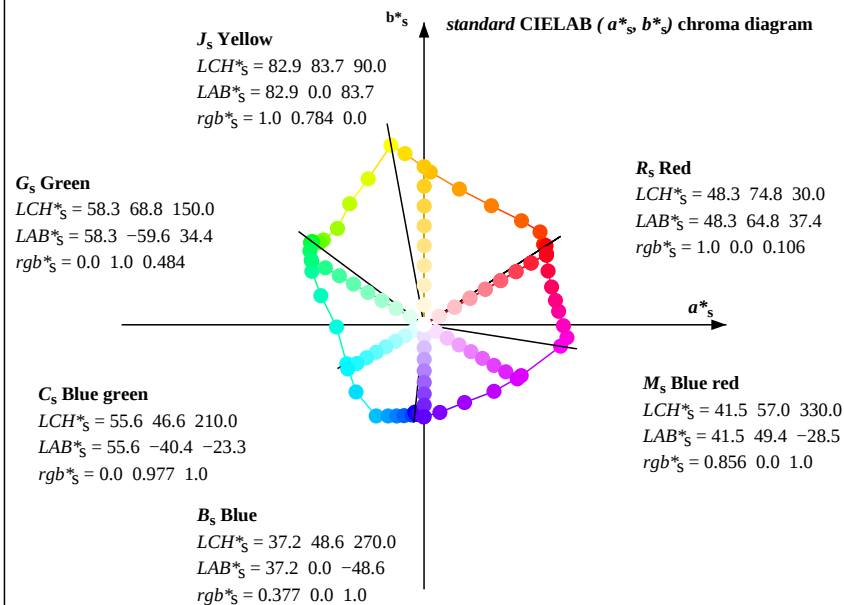
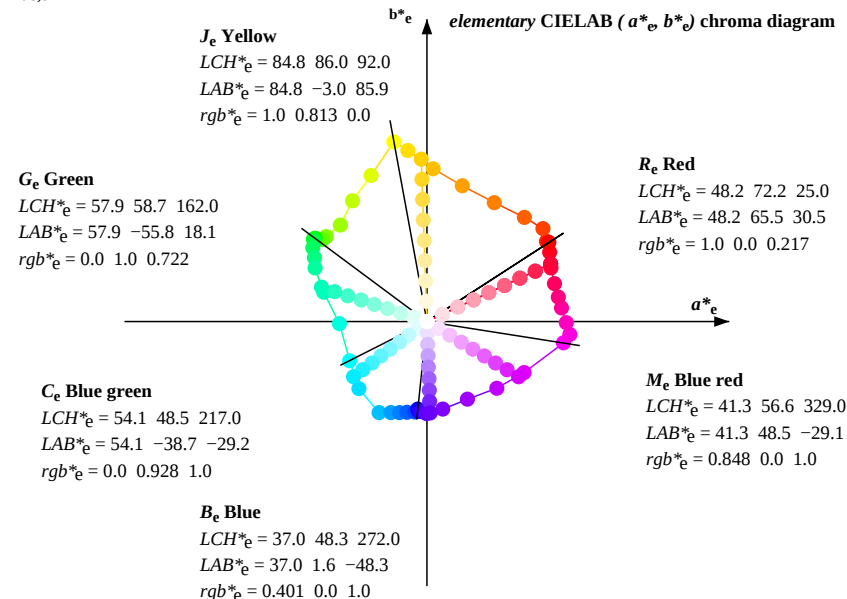
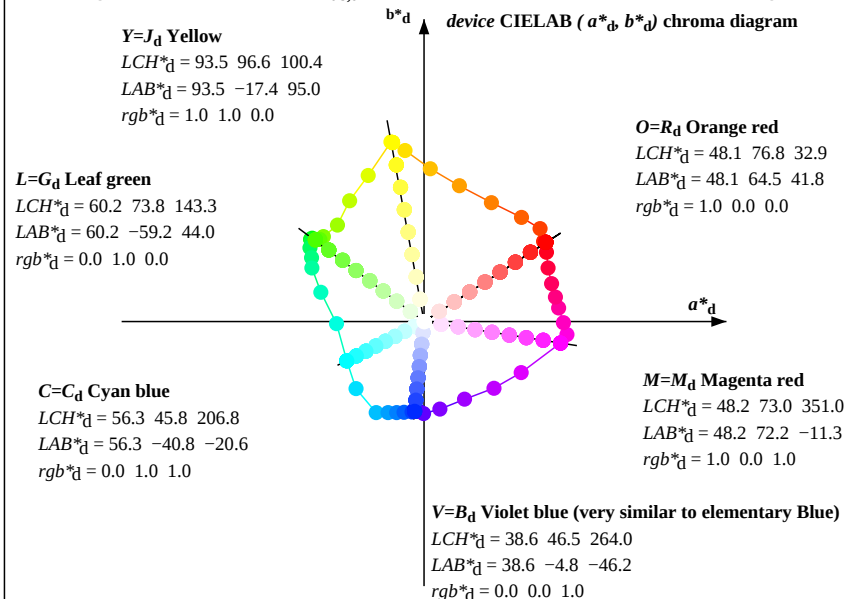


Data of Maximum color M in colorimetric system laser printer HRS18_96; no separation, D65 and D50 for input or output; Six hue angles of the 60 degree standard colours s: $h_{ab,s} = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0$;
Six hue angles of the device colours d: $h_{ab,d} = 32.9, 100.4, 143.4, 206.8, 264.1, 351.1$; Six hue angles of the elementary colours e: $h_{ab,e} = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6$



