Interpretation *rgb* –> *olv and CIELAB data of a 48 step device hue circle for a sRGB standard display with the luminance reflection L_r=5% compared to the white reference (100%)**
48 step device hue circle with six device hues *OYLCVMr*: $h_{dsb,o}$ = 31.9, 103.7, 137.6, 196.6, 302.8, 327.9
comparison with four elementary hues *RYBG*: $h_{dsb,o}$ = 25.5, 92.3, 162.2, 271.7, and *MT* = 217.0, 328.6
9 step equidistant grey scale: *L = 26.8, 35.4, 44.0, 52.6, 61.1, 69.7, 78.3, 86.8, 95.4**

d_{sta}	h_{rgb}	L^*, a^*, b^*, C^*_{ab}	h_{dsb}	h_{dsl}	rgb –> olv*sta	d_{sta}	h_{rgb}	L^*, a^*, b^*, C^*_{ab}	h_{dsb}	h_{dsl}	rgb –> olv*sta
c00y=0	30.0	55.5, 65.0, 42.5, 77.6	332.2	1.000 0.000 0.000		c00v=0	210.0	85.5, −62.7, 27.8, 68.6	156.1	0.000 1.000 1.000	
c12y	36.6	55.7 64.5 42.6 77.3	33.5	1.000 0.125 0.000		c12v	216.6	85.3 −36.5 −19.8 41.7	208.6	0.000 0.875 1.000	
c25y	43.9	56.7 61.8 43.8 75.8	35.3	1.000 0.250 0.000		c25v	223.9	52.6 22.9 −67.2 71.1	288.8	0.000 0.750 1.000	
c37y	51.8	59.0 55.7 46.4 72.5	39.8	1.000 0.375 0.000		c37v	231.8	40.1 55.6 −87.3 103.6	302.4	0.000 0.625 1.000	**B**
c50y	60.0	64.2 42.3 76.9	50.8	1.000 0.500 0.000		c50v	240.0	40.9 58.4 −101.1 117.8	309.8	0.000 0.500 1.000	
c62y	68.2	73.0 21.4 61.0	64.6	70.7 1.000 0.625 0.000		c62v	248.2	41.0 61.3 −89.4 102.8	306.6	0.000 0.375 1.000	
c75y	76.1	84.0 −2.0 71.8	71.8	91.7 1.000 0.750 0.000		c75v	256.1	44.9 64.0 −79.2 101.9	308.9	0.000 0.250 1.000	
c87y	83.4	92.4 −21.8 75.4	88.3	105.4 1.000 0.875 0.000	**J**	c87v	263.4	48.1 65.6 −77.2 101.4	310.3	0.000 0.125 1.000	
y00l=Y	90.0	90.2 −34.0 76.6	83.8	114.0 1.000 1.000 0.000		v00m=V	270.0	46.6 66.4 −76.4 101.2	310.9	0.000 0.000 1.000	
y12l	96.6	88.6 −43.9 74.5	86.5	120.6 0.875 1.000 0.000		v12m	276.6	46.8 66.6 −76.0 101.2	311.2	0.125 0.000 1.000	
y25l	103.9	87.4 −52.1 72.8	89.5	125.6 0.750 1.000 0.000		v25m	283.9	47.4 67.4 −75.1 101.0	311.9	0.250 0.000 1.000	
y37l	111.8	86.0 −58.0 71.7	92.3	129.0 0.625 1.000 0.000		v37m	291.8	48.3 68.6 −75.3 104.6	312.0	0.375 0.000 1.000	
y50l	120.0	86.0 −62.1 71.0	94.4	131.2 0.500 1.000 0.000		v50m	300.0	49.8 70.6 −71.1 100.3	314.8	0.500 0.000 1.000	
y62l	128.2	85.7 −64.7 70.5	95.8	132.6 0.375 1.000 0.000		v62m	308.2	51.7 73.1 −67.9 99.8	317.1	0.625 0.000 1.000	
y75l	136.1	85.4 −66.5 70.2	96.8	133.5 0.250 1.000 0.000		v75m	316.1	54.2 76.4 −63.9 99.6	320.1	0.750 0.000 1.000	
y87l	143.4	85.4 −67.2 70.7	97.2	133.9 0.125 1.000 0.000		v87m	323.4	57.0 80.0 −59.1 99.5	323.5	0.875 0.000 1.000	
l00c=L	150.0	85.3 −67.5 70.0	97.4	134.0 0.000 1.000 0.000		m00u=M	330.0	60.2 84.1 −53.8 99.9	327.4	1.000 0.000 1.000	**M***
l12c	156.6	85.3 −68.0 70.0	97.6	134.2 0.000 1.000 0.125		m12u	336.6	59.6 81.7 −42.6 92.2	332.4	1.000 0.000 0.875	
l25c	163.9	85.3 −69.1 69.8	98.3	134.7 0.000 1.000 0.250		m25u	343.9	58.2 77.5 −27.8 82.4	340.7	1.000 0.000 0.750	
l37c	171.8	84.9 −71.0 69.5	99.4	135.6 0.000 1.000 0.375		m37u	351.8	56.8 73.3 −7.3 73.7	354.2	1.000 0.000 0.625	
l50c	180.0	84.7 −72.8 69.2	100.5	136.5 0.000 1.000 0.500		m50u	360.0	55.7 69.8 14.6 71.3	11.8	1.000 0.000 0.500	
l62c	188.2	84.5 −74.5 68.9	101.6	137.4 0.000 1.000 0.625		m62u	368.2	55.1 67.7 32.4 75.0	25.7	1.000 0.000 0.375	
l75c	196.1	84.4 −75.1 67.6	101.1	138.0 0.000 1.000 0.750	**G**	m75u	376.1	54.9 67.0 40.5 78.2	31.1	1.000 0.000 0.250	**R**
l87c	203.4	84.6 −72.5 68.4	99.2	136.4 0.000 1.000 0.875		m87u	383.4	55.3 65.7 42.2 78.1	32.7	1.000 0.000 0.125	

