

Colorimetric "Standard data": Television Luminous System TLS08 for CIE lightness $L^*=08$ of black for illuminant D65

System TLS08
LECD monitor

Color	$r=olv*_1$	$g=olv*_2$	$b=olv*_3$	$L^*=LAB*_1$	$a^*=LAB*_2$	$b^*=LAB*_3$	$C^*_{ab}=LAB*_r$	h_{ab}	$X=XYZ_1$	$Y=XYZ_2$	$Z=XYZ_3$	x	y	$Y/88.59$
00 o00y	1.0	0.0	0.0	51.34	73.95	67.81	100.34	42	36.73	19.56	1.53	0.6352	0.3383	0.2208
01 o13y	1.0	0.125	0.0	52.88	69.41	69.1	97.94	44	37.38	20.94	1.67	0.6231	0.3491	0.2364
02 o25y	1.0	0.25	0.0	56.67	58.53	71.62	92.5	50	39.07	24.59	2.1	0.5941	0.3739	0.2776
03 o38y	1.0	0.375	0.0	60.94	46.76	75.25	88.6	57	41.2	29.19	2.58	0.5647	0.4	0.3294
04 o50y	1.0	0.5	0.0	65.67	34.54	79.21	86.41	66	43.92	34.9	3.18	0.5356	0.4256	0.394
05 o63y	1.0	0.625	0.0	70.53	22.68	83.46	86.49	74	47.09	41.51	3.87	0.5093	0.4489	0.4685
06 o75y	1.0	0.75	0.0	76.11	10.04	88.66	89.23	83	51.29	50.07	4.7	0.4836	0.4721	0.5652
07 o88y	1.0	0.875	0.0	82.88	-4.1	95.3	95.39	91	57.17	61.93	5.78	0.4578	0.4959	0.6991
08 y00l	1.0	1.0	0.0	93.02	-23.03	105.66	108.14	101	67.85	83.02	7.59	0.4282	0.5239	0.9371
09 y13l	0.875	1.0	0.0	90.46	-37.66	101.44	108.21	110	56.82	77.3	7.54	0.4011	0.5457	0.8726
10 y25l	0.75	1.0	0.0	88.84	-47.8	99.25	110.17	115	50.17	73.83	7.37	0.3819	0.562	0.8333
11 y38l	0.625	1.0	0.0	87.5	-56.87	97.28	112.69	120	44.84	71.04	7.28	0.3641	0.5768	0.8019
12 y50l	0.5	1.0	0.0	86.46	-64.58	95.74	115.49	123	40.76	68.91	7.21	0.3487	0.5896	0.7779
13 y63l	0.375	1.0	0.0	85.59	-71.44	94.55	118.51	127	37.41	67.16	7.13	0.3349	0.6013	0.7581
14 y75l	0.25	1.0	0.0	84.9	-77.04	93.63	121.26	129	34.84	65.81	7.05	0.3235	0.611	0.7429
15 y88l	0.125	1.0	0.0	84.37	-81.8	92.89	123.78	131	32.83	64.78	7.01	0.3138	0.6192	0.7312
16 l00c	0.0	1.0	0.0	84.13	-83.67	92.58	124.79	132	32.02	64.32	6.98	0.3099	0.6225	0.726
17 l13c	0.0	1.0	0.125	84.19	-82.51	84.59	118.18	134	32.41	64.43	9.32	0.3053	0.6069	0.7273
18 l25c	0.0	1.0	0.25	84.37	-79.56	69.42	105.59	139	33.46	64.78	15.15	0.2951	0.5713	0.7312
19 l38c	0.0	1.0	0.375	84.56	-76.33	56.59	95.03	143	34.63	65.15	21.68	0.2851	0.5364	0.7354
20 l50c	0.0	1.0	0.5	84.8	-72.68	44.45	85.2	148	36.0	65.61	29.45	0.2747	0.5006	0.7406
21 l63c	0.0	1.0	0.625	85.06	-68.82	33.52	76.56	154	37.52	66.13	37.93	0.265	0.4671	0.7464
22 l75c	0.0	1.0	0.75	85.4	-64.55	22.59	68.4	161	39.3	66.79	48.02	0.255	0.4334	0.7539
23 l88c	0.0	1.0	0.875	85.86	-59.18	10.56	60.12	170	41.67	67.71	61.21	0.2443	0.3969	0.7643
24 c00v	0.0	1.0	1.0	87.13	-47.31	-13.09	49.1	197	47.64	70.26	94.69	0.2241	0.3305	0.7931
25 c13v	0.0	0.875	1.0	75.26	-28.93	-32.32	43.39	230	36.79	48.69	92.87	0.2063	0.273	0.5496
26 c25v	0.0	0.75	1.0	67.12	-14.64	-45.51	47.81	254	30.86	36.8	91.64	0.1937	0.231	0.4154
27 c38v	0.0	0.675	1.0	60.15	-0.75	-56.92	56.94	270	26.71	28.29	90.77	0.1832	0.1941	0.3194
28 c50v	0.0	0.5	1.0	53.82	13.3	-67.45	68.76	282	23.59	21.8	90.19	0.174	0.1608	0.2461
29 c63v	0.0	0.375	1.0	47.27	29.17	-78.35	83.61	291	20.92	16.23	89.65	0.165	0.128	0.1832
30 c75v	0.0	0.25	1.0	40.81	46.42	-89.1	100.48	298	18.8	11.75	89.1	0.1571	0.0982	0.1326
31 c88v	0.0	0.125	1.0	34.43	65.45	-100.05	119.57	303	17.2	8.22	89.01	0.1503	0.0718	0.0927
32 v00m	0.0	0.0	1.0	31.5	74.31	-104.82	128.5	305	16.52	6.87	88.61	0.1475	0.0613	0.0775
33 v13m	0.125	0.0	1.0	32.47	74.54	-103.07	127.21	306	17.32	7.3	88.51	0.1531	0.0645	0.0824
34 v25m	0.25	0.0	1.0	34.72	75.5	-99.23	124.7	307	19.35	8.36	88.56	0.1664	0.0719	0.0944
35 v38m	0.375	0.0	1.0	37.32	77.05	-94.81	122.18	309	21.97	9.71	88.63	0.1826	0.0807	0.1096
36 v50m	0.5	0.0	1.0	40.39	78.85	-89.56	119.33	311	25.37	11.49	88.72	0.202	0.0915	0.1297
37 v63m	0.625	0.0	1.0	43.76	80.99	-83.81	116.56	314	29.51	13.67	88.8	0.2236	0.1036	0.1543
38 v75m	0.75	0.0	1.0	47.57	83.98	-77.37	114.19	317	34.88	16.46	88.98	0.2486	0.1173	0.1858
39 v88m	0.875	0.0	1.0	51.73	87.52	-70.22	112.21	321	41.54	19.91	89.02	0.2761	0.1323	0.2247
40 m00o	1.0	0.0	1.0	57.43	92.7	-60.52	110.71	327	52.1	25.36	89.19	0.3126	0.1522	0.2863
41 m13o	1.0	0.0	0.875	54.84	87.12	-37.05	94.67	337	45.97	22.78	54.92	0.3717	0.1842	0.2571
42 m25o	1.0	0.0	0.75	53.88	84.43	-24.75	87.99	343	43.6	21.86	41.7	0.4069	0.204	0.2468
43 m38o	1.0	0.0	0.675	53.2	82.21	-13.3	83.28	350	41.88	21.23	31.75	0.4415	0.2238	0.2396
44 m50o	1.0	0.0	0.5	52.6	80.04	-1.23	80.05	359	40.33	20.68	23.24	0.4787	0.2455	0.2335
45 m63o	1.0	0.0	0.375	52.09	78.0	12.39	78.97	8	38.98	20.22	15.76	0.52	0.2698	0.2283
46 m75o	1.0	0.0	0.25	51.63	76.07	28.3	81.16	20	37.77	19.82	9.37	0.564	0.296	0.2237
47 m88o	1.0	0.0	0.125	51.27	74.47	51.04	90.28	34	36.8	19.5	3.73	0.613	0.3249	0.2202
48 o00y	1.0	0.0	0.0	51.34	73.95	67.81	100.34	42	36.73	19.56	1.53	0.6352	0.3383	0.2208
49 n00w	0.0	0.0	0.0	8.04	0.63	0.72	0.96	0	0.86	0.89	0.92	0.3226	0.3333	0.0101
50 n13w	0.125	0.125	0.125	19.17	0.63	-1.68	1.8	278	2.68	2.79	3.29	0.306	0.318	0.0315
51 n25w	0.25	0.25	0.25	33.35	0.59	-3.43	3.49	280	7.38	7.7	9.44	0.3009	0.314	0.0869
52 n38w	0.375	0.375	0.375	44.14	-0.23	-2.75	2.77	274	13.2	13.93	16.41	0.3032	0.3199	0.1573
53 n50w	0.5	0.5	0.5	53.76	-0.41	-1.68	1.74	278	20.58	21.75	24.69	0.3071	0.3245	0.2455
54 n63w	0.625	0.625	0.625	62.5	-0.25	-0.32	0.42	306	29.39	31.0	34.0	0.3114	0.3284	0.3499
55 n75w	0.75	0.75	0.75	71.54	-0.4	1.97	2.01	53	40.71	42.97	44.98	0.3164	0.334	0.4851
56 n88w	0.875	0.875	0.875	81.43	-1.71	4.47	4.79	91	55.63	59.26	59.51	0.319	0.3398	0.6689
57 n99w	1.0	1.0	1.0	95.41	-2.05	0.78	2.2	0	83.12	88.59	95.29	0.3113	0.3318	1.0

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TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Standard data": Television Luminous System TLS08 for CIE lightness $L^*=08$ of black for illuminant D65

System TLS08
LECD monitor

Y Yellow

$LCH^* = 93.0 \ 108.1 \ 102$

$LAB^* = 93.0 \ -23.0 \ 105.7$

L Leaf green

$LCH^* = 84.1 \ 124.8 \ 132$

$LAB^* = 84.1 \ -83.7 \ 92.6$

C Cyan blue

$LCH^* = 87.1 \ 49.1 \ 195$

$LAB^* = 87.1 \ -47.3 \ -13.1$

standard CIELAB (a^* , b^*) chroma diagram

O Orange red

$LCH^* = 51.3 \ 100.3 \ 43$

$LAB^* = 51.3 \ 74.0 \ 67.8$

M Magenta red

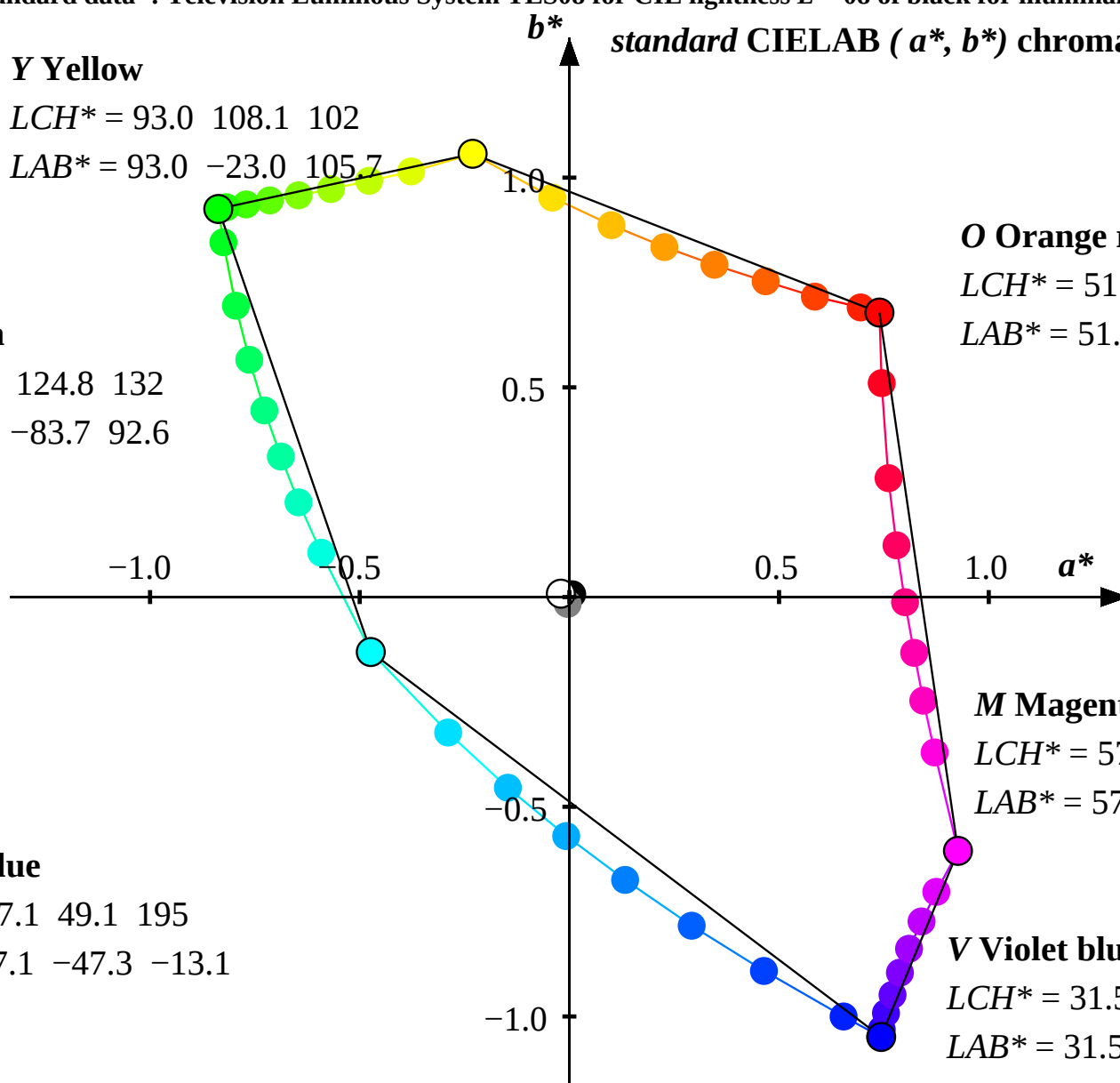
$LCH^* = 57.4 \ 110.7 \ 327$

$LAB^* = 57.4 \ 92.7 \ -60.5$

V Violet blue

$LCH^* = 31.5 \ 128.5 \ 305$

$LAB^* = 31.5 \ 74.3 \ -104.8$



Colorimetric "Adapted data (a)": Television Luminous System TLS08a for CIE lightness $L^*=08$ of black for illuminant D65

System TLS08a
LECD monitor

Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*_a=LAB^*1_a$	$a^*_a=LAB^*2_a$	$b^*_a=LAB^*3_a$	$C^*_{ab,a}=LAB^*r_a$	$h_{ab,a}$	$X_a=XYZ^*1_a$	$Y_a=XYZ^*2_a$	$Z_a=XYZ^*3_a$	x_a	y_a	$Y_a/88.59$
00 o00y	1.0	0.0	0.0	51.34	74.65	67.07	100.35	42	36.94	19.56	1.6	0.6357	0.3366	0.2208
01 o13y	1.0	0.125	0.0	52.88	70.16	68.35	97.95	44	37.61	20.94	1.74	0.6237	0.3473	0.2364
02 o25y	1.0	0.25	0.0	56.67	59.4	70.87	92.47	50	39.34	24.59	2.19	0.595	0.3718	0.2776
03 o38y	1.0	0.375	0.0	60.94	47.76	74.5	88.49	57	41.53	29.19	2.68	0.5658	0.3977	0.3294
04 o50y	1.0	0.5	0.0	65.67	35.68	78.45	86.19	66	44.31	34.9	3.3	0.537	0.423	0.394
05 o63y	1.0	0.625	0.0	70.53	23.98	82.7	86.11	74	47.56	41.51	4.0	0.511	0.446	0.4685
06 o75y	1.0	0.75	0.0	76.11	11.51	87.9	88.65	83	51.84	50.07	4.85	0.4856	0.469	0.5652
07 o88y	1.0	0.875	0.0	82.88	-2.43	94.53	94.57	91	57.86	61.93	5.96	0.4601	0.4925	0.6991
08 y00l	1.0	1.0	0.0	93.02	-21.05	104.88	106.97	101	68.76	83.02	7.81	0.4309	0.5202	0.9371
09 y13l	0.875	1.0	0.0	90.46	-35.75	100.66	106.83	110	57.59	77.3	7.75	0.4038	0.5419	0.8726
10 y25l	0.75	1.0	0.0	88.84	-45.94	98.48	108.67	115	50.86	73.82	7.58	0.3845	0.5581	0.8333
11 y38l	0.625	1.0	0.0	87.5	-55.06	96.51	111.12	120	45.47	71.04	7.49	0.3667	0.5729	0.8019
12 y50l	0.5	1.0	0.0	86.46	-62.8	94.97	113.86	123	41.34	68.91	7.42	0.3513	0.5856	0.7779
13 y63l	0.375	1.0	0.0	85.59	-69.68	93.78	116.84	127	37.95	67.16	7.33	0.3375	0.5973	0.7581
14 y75l	0.25	1.0	0.0	84.9	-75.31	92.87	119.57	129	35.35	65.81	7.26	0.3261	0.607	0.7429
15 y88l	0.125	1.0	0.0	84.37	-80.07	92.12	122.07	131	33.31	64.78	7.21	0.3164	0.6151	0.7312
16 l00c	0.0	1.0	0.0	84.13	-81.96	91.81	123.08	132	32.49	64.32	7.19	0.3124	0.6184	0.726
17 l13c	0.0	1.0	0.125	84.19	-80.8	83.83	116.43	134	32.89	64.43	9.57	0.3077	0.6028	0.7273
18 l25c	0.0	1.0	0.25	84.37	-77.84	68.65	103.79	139	33.95	64.78	15.49	0.2973	0.5671	0.7312
19 l38c	0.0	1.0	0.375	84.56	-74.6	55.82	93.18	143	35.13	65.15	22.11	0.287	0.5323	0.7354
20 l50c	0.0	1.0	0.5	84.8	-70.94	43.68	83.32	148	36.52	65.61	29.98	0.2765	0.4966	0.7406
21 l63c	0.0	1.0	0.625	85.06	-67.08	32.75	74.65	154	38.05	66.13	38.55	0.2666	0.4633	0.7464
22 l75c	0.0	1.0	0.75	85.4	-62.8	21.82	66.49	161	39.85	66.79	48.75	0.2565	0.4298	0.7539
23 l88c	0.0	1.0	0.875	85.86	-57.41	9.79	58.25	170	42.26	67.71	62.07	0.2456	0.3936	0.7643
24 c00v	0.0	1.0	1.0	87.13	-45.5	-13.86	47.58	197	48.3	70.26	95.84	0.2253	0.3277	0.7931
25 c13v	0.0	0.875	1.0	75.26	-27.49	-33.08	43.03	230	37.23	48.69	93.99	0.2069	0.2706	0.5496
26 c25v	0.0	0.75	1.0	67.12	-13.45	-46.26	48.19	254	31.18	36.8	92.75	0.194	0.2289	0.4154
27 c38v	0.0	0.675	1.0	60.15	0.22	-57.68	57.69	270	26.94	28.29	91.87	0.1832	0.1923	0.3194
28 c50v	0.0	0.5	1.0	53.82	14.08	-68.2	69.65	282	23.77	21.8	91.28	0.1737	0.1593	0.2461
29 c63v	0.0	0.375	1.0	47.27	29.74	-79.09	84.51	291	21.04	16.23	90.72	0.1644	0.1268	0.1832
30 c75v	0.0	0.25	1.0	40.81	46.8	-89.84	101.31	298	18.87	11.75	90.16	0.1562	0.0973	0.1326
31 c88v	0.0	0.125	1.0	34.43	65.63	-100.79	120.28	303	17.23	8.22	90.06	0.1492	0.0711	0.0927
32 v00m	0.0	0.0	1.0	31.5	74.4	-105.56	129.15	305	16.54	6.87	89.66	0.1463	0.0607	0.0775
33 v13m	0.125	0.0	1.0	32.47	74.66	-103.81	127.87	306	17.34	7.3	89.56	0.1519	0.0639	0.0824
34 v25m	0.25	0.0	1.0	34.72	75.69	-99.97	125.4	307	19.38	8.36	89.61	0.1652	0.0712	0.0944
35 v38m	0.375	0.0	1.0	37.32	77.32	-95.55	122.92	309	22.03	9.71	89.69	0.1814	0.08	0.1096
36 v50m	0.5	0.0	1.0	40.39	79.21	-90.3	120.13	311	25.45	11.49	89.78	0.2009	0.0907	0.1297
37 v63m	0.625	0.0	1.0	43.76	81.46	-84.56	117.42	314	29.63	13.67	89.86	0.2225	0.1027	0.1543
38 v75m	0.75	0.0	1.0	47.57	84.56	-78.11	115.13	317	35.06	16.46	90.05	0.2476	0.1163	0.1858
39 v88m	0.875	0.0	1.0	51.73	88.23	-70.97	113.24	321	41.78	19.91	90.09	0.2753	0.1312	0.2247
40 m00o	1.0	0.0	1.0	57.43	93.59	-61.28	111.87	327	52.44	25.36	90.27	0.312	0.1509	0.2863
41 m13o	1.0	0.0	0.875	54.84	87.93	-37.8	95.71	337	46.25	22.78	55.7	0.3708	0.1826	0.2571
42 m25o	1.0	0.0	0.75	53.88	85.21	-25.5	88.95	343	43.87	21.86	42.34	0.4059	0.2023	0.2468
43 m38o	1.0	0.0	0.675	53.2	82.97	-14.05	84.15	350	42.13	21.23	32.29	0.4405	0.2219	0.2396
44 m50o	1.0	0.0	0.5	52.6	80.78	-1.98	80.8	359	40.57	20.68	23.67	0.4777	0.2435	0.2335
45 m63o	1.0	0.0	0.375	52.09	78.72	11.65	79.58	8	39.21	20.22	16.09	0.5191	0.2678	0.2283
46 m75o	1.0	0.0	0.25	51.63	76.78	27.55	81.57	20	37.99	19.82	9.61	0.5634	0.294	0.2237
47 m88o	1.0	0.0	0.125	51.27	75.17	50.3	90.44	34	37.01	19.5	3.86	0.613	0.3231	0.2202
48 o00y	1.0	0.0	0.0	51.34	74.65	67.07	100.35	42	36.94	19.56	1.6	0.6357	0.3366	0.2208
49 n00w	0.0	0.0	0.0	8.04	0.0	0.0	0.01	0	0.85	0.89	0.97	0.3127	0.329	0.0101
50 n13w	0.125	0.125	0.125	19.17	0.34	-2.41	2.44	278	2.67	2.79	3.41	0.3008	0.3144	0.0315
51 n25w	0.25	0.25	0.25	33.35	0.73	-4.17	4.24	280	7.39	7.7	9.68	0.2985	0.3108	0.0869
52 n38w	0.375	0.375	0.375	44.14	0.24	-3.5	3.51	274	13.28	13.93	16.76	0.302	0.3168	0.1573
53 n50w	0.5	0.5	0.5	53.76	0.35	-2.43	2.46	278	20.74	21.75	25.14	0.3067	0.3215	0.2455
54 n63w	0.625	0.625	0.625	62.5	0.79	-1.08	1.34	306	29.66	31.0	34.57	0.3115	0.3255	0.3499
55 n75w	0.75	0.75	0.75	71.54	0.92	1.21	1.52	53	41.14	42.97	45.67	0.317	0.3311	0.4851
56 n88w	0.875	0.875	0.875	81.43	-0.08	3.71	3.71	91	56.29	59.26	60.35	0.32	0.3369	0.6689
57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0

JE020-7N, Colorimetric data of Television Luminous System TLS08a for CIE standard illuminant D65; LECD monitor; Page: 3/44

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: olv^* setrgbcolor

output: no change compared to input

See original or copy: <http://web.me.com/klaus.richter/IE02/IE02L0NP.PDF> / .PS
Technical information: <http://www.ps.bam.de> or <http://130.149.60.45/~farbmeterik>

TUB registration: 20090901-JE02/IE02L0NP.PDF / .PS
application for measurement of printer or monitor systems

TUB material: code=rha4ta

<http://130.149.60.45/~farbmeterik/IE02/IE02L0NP.PDF> / .PS; start output
N: No Output Linearization (OL) data in File (F), Startup (S) or Device (D); page 4/44

Colorimetric "Adapted data (a)": Television Luminous System TLS08a for CIE lightness $L^*=08$ of black for illuminant D65
System TLS08a
LECD monitor

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*

Y Yellow

$LCH^*_a = 93.0 \ 107.0 \ 101$

$LAB^*_a = 93.0 \ -21.1 \ 104.9$

L Leaf green

$LCH^*_a = 84.1 \ 123.1 \ 132$

$LAB^*_a = 84.1 \ -82.0 \ 91.8$

O Orange red

$LCH^*_a = 51.3 \ 100.4 \ 42$

$LAB^*_a = 51.3 \ 74.7 \ 67.1$

M Magenta red

$LCH^*_a = 57.4 \ 111.9 \ 327$

$LAB^*_a = 57.4 \ 93.6 \ -61.3$

C Cyan blue

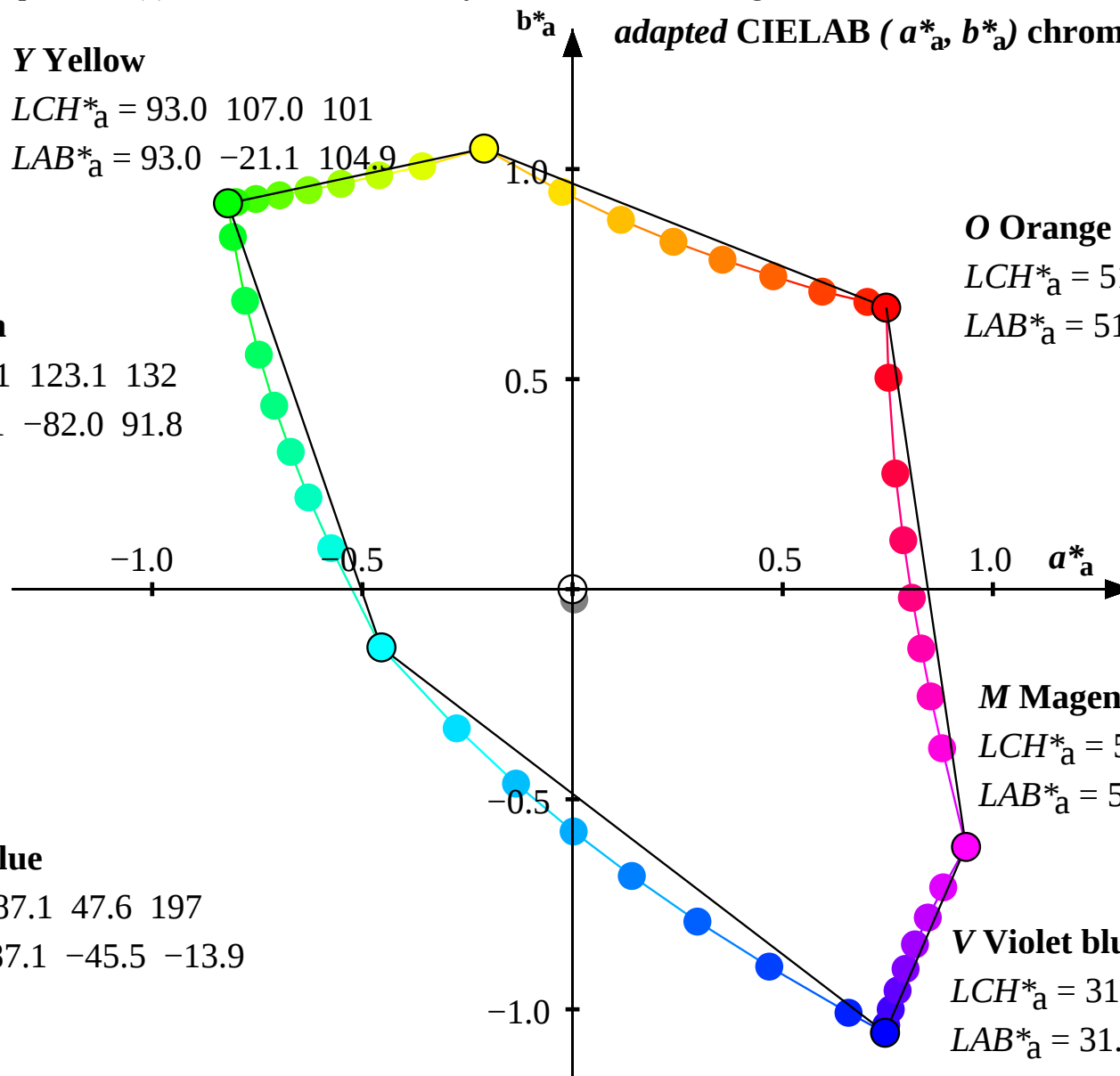
$LCH^*_a = 87.1 \ 47.6 \ 197$

$LAB^*_a = 87.1 \ -45.5 \ -13.9$

V Violet blue

$LCH^*_a = 31.5 \ 129.1 \ 305$

$LAB^*_a = 31.5 \ 74.4 \ -105.6$



Colorimetric "Adapted data (a0)": Television Luminous System TLS00a0 for CIE lightness $L^*=00$ of black for illuminant D65

System TLS00a0
LECD monitor

Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*=LAB*1a$	$a^*=LAB*2a$	$b^*=LAB*3a$	$C^*_{ab,a}=LAB^*_{ab,a}h_{ab,a}$	$X_a=XYZ1a$	$Y_a=XYZ2a$	$Z_a=XYZ3a$	x_a	y_a	$Y_a/88.59$
00 o00y	1.0	0.0	0.0	50.52	76.57	77.94	109.26	46	36.46	18.86	0.64	0.6515	0.2274
01 o13y	1.0	0.125	0.0	52.12	71.9	78.68	106.58	48	37.13	20.25	0.78	0.6384	0.2441
02 o25y	1.0	0.25	0.0	56.03	60.74	79.23	99.83	53	38.89	23.94	1.24	0.607	0.3737
03 o38y	1.0	0.375	0.0	60.41	48.74	81.5	94.96	59	41.1	28.58	1.73	0.5755	0.4003
04 o50y	1.0	0.5	0.0	65.24	36.34	84.36	91.85	67	43.91	34.36	2.35	0.5446	0.4262
05 o63y	1.0	0.625	0.0	70.2	24.38	87.8	91.12	74	47.19	41.03	3.06	0.5169	0.4495
06 o75y	1.0	0.75	0.0	75.87	11.68	92.34	93.08	83	51.52	49.68	3.92	0.4901	0.5988
07 o88y	1.0	0.875	0.0	82.73	-2.46	98.41	98.44	91	57.59	61.66	5.04	0.4633	0.4961
08 y00l	1.0	1.0	0.0	93.0	-21.28	108.16	110.24	101	68.61	82.96	6.91	0.4329	0.5235
09 y13l	0.875	1.0	0.0	90.41	-36.19	103.92	110.04	109	57.32	77.19	6.85	0.4055	0.546
10 y25l	0.75	1.0	0.0	88.77	-46.54	101.76	111.9	115	50.52	73.68	6.68	0.386	0.5629
11 y38l	0.625	1.0	0.0	87.42	-55.81	99.8	114.35	119	45.08	70.86	6.58	0.3679	0.5783
12 y50l	0.5	1.0	0.0	86.36	-63.7	98.26	117.11	123	40.9	68.71	6.52	0.3522	0.5917
13 y63l	0.375	1.0	0.0	85.48	-70.73	97.08	120.12	126	37.48	66.94	6.43	0.3381	0.6039
14 y75l	0.25	1.0	0.0	84.78	-76.49	96.18	122.9	128	34.86	65.58	6.35	0.3264	0.6141
15 y88l	0.125	1.0	0.0	84.24	-81.37	95.45	125.43	130	32.8	64.53	6.31	0.3165	0.6227
16 l00c	0.0	1.0	0.0	84.0	-83.3	95.14	126.46	131	31.97	64.07	6.28	0.3124	0.6262
17 l13c	0.0	1.0	0.125	84.06	-82.11	86.43	119.22	134	32.37	64.19	8.69	0.3076	0.6099
18 l25c	0.0	1.0	0.25	84.24	-79.08	70.31	105.83	138	33.44	64.53	14.67	0.2969	0.5729
19 l38c	0.0	1.0	0.375	84.44	-75.78	56.96	94.81	143	34.63	64.91	21.36	0.2865	0.5369
20 l50c	0.0	1.0	0.5	84.68	-72.04	44.45	84.66	148	36.04	65.38	29.3	0.2757	0.5001
21 l63c	0.0	1.0	0.625	84.94	-68.09	33.27	75.8	154	37.58	65.9	37.96	0.2657	0.4659
22 l75c	0.0	1.0	0.75	85.28	-63.73	22.13	67.47	161	39.4	66.57	48.27	0.2555	0.4316
23 l88c	0.0	1.0	0.875	85.75	-58.24	9.92	59.09	170	41.83	67.49	61.72	0.2446	0.3946
24 c00v	0.0	1.0	1.0	87.03	-46.11	-14.02	48.21	197	47.93	70.08	95.84	0.2241	0.3277
25 c13v	0.0	0.875	1.0	75.0	-27.97	-33.5	43.66	230	36.75	48.28	93.97	0.2053	0.2697
26 c25v	0.0	0.75	1.0	66.73	-13.73	-46.92	48.9	254	30.64	36.27	92.71	0.1919	0.2272
27 c38v	0.0	0.675	1.0	59.6	0.22	-58.6	58.61	270	26.36	27.68	91.82	0.1807	0.1898
28 c50v	0.0	0.5	1.0	53.09	14.5	-69.42	70.93	282	23.15	21.12	91.22	0.1709	0.1559
29 c63v	0.0	0.375	1.0	46.31	30.82	-80.72	86.42	291	20.4	15.5	90.66	0.1612	0.1224
30 c75v	0.0	0.25	1.0	39.53	48.89	-92.02	104.21	298	18.21	10.97	90.09	0.1526	0.092
31 c88v	0.0	0.125	1.0	32.7	69.31	-103.72	124.76	304	16.55	7.4	90.0	0.1452	0.0649
32 v00m	0.0	0.0	1.0	29.5	79.08	-108.95	134.64	306	15.85	6.04	89.59	0.1422	0.0541
33 v13m	0.125	0.0	1.0	30.57	79.11	-107.04	133.1	306	16.66	6.47	89.49	0.148	0.0575
34 v25m	0.25	0.0	1.0	33.02	79.67	-102.86	130.11	308	18.73	7.54	89.54	0.1617	0.0651
35 v38m	0.375	0.0	1.0	35.81	80.86	-98.1	127.14	309	21.4	8.91	89.62	0.1784	0.0743
36 v50m	0.5	0.0	1.0	39.08	82.32	-92.52	123.85	312	24.86	10.71	89.71	0.1984	0.0855
37 v63m	0.625	0.0	1.0	42.63	84.2	-86.46	120.69	314	29.08	12.91	89.79	0.2207	0.098
38 v75m	0.75	0.0	1.0	46.61	86.98	-79.72	117.99	317	34.56	15.73	89.98	0.2464	0.1121
39 v88m	0.875	0.0	1.0	50.93	90.37	-72.31	115.74	321	41.35	19.21	90.02	0.2746	0.1276
40 m00o	1.0	0.0	1.0	56.8	95.44	-62.31	113.98	327	52.11	24.72	90.21	0.312	0.148
41 m13o	1.0	0.0	0.875	54.14	89.85	-38.61	97.79	337	45.87	22.11	55.29	0.3721	0.1794
42 m25o	1.0	0.0	0.75	53.15	87.15	-26.12	90.98	343	43.46	21.18	41.79	0.4083	0.199
43 m38o	1.0	0.0	0.675	52.45	84.91	-14.45	86.14	350	41.7	20.54	31.64	0.4442	0.2188
44 m50o	1.0	0.0	0.5	51.83	82.73	-2.04	82.75	359	40.12	19.99	22.94	0.4831	0.2407
45 m63o	1.0	0.0	0.375	51.3	80.67	12.1	81.57	9	38.75	19.53	15.28	0.5268	0.2655
46 m75o	1.0	0.0	0.25	50.83	78.72	28.97	83.89	20	37.52	19.12	8.73	0.5739	0.2925
47 m88o	1.0	0.0	0.125	50.46	77.1	54.73	94.55	35	36.53	18.8	2.92	0.6271	0.3228
48 o00y	1.0	0.0	0.0	50.52	76.57	77.94	109.26	46	36.46	18.86	0.64	0.6515	0.337
49 n00w	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0	0.0	0.0	0.0	0.0	0.0
50 n13w	0.125	0.125	0.125	15.04	0.44	-3.07	3.11	278	1.84	1.92	2.47	0.2955	0.3079
51 n25w	0.25	0.25	0.25	31.53	0.8	-4.51	4.59	280	6.61	6.88	8.8	0.2967	0.3086
52 n38w	0.375	0.375	0.375	43.02	0.26	-3.66	3.68	274	12.56	13.17	15.95	0.3013	0.316
53 n50w	0.5	0.5	0.5	53.02	0.36	-2.5	2.54	278	20.1	21.07	24.42	0.3064	0.3212
54 n63w	0.625	0.625	0.625	62.01	0.81	-1.1	1.37	306	29.11	30.41	33.94	0.3115	0.3254
55 n75w	0.75	0.75	0.75	71.22	0.93	1.23	1.54	53	40.7	42.51	45.16	0.3171	0.3312
56 n88w	0.875	0.875	0.875	81.27	-0.08	3.76	3.76	91	56.0	58.96	59.98	0.3201	0.337
57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329

JE020-7N, Colorimetric data of Television Luminous System TLS08a0 for CIE standard illuminant D65; LECD monitor; Page: 5/44

$n = 88.59 / (88.59 - 0.89) = 1.01$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

See original or copy: <http://web.me.com/klaus.richter/IE02/IE02L0NP.PDF> / .PS
Technical information: <http://www.ps.bam.de> or <http://130.149.60.45/~farbmeterik>

TUB registration: 20090901-JE02/IE02L0NP.PDF / .PS
application for measurement of printer or monitor systems

TUB material: code=rha4ta

<http://130.149.60.45/~farbmeterik/IE02/IE02L0NP.PDF> / .PS; start output
N: No Output Linearization (OL) data in File (F), Startup (S) or Device (D); page 6/44

