

X_1	Y_1	Z_1	x	y	A_1	B_1	Cr_1	a	b	c	L^*	a^*	b^*	C^*ab	$\log 1+A_1$	$\log 1+B_1$	$\log 1+C_1$	OYL CVM_ONW_0	
CIE Illuminant E																			
0.614	0.357	0.0	0.632	0.367	0.257	0.142	0.294	0.71	0.39	0.82	66.3	70.3	113.7	133.7	0.099	0.057	0.112	%O=JR	00 575_770
0.831	0.867	0.015	0.485	0.505	-0.035	0.34	0.342	-0.04	0.39	0.39	94.6	-6.6	140.9	141.1	-0.015	0.127	0.127	%Y=J=JG+JR	01 515_770
0.216	0.509	0.015	0.292	0.687	-0.293	0.197	0.353	-0.57	0.38	0.69	76.6	-99.1	110.4	148.3	-0.15	0.078	0.131	%L=JG	02 515_575
0.085	0.25	0.11	0.19	0.561	-0.165	0.055	0.174	-0.66	0.22	0.69	57.1	-95.3	30.0	99.9	-0.078	0.023	0.069	%Gs	03 0,35*JG+0,65*BG
0.014	0.11	0.162	0.049	0.385	-0.096	-0.02	0.098	-0.87	-0.18	0.89	39.7	-119.2	-13.0	119.9	-0.044	-0.009	0.04	%Cs=BG	04 475_515
0.168	0.132	0.984	0.13	0.103	0.035	-0.34	0.342	0.26	-2.57	2.58	43.1	21.1	-96.9	99.2	0.015	-0.18	0.127	%V=B=BR+BG	05 380_515
0.154	0.021	0.822	0.154	0.021	0.132	-0.32	0.346	6.09	-14.73	15.94	16.3	128.5	-131.5	183.9	0.054	-0.167	0.129	%Ms=BR	06 380_475
0.55	0.31	0.115	0.563	0.318	0.239	0.078	0.252	0.77	0.25	0.81	62.5	71.1	38.0	80.7	0.093	0.032	0.097	%Rs	07 0,14*BR+0,86*JR
0.614	0.357	0.0	0.632	0.367	0.257	0.142	0.294	0.71	0.39	0.82	66.3	70.3	113.7	133.7	0.099	0.057	0.112	%O=JR	08 575_770
0.001	0.001	0.001	0.332	0.332	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	%N0($\beta=0,001$)	09 380_770
1.0	1.0	1.0	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	0.0	0.0	%W1($\beta=1,000$)	10 380_770
CIE Standard Illuminant D65																			
0.548	0.323	0.0	0.628	0.37	0.241	0.14	0.279	0.74	0.43	0.86	63.6	73.0	109.1	131.3	0.093	0.057	0.106	%O=JR	00 575_770
0.768	0.852	0.016	0.469	0.52	-0.040	0.364	0.367	-0.04	0.42	0.43	94.0	-8.2	140.2	140.5	-0.018	0.135	0.135	%Y=J=JG+JR	01 515_770
0.22	0.529	0.016	0.288	0.69	-0.282	0.224	0.36	-0.53	0.42	0.68	77.8	-97.1	112.7	148.8	-0.144	0.087	0.133	%L=JG	02 515_575
0.087	0.264	0.125	0.183	0.554	-0.163	0.065	0.176	-0.61	0.24	0.66	58.5	-95.0	31.2	100.0	-0.077	0.027	0.07	%Gs	03 0,35*JG+0,65*BG
0.016	0.122	0.183	0.05	0.379	-0.1	-0.02	0.102	-0.81	-0.16	0.83	41.5	-119.5	-11.2	120.0	-0.045	-0.008	0.042	%Cs=BG	04 475_515
0.181	0.147	1.072	0.129	0.105	0.041	-0.364	0.367	0.28	-2.47	2.49	45.2	23.9	-93.3	96.4	0.017	-0.197	0.135	%V=B=BR+BG	05 380_515
0.165	0.024	0.888	0.153	0.023	0.141	-0.344	0.372	5.7	-13.87	15.0	17.8	133.2	-128.5	185.1	0.057	-0.183	0.137	%Ms=BR	06 380_475
0.494	0.281	0.124	0.549	0.312	0.227	0.072	0.238	0.8	0.25	0.84	60.0	74.5	33.9	81.8	0.088	0.03	0.092	%Rs	07 0,14*BR+0,86*JR
0.548	0.323	0.0	0.628	0.37	0.241	0.14	0.279	0.74	0.43	0.86	63.6	73.0	109.1	131.3	0.093	0.057	0.106	%O=JR	08 575_770
0.0	0.001	0.001	0.311	0.327	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	%N0($\beta=0,001$)	09 380_770