KE930−3N_2

Interpretation *rgb* –> *olv and CIELAB data of a 48 step device hue circle for a sRGB standard display with the luminance reflection L_r=10% compared to the white reference (100%)**
48 step device hue circle with six device hues *OYLCVMr*: $h_{dsb,o}$ = 28.5, 104.4, 138.8, 196.8, 300.4, 327.6
comparison with four elementary hues *RYBG*: $h_{dsb,o}$ = 25.5, 92.3, 162.2, 271.7, and *MT* = 217.0, 328.6
9 step equidistant grey scale: *L = 38.0, 45.2, 52.3, 59.5, 66.7, 73.9, 81.1, 88.2, 95.4**

d_{sta}	h_{rgb}	L^*, a^*, b^*, C^*_{ab}	h_{dsb}	h_{dsl}	rgb –> olv*sta	d_{sta}	h_{rgb}	L^*, a^*, b^*, C^*_{ab}	h_{dsb}	h_{dsl}	rgb –> olv*sta
c00y=0	30.0	59.0 57.7 32.1	66.1	29.3 1.000 0.000 0.000		c00v=0	210.0	86.1 −57.2 25.9	62.5	156.5 0.000 1.000 1.000	**C**
c12y	36.6	59.2 57.4 32.2	65.8	29.3 1.000 0.125 0.000		c12v	216.6	85.5 −32.5 −19.4 38.0	210.9	0.000 0.875 1.000	
c25y	43.9	59.6 56.3 32.7	65.2	30.2 1.000 0.250 0.000		c25v	223.9	56.5 20.3 −60.8 64.2	288.4	0.000 0.750 1.000	
c37y	51.8	61.2 52.1 34.8	62.6	33.7 1.000 0.375 0.000		c37v	231.8	46.9 44.2 −76.0 88.0	300.1	0.000 0.625 1.000	**B**
c50y	60.0	65.4 41.3 42.5	57.6	44.2 1.000 0.500 0.000		c50v	240.0	47.5 49.7 −86.1 99.4	303.8	0.000 0.500 1.000	
c62y	68.2	73.5 22.0 49.5	54.2	66.0 1.000 0.625 0.000		c62v	248.2	48.9 49.6 −72.8 88.1	304.2	0.000 0.375 1.000	
c75y	76.1	84.3 −0.8 61.9	61.9	90.9 1.000 0.750 0.000	**J**	c75v	256.1	50.1 52.1 −70.7 87.8	306.4	0.000 0.250 1.000	
c87y	83.4	92.5 −20.7 70.3	73.3	106.5 1.000 0.875 0.000		c87v	263.4	50.8 53.5 −69.5 87.8	307.6	0.000 0.125 1.000	
y00l=Y	90.0	90.4 −32.4 67.5	74.9	115.7 1.000 1.000 0.000		v00m=V	270.0	51.1 54.1 −69.0 87.7	308.1	0.000 0.000 1.000	