Colorimetric "Adapted data (a0)": Television Luminous System TLS00a0 for CIE lightness $L^*=00$ of black for illuminant D65
System TLS00a0
LECD monitor

adapted CIELAB (a^ , b^*) chroma diagram*

Y Yellow

$LCH^*_a = 93.0 \ 110.2 \ 101$

$LAB^*_a = 93.0 \ -21.3 \ 108.2$

L Leaf green

$LCH^*_a = 84.0 \ 126.5 \ 131$

$LAB^*_a = 84.0 \ -83.3 \ 95.1$

O Orange red

$LCH^*_a = 50.5 \ 109.3 \ 46$

$LAB^*_a = 50.5 \ 76.6 \ 77.9$

M Magenta red

$LCH^*_a = 56.8 \ 114.0 \ 327$

$LAB^*_a = 56.8 \ 95.4 \ -62.3$

C Cyan blue

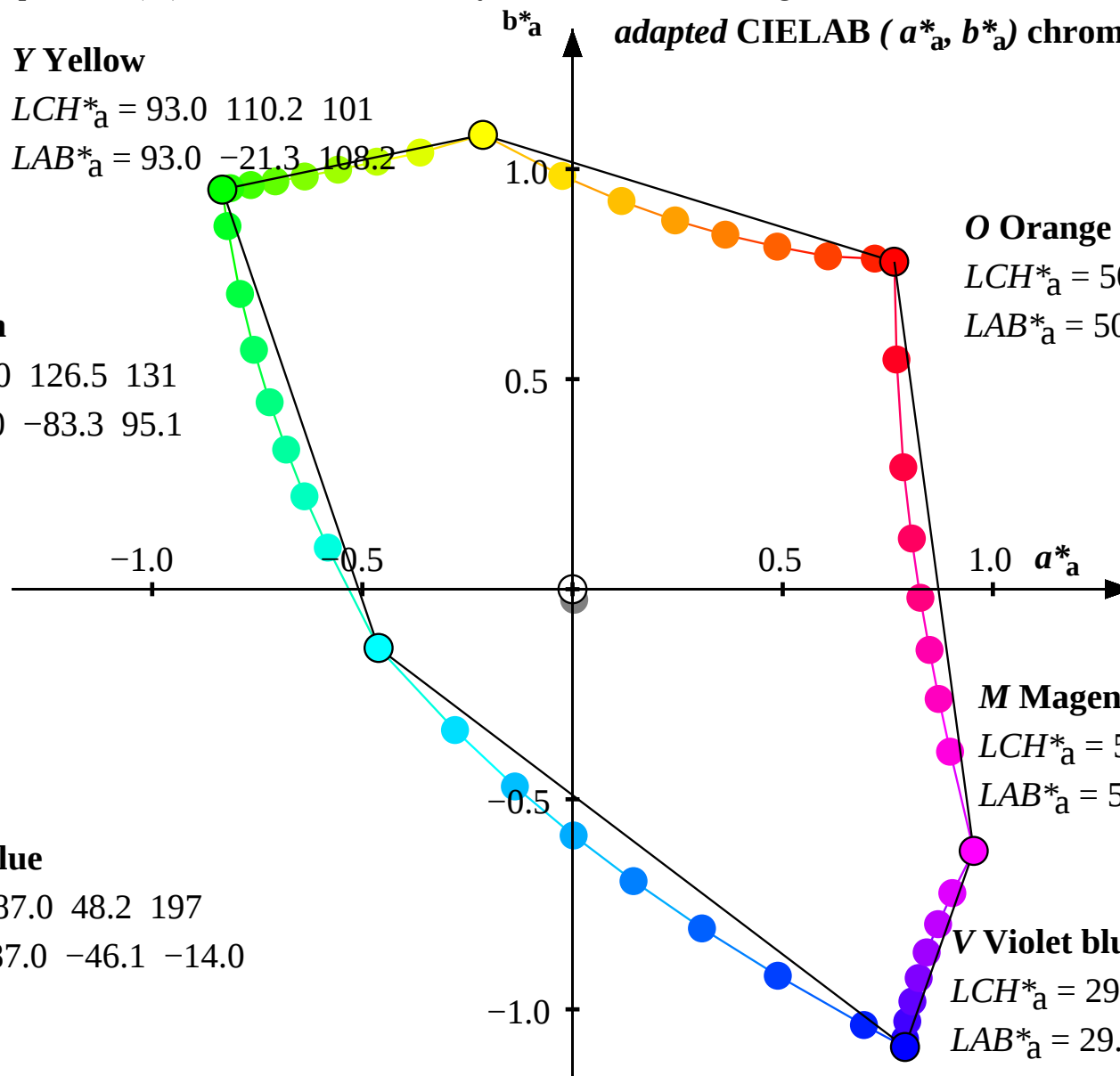
$LCH^*_a = 87.0 \ 48.2 \ 197$

$LAB^*_a = 87.0 \ -46.1 \ -14.0$

V Violet blue

$LCH^*_a = 29.5 \ 134.6 \ 306$

$LAB^*_a = 29.5 \ 79.1 \ -109.0$



Colorimetric "Adapted data (a)": Television Luminous System TLS00a for CIE lightness $L^*=00$ of black for illuminant D65

System TLS00a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	$L^*_a=LAB^*_{1a}$	$a^*_a=LAB^*_{2a}$	$b^*_a=LAB^*_{3a}$	$C^*_{ab,a}=LAB^*_{ab,a}$	$h^*_{ab,a}$	$X_a=XYZ^*_{1a}$	$Y_a=XYZ^*_{2a}$	$Z_a=XYZ^*_{3a}$	x_a	y_a	$Y_a/88.59$
LECD monitor	00 o00y	1.0	0.0	0.0	50.52	76.57	77.94	109.26	46	36.46	18.86	0.64	0.6515	0.337	0.2274
	01 o13y	1.0	0.125	0.0	52.12	71.9	78.68	106.58	48	37.13	20.25	0.78	0.6384	0.3482	0.2441
D65 reflection:	02 o25y	1.0	0.25	0.0	56.03	60.74	79.23	99.83	53	38.89	23.94	1.24	0.607	0.3737	0.2886
	03 o38y	1.0	0.375	0.0	60.41	48.74	81.5	94.96	59	41.1	28.58	1.73	0.5755	0.4003	0.3445
	04 o50y	1.0	0.5	0.0	65.24	36.34	84.36	91.85	67	43.91	34.36	2.35	0.5446	0.4262	0.4141
	05 o63y	1.0	0.625	0.0	70.2	24.38	87.8	91.12	74	47.19	41.03	3.06	0.5169	0.4495	0.4946
	06 o75y	1.0	0.75	0.0	75.87	11.68	92.34	93.08	83	51.52	49.68	3.92	0.4901	0.4726	0.5988
	07 o88y	1.0	0.875	0.0	82.73	-2.46	98.41	98.44	91	57.59	61.66	5.04	0.4633	0.4961	0.7433
	08 y00l	1.0	1.0	0.0	93.0	-21.28	108.16	110.24	101	68.61	82.96	6.91	0.4329	0.5235	1.0
	09 y13l	0.875	1.0	0.0	90.41	-36.19	103.92	110.04	109	57.32	77.19	6.85	0.4055	0.546	0.9304
	10 y25l	0.75	1.0	0.0	88.77	-46.54	101.76	111.9	115	50.52	73.68	6.68	0.386	0.5629	0.8881
	11 y38l	0.625	1.0	0.0	87.42	-55.81	99.8	114.35	119	45.08	70.86	6.58	0.3679	0.5783	0.8541
	12 y50l	0.5	1.0	0.0	86.36	-63.7	98.26	117.11	123	40.9	68.71	6.52	0.3522	0.5917	0.8283
	13 y63l	0.375	1.0	0.0	85.48	-70.73	97.08	120.12	126	37.48	66.94	6.43	0.3381	0.6039	0.8069
	14 y75l	0.25	1.0	0.0	84.78	-76.49	96.18	122.9	128	34.86	65.58	6.35	0.3264	0.6141	0.7905
	15 y88l	0.125	1.0	0.0	84.24	-81.37	95.45	125.43	130	32.8	64.53	6.31	0.3165	0.6227	0.7779
	16 l00c	0.0	1.0	0.0	84.0	-83.3	95.14	126.46	131	31.97	64.07	6.28	0.3124	0.6262	0.7723
	17 l13c	0.0	1.0	0.125	84.06	-82.11	86.43	119.22	134	32.37	64.19	8.69	0.3076	0.6099	0.7737
	18 l25c	0.0	1.0	0.25	84.24	-79.08	70.31	105.83	138	33.44	64.53	14.67	0.2969	0.5729	0.7779
	19 l38c	0.0	1.0	0.375	84.44	-75.78	56.96	94.81	143	34.63	64.91	21.36	0.2865	0.5369	0.7824
	20 l50c	0.0	1.0	0.5	84.68	-72.04	44.45	84.66	148	36.04	65.38	29.3	0.2757	0.5001	0.788
	21 l63c	0.0	1.0	0.625	84.94	-68.09	33.27	75.8	154	37.58	65.9	37.96	0.2657	0.4659	0.7943
	22 l75c	0.0	1.0	0.75	85.28	-63.73	22.13	67.47	161	39.4	66.57	48.27	0.2555	0.4316	0.8024
	23 l88c	0.0	1.0	0.875	85.75	-58.24	9.92	59.09	170	41.83	67.49	61.72	0.2446	0.3946	0.8136
	24 c00v	0.0	1.0	1.0	87.03	-46.11	-14.02	48.21	197	47.93	70.08	95.84	0.2241	0.3277	0.8447
	25 c13v	0.0	0.875	1.0	75.0	-27.97	-33.5	43.66	230	36.75	48.28	93.97	0.2053	0.2697	0.582
	26 c25v	0.0	0.75	1.0	66.73	-13.73	-46.92	48.9	254	30.64	36.27	92.71	0.1919	0.2272	0.4372
	27 c38v	0.0	0.675	1.0	59.6	0.22	-58.6	58.61	270	26.36	27.68	91.82	0.1807	0.1898	0.3337
	28 c50v	0.0	0.5	1.0	53.09	14.5	-69.42	70.93	282	23.15	21.12	91.22	0.1709	0.1559	0.2546
	29 c63v	0.0	0.375	1.0	46.31	30.82	-80.72	86.42	291	20.4	15.5	90.66	0.1612	0.1224	0.1868
	30 c75v	0.0	0.25	1.0	39.53	48.89	-92.02	104.21	298	18.21	10.97	90.09	0.1526	0.092	0.1322
	31 c88v	0.0	0.125	1.0	32.7	69.31	-103.72	124.76	304	16.55	7.4	90.0	0.1452	0.0649	0.0892
	32 v00m	0.0	0.0	1.0	29.5	79.08	-108.95	134.64	306	15.85	6.04	89.59	0.1422	0.0541	0.0728
	33 v13m	0.125	0.0	1.0	30.57	79.11	-107.04	133.1	306	16.66	6.47	89.49	0.148	0.0575	0.078
	34 v25m	0.25	0.0	1.0	33.02	79.67	-102.86	130.11	308	18.73	7.54	89.54	0.1617	0.0651	0.0909
	35 v38m	0.375	0.0	1.0	35.81	80.86	-98.1	127.14	309	21.4	8.91	89.62	0.1784	0.0743	0.1074
	36 v50m	0.5	0.0	1.0	39.08	82.32	-92.52	123.85	312	24.86	10.71	89.71	0.1984	0.0855	0.1291
	37 v63m	0.625	0.0	1.0	42.63	84.2	-86.46	120.69	314	29.08	12.91	89.79	0.2207	0.098	0.1556
	38 v75m	0.75	0.0	1.0	46.61	86.98	-79.72	117.99	317	34.56	15.73	89.98	0.2464	0.1121	0.1896
	39 v88m	0.875	0.0	1.0	50.93	90.37	-72.31	115.74	321	41.35	19.21	90.02	0.2746	0.1276	0.2315
	40 m00o	1.0	0.0	1.0	56.8	95.44	-62.31	113.98	327	52.11	24.72	90.21	0.312	0.148	0.298
	41 m13o	1.0	0.0	0.875	54.14	89.85	-38.61	97.79	337	45.87	22.11	55.29	0.3721	0.1794	0.2665
	42 m25o	1.0	0.0	0.75	53.15	87.15	-26.12	90.98	343	43.46	21.18	41.79	0.4083	0.199	0.2553
	43 m38o	1.0	0.0	0.675	52.45	84.91	-14.45	86.14	350	41.7	20.54	31.64	0.4442	0.2188	0.2476
	44 m50o	1.0	0.0	0.5	51.83	82.73	-2.04	82.75	359	40.12	19.99	22.94	0.4831	0.2407	0.241
	45 m63o	1.0	0.0	0.375	51.3	80.67	12.1	81.57	9	38.75	19.53	15.28	0.5268	0.2655	0.2354
	46 m75o	1.0	0.0	0.25	50.83	78.72	28.97	83.89	20	37.52	19.12	8.73	0.5739	0.2925	0.2305
	47 m88o	1.0	0.0	0.125	50.46	77.1	54.73	94.55	35	36.53	18.8	2.92	0.6271	0.3228	0.2267
	48 o00y	1.0	0.0	0.0	50.52	76.57	77.94	109.26	46	36.46	18.86	0.64	0.6515	0.337	0.2274
	49 n00w	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0	0.0	0.0	0.0	0.0	0.0	0.0
	50 n13w	0.125	0.125	0.125	15.04	0.44	-3.07	3.11	278	1.84	1.92	2.47	0.2955	0.3079	0.0231
	51 n25w	0.25	0.25	0.25	31.53	0.8	-4.51	4.59	280	6.61	6.88	8.8	0.2967	0.3086	0.0829
	52 n38w	0.375	0.375	0.375	43.02	0.26	-3.66	3.68	274	12.56	13.17	15.95	0.3013	0.316	0.1588
	53 n50w	0.5	0.5	0.5	53.02	0.36	-2.5	2.54	278	20.1	21.07	24.42	0.3064	0.3212	0.2539
	54 n63w	0.625	0.625	0.625	62.01	0.81	-1.1	1.37	306	29.11	30.41	33.94	0.3115	0.3254	0.3666
	55 n75w	0.75	0.75	0.75	71.22	0.93	1.23	1.54	53	40.7	42.51	45.16	0.3171	0.3312	0.5124
	56 n88w	0.875	0.875	0.875	81.27	-0.08	3.76	3.76	91	56.0	58.96	59.98	0.3201	0.337	0.7107
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0679

JE020-7N, Colorimetric data of Television Luminous System TLS00a for CIE standard illuminant D65; LECD monitor; Page: 7/44

$$n = 88.59 / (88.59 + 0.0) = 1.0$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS00a for CIE lightness $L^*=00$ of black for illuminant D65

System TLS00a

LECD monitor

D65 reflection:

$Y_N = 0.0$

$L^*_N = 0.0$

Y Yellow

$LCH^*_a = 93.0 \ 110.2 \ 101$

$LAB^*_a = 93.0 \ -21.3 \ 108.2$

L Leaf green

$LCH^*_a = 84.0 \ 126.5 \ 131$

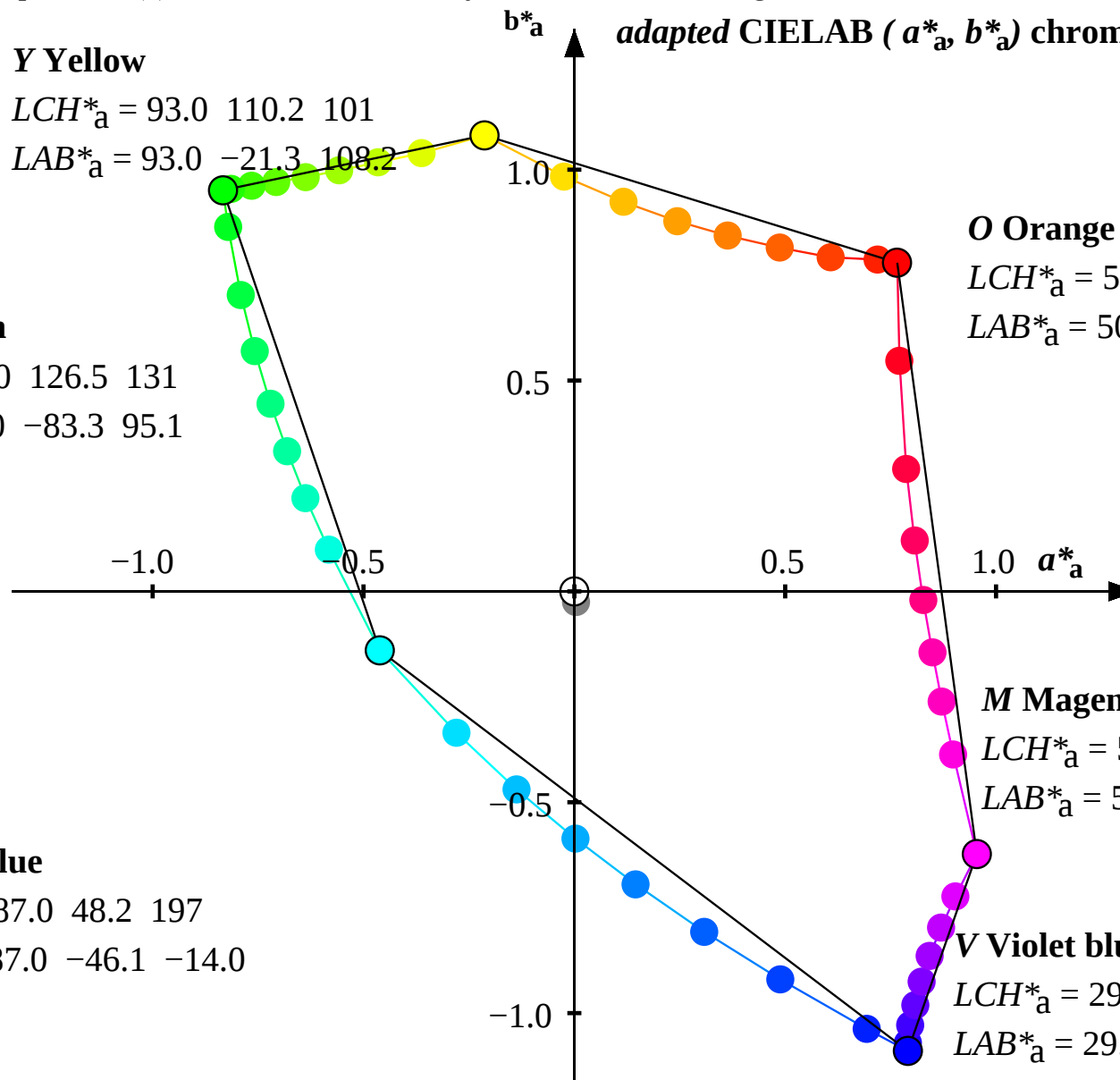
$LAB^*_a = 84.0 \ -83.3 \ 95.1$

C Cyan blue

$LCH^*_a = 87.0 \ 48.2 \ 197$

$LAB^*_a = 87.0 \ -46.1 \ -14.0$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



O Orange red

$LCH^*_a = 50.5 \ 109.3 \ 46$

$LAB^*_a = 50.5 \ 76.6 \ 77.9$

M Magenta red

$LCH^*_a = 56.8 \ 114.0 \ 327$

$LAB^*_a = 56.8 \ 95.4 \ -62.3$

V Violet blue

$LCH^*_a = 29.5 \ 134.6 \ 306$

$LAB^*_a = 29.5 \ 79.1 \ -109.0$

Colorimetric "Adapted data (a)": Television Luminous System TLS06a for CIE lightness $L^*=06$ of black for illuminant D65

System TLS06a	Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*_{a}=LAB^*1_a$	$a^*_{a}=LAB^*2_a$	$b^*_{a}=LAB^*3_a$	$C^*_{ab,a}=LAB^*ab,a$	$h_{ab,a}$	$X_a=XYZ1_a$	$Y_a=XYZ2_a$	$Z_a=XYZ3_a$	x_a	y_a	$Y_a/88.59$
LECD monitor	00 o00y	1.0	0.0	0.0	51.1	75.22	69.76	102.59	43	36.8	19.35	1.32	0.6403	0.3367	0.2332
	01 o13y	1.0	0.125	0.0	52.66	70.67	70.89	100.1	45	37.47	20.74	1.46	0.628	0.3476	0.2498
	02 o25y	1.0	0.25	0.0	56.48	59.79	73.01	94.37	51	39.21	24.4	1.91	0.5985	0.3724	0.2939
D65 reflection:	03 o38y	1.0	0.375	0.0	60.79	48.05	76.35	90.21	58	41.4	29.01	2.4	0.5687	0.3984	0.3495
	04 o50y	1.0	0.5	0.0	65.55	35.88	80.06	87.73	66	44.19	34.74	3.02	0.5393	0.4239	0.4185
	05 o63y	1.0	0.625	0.0	70.43	24.09	84.11	87.5	74	47.45	41.37	3.72	0.5127	0.447	0.4984
	06 o75y	1.0	0.75	0.0	76.04	11.56	89.15	89.9	83	51.75	49.95	4.58	0.4869	0.47	0.6018
	07 o88y	1.0	0.875	0.0	82.83	-2.43	95.64	95.67	91	57.78	61.85	5.69	0.4611	0.4936	0.7452
	08 y00l	1.0	1.0	0.0	93.01	-21.12	105.83	107.92	101	68.72	83.0	7.54	0.4315	0.5212	1.0
	09 y13l	0.875	1.0	0.0	90.44	-35.88	101.6	107.76	109	57.51	77.27	7.48	0.4043	0.5431	0.9309
	10 y25l	0.75	1.0	0.0	88.82	-46.12	99.43	109.61	115	50.76	73.78	7.31	0.385	0.5596	0.8889
	11 y38l	0.625	1.0	0.0	87.48	-55.28	97.46	112.05	120	45.36	70.99	7.22	0.3671	0.5745	0.8552
	12 y50l	0.5	1.0	0.0	86.43	-63.07	95.91	114.8	123	41.21	68.85	7.15	0.3516	0.5874	0.8296
	13 y63l	0.375	1.0	0.0	85.55	-69.99	94.73	117.79	126	37.81	67.1	7.06	0.3377	0.5993	0.8084
	14 y75l	0.25	1.0	0.0	84.86	-75.66	93.82	120.53	129	35.21	65.74	6.99	0.3262	0.6091	0.7921
	15 y88l	0.125	1.0	0.0	84.33	-80.46	93.08	123.04	131	33.16	64.7	6.94	0.3164	0.6174	0.7796
	16 l00c	0.0	1.0	0.0	84.09	-82.36	92.77	124.06	132	32.34	64.24	6.92	0.3124	0.6207	0.774
	17 l13c	0.0	1.0	0.125	84.15	-81.19	84.58	117.25	134	32.74	64.36	9.3	0.3077	0.6049	0.7754
	18 l25c	0.0	1.0	0.25	84.33	-78.21	69.13	104.39	139	33.8	64.7	15.24	0.2971	0.5688	0.7796
	19 l38c	0.0	1.0	0.375	84.52	-74.95	56.16	93.66	143	34.98	65.08	21.89	0.2869	0.5337	0.7841
	20 l50c	0.0	1.0	0.5	84.76	-71.27	43.91	83.72	148	36.38	65.54	29.78	0.2762	0.4977	0.7896
	21 l63c	0.0	1.0	0.625	85.03	-67.38	32.91	74.99	154	37.91	66.06	38.38	0.2663	0.4641	0.7959
	22 l75c	0.0	1.0	0.75	85.36	-63.08	21.91	66.78	161	39.72	66.72	48.61	0.2562	0.4303	0.8039
	23 l88c	0.0	1.0	0.875	85.83	-57.66	9.83	58.5	170	42.13	67.64	61.96	0.2453	0.3939	0.815
	24 c00v	0.0	1.0	1.0	87.1	-45.68	-13.91	47.76	197	48.19	70.21	95.84	0.2249	0.3277	0.8459
	25 c13v	0.0	0.875	1.0	75.18	-27.63	-33.21	43.21	230	37.09	48.57	93.99	0.2065	0.2704	0.5852
	26 c25v	0.0	0.75	1.0	67.01	-13.53	-46.46	48.4	254	31.02	36.64	92.74	0.1934	0.2284	0.4415
	27 c38v	0.0	0.675	1.0	59.99	0.22	-57.95	57.96	270	26.77	28.11	91.85	0.1824	0.1916	0.3387
	28 c50v	0.0	0.5	1.0	53.6	14.2	-68.56	70.03	282	23.59	21.6	91.26	0.1729	0.1583	0.2603
	29 c63v	0.0	0.375	1.0	46.99	30.06	-79.57	85.07	291	20.85	16.01	90.7	0.1635	0.1255	0.1929
	30 c75v	0.0	0.25	1.0	40.44	47.4	-90.48	102.15	298	18.67	11.52	90.14	0.1552	0.0957	0.1388
	31 c88v	0.0	0.125	1.0	33.93	66.68	-101.64	121.57	303	17.03	7.97	90.04	0.148	0.0693	0.0961
	32 v00m	0.0	0.0	1.0	30.92	75.73	-106.54	130.72	305	16.33	6.62	89.64	0.1451	0.0588	0.0797
	33 v13m	0.125	0.0	1.0	31.92	75.93	-104.74	129.37	306	17.14	7.05	89.53	0.1507	0.062	0.0849
	34 v25m	0.25	0.0	1.0	34.22	76.83	-100.81	126.76	307	19.19	8.12	89.59	0.1641	0.0694	0.0978
	35 v38m	0.375	0.0	1.0	36.88	78.34	-96.29	124.14	309	21.84	9.47	89.67	0.1805	0.0783	0.1141
	36 v50m	0.5	0.0	1.0	40.01	80.11	-90.95	121.21	311	25.28	11.26	89.76	0.2001	0.0891	0.1356
	37 v63m	0.625	0.0	1.0	43.43	82.26	-85.11	118.38	314	29.47	13.45	89.84	0.222	0.1013	0.162
	38 v75m	0.75	0.0	1.0	47.29	85.27	-78.59	115.97	317	34.91	16.24	90.03	0.2473	0.115	0.1957
	39 v88m	0.875	0.0	1.0	51.5	88.86	-71.37	113.98	321	41.65	19.7	90.07	0.2751	0.1301	0.2373
	40 m00o	1.0	0.0	1.0	57.24	94.13	-61.58	112.49	327	52.34	25.17	90.25	0.312	0.1501	0.3033
	41 m13o	1.0	0.0	0.875	54.64	88.49	-38.04	96.32	337	46.14	22.58	55.58	0.3712	0.1817	0.2721
	42 m25o	1.0	0.0	0.75	53.66	85.78	-25.68	89.55	343	43.75	21.66	42.18	0.4066	0.2013	0.2609
	43 m38o	1.0	0.0	0.675	52.98	83.54	-14.17	84.74	350	42.0	21.02	32.09	0.4416	0.221	0.2533
	44 m50o	1.0	0.0	0.5	52.37	81.35	-2.0	81.38	359	40.44	20.48	23.45	0.4793	0.2427	0.2467
	45 m63o	1.0	0.0	0.375	51.86	79.29	11.78	80.16	8	39.07	20.02	15.85	0.5214	0.2671	0.2412
	46 m75o	1.0	0.0	0.25	51.4	77.35	27.96	82.25	20	37.85	19.61	9.35	0.5665	0.2936	0.2363
	47 m88o	1.0	0.0	0.125	51.03	75.73	51.51	91.59	34	36.87	19.3	3.58	0.6171	0.323	0.2325
	48 o00y	1.0	0.0	0.0	51.1	75.22	69.76	102.59	43	36.8	19.35	1.32	0.6403	0.3367	0.2332
	49 n00w	0.0	0.0	0.0	5.65	0.0	0.0	0.01	0	0.59	0.63	0.68	0.3127	0.329	0.0075
	50 n13w	0.125	0.125	0.125	18.04	0.36	-2.57	2.6	278	2.42	2.53	3.13	0.2996	0.3129	0.0304
	51 n25w	0.25	0.25	0.25	32.82	0.75	-4.27	4.34	280	7.16	7.45	9.42	0.298	0.3102	0.0898
	52 n38w	0.375	0.375	0.375	43.81	0.25	-3.54	3.56	274	13.06	13.71	16.52	0.3018	0.3166	0.1651
	53 n50w	0.5	0.5	0.5	53.54	0.36	-2.45	2.48	278	20.55	21.54	24.93	0.3066	0.3214	0.2596
	54 n63w	0.625	0.625	0.625	62.36	0.79	-1.08	1.35	306	29.5	30.82	34.38	0.3115	0.3255	0.3713
	55 n75w	0.75	0.75	0.75	71.44	0.92	1.22	1.52	53	41.01	42.84	45.52	0.317	0.3311	0.5161
	56 n88w	0.875	0.875	0.875	81.39	-0.08	3.72	3.72	91	56.2	59.17	60.24	0.32	0.3369	0.7129
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0673

JE020-7N, Colorimetric data of Television Luminous System TLS06a for CIE standard illuminant D65; LECD monitor; Page: 9/44

$$n = 88.59 / (88.59 + 0.63) = 0.993$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: olv^* setrgbcolor

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS06a for CIE lightness $L^*=06$ of black for illuminant D65

System TLS06a

LECD monitor

D65 reflection:

$Y_N = 0.63$

$L_N^* = 5.69$

Y Yellow

$LCH_a^* = 93.0 \ 107.9 \ 101$

$LAB_a^* = 93.0 \ -21.1 \ 105.8$

L Leaf green

$LCH_a^* = 84.1 \ 124.1 \ 132$

$LAB_a^* = 84.1 \ -82.4 \ 92.8$

C Cyan blue

$LCH_a^* = 87.1 \ 47.8 \ 197$

$LAB_a^* = 87.1 \ -45.7 \ -13.9$

adapted CIELAB (a^ , b^*) chroma diagram*

O Orange red

$LCH_a^* = 51.1 \ 102.6 \ 43$

$LAB_a^* = 51.1 \ 75.2 \ 69.8$

M Magenta red

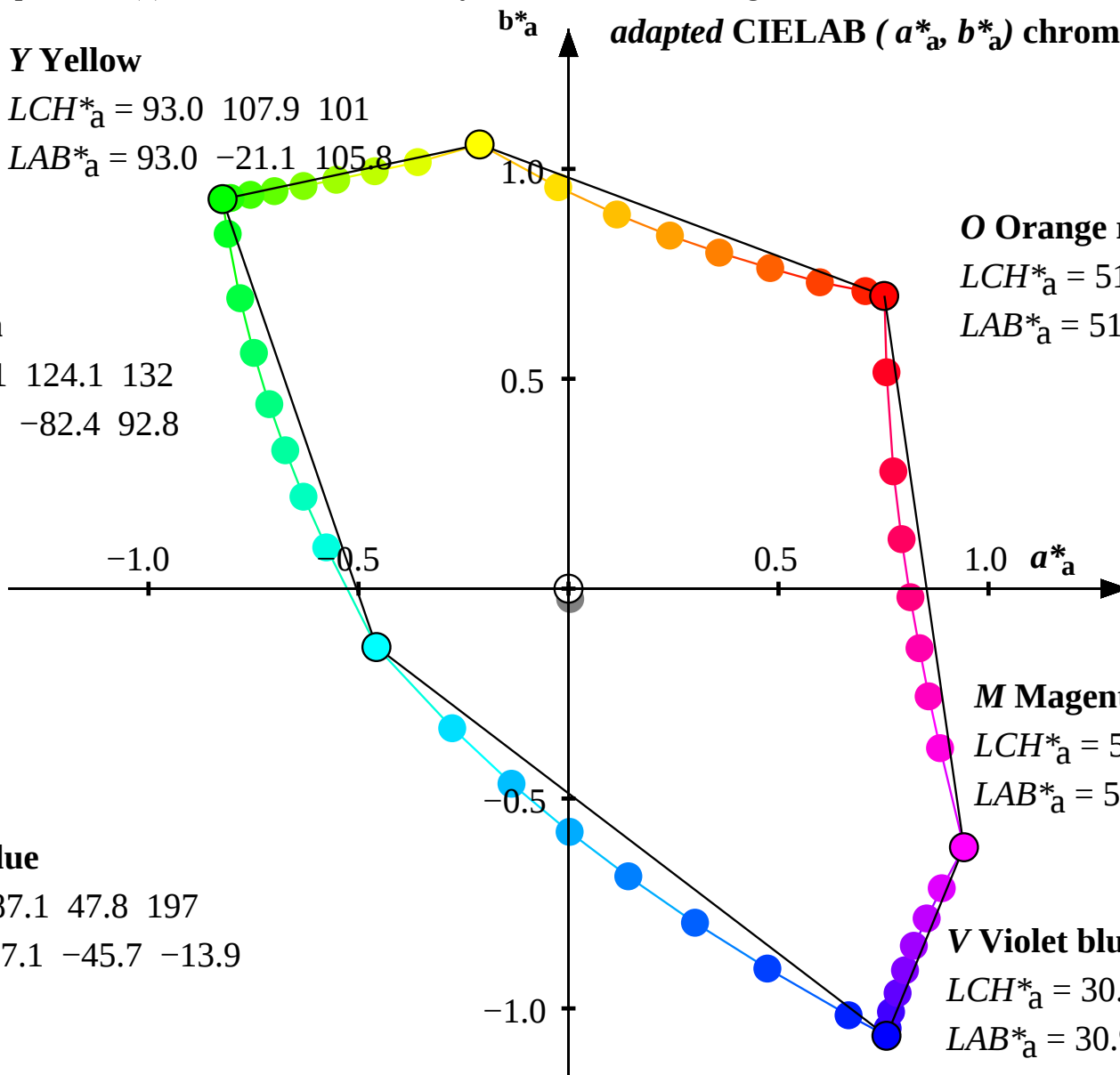
$LCH_a^* = 57.2 \ 112.5 \ 327$

$LAB_a^* = 57.2 \ 94.1 \ -61.6$

V Violet blue

$LCH_a^* = 30.9 \ 130.7 \ 305$

$LAB_a^* = 30.9 \ 75.7 \ -106.5$



Colorimetric "Adapted data (a)": Television Luminous System TLS11a for CIE lightness $L^*=11$ of black for illuminant D65

System TLS11a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	$L^*_a=LAB^*_1a$	$a^*_a=LAB^*_2a$	$b^*_a=LAB^*_3a$	$C^*_{ab,a}=LAB^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ^*_1a$	$Y_a=XYZ^*_2a$	$Z_a=XYZ^*_3a$	x_a	y_a	$Y_a/88.59$
LECD monitor	00 o00y	1.0	0.0	0.0	51.65	73.91	64.01	97.78	41	37.13	19.84	1.99	0.6298	0.3365	0.2389
	01 o13y	1.0	0.125	0.0	53.18	69.49	65.44	95.45	43	37.79	21.21	2.12	0.6183	0.347	0.2554
D65 reflection:	02 o25y	1.0	0.25	0.0	56.93	58.88	68.35	90.21	49	39.52	24.85	2.57	0.5904	0.3712	0.2992
	03 o38y	1.0	0.375	0.0	61.15	47.38	72.25	86.4	57	41.7	29.42	3.05	0.5622	0.3967	0.3543
	04 o50y	1.0	0.5	0.0	65.84	35.42	76.47	84.28	65	44.47	35.12	3.67	0.5341	0.4218	0.4229
	05 o63y	1.0	0.625	0.0	70.66	23.82	80.93	84.36	74	47.7	41.7	4.37	0.5087	0.4447	0.5021
	06 o75y	1.0	0.75	0.0	76.21	11.44	86.32	87.07	82	51.97	50.22	5.22	0.4838	0.4675	0.6048
	07 o88y	1.0	0.875	0.0	82.93	-2.41	93.12	93.15	91	57.96	62.04	6.32	0.4588	0.4911	0.7471
	08 y00l	1.0	1.0	0.0	93.03	-20.95	103.66	105.75	101	68.82	83.04	8.16	0.4301	0.5189	1.0
	09 y13l	0.875	1.0	0.0	90.48	-35.58	99.45	105.63	110	57.7	77.35	8.11	0.4031	0.5403	0.9314
	10 y25l	0.75	1.0	0.0	88.87	-45.71	97.26	107.47	115	51.0	73.88	7.94	0.384	0.5563	0.8897
	11 y38l	0.625	1.0	0.0	87.54	-54.76	95.29	109.91	120	45.63	71.11	7.85	0.3663	0.5708	0.8563
	12 y50l	0.5	1.0	0.0	86.5	-62.44	93.74	112.64	124	41.51	68.99	7.78	0.351	0.5833	0.8308
	13 y63l	0.375	1.0	0.0	85.63	-69.26	92.55	115.61	127	38.13	67.25	7.69	0.3372	0.5947	0.8098
	14 y75l	0.25	1.0	0.0	84.95	-74.85	91.63	118.32	129	35.55	65.9	7.62	0.3259	0.6042	0.7936
	15 y88l	0.125	1.0	0.0	84.42	-79.57	90.89	120.81	131	33.52	64.87	7.57	0.3163	0.6122	0.7812
	16 l00c	0.0	1.0	0.0	84.18	-81.44	90.57	121.81	132	32.7	64.41	7.55	0.3125	0.6155	0.7757
	17 l13c	0.0	1.0	0.125	84.24	-80.28	82.85	115.37	134	33.1	64.53	9.92	0.3078	0.6	0.7771
	18 l25c	0.0	1.0	0.25	84.42	-77.35	68.01	103.0	139	34.15	64.87	15.81	0.2974	0.5649	0.7812
	19 l38c	0.0	1.0	0.375	84.61	-74.14	55.38	92.55	143	35.33	65.24	22.41	0.2873	0.5305	0.7857
	20 l50c	0.0	1.0	0.5	84.84	-70.51	43.37	82.79	148	36.71	65.7	30.24	0.2768	0.4953	0.7912
	21 l63c	0.0	1.0	0.625	85.11	-66.68	32.55	74.21	154	38.24	66.22	38.78	0.267	0.4623	0.7974
	22 l75c	0.0	1.0	0.75	85.44	-62.43	21.69	66.11	161	40.03	66.87	48.94	0.2569	0.4291	0.8053
	23 l88c	0.0	1.0	0.875	85.9	-57.09	9.74	57.92	170	42.43	67.79	62.21	0.2461	0.3932	0.8164
	24 c00v	0.0	1.0	1.0	87.16	-45.26	-13.8	47.33	197	48.44	70.34	95.84	0.2257	0.3277	0.847
	25 c13v	0.0	0.875	1.0	75.36	-27.31	-32.92	42.78	230	37.42	48.85	94.0	0.2076	0.271	0.5883
	26 c25v	0.0	0.75	1.0	67.28	-13.34	-46.0	47.91	254	31.39	37.01	92.77	0.1948	0.2296	0.4456
	27 c38v	0.0	0.675	1.0	60.37	0.22	-57.32	57.33	270	27.17	28.54	91.89	0.1841	0.1933	0.3437
	28 c50v	0.0	0.5	1.0	54.1	13.92	-67.72	69.15	282	24.01	22.07	91.3	0.1748	0.1607	0.2658
	29 c63v	0.0	0.375	1.0	47.65	29.34	-78.46	83.78	290	21.3	16.52	90.74	0.1656	0.1285	0.1989
	30 c75v	0.0	0.25	1.0	41.31	46.02	-89.01	100.21	297	19.13	12.06	90.18	0.1576	0.0993	0.1452
	31 c88v	0.0	0.125	1.0	35.08	64.28	-99.68	118.62	303	17.5	8.54	90.09	0.1507	0.0735	0.1028
	32 v00m	0.0	0.0	1.0	32.24	72.71	-104.29	127.14	305	16.81	7.19	89.69	0.1478	0.0633	0.0866
	33 v13m	0.125	0.0	1.0	33.18	73.05	-102.6	125.95	305	17.61	7.62	89.58	0.1534	0.0664	0.0918
	34 v25m	0.25	0.0	1.0	35.36	74.23	-98.88	123.65	307	19.64	8.68	89.64	0.1665	0.0736	0.1045
	35 v38m	0.375	0.0	1.0	37.89	76.01	-94.58	121.34	309	22.28	10.03	89.72	0.1826	0.0822	0.1207
	36 v50m	0.5	0.0	1.0	40.9	78.04	-89.46	118.72	311	25.69	11.8	89.81	0.2018	0.0927	0.1421
	37 v63m	0.625	0.0	1.0	44.2	80.42	-83.82	116.17	314	29.85	13.97	89.89	0.2233	0.1045	0.1683
	38 v75m	0.75	0.0	1.0	47.94	83.64	-77.49	114.03	317	35.25	16.75	90.07	0.2481	0.1179	0.2017
	39 v88m	0.875	0.0	1.0	52.04	87.41	-70.45	112.27	321	41.95	20.18	90.11	0.2755	0.1326	0.243
	40 m00o	1.0	0.0	1.0	57.67	92.87	-60.87	111.04	327	52.56	25.62	90.3	0.312	0.1521	0.3085
	41 m13o	1.0	0.0	0.875	55.12	87.18	-37.49	94.9	337	46.4	23.04	55.86	0.3703	0.1839	0.2775
	42 m25o	1.0	0.0	0.75	54.16	84.46	-25.25	88.16	343	44.03	22.13	42.56	0.405	0.2035	0.2665
	43 m38o	1.0	0.0	0.675	53.49	82.22	-13.9	83.39	350	42.3	21.5	32.55	0.439	0.2231	0.2589
	44 m50o	1.0	0.0	0.5	52.9	80.03	-1.95	80.05	359	40.74	20.95	23.97	0.4756	0.2446	0.2523
	45 m63o	1.0	0.0	0.375	52.39	77.97	11.47	78.81	8	39.39	20.5	16.42	0.5162	0.2686	0.2468
	46 m75o	1.0	0.0	0.25	51.95	76.03	27.02	80.69	20	38.17	20.1	9.96	0.5594	0.2945	0.242
	47 m88o	1.0	0.0	0.125	51.59	74.42	48.8	88.99	33	37.2	19.78	4.23	0.6077	0.3232	0.2382
	48 o00y	1.0	0.0	0.0	51.65	73.91	64.01	97.78	41	37.13	19.84	1.99	0.6298	0.3365	0.2389
	49 n00w	0.0	0.0	0.0	10.87	0.0	0.0	0.01	341	1.18	1.24	1.35	0.3127	0.329	0.015
	50 n13w	0.125	0.125	0.125	20.56	0.31	-2.23	2.26	278	2.99	3.13	3.78	0.3021	0.316	0.0377
	51 n25w	0.25	0.25	0.25	34.03	0.71	-4.05	4.12	280	7.7	8.02	10.03	0.2991	0.3116	0.0966
	52 n38w	0.375	0.375	0.375	44.56	0.24	-3.43	3.45	274	13.56	14.23	17.08	0.3022	0.3171	0.1714
	53 n50w	0.5	0.5	0.5	54.04	0.35	-2.4	2.43	278	20.99	22.01	25.43	0.3068	0.3217	0.2651
	54 n63w	0.625	0.625	0.625	62.7	0.78	-1.07	1.33	306	29.88	31.23	34.82	0.3115	0.3255	0.376
	55 n75w	0.75	0.75	0.75	71.66	0.91	1.2	1.51	53	41.31	43.16	45.88	0.3169	0.3311	0.5197
	56 n88w	0.875	0.875	0.875	81.5	-0.08	3.69	3.69	91	56.4	59.38	60.49	0.32	0.3369	0.7151
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0668