0.95	1.0	1.088	0.312	0.329	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	%W1($\beta=1,000$)	10 380_770
CIE Illuminant D50																			
0.609	0.354	0.0	0.632	0.367	0.268	0.116	0.292	0.75	0.32	0.82	66.0	75.4	113.1	135.9	0.103	0.047	0.111	%O=JR	00 575_770
0.829	0.873	0.015	0.482	0.508	-0.012	0.281	0.282	-0.01	0.32	0.32	94.8	-2.3	137.9	137.9	-0.005	0.107	0.107	%Y=J=JG+JR	01 515_770
0.22	0.519	0.015	0.291	0.688	-0.28	0.165	0.325	-0.54	0.31	0.62	77.2	-96.2	107.9	144.6	-0.143	0.066	0.122	%L=JG	02 515_575
0.085	0.251	0.106	0.193	0.566	-0.158	0.04	0.161	-0.62	0.16	0.64	57.2	-92.3	25.2	95.7	-0.074	0.017	0.065	%Gs	03 0,35*JG+0,65*BG
0.013	0.107	0.155	0.049	0.388	-0.09	-0.026	0.093	-0.83	-0.24	0.87	39.1	-117.0	-19.5	118.6	-0.041	-0.011	0.039	%Cs=BG	04 475_515
0.134	0.126	0.809	0.125	0.118	0.012	-0.280	0.282	0.09	-2.22	2.22	42.2	8.1	-98.3	98.6	0.005	-0.143	0.107	%V=B=BR+BG	05 380_515
0.12	0.019	0.653	0.152	0.024	0.102	-0.255	0.275	5.35	-13.35	14.38	15.0	116.5	-131.6	175.8	0.042	-0.128	0.105	%Ms=BR	06 380_475
0.541	0.307	0.091	0.575	0.326	0.245	0.064	0.253	0.79	0.21	0.82	62.2	75.0	38.7	84.4	0.095	0.027	0.098	%Rs	07 0,14*BR+0,86*JR
0.609	0.354	0.0	0.632	0.367	0.268	0.116	0.292	0.75	0.32	0.82	66.0	75.4	113.1	135.9	0.103	0.047	0.111	%O=JR	08 575_770
0.0	0.0	0.0	0.344	0.357	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	%N0($\beta=0,001$)	09 380_770
0.964	1.0	0.824	0.345	0.358	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	%W1($\beta=1,000$)	10 380_770
CIE Standard Illuminant A																			
0.835	0.467	0.0	0.64	0.358	0.321	0.066	0.328	0.68	0.14	0.7	74.0	68.2	125.5	142.9	0.121	0.027	0.123	%O=JR	00 575_770
1.043	0.925	0.012	0.526	0.467	0.027	0.126	0.129	0.02	0.13	0.14	97.0	4.2	130.1	130.2	0.011	0.051	0.052	%Y=J=JG+JR	01 515_770
0.208	0.458	0.011	0.307	0.675	-0.294	0.06	0.3	-0.64	0.13	0.65	73.4	-97.9	90.3	133.2	-0.151	0.025	0.114	%L=JG	02 515_575
0.077	0.203	0.059	0.228	0.597	-0.145	0.005	0.145	-0.71	0.02	0.71	52.2	-87.2	7.5	87.5	-0.068	0.002	0.059	%Gs	03 0,35*JG+0,65*BG
0.007	0.066	0.085	0.045	0.418	-0.065	-0.024	0.07	-0.99	-0.37	1.05	30.9	-108.0	-43.1	116.3	-0.029	-0.01	0.029	%Cs=BG	04 475_515
0.054	0.074	0.343	0.115	0.157	-0.027	-0.126	0.129	-0.36	-1.7	1.74	32.7	-26.3	-113.6	116.6	-0.011	-0.058	0.052	%V=B=BR+BG	05 380_515
0.047	0.008	0.258	0.151	0.025	0.038	-0.102	0.109	4.81	-12.75	13.63	7.2	75.2	-139.7	158.7	0.016	-0.046	0.045	%Ms=BR	06 380_475
0.724	0.403	0.036	0.622	0.346	0.281	0.042	0.285	0.69	0.1	0.7	69.7	65.9	54.0	85.2	0.107	0.018	0.108	%Rs	07 0,14*BR+0,86*JR
0.835	0.467	0.0	0.64	0.358	0.321	0.066	0.328	0.68	0.14	0.7	74.0	68.2	125.5	142.9	0.121	0.027	0.123	%O=JR	08 575_770
0.001	0.0	0.0	0.445	0.405	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	%N0($\beta=0,001$)	09 380_770
1.098	0.999	0.355	0.447	0.407	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	%W1($\beta=1,000$)	10 380_770
