*rgb**$_e$ and CIE data of a elementary hue circle according to CIE R1-47:2009 for offset print

***XYZ, Lab*,* and *Lab**$_a$ data for relative spacing of elementary hue $h_{ab,a}$ of *Lab**$_a$**

16 step elementary hue circle with intended elementary hues: $h_{ab,a}$ = 25.4, 92.3, 162.2, 271.7

Code	*X*	*Y*	*Z*	*x*	*y*	*L**	*a**	*b**	*L**$_a$	*a**$_a$	*b**$_a$	*C**$_{ab,a}$	$h_{ab,a}$	*rgb* −> *rgb**$_e$
R00Y=R	31.4	17.3	6.6	0.566	0.313	48.7	66.5	32.9	48.7	66.7	31.8	73.9	**25.4**	**1.00 0.00 0.00**
R25Y	34.5	22.5	5.1	0.555	0.361	54.5	52.6	49.2	54.5	52.9	47.9	71.4	**42.2**	**1.00 0.25 0.00**
R50Y	40.5	31.9	6.2	0.514	0.405	63.2	34.6	59.5	63.2	35.0	58.0	67.8	**58.9**	**1.00 0.50 0.00**
R75Y	48.6	44.8	7.6	0.48	0.443	72.7	17.1	70.4	72.7	17.6	68.8	71.1	**75.5**	**1.00 0.75 0.00**
Y00G=Y	63.1	68.2	10.2	0.445	0.481	86.1	−4.0	85.1	86.1	−3.3	83.2	83.3	**92.3**	**1.00 1.00 0.00**
Y25G	41.3	53.0	10.1	0.396	0.507	77.8	−25.6	71.3	77.8	−25.0	69.6	74.0	**109.8**	**0.75 1.00 0.00**
Y50G	24.2	36.8	9.3	0.344	0.523	67.1	−41.3	55.2	67.1	−40.9	53.7	67.6	**127.3**	**0.50 1.00 0.00**
Y75G	14.9	27.7	9.8	0.285	0.527	59.6	−56.0	40.7	59.6	−55.6	39.3	68.2	**144.7**	**0.25 1.00 0.00**
G00B=G	12.2	24.9	15.6	0.232	0.471	56.9	−61.7	20.9	56.9	−61.5	19.6	64.5	**162.2**	**0.00 1.00 0.00**
G25B	15.6	27.3	35.0	0.2	0.35	59.3	−50.8	−7.1	59.3	−50.5	−8.5	51.2	**189.5**	**0.00 1.00 0.50**
G50B	19.3	29.6	57.3	0.181	0.279	61.3	−39.4	−28.0	61.3	−39.1	−29.4	49.0	**216.9**	**0.00 1.00 1.00**
G75B	18.4	23.9	62.3	0.176	0.228	56.0	−20.9	−41.7	56.0	−20.6	−43.0	47.7	**244.3**	**0.00 0.50 1.00**
B00R=B	11.6	12.0	39.6	0.183	0.19	41.2	1.3	−44.0	41.2	1.3	−45.0	45.0	**271.7**	**0.00 0.00 1.00**
B25R	7.5	5.3	24.3	0.203	0.142	27.5	27.4	−46.1	27.5	27.2	−46.9	54.2	**300.1**	**0.50 0.00 1.00**
B50R	16.8	9.8	24.6	0.327	0.191	37.4	50.1	−29.6	37.4	50.1	−30.6	58.7	**328.5**	**1.00 0.00 1.00**
B75R	33.8	17.9	20.9	0.465	0.247	49.4	72.2	−2.5	49.4	72.4	−3.7	72.5	**357.0**	**1.00 0.00 0.50**

5 step equidistant grey scale with intended lightness: *L = 22.2, 40.7, 59.3, 77.8, 96.3**