JE020-7N, Colorimetric data of Television Luminous System TLS11a for CIE standard illuminant D65; LECD monitor; Page: 11/44

$$n = 88.59 / (88.59 + 1.26) = 0.986$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS11a for CIE lightness $L^*=11$ of black for illuminant D65

System TLS11a

LECD monitor

D65 reflection:

$Y_N = 1.26$

$L_N^* = 11.0$

Y Yellow

$LCH_a^* = 93.0 \ 105.8 \ 101$

$LAB_a^* = 93.0 \ -21.0 \ 103.7$

L Leaf green

$LCH_a^* = 84.2 \ 121.8 \ 132$

$LAB_a^* = 84.2 \ -81.4 \ 90.6$

C Cyan blue

$LCH_a^* = 87.2 \ 47.3 \ 197$

$LAB_a^* = 87.2 \ -45.3 \ -13.8$

adapted CIELAB (a^ , b^*) chroma diagram*

O Orange red

$LCH_a^* = 51.7 \ 97.8 \ 41$

$LAB_a^* = 51.7 \ 73.9 \ 64.0$

M Magenta red

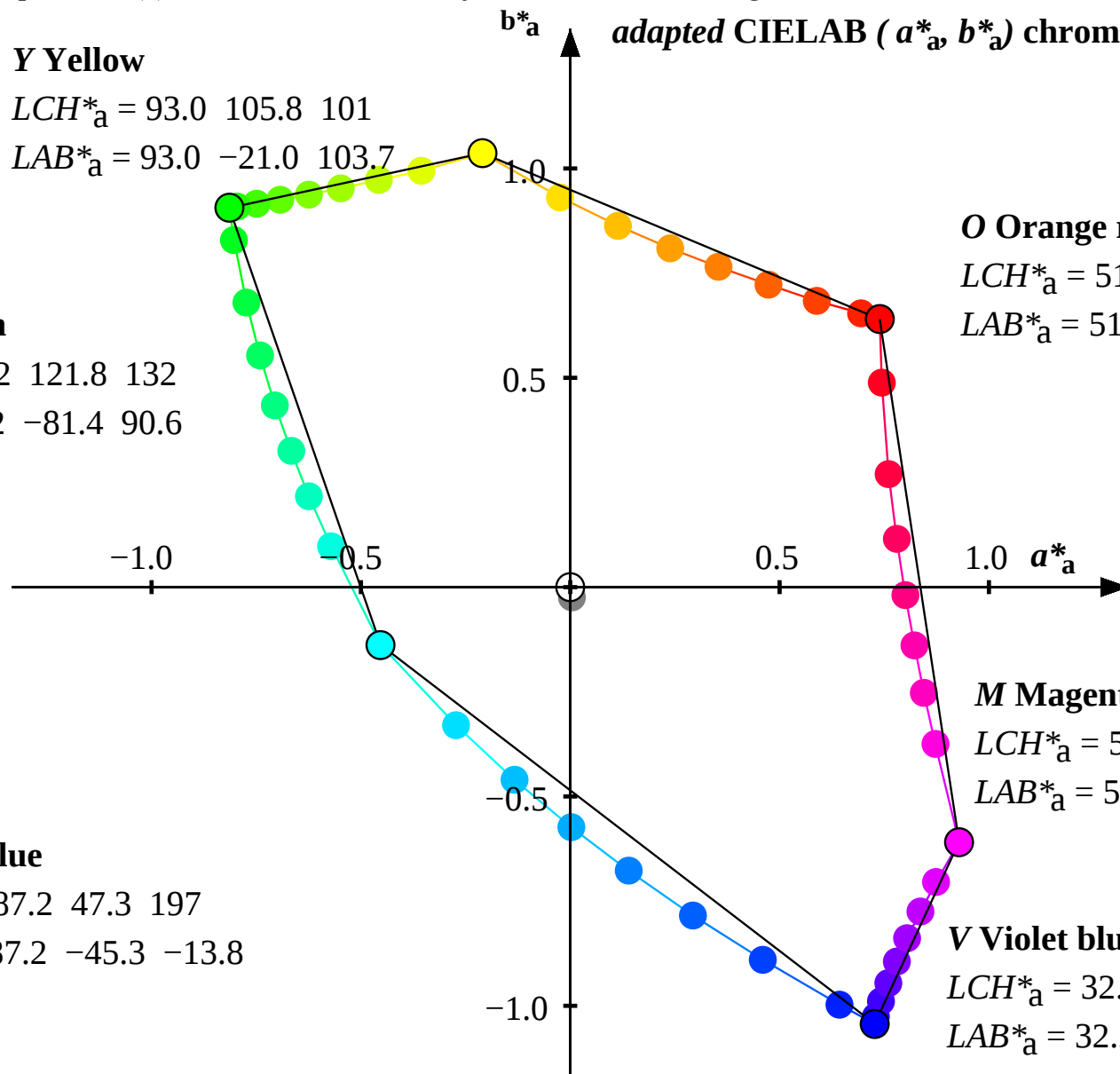
$LCH_a^* = 57.7 \ 111.0 \ 327$

$LAB_a^* = 57.7 \ 92.9 \ -60.9$

V Violet blue

$LCH_a^* = 32.2 \ 127.1 \ 305$

$LAB_a^* = 32.2 \ 72.7 \ -104.3$



Colorimetric "Adapted data (a)": Television Luminous System TLS18a for CIE lightness $L^*=18$ of black for illuminant D65

System TLS18a	Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*_a=LAB^*1_a$	$a^*_a=LAB^*2_a$	$b^*_a=LAB^*3_a$	$C^*_{ab,a}=LAB^*ab,a$	$h_{ab,a}$	$X_a=XYZ1_a$	$Y_a=XYZ2_a$	$Z_a=XYZ3_a$	x_a	y_a	$Y_a/88.59$
LECD monitor	00 o00y	1.0	0.0	0.0	52.72	71.45	56.18	90.89	38	37.78	20.79	3.29	0.6107	0.3361	0.2501
	01 o13y	1.0	0.125	0.0	54.18	67.26	57.84	88.71	41	38.44	22.14	3.43	0.6005	0.346	0.2664
	02 o25y	1.0	0.25	0.0	57.78	57.14	61.44	83.91	47	40.14	25.73	3.87	0.5756	0.3689	0.3095
D65 reflection:	03 o38y	1.0	0.375	0.0	61.86	46.1	65.89	80.42	55	42.29	30.24	4.35	0.5501	0.3934	0.3638
	04 o50y	1.0	0.5	0.0	66.41	34.56	70.67	78.67	64	45.02	35.86	4.96	0.5245	0.4177	0.4314
	05 o63y	1.0	0.625	0.0	71.11	23.29	75.61	79.12	73	48.21	42.35	5.65	0.5011	0.4402	0.5095
	06 o75y	1.0	0.75	0.0	76.53	11.21	81.44	82.21	82	52.42	50.75	6.48	0.478	0.4628	0.6106
	07 o88y	1.0	0.875	0.0	83.13	-2.37	88.67	88.7	92	58.33	62.41	7.57	0.4546	0.4864	0.7508
	08 y00l	1.0	1.0	0.0	93.07	-20.64	99.7	101.82	102	69.04	83.12	9.38	0.4274	0.5145	1.0
	09 y13l	0.875	1.0	0.0	90.55	-35.0	95.54	101.75	110	58.07	77.5	9.33	0.4007	0.5349	0.9324
	10 y25l	0.75	1.0	0.0	88.96	-44.91	93.33	103.58	116	51.46	74.09	9.16	0.382	0.55	0.8914
	11 y38l	0.625	1.0	0.0	87.66	-53.75	91.37	106.01	120	46.16	71.35	9.07	0.3647	0.5637	0.8584
	12 y50l	0.5	1.0	0.0	86.63	-61.23	89.82	108.71	124	42.1	69.26	9.0	0.3498	0.5754	0.8333
	13 y63l	0.375	1.0	0.0	85.78	-67.86	88.62	111.63	127	38.77	67.54	8.92	0.3365	0.5862	0.8126
	14 y75l	0.25	1.0	0.0	85.11	-73.28	87.7	114.29	130	36.22	66.22	8.85	0.3255	0.595	0.7967
	15 y88l	0.125	1.0	0.0	84.59	-77.85	86.95	116.72	132	34.22	65.2	8.8	0.3162	0.6025	0.7844
	16 l00c	0.0	1.0	0.0	84.35	-79.66	86.63	117.69	133	33.41	64.75	8.78	0.3125	0.6055	0.779
	17 l13c	0.0	1.0	0.125	84.41	-78.54	79.66	111.87	135	33.8	64.86	11.11	0.3079	0.5908	0.7804
	18 l25c	0.0	1.0	0.25	84.59	-75.69	65.88	100.36	139	34.84	65.2	16.93	0.2979	0.5574	0.7844
	19 l38c	0.0	1.0	0.375	84.77	-72.58	53.89	90.41	143	36.0	65.57	23.43	0.288	0.5245	0.7889
	20 l50c	0.0	1.0	0.5	85.01	-69.05	42.35	81.01	148	37.37	66.02	31.16	0.2777	0.4907	0.7943
	21 l63c	0.0	1.0	0.625	85.26	-65.32	31.85	72.68	154	38.87	66.53	39.58	0.2681	0.4589	0.8004
	22 l75c	0.0	1.0	0.75	85.59	-61.19	21.27	64.79	161	40.64	67.17	49.6	0.2582	0.4267	0.8082
	23 l88c	0.0	1.0	0.875	86.05	-55.98	9.56	56.8	170	43.0	68.08	62.68	0.2475	0.3918	0.8191
	24 c00v	0.0	1.0	1.0	87.28	-44.44	-13.6	46.48	197	48.93	70.59	95.85	0.2272	0.3277	0.8493
	25 c13v	0.0	0.875	1.0	75.7	-26.68	-32.35	41.95	230	38.07	49.4	94.04	0.2097	0.2722	0.5943
	26 c25v	0.0	0.75	1.0	67.81	-12.97	-45.12	46.96	254	32.12	37.72	92.82	0.1975	0.2319	0.4538
	27 c38v	0.0	0.675	1.0	61.1	0.21	-56.1	56.11	270	27.96	29.37	91.95	0.1873	0.1967	0.3533
	28 c50v	0.0	0.5	1.0	55.06	13.39	-66.11	67.47	281	24.84	22.99	91.37	0.1785	0.1652	0.2766
	29 c63v	0.0	0.375	1.0	48.9	28.01	-76.35	81.34	290	22.16	17.52	90.82	0.1698	0.1342	0.2108
	30 c75v	0.0	0.25	1.0	42.94	43.52	-86.26	96.63	297	20.03	13.12	90.27	0.1623	0.1063	0.1578
	31 c88v	0.0	0.125	1.0	37.2	60.06	-96.09	113.33	302	18.42	9.65	90.18	0.1558	0.0816	0.116
	32 v00m	0.0	0.0	1.0	34.64	67.48	-100.23	120.83	304	17.74	8.32	89.78	0.1531	0.0718	0.1001
	33 v13m	0.125	0.0	1.0	35.48	68.02	-98.7	119.88	305	18.53	8.74	89.68	0.1584	0.0748	0.1052
	34 v25m	0.25	0.0	1.0	37.46	69.62	-95.34	118.06	306	20.54	9.79	89.73	0.1711	0.0815	0.1177
	35 v38m	0.375	0.0	1.0	39.77	71.8	-91.4	116.24	308	23.13	11.11	89.81	0.1865	0.0896	0.1337
	36 v50m	0.5	0.0	1.0	42.55	74.25	-86.66	114.13	311	26.5	12.86	89.9	0.205	0.0995	0.1547
	37 v63m	0.625	0.0	1.0	45.64	77.01	-81.39	112.06	313	30.6	15.01	89.98	0.2257	0.1107	0.1805
	38 v75m	0.75	0.0	1.0	49.18	80.58	-75.42	110.37	317	35.93	17.74	90.16	0.2498	0.1234	0.2135
	39 v88m	0.875	0.0	1.0	53.09	84.65	-68.71	109.03	321	42.53	21.13	90.2	0.2764	0.1373	0.2542
	40 m00o	1.0	0.0	1.0	58.5	90.44	-59.51	108.27	327	53.0	26.49	90.38	0.312	0.1559	0.3187
	41 m13o	1.0	0.0	0.875	56.04	84.69	-36.43	92.19	337	46.93	23.95	56.42	0.3686	0.1881	0.2881
	42 m25o	1.0	0.0	0.75	55.12	81.95	-24.45	85.52	343	44.59	23.05	43.31	0.4019	0.2077	0.2773
	43 m38o	1.0	0.0	0.675	54.48	79.7	-13.4	80.82	350	42.88	22.43	33.43	0.4343	0.2271	0.2698
	44 m50o	1.0	0.0	0.5	53.91	77.52	-1.87	77.54	359	41.34	21.89	24.97	0.4687	0.2482	0.2634
	45 m63o	1.0	0.0	0.375	53.43	75.47	10.91	76.25	8	40.01	21.44	17.52	0.5066	0.2715	0.2579
	46 m75o	1.0	0.0	0.25	53.0	73.54	25.36	77.79	19	38.81	21.04	11.16	0.5465	0.2963	0.2532
	47 m88o	1.0	0.0	0.125	52.66	71.94	44.42	84.55	32	37.85	20.73	5.51	0.5906	0.3235	0.2495
	48 o00y	1.0	0.0	0.0	52.72	71.45	56.18	90.89	38	37.78	20.79	3.29	0.6107	0.3361	0.2501
	49 n00w	0.0	0.0	0.0	17.69	0.0	0.0	0.01	0	2.33	2.45	2.67	0.3127	0.329	0.0295
	50 n13w	0.125	0.125	0.125	24.68	0.25	-1.79	1.82	278	4.12	4.31	5.07	0.305	0.3196	0.0519
	51 n25w	0.25	0.25	0.25	36.25	0.64	-3.68	3.75	280	8.76	9.14	11.22	0.3008	0.3138	0.1099
	52 n38w	0.375	0.375	0.375	45.99	0.23	-3.24	3.26	274	14.54	15.26	18.18	0.3031	0.3181	0.1836
	53 n50w	0.5	0.5	0.5	55.0	0.33	-2.3	2.34	278	21.87	22.93	26.41	0.3071	0.322	0.2759
	54 n63w	0.625	0.625	0.625	63.36	0.76	-1.03	1.29	306	30.63	32.02	35.67	0.3116	0.3257	0.3852
	55 n75w	0.75	0.75	0.75	72.08	0.89	1.17	1.47	53	41.91	43.78	46.58	0.3168	0.331	0.5268
	56 n88w	0.875	0.875	0.875	81.72	-0.08	3.62	3.62	91	56.78	59.78	60.99	0.3198	0.3367	0.7193
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0659

JE020-7N, Colorimetric data of Television Luminous System TLS18a for CIE standard illuminant D65; LECD monitor; Page: 13/44

$n = 88.59 / (88.59 + 2.52) = 0.972$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS18a for CIE lightness $L^*=18$ of black for illuminant D65
System TLS18a
LECD monitor

D65 reflection:

$Y_N = 2.52$

$L_N^* = 18.01$

Y Yellow

$LCH_a^* = 93.1 \ 101.8 \ 102$

$LAB_a^* = 93.1 \ -20.6 \ 99.7$

L Leaf green

$LCH_a^* = 84.4 \ 117.7 \ 133$

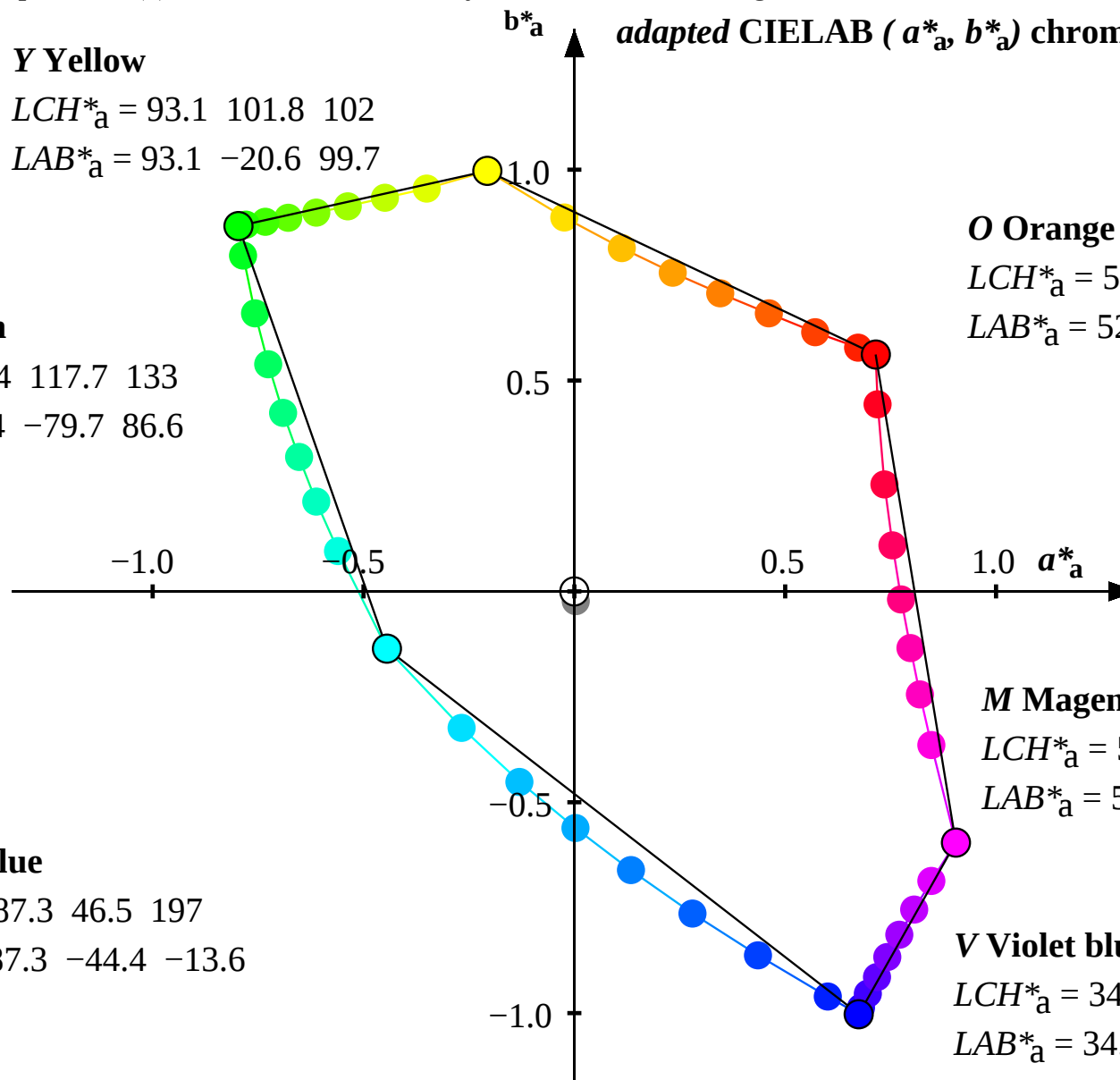
$LAB_a^* = 84.4 \ -79.7 \ 86.6$

C Cyan blue

$LCH_a^* = 87.3 \ 46.5 \ 197$

$LAB_a^* = 87.3 \ -44.4 \ -13.6$

adapted CIELAB (a^* , b^*) chroma diagram



O Orange red

$LCH_a^* = 52.7 \ 90.9 \ 38$

$LAB_a^* = 52.7 \ 71.4 \ 56.2$

M Magenta red

$LCH_a^* = 58.5 \ 108.3 \ 327$

$LAB_a^* = 58.5 \ 90.4 \ -59.5$

V Violet blue

$LCH_a^* = 34.6 \ 120.8 \ 304$

$LAB_a^* = 34.6 \ 67.5 \ -100.2$

Colorimetric "Adapted data (a)": Television Luminous System TLS27a for CIE lightness $L^*=27$ of black for illuminant D65

System TLS27a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	$L^*_a=LAB^*_{1a}$	$a^*_a=LAB^*_{2a}$	$b^*_a=LAB^*_{3a}$	$C^*_{ab,a}=LAB^*_{ab,a}$	$h^*_{ab,a}$	$X_a=XYZ^*_{1a}$	$Y_a=XYZ^*_{2a}$	$Z_a=XYZ^*_{3a}$	x_a	y_a	$Y_a/88.59$
LECD monitor	00 o00y	1.0	0.0	0.0	54.67	67.03	46.6	81.64	35	39.03	22.61	5.8	0.5787	0.3353	0.2716
	01 o13y	1.0	0.125	0.0	56.02	63.23	48.35	79.6	37	39.67	23.93	5.93	0.5705	0.3442	0.2874
D65 reflection:	02 o25y	1.0	0.25	0.0	59.36	53.97	52.32	75.17	44	41.33	27.42	6.36	0.5502	0.3651	0.3293
	03 o38y	1.0	0.375	0.0	63.19	43.76	57.08	71.92	53	43.42	31.81	6.83	0.5291	0.3877	0.3821
	04 o50y	1.0	0.5	0.0	67.48	32.95	62.24	70.43	62	46.08	37.28	7.42	0.5076	0.4106	0.4477
	05 o63y	1.0	0.625	0.0	71.95	22.3	67.57	71.15	72	49.18	43.59	8.09	0.4876	0.4322	0.5235
	06 o75y	1.0	0.75	0.0	77.14	10.78	73.78	74.57	82	53.28	51.77	8.9	0.4675	0.4543	0.6218
	07 o88y	1.0	0.875	0.0	83.5	-2.29	81.43	81.46	92	59.02	63.11	9.96	0.4468	0.4778	0.758
	08 y00l	1.0	1.0	0.0	93.13	-20.03	93.0	95.13	102	69.44	83.26	11.73	0.4223	0.5064	1.0
	09 y13l	0.875	1.0	0.0	90.69	-33.88	88.93	95.17	111	58.77	77.8	11.67	0.3964	0.5248	0.9344
	10 y25l	0.75	1.0	0.0	89.15	-43.39	86.72	96.97	117	52.34	74.48	11.51	0.3784	0.5384	0.8945
	11 y38l	0.625	1.0	0.0	87.88	-51.83	84.78	99.37	121	47.19	71.81	11.42	0.3618	0.5506	0.8625
	12 y50l	0.5	1.0	0.0	86.89	-58.94	83.25	102.01	125	43.23	69.78	11.36	0.3476	0.5611	0.8381
	13 y63l	0.375	1.0	0.0	86.06	-65.23	82.05	104.83	128	39.99	68.11	11.27	0.335	0.5705	0.818
	14 y75l	0.25	1.0	0.0	85.41	-70.34	81.13	107.38	131	37.51	66.82	11.2	0.3247	0.5783	0.8025
	15 y88l	0.125	1.0	0.0	84.91	-74.64	80.39	109.7	133	35.56	65.83	11.16	0.316	0.5849	0.7906
	16 l00c	0.0	1.0	0.0	84.68	-76.33	80.06	110.63	134	34.78	65.39	11.14	0.3125	0.5875	0.7853
	17 l13c	0.0	1.0	0.125	84.74	-75.28	74.18	105.7	135	35.16	65.5	13.41	0.3082	0.5742	0.7867
	18 l25c	0.0	1.0	0.25	84.91	-72.59	62.08	95.53	139	36.17	65.83	19.07	0.2988	0.5437	0.7906
	19 l38c	0.0	1.0	0.375	85.09	-69.65	51.18	86.44	144	37.3	66.19	25.4	0.2894	0.5135	0.7949
	20 l50c	0.0	1.0	0.5	85.31	-66.31	40.45	77.68	149	38.63	66.63	32.92	0.2796	0.4822	0.8002
	21 l63c	0.0	1.0	0.625	85.56	-62.77	30.55	69.82	154	40.09	67.12	41.11	0.2703	0.4525	0.8061
	22 l75c	0.0	1.0	0.75	85.88	-58.85	20.48	62.32	161	41.81	67.75	50.86	0.2606	0.4223	0.8137
	23 l88c	0.0	1.0	0.875	86.32	-53.9	9.24	54.69	170	44.11	68.63	63.59	0.2502	0.3892	0.8242
	24 c00v	0.0	1.0	1.0	87.52	-42.88	-13.2	44.88	197	49.88	71.07	95.87	0.2301	0.3278	0.8536
	25 c13v	0.0	0.875	1.0	76.35	-25.51	-31.28	40.37	231	39.31	50.45	94.1	0.2138	0.2744	0.606
	26 c25v	0.0	0.75	1.0	68.81	-12.3	-43.46	45.18	254	33.52	39.09	92.91	0.2025	0.2361	0.4694
	27 c38v	0.0	0.675	1.0	62.47	0.2	-53.82	53.83	270	29.48	30.96	92.07	0.1933	0.203	0.3718
	28 c50v	0.0	0.5	1.0	56.84	12.45	-63.15	64.37	281	26.44	24.76	91.51	0.1853	0.1735	0.2973
	29 c63v	0.0	0.375	1.0	51.19	25.71	-72.52	76.96	290	23.83	19.43	90.97	0.1776	0.1447	0.2334
	30 c75v	0.0	0.25	1.0	45.83	39.34	-81.38	90.4	296	21.76	15.15	90.44	0.1709	0.1189	0.1819
	31 c88v	0.0	0.125	1.0	40.85	53.32	-89.92	104.54	301	20.19	11.77	90.35	0.1651	0.0962	0.1414
	32 v00m	0.0	0.0	1.0	38.69	59.31	-93.37	110.62	302	19.53	10.48	89.96	0.1628	0.0874	0.1259
	33 v13m	0.125	0.0	1.0	39.4	60.09	-92.08	109.96	303	20.3	10.89	89.86	0.1677	0.09	0.1308
	34 v25m	0.25	0.0	1.0	41.07	62.18	-89.23	108.77	305	22.25	11.91	89.91	0.1793	0.096	0.143
	35 v38m	0.375	0.0	1.0	43.06	64.84	-85.85	107.6	307	24.78	13.2	89.99	0.1936	0.1031	0.1585
	36 v50m	0.5	0.0	1.0	45.5	67.83	-81.71	106.2	310	28.05	14.9	90.07	0.2109	0.112	0.1789
	37 v63m	0.625	0.0	1.0	48.24	71.11	-77.03	104.84	313	32.05	16.99	90.15	0.2302	0.122	0.204
	38 v75m	0.75	0.0	1.0	51.44	75.16	-71.64	103.84	316	37.23	19.65	90.33	0.2529	0.1335	0.236
	39 v88m	0.875	0.0	1.0	55.01	79.69	-65.51	103.16	321	43.66	22.94	90.37	0.2781	0.1462	0.2756
	40 m00o	1.0	0.0	1.0	60.03	85.99	-56.97	103.16	326	53.84	28.16	90.55	0.312	0.1632	0.3382
	41 m13o	1.0	0.0	0.875	57.74	80.14	-34.51	87.26	337	47.93	25.69	57.5	0.3655	0.1959	0.3085
	42 m25o	1.0	0.0	0.75	56.89	77.39	-23.0	80.74	343	45.65	24.81	44.74	0.3963	0.2154	0.298
	43 m38o	1.0	0.0	0.675	56.29	75.15	-12.51	76.19	351	43.99	24.21	35.13	0.4258	0.2343	0.2907
	44 m50o	1.0	0.0	0.5	55.77	72.98	-1.73	73.01	359	42.5	23.69	26.89	0.4566	0.2545	0.2845
	45 m63o	1.0	0.0	0.375	55.33	70.96	9.95	71.66	8	41.2	23.25	19.65	0.4899	0.2764	0.2792
	46 m75o	1.0	0.0	0.25	54.93	69.06	22.67	72.69	18	40.03	22.86	13.45	0.5243	0.2994	0.2746
	47 m88o	1.0	0.0	0.125	54.62	67.49	38.15	77.53	29	39.1	22.56	7.95	0.5617	0.3241	0.2709
	48 o00y	1.0	0.0	0.0	54.67	67.03	46.6	81.64	35	39.03	22.61	5.8	0.5787	0.3353	0.2716
	49 n00w	0.0	0.0	0.0	26.07	0.0	0.0	0.01	0	4.53	4.77	5.19	0.3127	0.329	0.0573
	50 n13w	0.125	0.125	0.125	30.83	0.18	-1.32	1.34	278	6.27	6.58	7.53	0.3078	0.3229	0.079
	51 n25w	0.25	0.25	0.25	40.04	0.54	-3.14	3.19	280	10.79	11.28	13.52	0.3032	0.3169	0.1354
	52 n38w	0.375	0.375	0.375	48.55	0.2	-2.92	2.94	274	16.41	17.23	20.28	0.3044	0.3195	0.207
	53 n50w	0.5	0.5	0.5	56.78	0.31	-2.14	2.17	278	23.55	24.7	28.3	0.3076	0.3227	0.2967
	54 n63w	0.625	0.625	0.625	64.6	0.72	-0.98	1.22	306	32.08	33.54	37.3	0.3117	0.3259	0.4028
	55 n75w	0.75	0.75	0.75	72.89	0.85	1.12	1.41	53	43.04	44.99	47.92	0.3166	0.3309	0.5403
	56 n88w	0.875	0.875	0.875	82.14	-0.07	3.49	3.49	91	57.52	60.56	61.94	0.3195	0.3364	0.7273
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.064

JE020-7N, Colorimetric data of Television Luminous System TLS27a for CIE standard illuminant D65; LECD monitor; Page: 15/44

$n = 88.59 / (88.59 + 5.04) = 0.946$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS27a for CIE lightness $L^*=27$ of black for illuminant D65
System TLS27a
LECD monitor

D65 reflection:

$Y_N = 5.04$

$L_N^* = 26.85$

Y Yellow

$LCH_a^* = 93.1 \ 95.1 \ 102$

$LAB_a^* = 93.1 \ -20.0 \ 93.0$

L Leaf green

$LCH_a^* = 84.7 \ 110.6 \ 134$

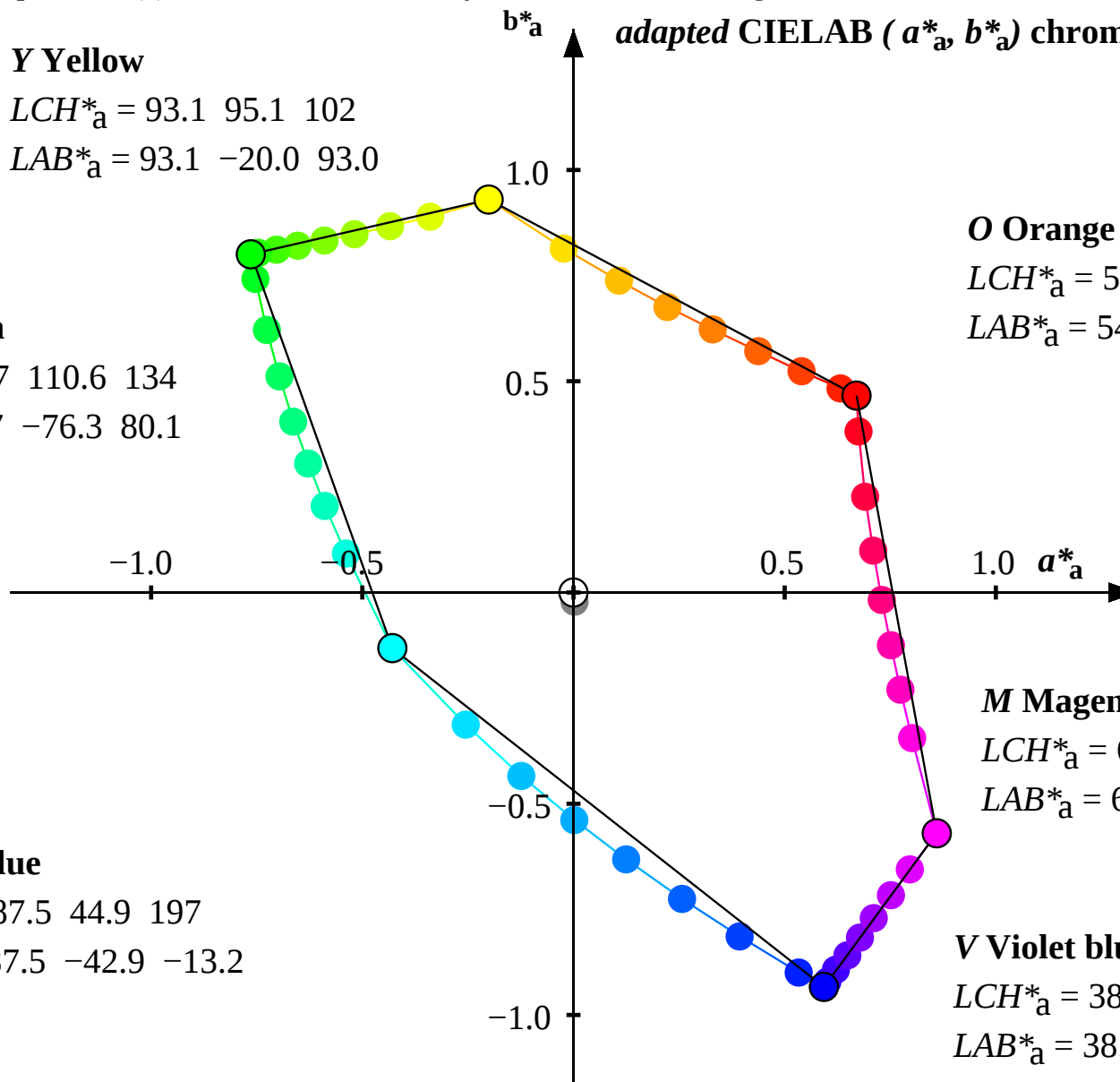
$LAB_a^* = 84.7 \ -76.3 \ 80.1$

C Cyan blue

$LCH_a^* = 87.5 \ 44.9 \ 197$

$LAB_a^* = 87.5 \ -42.9 \ -13.2$

adapted CIELAB (a_a^ , b_a^*) chroma diagram*



O Orange red

$LCH_a^* = 54.7 \ 81.6 \ 35$

$LAB_a^* = 54.7 \ 67.0 \ 46.6$

M Magenta red

$LCH_a^* = 60.0 \ 103.2 \ 326$

$LAB_a^* = 60.0 \ 86.0 \ -57.0$

V Violet blue

$LCH_a^* = 38.7 \ 110.6 \ 302$

$LAB_a^* = 38.7 \ 59.3 \ -93.4$

Colorimetric "Adapted data (a)": Television Luminous System TLS38a for CIE lightness $L^*=38$ of black for illuminant D65

