

X	Y	Z	x	y	A	B	Cr	a	b	c	L*	a*	b*	C*ab	a'	b'	c'	OYLVM_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	0.282	0.687	-29.3	18.7	35.3	-0.57	0.39	0.39	76.6	-99.1	110.4	149.3	0.164	-0.028	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	0.215	-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	0.215	-0.086	0.232	%N1 (β=1,000)
CIE Standard Illuminant D65																		
54.8	32.3	0.0	0.628	0.37	24.1	14.0	27.9	0.74	0.43	0.86	63.6	73.0	109.1	131.3	0.249	-0.008	0.249	%0=JR
76.8	85.2	1.6	0.469	0.52	-4.1	36.4	36.7	-0.84	0.42	0.43	94.0	-8.2	140.2	140.5	0.202	-0.022	0.203	%Y=J=JG+JR
22.0	52.9	1.6	0.288	0.69	-28.2	22.4	36.0	-0.53	0.42	0.68	77.8	-97.1	112.7	148.8	0.156	-0.026	0.158	%L=JG
8.7	26.4	12.5	0.183	0.554	-16.3	6.5	17.6	-0.61	0.24	0.66	58.5	-95.0	31.2	100.0	0.144	-0.065	0.158	%S
1.6	12.2	18.3	0.05	0.324	-10.0	-2.9	27.2	0.25	-1.6	2.81	41.5	-119.5	-11.2	117.0	0.106	-0.095	0.143	%CS=BG
18.1	14.2	107.2	0.129	0.105	4.1	-36.4	36.7	0.28	-2.47	2.49	45.2	23.9	-93.3	96.4	0.224	-0.162	0.277	%V=BR+BG
16.5	2.4	88.8	0.153	0.023	14.1	-34.4	37.2	0.27	-13.87	15.0	17.8	133.2	-128.5	5185.1	0.393	-0.276	0.48	%MS=BR
49.4	28.1	12.4	0.549	0.312	22.7	7.2	23.8	0.8	0.25	0.84	60.0	74.5	33.9	81.8	0.252	-0.063	0.26	%RS
54.8	32.3	0.0	0.628	0.37	24.1	14.0	27.9	0.74	0.43	0.86	63.6	73.0	109.1	131.3	0.249	-0.008	0.249	%0=JR
0.0	0.1	0.1	0.311	0.327	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.205	-0.086	0.223	%N0 (β=0,001)
95.0	100.0	100.0	0.312	0.329	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.205	-0.086	0.223	%N1 (β=1,000)
CIE Illuminant D50																		
60.9	35.4	0.0	0.632	0.367	26.8	11.6	29.2	0.75	0.32	0.82	66.0	75.4	113.1	135.9	0.275	-0.009	0.275	%0=JR
82.9	87.3	1.5	0.482	0.508	-1.2	28.1	28.2	-0.81	0.32	0.32	94.8	-2.3	137.9	137.9	0.225	-0.023	0.227	%Y=J=JG+JR
22.0	51.9	1.5	0.291	0.688	-28.0	16.5	32.5	-0.54	0.31	0.62	77.2	-96.2	107.9	144.6	0.172	-0.028	0.174	%L=JG
8.5	25.1	10.6	0.193	0.566	-15.6	4.0	16.1	-0.62	0.16	0.64	57.2	-92.3	25.2	95.7	0.16	-0.068	0.174	%S
1.3	10.7	15.5	0.049	0.388	-9.0	-2.6	9.3	-0.83	-0.24	0.87	39.1	-117.0	-19.5	118.6	0.115	-0.103	0.155	%CS=BG
13.4	12.6	80.9	0.125	0.118	1.2	-28.1	28.2	0.09	-2.22	2.22	42.2	8.1	-98.3	98.6	0.234	-0.17	0.289	%V=BR+BG
19.0	16.9	65.3	0.152	0.324	10.2	-25.2	27.2	0.25	-1.35	14.38	41.5	-119.5	-11.2	117.0	0.106	-0.095	0.143	%MS=BR
54.1	30.7	1.0	0.575	0.326	24.5	6.4	25.3	0.79	0.21	0.82	62.2	75.0	38.7	84.4	0.277	-0.061	0.284	%RS
60.9	35.4	0.0	0.632	0.367	26.8	11.6	29.2	0.75	0.32	0.82	66.0	75.4	113.1	135.9	0.275	-0.009	0.275	%0=JR
0.0	0.0	0.0	0.344	0.357	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.226	-0.086	0.242	%N0 (β=0,001)
96.4	100.0	82.4	0.345	0.358	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.226	-0.086	0.242	%N1 (β=1,000)
CIE Standard Illuminant A																		
83.5	46.7	0.0	0.64	0.358	32.1	6.6	32.8	0.68	0.14	0.7	74.0	68.2	125.5	142.9	0.368	-0.012	0.369	%0=JR
104.3	92.5	1.2	0.526	0.467	2.7	12.6	12.9	0.02	0.13	0.14	97.0	4.2	130.1	130.2	0.316	-0.028	0.317	%Y=J=JG+JR
20.8	45.8	1.1	0.307	0.675	-29.4	6.0	30.0	-0.64	0.13	0.65	73.4	-97.9	90.3	133.2	0.233	-0.035	0.236	%L=JG
7.7	20.3	5.9	0.228	0.597	-14.5	0.5	14.5	-0.71	0.02	0.71	52.2	-87.2	7.5	87.5	0.22	-0.08	0.234	%S
0.7	6.6	8.5	0.045	0.418	-6.5	-2.4	7.0	-0.99	-0.37	1.05	39.9	-108.0	-43.1	116.3	0.144	-0.132	0.195	%CS=BG
5.4	7.4	34.3	0.115	0.157	-2.7	-12.6	12.9	0.36	-1.7	1.74	32.7	-26.3	-113.6	116.6	0.274	-0.202	0.341	%V=BR+BG
4.7	0.8	25.8	0.151	0.025	3.8	-10.2	10.9	0.81	-12.75	13.63	7.2	75.2	-139.7	158.7	0.549	-0.387	0.672	%MS=BR
72.4	40.3	3.6	0.622	0.346	28.1	4.2	28.5	0.69	0.1	0.7	69.7	65.9	54.0	85.2	0.369	-0.054	0.373	%RS
83.5	46.7	0.0	0.64	0.358	32.1	6.6	32.8	0.68	0.14	0.7	74.0	68.2	125.5	142.9	0.368	-0.012	0.369	%0=JR
0.1	0.0	0.0	0.445	0.405	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.313	-0.086	0.325	%N0 (β=0,001)
109.8	99.9	35.5	0.447	0.407	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.313	-0.086	0.325	%N1 (β=1,000)

$$A = [(X/X_n) - (Y/Y_n)]Y = [a - a_n]Y \quad B = -0.4[(Z/Z_n) - (Y/Y_n)]Y = -0.4[b - b_n]Y \quad a = X/Y = x/y \quad b = -0.4Z/Y = -0.4z/y \quad (X, Y, Z \geq 0.89)$$

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

$$= 500 (a' - a_n') Y^{1/3} \quad = 500 (b' - b_n') Y^{1/3} \quad = 0.2191 (x/y)^{1/3} \quad = -0.08376 (z/y)^{1/3} \quad \text{CIE LAB for } n=D65$$