y12l	96.6	88.9 −41.6 65.4	77.5	122.5 0.875 1.000 0.000		v12m	276.6	51.3 54.5 −68.7 87.7	308.4	0.125 0.000 1.000	
y25l	103.9	87.8 −49.0 63.8	80.4	127.6 0.750 1.000 0.000		v25m	283.9	51.8 55.4 −67.9 87.7	309.2	0.250 0.000 1.000	
y37l	111.8	86.7 −54.3 62.6	83.0	131.8 0.625 1.000 0.000		v37m	291.8	52.6 57.0 −66.8 88.1	310.5	0.375 0.000 1.000	
y50l	120.0	86.5 −57.7 62.0	84.8	133.0 0.500 1.000 0.000		v50m	300.0	53.8 59.2 −64.5 87.6	312.5	0.500 0.000 1.000	
y62l	128.2	86.2 −60.1 61.6	86.1	134.4 0.375 1.000 0.000		v62m	308.2	55.6 62.3 −61.6 87.7	315.3	0.625 0.000 1.000	
y75l	136.1	86.0 −61.4 61.3	86.8	135.1 0.250 1.000 0.000		v75m	316.1	57.7 66.1 −58.1 88.0	318.6	0.750 0.000 1.000	
y87l	143.4	85.9 −62.0 61.2	87.2	135.4 0.125 1.000 0.000		v87m	323.4	60.3 70.4 −53.8 88.7	322.5	0.875 0.000 1.000	
l00c=L	150.0	85.9 −62.2 61.2	87.3	135.5 0.000 1.000 0.000		m00u=M	330.0	63.2 75.1 −49.1 89.8	326.8	1.000 0.000 1.000	**M***
l12c	156.6	85.9 −62.6 61.1	87.5	135.7 0.000 1.000 0.125		m12u	336.6	62.8 73.1 −38.6 82.7	332.1	1.000 0.000 0.875	
l25c	163.9	85.8 −63.4 60.9	88.0	136.2 0.000 1.000 0.250		m25u	343.9	61.6 68.8 −23.8 72.8	340.8	1.000 0.000 0.750	
l37c	171.8	85.6 −65.0 60.6	88.9	137.0 0.000 1.000 0.375		m37u	351.8	60.4 64.7 −6.0 65.0	354.6	1.000 0.000 0.625	
l50c	180.0	85.4 −66.3 60.4	89.8	137.7 0.000 1.000 0.500		m50u	360.0	59.5 61.3 11.9 62.4	10.9	1.000 0.000 0.500	
l62c	188.2	85.2 −67.8 60.1	90.8	138.5 0.000 1.000 0.625		m62u	368.2	59.0 59.3 24.7 64.3	22.5	1.000 0.000 0.375	
l75c	196.1	85.1 −68.3 59.1	90.4	139.2 0.000 1.000 0.750	**G**	m75u	376.1	58.8 58.6 30.2 66.0	27.3	1.000 0.000 0.250	**R**
l87c	203.4	85.3 −66.0 59.4	83.1	142.7 0.000 1.000 0.875		m87u	383.4	58.8 58.2 31.8 66.4	28.7	1.000 0.000 0.125	