System TLS38a	Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*_{a}=LAB^*1_a$	$a^*_{a}=LAB^*2_a$	$b^*_{a}=LAB^*3_a$	$C^*_{ab,a}=LAB^*ab,a$	$h_{ab,a}$	$X_a=XYZ1_a$	$Y_a=XYZ2_a$	$Z_a=XYZ3_a$	x_a	y_a	$Y_a/88.59$
LECD monitor	00 o00y	1.0	0.0	0.0	58.02	59.78	36.11	69.84	31	41.34	25.98	10.43	0.5317	0.3342	0.3111
	01 o13y	1.0	0.125	0.0	59.19	56.57	37.76	68.02	34	41.94	27.24	10.56	0.526	0.3416	0.326
D65 reflection:	02 o25y	1.0	0.25	0.0	62.12	48.65	41.64	64.04	41	43.52	30.54	10.96	0.5118	0.3592	0.3656
	03 o38y	1.0	0.375	0.0	65.52	39.75	46.28	61.01	49	45.5	34.71	11.4	0.4966	0.3789	0.4155
	04 o50y	1.0	0.5	0.0	69.4	30.16	51.43	59.62	60	48.02	39.9	11.97	0.4808	0.3994	0.4776
	05 o63y	1.0	0.625	0.0	73.47	20.56	56.79	60.4	70	50.97	45.89	12.6	0.4656	0.4192	0.5493
	06 o75y	1.0	0.75	0.0	78.26	10.01	63.09	63.88	81	54.85	53.65	13.38	0.4501	0.4402	0.6423
	07 o88y	1.0	0.875	0.0	84.18	-2.14	70.87	70.9	92	60.31	64.41	14.38	0.4336	0.4631	0.7711
	08 y00l	1.0	1.0	0.0	93.25	-18.92	82.7	84.84	103	70.2	83.54	16.05	0.4134	0.492	1.0
	09 y13l	0.875	1.0	0.0	90.94	-31.85	78.83	85.02	112	60.07	78.35	16.0	0.389	0.5074	0.9379
	10 y25l	0.75	1.0	0.0	89.49	-40.64	76.66	86.77	118	53.96	75.2	15.85	0.3721	0.5186	0.9002
	11 y38l	0.625	1.0	0.0	88.29	-48.38	74.79	89.08	123	49.08	72.67	15.77	0.3569	0.5285	0.8699
	12 y50l	0.5	1.0	0.0	87.36	-54.86	73.32	91.58	127	45.33	70.74	15.7	0.344	0.5369	0.8469
	13 y63l	0.375	1.0	0.0	86.58	-60.55	72.15	94.2	130	42.25	69.15	15.62	0.3326	0.5444	0.8278
	14 y75l	0.25	1.0	0.0	85.97	-65.14	71.25	96.54	132	39.9	67.93	15.56	0.3234	0.5505	0.8132
	15 y88l	0.125	1.0	0.0	85.5	-68.99	70.53	98.67	134	38.05	66.99	15.52	0.3156	0.5557	0.802
	16 l00c	0.0	1.0	0.0	85.29	-70.49	70.22	99.5	135	37.3	66.58	15.49	0.3125	0.5577	0.797
	17 l13c	0.0	1.0	0.125	85.34	-69.54	65.67	95.66	137	37.67	66.68	17.65	0.3087	0.5466	0.7982
	18 l25c	0.0	1.0	0.25	85.5	-67.13	55.85	87.33	140	38.63	66.99	23.02	0.3003	0.5208	0.802
	19 l38c	0.0	1.0	0.375	85.67	-64.47	46.57	79.54	144	39.7	67.33	29.03	0.2918	0.4949	0.806
	20 l50c	0.0	1.0	0.5	85.88	-61.46	37.15	71.82	149	40.96	67.75	36.16	0.2827	0.4676	0.811
	21 l63c	0.0	1.0	0.625	86.11	-58.25	28.26	64.75	154	42.35	68.22	43.94	0.2741	0.4415	0.8166
	22 l75c	0.0	1.0	0.75	86.41	-54.69	19.06	57.92	161	43.98	68.82	53.19	0.265	0.4146	0.8238
	23 l88c	0.0	1.0	0.875	86.82	-50.17	8.65	50.92	170	46.16	69.65	65.27	0.2549	0.3846	0.8338
	24 c00v	0.0	1.0	1.0	87.95	-40.07	-12.47	41.98	197	51.64	71.97	95.9	0.2352	0.3279	0.8615
	25 c13v	0.0	0.875	1.0	77.52	-23.46	-29.34	37.58	231	41.6	52.4	94.22	0.221	0.2784	0.6273
	26 c25v	0.0	0.75	1.0	70.61	-11.15	-40.5	42.02	255	36.11	41.62	93.1	0.2114	0.2436	0.4982
	27 c38v	0.0	0.675	1.0	64.89	0.18	-49.81	49.82	270	32.27	33.9	92.29	0.2036	0.2139	0.4059
	28 c50v	0.0	0.5	1.0	59.9	10.95	-58.03	59.07	281	29.39	28.02	91.76	0.197	0.1878	0.3354
	29 c63v	0.0	0.375	1.0	55.03	22.18	-66.08	69.71	289	26.92	22.96	91.25	0.1907	0.1627	0.2749
	30 c75v	0.0	0.25	1.0	50.57	33.21	-73.43	80.6	294	24.95	18.9	90.74	0.1854	0.1404	0.2262
	31 c88v	0.0	0.125	1.0	46.57	43.96	-80.27	91.52	299	23.46	15.69	90.66	0.1807	0.1209	0.1879
	32 v00m	0.0	0.0	1.0	44.9	48.33	-82.9	95.96	300	22.83	14.47	90.29	0.1789	0.1134	0.1732
	33 v13m	0.125	0.0	1.0	45.44	49.26	-81.89	95.58	301	23.56	14.86	90.2	0.1832	0.1155	0.1779
	34 v25m	0.25	0.0	1.0	46.74	51.68	-79.68	94.98	303	25.41	15.82	90.24	0.1933	0.1204	0.1894
	35 v38m	0.375	0.0	1.0	48.32	54.71	-77.01	94.47	305	27.81	17.05	90.32	0.2057	0.1261	0.2041
	36 v50m	0.5	0.0	1.0	50.29	58.14	-73.67	93.86	308	30.92	18.66	90.4	0.2209	0.1333	0.2234
	37 v63m	0.625	0.0	1.0	52.56	61.89	-69.82	93.31	312	34.71	20.64	90.47	0.238	0.1416	0.2471
	38 v75m	0.75	0.0	1.0	55.25	66.43	-65.29	93.16	315	39.63	23.17	90.64	0.2583	0.151	0.2774
	39 v88m	0.875	0.0	1.0	58.32	71.45	-60.03	93.33	320	45.73	26.3	90.68	0.281	0.1616	0.3148
	40 m00o	1.0	0.0	1.0	62.72	78.36	-52.56	94.36	326	55.39	31.25	90.85	0.3121	0.1761	0.3741
	41 m13o	1.0	0.0	0.875	60.7	72.47	-31.26	78.93	337	49.78	28.9	59.49	0.3603	0.2092	0.346
	42 m25o	1.0	0.0	0.75	59.95	69.75	-20.6	72.73	344	47.62	28.07	47.38	0.3869	0.2281	0.336
	43 m38o	1.0	0.0	0.675	59.43	67.57	-11.07	68.47	351	46.04	27.5	38.26	0.4118	0.2459	0.3291
	44 m50o	1.0	0.0	0.5	58.98	65.46	-1.51	65.48	359	44.63	27.0	30.45	0.4372	0.2645	0.3232
	45 m63o	1.0	0.0	0.375	58.59	63.51	8.51	64.08	8	43.39	26.58	23.57	0.4638	0.2842	0.3182
	46 m75o	1.0	0.0	0.25	58.24	61.69	18.87	64.51	17	42.29	26.22	17.69	0.4906	0.3042	0.3139
	47 m88o	1.0	0.0	0.125	57.97	60.18	30.4	67.43	27	41.4	25.93	12.47	0.5188	0.3249	0.3104
	48 o00y	1.0	0.0	0.0	58.02	59.78	36.11	69.84	31	41.34	25.98	10.43	0.5317	0.3342	0.3111
	49 n00w	0.0	0.0	0.0	36.08	0.0	0.0	0.01	0	8.6	9.05	9.85	0.3127	0.329	0.1083
	50 n13w	0.125	0.125	0.125	39.19	0.13	-0.91	0.93	278	10.25	10.77	12.07	0.3098	0.3255	0.1289
	51 n25w	0.25	0.25	0.25	45.94	0.42	-2.46	2.5	280	14.54	15.22	17.75	0.306	0.3204	0.1823
	52 n38w	0.375	0.375	0.375	52.82	0.17	-2.45	2.47	274	19.88	20.88	24.18	0.3061	0.3215	0.2499
	53 n50w	0.5	0.5	0.5	59.86	0.27	-1.87	1.9	278	26.64	27.96	31.78	0.3084	0.3237	0.3348
	54 n63w	0.625	0.625	0.625	66.79	0.64	-0.88	1.1	306	34.74	36.35	40.33	0.3118	0.3263	0.4352
	55 n75w	0.75	0.75	0.75	74.33	0.78	1.03	1.29	53	45.15	47.22	50.4	0.3162	0.3307	0.5652
	56 n88w	0.875	0.875	0.875	82.91	-0.07	3.25	3.25	91	58.88	61.99	63.71	0.319	0.3358	0.7421
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0605

JE020-7N, Colorimetric data of Television Luminous System TLS38a for CIE standard illuminant D65; LECD monitor; Page: 17/44

$$n = 88.59 / (88.59 + 10.08) = 0.898$$

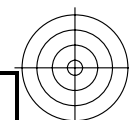
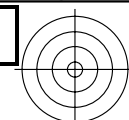
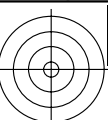
TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: olv^* setrgbcolor

output: no change compared to input

See original or copy: <http://web.me.com/klaus.richter/IE02/IE02L0NP.PDF> / .PS
Technical information: <http://www.ps.bam.de> or <http://130.149.60.45/~farbmeterik>



TUB registration: 20090901-JE02/IE02L0NP.PDF / .PS
application for measurement of printer or monitor systems

TUB material: code=rha4ta

Colorimetric "Adapted data (a)": Television Luminous System TLS38a for CIE lightness $L^*=38$ of black for illuminant D65
System TLS38a
LECD monitor

Y Yellow

$LCH^*_a = 93.2 \ 84.8 \ 103$

$LAB^*_a = 93.2 \ -18.9 \ 82.7$

L Leaf green

$LCH^*_a = 85.3 \ 99.5 \ 135$

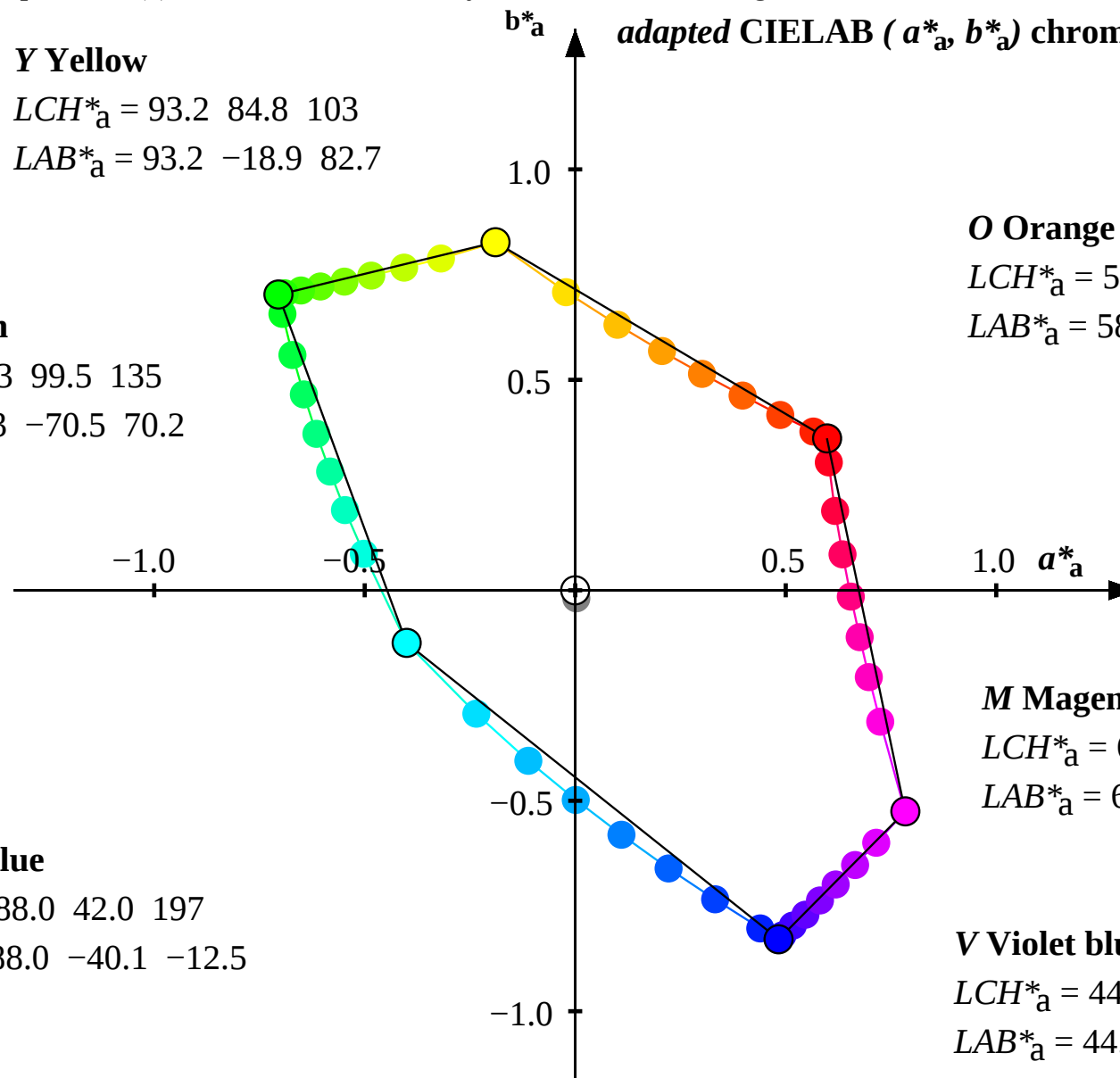
$LAB^*_a = 85.3 \ -70.5 \ 70.2$

C Cyan blue

$LCH^*_a = 88.0 \ 42.0 \ 197$

$LAB^*_a = 88.0 \ -40.1 \ -12.5$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



O Orange red

$LCH^*_a = 58.0 \ 69.8 \ 31$

$LAB^*_a = 58.0 \ 59.8 \ 36.1$

M Magenta red

$LCH^*_a = 62.7 \ 94.4 \ 326$

$LAB^*_a = 62.7 \ 78.4 \ -52.6$

V Violet blue

$LCH^*_a = 44.9 \ 96.0 \ 300$

$LAB^*_a = 44.9 \ 48.3 \ -82.9$

Colorimetric "Adapted data (a)": Television Luminous System TLS52a for CIE lightness $L^*=52$ of black for illuminant D65

System TLS52a	Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*=LAB*1a$	$a^*=LAB*2a$	$b^*=LAB*3a$	$C^*_{ab,a}=LAB*ab,a$	$h_{ab,a}$	$X_a=XYZ_{1a}$	$Y_a=XYZ_{2a}$	$Z_a=XYZ_{3a}$	x_a	y_a	$Y_a/88.59$
LECD monitor	00 o00y	1.0	0.0	0.0	63.17	49.37	25.91	55.76	28	45.31	31.79	18.4	0.4745	0.3328	0.3784
	01 o13y	1.0	0.125	0.0	64.1	46.92	27.29	54.28	30	45.86	32.92	18.52	0.4713	0.3384	0.3919
D65 reflection:	02 o25y	1.0	0.25	0.0	66.46	40.76	30.63	50.99	37	47.29	35.92	18.89	0.4631	0.3519	0.4276
	03 o38y	1.0	0.375	0.0	69.26	33.66	34.68	48.33	46	49.09	39.71	19.29	0.4542	0.3674	0.4727
	04 o50y	1.0	0.5	0.0	72.5	25.84	39.28	47.02	57	51.38	44.41	19.8	0.4445	0.3842	0.5287
	05 o63y	1.0	0.625	0.0	75.98	17.8	44.18	47.63	68	54.05	49.85	20.38	0.4349	0.4011	0.5934
	06 o75y	1.0	0.75	0.0	80.12	8.77	50.03	50.79	80	57.57	56.89	21.08	0.4248	0.4197	0.6772
	07 o88y	1.0	0.875	0.0	85.33	-1.9	57.36	57.4	92	62.52	66.65	21.99	0.4136	0.4409	0.7935
	08 y00l	1.0	1.0	0.0	93.45	-17.03	68.73	70.81	104	71.5	84.0	23.51	0.3994	0.4693	1.0
	09 y13l	0.875	1.0	0.0	91.37	-28.44	65.22	71.15	114	62.3	79.3	23.46	0.3775	0.4804	0.944
	10 y25l	0.75	1.0	0.0	90.06	-36.08	63.2	72.78	120	56.77	76.44	23.32	0.3627	0.4883	0.91
	11 y38l	0.625	1.0	0.0	88.99	-42.73	61.49	74.88	125	52.33	74.15	23.25	0.3495	0.4952	0.8827
	12 y50l	0.5	1.0	0.0	88.16	-48.22	60.15	77.1	129	48.93	72.4	23.19	0.3386	0.501	0.8618
	13 y63l	0.375	1.0	0.0	87.46	-52.99	59.07	79.36	132	46.14	70.96	23.12	0.3291	0.5061	0.8447
	14 y75l	0.25	1.0	0.0	86.92	-56.8	58.24	81.36	134	44.0	69.84	23.06	0.3214	0.5102	0.8314
	15 y88l	0.125	1.0	0.0	86.5	-59.98	57.58	83.15	136	42.32	68.99	23.02	0.3151	0.5136	0.8213
	16 l00c	0.0	1.0	0.0	86.31	-61.21	57.29	83.85	137	41.65	68.62	23.0	0.3125	0.5149	0.8168
	17 l13c	0.0	1.0	0.125	86.36	-60.42	54.09	81.1	138	41.98	68.71	24.96	0.3095	0.5065	0.8179
	18 l25c	0.0	1.0	0.25	86.5	-58.41	46.83	74.87	141	42.85	68.99	29.83	0.3025	0.487	0.8213
	19 l38c	0.0	1.0	0.375	86.65	-56.18	39.62	68.76	145	43.82	69.3	35.28	0.2953	0.467	0.825
	20 l50c	0.0	1.0	0.5	86.84	-53.65	32.01	62.48	149	44.97	69.68	41.75	0.2875	0.4455	0.8295
	21 l63c	0.0	1.0	0.625	87.05	-50.95	24.6	56.59	154	46.22	70.1	48.81	0.2799	0.4245	0.8345
	22 l75c	0.0	1.0	0.75	87.31	-47.94	16.75	50.79	161	47.71	70.65	57.2	0.2717	0.4024	0.841
	23 l88c	0.0	1.0	0.875	87.68	-44.1	7.67	44.77	170	49.69	71.41	68.16	0.2625	0.3773	0.85
	24 c00v	0.0	1.0	1.0	88.69	-35.45	-11.24	37.2	198	54.65	73.51	95.95	0.2439	0.328	0.8751
	25 c13v	0.0	0.875	1.0	79.48	-20.23	-26.11	33.04	232	45.55	55.76	94.43	0.2327	0.2849	0.6637
	26 c25v	0.0	0.75	1.0	73.53	-9.41	-35.67	36.91	255	40.57	45.97	93.41	0.2254	0.2555	0.5472
	27 c38v	0.0	0.675	1.0	68.73	0.14	-43.44	43.45	270	37.08	42.68	92.68	0.2198	0.231	0.4639
	28 c50v	0.0	0.5	1.0	64.67	8.86	-50.12	50.91	280	34.47	33.63	92.19	0.215	0.2098	0.4004
	29 c63v	0.0	0.375	1.0	60.82	17.54	-56.44	59.11	287	32.23	29.05	91.73	0.2106	0.1898	0.3458
	30 c75v	0.0	0.25	1.0	57.42	25.62	-61.98	67.07	292	30.44	25.36	91.27	0.207	0.1724	0.3019
	31 c88v	0.0	0.125	1.0	54.5	33.08	-66.96	74.7	296	29.09	22.45	91.2	0.2038	0.1573	0.2673
	32 v00m	0.0	0.0	1.0	53.32	35.95	-68.77	77.61	298	28.52	21.34	90.86	0.2027	0.1516	0.254
	33 v13m	0.125	0.0	1.0	53.7	36.88	-68.05	77.41	298	29.18	21.69	90.78	0.206	0.1531	0.2582
	34 v25m	0.25	0.0	1.0	54.63	39.25	-66.49	77.22	301	30.86	22.57	90.82	0.2139	0.1565	0.2687
	35 v38m	0.375	0.0	1.0	55.77	42.23	-64.57	77.16	303	33.04	23.68	90.89	0.2238	0.1604	0.2819
	36 v50m	0.5	0.0	1.0	57.22	45.7	-62.12	77.13	306	35.86	25.15	90.96	0.236	0.1655	0.2993
	37 v63m	0.625	0.0	1.0	58.92	49.56	-59.23	77.24	310	39.3	26.94	91.03	0.2499	0.1713	0.3207
	38 v75m	0.75	0.0	1.0	60.99	54.25	-55.77	77.81	314	43.76	29.23	91.18	0.2665	0.1781	0.348
	39 v88m	0.875	0.0	1.0	63.4	59.47	-51.63	78.76	319	49.29	32.07	91.22	0.2856	0.1858	0.3818
	40 m00o	1.0	0.0	1.0	66.95	66.73	-45.62	80.84	326	58.06	36.56	91.37	0.3122	0.1966	0.4352
	41 m13o	1.0	0.0	0.875	65.31	61.02	-26.39	66.49	337	52.97	34.44	62.92	0.3524	0.2291	0.4099
	42 m25o	1.0	0.0	0.75	64.71	58.46	-17.1	60.92	344	51.01	33.68	51.93	0.3734	0.2465	0.4009
	43 m38o	1.0	0.0	0.675	64.29	56.43	-9.04	57.15	351	49.58	33.16	43.65	0.3923	0.2623	0.3947
	44 m50o	1.0	0.0	0.5	63.92	54.49	-1.21	54.5	359	48.29	32.71	36.56	0.4108	0.2782	0.3894
	45 m63o	1.0	0.0	0.375	63.62	52.71	6.65	53.13	7	47.17	32.33	30.33	0.4295	0.2944	0.3849
	46 m75o	1.0	0.0	0.25	63.34	51.06	14.34	53.04	16	46.17	32.0	25.0	0.4475	0.3102	0.3809
	47 m88o	1.0	0.0	0.125	63.13	49.7	22.25	54.46	24	45.37	31.74	20.26	0.466	0.326	0.3778
	48 o00y	1.0	0.0	0.0	63.17	49.37	25.91	55.76	28	45.31	31.79	18.4	0.4745	0.3328	0.3784
	49 n00w	0.0	0.0	0.0	47.52	0.0	0.0	0.01	0	15.61	16.42	17.88	0.3127	0.329	0.1955
	50 n13w	0.125	0.125	0.125	49.48	0.08	-0.58	0.6	278	17.11	17.98	19.89	0.3111	0.3271	0.2141
	51 n25w	0.25	0.25	0.25	54.05	0.3	-1.76	1.79	280	21.0	22.02	25.05	0.3084	0.3236	0.2622
	52 n38w	0.375	0.375	0.375	59.12	0.13	-1.87	1.89	274	25.84	27.15	30.88	0.3081	0.3238	0.3233
	53 n50w	0.5	0.5	0.5	64.63	0.22	-1.5	1.53	278	31.98	33.58	37.77	0.3095	0.325	0.3998
	54 n63w	0.625	0.625	0.625	70.31	0.54	-0.73	0.92	306	39.32	41.2	45.53	0.312	0.3268	0.4904
	55 n75w	0.75	0.75	0.75	76.71	0.67	0.89	1.11	53	48.77	51.05	54.67	0.3157	0.3305	0.6077
	56 n88w	0.875	0.875	0.875	84.2	-0.06	2.87	2.87	91	61.23	64.46	66.74	0.3182	0.335	0.7673
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	322	84.2	88.59	96.46	0.3127	0.329	1.0546

JE020-7N, Colorimetric data of Television Luminous System TLS52a for CIE standard illuminant D65; LECD monitor; Page: 19/44

$$n = 88.59 / (88.59 + 20.16) = 0.815$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS52a for CIE lightness $L^*=52$ of black for illuminant D65
System TLS52a
LECD monitor

Y Yellow

$LCH^*_a = 93.5 \ 70.8 \ 104$

$LAB^*_a = 93.5 \ -17.0 \ 68.7$

L Leaf green

$LCH^*_a = 86.3 \ 83.8 \ 137$

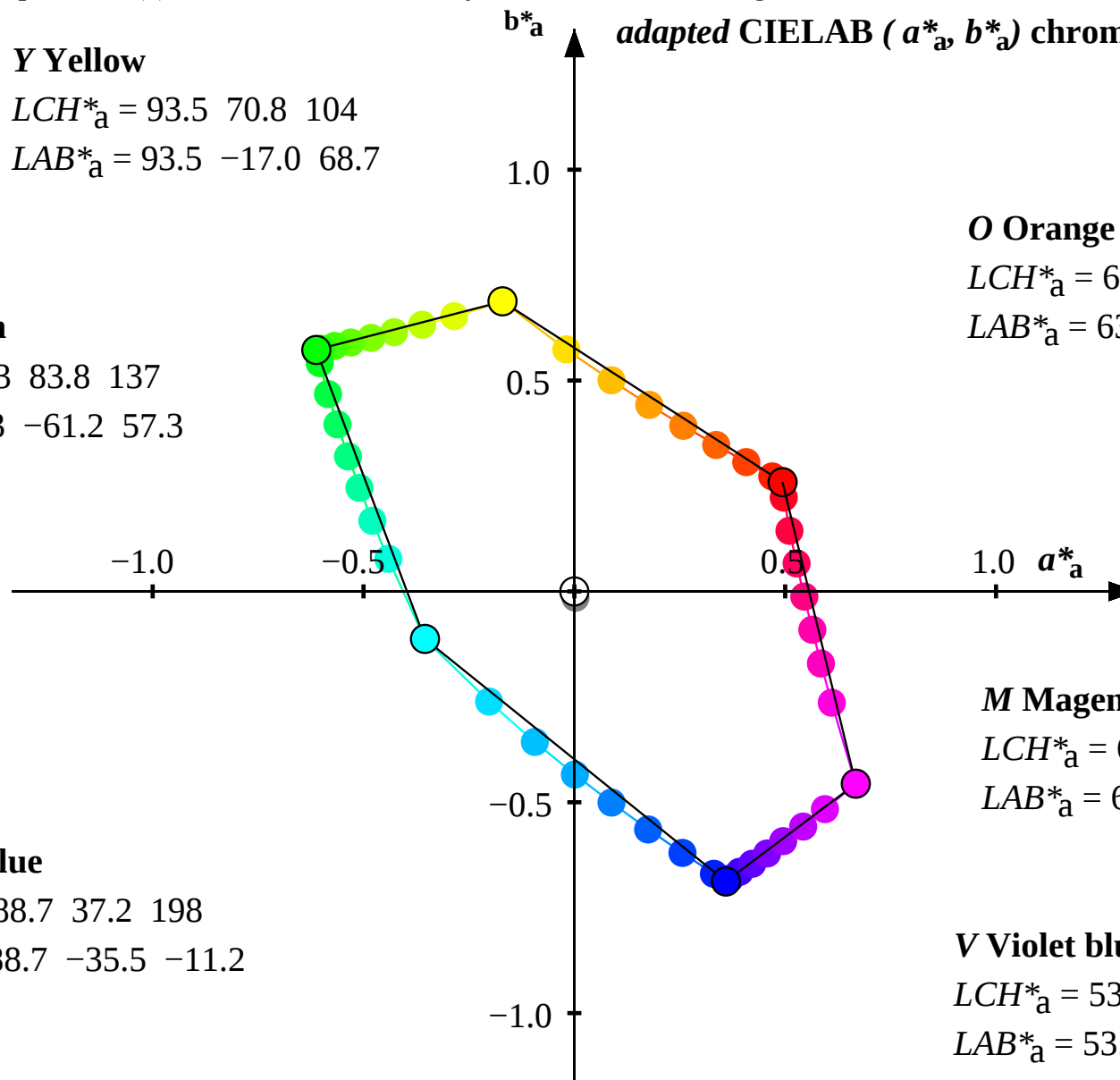
$LAB^*_a = 86.3 \ -61.2 \ 57.3$

C Cyan blue

$LCH^*_a = 88.7 \ 37.2 \ 198$

$LAB^*_a = 88.7 \ -35.5 \ -11.2$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



O Orange red

$LCH^*_a = 63.2 \ 55.8 \ 28$

$LAB^*_a = 63.2 \ 49.4 \ 25.9$

M Magenta red

$LCH^*_a = 66.9 \ 80.8 \ 326$

$LAB^*_a = 66.9 \ 66.7 \ -45.6$

V Violet blue

$LCH^*_a = 53.3 \ 77.6 \ 298$

$LAB^*_a = 53.3 \ 36.0 \ -68.8$

Colorimetric "Adapted data (a)": Television Luminous System TLS70a for CIE lightness $L^*=70$ of black for illuminant D65

System TLS70a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	$L^*_a=LAB^*_{1a}$	$a^*_a=LAB^*_{2a}$	$b^*_a=LAB^*_{3a}$	$C^*_{ab,a}=LAB^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ^*_{1a}$	$Y_a=XYZ^*_{2a}$	$Z_a=XYZ^*_{3a}$	x_a	y_a	$Y_a/88.59$
LECD monitor	00 o00y	1.0	0.0	0.0	69.94	36.9	17.16	40.7	25	51.39	40.67	30.61	0.4189	0.3315	0.4801
	01 o13y	1.0	0.125	0.0	70.61	35.23	18.18	39.64	27	51.85	41.63	30.71	0.4175	0.3352	0.4914
	02 o25y	1.0	0.25	0.0	72.34	30.95	20.7	37.24	34	53.06	44.16	31.02	0.4138	0.3444	0.5212
D65 reflection:	03 o38y	1.0	0.375	0.0	74.41	25.88	23.81	35.17	43	54.58	47.35	31.36	0.4095	0.3553	0.5589
	04 o50y	1.0	0.5	0.0	76.87	20.13	27.45	34.04	54	56.51	51.32	31.79	0.4047	0.3676	0.6057
	05 o63y	1.0	0.625	0.0	79.56	14.06	31.41	34.41	66	58.76	55.91	32.27	0.3999	0.3805	0.6599
	06 o75y	1.0	0.75	0.0	82.83	7.03	36.24	36.91	79	61.74	61.85	32.87	0.3946	0.3953	0.73
	07 o88y	1.0	0.875	0.0	87.04	-1.54	42.45	42.48	92	65.91	70.08	33.63	0.3886	0.4132	0.8272
	08 y00l	1.0	1.0	0.0	93.76	-14.2	52.35	54.24	105	73.48	84.72	34.92	0.3805	0.4387	1.0
	09 y13l	0.875	1.0	0.0	92.02	-23.43	49.4	54.68	115	65.73	80.75	34.88	0.3624	0.4453	0.9532
	10 y25l	0.75	1.0	0.0	90.93	-29.49	47.68	56.07	122	61.06	78.34	34.76	0.3506	0.4498	0.9247
	11 y38l	0.625	1.0	0.0	90.05	-34.66	46.23	57.79	127	57.31	76.41	34.69	0.3403	0.4537	0.9018
	12 y50l	0.5	1.0	0.0	89.36	-38.87	45.11	59.56	131	54.44	74.93	34.65	0.3319	0.4568	0.8844
	13 y63l	0.375	1.0	0.0	88.79	-42.47	44.2	61.31	134	52.09	73.71	34.59	0.3248	0.4596	0.8701
	14 y75l	0.25	1.0	0.0	88.34	-45.32	43.5	62.83	136	50.29	72.78	34.54	0.3191	0.4618	0.859
	15 y88l	0.125	1.0	0.0	88.0	-47.67	42.95	64.17	138	48.87	72.06	34.5	0.3144	0.4636	0.8505
	16 l00c	0.0	1.0	0.0	87.84	-48.57	42.71	64.68	139	48.3	71.74	34.49	0.3126	0.4642	0.8468
	17 l13c	0.0	1.0	0.125	87.88	-47.97	40.63	62.88	140	48.58	71.82	36.14	0.3103	0.4588	0.8477
	18 l25c	0.0	1.0	0.25	88.0	-46.46	35.77	58.64	142	49.32	72.06	40.25	0.3051	0.4458	0.8505
	19 l38c	0.0	1.0	0.375	88.12	-44.79	30.71	54.31	146	50.14	72.32	44.85	0.2997	0.4323	0.8536
	20 l50c	0.0	1.0	0.5	88.27	-42.87	25.17	49.72	150	51.1	72.64	50.31	0.2936	0.4173	0.8574
	21 l63c	0.0	1.0	0.625	88.45	-40.81	19.59	45.28	154	52.16	73.0	56.26	0.2875	0.4024	0.8616
	22 l75c	0.0	1.0	0.75	88.66	-38.51	13.5	40.82	161	53.41	73.45	63.34	0.2808	0.3862	0.867
	23 l88c	0.0	1.0	0.875	88.97	-35.55	6.26	36.11	170	55.08	74.09	72.58	0.273	0.3672	0.8745
	24 c00v	0.0	1.0	1.0	89.8	-28.82	-9.38	30.32	198	59.27	75.87	96.03	0.2564	0.3282	0.8955
	25 c13v	0.0	0.875	1.0	82.32	-15.9	-21.41	26.69	233	51.59	60.89	94.75	0.249	0.2938	0.7187
	26 c25v	0.0	0.75	1.0	77.66	-7.21	-28.87	29.77	256	47.39	52.64	93.88	0.2444	0.2714	0.6213
	27 c38v	0.0	0.675	1.0	74.02	0.11	-34.73	34.74	270	44.45	46.73	93.27	0.241	0.2534	0.5516
	28 c50v	0.0	0.5	1.0	71.03	6.48	-39.61	40.15	279	42.25	42.23	92.86	0.2382	0.2381	0.4984
	29 c63v	0.0	0.375	1.0	68.28	12.52	-44.08	45.83	286	40.35	38.36	92.47	0.2357	0.2241	0.4527
	30 c75v	0.0	0.25	1.0	65.94	17.87	-47.85	51.09	290	38.85	35.25	92.08	0.2338	0.2121	0.416
	31 c88v	0.0	0.125	1.0	63.99	22.61	-51.16	55.94	294	37.71	32.79	92.02	0.232	0.2018	0.3871
	32 v00m	0.0	0.0	1.0	63.22	24.35	-52.3	57.7	295	37.23	31.86	91.74	0.2315	0.1981	0.376
	33 v13m	0.125	0.0	1.0	63.47	25.11	-51.82	57.59	296	37.79	32.16	91.67	0.2338	0.199	0.3795
	34 v25m	0.25	0.0	1.0	64.07	27.05	-50.8	57.57	298	39.2	32.89	91.7	0.2393	0.2008	0.3883
	35 v38m	0.375	0.0	1.0	64.83	29.52	-49.54	57.68	301	41.04	33.83	91.76	0.2463	0.203	0.3993
	36 v50m	0.5	0.0	1.0	65.8	32.49	-47.91	57.9	304	43.42	35.07	91.82	0.2549	0.2059	0.4139
	37 v63m	0.625	0.0	1.0	66.96	35.88	-45.95	58.3	308	46.32	36.58	91.88	0.265	0.2093	0.4318
	38 v75m	0.75	0.0	1.0	68.4	40.07	-43.56	59.19	313	50.08	38.52	92.01	0.2773	0.2133	0.4546
	39 v88m	0.875	0.0	1.0	70.11	44.86	-40.62	60.53	318	54.75	40.91	92.04	0.2917	0.218	0.4829
	40 m00o	1.0	0.0	1.0	72.69	51.69	-36.26	63.15	325	62.15	44.7	92.16	0.3123	0.2246	0.5276
	41 m13o	1.0	0.0	0.875	71.49	46.64	-20.24	50.85	337	57.86	42.9	68.16	0.3425	0.254	0.5064
	42 m25o	1.0	0.0	0.75	71.05	44.44	-12.85	46.27	344	56.2	42.27	58.89	0.3571	0.2686	0.4989
	43 m38o	1.0	0.0	0.675	70.75	42.72	-6.66	43.24	351	54.99	41.83	51.91	0.3697	0.2812	0.4937
	44 m50o	1.0	0.0	0.5	70.49	41.1	-0.87	41.11	359	53.91	41.45	45.93	0.3816	0.2934	0.4892
	45 m63o	1.0	0.0	0.375	70.27	39.62	4.7	39.9	7	52.96	41.13	40.67	0.393	0.3052	0.4855
	46 m75o	1.0	0.0	0.25	70.07	38.26	9.88	39.52	14	52.12	40.85	36.17	0.4036	0.3163	0.4822
	47 m88o	1.0	0.0	0.125	69.92	37.15	14.92	40.03	22	51.44	40.63	32.17	0.414	0.327	0.4796
	48 o00y	1.0	0.0	0.0	69.94	36.9	17.16	40.7	25	51.39	40.67	30.61	0.4189	0.3315	0.4801
	49 n00w	0.0	0.0	0.0	59.62	0.0	0.0	0.01	158	26.33	27.71	30.17	0.3127	0.329	0.3271
	50 n13w	0.125	0.125	0.125	60.8	0.05	-0.35	0.37	278	27.6	29.02	31.86	0.3119	0.328	0.3426
	51 n25w	0.25	0.25	0.25	63.7	0.2	-1.15	1.17	280	30.88	32.43	36.22	0.3102	0.3259	0.3828
	52 n38w	0.375	0.375	0.375	67.1	0.09	-1.3	1.31	274	34.96	36.76	41.13	0.3098	0.3257	0.4339
	53 n50w	0.5	0.5	0.5	71.0	0.16	-1.09	1.11	278	40.14	42.19	46.95	0.3105	0.3263	0.4979
	54 n63w	0.625	0.625	0.625	75.21	0.41	-0.55	0.69	306	46.34	48.61	53.49	0.3122	0.3275	0.5737
	55 n75w	0.75	0.75	0.75	80.14	0.53	0.69	0.87	53	54.31	56.92	61.2	0.3149	0.3301	0.6719
	56 n88w	0.875	0.875	0.875	86.12	-0.05	2.32	2.32	91	64.82	68.23	71.39	0.3171	0.3337	0.8053
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0457

JE020-7N, Colorimetric data of Television Luminous System TLS70a for CIE standard illuminant D65; LECD monitor; Page: 21/44

$$n = 88.59 / (88.59 + 40.32) = 0.687$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS70a for CIE lightness $L^*=70$ of black for illuminant D65
System TLS70a

LECD monitor

Y Yellow

D65 reflection:

$Y_N = 40.32$

$L_N^* = 69.7$

$LCH_a^* = 93.8 \ 54.2 \ 105$

$LAB_a^* = 93.8 \ -14.2 \ 52.4$

L Leaf green

$LCH_a^* = 87.8 \ 64.7 \ 139$

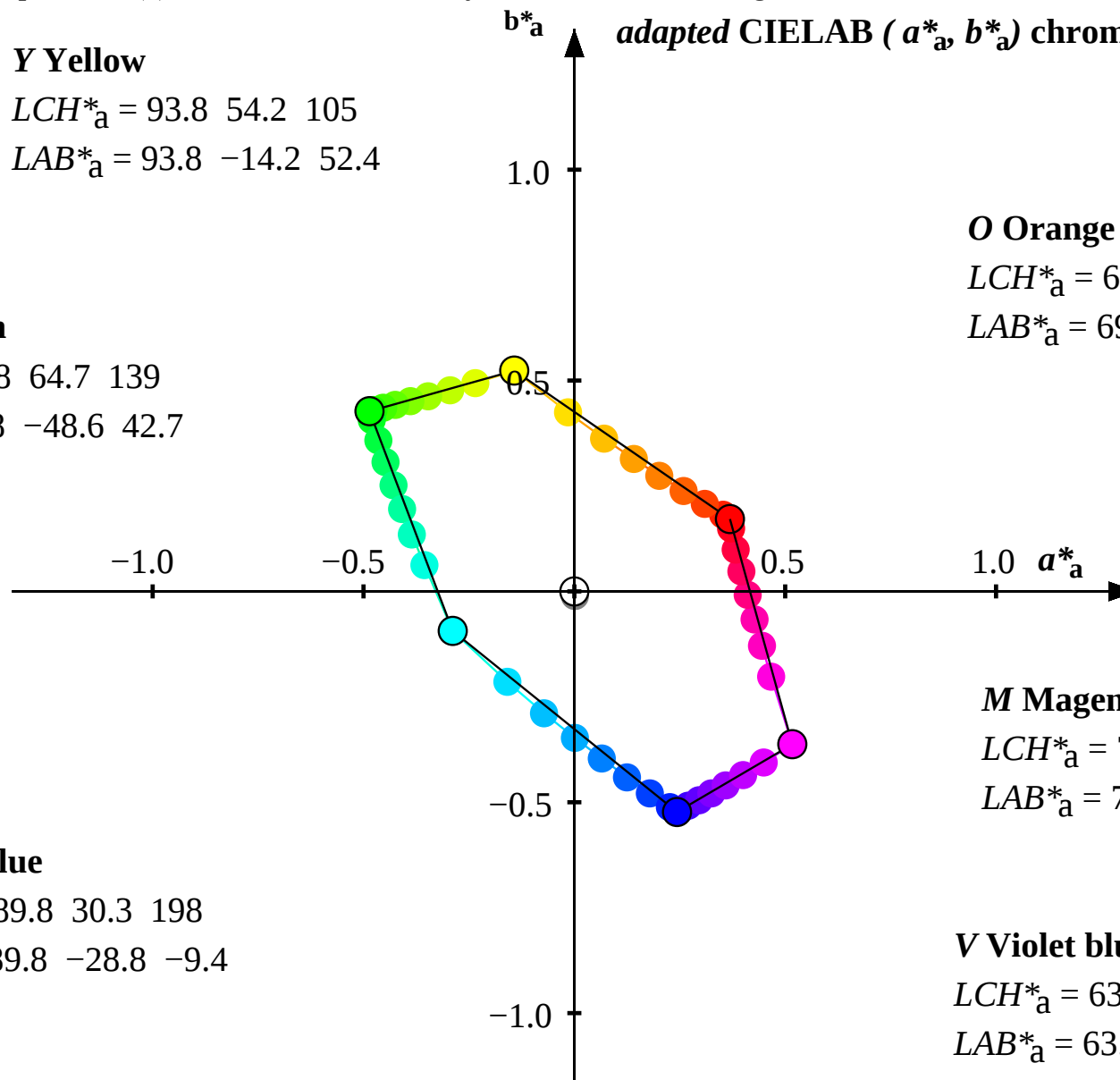
$LAB_a^* = 87.8 \ -48.6 \ 42.7$

C Cyan blue

$LCH_a^* = 89.8 \ 30.3 \ 198$

$LAB_a^* = 89.8 \ -28.8 \ -9.4$

adapted CIELAB (a_a^ , b_a^*) chroma diagram*



O Orange red

$LCH_a^* = 69.9 \ 40.7 \ 25$

$LAB_a^* = 69.9 \ 36.9 \ 17.2$

M Magenta red

$LCH_a^* = 72.7 \ 63.1 \ 325$

$LAB_a^* = 72.7 \ 51.7 \ -36.3$

V Violet blue

$LCH_a^* = 63.2 \ 57.7 \ 295$

$LAB_a^* = 63.2 \ 24.3 \ -52.3$

Colorimetric "Standard data": Television Luminous System TLS11 for CIE lightness $L^*=11$ of black for illuminant D65