Code	*X*	*Y*	*Z*	*x*	*y*	*L**	*a**	*b**	*L**$_a$	*a**$_a$	*b**$_a$	*C**$_{ab,a}$	$h_{ab,a}$	*rgb* −> *rgb**$_e$
n000w=N	3.5	3.6	3.8	0.317	0.332	22.5	0.2	0.7	**22.5**	0.0	0.0	0.0	37.9	**0.00 0.00 0.00**
n025w	11.1	11.7	12.9	0.31	0.327	40.8	−0.3	−0.4	**40.8**	−0.3	−1.4	1.4	256.8	**0.25 0.25 0.25**
n050w	25.7	27.2	30.0	0.31	0.328	59.2	−0.6	−0.4	**59.2**	−0.3	−1.8	1.8	258.1	**0.50 0.50 0.50**
n075w	49.9	52.9	57.3	0.311	0.33	77.8	−0.8	0.2	**77.8**	−0.2	−1.4	1.4	259.2	**0.75 0.75 0.75**
n100w=W	86.0	91.0	95.9	0.315	0.333	96.4	−0.8	2.1	**96.4**	0.0	0.0	0.0	100.0	**1.00 1.00 1.00**

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*rgb**$_e$ and CIE data of a elementary hue circle according to CIE R1-47:2009 for offset print

***XYZ, Lab*,* and *Lab**$_a$ data for relative spacing of elementary hue $h_{AB,a}$ of *YAB*$_a$**

16 step elementary hue circle with intended elementary hues: $h_{AB,a}$ = 17.8, 93.1, 159.3, 270.5

Code	*X*	*Y*	*Z*	*x*	*y*	h_{AB}	*L**	*a**	*b**	*L**$_a$	*a**$_a$	*b**$_a$	*C**$_{ab,a}$	$h_{ab,a}$	*rgb* −> *rgb**$_e$
R00Y=R	31.3	17.3	6.3	0.569	0.315	**17.8**	48.7	66.5	34.1	48.7	66.6	33.0	74.3	26.3	**1.00 0.00 0.00**
R25Y	37.1	26.5	5.6	0.535	0.382	**36.6**	58.5	44.1	53.9	58.5	44.4	52.6	68.8	49.7	**1.00 0.25 0.00**
R50Y	43.6	36.8	6.8	0.499	0.422	**55.5**	67.1	27.2	63.9	67.1	27.7	62.4	68.3	66.0	**1.00 0.50 0.00**
R75Y	51.1	48.9	8.1	0.472	0.452	**74.2**	75.3	12.7	73.4	75.3	13.2	71.7	72.9	79.5	**1.00 0.75 0.00**
Y00G=Y	62.9	68.0	10.2	0.445	0.481	**93.1**	86.0	−3.8	84.9	86.0	−3.2	83.1	83.2	92.2	**1.00 1.00 0.00**
Y25G	49.0	59.9	9.6	0.413	0.505	**109.7**	81.8	−20.6	79.6	81.8	−20.0	77.8	80.4	104.4	**0.75 1.00 0.00**
Y50G	29.4	41.9	9.3	0.364	0.519	**126.2**	70.8	−36.0	61.4	70.8	−35.5	59.8	69.6	120.7	**0.50 1.00 0.00**
Y75G	16.6	29.3	9.9	0.298	0.524	**142.7**	61.0	−52.2	42.8	61.0	−51.9	41.4	66.4	141.4	**0.25 1.00 0.00**
G00B=G	12.2	24.9	15.6	0.232	0.471	**159.3**	56.9	−61.8	21.0	56.9	−61.5	19.7	64.6	162.1	**0.00 1.00 0.00**
G25B	15.1	27.0	31.8	0.204	0.365	**187.1**	59.0	−52.5	−3.3	59.0	−52.2	−4.7	52.4	185.1	**0.00 1.00 0.50**
G50B	17.4	28.5	46.6	0.188	0.307	**214.8**	60.3	−44.8	−19.1	60.3	−44.5	−20.4	49.0	204.7	**0.00 1.00 1.00**
G75B	21.9	31.4	71.0	0.176	0.252	**242.7**	62.8	−33.3	−37.5	62.8	−33.0	−38.9	51.0	229.6	**0.00 0.50 1.00**
B00R=B	11.8	12.4	40.3	0.183	0.192	**270.5**	41.8	0.3	−43.9	41.8	0.4	−44.9	44.9	270.5	**0.00 0.00 1.00**
B25R	9.4	6.1	23.9	0.238	0.155	**297.3**	29.7	34.2	−41.9	29.7	34.1	−42.6	54.6	308.6	**0.50 0.00 1.00**
B50R	17.2	9.9	24.5	0.332	0.192	**324.2**	37.8	51.0	−28.9	37.8	51.0	−29.9	59.1	329.6	**1.00 0.00 1.00**
B75R	32.4	17.2	24.6	0.436	0.232	**350.9**	48.6	71.1	−10.4	48.6	71.2	−11.6	72.2	350.7	**1.00 0.00 0.50**