Notes to the CIELAB chroma diagrams (a^*_d, b^*_d), (a^*_s, b^*_s), (a^*_e, b^*_e)

- For the rgb^*_d -input values the CIELAB data LCH^*_d and LAB^*_d have been measured.
- For the calculation of the standard hue angle $h_{ab,s}$ use for any device values rgb^*_d the equation:
$$h_{ab,s} = \text{atan} [r^*_d \cos(30) + g^*_d \cos(150)] / [r^*_d \sin(30) + g^*_d \sin(150) + b^*_d \sin(270)] \quad (1)$$
- For the 48 or 360 equally spaced standard hue angles $h_{ab,s}$ of the colours of maximum chroma use the seven hue angles of the 60 degree colours s: $h_{ab,si} = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0, 390.0$ ($i=0,6$) and the equations for a 48 and 360 step hue circle:
$$h_{48ab,sij} = h_{ab,si} + j [h_{ab,si+1} - h_{ab,si}] / 8 \quad (i = 0, 1, \dots, 5; j = 0, 1, \dots, 7) \quad (2)$$
$$h_{360ab,sij} = h_{ab,si} + j [h_{ab,si+1} - h_{ab,si}] / 60 \quad (i = 0, 1, \dots, 5; j = 0, 1, \dots, 59) \quad (3)$$
- For the 48 or 360 elementary hue angles $h_{ab,e}$ of the colours of maximum chroma use the seven hue angles of the elementary colours e: $h_{ab,ei} = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6, 385.5$ ($i=0,6$) and the equations for a 48 and 360 step elementary hue circle:
$$h_{48ab,eij} = h_{ab,ei} + j [h_{ab,ei+1} - h_{ab,ei}] / 8 \quad (i = 0, 1, \dots, 5; j = 0, 1, \dots, 7) \quad (4)$$
$$h_{360ab,eij} = h_{ab,ei} + j [h_{ab,ei+1} - h_{ab,ei}] / 60 \quad (i = 0, 1, \dots, 5; j = 0, 1, \dots, 59) \quad (5)$$
- For any elementary hue angle $h_{ab,e}$ there is a well defined device hue angle $h_{ab,d}$ see the following tables, columns 1 to 3.
- The values rgb^*_d produce the output of the device-independent elementary hues

See original or copy: <http://web.me.com/klaus.richter/OE29/OE29L0NP.PDF> / <http://www.ps.bam.de> or <http://130.149.60.45/~farbmtechnik>

TUB registration: 20110301-OE29/OE29L0NP.PDF /.PS
application for measurement of printer or monitor systems

TUB material: code=rha4ta

Data of Maximum color M in colorimetric system laser printer HRS18_96; no separation, D65 and D50 for input or output; Six hue angles of the 60 degree standard colours s: $h_{ab,s} = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0$;

Six hue angles of the device colours d : $h_{ab,d} = 32.9, 100.4, 143.4, 206.8, 264.1, 351.1$; Six hue angles of the elementary colours e : $h_{ab,e} = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6$