System TLS11	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	$L^*=LAB^*_1$	$a^*=LAB^*_2$	$b^*=LAB^*_3$	$C^*_{ab}=LAB^*_r$	h_{ab}	$X=XYZ_1$	$Y=XYZ_2$	$Z=XYZ_3$	x	y	Y/88.59
LCD monitor	00 o00y	1.0	0.0	0.0	54.21	78.64	58.52	98.03	37	42.14	22.17	3.33	0.623	0.3278	0.2503
	01 o13y	1.0	0.125	0.0	54.91	76.45	59.02	96.58	38	42.42	22.84	3.44	0.6174	0.3325	0.2579
	02 o25y	1.0	0.25	0.0	57.87	68.1	61.12	91.5	42	43.91	25.83	3.96	0.5958	0.3505	0.2916
	03 o38y	1.0	0.375	0.0	62.22	56.16	64.44	85.47	49	46.26	30.66	4.75	0.5664	0.3754	0.3461
	04 o50y	1.0	0.5	0.0	67.48	42.42	68.19	80.31	58	49.48	37.27	5.91	0.534	0.4022	0.4207
	05 o63y	1.0	0.625	0.0	73.63	27.43	72.96	77.94	70	53.85	46.12	7.39	0.5016	0.4296	0.5206
	06 o75y	1.0	0.75	0.0	80.08	12.73	77.89	78.93	81	59.14	56.82	9.2	0.4725	0.454	0.6414
	07 o88y	1.0	0.875	0.0	86.52	-1.05	82.98	82.99	91	65.14	69.03	11.22	0.448	0.4748	0.7793
	08 y00l	1.0	1.0	0.0	94.11	-15.83	89.38	90.77	101	73.43	85.54	13.8	0.425	0.4951	0.9655
	09 y13l	0.875	1.0	0.0	92.0	-27.1	86.39	90.55	108	64.07	80.71	13.54	0.4047	0.5098	0.911
	10 y25l	0.75	1.0	0.0	90.22	-37.49	83.97	91.96	115	56.47	76.78	13.28	0.3854	0.524	0.8667
	11 y38l	0.625	1.0	0.0	88.56	-48.25	81.77	94.94	122	49.55	73.23	13.01	0.3649	0.5393	0.8266
	12 y50l	0.5	1.0	0.0	87.07	-58.61	79.85	99.06	128	43.6	70.14	12.75	0.3447	0.5545	0.7917
	13 y63l	0.375	1.0	0.0	85.89	-67.53	78.43	103.5	132	39.02	67.76	12.51	0.3271	0.568	0.7649
	14 y75l	0.25	1.0	0.0	84.97	-74.95	77.13	107.56	136	35.55	65.95	12.4	0.3121	0.579	0.7444
	15 y88l	0.125	1.0	0.0	84.37	-79.89	76.36	110.52	138	33.36	64.77	12.3	0.3021	0.5865	0.7312
	16 l00c	0.0	1.0	0.0	84.21	-81.1	76.13	111.24	138	32.83	64.47	12.29	0.2996	0.5883	0.7278
	17 l13c	0.0	1.0	0.125	84.25	-80.71	73.57	109.22	139	32.98	64.54	13.31	0.2976	0.5823	0.7285
	18 l25c	0.0	1.0	0.25	84.35	-78.62	63.95	101.35	143	33.71	64.74	17.66	0.2903	0.5576	0.7308
	19 l38c	0.0	1.0	0.375	84.61	-75.49	51.46	91.37	148	34.93	65.24	24.72	0.2797	0.5224	0.7365
	20 l50c	0.0	1.0	0.5	84.97	-71.46	38.14	81.01	154	36.59	65.95	34.2	0.2676	0.4823	0.7444
	21 l63c	0.0	1.0	0.625	85.43	-66.43	24.55	70.83	163	38.75	66.85	46.23	0.2552	0.4403	0.7546
	22 l75c	0.0	1.0	0.75	85.97	-61.24	11.9	62.39	173	41.15	67.93	59.93	0.2435	0.4019	0.7668
	23 l88c	0.0	1.0	0.875	86.54	-56.04	0.7	56.06	183	43.7	69.07	74.31	0.2336	0.3692	0.7796
	24 c00v	0.0	1.0	1.0	87.18	-51.1	-9.41	51.97	195	46.37	70.38	89.45	0.2249	0.3413	0.7944
	25 c13v	0.0	0.875	1.0	78.68	-38.63	-22.32	44.62	213	38.35	54.38	86.97	0.2134	0.3026	0.6138
	26 c25v	0.0	0.75	1.0	71.08	-26.3	-33.97	42.97	233	32.33	42.3	84.93	0.2026	0.2651	0.4775
	27 c38v	0.0	0.675	1.0	63.12	-11.97	-46.39	47.92	254	27.09	31.73	83.16	0.1908	0.2235	0.3582
	28 c50v	0.0	0.5	1.0	54.95	4.19	-59.11	59.26	272	22.65	22.88	81.29	0.1786	0.1804	0.2582
	29 c63v	0.0	0.375	1.0	47.37	21.46	-71.55	74.71	284	19.44	16.3	80.45	0.1673	0.1403	0.184
	30 c75v	0.0	0.25	1.0	40.2	39.44	-83.05	91.95	294	16.99	11.37	79.32	0.1578	0.1056	0.1284
	31 c88v	0.0	0.125	1.0	34.57	55.15	-92.53	107.73	299	15.49	8.29	79.02	0.1507	0.0806	0.0935
	32 v00m	0.0	0.0	1.0	33.09	59.26	-94.9	111.9	301	15.11	7.58	78.79	0.1489	0.0747	0.0856
	33 v13m	0.125	0.0	1.0	33.6	60.17	-94.39	111.95	301	15.63	7.82	79.26	0.1522	0.0761	0.0882
	34 v25m	0.25	0.0	1.0	35.64	62.25	-90.58	109.92	303	17.57	8.82	78.88	0.1669	0.0838	0.0996
	35 v38m	0.375	0.0	1.0	38.78	65.67	-85.41	107.74	306	20.9	10.53	79.21	0.1889	0.0952	0.1189
	36 v50m	0.5	0.0	1.0	42.38	69.54	-79.14	105.36	310	25.19	12.75	79.11	0.2152	0.1089	0.1439
	37 v63m	0.625	0.0	1.0	46.58	74.48	-72.19	103.73	315	31.01	15.7	79.49	0.2457	0.1244	0.1772
	38 v75m	0.75	0.0	1.0	50.83	79.05	-64.9	102.28	320	37.61	19.12	79.55	0.276	0.1403	0.2158
	39 v88m	0.875	0.0	1.0	54.98	83.66	-57.89	101.74	324	44.97	22.91	79.74	0.3046	0.1552	0.2586
	40 m00o	1.0	0.0	1.0	59.56	89.09	-50.27	102.3	329	54.26	27.64	80.12	0.3349	0.1706	0.312
	41 m13o	1.0	0.0	0.875	58.35	87.39	-40.57	96.35	334	51.59	26.33	65.42	0.3599	0.1837	0.2972
	42 m25o	1.0	0.0	0.75	57.23	85.38	-29.34	90.29	340	49.04	25.16	51.28	0.3908	0.2005	0.284
	43 m38o	1.0	0.0	0.675	56.14	83.38	-16.14	84.93	348	46.62	24.05	37.77	0.4299	0.2218	0.2715
	44 m50o	1.0	0.0	0.5	55.19	81.22	-0.89	81.23	359	44.43	23.11	25.72	0.4764	0.2478	0.2609
	45 m63o	1.0	0.0	0.375	54.35	79.62	15.44	81.1	11	42.67	22.31	16.14	0.526	0.275	0.2518
	46 m75o	1.0	0.0	0.25	53.75	78.41	33.44	85.24	24	41.41	21.74	8.91	0.5747	0.3017	0.2454
	47 m88o	1.0	0.0	0.125	53.35	77.5	51.81	93.22	34	40.55	21.37	4.23	0.613	0.323	0.2412
	48 o00y	1.0	0.0	0.0	54.21	78.64	58.52	98.03	37	42.14	22.17	3.33	0.623	0.3278	0.2503
	49 n00w	0.0	0.0	0.0	10.76	5.51	-3.96	6.79	0	1.34	1.23	1.71	0.3134	0.2867	0.0139
	50 n13w	0.125	0.125	0.125	16.56	4.87	-3.31	5.9	169	2.33	2.21	2.86	0.3146	0.2988	0.025
	51 n25w	0.25	0.25	0.25	30.75	4.15	-2.76	4.99	269	6.61	6.54	7.89	0.3142	0.311	0.0739
	52 n38w	0.375	0.375	0.375	43.53	4.11	-2.65	4.9	292	13.48	13.52	15.89	0.3142	0.3152	0.1526
	53 n50w	0.5	0.5	0.5	55.06	4.06	-2.42	4.73	297	22.73	22.99	26.55	0.3145	0.3181	0.2595
	54 n63w	0.625	0.625	0.625	66.15	3.69	-1.8	4.11	298	34.83	35.52	40.18	0.3151	0.3214	0.401
	55 n75w	0.75	0.75	0.75	76.28	3.24	-0.77	3.34	301	49.03	50.35	55.64	0.3163	0.3248	0.5683
	56 n88w	0.875	0.875	0.875	85.51	2.1	0.82	2.26	299	64.62	67.02	71.95	0.3174	0.3292	0.7565
	57 n99w	1.0	1.0	1.0	95.41	-0.21	4.78	4.79	0	84.08	88.59	89.43	0.3208	0.338	1.0

JE020-7N, Colorimetric data of Television Luminous System TLS11 for CIE standard illuminant D65; LCD monitor; Page: 23/44

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

See original or copy: <http://web.me.com/klaus.richter/IE02/IE02L0NP.PDF> / .PS
Technical information: <http://www.ps.bam.de> or <http://130.149.60.45/~farbmetrik>

TUB registration: 20090901-JE02/IE02L0NP.PDF / .PS
application for measurement of printer or monitor systems

TUB material: code=rha4ta

Colorimetric "Standard data": Television Luminous System TLS11 for CIE lightness $L^*=11$ of black for illuminant D65

System TLS11
LCD monitor

Y Yellow

$LCH^* = 94.1 \ 90.8 \ 100$

$LAB^* = 94.1 \ -15.8 \ 89.4$

L Leaf green

$LCH^* = 84.2 \ 111.2 \ 137$

$LAB^* = 84.2 \ -81.1 \ 76.1$

C Cyan blue

$LCH^* = 87.2 \ 52.0 \ 190$

$LAB^* = 87.2 \ -51.1 \ -9.4$

standard CIELAB (a^* , b^*) chroma diagram

O Orange red

$LCH^* = 54.2 \ 98.0 \ 37$

$LAB^* = 54.2 \ 78.6 \ 58.5$

M Magenta red

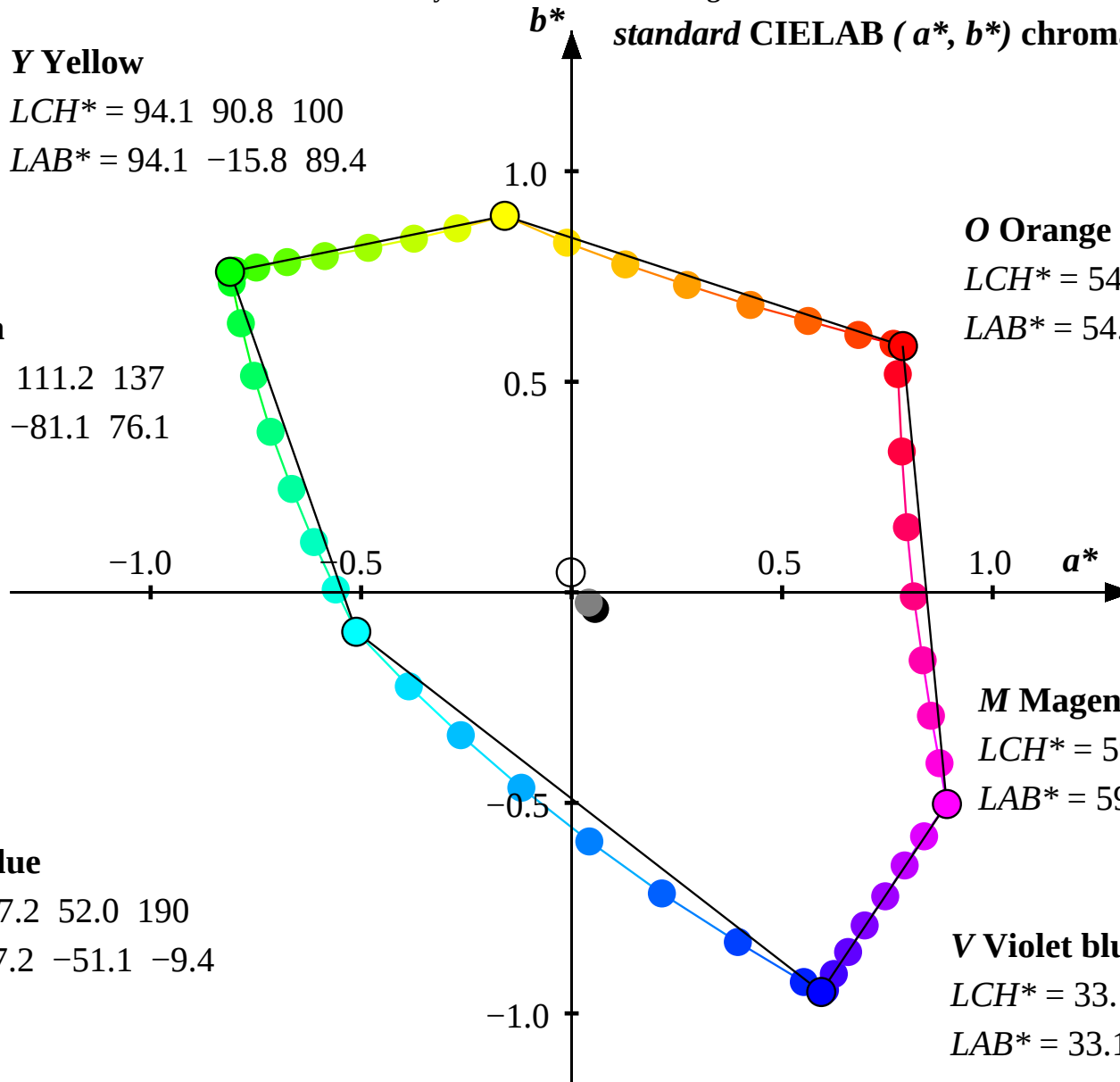
$LCH^* = 59.6 \ 102.3 \ 331$

$LAB^* = 59.6 \ 89.1 \ -50.3$

V Violet blue

$LCH^* = 33.1 \ 111.9 \ 302$

$LAB^* = 33.1 \ 59.3 \ -94.9$



Colorimetric "Adapted data (a)": Television Luminous System TLS11a for CIE lightness $L^*=11$ of black for illuminant D65

System TLS11a	Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*_a=LAB^*1_a$	$a^*_a=LAB^*2_a$	$b^*_a=LAB^*3_a$	$C^*_{ab,a}=LAB^*r_a$	$h_{ab,a}$	$X_a=XYZ1_a$	$Y_a=XYZ2_a$	$Z_a=XYZ3_a$	x_a	y_a	$Y_a/88.59$
LCD monitor	00 o00y	1.0	0.0	0.0	54.21	76.07	58.0	95.66	37	41.29	22.17	3.41	0.6174	0.3315	0.2503
	01 o13y	1.0	0.125	0.0	54.91	73.93	58.43	94.23	38	41.58	22.84	3.54	0.6118	0.3361	0.2579
	02 o25y	1.0	0.25	0.0	57.87	65.78	60.22	89.18	42	43.12	25.83	4.12	0.5901	0.3535	0.2916
	03 o38y	1.0	0.375	0.0	62.22	54.13	63.09	83.13	49	45.55	30.66	5.03	0.5607	0.3774	0.3461
	04 o50y	1.0	0.5	0.0	67.48	40.75	66.3	77.82	58	48.87	37.27	6.37	0.5283	0.4029	0.4207
	05 o63y	1.0	0.625	0.0	73.63	26.18	70.43	75.13	70	53.36	46.12	8.1	0.496	0.4287	0.5206
	06 o75y	1.0	0.75	0.0	80.08	11.91	74.7	75.64	81	58.8	56.82	10.24	0.4672	0.4515	0.6414
	07 o88y	1.0	0.875	0.0	86.52	-1.44	79.12	79.13	91	64.97	69.03	12.67	0.4429	0.4707	0.7793
	08 y00l	1.0	1.0	0.0	94.11	-15.7	84.73	86.17	101	73.49	85.54	15.81	0.4203	0.4892	0.9655
	09 y13l	0.875	1.0	0.0	92.0	-27.11	81.96	86.33	108	64.06	80.71	15.42	0.3999	0.5038	0.911
	10 y25l	0.75	1.0	0.0	90.22	-37.62	79.72	88.15	115	56.42	76.78	15.06	0.3806	0.5179	0.8667
	11 y38l	0.625	1.0	0.0	88.56	-48.49	77.69	91.59	122	49.46	73.23	14.69	0.36	0.5381	0.8266
	12 y50l	0.5	1.0	0.0	87.07	-58.96	75.93	96.14	128	43.48	70.14	14.35	0.3398	0.5481	0.7917
	13 y63l	0.375	1.0	0.0	85.89	-67.96	74.63	100.94	132	38.89	67.76	14.04	0.3222	0.5615	0.7649
	14 y75l	0.25	1.0	0.0	84.97	-75.44	73.43	105.28	136	35.4	65.95	13.88	0.3072	0.5723	0.7444
	15 y88l	0.125	1.0	0.0	84.37	-80.42	72.71	108.42	138	33.21	64.77	13.75	0.2973	0.5797	0.7312
	16 l00c	0.0	1.0	0.0	84.21	-81.64	72.51	109.2	138	32.68	64.47	13.72	0.2948	0.5815	0.7278
	17 l13c	0.0	1.0	0.125	84.25	-81.25	69.95	107.21	139	32.83	64.54	14.83	0.2926	0.5752	0.7285
	18 l25c	0.0	1.0	0.25	84.35	-79.15	60.31	99.51	143	33.55	64.74	19.49	0.2849	0.5497	0.7308
	19 l38c	0.0	1.0	0.375	84.61	-76.0	47.79	89.79	148	34.78	65.24	27.01	0.2738	0.5136	0.7365
	20 l50c	0.0	1.0	0.5	84.97	-71.95	34.43	79.78	154	36.44	65.95	37.07	0.2613	0.4729	0.7444
	21 l63c	0.0	1.0	0.625	85.43	-66.89	20.8	70.06	163	38.61	66.85	49.78	0.2487	0.4306	0.7546
	22 l75c	0.0	1.0	0.75	85.97	-61.66	8.09	62.2	173	41.02	67.93	64.21	0.2369	0.3923	0.7668
	23 l88c	0.0	1.0	0.875	86.54	-56.43	-3.15	56.52	183	43.57	69.07	79.31	0.227	0.3598	0.7796
	24 c00v	0.0	1.0	1.0	87.18	-51.44	-13.34	53.15	195	46.25	70.38	95.2	0.2184	0.3322	0.7944
	25 c13v	0.0	0.875	1.0	78.68	-39.54	-25.37	46.99	213	38.06	54.38	91.34	0.2071	0.2959	0.6138
	26 c25v	0.0	0.75	1.0	71.08	-27.73	-36.23	45.64	233	31.93	42.3	88.11	0.1967	0.2606	0.4775
	27 c38v	0.0	0.675	1.0	63.12	-13.94	-47.83	49.84	254	26.61	31.73	85.14	0.1854	0.2212	0.3582
	28 c50v	0.0	0.5	1.0	54.95	1.67	-59.7	59.74	272	22.1	22.88	82.09	0.1739	0.18	0.2582
	29 c63v	0.0	0.375	1.0	47.37	18.43	-71.36	73.71	284	18.85	16.3	80.21	0.1634	0.1413	0.184
	30 c75v	0.0	0.25	1.0	40.2	35.92	-82.13	89.65	294	16.36	11.37	78.1	0.1546	0.1074	0.1284
	31 c88v	0.0	0.125	1.0	34.57	51.25	-91.02	104.47	299	14.84	8.29	77.05	0.1481	0.0827	0.0935
	32 v00m	0.0	0.0	1.0	33.09	55.26	-93.24	108.4	301	14.45	7.58	76.63	0.1465	0.0768	0.0856
	33 v13m	0.125	0.0	1.0	33.6	56.21	-92.78	108.49	301	14.96	7.82	77.15	0.1497	0.0782	0.0882
	34 v25m	0.25	0.0	1.0	35.64	58.43	-89.19	106.63	303	16.87	8.82	77.06	0.1642	0.0859	0.0996
	35 v38m	0.375	0.0	1.0	38.78	62.05	-84.34	104.72	306	20.16	10.53	77.8	0.1858	0.0971	0.1189
	36 v50m	0.5	0.0	1.0	42.38	66.17	-78.44	102.63	310	24.4	12.75	78.19	0.2116	0.1105	0.1439
	37 v63m	0.625	0.0	1.0	46.58	71.39	-71.92	101.35	315	30.18	15.7	79.14	0.2414	0.1256	0.1772
	38 v75m	0.75	0.0	1.0	50.83	76.25	-65.07	100.25	320	36.76	19.12	79.78	0.271	0.1409	0.2158
	39 v88m	0.875	0.0	1.0	54.98	81.14	-58.49	100.03	324	44.1	22.91	80.55	0.2989	0.1553	0.2586
	40 m00o	1.0	0.0	1.0	59.56	86.88	-51.35	100.93	329	53.4	27.64	81.56	0.3284	0.17	0.312
	41 m13o	1.0	0.0	0.875	58.35	85.1	-41.52	94.69	334	50.73	26.33	66.53	0.3533	0.1834	0.2972
	42 m25o	1.0	0.0	0.75	57.23	83.02	-30.18	88.34	340	48.17	25.16	52.11	0.384	0.2006	0.284
	43 m38o	1.0	0.0	0.675	56.14	80.94	-16.86	82.68	348	45.76	24.05	38.35	0.423	0.2224	0.2715
	44 m50o	1.0	0.0	0.5	55.19	78.72	-1.52	78.73	359	43.58	23.11	26.11	0.4696	0.249	0.2609
	45 m63o	1.0	0.0	0.375	54.35	77.06	14.91	78.48	11	41.82	22.31	16.39	0.5194	0.2771	0.2518
	46 m75o	1.0	0.0	0.25	53.75	75.81	32.96	82.67	24	40.56	21.74	9.05	0.5685	0.3047	0.2454
	47 m88o	1.0	0.0	0.125	53.35	74.87	51.38	90.8	34	39.71	21.37	4.32	0.6072	0.3268	0.2412
	48 o00y	1.0	0.0	0.0	54.21	76.07	58.0	95.66	37	41.29	22.17	3.41	0.6174	0.3315	0.2503
	49 n00w	0.0	0.0	0.0	10.76	0.0	0.0	0.01	0	1.17	1.23	1.34	0.3127	0.329	0.0139
	50 n13w	0.125	0.125	0.125	16.56	-0.23	0.05	0.25	169	2.09	2.21	2.4	0.3119	0.3299	0.025
	51 n25w	0.25	0.25	0.25	30.75	0.0	-0.86	0.87	269	6.22	6.54	7.36	0.3091	0.3252	0.0739
	52 n38w	0.375	0.375	0.375	43.53	0.82	-2.07	2.24	292	12.97	13.52	15.63	0.308	0.3209	0.1526
	53 n50w	0.5	0.5	0.5	55.06	1.55	-3.03	3.42	297	22.18	22.99	26.95	0.3076	0.3188	0.2595
	54 n63w	0.625	0.625	0.625	66.15	1.93	-3.55	4.05	298	34.32	35.52	41.67	0.3077	0.3186	0.401
	55 n75w	0.75	0.75	0.75	76.28	2.17	-3.58	4.19	301	48.64	50.35	58.62	0.3086	0.3195	0.5683
	56 n88w	0.875	0.875	0.875	85.51	1.65	-2.93	3.37	299	64.42	67.02	76.71	0.3095	0.322	0.7565
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0

JE020-7N, Colorimetric data of Television Luminous System TLS11a for CIE standard illuminant D65; LCD monitor; Page: 25/44

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS11a for CIE lightness $L^*=11$ of black for illuminant D65

System TLS11a

LCD monitor

Y Yellow

$LCH^*_a = 94.1 \ 86.2 \ 101$

$LAB^*_a = 94.1 \ -15.7 \ 84.7$

L Leaf green

$LCH^*_a = 84.2 \ 109.2 \ 138$

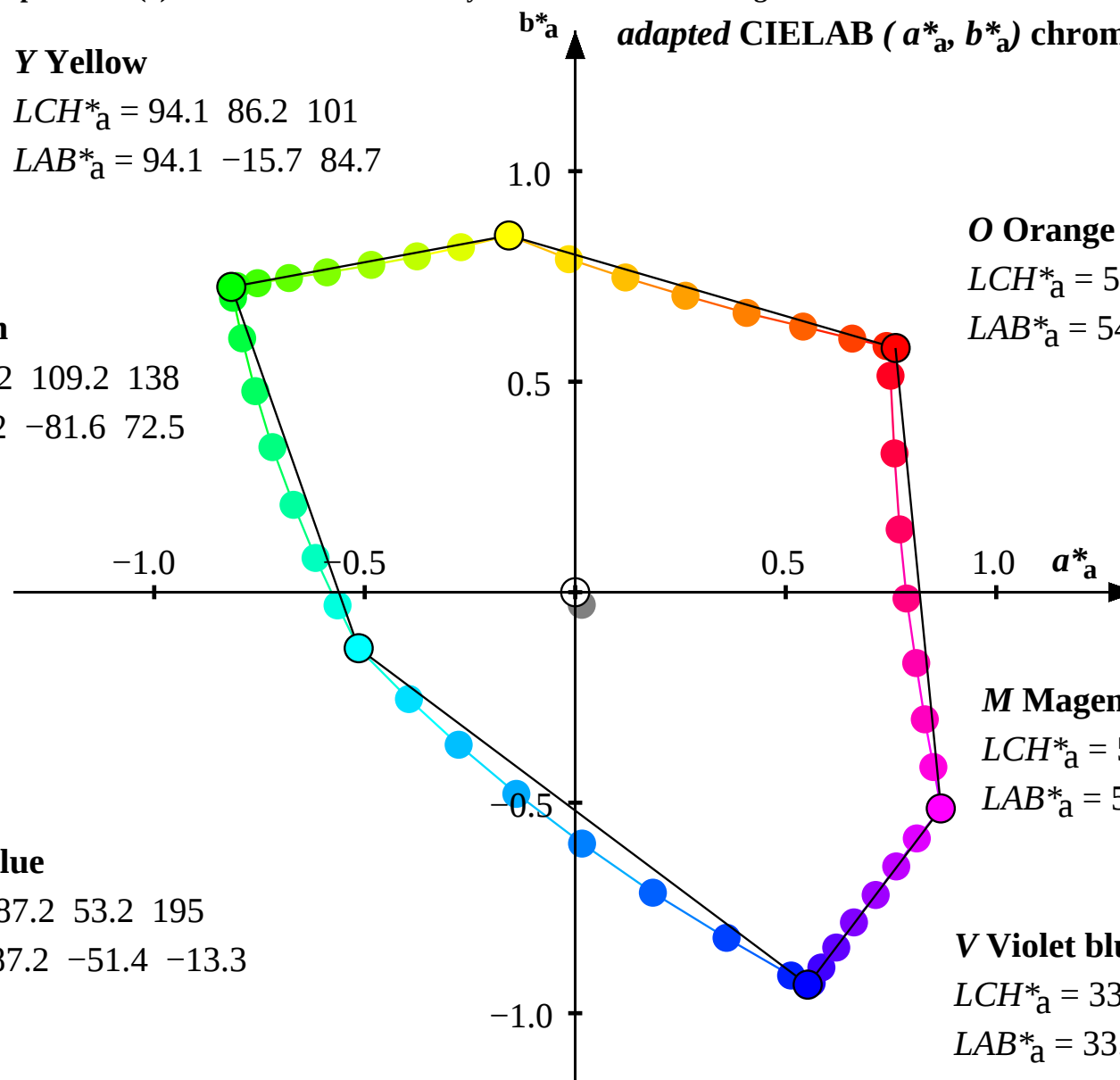
$LAB^*_a = 84.2 \ -81.6 \ 72.5$

C Cyan blue

$LCH^*_a = 87.2 \ 53.2 \ 195$

$LAB^*_a = 87.2 \ -51.4 \ -13.3$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



O Orange red

$LCH^*_a = 54.2 \ 95.7 \ 37$

$LAB^*_a = 54.2 \ 76.1 \ 58.0$

M Magenta red

$LCH^*_a = 59.6 \ 100.9 \ 329$

$LAB^*_a = 59.6 \ 86.9 \ -51.4$

V Violet blue

$LCH^*_a = 33.1 \ 108.4 \ 301$

$LAB^*_a = 33.1 \ 55.3 \ -93.3$

Colorimetric "Adapted data (a0)": Television Luminous System TLS00a0 for CIE lightness $L^*=00$ of black for illuminant D65

System TLS00a0	Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*_a=LAB*1_a$	$a^*_a=LAB*2_a$	$b^*_a=LAB*3_a$	$C^*_{ab,a}=LAB*ab,a$	$h_{ab,a}$	$X_a=XYZ1_a$	$Y_a=XYZ2_a$	$Z_a=XYZ3_a$	x_a	y_a	$Y_a/88.59$
LCD monitor	00 o00y	1.0	0.0	0.0	53.21	78.53	65.65	102.36	40	40.69	21.24	2.1	0.6355	0.3317	0.2484
	01 o13y	1.0	0.125	0.0	53.94	76.28	65.83	100.76	41	40.98	21.92	2.23	0.6292	0.3365	0.2564
	02 o25y	1.0	0.25	0.0	57.02	67.72	66.71	95.06	45	42.54	24.95	2.82	0.605	0.3548	0.2918
	03 o38y	1.0	0.375	0.0	61.52	55.58	68.6	88.29	51	45.0	29.85	3.75	0.5726	0.3797	0.3491
	04 o50y	1.0	0.5	0.0	66.94	41.72	70.89	82.26	60	48.37	36.55	5.1	0.5373	0.406	0.4275
	05 o63y	1.0	0.625	0.0	73.24	26.73	74.3	78.96	70	52.93	45.53	6.85	0.5026	0.4323	0.5325
	06 o75y	1.0	0.75	0.0	79.83	12.13	78.0	78.94	81	58.44	56.38	9.03	0.4719	0.4552	0.6594
	07 o88y	1.0	0.875	0.0	86.38	-1.46	82.01	82.02	91	64.7	68.76	11.49	0.4463	0.4744	0.8042
	08 y00l	1.0	1.0	0.0	94.1	-15.93	87.27	88.72	100	73.34	85.49	14.68	0.4227	0.4927	1.0
	09 y13l	0.875	1.0	0.0	91.95	-27.55	84.51	88.89	108	63.78	80.6	14.28	0.402	0.508	0.9427
	10 y25l	0.75	1.0	0.0	90.14	-38.26	82.28	90.74	115	56.03	76.62	13.91	0.3823	0.5228	0.8962
	11 y38l	0.625	1.0	0.0	88.45	-49.38	80.26	94.24	122	48.97	73.01	13.54	0.3613	0.5388	0.854
	12 y50l	0.5	1.0	0.0	86.94	-60.11	78.52	98.89	127	42.91	69.88	13.19	0.3406	0.5547	0.8174
	13 y63l	0.375	1.0	0.0	85.74	-69.36	77.23	103.81	132	38.25	67.47	12.88	0.3225	0.5689	0.7891
	14 y75l	0.25	1.0	0.0	84.81	-77.08	76.04	108.28	135	34.72	65.63	12.72	0.3071	0.5804	0.7676
	15 y88l	0.125	1.0	0.0	84.19	-82.22	75.33	111.52	138	32.5	64.44	12.58	0.2967	0.5884	0.7537
	16 l00c	0.0	1.0	0.0	84.03	-83.48	75.12	112.31	138	31.96	64.13	12.56	0.2941	0.5903	0.7501
	17 l13c	0.0	1.0	0.125	84.07	-83.08	72.37	110.19	139	32.11	64.2	13.68	0.2919	0.5837	0.7509
	18 l25c	0.0	1.0	0.25	84.18	-80.91	62.13	102.03	142	32.84	64.4	18.41	0.284	0.5569	0.7533
	19 l38c	0.0	1.0	0.375	84.44	-77.67	49.03	91.86	148	34.09	64.92	26.04	0.2726	0.5192	0.7593
	20 l50c	0.0	1.0	0.5	84.81	-73.5	35.21	81.5	154	35.77	65.63	36.23	0.2599	0.4768	0.7676
	21 l63c	0.0	1.0	0.625	85.28	-68.28	21.21	71.51	163	37.96	66.55	49.13	0.2471	0.4331	0.7784
	22 l75c	0.0	1.0	0.75	85.82	-62.91	8.24	63.45	173	40.41	67.64	63.75	0.2352	0.3937	0.7911
	23 l88c	0.0	1.0	0.875	86.4	-57.53	-3.2	57.63	183	43.0	68.79	79.07	0.2253	0.3604	0.8046
	24 c00v	0.0	1.0	1.0	87.06	-52.42	-13.54	54.15	194	45.72	70.12	95.18	0.2167	0.3323	0.8202
	25 c13v	0.0	0.875	1.0	78.4	-40.44	-25.8	47.98	213	37.41	53.89	91.26	0.2049	0.2952	0.6304
	26 c25v	0.0	0.75	1.0	70.63	-28.48	-36.92	46.64	232	31.2	41.65	87.99	0.194	0.2589	0.4871
	27 c38v	0.0	0.675	1.0	62.45	-14.4	-48.87	50.97	254	25.8	30.93	84.99	0.182	0.2183	0.3618
	28 c50v	0.0	0.5	1.0	53.98	1.74	-61.22	61.26	272	21.23	21.95	81.89	0.1697	0.1755	0.2568
	29 c63v	0.0	0.375	1.0	46.02	19.41	-73.51	76.04	285	17.93	15.29	79.98	0.1584	0.135	0.1788
	30 c75v	0.0	0.25	1.0	38.35	38.38	-85.12	93.38	294	15.41	10.29	77.84	0.1488	0.0993	0.1203
	31 c88v	0.0	0.125	1.0	32.16	55.61	-94.97	110.06	300	13.86	7.16	76.77	0.1418	0.0732	0.0837
	32 v00m	0.0	0.0	1.0	30.5	60.26	-97.5	114.62	302	13.47	6.44	76.35	0.14	0.0669	0.0754
	33 v13m	0.125	0.0	1.0	31.07	61.12	-96.93	114.6	302	13.99	6.68	76.88	0.1434	0.0685	0.0781
	34 v25m	0.25	0.0	1.0	33.35	62.93	-92.92	112.23	304	15.93	7.7	76.78	0.1586	0.0767	0.0901
	35 v38m	0.375	0.0	1.0	36.81	66.05	-87.54	109.67	307	19.26	9.44	77.54	0.1813	0.0888	0.1104
	36 v50m	0.5	0.0	1.0	40.7	69.7	-81.13	106.97	311	23.56	11.68	77.94	0.2082	0.1032	0.1366
	37 v63m	0.625	0.0	1.0	45.18	74.51	-74.14	105.11	315	29.42	14.67	78.89	0.2392	0.1193	0.1716
	38 v75m	0.75	0.0	1.0	49.67	79.02	-66.89	103.54	320	36.09	18.14	79.54	0.2698	0.1356	0.2122
	39 v88m	0.875	0.0	1.0	54.01	83.65	-59.99	102.94	324	43.54	21.99	80.32	0.2985	0.1508	0.2572
	40 m00o	1.0	0.0	1.0	58.77	89.16	-52.55	103.5	329	52.97	26.78	81.35	0.3288	0.1663	0.3133
	41 m13o	1.0	0.0	0.875	57.52	87.43	-42.59	97.26	334	50.26	25.46	66.11	0.3543	0.1795	0.2978
	42 m25o	1.0	0.0	0.75	56.35	85.39	-31.06	90.87	340	47.67	24.27	51.49	0.3862	0.1966	0.2838
	43 m38o	1.0	0.0	0.675	55.22	83.35	-17.43	85.15	348	45.22	23.14	37.54	0.427	0.2186	0.2707
	44 m50o	1.0	0.0	0.5	54.23	81.16	-1.58	81.17	359	43.01	22.19	25.13	0.4761	0.2457	0.2596
	45 m63o	1.0	0.0	0.375	53.36	79.52	15.69	81.06	11	41.22	21.38	15.26	0.5294	0.2745	0.25
	46 m75o	1.0	0.0	0.25	52.73	78.3	35.35	85.91	24	39.95	20.8	7.82	0.5826	0.3033	0.2433
	47 m88o	1.0	0.0	0.125	52.31	77.37	57.23	96.24	36	39.08	20.42	3.02	0.6251	0.3266	0.2389
	48 o00y	1.0	0.0	0.0	53.21	78.53	65.65	102.36	40	40.69	21.24	2.1	0.6355	0.3317	0.2484
	49 n00w	0.0	0.0	0.0	0.0	0.0	0.0	0.01	289	0.0	0.0	0.0	0.0	0.0	0.0
	50 n13w	0.125	0.125	0.125	8.96	-0.41	0.08	0.43	169	0.94	1.0	1.08	0.3109	0.3309	0.0117
	51 n25w	0.25	0.25	0.25	27.82	0.0	-0.99	1.0	269	5.12	5.39	6.11	0.3082	0.3244	0.0631
	52 n38w	0.375	0.375	0.375	41.94	0.88	-2.21	2.39	292	11.97	12.46	14.5	0.3075	0.3201	0.1458
	53 n50w	0.5	0.5	0.5	54.1	1.61	-3.16	3.56	297	21.31	22.07	25.97	0.3073	0.3182	0.2581
	54 n63w	0.625	0.625	0.625	65.58	1.98	-3.65	4.16	298	33.61	34.78	40.9	0.3076	0.3182	0.4068
	55 n75w	0.75	0.75	0.75	75.95	2.21	-3.65	4.28	301	48.14	49.81	58.08	0.3085	0.3192	0.5826
	56 n88w	0.875	0.875	0.875	85.36	1.68	-2.98	3.43	299	64.14	66.72	76.43	0.3094	0.3219	0.7804
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0362

