

X	Y	Z	x	y	A	B	Cr	a	b	c	L*	a*	b*	C*ab	a'	b'	c'	OYLCVM_0m_0
CIE Illuminant E																		
61.4	35.7	0.0	0.632	0.367	25.7	14.2	29.4	0.71	0.39	0.82	66.3	70.3	113.7	133.7	0.258	-0.008	0.258	%0=JR
83.1	86.7	1.5	0.485	0.505	-3.5	34.0	34.2	-0.84	0.39	0.39	94.6	-6.6	140.9	141.1	0.212	-0.022	0.213	%Y=J=JG+JR
21.6	59.9	1.5	0.292	0.687	-29.3	19.7	35.3	-0.57	0.39	0.39	76.6	-99.1	110.4	149.3	0.161	-0.026	0.164	%L=JG
8.5	25.0	11.0	0.19	0.561	-16.5	5.5	17.4	-0.66	0.22	0.69	57.1	-95.3	30.0	99.9	0.15	-0.065	0.163	%S
1.4	11.0	16.2	0.049	0.385	-9.6	-2.0	9.8	-0.87	-0.18	0.89	39.7	-119.2	-13.0	119.9	0.108	-0.097	0.146	%CS=BG
16.8	13.2	98.4	0.13	0.103	3.5	-34.0	34.2	0.26	-2.57	2.58	43.1	21.1	-96.9	99.2	0.233	-0.168	0.287	%V=BR+BG
15.4	2.1	82.2	0.154	0.021	13.2	-32.0	34.6	0.69	-14.73	15.94	16.3	128.5	-131.5	5183.9	0.413	-0.289	0.505	%MS=BR
55.0	31.0	11.5	0.563	0.318	23.9	7.8	25.2	0.77	0.25	0.81	62.5	71.1	38.0	80.7	0.26	-0.061	0.268	%RS
61.4	35.7	0.0	0.632	0.367	25.7	14.2	29.4	0.71	0.39	0.82	66.3	70.3	113.7	133.7	0.258	-0.008	0.258	%0=JR
0.1	0.1	0.1	0.332	0.332	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.086	0.232	%N0(β=0,001)
100.0	100.0	100.0	0.333	0.333	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	-0.086	0.232	%N1(β=1,000)
3BS 475, 530, 600																		
66.1	39.2	0.0	0.627	0.372	32.6	10.6	34.3	0.83	0.26	0.87	68.9	93.1	117.7	150.1	0.292	-0.01	0.292	%0=JR
76.4	92.9	2.6	0.444	0.54	-2.8	24.0	24.2	-0.93	0.25	0.26	97.2	-5.9	127.0	127.1	0.23	-0.03	0.231	%Y=J=JG+JR
10.3	53.6	2.6	0.154	0.805	-35.4	13.4	37.9	-0.66	0.25	0.7	78.2	-159.1	194.8	185.2	0.141	-0.035	0.146	%L=JG
6.4	21.0	22.0	0.13	0.425	-11.4	-3.1	11.9	-0.54	-0.14	0.56	53.0	-85.7	-18.6	87.7	0.165	-0.099	0.193	%S
4.4	3.5	32.4	0.049	0.086	1.4	-12.0	12.1	0.4	-3.43	3.45	21.9	22.8	-91.1	93.9	0.265	-0.206	0.336	%CS=BG
8.8	0	0	0.109	0.086	2.8	-24.0	24.2	0.4	-3.43	3.45	51.8	28.7	-114.8	118.3	0.265	-0.206	0.336	%V=BR+BG
4.4	3.5	32.4	0.049	0.086	1.4	-12.0	12.1	0.4	-3.43	3.45	21.9	22.8	-91.1	93.9	0.265	-0.206	0.336	%MS=BR
57.5	34.2	4.5	0.596	0.355	28.2	7.4	29.2	0.82	0.21	0.85	65.1	88.4	58.4	105.9	0.291	-0.05	0.296	%RS
66.1	39.2	0.0	0.627	0.372	32.6	10.6	34.3	0.83	0.26	0.87	68.9	93.1	117.7	150.1	0.292	-0.01	0.292	%0=JR
0.0	0.1	0.0	0.336	0.393	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.086	0.248	%N0(β=0,001)
85.3	100.0	67.5	0.337	0.395	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	-0.086	0.248	%N1(β=1,000)
3BW 450, 530, 620																		
55.4	24.7	0.0	0.691	0.308	33.4	13.9	36.2	1.35	0.56	1.46	56.8	113.1	97.8	149.6	0.251	-0.006	0.251	%0=JR
66.2	80.7	2.7	0.442	0.539	-5.6	44.3	44.7	-0.66	0.54	0.55	92.0	-12.5	132.3	132.9	0.179	-0.024	0.181	%Y=J=JG+JR