h _{a,b,d}	h _{a,b,s}	h _{a,b,e}	r _{g*} dd50M	LAB*dd50M(x=LabCh)					r _{g*} ds50M	LAB*ds50Mx(x=LabCh)					r _{g*} s50M	r _{g*} de50M	LAB*de50Mx(x=LabCh)					r _{g*} e50M											
32.9	30.0	25.5	1.0	0.0	0.0	48.2	64.5	41.8	76.9	32.9	1.0	0.0	0.107	48.3	64.8	37.4	74.9	30	1.0	0.0	0.0	1.0	0.0	0.218	48.2	65.5	30.6	72.3	25	1.0	0.0	0.0	
33.9	37.5	33.8	1.0	0.125	0.0	48.9	63.3	42.5	76.2	33.9	1.0	0.233	0.0	49.8	61.7	48.2	78.3	38	1.0	0.125	0.0	1.0	0.128	0.0	48.9	63.2	42.6	76.3	34	1.0	0.125	0.0	
38.6	45.0	42.2	1.0	0.25	0.0	49.9	61.4	49.1	78.7	38.6	1.0	0.347	0.0	53.7	53.9	53.9	76.2	45	1.0	0.25	0.0	1.0	0.301	0.0	51.9	57.5	51.8	77.4	42	1.0	0.25	0.0	
46.8	52.5	50.5	1.0	0.375	0.0	54.8	51.7	55.0	75.5	46.8	1.0	0.431	0.0	58.5	44.6	59.2	74.1	53	1.0	0.375	0.0	1.0	0.413	0.0	57.3	46.9	57.9	74.5	51	1.0	0.375	0.0	
60.6	60.0	58.9	1.0	0.5	0.0	63.1	35.6	63.0	72.3	60.6	1.0	0.495	0.0	62.7	36.2	62.8	72.5	60	1.0	0.5	0.0	1.0	0.486	0.0	62.1	37.4	62.3	72.7	59	1.0	0.5	0.0	
75.4	67.5	67.2	1.0	0.625	0.0	72.0	18.7	71.8	74.2	75.4	1.0	0.563	0.0	67.6	27.5	67.9	73.3	68	1.0	0.625	0.0	1.0	0.554	0.0	67.0	28.6	67.3	73.2	67	1.0	0.625	0.0	
87.6	75.0	75.6	1.0	0.75	0.0	80.7	3.3	80.9	80.9	87.6	1.0	0.621	0.0	71.8	19.2	71.6	74.2	75	1.0	0.75	0.0	1.0	0.631	0.0	72.5	18.0	72.3	74.5	76	1.0	0.75	0.0	
96.3	82.5	84.0	1.0	0.875	0.0	88.8	-9.9	90.5	91.1	96.3	1.0	0.703	0.0	77.4	9.6	77.8	78.4	83	1.0	0.875	0.0	1.0	0.713	0.0	78.1	8.3	78.5	78.9	84	1.0	0.875	0.0	
100.4	90.0	92.3	1.0	1.0	0.0	93.5	-17.4	95.1	96.7	100.4	1.0	0.784	0.0	82.9	0.0	83.7	83.7	90	1.0	1.0	0.0	1.0	0.813	0.0	84.8	-2.9	86.0	86.0	92	1.0	1.0	0.0	
110.9	97.5	101.1	0.875	1.0	0.0	82.4	-29.5	77.3	82.7	110.9	1.0	0.927	0.0	90.8	-12.9	92.5	93.4	98	0.875	1.0	0.0	0.993	1.0	0.0	92.9	-18.2	94.1	95.9	101	0.875	1.0	0.0	
121.6	105.0	109.8	0.75	1.0	0.0	74.0	-39.3	64.0	75.1	121.6	0.945	1.0	0.0	88.6	-23.3	87.5	90.6	105	0.75	1.0	0.0	0.886	1.0	0.0	83.4	-28.6	78.9	84.0	110	0.75	1.0	0.0	
131.9	112.5	118.5	0.625	1.0	0.0	67.2	-45.7	51.1	68.6	131.9	0.851	1.0	0.0	80.8	-31.6	74.8	81.3	113	0.625	1.0	0.0	0.78	1.0	0.0	76.0	-37.2	67.3	77.0	119	0.625	1.0	0.0	
139.8	120.0	127.3	0.5	1.0	0.0	62.1	-53.1	45.0	69.7	139.8	0.769	1.0	0.0	75.3	-38.0	66.1	76.3	120	0.5	1.0	0.0	0.685	1.0	0.0	70.4	-43.1	57.3	71.7	127	0.5	1.0	0.0	
141.7	127.5	136.0	0.375	1.0	0.0	61.2	-55.0	43.5	70.2	141.7	0.672	1.0	0.0	69.8	-43.7	56.0	71.1	128	0.375	1.0	0.0	0.56	1.0	0.0	64.5	-49.7	48.0	69.2	136	0.375	1.0	0.0	
143.8	135.0	144.7	0.25	1.0	0.0	60.1	-58.8	43.2	73.1	143.8	0.576	1.0	0.0	65.2	-48.7	48.8	69.0	135	0.25	1.0	0.0	0.0	1.0	0.273	59.5	-59.5	41.8	72.8	145	0.25	1.0	0.0	
144.1	142.5	153.5	0.125	1.0	0.0	59.7	-59.7	43.3	73.8	144.1	0.297	1.0	0.0	60.5	-57.4	43.3	72.0	143	0.125	1.0	0.0	0.0	1.0	0.579	57.8	-59.3	30.3	66.7	153	0.125	1.0	0.0	
143.4	150.0	162.2	0.0	1.0	0.0	60.3	-59.2	44.1	73.9	143.4	0.0	1.0	0.485	58.3	-59.5	34.4	68.9	150	0.0	1.0	0.0	0.0	1.0	0.722	57.9	-55.8	18.1	58.7	162	0.0	1.0	0.0	
144.0	156.5	169.1	0.0	1.0	0.125	59.6	-59.9	43.5	74.1	144.0	0.0	1.0	0.67	57.7	-57.8	23.4	62.4	158	0.0	1.0	0.125	0.0	1.0	0.785	58.2	-52.7	10.3	53.8	169	0.0	1.0	0.1	
144.5	160.0	175.9	0.0	1.0	0.25	59.7	-59.4	42.4	73.0	144.5	0.0	1.0	0.756	58.1	-54.2	14.6	56.2	165	0.0	1.0	0.25	0.0	1.0	0.836	59.5	-49.3	3.5	49.6	176	0.0	1.0	0.2	
147.1	172.5	182.8	0.0	1.0	0.375	58.6	-60.2	39.1	71.9	147.1	0.0	1.0	0.814	58.9	-50.9	6.3	51.4	173	0.0	1.0	0.375	0.0	1.0	0.883	59.5	-46.1	-2.3	46.3	183	0.0	1.0	0.3	
150.4	180.0	189.6	0.0	1.0	0.5	58.3	-59.4	33.8	68.5	150.4	0.0	1.0	0.865	59.6	-47.1	0.0	47.2	180	0.0	1.0	0.5	0.0	1.0	0.917	58.6	-45.3	-7.9	46.1	190	0.0	1.0	0.5	