JE020-7N, Colorimetric data of Television Luminous System TLS11a0 for CIE standard illuminant D65; LCD monitor; Page: 27/44

$n = 88.59 / (88.59 - 1.23) = 1.014$

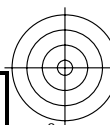
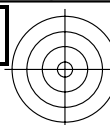
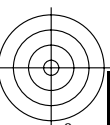
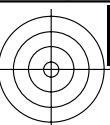
TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

See original or copy: <http://web.me.com/klaus.richter/IE02/IE02L0NP.PDF> / .PS
Technical information: <http://www.ps.bam.de> or <http://130.149.60.45/~farbmetrik>



TUB registration: 20090901-JE02/IE02L0NP.PDF / .PS
application for measurement of printer or monitor systems

TUB material: code=rha4ta

Colorimetric "Adapted data (a0)": Television Luminous System TLS00a0 for CIE lightness $L^*=00$ of black for illuminant D65
System TLS00a0
LCD monitor

Y Yellow

$LCH^*_a = 94.1 \ 88.7 \ 100$

$LAB^*_a = 94.1 \ -15.9 \ 87.3$

L Leaf green

$LCH^*_a = 84.0 \ 112.3 \ 138$

$LAB^*_a = 84.0 \ -83.5 \ 75.1$

C Cyan blue

$LCH^*_a = 87.1 \ 54.2 \ 194$

$LAB^*_a = 87.1 \ -52.4 \ -13.6$

O Orange red

$LCH^*_a = 53.2 \ 102.4 \ 40$

$LAB^*_a = 53.2 \ 78.5 \ 65.7$

M Magenta red

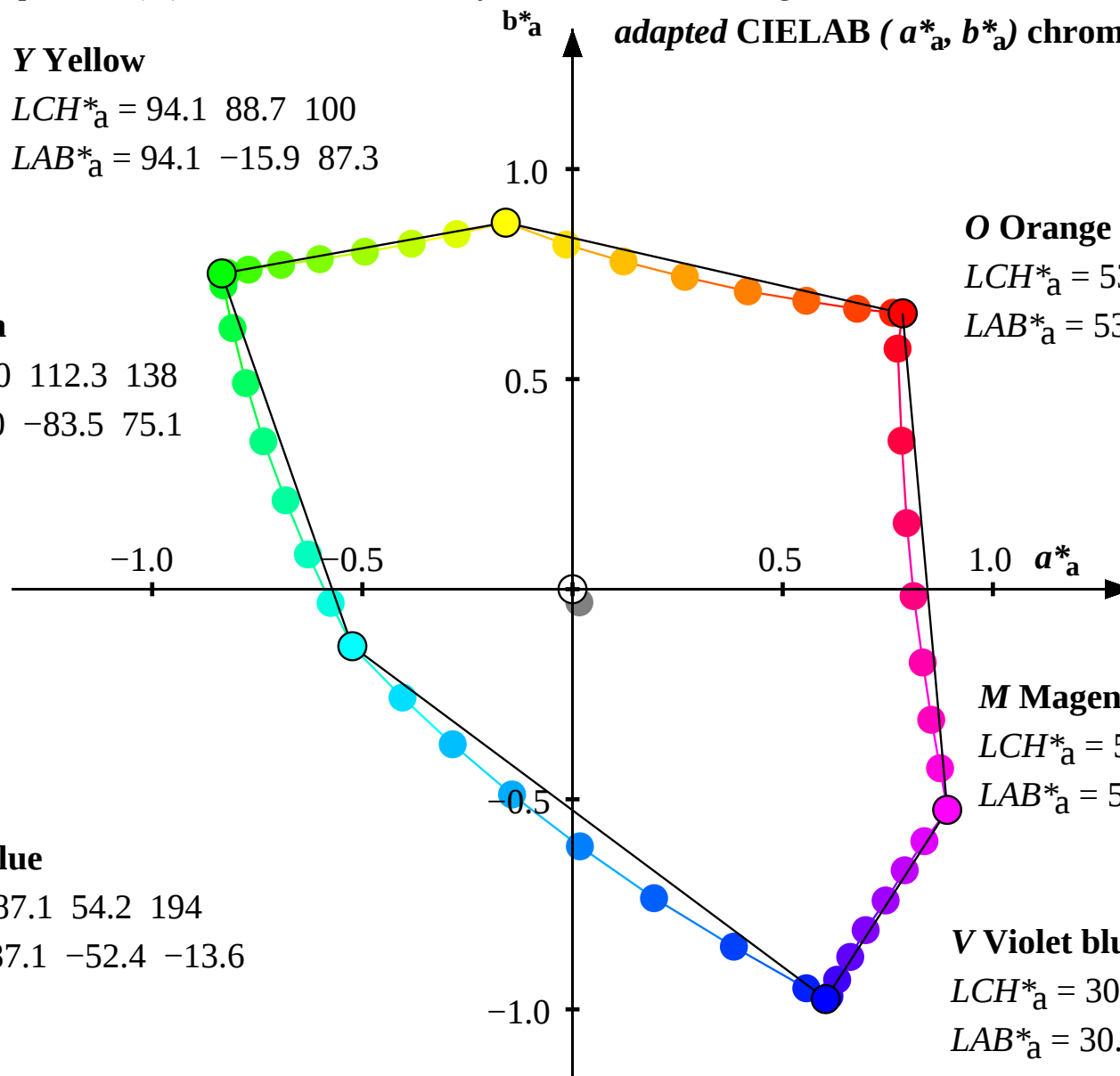
$LCH^*_a = 58.8 \ 103.5 \ 329$

$LAB^*_a = 58.8 \ 89.2 \ -52.6$

V Violet blue

$LCH^*_a = 30.5 \ 114.6 \ 302$

$LAB^*_a = 30.5 \ 60.3 \ -97.5$



Colorimetric "Adapted data (a)": Television Luminous System TLS00a for CIE lightness $L^*=00$ of black for illuminant D65

System TLS00a	Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*_a=LAB^*1_a$	$a^*_a=LAB^*2_a$	$b^*_a=LAB^*3_a$	$C^*_{ab,a}=LAB^*ab,a$	$h_{ab,a}$	$X_a=XYZ1_a$	$Y_a=XYZ2_a$	$Z_a=XYZ3_a$	x_a	y_a	$Y_a/88.59$
LCD monitor	00 o00y	1.0	0.0	0.0	53.21	78.53	65.65	102.36	40	40.69	21.24	2.1	0.6355	0.3317	0.2484
	01 o13y	1.0	0.125	0.0	53.94	76.28	65.83	100.76	41	40.98	21.92	2.23	0.6292	0.3365	0.2564
	02 o25y	1.0	0.25	0.0	57.02	67.72	66.71	95.06	45	42.54	24.95	2.82	0.605	0.3548	0.2918
D65 reflection:	03 o38y	1.0	0.375	0.0	61.52	55.58	68.6	88.29	51	45.0	29.85	3.75	0.5726	0.3797	0.3491
	04 o50y	1.0	0.5	0.0	66.94	41.72	70.89	82.26	60	48.37	36.55	5.1	0.5373	0.406	0.4275
	05 o63y	1.0	0.625	0.0	73.24	26.73	74.3	78.96	70	52.93	45.53	6.85	0.5026	0.4323	0.5325
$Y_N = 0.0$	06 o75y	1.0	0.75	0.0	79.83	12.13	78.0	78.94	81	58.44	56.38	9.03	0.4719	0.4552	0.6594
	07 o88y	1.0	0.875	0.0	86.38	-1.46	82.01	82.02	91	64.7	68.76	11.49	0.4463	0.4744	0.8042
	08 y00l	1.0	1.0	0.0	94.1	-15.93	87.27	88.72	100	73.34	85.49	14.68	0.4227	0.4927	1.0
$L^*_N = 0.0$	09 y13l	0.875	1.0	0.0	91.95	-27.55	84.51	88.89	108	63.78	80.6	14.28	0.402	0.508	0.9427
	10 y25l	0.75	1.0	0.0	90.14	-38.26	82.28	90.74	115	56.03	76.62	13.91	0.3823	0.5228	0.8962
	11 y38l	0.625	1.0	0.0	88.45	-49.38	80.26	94.24	122	48.97	73.01	13.54	0.3613	0.5388	0.854
	12 y50l	0.5	1.0	0.0	86.94	-60.11	78.52	98.89	127	42.91	69.88	13.19	0.3406	0.5547	0.8174
	13 y63l	0.375	1.0	0.0	85.74	-69.36	77.23	103.81	132	38.25	67.47	12.88	0.3225	0.5689	0.7891
	14 y75l	0.25	1.0	0.0	84.81	-77.08	76.04	108.28	135	34.72	65.63	12.72	0.3071	0.5804	0.7676
	15 y88l	0.125	1.0	0.0	84.19	-82.22	75.33	111.52	138	32.5	64.44	12.58	0.2967	0.5884	0.7537
	16 l00c	0.0	1.0	0.0	84.03	-83.48	75.12	112.31	138	31.96	64.13	12.56	0.2941	0.5903	0.7501
	17 l13c	0.0	1.0	0.125	84.07	-83.08	72.37	110.19	139	32.11	64.2	13.68	0.2919	0.5837	0.7509
	18 l25c	0.0	1.0	0.25	84.18	-80.91	62.13	102.03	142	32.84	64.4	18.41	0.284	0.5569	0.7533
	19 l38c	0.0	1.0	0.375	84.44	-77.67	49.03	91.86	148	34.09	64.92	26.04	0.2726	0.5192	0.7593
	20 l50c	0.0	1.0	0.5	84.81	-73.5	35.21	81.5	154	35.77	65.63	36.23	0.2599	0.4768	0.7676
	21 l63c	0.0	1.0	0.625	85.28	-68.28	21.21	71.51	163	37.96	66.55	49.13	0.2471	0.4331	0.7784
	22 l75c	0.0	1.0	0.75	85.82	-62.91	8.24	63.45	173	40.41	67.64	63.75	0.2352	0.3937	0.7911
	23 l88c	0.0	1.0	0.875	86.4	-57.53	-3.2	57.63	183	43.0	68.79	79.07	0.2253	0.3604	0.8046
	24 c00v	0.0	1.0	1.0	87.06	-52.42	-13.54	54.15	194	45.72	70.12	95.18	0.2167	0.3323	0.8202
	25 c13v	0.0	0.875	1.0	78.4	-40.44	-25.8	47.98	213	37.41	53.89	91.26	0.2049	0.2952	0.6304
	26 c25v	0.0	0.75	1.0	70.63	-28.48	-36.92	46.64	232	31.2	41.65	87.99	0.194	0.2589	0.4871
	27 c38v	0.0	0.675	1.0	62.45	-14.4	-48.87	50.97	254	25.8	30.93	84.99	0.182	0.2183	0.3618
	28 c50v	0.0	0.5	1.0	53.98	1.74	-61.22	61.26	272	21.23	21.95	81.89	0.1697	0.1755	0.2568
	29 c63v	0.0	0.375	1.0	46.02	19.41	-73.51	76.04	285	17.93	15.29	79.98	0.1584	0.135	0.1788
	30 c75v	0.0	0.25	1.0	38.35	38.38	-85.12	93.38	294	15.41	10.29	77.84	0.1488	0.0993	0.1203
	31 c88v	0.0	0.125	1.0	32.16	55.61	-94.97	110.06	300	13.86	7.16	76.77	0.1418	0.0732	0.0837
	32 v00m	0.0	0.0	1.0	30.5	60.26	-97.5	114.62	302	13.47	6.44	76.35	0.14	0.0669	0.0754
	33 v13m	0.125	0.0	1.0	31.07	61.12	-96.93	114.6	302	13.99	6.68	76.88	0.1434	0.0685	0.0781
	34 v25m	0.25	0.0	1.0	33.35	62.93	-92.92	112.23	304	15.93	7.7	76.78	0.1586	0.0767	0.0901
	35 v38m	0.375	0.0	1.0	36.81	66.05	-87.54	109.67	307	19.26	9.44	77.54	0.1813	0.0888	0.1104
	36 v50m	0.5	0.0	1.0	40.7	69.7	-81.13	106.97	311	23.56	11.68	77.94	0.2082	0.1032	0.1366
	37 v63m	0.625	0.0	1.0	45.18	74.51	-74.14	105.11	315	29.42	14.67	78.89	0.2392	0.1193	0.1716
	38 v75m	0.75	0.0	1.0	49.67	79.02	-66.89	103.54	320	36.09	18.14	79.54	0.2698	0.1356	0.2122
	39 v88m	0.875	0.0	1.0	54.01	83.65	-59.99	102.94	324	43.54	21.99	80.32	0.2985	0.1508	0.2572
	40 m00o	1.0	0.0	1.0	58.77	89.16	-52.55	103.5	329	52.97	26.78	81.35	0.3288	0.1663	0.3133
	41 m13o	1.0	0.0	0.875	57.52	87.43	-42.59	97.26	334	50.26	25.46	66.11	0.3543	0.1795	0.2978
	42 m25o	1.0	0.0	0.75	56.35	85.39	-31.06	90.87	340	47.67	24.27	51.49	0.3862	0.1966	0.2838
	43 m38o	1.0	0.0	0.675	55.22	83.35	-17.43	85.15	348	45.22	23.14	37.54	0.427	0.2186	0.2707
	44 m50o	1.0	0.0	0.5	54.23	81.16	-1.58	81.17	359	43.01	22.19	25.13	0.4761	0.2457	0.2596
	45 m63o	1.0	0.0	0.375	53.36	79.52	15.69	81.06	11	41.22	21.38	15.26	0.5294	0.2745	0.25
	46 m75o	1.0	0.0	0.25	52.73	78.3	35.35	85.91	24	39.95	20.8	7.82	0.5826	0.3033	0.2433
	47 m88o	1.0	0.0	0.125	52.31	77.37	57.23	96.24	36	39.08	20.42	3.02	0.6251	0.3266	0.2389
	48 o00y	1.0	0.0	0.0	53.21	78.53	65.65	102.36	40	40.69	21.24	2.1	0.6355	0.3317	0.2484
	49 n00w	0.0	0.0	0.0	0.0	0.0	0.0	0.01	289	0.0	0.0	0.0	0.0	0.0	0.0
	50 n13w	0.125	0.125	0.125	8.96	-0.41	0.08	0.43	169	0.94	1.0	1.08	0.3109	0.3309	0.0117
	51 n25w	0.25	0.25	0.25	27.82	0.0	-0.99	1.0	269	5.12	5.39	6.11	0.3082	0.3244	0.0631
	52 n38w	0.375	0.375	0.375	41.94	0.88	-2.21	2.39	292	11.97	12.46	14.5	0.3075	0.3201	0.1458
	53 n50w	0.5	0.5	0.5	54.1	1.61	-3.16	3.56	297	21.31	22.07	25.97	0.3073	0.3182	0.2581
	54 n63w	0.625	0.625	0.625	65.58	1.98	-3.65	4.16	298	33.61	34.78	40.9	0.3076	0.3182	0.4068
	55 n75w	0.75	0.75	0.75	75.95	2.21	-3.65	4.28	301	48.14	49.81	58.08	0.3085	0.3192	0.5826
	56 n88w	0.875	0.875	0.875	85.36	1.68	-2.98	3.43	299	64.14	66.72	76.43	0.3094	0.3219	0.7804
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0362

JE020-7N, Colorimetric data of Television Luminous System TLS00a for CIE standard illuminant D65; LCD monitor; Page: 29/44

$$n = 88.59 / (88.59 + 0.0) = 1.0$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: olv^* setrgbcolor

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS00a for CIE lightness $L^*=00$ of black for illuminant D65
System TLS00a

LCD monitor

D65 reflection:

$Y_N = 0.0$

$L^*_N = 0.0$

Y Yellow

$LCH^*_a = 94.1 \ 88.7 \ 100$

$LAB^*_a = 94.1 \ -15.9 \ 87.3$

L Leaf green

$LCH^*_a = 84.0 \ 112.3 \ 138$

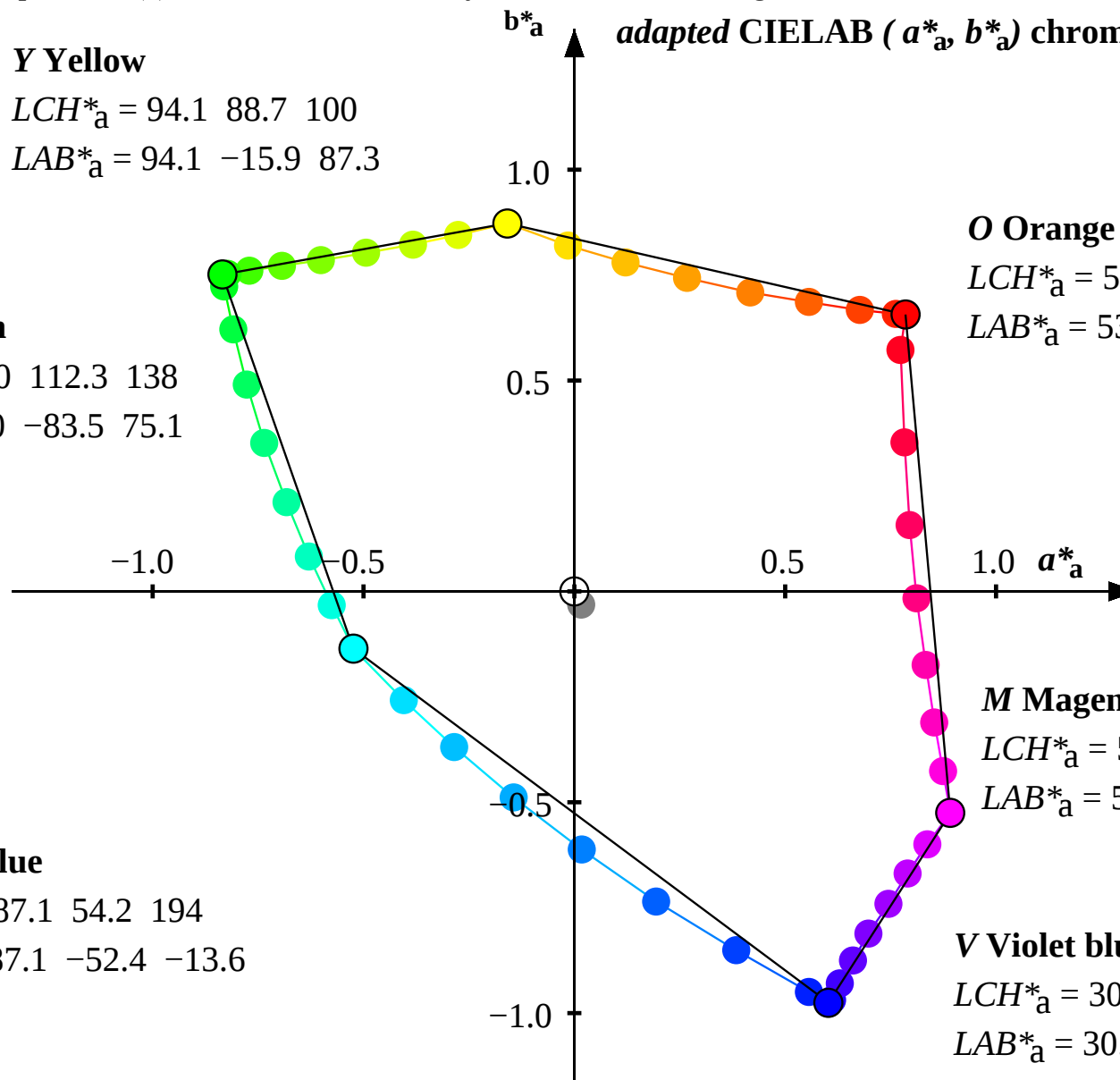
$LAB^*_a = 84.0 \ -83.5 \ 75.1$

C Cyan blue

$LCH^*_a = 87.1 \ 54.2 \ 194$

$LAB^*_a = 87.1 \ -52.4 \ -13.6$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



O Orange red

$LCH^*_a = 53.2 \ 102.4 \ 40$

$LAB^*_a = 53.2 \ 78.5 \ 65.7$

M Magenta red

$LCH^*_a = 58.8 \ 103.5 \ 329$

$LAB^*_a = 58.8 \ 89.2 \ -52.6$

V Violet blue

$LCH^*_a = 30.5 \ 114.6 \ 302$

$LAB^*_a = 30.5 \ 60.3 \ -97.5$

Colorimetric "Adapted data (a)": Television Luminous System TLS06a for CIE lightness $L^*=06$ of black for illuminant D65

System TLS06a	Color	$r=olv^*_{11}$	$g=olv^*_{21}$	$b=olv^*_{31}$	$L^*_a=LAB^*_{1a}$	$a^*_a=LAB^*_{2a}$	$b^*_a=LAB^*_{3a}$	$C^*_{ab,a}=LAB^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ_{1a}$	$Y_a=XYZ_{2a}$	$Z_a=XYZ_{3a}$	x_a	y_a	$Y_a/88.59$
LCD monitor	00 o00y	1.0	0.0	0.0	53.72	77.26	61.39	98.68	38	41.0	21.71	2.77	0.6261	0.3316	0.2539
	01 o13y	1.0	0.125	0.0	54.44	75.07	61.72	97.19	39	41.29	22.39	2.9	0.6202	0.3363	0.2618
D65 reflection:	02 o25y	1.0	0.25	0.0	57.46	66.72	63.16	91.87	43	42.84	25.4	3.48	0.5973	0.3541	0.297
	03 o38y	1.0	0.375	0.0	61.88	54.83	65.63	85.52	50	45.28	30.26	4.4	0.5664	0.3785	0.3539
	04 o50y	1.0	0.5	0.0	67.21	41.22	68.45	79.91	59	48.62	36.91	5.75	0.5327	0.4044	0.4317
	05 o63y	1.0	0.625	0.0	73.44	26.45	72.26	76.95	70	53.15	45.83	7.49	0.4992	0.4305	0.5359
	06 o75y	1.0	0.75	0.0	79.96	12.02	76.28	77.22	81	58.62	56.6	9.65	0.4695	0.4533	0.6619
	07 o88y	1.0	0.875	0.0	86.45	-1.45	80.51	80.52	91	64.83	68.9	12.09	0.4446	0.4725	0.8057
	08 y00l	1.0	1.0	0.0	94.11	-15.81	85.96	87.4	100	73.41	85.52	15.25	0.4215	0.4909	1.0
	09 y13l	0.875	1.0	0.0	91.98	-27.33	83.19	87.57	108	63.92	80.65	14.86	0.4009	0.5059	0.9431
	10 y25l	0.75	1.0	0.0	90.18	-37.93	80.96	89.41	115	56.23	76.7	14.49	0.3814	0.5203	0.8969
	11 y38l	0.625	1.0	0.0	88.51	-48.93	78.93	92.87	122	49.22	73.12	14.13	0.3607	0.5358	0.8551
	12 y50l	0.5	1.0	0.0	87.0	-59.52	77.18	97.47	128	43.2	70.01	13.78	0.3402	0.5513	0.8187
	13 y63l	0.375	1.0	0.0	85.81	-68.64	75.88	102.33	132	38.57	67.62	13.47	0.3224	0.5651	0.7907
	14 y75l	0.25	1.0	0.0	84.89	-76.24	74.69	106.73	136	35.07	65.79	13.31	0.3071	0.5763	0.7693
	15 y88l	0.125	1.0	0.0	84.28	-81.3	73.97	109.92	138	32.86	64.61	13.18	0.297	0.5839	0.7555
	16 l00c	0.0	1.0	0.0	84.12	-82.54	73.77	110.71	138	32.33	64.31	13.15	0.2945	0.5858	0.752
	17 l13c	0.0	1.0	0.125	84.16	-82.14	71.12	108.66	139	32.48	64.37	14.26	0.2923	0.5793	0.7528
	18 l25c	0.0	1.0	0.25	84.26	-80.01	61.19	100.74	143	33.2	64.58	18.96	0.2844	0.5532	0.7551
	19 l38c	0.0	1.0	0.375	84.53	-76.82	48.4	90.8	148	34.44	65.08	26.53	0.2732	0.5163	0.7611
	20 l50c	0.0	1.0	0.5	84.89	-72.71	34.81	80.62	154	36.11	65.79	36.66	0.2606	0.4748	0.7693
	21 l63c	0.0	1.0	0.625	85.35	-67.57	21.0	70.77	163	38.29	66.7	49.46	0.2479	0.4319	0.78
	22 l75c	0.0	1.0	0.75	85.9	-62.27	8.17	62.81	173	40.72	67.78	63.98	0.2361	0.393	0.7926
	23 l88c	0.0	1.0	0.875	86.47	-56.97	-3.18	57.07	183	43.29	68.93	79.19	0.2262	0.3601	0.8061
	24 c00v	0.0	1.0	1.0	87.12	-51.92	-13.44	53.64	195	45.99	70.25	95.19	0.2175	0.3323	0.8215
	25 c13v	0.0	0.875	1.0	78.54	-39.98	-25.58	47.48	213	37.74	54.14	91.3	0.206	0.2955	0.6331
	26 c25v	0.0	0.75	1.0	70.86	-28.09	-36.57	46.13	232	31.57	41.98	88.05	0.1954	0.2598	0.4909
	27 c38v	0.0	0.675	1.0	62.79	-14.17	-48.34	50.39	254	26.21	31.34	85.07	0.1838	0.2198	0.3665
	28 c50v	0.0	0.5	1.0	54.47	1.71	-60.44	60.48	272	21.67	22.42	82.0	0.1719	0.1778	0.2622
	29 c63v	0.0	0.375	1.0	46.72	18.9	-72.4	74.84	285	18.4	15.8	80.1	0.1609	0.1383	0.1848
	30 c75v	0.0	0.25	1.0	39.31	37.09	-83.57	91.44	294	15.9	10.84	77.97	0.1518	0.1035	0.1268
	31 c88v	0.0	0.125	1.0	33.42	53.3	-92.91	107.12	300	14.36	7.73	76.91	0.145	0.0781	0.0904
	32 v00m	0.0	0.0	1.0	31.86	57.6	-95.27	111.34	301	13.97	7.02	76.49	0.1433	0.072	0.0821
	33 v13m	0.125	0.0	1.0	32.39	58.51	-94.76	111.38	302	14.49	7.26	77.02	0.1467	0.0735	0.0849
	34 v25m	0.25	0.0	1.0	34.54	60.55	-90.97	109.29	304	16.41	8.27	76.92	0.1615	0.0814	0.0967
	35 v38m	0.375	0.0	1.0	37.83	63.95	-85.88	107.08	307	19.72	9.99	77.67	0.1836	0.0931	0.1169
	36 v50m	0.5	0.0	1.0	41.57	67.86	-79.74	104.71	310	23.99	12.22	78.07	0.2099	0.107	0.1429
	37 v63m	0.625	0.0	1.0	45.9	72.89	-72.99	103.16	315	29.81	15.2	79.02	0.2403	0.1225	0.1777
	38 v75m	0.75	0.0	1.0	50.26	77.59	-65.96	101.84	320	36.43	18.64	79.66	0.2704	0.1384	0.218
	39 v88m	0.875	0.0	1.0	54.51	82.36	-59.22	101.45	324	43.82	22.46	80.44	0.2987	0.1531	0.2626
	40 m00o	1.0	0.0	1.0	59.18	87.99	-51.93	102.18	329	53.19	27.22	81.46	0.3286	0.1682	0.3183
	41 m13o	1.0	0.0	0.875	57.94	86.24	-42.04	95.94	334	50.49	25.9	66.33	0.3538	0.1815	0.3029
	42 m25o	1.0	0.0	0.75	56.8	84.17	-30.61	89.57	340	47.93	24.72	51.81	0.3851	0.1986	0.2891
	43 m38o	1.0	0.0	0.675	55.69	82.11	-17.14	83.88	348	45.49	23.61	37.95	0.425	0.2205	0.276
	44 m50o	1.0	0.0	0.5	54.72	79.9	-1.55	79.92	359	43.3	22.66	25.63	0.4728	0.2474	0.265
	45 m63o	1.0	0.0	0.375	53.87	78.25	15.28	79.73	11	41.52	21.85	15.84	0.5242	0.2758	0.2555
	46 m75o	1.0	0.0	0.25	53.25	77.02	34.09	84.22	24	40.26	21.28	8.45	0.5753	0.304	0.2488
	47 m88o	1.0	0.0	0.125	52.84	76.08	54.03	93.32	35	39.4	20.9	3.68	0.6158	0.3267	0.2444
	48 o00y	1.0	0.0	0.0	53.72	77.26	61.39	98.68	38	41.0	21.71	2.77	0.6261	0.3316	0.2539
	49 n00w	0.0	0.0	0.0	5.65	0.0	0.0	0.01	289	0.59	0.63	0.68	0.3127	0.329	0.0073
	50 n13w	0.125	0.125	0.125	13.32	-0.29	0.06	0.31	169	1.52	1.62	1.75	0.3116	0.3302	0.0189
	51 n25w	0.25	0.25	0.25	29.36	0.0	-0.92	0.93	269	5.68	5.98	6.74	0.3087	0.3249	0.0699
	52 n38w	0.375	0.375	0.375	42.76	0.85	-2.14	2.31	292	12.48	13.0	15.08	0.3077	0.3206	0.152
	53 n50w	0.5	0.5	0.5	54.59	1.58	-3.09	3.48	297	21.76	22.54	26.47	0.3075	0.3185	0.2636
	54 n63w	0.625	0.625	0.625	65.87	1.95	-3.6	4.11	298	33.97	35.16	41.29	0.3076	0.3184	0.4111
	55 n75w	0.75	0.75	0.75	76.12	2.19	-3.62	4.24	301	48.39	50.09	58.36	0.3086	0.3194	0.5857
	56 n88w	0.875	0.875	0.875	85.44	1.66	-2.95	3.4	299	64.28	66.87	76.57	0.3095	0.3219	0.782
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0359

JE020-7N, Colorimetric data of Television Luminous System TLS06a for CIE standard illuminant D65; LCD monitor; Page: 31/44

$n = 88.59 / (88.59 + 0.63) = 0.993$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS06a for CIE lightness $L^*=06$ of black for illuminant D65
System TLS06a

LCD monitor

D65 reflection:

$Y_N = 0.63$

$L^*_N = 5.69$

Y Yellow

$LCH^*_a = 94.1 \ 87.4 \ 100$

$LAB^*_a = 94.1 \ -15.8 \ 86.0$

L Leaf green

$LCH^*_a = 84.1 \ 110.7 \ 138$

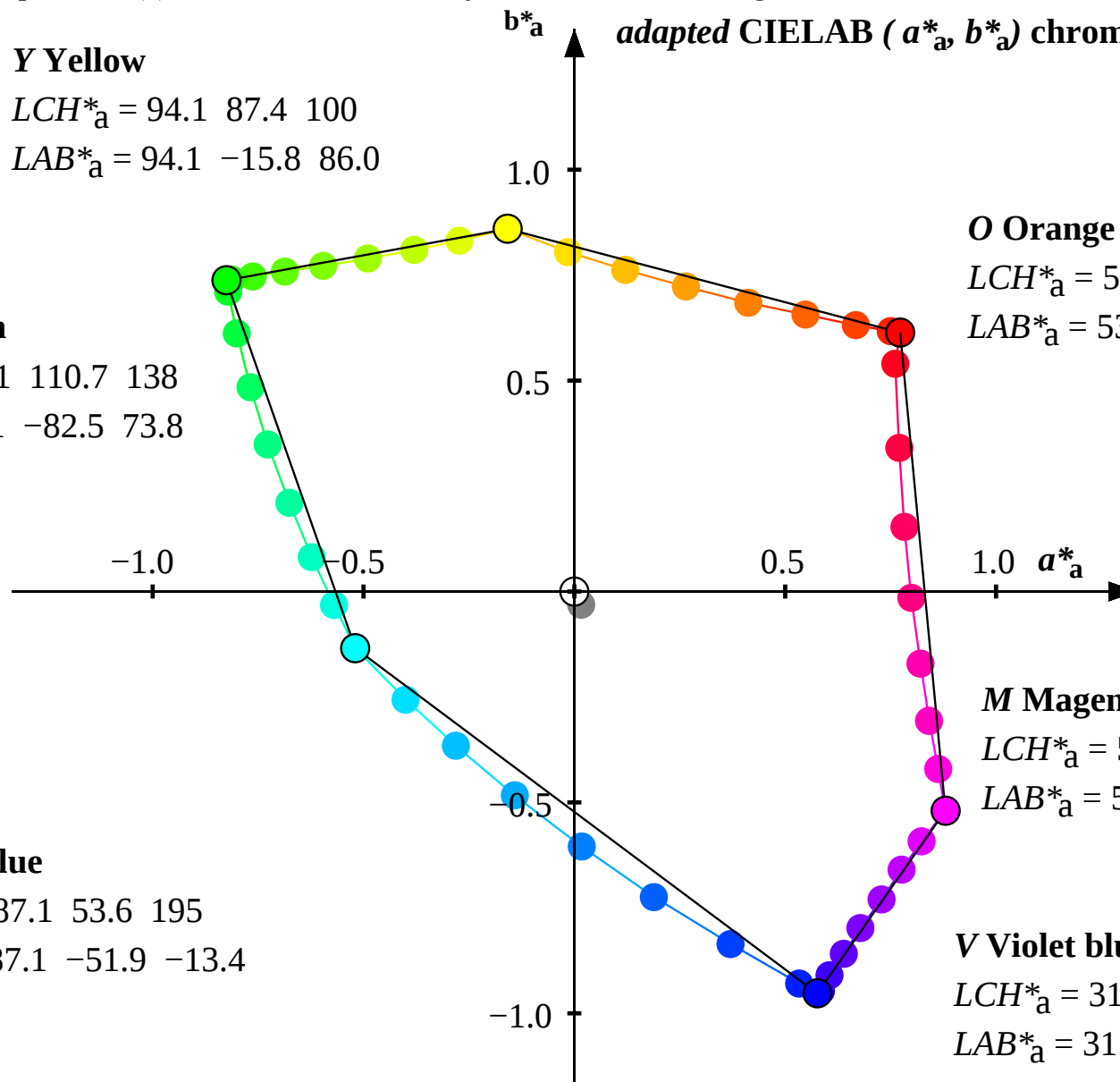
$LAB^*_a = 84.1 \ -82.5 \ 73.8$

C Cyan blue

$LCH^*_a = 87.1 \ 53.6 \ 195$

$LAB^*_a = 87.1 \ -51.9 \ -13.4$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



O Orange red

$LCH^*_a = 53.7 \ 98.7 \ 38$

$LAB^*_a = 53.7 \ 77.3 \ 61.4$

M Magenta red

$LCH^*_a = 59.2 \ 102.2 \ 329$

$LAB^*_a = 59.2 \ 88.0 \ -51.9$

V Violet blue

$LCH^*_a = 31.9 \ 111.3 \ 301$

$LAB^*_a = 31.9 \ 57.6 \ -95.3$

Colorimetric "Adapted data (a)": Television Luminous System TLS11a for CIE lightness $L^*=11$ of black for illuminant D65