10.7	55.9	2.7	0.154	0.805	-39.1	30.4	49.5	-0.69	0.54	0.88	79.6	-164.9	191.0	198.8	0.11	-0.028	0.118	%L=JG
4.3	30.5	15.8	0.086	0.6	-22.7	10.8	25.2	-0.74	0.35	0.82	62.0	-153.3	138.0	158.0	0.11	-0.061	0.114	%S
0.9	16.7	22.9	0.023	0.412	-14.0	0.2	14.0	-0.83	0.01	0.83	48.0	-165.6	11.1	165.6	0.073	-0.085	0.112	%CS=BG
22.7	19.2	138.0	0.126	0.106	5.6	-44.3	44.7	0.29	-2.3	2.32	50.9	28.6	-83.1	87.9	0.203	-0.148	0.251	%V=BR+BG
21.8	0	0	0.156	0.086	1.4	-12.0	12.1	0.4	-3.43	3.45	18.0	93.9	76.7	128.7	0.265	-0.206	0.336	%MS=BR
50.7	21.6	16.1	0.573	0.244	31.5	5.7	32.0	1.45	0.26	1.48	56.8	114.5	22.9	116.7	0.255	-0.069	0.264	%RS
55.4	24.7	0.0	0.691	0.308	33.4	13.9	36.2	1.35	0.56	1.46	56.8	113.1	97.8	149.6	0.251	-0.006	0.251	%0=JR
0.0	0.1	0.1	0.269	0.302	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.086	0.204	%N0(β=0,001)
89.0	100.0	104.0	0.269	0.303	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	-0.086	0.204	%N1(β=1,000)
4BM 450, 495, 530, 620																		
51.7	23.0	0.0	0.691	0.308	30.5	17.9	35.4	1.32	0.77	1.53	55.1	106.6	94.9	142.8	0.226	-0.005	0.226	%0=JR
61.7	75.2	2.5	0.442	0.539	-7.1	57.4	57.8	-0.09	0.76	0.76	89.5	-16.3	134.6	135.6	0.161	-0.022	0.163	%Y=J=JG+JR
10.0	52.1	2.5	0.154	0.805	-37.7	39.5	54.6	-0.72	0.75	1.04	77.3	-163.3	113.8	199.1	0.099	-0.025	0.102	%L=JG
6.8	30.6	35.2	0.094	0.42	-21.1	9.7	23.3	-0.69	0.31	0.76	62.2	-126.1	121.5	127.9	0.104	-0.072	0.127	%S
5.1	19.0	52.9	0.087	0.246	-12.2	-6.3	13.8	-0.64	-0.33	0.72	50.7	-95.6	-14.5	96.7	0.111	-0.097	0.148	%CS=BG
29.8	24.7	191.7	0.121	0.1	7.1	-57.4	57.8	0.28	-2.31	2.33	56.8	30.0	-73.5	79.4	0.183	-0.136	0.228	%V=BR+BG
24.6	5.7	138.7	0.145	0.033	19.4	-51.0	54.6	3.4	-8.94	9.57	28.0	130.3	-101.7	165.3	0.281	-0.2	0.345	%MS=BR
47.9	20.0	19.4	0.544	0.234	29.0	8.2	30.1	1.4	0.4	1.46	52.5	107.4	25.3	110.4	0.228	-0.067	0.238	%RS
51.7	23.0	0.0	0.691	0.308	30.5	17.9	35.4	1.32	0.77	1.53	55.1	106.6	94.9	142.8	0.226	-0.005	0.226	%0=JR
0.0	0.1	0.1	0.236	0.258	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.086	0.188	%N0(β=0,001)
91.5	100.0	194.2	0.237	0.259	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	-0.086	0.188	%N1(β=1,000)

$$A = [(X/X_n) - (Y/Y_n)]Y = [a - a_n]Y \quad B = -0.4[(Z/Z_n) - (Y/Y_n)]Y = -0.4[b - b_n]Y \quad a = X/Y = x/y \quad b = -0.4Z/Y = -0.4z/y \quad (X, Y, Z \geq 0.09)$$

$$a^* = 500 [(X/X_n)^{1/3} - (Y/Y_n)^{1/3}] \quad b^* = 200 [(Y/Y_n)^{1/3} - (Z/Z_n)^{1/3}] \quad a' = (1/X_n)^{1/3} (x/y)^{1/3} \quad b' = -0.4 (1/Z_n)^{1/3} (z/y)^{1/3}$$

$$= 500 (a' - a_n') Y^{1/3} \quad = 500 (b' - b_n') Y^{1/3} \quad = 0.2191 (x/y)^{1/3} \quad = -0.08376 (z/y)^{1/3} \quad \text{CIE LAB for } n=65$$