154.5	185.5	196.4	0.0	1.0	0.625	57.6	-59.2	28.3	65.7	154.5	0.0	1.0	0.908	58.9	-45.6	-6.3	46.2	188	0.0	1.0	0.625	0.0	1.0	0.947	57.8	-44.1	-12.0	45.0	196	0.0	1.0	0.6	
164.1	197.0	203.3	0.0	1.0	0.75	58.1	-54.5	15.5	56.7	164.1	0.0	1.0	0.942	57.9	-44.4	-11.8	46.1	195	0.0	1.0	0.75	0.0	1.0	0.981	56.8	-42.1	-17.8	45.9	203	0.0	1.0	0.7	
181.4	202.5	210.1	0.0	1.0	0.875	59.7	-46.2	-1.0	46.3	181.4	0.0	1.0	0.981	56.8	-42.1	-17.8	45.9	203	0.0	1.0	0.875	0.0	1.0	0.978	1.0	55.6	-42.3	-23.2	46.7	210	0.0	1.0	0.8
206.8	210.0	217.0	0.0	1.0	1.0	56.3	-40.8	-20.6	45.8	206.8	0.0	0.978	1.0	55.6	-40.3	-23.2	46.7	210	0.0	1.0	1.0	0.0	0.928	1.0	54.1	-38.7	-29.1	48.6	217	0.0	1.0	1.0	
224.6	217.5	223.8	0.0	0.875	1.0	52.5	-35.9	-35.4	50.6	224.6	0.0	0.921	1.0	53.9	-38.4	-30.0	48.8	218	0.0	0.875	1.0	0.0	0.879	1.0	52.6	-36.2	-34.9	50.4	224	0.0	0.875	1.0	
242.3	225.0	230.7	0.0	0.75	1.0	51.3	-25.2	-48.1	54.5	242.3	0.0	0.872	1.0	52.5	-35.7	-35.7	50.7	225	0.0	0.75	1.0	0.0	0.83	1.0	52.0	-32.6	-40.3	52.0	231	0.0	0.75	1.0	
248.4	232.5	237.5	0.0	0.625	1.0	48.1	-19.0	-48.1	51.8	248.4	0.0	0.815	1.0	51.9	-31.5	-41.8	52.4	233	0.0	0.625	1.0	0.0	0.78	1.0	51.6	-28.3	-45.3	53.5	238	0.0	0.625	1.0	
253.2	240.0	244.4	0.0	0.5	1.0	45.5	-14.5	-48.1	50.3	253.2	0.0	0.766	1.0	51.4	-26.9	-46.6	54.0	240	0.0	0.5	1.0	0.0	0.715	1.0	50.4	-23.4	-48.2	53.7	244	0.0	0.5	1.0	
257.6	245.5	251.2	0.0	0.375	1.0	43.1	-10.5	-47.9	49.2	257.6	0.0	0.634	1.0	48.4	-19.4	-48.1	52.0	248	0.0	0.375	1.0	0.0	0.557	1.0	46.7	-16.5	-48.1	51.0	251	0.0	0.375	1.0	
262.3	257.0	258.0	0.0	0.25	1.0	41.2	-6.3	-47.7	48.2	262.3	0.0	0.448	1.0	44.5	-12.8	-48.1	49.9	255	0.0	0.25	1.0	0.0	0.517	1.0	42.9	-10.1	-47.9	49.1	258	0.0	0.25	1.0	
264.8	262.5	264.9	0.0	0.125	1.0	39.8	-4.2	-47.4	47.7	264.8	0.0	0.215	1.0	40.8	-5.8	-47.6	48.0	263	0.0	0.125	1.0	0.0	0.425	1.0	39.6	-4.0	-47.1	47.4	265	0.0	0.125	1.0	
264.1	270.0	271.7	0.0	0.0	1.0	38.7	-4.7	-46.2	46.5	264.1	0.378	0.0	1.0	37.2	0.0	-48.6	48.7	270	0.0	0.0	1.0	0.402	0.0	1.0	37.0	1.7	-48.2	48.4	272	0.0	0.0	1.0	
265.2	277.5	278.8	0.125	0.0	1.0	39.2	-3.9	-47.3	47.6	265.2	0.473	0.0	1.0	36.4	6.6	-46.9	47.4	270	0.0	0.125	0.0	0.485	0.0	1.0	36.3	7.4	-46.6	47.3	279	0.125	0.0	1.0	
266.9	285.0	286.0	0.25	0.0	1.0	38.9	-2.5	-47.3	47.5	266.9	0.535	0.0	1.0	36.3	12.1	-45.1	47.4	285	0.2	0.0	1.0	0.542	0.0	1.0	36.4	12.9	-44.9	46.9	286	0.25	0.0	1.0	
269.8	292.5	293.1	0.375	0.0	1.0	37.3	-0.1	-48.6	48.7	269.8	0.592	0.0	1.0	36.7	18.2	-42.0	46.6	293	0.375	0.0	1.0	0.592	0.0	1.0	36.7	18.2	-42.8	46.6	293	0.375	0.0	1.0	
280.2	300.0	300.2	0.5	0.0	1.0	36.2	8.4	-46.2	47.1	280.2	0.642	0.0	1.0	37.1	22.5	-40.6	47.0	300	0.5	0.0	1.0	0.642	0.0	1.0	37.1	23.5	-40.6	47.0	300	0.5	0.0	1.0	
297.5	307.5	307.3	0.625	0.0	1.0	36.8	21.4	-41.0	46.4	297.5	0.694	0.0	1.0	38.0	30.2	-38.5	50.7	308	0.625	0.0	1.0	0.688	0.0	1.0	37.9	29.3	-38.8	48.8	307	0.625	0.0	1.0	
316.4	315.0	314.4	0.75	0.0	1.0	39.0	37.0	-35.1	51.1	316.4	0.741	0.0	1.0	40.2	35.9	-35.1	50.7	315	0.75	0.0	1.0	0.734	0.0	1.0	38.7	35.1	-36.2	50.5	314	0.75	0.0	1.0	
332.3	322.5	321.5	0.875	0.0	1.0	42.0	51.4	-26.9	58.1	332.3	0.802	0.0	1.0	40.2	42.3	-32.4	54.0	323	0.875	0.0	1.0	0.786	0.0	1.0	39.8	41.3	-33.3	53.1	321	0.875	0.0	1.0	
351.1	330.0	328.6	1.0	0.0	1.0	48.2	72.2	-11.3	73.1	351.1	0.857	0.0	1.0	41.0	42.4	-28.4	57.1	330	1.0	0.0	1.0	0.849	0.0	1.0	41.3	48.5	-29.1	56.6	329	1.0	0.0	1.0	
354.9	337.5	335.7	1.0	0.0	0.875	48.3	75.6	-6.7	75.9	354.9	0.900	0.0	1.0	39.9	58.1	-27.6																	