KE930−3N_2

Interpretation *rgb* –> *olv and CIELAB data of a 48 step device hue circle for a sRGB standard display with the luminance reflection L_r=20% compared to the white reference (100%)**
48 step device hue circle with six device hues *OYLCVMr*: $h_{dsb,o}$ = 25.0, 105.5, 140.5, 197.2, 297.3, 327.0
comparison with four elementary hues *RYBG*: $h_{dsb,o}$ = 25.5, 92.3, 162.2, 271.7, and *MT* = 217.0, 328.6
9 step equidistant grey scale: *L = 52.0, 57.4, 62.9, 68.3, 73.7, 79.1, 84.6, 90.0, 95.4**

d_{sta}	h_{rgb}	L^*, a^*, b^*, C^*_{ab}	h_{dsb}	h_{dsl}	rgb –> olv*sta	d_{sta}	h_{rgb}	L^*, a^*, b^*, C^*_{ab}	h_{dsb}	h_{dsl}	rgb –> olv*sta
c00y=0	30.0	65.5 45.1 28.9	49.7	24.8 1.000 0.000 0.000		c00v=0	210.0	87.4 −47.3 20.0	51.4	157.1 0.000 1.000 1.000	**R**
c12y	36.6	65.6 44.9 21.1	49.6	25.1 1.000 0.125 0.000		c12v	216.6	84.2 −25.3 −17.9 31.1	215.3	0.000 0.875 1.000	
c25y	43.9	65.8 44.3 21.4	49.2	25.8 1.000 0.250 0.000		c25v	223.9	63.6 16.1 −49.6 52.3	287.9	0.000 0.750 1.000	
c37y	51.8	66.7 42.2 22.6	47.8	28.2 1.000 0.375 0.000		c37v	231.8	57.4 30.2 −59.0 66.4	297.1	0.000 0.625 1.000	**B**
c50y	60.0	69.1 32.8 34.7	43.8	37.9 1.000 0.500 0.000		c50v	240.0	58.6 34.7 −68.6 76.9	299.1	0.000 0.500 1.000	
c62y	68.2	75.7 20.9 34.7	40.6	58.9 1.000 0.625 0.000		c62v	248.2	58.4 34.2 −57.3 66.8	300.8	0.000 0.375 1.000	
c75y	76.1	85.3 0.5 46.9	46.9	89.4 1.000 0.750 0.000	**J**	c75v	256.1	59.0 35.9 −56.3 66.9	302.5	0.000 0.250 1.000	
c87y	83.4	92.8 −18.7 68.2	74.6	108.2 1.000 0.875 0.000		c87v	263.4	59.4 37.1 −55.7 67.3	303.6	0.000 0.125 1.000	
y00l=Y	90.0	90.9 −28.6 53.0	60.2	118.5 1.000 1.000 0.000		v00m=V	270.0	59.6 37.5 −55.4 67.0	304.0	0.000 0.000 1.000	
y12l	96.6	89.6 −36.4 51.0	62.7	125.6 0.875 1.000 0.000		v12m	276.6	59.7 37.8 −55.2 67.0	304.3	0.125 0.000 1.000	
y25l	103.9	88.6 −42.3 49.6	65.2	130.5 0.750 1.000 0.000		v25m	283.9	59.9 38.5 −54.8 67.1	305.1	0.250 0.000 1.000	
y37l	111.8	88.0 −46.4 47.6	67.3	133.7 0.625 1.000 0.000		v37m	291.8	60.5 40.1 −53.9 68.2	306.6	0.375 0.000 1.000	
y50l	120.0	87.6 −49.8 46.8	68.7	135.6 0.500 1.000 0.000		v50m	300.0	61.4 42.4 −52.4 67.5	308.9	0.500 0.000 1.000	
y62l	128.2	87.4 −50.6 47.7	69.6	136.8 0.375 1.000 0.000		v62m	308.2	62.6 45.6 −50.4 68.0	312.1	0.625 0.000 1.000	
y75l	136.1	87.2 −51.4 47.9	70.4	137.6 0.250 1.000 0.000		v75m	316.1	64.2 49.4 −47.7 68.9	316.1	0.750 0.000 1.000	
y87l	143.4	87.2 −51.9 47.4	70.4	137.6 0.125 1.000 0.000		v87m	323.4	66.3 54.3 −44.4 70.2	320.7	0.875 0.000 1.000	
l00c=L	150.0	87.1 −52.0 47.4	70.5	137.7 0.000 1.000 0.000		m00u=M	330.0	68.6 59.6 −40.6 72.2	325.7	1.000 0.000 1.000	**M***
l12c	156.6	87.1 −52.3 47.4	70.6	137.9 0.000 1.000 0.125		m12u	336.6	68.6 58.5 −31.5 66.5	331.8	1.000 0.000 0.875	
l25c	163.9	87.0 −52.8 47.2	70.8	138.2 0.000 1.000 0.250		m25u	343.9	67.6 54.3 −18.5 57.4	341.0	1.000 0.000 0.750	
l37c	171.8	86.9 −53.8 47.0	71.5	138.9 0.000 1.000 0.375		m37u	351.8	66.7 50.5 −4.2 50.7	355.1	1.000 0.000 0.625	
l50c	180.0	86.8 −54.7 46.8	72.1	139.5 0.000 1.000 0.500		m50u	360.0	66.1 47.6 8.3 48.3	9.8	1.000 0.000 0.500	
l62c	188.2	86.6 −55.7 46.6	72.7	140.1 0.000 1.000 0.625		m62u	368.2	65.7 46.4 16.3 48.7	19.4	1.000 0.000 0.375	
l75c	196.1	86.6 −56.1 45.9	72.6	140.7 0.000 1.000 0.750	**G**	m75u	376.1	65.6 45.3 19.6 49.4	23.4	1.000 0.000 0.250	
l87c	203.4	86.7 −54.3 39.9	67.4	143.7 0.000 1.000 0.875		m87u	383.4	65.5 45.2 20.5 49.6	24.4	1.000 0.000 0.125	