5 step equidistant grey scale with intended lightness: *L = 22.2, 40.7, 59.3, 77.8, 96.3**

Code	*X*	*Y*	*Z*	*x*	*y*	h_{AB}	*L**	*a**	*b**	*L**$_a$	*a**$_a$	*b**$_a$	*C**$_{ab,a}$	$h_{ab,a}$	*rgb* −> *rgb**$_e$
n000w=N	3.5	3.6	3.8	0.317	0.332	0.5	22.5	0.2	0.7	**22.5**	0.0	0.0	0.0	37.9	**0.00 0.00 0.00**
n025w	11.1	11.7	12.9	0.31	0.327	271.5	40.8	−0.3	−0.4	**40.8**	−0.3	−1.4	1.4	256.8	**0.25 0.25 0.25**
n050w	25.7	27.2	30.0	0.31	0.328	266.5	59.2	−0.6	−0.4	**59.2**	−0.3	−1.8	1.8	258.1	**0.50 0.50 0.50**
n075w	49.9	52.9	57.3	0.311	0.33	264.9	77.8	−0.8	0.2	**77.8**	−0.2	−1.4	1.4	259.2	**0.75 0.75 0.75**
n100w=W	86.0	91.0	95.9	0.315	0.333	99.2	96.4	−0.8	2.1	**96.4**	0.0	0.0	0.0	100.0	**1.00 1.00 1.00**

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*rgb**$_e$ and CIE data of a elementary hue circle according to CIE R1-47:2009 for offset print

***XYZ, YAB*$_a$, and *Lab**$_a$ data for relative spacing of elementary hue $h_{ab,a}$ of *Lab**$_a$**

16 step elementary hue circle with intended elementary hues: $h_{ab,a}$ = 25.4, 92.3, 162.2, 271.7

Code	*X*	*Y*	*Z*	*a*	*b*	A_a	B_a	$C_{AB,a}$	$h_{AB,a}$	*L**$_a$	*a**$_a$	*b**$_a$	*C**$_{ab,a}$	$h_{ab,a}$	*rgb* −> *rgb**$_e$
R00Y=R	31.4	17.3	6.6	1.806	−0.152	14.9	4.6	15.6	17.3	48.7	66.7	31.8	73.9	**25.4**	**1.00 0.00 0.00**
R25Y	34.5	22.5	5.1	1.534	−0.091	13.2	7.4	15.2	29.2	54.5	52.9	47.9	71.4	**42.2**	**1.00 0.25 0.00**
R50Y	40.5	31.9	6.2	1.27	−0.078	10.3	10.9	15.0	46.6	63.2	35.0	58.0	67.8	**58.9**	**1.00 0.50 0.00**
R75Y	48.6	44.8	7.6	1.084	−0.068	6.2	15.8	17.0	68.5	72.7	17.6	68.8	71.1	**75.5**	**1.00 0.75 0.00**
Y00G=Y	63.1	68.2	10.2	0.924	−0.06	−1.4	24.7	24.7	93.3	86.1	−3.3	83.2	83.3	**92.3**	**1.00 1.00 0.00**
Y25G	41.3	53.0	10.1	0.78	−0.076	−8.7	18.3	20.2	115.4	77.8	−25.0	69.6	74.0	**109.8**	**0.75 1.00 0.00**
Y50G	24.2	36.8	9.3	0.657	−0.101	−10.6	11.8	15.8	131.8	67.1	−40.9	53.7	67.6	**127.3**	**0.50 1.00 0.00**
Y75G	14.9	27.7	9.8	0.54	−0.141	−11.2	7.7	13.6	145.3	59.6	−55.6	39.3	68.2	**144.7**	**0.25 1.00 0.00**
G00B=G	12.2	24.9	15.6	0.493	−0.251	−11.2	4.2	12.0	159.4	56.9	−61.5	19.6	64.5	**162.2**	**0.00 1.00 0.00**
G25B	15.6	27.3	35.0	0.569	−0.511	−10.2	−2.4	10.5	193.4	59.3	−50.5	−8.5	51.2	**189.5**	**0.00 1.00 0.50**
G50B	19.3	29.6	57.3	0.651	−0.772	−8.7	−10.4	13.5	229.9	61.3	−39.1	−29.4	49.0	**216.9**	**0.00 1.00 1.00**
G75B	18.4	23.9	62.3	0.77	−1.039	−4.1	−14.8	15.3	254.1	56.0	−20.6	−43.0	47.7	**244.3**	**0.00 0.50 1.00**
B00R=B	11.6	12.0	39.6	0.965	−1.315	0.2	−10.7	10.7	271.2	41.2	1.3	−45.0	45.0	**271.7**	**0.00 0.00 1.00**
B25R	7.5	5.3	24.3	1.43	−1.834	2.5	−7.4	7.9	288.9	27.5	27.2	−46.9	54.2	**300.1**	**0.50 0.00 1.00**
B50R	16.8	9.8	24.6	1.715	−1.005	7.5	−5.7	9.4	322.8	37.4	50.1	−30.6	58.7	**328.5**	**1.00 0.00 1.00**
B75R	33.8	17.9	20.9	1.883	−0.465	16.8	−0.7	16.8	357.3	49.4	72.4	−3.7	72.5	**357.0**	**1.00 0.00 0.50**