OE290-7N, Page of series 2/4, RX0, D65, XYZnw=1.8, 1.8, 1.9, 88.1, 93.2, 98.1, LAB*nw=14.7, 0.3, 1.3, 97.3, -0.9, 2.2, not adapted

Output: laser printer HRS18_96; no separation, D65 and D50, page 2/4

TUB-test chart OE29; 48 and 360 step hue circles, Page 2/4
Data of laser printer HRS16_96, no separation, D65 and D50

input: rgb_d setrgbcolor
output: no change

Data of Maximum color M in colorimetric system laser printer HRS18_96; no separation, D65 and D50 for input or output; Six hue angles of the 60 degree standard colours s: $h_{ab,s} = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0$;
Six hue angles of the device colours d: $h_{ab,d} = 33.3, 96.7, 143.6, 208.3, 255.8, 354.0$; Six hue angles of the elementary colours e: $h_{ab,e} = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6$

Y=J_d Yellow

$LCH^*_d = 93.9 \ 93.2 \ 96.7$
 $LAB^*_d = 93.9 \ -10.9 \ 92.6$
 $rgb^*_d = 1.0 \ 1.0 \ 0.0$

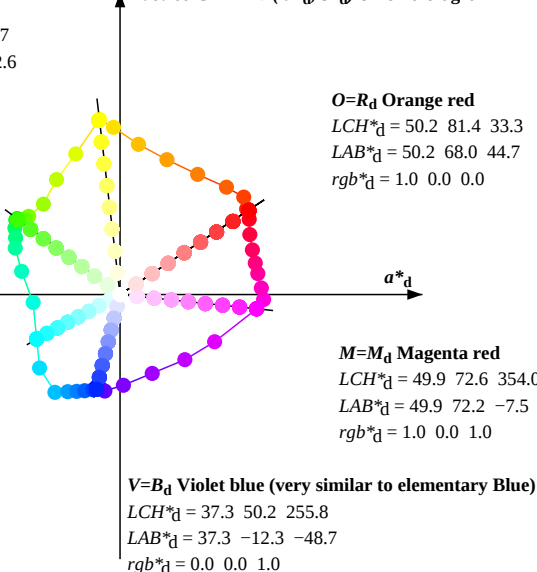
L=G_d Leaf green

$LCH^*_d = 59.6 \ 67.6 \ 143.5$
 $LAB^*_d = 59.6 \ -54.3 \ 40.1$
 $rgb^*_d = 0.0 \ 1.0 \ 0.0$

C=C_d Cyan blue

$LCH^*_d = 55.0 \ 50.0 \ 208.3$
 $LAB^*_d = 55.0 \ -44.0 \ -23.7$
 $rgb^*_d = 0.0 \ 1.0 \ 1.0$

device CIELAB (a^*_d, b^*_d) chroma diagram



J_e Yellow

$LCH^*_e = 89.2 \ 88.2 \ 92.0$
 $LAB^*_e = 89.2 \ -3.0 \ 88.2$
 $rgb^*_e = 1.0 \ 0.871 \ 0.0$

G_e Green

$LCH^*_e = 56.9 \ 56.6 \ 162.0$
 $LAB^*_e = 56.9 \ -53.9 \ 17.5$
 $rgb^*_e = 0.0 \ 1.0 \ 0.694$

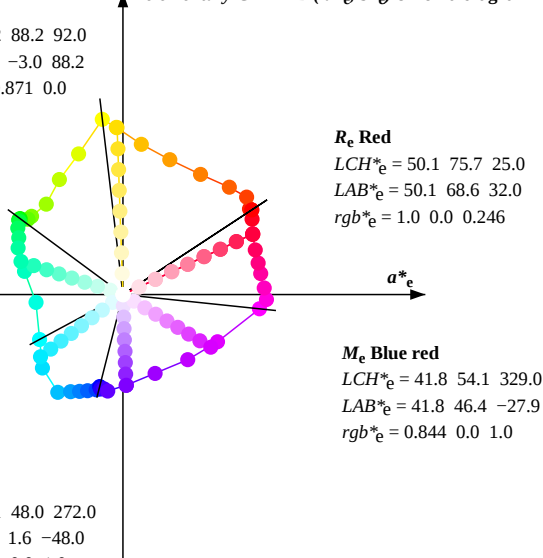
C_e Blue green

$LCH^*_e = 52.5 \ 54.7 \ 217.0$
 $LAB^*_e = 52.5 \ -43.7 \ -32.9$
 $rgb^*_e = 0.0 \ 0.923 \ 1.0$

B_e Blue

$LCH^*_e = 35.1 \ 48.0 \ 272.0$
 $LAB^*_e = 35.1 \ 1.6 \ -48.0$
 $rgb^*_e = 0.498 \ 0.0 \ 1.0$

elementary CIELAB (a^*_e, b^*_e) chroma diagram



J_s Yellow

$LCH^*_s = 87.4 \ 86.4 \ 90.0$
 $LAB^*_s = 87.4 \ 0.0 \ 86.4$
 $rgb^*_s = 1.0 \ 0.844 \ 0.0$