KE931−3N_2

Interpretation *rgb* –> *olv and CIELAB data of a 48 step device hue circle for a sRGB standard display with the luminance reflection L_r=40% compared to the white reference (100%)**
48 step device hue circle with six device hues *OYLCVMr*: $h_{dsb,o}$ = 21.9, 107.3, 142.4, 197.9, 293.8, 326.1
comparison with four elementary hues *RYBG*: $h_{dsb,o}$ = 25.5, 92.3, 162.2, 271.7, and *MT* = 217.0, 328.6
9 step equidistant grey scale: *L = 69.7, 72.9, 76.1, 79.3, 82.6, 85.8, 89.0, 92.2, 95.4**

d_{sta}	h_{rgb}	L^*, a^*, b^*, C^*_{ab}	h_{dsb}	h_{dsl}	rgb –> olv*sta	d_{sta}	h_{rgb}	L^*, a^*, b^*, C^*_{ab}	h_{dsb}	h_{dsl}	rgb –> olv*sta
c00y=0	30.0	76.4 26.4 10.2	28.3	21.2 1.000 0.000 0.000		c00v=0	210.0	89.9 −30.3 12.2	32.8	158.1 0.000 1.000 1.000	**R**
c12y	36.6	76.4 26.3 10.4	28.3	21.5 1.000 0.125 0.000		c12v	216.6	86.7 −14.1 −13.5 19.5	223.3	0.000 0.875 1.000	
c25y	43.9	76.5 26.2 10.6	28.2	22.1 1.000 0.250 0.000		c25v	223.9	74.8 9.8 −31.3 32.9	287.3	0.000 0.750 1.000	
c37y	51.8	76.7 26.0 11.0	27.8	23.2 1.000 0.375 0.000		c37v	231.8	72.2 15.6 −35.4 38.8	293.7	0.000 0.625 1.000	**B**
c50y	60.0	77.9 22.8 12.8	26.1	29.3 1.000 0.500 0.000		c50v	240.0	72.3 16.4 −34.9 38.6	294.9	0.000 0.500 1.000	
c62y	68.2	81.4 15.1 17.8	23.3	49.6 1.000 0.625 0.000		c62v	248.2	72.6 17.5 −34.8 39.0	296.6	0.000 0.375 1.000	
c75y	76.1	88.0 1.4 26.9	26.9	87.0 1.000 0.750 0.000	**J**	c75v	256.1	72.8 18.3 −34.1 39.1	297.9	0.000 0.250 1.000	
c87y	83.4	93.5 −12.9 34.1	36.5	110.8 1.000 0.875 0.000		c87v	263.4	72.9 18.4 −34.3 39.3	298.6	0.000 0.125 1.000	
y00l=Y	90.0	90.1 −22.1 33.9	37.8	122.6 1.000 1.000 0.000		v00m=V	270.0	73.0 19.0 −34.2 39.2	299.0	0.000 0.000 1.000	
y12l	96.6	91.1 −25.3 30.4	39.6	129.8 0.875 1.000 0.000		v12m	276.6	73.0 19.2 −34.1 39.2	299.3	0.125 0.000 1.000	
y25l	103.9	90.5 −28.7 29.5	41.2	134.3 0.750 1.000 0.000		v25m	283.9	73.2 19.7 −33.8 39.2	300.1	0.250 0.000 1.000	