5 step equidistant grey scale with intended lightness: *L = 22.2, 40.7, 59.3, 77.8, 96.3**

Code	*X*	*Y*	*Z*	*a*	*b*	A_a	B_a	$C_{AB,a}$	$h_{AB,a}$	*L**$_a$	*a**$_a$	*b**$_a$	*C**$_{ab,a}$	$h_{ab,a}$	*rgb* −> *rgb**$_e$
n000w=N	3.5	3.6	3.8	0.955	−0.421	0.0	0.0	0.0	0.5	**22.5**	0.0	0.0	0.0	37.9	**0.00 0.00 0.00**
n025w	11.1	11.7	12.9	0.946	−0.441	0.0	−0.2	0.2	271.5	**40.8**	−0.3	−1.4	1.4	256.8	**0.25 0.25 0.25**
n050w	25.7	27.2	30.0	0.944	−0.44	0.0	−0.4	0.5	266.5	**59.2**	−0.3	−1.8	1.8	258.1	**0.50 0.50 0.50**
n075w	49.9	52.9	57.3	0.944	−0.433	0.0	−0.6	0.6	264.9	**77.8**	−0.2	−1.4	1.4	259.2	**0.75 0.75 0.75**
n100w=W	86.0	91.0	95.9	0.945	−0.421	0.0	0.0	0.0	99.2	**96.4**	0.0	0.0	0.0	100.0	**1.00 1.00 1.00**

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*rgb**$_e$ and CIE data of a elementary hue circle according to CIE R1-47:2009 for offset print

***XYZ, YAB*$_a$, and *Lab**$_a$ data for relative spacing of elementary hue $h_{AB,a}$ of *YAB*$_a$**

16 step elementary hue circle with intended elementary hues: $h_{AB,a}$ = 17.8, 93.1, 159.3, 270.5