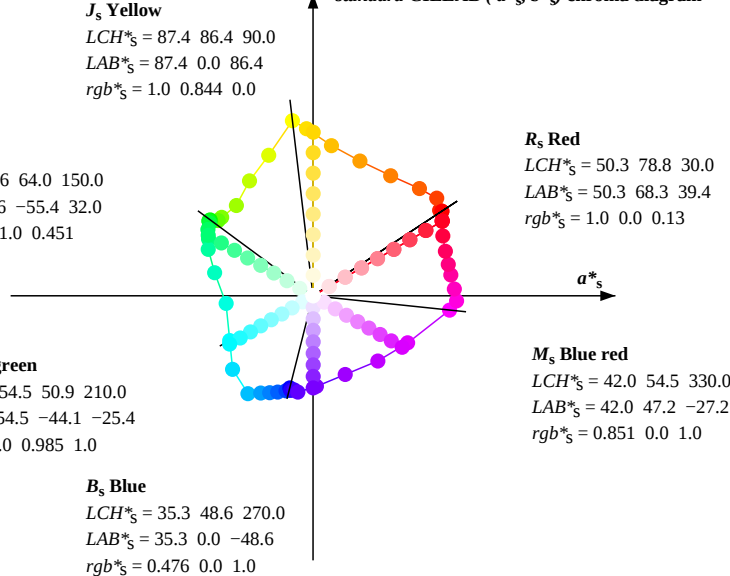
G_s Green

$LCH^*_s = 57.6 \ 64.0 \ 150.0$
 $LAB^*_s = 57.6 \ -55.4 \ 32.0$
 $rgb^*_s = 0.0 \ 1.0 \ 0.451$

C_s Blue green

$LCH^*_s = 54.5 \ 50.9 \ 210.0$
 $LAB^*_s = 54.5 \ -44.1 \ -25.4$
 $rgb^*_s = 0.0 \ 0.985 \ 1.0$

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



Notes to the CIELAB chroma diagrams (a^*_d, b^*_d), (a^*_s, b^*_s), (a^*_e, b^*_e)

- For the rgb^*_d -input values the CIELAB data LCH^*_d and LAB^*_d have been measured.
- For the calculation of the standard hue angle $h_{ab,s}$ use for any device values rgb^*_d the equation:
$$h_{ab,s} = \text{atan} [r^*_d \cos(30) + g^*_d \cos(150)] / [r^*_d \sin(30) + g^*_d \sin(150) + b^*_d \sin(270)] \quad (1)$$
- For the 48 or 360 equally spaced standard hue angles $h_{ab,s}$ of the colours of maximum chroma use the seven hue angles of the 60 degree colours s: $h_{ab,si} = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0, 390.0$ ($i=0,6$) and the equations for a 48 and 360 step hue circle:
$$h_{48ab,sij} = h_{ab,si} + j [h_{ab,si+1} - h_{ab,si}] / 8 \quad (i = 0, 1, \dots, 5; j = 0, 1, \dots, 7) \quad (2)$$
$$h_{360ab,sij} = h_{ab,si} + j [h_{ab,si+1} - h_{ab,si}] / 60 \quad (i = 0, 1, \dots, 5; j = 0, 1, \dots, 59) \quad (3)$$
- For the 48 or 360 elementary hue angles $h_{ab,e}$ of the colours of maximum chroma use the seven hue angles of the elementary colours e: $h_{ab,ei} = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6, 385.5$ ($i=0,6$) and the equations for a 48 and 360 step elementary hue circle:
$$h_{48ab,eij} = h_{ab,ei} + j [h_{ab,ei+1} - h_{ab,ei}] / 8 \quad (i = 0, 1, \dots, 5; j = 0, 1, \dots, 7) \quad (4)$$
$$h_{360ab,eij} = h_{ab,ei} + j [h_{ab,ei+1} - h_{ab,ei}] / 60 \quad (i = 0, 1, \dots, 5; j = 0, 1, \dots, 59) \quad (5)$$
- For any elementary hue angle $h_{ab,e}$ there is a well defined device hue angle $h_{ab,d}$ see the following tables, columns 1 to 3.
- The values rgb^*_d produce the output of the device-independent elementary hues

Data of Maximum color M in colorimetric system laser printer HRS18_96; no separation, D65 and D50 for input or output; Six hue angles of the 60 degree standard colours s: $h_{ab,s} = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0$;
Six hue angles of the device colours d: $h_{ab,d} = 33.3, 96.7, 143.6, 208.3, 255.8, 354.0$; Six hue angles of the elementary colours e: $h_{ab,e} = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6$