System TLS11a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	$L^*=LAB^*_{1a}$	$a^*=LAB^*_{2a}$	$b^*=LAB^*_{3a}$	$C^*_{ab,a}=LAB^*_{ab,a}$	$h^*_{ab,a}$	$X_a=XYZ^*_{1a}$	$Y_a=XYZ^*_{2a}$	$Z_a=XYZ^*_{3a}$	x_a	y_a	$Y_a/88.59$
LCD monitor	00 o00y	1.0	0.0	0.0	54.22	76.05	57.92	95.59	37	41.3	22.18	3.43	0.6172	0.3315	0.2593
	01 o13y	1.0	0.125	0.0	54.92	73.9	58.35	94.16	38	41.59	22.85	3.56	0.6116	0.3361	0.2672
D65 reflection:	02 o25y	1.0	0.25	0.0	57.88	65.75	60.15	89.12	42	43.13	25.84	4.14	0.5899	0.3535	0.3021
	03 o38y	1.0	0.375	0.0	62.23	54.11	63.03	83.07	49	45.55	30.67	5.05	0.5605	0.3774	0.3585
	04 o50y	1.0	0.5	0.0	67.48	40.73	66.25	77.77	58	48.87	37.28	6.38	0.5282	0.4029	0.4358
	05 o63y	1.0	0.625	0.0	73.63	26.17	70.38	75.09	70	53.37	46.13	8.11	0.496	0.4287	0.5393
	06 o75y	1.0	0.75	0.0	80.08	11.91	74.66	75.6	81	58.8	56.83	10.26	0.4671	0.4514	0.6644
	07 o88y	1.0	0.875	0.0	86.52	-1.44	79.08	79.1	91	64.97	69.04	12.68	0.4429	0.4706	0.8071
	08 y00l	1.0	1.0	0.0	94.11	-15.69	84.7	86.14	101	73.49	85.54	15.82	0.4203	0.4892	1.0
	09 y13l	0.875	1.0	0.0	92.0	-27.11	81.93	86.3	108	64.07	80.71	15.43	0.3999	0.5038	0.9435
	10 y25l	0.75	1.0	0.0	90.22	-37.61	79.69	88.12	115	56.42	76.78	15.07	0.3805	0.5178	0.8977
	11 y38l	0.625	1.0	0.0	88.56	-48.48	77.66	91.56	122	49.46	73.23	14.7	0.36	0.533	0.8561
	12 y50l	0.5	1.0	0.0	87.07	-58.94	75.9	96.11	128	43.49	70.14	14.36	0.3398	0.548	0.82
	13 y63l	0.375	1.0	0.0	85.89	-67.94	74.6	100.91	132	38.89	67.76	14.05	0.3222	0.5614	0.7922
	14 y75l	0.25	1.0	0.0	84.97	-75.42	73.4	105.25	136	35.41	65.95	13.89	0.3072	0.5722	0.771
	15 y88l	0.125	1.0	0.0	84.37	-80.4	72.68	108.39	138	33.22	64.78	13.76	0.2973	0.5796	0.7573
	16 l00c	0.0	1.0	0.0	84.21	-81.61	72.48	109.16	138	32.69	64.48	13.73	0.2948	0.5814	0.7538
	17 l13c	0.0	1.0	0.125	84.25	-81.22	69.92	107.18	139	32.84	64.54	14.84	0.2926	0.5751	0.7546
	18 l25c	0.0	1.0	0.25	84.35	-79.13	60.29	99.48	143	33.56	64.74	19.5	0.2849	0.5496	0.7569
	19 l38c	0.0	1.0	0.375	84.61	-75.98	47.78	89.77	148	34.79	65.25	27.02	0.2738	0.5135	0.7628
	20 l50c	0.0	1.0	0.5	84.97	-71.94	34.42	79.76	154	36.45	65.95	37.08	0.2613	0.4728	0.771
	21 l63c	0.0	1.0	0.625	85.43	-66.87	20.8	70.04	163	38.61	66.86	49.79	0.2487	0.4306	0.7816
	22 l75c	0.0	1.0	0.75	85.97	-61.65	8.09	62.18	173	41.02	67.93	64.21	0.2369	0.3923	0.7942
	23 l88c	0.0	1.0	0.875	86.54	-56.41	-3.15	56.51	183	43.58	69.07	79.31	0.227	0.3598	0.8075
	24 c00v	0.0	1.0	1.0	87.18	-51.43	-13.34	53.14	195	46.26	70.38	95.2	0.2184	0.3322	0.8228
	25 c13v	0.0	0.875	1.0	78.68	-39.53	-25.37	46.98	213	38.07	54.38	91.34	0.2071	0.2959	0.6357
	26 c25v	0.0	0.75	1.0	71.08	-27.72	-36.22	45.63	233	31.94	42.31	88.11	0.1967	0.2606	0.4946
	27 c38v	0.0	0.675	1.0	63.13	-13.93	-47.82	49.82	254	26.62	31.74	85.15	0.1855	0.2212	0.3711
	28 c50v	0.0	0.5	1.0	54.96	1.67	-59.69	59.72	272	22.11	22.89	82.1	0.174	0.1801	0.2676
	29 c63v	0.0	0.375	1.0	47.38	18.42	-71.34	73.69	284	18.86	16.31	80.21	0.1634	0.1414	0.1907
	30 c75v	0.0	0.25	1.0	40.22	35.9	-82.09	89.61	294	16.38	11.38	78.1	0.1547	0.1075	0.1331
	31 c88v	0.0	0.125	1.0	34.6	51.21	-90.98	104.41	299	14.85	8.3	77.05	0.1482	0.0828	0.097
	32 v00m	0.0	0.0	1.0	33.12	55.21	-93.2	108.33	301	14.46	7.59	76.63	0.1466	0.077	0.0888
	33 v13m	0.125	0.0	1.0	33.62	56.16	-92.73	108.42	301	14.97	7.83	77.15	0.1498	0.0783	0.0915
	34 v25m	0.25	0.0	1.0	35.67	58.38	-89.14	106.57	303	16.88	8.84	77.06	0.1643	0.086	0.1033
	35 v38m	0.375	0.0	1.0	38.8	62.01	-84.3	104.66	306	20.17	10.55	77.8	0.1859	0.0972	0.1233
	36 v50m	0.5	0.0	1.0	42.4	66.13	-78.41	102.58	310	24.41	12.76	78.2	0.2116	0.1106	0.1492
	37 v63m	0.625	0.0	1.0	46.59	71.36	-71.89	101.3	315	30.19	15.71	79.14	0.2414	0.1256	0.1837
	38 v75m	0.75	0.0	1.0	50.84	76.22	-65.05	100.21	320	36.77	19.13	79.78	0.271	0.141	0.2237
	39 v88m	0.875	0.0	1.0	54.99	81.11	-58.47	100.0	324	44.11	22.92	80.55	0.2989	0.1553	0.268
	40 m00o	1.0	0.0	1.0	59.57	86.86	-51.33	100.9	329	53.4	27.65	81.56	0.3284	0.17	0.3233
	41 m13o	1.0	0.0	0.875	58.36	85.07	-41.5	94.66	334	50.73	26.34	66.54	0.3533	0.1834	0.308
	42 m25o	1.0	0.0	0.75	57.24	82.99	-30.17	88.31	340	48.18	25.17	52.12	0.384	0.2006	0.2942
	43 m38o	1.0	0.0	0.675	56.15	80.91	-16.85	82.65	348	45.76	24.06	38.36	0.423	0.2224	0.2813
	44 m50o	1.0	0.0	0.5	55.2	78.69	-1.52	78.71	359	43.59	23.12	26.13	0.4695	0.2491	0.2703
	45 m63o	1.0	0.0	0.375	54.36	77.03	14.9	78.45	11	41.82	22.32	16.4	0.5193	0.2771	0.2609
	46 m75o	1.0	0.0	0.25	53.76	75.78	32.94	82.63	23	40.57	21.75	9.07	0.5683	0.3047	0.2542
	47 m88o	1.0	0.0	0.125	53.36	74.84	51.32	90.75	34	39.72	21.38	4.33	0.607	0.3268	0.2499
	48 o00y	1.0	0.0	0.0	54.22	76.05	57.92	95.59	37	41.3	22.18	3.43	0.6172	0.3315	0.2593
	49 n00w	0.0	0.0	0.0	10.87	0.0	0.0	0.01	341	1.18	1.24	1.35	0.3127	0.329	0.0145
	50 n13w	0.125	0.125	0.125	16.63	-0.23	0.05	0.25	169	2.1	2.23	2.42	0.3119	0.3299	0.026
	51 n25w	0.25	0.25	0.25	30.78	0.0	-0.86	0.87	269	6.23	6.56	7.37	0.3091	0.3252	0.0767
	52 n38w	0.375	0.375	0.375	43.55	0.82	-2.07	2.24	292	12.98	13.53	15.65	0.308	0.3209	0.1582
	53 n50w	0.5	0.5	0.5	55.07	1.55	-3.03	3.41	297	22.19	23.0	26.96	0.3076	0.3188	0.2689
	54 n63w	0.625	0.625	0.625	66.16	1.93	-3.55	4.05	298	34.32	35.53	41.68	0.3077	0.3186	0.4154
	55 n75w	0.75	0.75	0.75	76.29	2.17	-3.58	4.19	301	48.64	50.36	58.62	0.3086	0.3195	0.5887
	56 n88w	0.875	0.875	0.875	85.52	1.65	-2.93	3.37	299	64.42	67.02	76.71	0.3095	0.322	0.7836
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0357

JE020-7N, Colorimetric data of Television Luminous System TLS11a for CIE standard illuminant D65; LCD monitor; Page: 33/44

$$n = 88.59 / (88.59 + 1.26) = 0.986$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

TUB registration: 20090901-JE02/JE02L0NP.PDF /.PS
application for measurement of printer or monitor systems

TUB material: code=rha4ta

Colorimetric "Adapted data (a)": Television Luminous System TLS11a for CIE lightness $L^*=11$ of black for illuminant D65
System TLS11a

LCD monitor

D65 reflection:

$Y_N = 1.26$

$L^*_N = 11.0$

Y Yellow

$LCH^*_a = 94.1 \ 86.1 \ 101$

$LAB^*_a = 94.1 \ -15.7 \ 84.7$

L Leaf green

$LCH^*_a = 84.2 \ 109.2 \ 138$

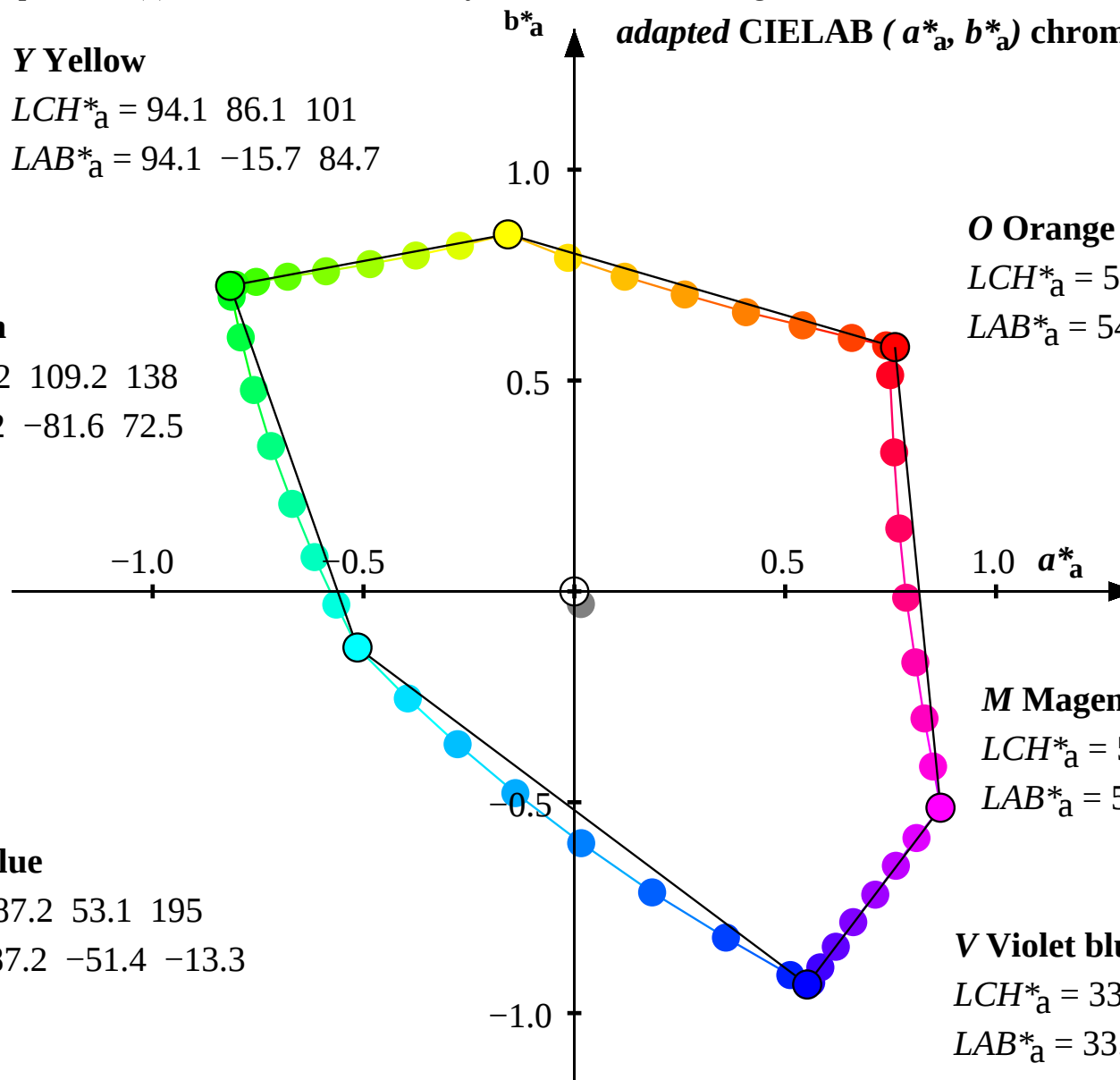
$LAB^*_a = 84.2 \ -81.6 \ 72.5$

C Cyan blue

$LCH^*_a = 87.2 \ 53.1 \ 195$

$LAB^*_a = 87.2 \ -51.4 \ -13.3$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



Colorimetric "Adapted data (a)": Television Luminous System TLS18a for CIE lightness $L^*=18$ of black for illuminant D65

System TLS18a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	$L^*_a=LAB^*_{1a}$	$a^*_a=LAB^*_{2a}$	$b^*_a=LAB^*_{3a}$	$C^*_{ab,a}=LAB^*_{ab,a}$	$h^*_{ab,a}$	$X_a=XYZ^*_{1a}$	$Y_a=XYZ^*_{2a}$	$Z_a=XYZ^*_{3a}$	x_a	y_a	$Y_a/88.59$
LCD monitor	00 o00y	1.0	0.0	0.0	55.18	73.73	52.49	90.51	35	41.89	23.1	4.71	0.601	0.3314	0.2699
	01 o13y	1.0	0.125	0.0	55.85	71.69	53.03	89.17	36	42.18	23.76	4.84	0.5959	0.3357	0.2777
D65 reflection:	02 o25y	1.0	0.25	0.0	58.7	63.91	55.26	84.48	41	43.69	26.71	5.41	0.5763	0.3523	0.3121
	03 o38y	1.0	0.375	0.0	62.9	52.73	58.64	78.86	48	46.09	31.47	6.31	0.5495	0.3752	0.3677
	04 o50y	1.0	0.5	0.0	68.01	39.8	62.4	74.01	57	49.36	37.99	7.63	0.5197	0.4	0.4439
	05 o63y	1.0	0.625	0.0	74.01	25.63	67.01	71.74	69	53.8	46.72	9.33	0.4897	0.4253	0.5459
	06 o75y	1.0	0.75	0.0	80.33	11.69	71.69	72.63	81	59.15	57.27	11.45	0.4626	0.4479	0.6692
	07 o88y	1.0	0.875	0.0	86.66	-1.41	76.43	76.44	91	65.24	69.31	13.84	0.4396	0.4671	0.8099
	08 y00l	1.0	1.0	0.0	94.13	-15.46	82.32	83.76	101	73.64	85.58	16.94	0.418	0.4858	1.0
	09 y13l	0.875	1.0	0.0	92.05	-26.68	79.55	83.91	109	64.34	80.82	16.55	0.3979	0.4998	0.9443
	10 y25l	0.75	1.0	0.0	90.3	-36.99	77.3	85.7	116	56.81	76.95	16.19	0.3788	0.5132	0.8991
	11 y38l	0.625	1.0	0.0	88.66	-47.62	75.27	89.08	122	49.94	73.44	15.43	0.3587	0.5275	0.8582
	12 y50l	0.5	1.0	0.0	87.19	-57.83	73.5	93.53	128	44.05	70.4	15.89	0.339	0.5417	0.8226
	13 y63l	0.375	1.0	0.0	86.03	-66.58	72.18	98.21	133	39.52	68.05	15.19	0.3219	0.5543	0.7952
	14 y75l	0.25	1.0	0.0	85.13	-73.84	70.99	102.44	136	36.09	66.26	15.04	0.3074	0.5645	0.7743
	15 y88l	0.125	1.0	0.0	84.54	-78.65	70.27	105.48	138	33.93	65.11	14.9	0.2978	0.5714	0.7608
	16 l00c	0.0	1.0	0.0	84.39	-79.83	70.06	106.23	139	33.4	64.81	14.88	0.2954	0.5731	0.7573
	17 l13c	0.0	1.0	0.125	84.42	-79.45	67.67	104.37	140	33.55	64.88	15.97	0.2933	0.5671	0.7581
	18 l25c	0.0	1.0	0.25	84.52	-77.42	58.56	97.08	143	34.26	65.07	20.56	0.2858	0.5427	0.7604
	19 l38c	0.0	1.0	0.375	84.78	-74.37	46.59	87.77	148	35.47	65.57	27.98	0.2749	0.5082	0.7662
	20 l50c	0.0	1.0	0.5	85.13	-70.44	33.67	78.09	154	37.11	66.26	37.9	0.2627	0.469	0.7743
	21 l63c	0.0	1.0	0.625	85.58	-65.52	20.4	68.63	163	39.24	67.16	50.44	0.2502	0.4282	0.7847
	22 l75c	0.0	1.0	0.75	86.11	-60.44	7.95	60.97	173	41.62	68.22	64.66	0.2385	0.3909	0.7971
	23 l88c	0.0	1.0	0.875	86.67	-55.34	-3.1	55.44	183	44.14	69.34	79.55	0.2287	0.3592	0.8102
	24 c00v	0.0	1.0	1.0	87.31	-50.48	-13.14	52.17	195	46.79	70.63	95.22	0.22	0.3322	0.8253
	25 c13v	0.0	0.875	1.0	78.96	-38.66	-24.94	46.02	213	38.71	54.85	91.41	0.2093	0.2966	0.641
	26 c25v	0.0	0.75	1.0	71.52	-27.0	-35.55	44.66	233	32.66	42.95	88.23	0.1994	0.2621	0.5018
	27 c38v	0.0	0.675	1.0	63.78	-13.5	-46.82	48.74	254	27.41	32.53	85.3	0.1887	0.224	0.3801
	28 c50v	0.0	0.5	1.0	55.88	1.61	-58.23	58.27	272	22.97	23.8	82.3	0.178	0.1844	0.2781
	29 c63v	0.0	0.375	1.0	48.65	17.53	-69.32	71.51	284	19.76	17.31	80.44	0.1682	0.1473	0.2023
	30 c75v	0.0	0.25	1.0	41.93	33.76	-79.35	86.24	293	17.31	12.45	78.36	0.1601	0.1152	0.1455
	31 c88v	0.0	0.125	1.0	36.76	47.56	-87.46	99.56	299	15.81	9.41	77.32	0.1542	0.0918	0.1099
	32 v00m	0.0	0.0	1.0	35.43	51.08	-89.43	103.0	300	15.43	8.71	76.9	0.1527	0.0862	0.1018
	33 v13m	0.125	0.0	1.0	35.88	52.07	-89.05	103.17	300	15.93	8.95	77.42	0.1557	0.0875	0.1045
	34 v25m	0.25	0.0	1.0	37.73	54.55	-85.79	101.67	302	17.81	9.94	77.33	0.1695	0.0946	0.1161
	35 v38m	0.375	0.0	1.0	40.61	58.51	-81.38	100.24	306	21.05	11.63	78.06	0.1901	0.105	0.1358
	36 v50m	0.5	0.0	1.0	43.96	62.96	-75.91	98.63	310	25.24	13.81	78.45	0.2148	0.1175	0.1613
	37 v63m	0.625	0.0	1.0	47.9	68.5	-69.82	97.81	314	30.94	16.72	79.38	0.2435	0.1316	0.1954
	38 v75m	0.75	0.0	1.0	51.94	73.63	-63.33	97.12	319	37.42	20.09	80.01	0.2721	0.1461	0.2348
	39 v88m	0.875	0.0	1.0	55.92	78.74	-57.04	97.24	324	44.66	23.83	80.77	0.2992	0.1597	0.2784
	40 m00o	1.0	0.0	1.0	60.33	84.67	-50.18	98.43	329	53.83	28.49	81.77	0.328	0.1736	0.3329
	41 m13o	1.0	0.0	0.875	59.16	82.85	-40.47	92.21	334	51.19	27.2	66.95	0.3522	0.1872	0.3179
	42 m25o	1.0	0.0	0.75	58.08	80.74	-29.33	85.9	340	48.68	26.05	52.73	0.3819	0.2044	0.3043
	43 m38o	1.0	0.0	0.675	57.03	78.62	-16.31	80.3	348	46.3	24.95	39.17	0.4193	0.226	0.2916
	44 m50o	1.0	0.0	0.5	56.12	76.39	-1.46	76.4	359	44.15	24.03	27.1	0.4634	0.2522	0.2808
	45 m63o	1.0	0.0	0.375	55.31	74.7	14.19	76.04	11	42.41	23.23	17.51	0.51	0.2794	0.2715
	46 m75o	1.0	0.0	0.25	54.73	73.44	30.9	79.67	23	41.17	22.67	10.28	0.5555	0.3059	0.2649
	47 m88o	1.0	0.0	0.125	54.35	72.49	46.9	86.34	33	40.33	22.31	5.61	0.591	0.3269	0.2607
	48 o00y	1.0	0.0	0.0	55.18	73.73	52.49	90.51	35	41.89	23.1	4.71	0.601	0.3314	0.2699
	49 n00w	0.0	0.0	0.0	17.69	0.0	0.0	0.01	0	2.33	2.45	2.67	0.3127	0.329	0.0286
	50 n13w	0.125	0.125	0.125	21.65	-0.17	0.04	0.18	169	3.24	3.42	3.72	0.3122	0.3296	0.04
	51 n25w	0.25	0.25	0.25	33.33	0.0	-0.76	0.77	269	7.31	7.69	8.61	0.3096	0.3258	0.0899
	52 n38w	0.375	0.375	0.375	45.04	0.77	-1.95	2.1	292	13.97	14.57	16.76	0.3083	0.3216	0.1702
	53 n50w	0.5	0.5	0.5	56.0	1.49	-2.92	3.28	297	23.05	23.91	27.92	0.3078	0.3193	0.2794
	54 n63w	0.625	0.625	0.625	66.72	1.87	-3.46	3.94	298	35.01	36.27	42.44	0.3079	0.3189	0.4238
	55 n75w	0.75	0.75	0.75	76.61	2.12	-3.51	4.11	301	49.14	50.88	59.15	0.3087	0.3197	0.5946
	56 n88w	0.875	0.875	0.875	85.67	1.62	-2.88	3.31	299	64.7	67.32	76.98	0.3095	0.3221	0.7867
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0352

JE020-7N, Colorimetric data of Television Luminous System TLS18a for CIE standard illuminant D65; LCD monitor; Page: 35/44

$$n = 88.59 / (88.59 + 2.52) = 0.972$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS18a for CIE lightness $L^*=18$ of black for illuminant D65
System TLS18a

LCD monitor

D65 reflection:

$Y_N = 2.52$

$L^*_N = 18.01$

Y Yellow

$LCH^*_a = 94.1 \ 83.8 \ 101$

$LAB^*_a = 94.1 \ -15.5 \ 82.3$

L Leaf green

$LCH^*_a = 84.4 \ 106.2 \ 139$

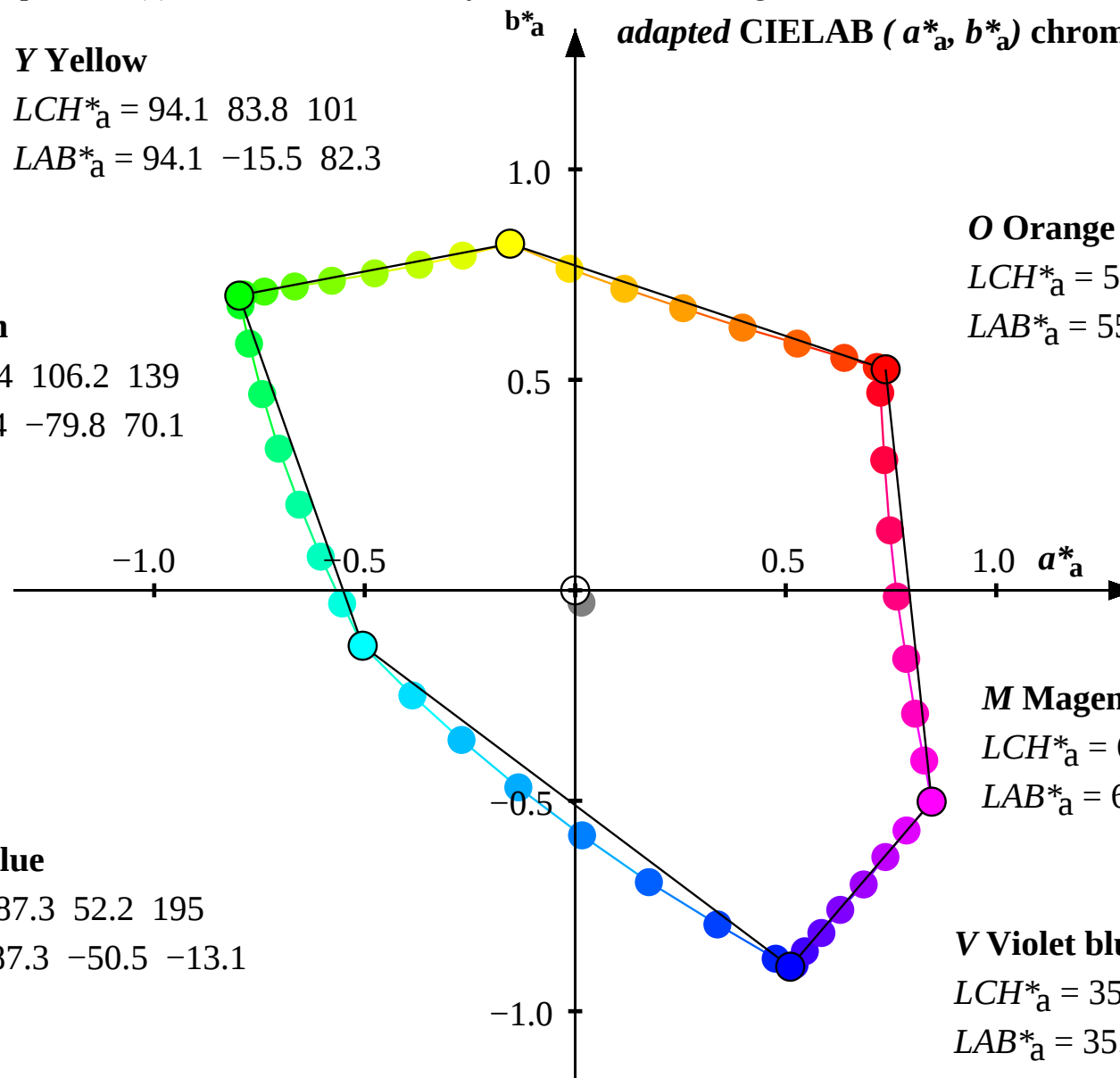
$LAB^*_a = 84.4 \ -79.8 \ 70.1$

C Cyan blue

$LCH^*_a = 87.3 \ 52.2 \ 195$

$LAB^*_a = 87.3 \ -50.5 \ -13.1$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



O Orange red

$LCH^*_a = 55.2 \ 90.5 \ 35$

$LAB^*_a = 55.2 \ 73.7 \ 52.5$

M Magenta red

$LCH^*_a = 60.3 \ 98.4 \ 329$

$LAB^*_a = 60.3 \ 84.7 \ -50.2$

V Violet blue

$LCH^*_a = 35.4 \ 103.0 \ 300$

$LAB^*_a = 35.4 \ 51.1 \ -89.4$

Colorimetric "Adapted data (a)": Television Luminous System TLS27a for CIE lightness $L^*=27$ of black for illuminant D65

System TLS27a	Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*_a=LAB^*1_a$	$a^*_a=LAB^*2_a$	$b^*_a=LAB^*3_a$	$C^*_{ab,a}=LAB^*ab,a$	$h_{ab,a}$	$X_a=XYZ^*1_a$	$Y_a=XYZ^*2_a$	$Z_a=XYZ^*3_a$	x_a	y_a	$Y_a/88.59$
LCD monitor	00 o00y	1.0	0.0	0.0	56.94	69.53	44.95	82.8	33	43.03	24.86	7.18	0.5732	0.3312	0.2903
	01 o13y	1.0	0.125	0.0	57.57	67.66	45.57	81.58	34	43.31	25.51	7.31	0.5689	0.3351	0.2978
D65 reflection:	02 o25y	1.0	0.25	0.0	60.22	60.53	48.13	77.34	38	44.78	28.37	7.86	0.5528	0.3502	0.3312
	03 o38y	1.0	0.375	0.0	64.17	50.17	51.95	72.22	46	47.11	33.01	8.74	0.5302	0.3715	0.3853
$Y_N = 5.04$	04 o50y	1.0	0.5	0.0	69.0	38.05	56.27	67.92	56	50.3	39.35	10.02	0.5047	0.3948	0.4593
$L^*_N = 26.85$	05 o63y	1.0	0.625	0.0	74.73	24.63	61.4	66.16	68	54.61	47.84	11.68	0.4785	0.4192	0.5585
	06 o75y	1.0	0.75	0.0	80.8	11.28	66.59	67.54	80	59.83	58.11	13.74	0.4544	0.4413	0.6784
	07 o88y	1.0	0.875	0.0	86.91	-1.37	71.75	71.76	91	65.75	69.83	16.07	0.4336	0.4605	0.8151
	08 y00l	1.0	1.0	0.0	94.17	-15.02	78.03	79.46	101	73.92	85.66	19.08	0.4138	0.4795	1.0
	09 y13l	0.875	1.0	0.0	92.14	-25.87	75.27	79.6	109	64.88	81.03	18.7	0.3941	0.4922	0.9459
	10 y25l	0.75	1.0	0.0	90.44	-35.79	73.04	81.34	116	57.55	77.26	18.35	0.3757	0.5044	0.9019
	11 y38l	0.625	1.0	0.0	88.85	-45.99	71.0	84.6	123	50.86	73.85	18.0	0.3564	0.5175	0.8621
	12 y50l	0.5	1.0	0.0	87.43	-55.72	69.23	88.87	129	45.13	70.89	17.67	0.3376	0.5302	0.8275
	13 y63l	0.375	1.0	0.0	86.31	-64.02	67.9	93.33	133	40.72	68.6	17.38	0.3214	0.5414	0.8009
	14 y75l	0.25	1.0	0.0	85.44	-70.87	66.72	97.34	137	37.38	66.87	17.23	0.3077	0.5505	0.7806
	15 y88l	0.125	1.0	0.0	84.86	-75.4	66.0	100.21	139	35.28	65.74	17.1	0.2987	0.5566	0.7674
	16 l00c	0.0	1.0	0.0	84.71	-76.5	65.8	100.91	139	34.77	65.45	17.07	0.2964	0.558	0.764
	17 l13c	0.0	1.0	0.125	84.75	-76.15	63.66	99.26	140	34.91	65.51	18.13	0.2945	0.5526	0.7648
	18 l25c	0.0	1.0	0.25	84.85	-74.22	55.44	92.65	143	35.61	65.71	22.61	0.2873	0.5302	0.7671
	19 l38c	0.0	1.0	0.375	85.09	-71.35	44.41	84.05	148	36.79	66.19	29.83	0.277	0.4984	0.7727
	20 l50c	0.0	1.0	0.5	85.44	-67.64	32.28	74.96	154	38.38	66.87	39.48	0.2652	0.462	0.7806
	21 l63c	0.0	1.0	0.625	85.87	-62.99	19.64	65.99	163	40.45	67.73	51.67	0.2531	0.4237	0.7907
	22 l75c	0.0	1.0	0.75	86.39	-58.16	7.68	58.68	172	42.77	68.76	65.51	0.2416	0.3884	0.8027
	23 l88c	0.0	1.0	0.875	86.93	-53.31	-3.0	53.41	183	45.22	69.86	80.0	0.2318	0.3581	0.8155
	24 c00v	0.0	1.0	1.0	87.54	-48.68	-12.75	50.33	195	47.79	71.11	95.25	0.2232	0.3321	0.8302
	25 c13v	0.0	0.875	1.0	79.48	-37.04	-24.14	44.23	213	39.93	55.76	91.54	0.2133	0.2978	0.651
	26 c25v	0.0	0.75	1.0	72.35	-25.67	-34.28	42.84	233	34.05	44.18	88.45	0.2043	0.265	0.5157
	27 c38v	0.0	0.675	1.0	64.99	-12.71	-44.94	46.71	254	28.94	34.04	85.6	0.1948	0.2291	0.3973
	28 c50v	0.0	0.5	1.0	57.6	1.49	-55.56	55.59	272	24.62	25.54	82.68	0.1853	0.1923	0.2982
	29 c63v	0.0	0.375	1.0	50.96	16.02	-65.67	67.6	284	21.49	19.23	80.87	0.1768	0.1582	0.2245
	30 c75v	0.0	0.25	1.0	44.94	30.25	-74.51	80.43	292	19.11	14.5	78.85	0.17	0.1289	0.1693
	31 c88v	0.0	0.125	1.0	40.48	41.83	-81.45	91.57	297	17.65	11.54	77.83	0.1649	0.1078	0.1347
	32 v00m	0.0	0.0	1.0	39.35	44.67	-83.08	94.33	298	17.28	10.86	77.43	0.1637	0.1029	0.1268
	33 v13m	0.125	0.0	1.0	39.73	45.69	-82.8	94.58	299	17.77	11.09	77.93	0.1664	0.1038	0.1295
	34 v25m	0.25	0.0	1.0	41.3	48.41	-80.02	93.54	301	19.6	12.06	77.84	0.179	0.1101	0.1407
	35 v38m	0.375	0.0	1.0	43.79	52.73	-76.27	92.74	305	22.75	13.7	78.55	0.1979	0.1191	0.1599
	36 v50m	0.5	0.0	1.0	46.74	57.57	-71.49	91.79	309	26.83	15.82	78.93	0.2207	0.1301	0.1847
	37 v63m	0.625	0.0	1.0	50.28	63.49	-66.07	91.64	314	32.37	18.65	79.84	0.2474	0.1425	0.2178
	38 v75m	0.75	0.0	1.0	53.96	69.0	-60.18	91.56	319	38.68	21.94	80.45	0.2742	0.1555	0.2561
	39 v88m	0.875	0.0	1.0	57.63	74.42	-54.41	92.19	324	45.72	25.57	81.19	0.2999	0.1677	0.2985
	40 m00o	1.0	0.0	1.0	61.75	80.64	-48.02	93.87	329	54.65	30.11	82.16	0.3274	0.1804	0.3515
	41 m13o	1.0	0.0	0.875	60.65	78.76	-38.57	87.7	334	52.08	28.86	67.75	0.3503	0.1941	0.3369
	42 m25o	1.0	0.0	0.75	59.64	76.6	-27.79	81.49	340	49.63	27.73	53.91	0.3781	0.2112	0.3237
	43 m38o	1.0	0.0	0.675	58.66	74.45	-15.34	76.01	348	47.32	26.67	40.71	0.4125	0.2325	0.3113
	44 m50o	1.0	0.0	0.5	57.81	72.19	-1.35	72.2	359	45.23	25.77	28.97	0.4524	0.2578	0.3008
	45 m63o	1.0	0.0	0.375	57.07	70.48	12.99	71.66	10	43.53	24.99	19.63	0.4938	0.2835	0.2918
	46 m75o	1.0	0.0	0.25	56.53	69.2	27.61	74.5	22	42.33	24.45	12.59	0.5333	0.308	0.2854
	47 m88o	1.0	0.0	0.125	56.18	68.25	40.51	79.36	31	41.51	24.09	8.05	0.5636	0.3271	0.2813
	48 o00y	1.0	0.0	0.0	56.94	69.53	44.95	82.8	33	43.03	24.86	7.18	0.5732	0.3312	0.2903
	49 n00w	0.0	0.0	0.0	26.07	0.0	0.0	0.01	0	4.53	4.77	5.19	0.3127	0.329	0.0557
	50 n13w	0.125	0.125	0.125	28.67	-0.11	0.02	0.13	169	5.42	5.71	6.21	0.3124	0.3293	0.0667
	51 n25w	0.25	0.25	0.25	37.61	0.0	-0.63	0.64	269	9.88	9.87	10.97	0.3104	0.3266	0.1152
	52 n38w	0.375	0.375	0.375	47.7	0.69	-1.74	1.88	291	15.86	16.56	18.91	0.309	0.3227	0.1933
	53 n50w	0.5	0.5	0.5	57.7	1.38	-2.71	3.05	297	24.7	25.65	29.76	0.3083	0.3202	0.2994
	54 n63w	0.625	0.625	0.625	67.78	1.78	-3.29	3.74	298	36.34	37.67	43.89	0.3082	0.3195	0.4398
	55 n75w	0.75	0.75	0.75	77.22	2.04	-3.37	3.95	301	50.08	51.9	60.15	0.3089	0.3201	0.6059
	56 n88w	0.875	0.875	0.875	85.95	1.57	-2.79	3.21	299	65.22	67.9	77.51	0.3097	0.3224	0.7926
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0342

JE020-7N, Colorimetric data of Television Luminous System TLS27a for CIE standard illuminant D65; LCD monitor; Page: 37/44

$$n = 88.59 / (88.59 + 5.04) = 0.946$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS27a for CIE lightness $L^*=27$ of black for illuminant D65
System TLS27a

LCD monitor

D65 reflection:

$Y_N = 5.04$

$L^*_N = 26.85$

Y Yellow

$LCH^*_a = 94.2 \ 79.5 \ 101$

$LAB^*_a = 94.2 \ -15.0 \ 78.0$

L Leaf green

$LCH^*_a = 84.7 \ 100.9 \ 139$

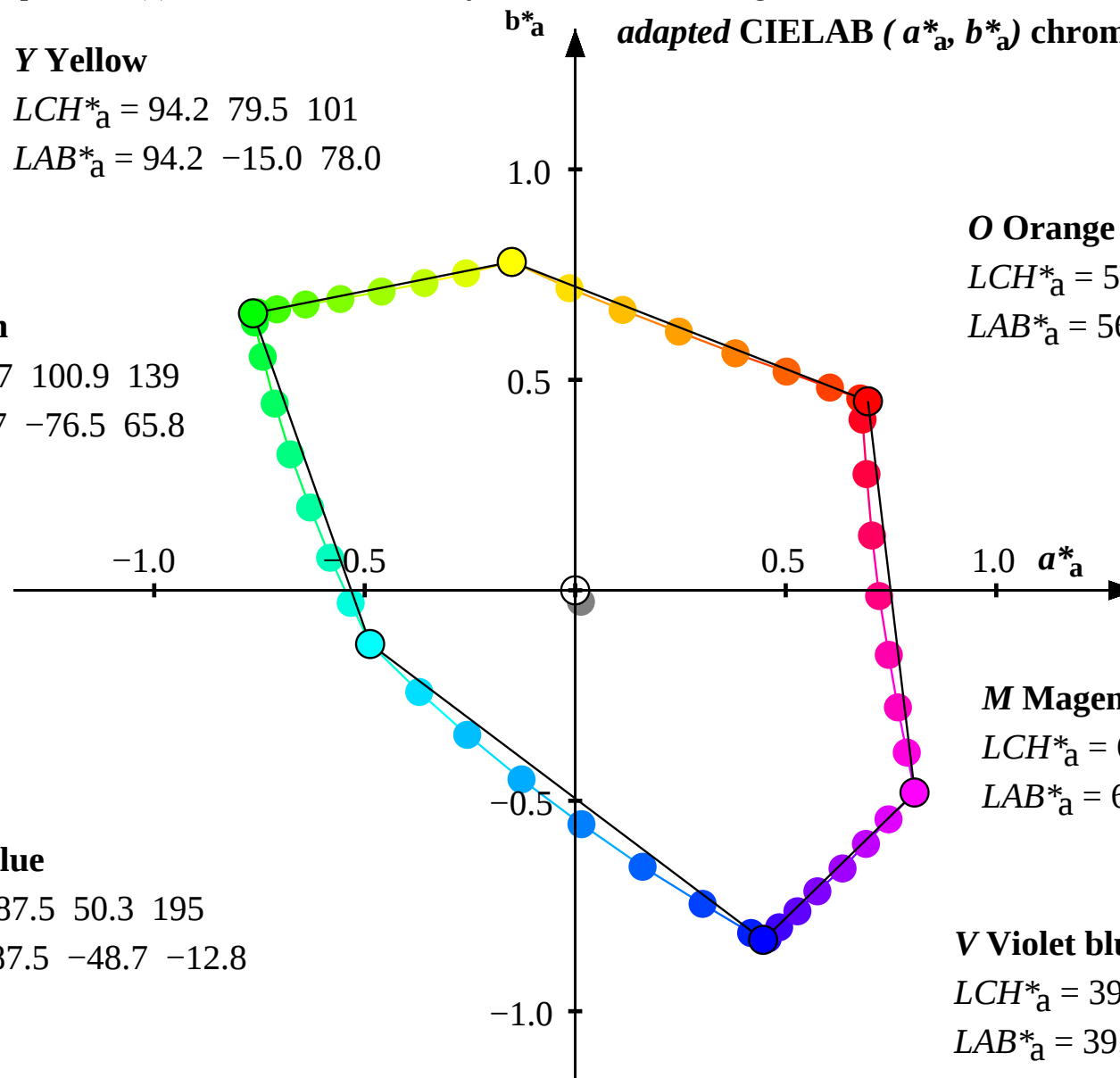
$LAB^*_a = 84.7 \ -76.5 \ 65.8$

C Cyan blue

$LCH^*_a = 87.5 \ 50.3 \ 195$

$LAB^*_a = 87.5 \ -48.7 \ -12.8$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



O Orange red

$LCH^*_a = 56.9 \ 82.8 \ 33$

$LAB^*_a = 56.9 \ 69.5 \ 44.9$

M Magenta red

$LCH^*_a = 61.7 \ 93.9 \ 329$

$LAB^*_a = 61.7 \ 80.6 \ -48.0$

V Violet blue

$LCH^*_a = 39.4 \ 94.3 \ 298$

$LAB^*_a = 39.4 \ 44.7 \ -83.1$

Colorimetric "Adapted data (a)": Television Luminous System TLS38a for CIE lightness $L^*=38$ of black for illuminant D65

