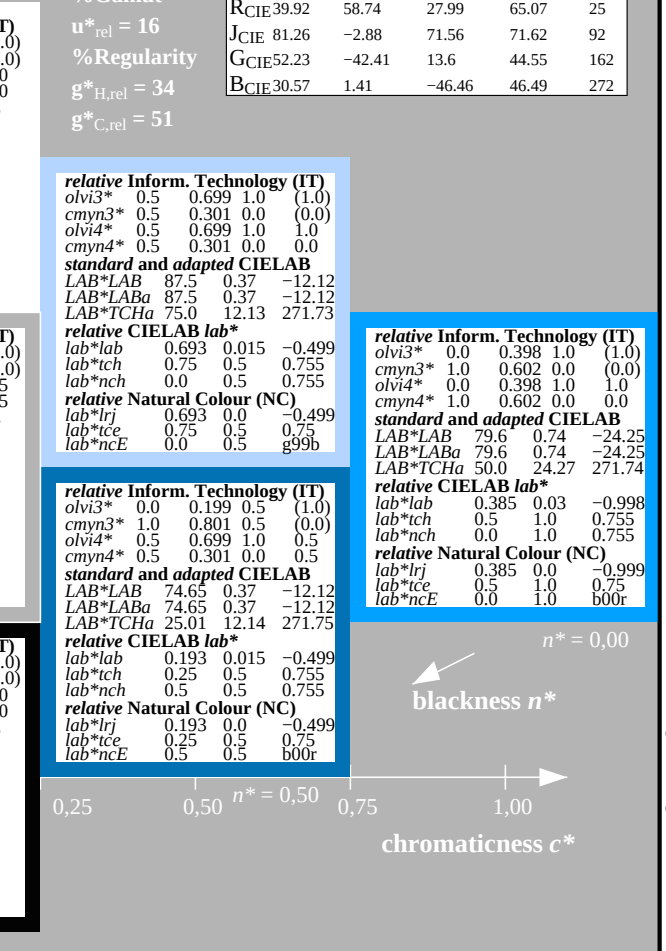
*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r



NE030−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

BAM-test chart NE03; Colorimetric systems TLS00 & TLS70
D65: 3 step colour scales and coordinate data for 10 hues

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