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	rgb^*_{dd50M}	$LAB^*_{dd50Mx(x=LabCh)}$	rgb^*_{ds50M}	$LAB^*_{ds50Mx(x=LabCh)}$	rgb^*_{s50M}	$LAB^*_{de50Mx(x=LabCh)}$	rgb^*_{e50M}																								
33.3	30.0	25.5	1.0	0.0	0.0	50.2	68.1	44.7	81.5	33.3	1.0	0.0	0.13	50.3	68.3	39.4	78.9	30	1.0	0.0	0.0	1.0	0.0	0.246	50.1	68.7	32.0	75.8	25	1.0	0.0	0.0	
34.1	37.5	33.8	1.0	0.125	0.0	50.9	66.9	45.3	80.8	34.1	1.0	0.242	0.0	51.8	65.5	51.2	83.2	38	1.0	0.125	0.0	1.0	0.113	0.0	50.8	67.1	45.2	80.9	34	1.0	0.125	0.0	
38.3	45.0	42.2	1.0	0.25	0.0	51.8	65.4	51.6	83.3	38.3	1.0	0.371	0.0	56.4	56.6	56.6	80.1	45	1.0	0.25	0.0	1.0	0.317	0.0	54.4	60.6	54.5	81.5	42	1.0	0.25	0.0	
45.2	52.5	50.5	1.0	0.375	0.0	56.5	56.3	56.7	79.9	45.2	1.0	0.457	0.0	61.7	46.4	61.6	77.2	53	1.0	0.375	0.0	1.0	0.436	0.0	60.3	49.0	60.5	77.9	51	1.0	0.375	0.0	
57.1	60.0	58.9	1.0	0.5	0.0	64.4	41.1	63.6	75.7	57.1	1.0	0.526	0.0	66.2	37.8	65.5	75.7	60	1.0	0.5	0.0	1.0	0.517	0.0	65.6	39.0	64.9	75.7	59	1.0	0.5	0.0	
70.9	67.5	67.2	1.0	0.625	0.0	73.1	24.8	71.4	75.6	70.9	1.0	0.599	0.0	71.3	28.3	70.1	75.6	68	1.0	0.625	0.0	1.0	0.59	0.0	70.6	29.5	69.6	75.6	67	1.0	0.625	0.0	
83.0	75.0	75.6	1.0	0.75	0.0	81.5	9.7	79.5	80.1	83.0	1.0	0.667	0.0	75.9	20.0	74.5	77.1	75	1.0	0.75	0.0	1.0	0.678	0.0	76.6	18.7	75.2	77.5	76	1.0	0.75	0.0	
92.2	82.5	84.0	1.0	0.875	0.0	89.4	-3.3	88.4	88.5	92.2	1.0	0.75	0.0	81.5	9.8	79.5	80.1	83	1.0	0.875	0.0	1.0	0.763	0.0	82.3	8.5	80.6	81.0	84	1.0	0.875	0.0	
96.7	90.0	92.3	1.0	1.0	0.0	94.0	-10.8	92.6	93.3	96.7	1.0	0.845	0.0	87.5	0.0	86.5	86.5	90	1.0	1.0	0.0	1.0	0.872	0.0	89.2	-3.0	88.2	88.3	92	1.0	1.0	0.0	
107.5	97.5	101.1	0.875	1.0	0.0	82.5	-23.3	74.4	78.0	107.5	0.985	1.0	0.0	92.6	-12.6	90.6	91.5	98	0.875	1.0	0.0	0.95	1.0	0.0	89.4	-16.5	85.6	87.2	101	0.875	1.0	0.0	
118.9	105.0	109.8	0.75	1.0	0.0	73.8	-33.5	60.8	69.5	118.9	0.904	1.0	0.0	85.1	-21.0	78.7	81.5	105	0.75	1.0	0.0	0.847	1.0	0.0	80.6	-25.9	71.5	76.1	110	0.75	1.0	0.0	
130.4	112.5	118.5	0.625	1.0	0.0	66.8	-40.5	47.8	62.7	130.4	0.815	1.0	0.0	78.3	-28.8	68.0	73.9	113	0.625	1.0	0.0	0.749	1.0	0.0	73.8	-33.6	60.7	69.4	119	0.625	1.0	0.0	
139.4	120.0	127.3	0.5	1.0	0.0	61.5	-48.2	41.4	63.6	139.4	0.738	1.0	0.0	73.2	-34.3	59.6	68.8	120	0.5	1.0	0.0	0.662	1.0	0.0	68.9	-38.8	51.7	64.7	127	0.5	1.0	0.0	
141.6	127.5	136.0	0.375	1.0	0.0	60.6	-50.2	39.8	64.1	141.6	0.651	1.0	0.0	68.3	-39.4	50.5	64.1	128	0.375	1.0	0.0	0.547	1.0	0.0	63.5	-45.4	44.0	63.3	136	0.375	1.0	0.0	
144.0	135.0	144.7	0.25	1.0	0.0	59.4	-54.0	39.3	66.9	144.0	0.561	1.0	0.0	64.1	-44.6	44.7	63.2	135	0.25	1.0	0.0	0.0	1.0	0.256	59.0	-54.6	38.3	66.8	145	0.25	1.0	0.0	
144.4	142.5	153.5	0.125	1.0	0.0	59.0	-54.9	39.4	67.6	144.4	0.301	1.0	0.0	59.9	-52.4	39.6	65.8	143	0.125	1.0	0.0	0.0	1.0	0.542	57.3	-55.3	28.2	62.1	153	0.125	1.0	0.0	
143.6	150.0	162.2	0.0	1.0	0.0	59.6	-54.3	40.2	67.6	143.6	0.0	1.0	0.452	57.7	-55.4	32.0	64.0	150	0.0	1.0	0.0	0.0	1.0	0.694	57.0	-53.8	17.5	56.7	162	0.0	1.0	0.0	