System TLS38a	Color	$r=olv*1$	$g=olv*2$	$b=olv*3$	$L^*_a=LAB^*1_a$	$a^*_a=LAB^*2_a$	$b^*_a=LAB^*3_a$	$C^*_{ab,a}=LAB^*ab,a$	$h_{ab,a}$	$X_a=XYZ1_a$	$Y_a=XYZ2_a$	$Z_a=XYZ3_a$	x_a	y_a	$Y_a/88.59$
LCD monitor	00 o00y	1.0	0.0	0.0	60.0	62.53	35.83	72.06	30	45.14	28.12	11.74	0.531	0.3308	0.3277
	01 o13y	1.0	0.125	0.0	60.54	60.93	36.46	71.0	31	45.4	28.73	11.86	0.528	0.3341	0.3348
D65 reflection:	02 o25y	1.0	0.25	0.0	62.88	54.81	39.09	67.32	35	46.8	31.45	12.39	0.5163	0.347	0.3665
	03 o38y	1.0	0.375	0.0	66.4	45.77	43.04	62.83	43	49.01	35.85	13.22	0.4997	0.3655	0.4177
	04 o50y	1.0	0.5	0.0	70.78	34.99	47.64	59.11	54	52.03	41.86	14.43	0.4803	0.3865	0.4879
	05 o63y	1.0	0.625	0.0	76.02	22.83	53.1	57.81	67	56.13	49.93	16.01	0.4598	0.409	0.5818
	06 o75y	1.0	0.75	0.0	81.66	10.53	58.69	59.62	80	61.07	59.67	17.96	0.4403	0.4302	0.6953
	07 o88y	1.0	0.875	0.0	87.38	-1.29	64.23	64.24	91	66.69	70.78	20.17	0.423	0.449	0.8249
	08 y00l	1.0	1.0	0.0	94.23	-14.21	70.89	72.3	101	74.45	85.81	23.03	0.4062	0.4682	1.0
	09 y13l	0.875	1.0	0.0	92.32	-24.39	68.2	72.43	110	65.87	81.41	22.68	0.3875	0.479	0.9487
	10 y25l	0.75	1.0	0.0	90.71	-33.63	66.01	74.08	117	58.91	77.84	22.34	0.3703	0.4893	0.9071
	11 y38l	0.625	1.0	0.0	89.21	-43.04	64.01	77.14	124	52.57	74.6	22.01	0.3524	0.5001	0.8694
	12 y50l	0.5	1.0	0.0	87.87	-51.94	62.26	81.09	130	47.13	71.79	21.7	0.3352	0.5105	0.8366
	13 y63l	0.375	1.0	0.0	86.81	-59.47	60.95	85.16	134	42.94	69.62	21.42	0.3205	0.5196	0.8114
	14 y75l	0.25	1.0	0.0	85.99	-65.63	59.8	88.79	138	39.77	67.98	21.27	0.3083	0.5269	0.7922
	15 y88l	0.125	1.0	0.0	85.46	-69.67	59.09	91.36	140	37.78	66.91	21.15	0.3002	0.5317	0.7797
	16 l00c	0.0	1.0	0.0	85.32	-70.65	58.9	91.98	140	37.29	66.63	21.13	0.2982	0.5328	0.7765
	17 l13c	0.0	1.0	0.125	85.35	-70.33	57.14	90.62	141	37.43	66.69	22.13	0.2965	0.5282	0.7772
	18 l25c	0.0	1.0	0.25	85.44	-68.6	50.22	85.02	144	38.09	66.88	26.38	0.29	0.5092	0.7793
	19 l38c	0.0	1.0	0.375	85.67	-66.02	40.64	77.54	148	39.21	67.33	33.23	0.2805	0.4817	0.7847
	20 l50c	0.0	1.0	0.5	85.99	-62.68	29.82	69.42	155	40.72	67.98	42.39	0.2695	0.4499	0.7922
	21 l63c	0.0	1.0	0.625	86.4	-58.48	18.29	61.28	163	42.69	68.8	53.96	0.258	0.4158	0.8018
	22 l75c	0.0	1.0	0.75	86.89	-54.1	7.2	54.59	172	44.88	69.78	67.09	0.2469	0.3839	0.8131
	23 l88c	0.0	1.0	0.875	87.4	-49.68	-2.83	49.77	183	47.21	70.82	80.84	0.2374	0.3561	0.8253
	24 c00v	0.0	1.0	1.0	87.97	-45.45	-12.05	47.03	195	49.65	72.01	95.31	0.2288	0.3319	0.8391
	25 c13v	0.0	0.875	1.0	80.43	-34.19	-22.68	41.04	214	42.19	57.44	91.79	0.2204	0.3001	0.6694
	26 c25v	0.0	0.75	1.0	73.83	-23.39	-32.01	39.66	234	36.61	46.44	88.86	0.213	0.2702	0.5412
	27 c38v	0.0	0.675	1.0	67.14	-11.39	-41.63	43.17	255	31.76	36.82	86.16	0.2053	0.238	0.4291
	28 c50v	0.0	0.5	1.0	60.57	1.31	-50.95	50.98	271	27.66	28.76	83.38	0.1979	0.2057	0.3352
	29 c63v	0.0	0.375	1.0	54.84	13.72	-59.57	61.14	283	24.7	22.78	81.66	0.1913	0.1764	0.2654
	30 c75v	0.0	0.25	1.0	49.84	25.23	-66.75	71.37	291	22.44	18.29	79.74	0.1863	0.1518	0.2131
	31 c88v	0.0	0.125	1.0	46.28	34.06	-72.17	79.81	295	21.05	15.48	78.78	0.1825	0.1342	0.1803
	32 v00m	0.0	0.0	1.0	45.41	36.13	-73.38	81.8	296	20.7	14.83	78.4	0.1817	0.1302	0.1729
	33 v13m	0.125	0.0	1.0	45.7	37.1	-73.23	82.11	297	21.16	15.05	78.88	0.1839	0.1308	0.1754
	34 v25m	0.25	0.0	1.0	46.93	39.89	-71.05	81.5	299	22.9	15.96	78.79	0.1946	0.1357	0.186
	35 v38m	0.375	0.0	1.0	48.91	44.34	-68.15	81.31	303	25.89	17.52	79.47	0.2107	0.1426	0.2042
	36 v50m	0.5	0.0	1.0	51.31	49.39	-64.28	81.07	308	29.76	19.54	79.83	0.2305	0.1513	0.2277
	37 v63m	0.625	0.0	1.0	54.27	55.58	-59.83	81.67	313	35.02	22.23	80.69	0.2539	0.1611	0.259
	38 v75m	0.75	0.0	1.0	57.41	61.42	-54.85	82.35	318	41.01	25.34	81.27	0.2778	0.1717	0.2953
	39 v88m	0.875	0.0	1.0	60.6	67.16	-49.87	83.66	323	47.69	28.79	81.97	0.301	0.1817	0.3355
	40 m00o	1.0	0.0	1.0	64.24	73.7	-44.27	85.98	329	56.16	33.1	82.89	0.3262	0.1923	0.3857
	41 m13o	1.0	0.0	0.875	63.27	71.75	-35.29	79.97	334	53.72	31.91	69.21	0.3469	0.2061	0.3718
	42 m25o	1.0	0.0	0.75	62.37	69.56	-25.19	73.99	340	51.4	30.84	56.08	0.3716	0.2229	0.3594
	43 m38o	1.0	0.0	0.675	61.51	67.39	-13.72	68.77	348	49.2	29.83	43.56	0.4013	0.2433	0.3476
	44 m50o	1.0	0.0	0.5	60.76	65.14	-1.19	65.15	359	47.22	28.97	32.41	0.4348	0.2668	0.3377
	45 m63o	1.0	0.0	0.375	60.11	63.42	11.15	64.39	10	45.61	28.24	23.56	0.4682	0.2899	0.3291
	46 m75o	1.0	0.0	0.25	59.64	62.14	22.97	66.25	20	44.47	27.72	16.88	0.4992	0.3113	0.3231
	47 m88o	1.0	0.0	0.125	59.33	61.19	32.51	69.29	28	43.69	27.39	12.57	0.5224	0.3274	0.3192
	48 o00y	1.0	0.0	0.0	60.0	62.53	35.83	72.06	30	45.14	28.12	11.74	0.531	0.3308	0.3277
	49 n00w	0.0	0.0	0.0	36.08	0.0	0.0	0.01	0	8.6	9.05	9.85	0.3127	0.329	0.1055
	50 n13w	0.125	0.125	0.125	37.74	-0.07	0.02	0.08	169	9.44	9.95	10.82	0.3125	0.3292	0.1159
	51 n25w	0.25	0.25	0.25	44.08	0.0	-0.47	0.48	269	13.2	13.89	15.34	0.3111	0.3274	0.1619
	52 n38w	0.375	0.375	0.375	52.11	0.57	-1.45	1.57	291	19.35	20.24	22.87	0.3098	0.3241	0.2359
	53 n50w	0.5	0.5	0.5	60.66	1.21	-2.39	2.69	297	27.74	28.86	33.17	0.309	0.3215	0.3364
	54 n63w	0.625	0.625	0.625	69.66	1.61	-2.99	3.41	298	38.78	40.27	46.58	0.3087	0.3206	0.4693
	55 n75w	0.75	0.75	0.75	78.33	1.89	-3.13	3.66	301	51.82	53.77	62.0	0.3092	0.3208	0.6267
	56 n88w	0.875	0.875	0.875	86.48	1.47	-2.62	3.01	299	66.19	68.95	78.48	0.3099	0.3228	0.8035
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0324

JE020-7N, Colorimetric data of Television Luminous System TLS38a for CIE standard illuminant D65; LCD monitor; Page: 39/44

$$n = 88.59 / (88.59 + 10.08) = 0.898$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS38a for CIE lightness $L^*=38$ of black for illuminant D65
System TLS38a

LCD monitor

D65 reflection:

$Y_N = 10.08$

$L^*_N = 37.99$

Y Yellow

$LCH^*_a = 94.2 \ 72.3 \ 101$

$LAB^*_a = 94.2 \ -14.2 \ 70.9$

L Leaf green

$LCH^*_a = 85.3 \ 92.0 \ 140$

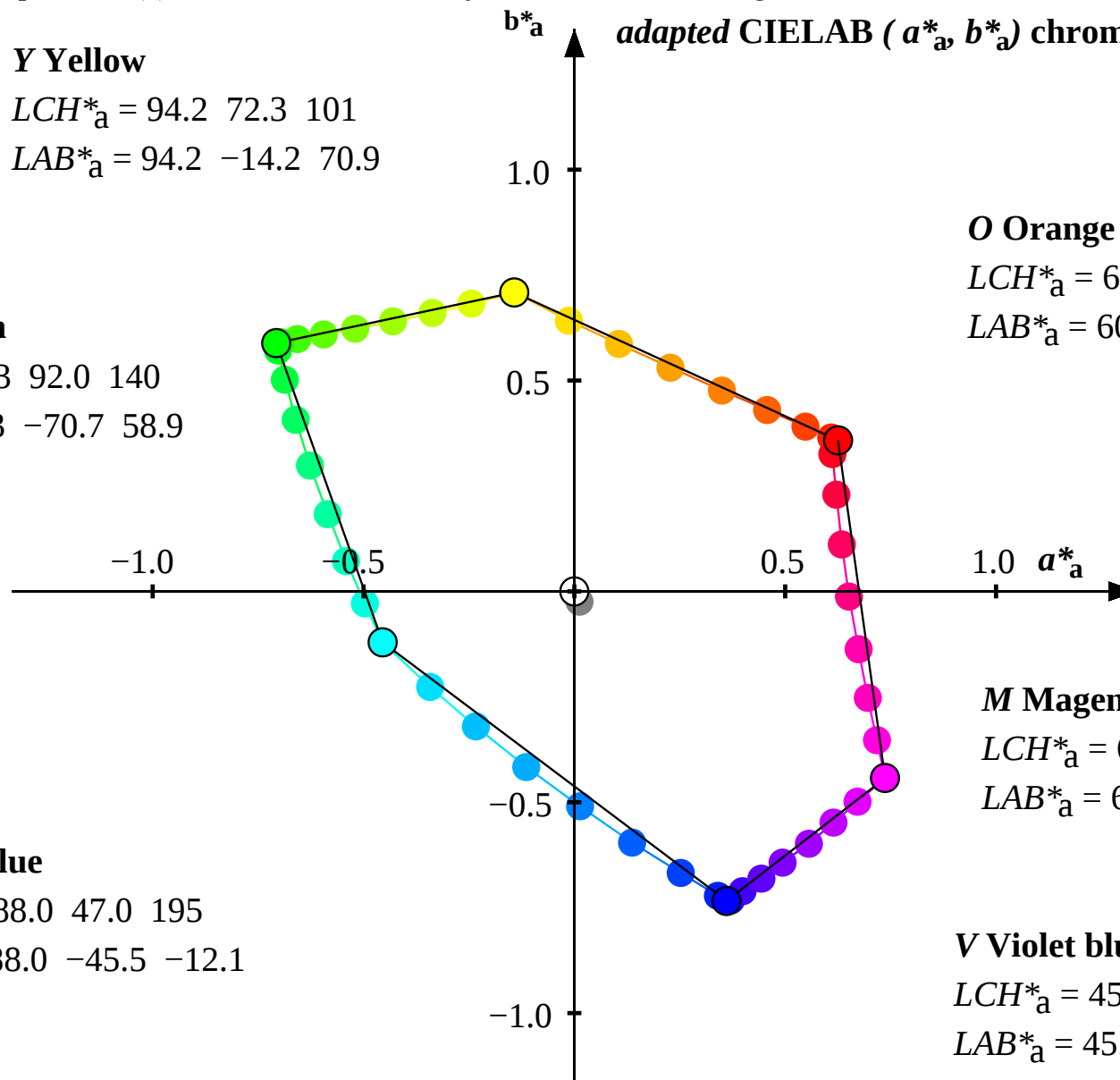
$LAB^*_a = 85.3 \ -70.7 \ 58.9$

C Cyan blue

$LCH^*_a = 88.0 \ 47.0 \ 195$

$LAB^*_a = 88.0 \ -45.5 \ -12.1$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



O Orange red

$LCH^*_a = 60.0 \ 72.1 \ 30$

$LAB^*_a = 60.0 \ 62.5 \ 35.8$

M Magenta red

$LCH^*_a = 64.2 \ 86.0 \ 329$

$LAB^*_a = 64.2 \ 73.7 \ -44.3$

V Violet blue

$LCH^*_a = 45.4 \ 81.8 \ 296$

$LAB^*_a = 45.4 \ 36.1 \ -73.4$

Colorimetric "Adapted data (a)": Television Luminous System TLS52a for CIE lightness $L^*=52$ of black for illuminant D65

System TLS52a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	$L^*_a=LAB^*_{1a}$	$a^*_a=LAB^*_{2a}$	$b^*_a=LAB^*_{3a}$	$C^*_{ab,a}=LAB^*_{ab,a}$	$h^*_{ab,a}$	$X_a=XYZ_{1a}$	$Y_a=XYZ_{2a}$	$Z_a=XYZ_{3a}$	x_a	y_a	$Y_a/88.59$
LCD monitor	00 o00y	1.0	0.0	0.0	64.74	52.23	26.29	58.48	27	48.76	33.72	19.6	0.4776	0.3304	0.3918
	01 o13y	1.0	0.125	0.0	65.18	50.98	26.85	57.62	28	48.99	34.28	19.7	0.4758	0.3329	0.3983
D65 reflection:	02 o25y	1.0	0.25	0.0	67.09	46.22	29.22	54.68	32	50.26	36.75	20.18	0.4689	0.3428	0.4269
	03 o38y	1.0	0.375	0.0	69.99	39.01	32.83	50.98	40	52.27	40.74	20.93	0.4588	0.3575	0.4733
	04 o50y	1.0	0.5	0.0	73.67	30.18	37.18	47.89	51	55.01	46.19	22.04	0.4464	0.3748	0.5367
	05 o63y	1.0	0.625	0.0	78.17	19.95	42.46	46.91	65	58.73	53.51	23.46	0.4328	0.3943	0.6217
	06 o75y	1.0	0.75	0.0	83.1	9.31	48.0	48.9	79	63.22	62.35	25.24	0.4192	0.4134	0.7244
	07 o88y	1.0	0.875	0.0	88.18	-1.15	53.59	53.6	91	68.31	72.44	27.24	0.4066	0.4312	0.8416
	08 y00l	1.0	1.0	0.0	94.34	-12.83	60.34	61.69	102	75.35	86.07	29.84	0.394	0.45	1.0
	09 y13l	0.875	1.0	0.0	92.61	-21.89	57.82	61.83	111	67.56	82.08	29.51	0.3771	0.4581	0.9536
	10 y25l	0.75	1.0	0.0	91.16	-30.0	55.76	63.32	118	61.25	78.84	29.21	0.3618	0.4657	0.916
	11 y38l	0.625	1.0	0.0	89.81	-38.16	53.89	66.03	125	55.5	75.9	28.91	0.3462	0.4735	0.8818
	12 y50l	0.5	1.0	0.0	88.61	-45.76	52.24	69.46	131	50.57	73.35	28.63	0.3315	0.4808	0.8522
	13 y63l	0.375	1.0	0.0	87.67	-52.1	50.99	72.91	136	46.77	71.38	28.37	0.3192	0.4872	0.8294
	14 y75l	0.25	1.0	0.0	86.94	-57.22	49.93	75.95	139	43.89	69.89	28.24	0.309	0.4921	0.812
	15 y88l	0.125	1.0	0.0	86.46	-60.55	49.28	78.07	141	42.08	68.92	28.13	0.3025	0.4953	0.8007
	16 l00c	0.0	1.0	0.0	86.34	-61.34	49.09	78.58	141	41.64	68.67	28.11	0.3008	0.4961	0.7978
	17 l13c	0.0	1.0	0.125	86.37	-61.08	47.78	77.56	142	41.77	68.72	29.02	0.2994	0.4926	0.7985
	18 l25c	0.0	1.0	0.25	86.45	-59.64	42.46	73.22	145	42.36	68.89	32.87	0.2939	0.478	0.8004
	19 l38c	0.0	1.0	0.375	86.65	-57.5	34.84	67.24	149	43.38	69.3	39.09	0.2858	0.4566	0.8052
	20 l50c	0.0	1.0	0.5	86.94	-54.72	25.91	60.55	155	44.75	69.89	47.4	0.2762	0.4313	0.812
	21 l63c	0.0	1.0	0.625	87.31	-51.19	16.08	53.67	163	46.53	70.63	57.9	0.2658	0.4035	0.8207
	22 l75c	0.0	1.0	0.75	87.74	-47.5	6.39	47.94	172	48.53	71.52	69.82	0.2556	0.3767	0.831
	23 l88c	0.0	1.0	0.875	88.19	-43.75	-2.53	43.83	183	50.64	72.46	82.29	0.2465	0.3528	0.8419
	24 c00v	0.0	1.0	1.0	88.71	-40.14	-10.86	41.59	195	52.85	73.54	95.42	0.2383	0.3316	0.8545
	25 c13v	0.0	0.875	1.0	82.02	-29.65	-20.23	35.91	214	46.09	60.33	92.23	0.232	0.3037	0.7009
	26 c25v	0.0	0.75	1.0	76.28	-19.9	-28.27	34.59	235	41.02	50.35	89.56	0.2267	0.2783	0.585
	27 c38v	0.0	0.675	1.0	70.61	-9.46	-36.33	37.56	255	36.62	41.62	87.11	0.2215	0.2517	0.4836
	28 c50v	0.0	0.5	1.0	65.21	1.06	-43.84	43.87	271	32.9	34.31	84.59	0.2167	0.226	0.3986
	29 c63v	0.0	0.375	1.0	60.67	10.76	-50.52	51.67	282	30.21	28.88	83.03	0.2126	0.2032	0.3355
	30 c75v	0.0	0.25	1.0	56.88	19.19	-55.77	58.99	289	28.16	24.8	81.29	0.2098	0.1847	0.2882
	31 c88v	0.0	0.125	1.0	54.29	25.3	-59.58	64.74	293	26.9	22.25	80.42	0.2076	0.1717	0.2585
	32 v00m	0.0	0.0	1.0	53.68	26.66	-60.39	66.02	294	26.58	21.67	80.08	0.2071	0.1689	0.2518
	33 v13m	0.125	0.0	1.0	53.88	27.49	-60.35	66.33	294	27.0	21.86	80.51	0.2087	0.169	0.254
	34 v25m	0.25	0.0	1.0	54.76	30.0	-58.79	66.01	297	28.58	22.7	80.43	0.217	0.1723	0.2637
	35 v38m	0.375	0.0	1.0	56.2	34.08	-56.77	66.22	301	31.3	24.11	81.04	0.2294	0.1767	0.2801
	36 v50m	0.5	0.0	1.0	57.98	38.85	-53.94	66.48	306	34.8	25.94	81.37	0.2449	0.1825	0.3014
	37 v63m	0.625	0.0	1.0	60.23	44.8	-50.64	67.62	311	39.57	28.38	82.15	0.2637	0.1891	0.3297
	38 v75m	0.75	0.0	1.0	62.68	50.61	-46.8	68.94	317	45.01	31.2	82.68	0.2833	0.1964	0.3625
	39 v88m	0.875	0.0	1.0	65.23	56.39	-42.87	70.84	323	51.07	34.33	83.31	0.3027	0.2035	0.3989
	40 m00o	1.0	0.0	1.0	68.2	63.02	-38.36	73.78	329	58.76	38.24	84.15	0.3244	0.2111	0.4443
	41 m13o	1.0	0.0	0.875	67.4	61.07	-30.23	68.14	334	56.55	37.16	71.74	0.3418	0.2246	0.4318
	42 m25o	1.0	0.0	0.75	66.67	58.93	-21.27	62.65	340	54.44	36.19	59.82	0.3618	0.2405	0.4205
	43 m38o	1.0	0.0	0.675	65.96	56.82	-11.37	57.95	349	52.44	35.28	48.46	0.3851	0.259	0.4099
	44 m50o	1.0	0.0	0.5	65.36	54.68	-0.96	54.69	359	50.64	34.5	38.35	0.4101	0.2794	0.4009
	45 m63o	1.0	0.0	0.375	64.83	53.03	8.77	53.75	9	49.19	33.84	30.32	0.434	0.2985	0.3931
	46 m75o	1.0	0.0	0.25	64.45	51.8	17.48	54.67	19	48.15	33.36	24.25	0.4552	0.3155	0.3877
	47 m88o	1.0	0.0	0.125	64.21	50.92	23.96	56.27	25	47.45	33.06	20.34	0.4705	0.3278	0.3841
	48 o00y	1.0	0.0	0.0	64.74	52.23	26.29	58.48	27	48.76	33.72	19.6	0.4776	0.3304	0.3918
	49 n00w	0.0	0.0	0.0	47.52	0.0	0.0	0.01	0	15.61	16.42	17.88	0.3127	0.329	0.1908
	50 n13w	0.125	0.125	0.125	48.55	-0.04	0.01	0.05	169	16.37	17.23	18.76	0.3126	0.3291	0.2002
	51 n25w	0.25	0.25	0.25	52.75	0.0	-0.32	0.34	269	19.78	20.81	22.86	0.3118	0.328	0.2418
	52 n38w	0.375	0.375	0.375	58.58	0.43	-1.1	1.19	291	25.36	26.58	29.69	0.3107	0.3256	0.3088
	53 n50w	0.5	0.5	0.5	65.28	0.98	-1.93	2.18	297	32.97	34.4	39.04	0.3098	0.3233	0.3997
	54 n63w	0.625	0.625	0.625	72.73	1.37	-2.54	2.89	298	42.99	44.75	51.2	0.3094	0.3221	0.52
	55 n75w	0.75	0.75	0.75	80.18	1.65	-2.74	3.2	301	54.82	57.0	65.2	0.3097	0.322	0.6623
	56 n88w	0.875	0.875	0.875	87.37	1.31	-2.34	2.69	299	67.86	70.77	80.14	0.3102	0.3235	0.8223
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	275	84.2	88.59	96.46	0.3127	0.329	1.0293

JE020-7N, Colorimetric data of Television Luminous System TLS52a for CIE standard illuminant D65; LCD monitor; Page: 41/44

$$n = 88.59 / (88.59 + 20.16) = 0.815$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS52a for CIE lightness $L^*=52$ of black for illuminant D65
System TLS52a

LCD monitor

D65 reflection:

$Y_N = 20.16$

$L_N^* = 52.02$

Y Yellow

$LCH_a^* = 94.3 \ 61.7 \ 102$

$LAB_a^* = 94.3 \ -12.8 \ 60.3$

L Leaf green

$LCH_a^* = 86.3 \ 78.6 \ 141$

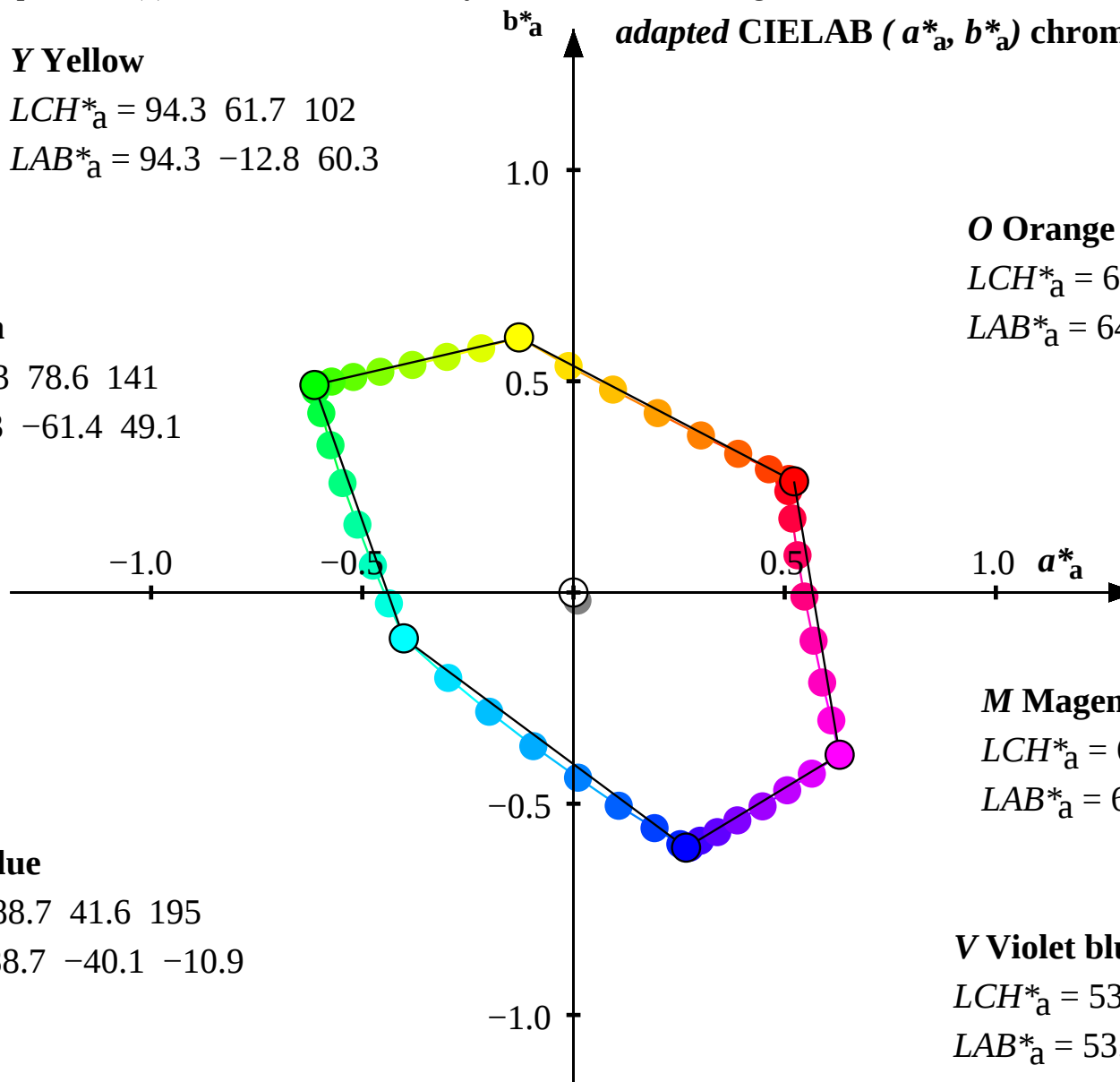
$LAB_a^* = 86.3 \ -61.4 \ 49.1$

C Cyan blue

$LCH_a^* = 88.7 \ 41.6 \ 195$

$LAB_a^* = 88.7 \ -40.1 \ -10.9$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*



O Orange red

$LCH_a^* = 64.7 \ 58.5 \ 27$

$LAB_a^* = 64.7 \ 52.2 \ 26.3$

M Magenta red

$LCH_a^* = 68.2 \ 73.8 \ 329$

$LAB_a^* = 68.2 \ 63.0 \ -38.4$

V Violet blue

$LCH_a^* = 53.7 \ 66.0 \ 294$

$LAB_a^* = 53.7 \ 26.7 \ -60.4$

Colorimetric "Adapted data (a)": Television Luminous System TLS70a for CIE lightness $L^*=70$ of black for illuminant D65

System TLS70a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	$L^*_a=LAB^*_{1a}$	$a^*_a=LAB^*_{2a}$	$b^*_a=LAB^*_{3a}$	$C^*_{ab,a}=LAB^*_{ab,a}$	$h^*_{ab,a}$	$X_a=XYZ^*_{1a}$	$Y_a=XYZ^*_{2a}$	$Z_a=XYZ^*_{3a}$	x_a	y_a	$Y_a/88.59$
LCD monitor	00 o00y	1.0	0.0	0.0	71.08	39.54	17.7	43.32	24	54.3	42.31	31.62	0.4235	0.3299	0.4893
	01 o13y	1.0	0.125	0.0	71.4	38.67	18.13	42.71	25	54.5	42.77	31.7	0.4226	0.3316	0.4947
D65 reflection:	02 o25y	1.0	0.25	0.0	72.8	35.37	19.97	40.61	29	55.57	44.85	32.11	0.4193	0.3384	0.5188
	03 o38y	1.0	0.375	0.0	74.96	30.22	22.84	37.88	37	57.26	48.22	32.74	0.4143	0.3488	0.5577
	04 o50y	1.0	0.5	0.0	77.77	23.73	26.42	35.51	48	59.57	52.82	33.67	0.4078	0.3616	0.6109
	05 o63y	1.0	0.625	0.0	81.29	15.94	30.89	34.76	63	62.71	59.0	34.88	0.4005	0.3768	0.6823
	06 o75y	1.0	0.75	0.0	85.23	7.56	35.75	36.54	78	66.5	66.45	36.38	0.3927	0.3925	0.7686
	07 o88y	1.0	0.875	0.0	89.38	-0.94	40.79	40.8	91	70.8	74.96	38.07	0.3851	0.4078	0.867
	08 y00l	1.0	1.0	0.0	94.51	-10.74	46.99	48.2	103	76.73	86.46	40.26	0.3772	0.425	1.0
	09 y13l	0.875	1.0	0.0	93.06	-18.16	44.81	48.35	112	70.17	83.1	39.98	0.3631	0.43	0.9611
	10 y25l	0.75	1.0	0.0	91.85	-24.68	43.03	49.61	120	64.84	80.36	39.73	0.3506	0.4346	0.9294
	11 y38l	0.625	1.0	0.0	90.73	-31.12	41.4	51.8	127	59.99	77.88	39.47	0.3382	0.4392	0.9008
	12 y50l	0.5	1.0	0.0	89.74	-37.01	39.98	54.48	133	55.83	75.73	39.23	0.3269	0.4434	0.8759
	13 y63l	0.375	1.0	0.0	88.96	-41.82	38.9	57.12	137	52.62	74.07	39.02	0.3175	0.447	0.8567
	14 y75l	0.25	1.0	0.0	88.36	-45.65	38.0	59.4	140	50.19	72.81	38.91	0.31	0.4497	0.8421
	15 y88l	0.125	1.0	0.0	87.97	-48.1	37.44	60.96	142	48.67	71.99	38.82	0.3052	0.4514	0.8326
	16 l00c	0.0	1.0	0.0	87.86	-48.68	37.28	61.32	143	48.3	71.78	38.8	0.304	0.4518	0.8302
	17 l13c	0.0	1.0	0.125	87.89	-48.49	36.39	60.63	143	48.4	71.83	39.57	0.3029	0.4495	0.8308
	18 l25c	0.0	1.0	0.25	87.95	-47.4	32.7	57.59	145	48.9	71.97	42.82	0.2988	0.4397	0.8324
	19 l38c	0.0	1.0	0.375	88.12	-45.8	27.24	53.3	149	49.76	72.32	48.06	0.2925	0.4251	0.8364
	20 l50c	0.0	1.0	0.5	88.36	-43.71	20.58	48.32	155	50.92	72.81	55.07	0.2848	0.4072	0.8421
	21 l63c	0.0	1.0	0.625	88.66	-41.04	12.97	43.05	162	52.42	73.44	63.93	0.2762	0.387	0.8494
	22 l75c	0.0	1.0	0.75	89.01	-38.23	5.23	38.6	172	54.11	74.19	73.98	0.2675	0.3668	0.8581
	23 l88c	0.0	1.0	0.875	89.39	-35.35	-2.09	35.42	183	55.88	74.99	84.51	0.2595	0.3482	0.8673
	24 c00v	0.0	1.0	1.0	89.81	-32.56	-9.06	33.81	196	57.76	75.9	95.58	0.2519	0.3311	0.8778
	25 c13v	0.0	0.875	1.0	84.35	-23.47	-16.65	28.8	215	52.05	64.75	92.89	0.2482	0.3088	0.7488
	26 c25v	0.0	0.75	1.0	79.8	-15.37	-22.96	27.64	236	47.77	56.33	90.64	0.2453	0.2893	0.6515
	27 c38v	0.0	0.675	1.0	75.43	-7.1	-29.05	29.92	256	44.06	48.97	88.57	0.2426	0.2696	0.5663
	28 c50v	0.0	0.5	1.0	71.42	0.77	-34.47	34.49	271	40.92	42.8	86.45	0.2405	0.2515	0.495
	29 c63v	0.0	0.375	1.0	68.18	7.62	-39.11	39.85	281	38.65	38.21	85.13	0.2386	0.2359	0.442
	30 c75v	0.0	0.25	1.0	65.58	13.23	-42.53	44.55	287	36.93	34.78	83.67	0.2377	0.2238	0.4022
	31 c88v	0.0	0.125	1.0	63.86	17.09	-44.95	48.1	291	35.86	32.63	82.93	0.2368	0.2155	0.3774
	32 v00m	0.0	0.0	1.0	63.46	17.92	-45.43	48.85	292	35.59	32.14	82.64	0.2367	0.2137	0.3717
	33 v13m	0.125	0.0	1.0	63.59	18.54	-45.47	49.11	292	35.95	32.3	83.0	0.2377	0.2136	0.3736
	34 v25m	0.25	0.0	1.0	64.16	20.48	-44.43	48.94	295	37.28	33.0	82.94	0.2433	0.2154	0.3817
	35 v38m	0.375	0.0	1.0	65.12	23.72	-43.17	49.26	299	39.57	34.19	83.45	0.2517	0.2175	0.3955
	36 v50m	0.5	0.0	1.0	66.32	27.62	-41.3	49.69	304	42.53	35.74	83.73	0.2625	0.2206	0.4133
	37 v63m	0.625	0.0	1.0	67.87	32.64	-39.1	50.94	310	46.55	37.79	84.39	0.2759	0.224	0.4371
	38 v75m	0.75	0.0	1.0	69.6	37.73	-36.45	52.47	316	51.14	40.18	84.83	0.2903	0.2281	0.4647
	39 v88m	0.875	0.0	1.0	71.43	42.95	-33.67	54.58	322	56.25	42.82	85.37	0.305	0.2322	0.4952
	40 m00o	1.0	0.0	1.0	73.62	49.05	-30.4	57.71	328	62.73	46.12	86.07	0.3218	0.2366	0.5334
	41 m13o	1.0	0.0	0.875	73.03	47.26	-23.6	52.83	333	60.87	45.2	75.6	0.335	0.2488	0.5228
	42 m25o	1.0	0.0	0.75	72.49	45.35	-16.31	48.2	340	59.09	44.39	65.55	0.3496	0.2626	0.5133
	43 m38o	1.0	0.0	0.675	71.97	43.48	-8.53	44.31	349	57.41	43.61	55.97	0.3657	0.2778	0.5044
	44 m50o	1.0	0.0	0.5	71.53	41.63	-0.7	41.64	359	55.89	42.96	47.44	0.3821	0.2937	0.4969
	45 m63o	1.0	0.0	0.375	71.14	40.19	6.23	40.67	9	54.66	42.4	40.66	0.3969	0.3079	0.4904
	46 m75o	1.0	0.0	0.25	70.87	39.13	12.07	40.95	17	53.79	42.0	35.55	0.4095	0.3198	0.4858
	47 m88o	1.0	0.0	0.125	70.69	38.37	16.16	41.64	23	53.19	41.74	32.25	0.4182	0.3282	0.4828
	48 o00y	1.0	0.0	0.0	71.08	39.54	17.7	43.32	24	54.3	42.31	31.62	0.4235	0.3299	0.4893
	49 n00w	0.0	0.0	0.0	59.62	0.0	0.0	0.01	158	26.33	27.71	30.17	0.3127	0.329	0.3205
	50 n13w	0.125	0.125	0.125	60.24	-0.02	0.01	0.03	169	26.98	28.39	30.91	0.3127	0.3291	0.3284
	51 n25w	0.25	0.25	0.25	62.86	0.0	-0.21	0.22	269	29.86	31.41	34.37	0.3122	0.3285	0.3633
	52 n38w	0.375	0.375	0.375	66.73	0.3	-0.75	0.82	291	34.56	36.27	40.13	0.3115	0.3269	0.4195
	53 n50w	0.5	0.5	0.5	71.47	0.71	-1.41	1.59	297	40.98	42.88	48.02	0.3108	0.3251	0.4959
	54 n63w	0.625	0.625	0.625	77.05	1.05	-1.95	2.22	298	49.43	51.61	58.28	0.3103	0.3239	0.5969
	55 n75w	0.75	0.75	0.75	82.88	1.32	-2.19	2.56	301	59.42	61.94	70.09	0.3104	0.3235	0.7164
	56 n88w	0.875	0.875	0.875	88.71	1.08	-1.93	2.22	299	70.41	73.56	82.69	0.3106	0.3245	0.8508
	57 n99w	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0246

JE020-7N, Colorimetric data of Television Luminous System TLS70a for CIE standard illuminant D65; LCD monitor; Page: 43/44

$$n = 88.59 / (88.59 + 40.32) = 0.687$$

TUB-test chart JE02; Hue circle and colorimetric data

Display measurement: LECD-(LED-LCD) and LCD monitor

input: $olv^* setrgbcolor$

output: no change compared to input

Colorimetric "Adapted data (a)": Television Luminous System TLS70a for CIE lightness $L^*=70$ of black for illuminant D65
System TLS70a

LCD monitor

Y Yellow

D65 reflection:

$Y_N = 40.32$

$L_N^* = 69.7$

$LCH_a^* = 94.5 \ 48.2 \ 103$

$LAB_a^* = 94.5 \ -10.8 \ 47.0$

L Leaf green

$LCH_a^* = 87.9 \ 61.3 \ 143$

$LAB_a^* = 87.9 \ -48.7 \ 37.3$

C Cyan blue

$LCH_a^* = 89.8 \ 33.8 \ 196$

$LAB_a^* = 89.8 \ -32.6 \ -9.1$

*adapted CIELAB (a^*_a , b^*_a) chroma diagram*