Code	*X*	*Y*	*Z*	*a*	*b*	A_a	B_a	$C_{AB,a}$	$h_{AB,a}$	*L**$_a$	*a**$_a$	*b**$_a$	*C**$_{ab,a}$	$h_{ab,a}$	*rgb* −> *rgb**$_e$
R00Y=R	31.3	17.3	6.3	1.805	−0.145	14.9	4.7	15.6	**17.8**	48.7	66.6	33.0	74.3	26.3	**1.00 0.00 0.00**
R25Y	37.1	26.5	5.6	1.398	−0.085	12.0	8.9	14.9	**36.6**	58.5	44.4	52.6	68.8	49.7	**1.00 0.25 0.00**
R50Y	43.6	36.8	6.8	1.184	−0.074	8.8	12.8	15.5	**55.5**	67.1	27.7	62.4	68.3	66.0	**1.00 0.50 0.00**
R75Y	51.1	48.9	8.1	1.045	−0.066	4.8	17.3	18.0	**74.2**	75.3	13.2	71.7	72.9	79.5	**1.00 0.75 0.00**
Y00G=Y	62.9	68.0	10.2	0.925	−0.06	−1.3	24.6	24.6	**93.1**	86.0	−3.2	83.1	83.2	92.2	**1.00 1.00 0.00**
Y25G	49.0	59.9	9.6	0.817	−0.064	−7.6	21.4	22.8	**109.7**	81.8	−20.0	77.8	80.4	104.4	**0.75 1.00 0.00**
Y50G	29.4	41.9	9.3	0.701	−0.089	−10.2	13.9	17.3	**126.2**	70.8	−35.5	59.8	69.6	120.7	**0.50 1.00 0.00**
Y75G	16.6	29.3	9.9	0.568	−0.135	−11.0	8.3	13.8	**142.7**	61.0	−51.9	41.4	66.4	141.4	**0.25 1.00 0.00**
G00B=G	12.2	24.9	15.6	0.493	−0.251	−11.2	4.2	12.0	**159.3**	56.9	−61.5	19.7	64.6	162.1	**0.00 1.00 0.00**
G25B	15.1	27.0	31.8	0.558	−0.47	−10.4	−1.3	10.5	**187.1**	59.0	−52.2	−4.7	52.4	185.1	**0.00 1.00 0.50**
G50B	17.4	28.5	46.6	0.612	−0.654	−9.5	−6.6	11.5	**214.8**	60.3	−44.5	−20.4	49.0	204.7	**0.00 1.00 1.00**
G75B	21.9	31.4	71.0	0.697	−0.904	−7.8	−15.1	17.0	**242.7**	62.8	−33.0	−38.9	51.0	229.6	**0.00 0.50 1.00**
B00R=B	11.8	12.4	40.3	0.954	−1.301	0.1	−10.9	10.9	**270.5**	41.8	0.4	−44.9	44.9	270.5	**0.00 0.00 1.00**
B25R	9.4	6.1	23.9	1.537	−1.564	3.6	−6.9	7.8	**297.3**	29.7	34.1	−42.6	54.6	308.6	**0.50 0.00 1.00**
B50R	17.2	9.9	24.5	1.725	−0.984	7.7	−5.6	9.5	**324.2**	37.8	51.0	−29.9	59.1	329.6	**1.00 0.00 1.00**
B75R	32.4	17.2	24.6	1.88	−0.57	16.1	−2.5	16.3	**350.9**	48.6	71.2	−11.6	72.2	350.7	**1.00 0.00 0.50**

5 step equidistant grey scale with intended lightness: *L = 22.2, 40.7, 59.3, 77.8, 96.3**

Code	*X*	*Y*	*Z*	*a*	*b*	A_a	B_a	$C_{AB,a}$	$h_{AB,a}$	*L**$_a$	*a**$_a$	*b**$_a$	*C**$_{ab,a}$	$h_{ab,a}$	*rgb* −> *rgb**$_e$
n000w=N	3.5	3.6	3.8	0.955	−0.421	0.0	0.0	0.0	0.5	**22.5**	0.0	0.0	0.0	37.9	**0.00 0.00 0.00**
n025w	11.1	11.7	12.9	0.946	−0.441	0.0	−0.2	0.2	271.5	**40.8**	−0.3	−1.4	1.4	256.8	**0.25 0.25 0.25**
n050w	25.7	27.2	30.0	0.944	−0.44	0.0	−0.4	0.5	266.5	**59.2**	−0.3	−1.8	1.8	258.1	**0.50 0.50 0.50**
n075w	49.9	52.9	57.3	0.944	−0.433	0.0	−0.6	0.6	264.9	**77.8**	−0.2	−1.4	1.4	259.2	**0.75 0.75 0.75**
n100w=W	86.0	91.0	95.9	0.945	−0.421	0.0	0.0	0.0	99.2	**96.4**	0.0	0.0	0.0	100.0	**1.00 1.00 1.00**

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