144.3	157.5	169.1	0.0	1.0	0.125	59.0	-55.0	39.6	67.8	144.3	0.0	1.0	0.648	56.8	-54.9	22.2	59.4	158	0.0	1.0	0.125	0.0	1.0	0.765	57.4	-51.5	10.0	52.6	169	0.0	1.0	0.125	
144.9	165.0	175.9	0.0	1.0	0.25	59.0	-54.6	38.5	66.8	144.9	0.0	1.0	0.729	57.1	-52.7	14.2	54.7	165	0.0	1.0	0.25	0.0	1.0	0.813	58.0	-49.6	3.5	49.8	176	0.0	1.0	0.25	
147.7	172.5	182.8	0.0	1.0	0.375	57.9	-55.6	35.2	65.9	147.7	0.0	1.0	0.793	57.7	-50.5	6.2	51.0	173	0.0	1.0	0.375	0.0	1.0	0.861	58.6	-46.9	-2.4	47.0	183	0.0	1.0	0.375	
151.4	180.0	189.6	0.0	1.0	0.5	57.5	-55.1	30.1	62.9	151.4	0.0	1.0	0.841	58.3	-48.1	0.0	48.2	180	0.0	1.0	0.5	0.0	1.0	0.902	58.0	-46.2	-8.1	41.0	190	0.0	1.0	0.5	
156.1	187.5	196.4	0.0	1.0	0.625	56.8	-55.3	24.6	60.7	156.1	0.0	1.0	0.891	58.3	-46.2	-6.4	46.7	188	0.0	1.0	0.625	0.0	1.0	0.934	57.0	-46.1	-13.0	34.0	196	0.0	1.0	0.625	
166.8	195.0	203.3	0.0	1.0	0.75	57.2	-52.0	12.2	53.5	166.8	0.0	1.0	0.929	57.2	-46.1	-12.3	47.9	195	0.0	1.0	0.75	0.0	1.0	0.971	55.9	-45.2	-19.1	49.2	203	0.0	1.0	0.75	
185.0	202.5	210.1	0.0	1.0	0.875	58.8	-45.9	-4.0	46.2	185.0	0.0	1.0	0.971	55.9	-45.2	-19.1	49.2	203	0.0	1.0	0.875	0.0	1.0	0.985	1.0	54.6	-44.8	-25.4	51.0	210	0.0	1.0	0.875
208.3	210.0	217.0	0.0	1.0	1.0	55.1	-44.0	-23.6	50.1	208.3	0.0	0.985	1.0	54.6	-44.0	-25.4	51.0	210	0.0	1.0	1.0	0.0	0.923	1.0	52.5	-43.6	-32.8	54.7	217	0.0	1.0	1.0	
222.4	217.5	223.8	0.0	0.875	1.0	50.9	-42.4	-38.8	57.6	222.4	0.0	0.914	1.0	52.2	-43.4	-33.9	55.3	218	0.0	0.875	1.0	0.0	0.861	1.0	50.8	-41.7	-40.3	58.1	224	0.0	0.875	1.0	
236.4	225.0	230.7	0.0	0.75	1.0	49.6	-34.3	-51.6	62.1	236.4	0.0	0.852	1.0	50.7	-41.2	-41.2	58.5	225	0.0	0.75	1.0	0.0	0.793	1.0	50.1	-37.9	-46.8	60.4	231	0.0	0.75	1.0	
241.6	232.5	237.5	0.0	0.625	1.0	46.5	-27.7	-51.3	58.4	241.6	0.0	0.78	1.0	49.9	-36.6	-48.6	61.0	233	0.0	0.625	1.0	0.0	0.712	1.0	48.6	-32.2	-51.6	61.0	238	0.0	0.625	1.0	
245.8	240.0	244.4	0.0	0.5	1.0	43.9	-22.9	-51.1	56.1	245.8	0.0	0.664	1.0	47.5	-29.7	-51.5	59.6	240	0.0	0.5	1.0	0.0	0.554	1.0	45.1	-24.9	-51.2	57.1	244	0.0	0.5	1.0	
249.8	247.5	251.2	0.0	0.375	1.0	41.6	-18.6	-50.7	54.2	249.8	0.0	0.432	1.0	42.7	-20.5	-50.9	55.1	248	0.0	0.375	1.0	0.0	0.411	1.0	41.1	-17.4	-50.7	53.7	251	0.0	0.375	1.0	
254.2	255.0	258.0	0.0	0.25	1.0	39.8	-14.2	-50.3	52.3	254.2	0.0	0.207	1.0	39.4	-13.4	-50.1	52.0	255	0.0	0.25	1.0	0.0	0.213	1.0	37.7	-10.5	-49.7	50.9	258	0.0	0.25	1.0	
256.5	262.5	264.9	0.0	0.125	1.0	38.5	-11.9	-49.8	51.3	256.5	0.397	0.0	1.0	35.8	-6.1	-50.5	51.0	263	0.0	0.125	1.0	0.0	0.125	1.0	35.7	-4.3	-50.0	50.3	265	0.0	0.125	1.0	
255.8	270.0	271.7	0.0	0.0	1.0	37.4	-12.2	-48.6	50.3	255.8	0.476	0.0	1.0	35.3	0.0	-48.6	48.7	270	0.0	0.0	1.0	0.0	0.499	0.0	1.0	35.2	1.7	-47.9	48.0	272	0.0	0.0	1.0
256.8	277.5	278.8	0.125	0.0	1.0	37.9	-11.6	-49.8	51.2	256.8	0.537	0.0	1.0	35.5	6.6	-46.6	47.1	270	0.0	0.125	1.0	0.0	0.543	0.0	1.0	35.6	7.3	-46.3	47.0	279	0.125	0.0	1.0
258.5	285.0	286.0	0.25	0.0	1.0	37.7	-10.0	-49.7	50.8	258.5	0.58	0.0	1.0	35.9	11.9	-44.0	48.0	285	0.0	0.25	1.0	0.0	0.586	0.0	1.0	36.0	12.7	-44.0	45.9	286	0.25	0.0	1.0
261.0	292.5	293.1	0.375	0.0	1.0	36.0	-8.0	-50.9	51.7	2616																							