y37l	111.8	90.1 −30.7 28.5	42.1	136.7 0.625 1.000 0.000		v37m	291.8	73.6 20.7 −33.4 39.4	301.5	0.375 0.000 1.000	
y50l	120.0	89.9 −32.3 28.5	43.2	138.6 0.500 1.000 0.000		v50m	300.0	73.8 22.1 −32.8 39.6	303.9	0.500 0.000 1.000	
y62l	128.2	89.8 −33.0 28.3	43.6	139.4 0.375 1.000 0.000		v62m	308.2	74.4 24.3 −31.7 40.0	307.3	0.625 0.000 1.000	
y75l	136.1	89.7 −33.2 28.4	43.8	139.9 0.250 1.000 0.000		v75m	316.1	75.3 27.4 −30.3 40.9	312.0	0.750 0.000 1.000	
y87l	143.4	89.7 −33.7 28.2	44.0	140.2 0.125 1.000 0.000		v87m	323.4	76.5 31.3 −28.4 42.3	317.6	0.875 0.000 1.000	
l00c=L	150.0	89.6 −33.8 28.2	44.0	140.3 0.000 1.000 0.000		m00u=M	330.0	77.9 35.8 −26.2 44.4	323.7	1.000 0.000 1.000	**M***
l12c	156.6	89.6 −33.9 28.1	44.1	140.4 0.000 1.000 0.125		m12u	336.6	78.2 35.9 −20.0 41.1	330.8	1.000 0.000 0.875	
l25c	163.9	89.6 −34.1 28.1	44.3	140.7 0.000 1.000 0.250		m25u	343.9	77.6 32.6 −10.9 34.4	341.4	1.000 0.000 0.750	
l37c	171.8	89.5 −34.5 28.0	44.5	141.0 0.000 1.000 0.375		m37u	351.8	77.1 29.9 −2.2 30.0	355.7	1.000 0.000 0.625	
l50c	180.0	89.5 −34.9 27.8	44.8	141.5 0.000 1.000 0.500		m50u	360.0	76.7 28.0 4.3 28.3	8.7	1.000 0.000 0.500	
l62c	188.2	89.4 −35.4 27.7	45.1	142.1 0.000 1.000 0.625		m62u	368.2	76.5 29.1 8.1 28.1	16.7	1.000 0.000 0.375	
l75c	196.1	89.3 −35.6 27.4	45.0	142.6 0.000 1.000 0.750	**G**	m75u	376.1	76.5 26.5 9.6 28.2	19.8	1.000 0.000 0.250	
l87c	203.4	89.4 −34.6 24.2	42.3	145.1 0.000 1.000 0.875		m87u	383.4	76.4 26.4 10.1 28.3	20.9	1.000 0.000 0.125	

KE931−3N_2

TUB-test chart KE93; 48 step sRGB device hue circle
Interpretation *rgb* –> *olv** and CIELAB data of colours Ma

input: *rgb–>olv* setrgbcolor*
output: *no change compared to input*

See original copy: http://web.me.com/kleuren/KE93/KE93L0N1.TXT/.PS
Technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20100601-KE93/KE93L0N1.TXT /.PS
application for measurement of printer or monitor systems

TUB material: code=tha4a