$A = [(X/X_n) - (Y/Y_n)]Y = [a - a_n]Y \quad B = -0,4[(Z/Z_n) - (Y/Y_n)]Y = -0,4[b - b_n]Y \quad a = X/Y = x/y \quad b = -0,4 Z/Y = -0,4 z/y \quad (X, Y, Z \geq 0,89)$ $a^* = 500 [(X/X_n)^{1/3} - (Y/Y_n)^{1/3}] \quad b^* = 200 [(Y/Y_n)^{1/3} - (Z/Z_n)^{1/3}] \quad a' = (1/X_n)^{1/3} (x/y)^{1/3} \quad b' = -0,4 (1/Z_n)^{1/3} (z/y)^{1/3}$ $= 500 (a' - a'_n) Y^{1/3} \quad = 500 (b' - b'_n) Y^{1/3} \quad = 0,2191 (x/y)^{1/3} \quad = -0,08376 (z/y)^{1/3} \quad CIELAB \text{ for } n=D65$																			

X_1	Y_1	Z_1	x	y	A_1	B_1	Cr_1	a	b	c	L^*	a^*	b^*	C^*ab	$\log 1+A_1$	$\log 1+B_1$	$\log 1+C_1$	OYL_CVM_ONW_1	
CIE Illuminant E																			
0.614	0.357	0.0	0.632	0.367	0.257	0.142	0.294	0.71	0.39	0.82	66.3	70.3	113.7	133.7	0.099	0.057	0.112	%O=JR	00 575_770
0.831	0.867	0.015	0.485	0.505	-0.035	0.34	0.342	-0.04	0.39	0.39	94.6	-6.6	140.9	141.1	-0.015	0.127	0.127	%Y=J=JG+JR	01 515_770
0.216	0.509	0.015	0.292	0.687	-0.293	0.197	0.353	-0.57	0.38	0.69	76.6	-99.1	110.4	148.3	-0.15	0.078	0.131	%L=JG	02 515_575
0.267	0.549	0.31	0.237	0.487	-0.282	0.095	0.298	-0.51	0.17	0.54	79.0	-87.5	28.4	92.0	-0.144	0.039	0.113	%G	03 0,70*L+0,30*C
0.385	0.642	0.999	0.189	0.316	-0.257	0.142	0.294	-0.4	-0.22	0.45	84.0	-67.6	-27.3	73.0	-0.129	-0.066	0.112	%C=L+V	04 380_575
0.168	0.132	0.984	0.13	0.103	0.035	-0.34	0.342	0.26	-2.57	2.58	43.1	21.1	-96.9	99.2	0.015	-0.18	0.127	%V=B=BR+BG	05 380_515
0.783	0.49	0.984	0.346	0.217	0.293	-0.197	0.353	0.59	-0.4	0.72	75.4	66.6	-41.3	78.4	0.111	-0.095	0.131	%M=V+O	06 380_515+575_770
0.645	0.381	0.177	0.535	0.316	0.263	0.081	0.276	0.69	0.21	0.72	68.1	69.4	32.6	76.7	0.101	0.034	0.105	%R	07 0,18*M+0,82*O
0.614	0.357	0.0	0.632	0.367	0.257	0.142	0.294	0.71	0.39	0.82	66.3	70.3	113.7	133.7	0.099	0.057	0.112	%O=JR	08 575_770
0.001	0.001	0.001	0.332	0.332	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	%N0 ($\beta=0,001$)	09 380_770
1.0	1.0	1.0	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	0.0	0.0	%W1 ($\beta=1,000$)	10 380_770
CIE Standard Illuminant D65																			
0.548	0.323	0.0	0.628	0.37	0.241	0.14	0.279	0.74	0.43	0.86	63.6	73.0	109.1	131.3	0.093	0.057	0.106	%O=JR	00 575_770
0.768	0.852	0.016	0.469	0.52	-0.042	0.364	0.367	-0.04	0.42	0.43	94.0	-8.2	140.2	140.5	-0.018	0.135	0.135	%Y=J=JG+JR	01 515_770
0.22	0.529	0.016	0.288	0.69	-0.282	0.224	0.36	-0.53	0.42	0.68	77.8	-97.1	112.7	148.8	-0.144	0.087	0.133	%L=JG	02 515_575
0.275	0.573	0.337	0.231	0.483	-0.27	0.114	0.293	-0.47	0.2	0.51	80.3	-84.6	30.8	90.1	-0.136	0.047	0.111	%G	03 0,70*L+0,30*C
0.402	0.676	1.088	0.185	0.312	-0.241	0.14	0.279	-0.35	-0.2	0.41	85.8	-63.5	-24.3	68.1	-0.119	-0.065	0.106	%C=L+V	04 380_575
0.181	0.147	1.072	0.129	0.105	0.041	-0.364	0.367	0.28	-2.47	2.49	45.2	23.9	-93.3	96.4	0.017	-0.197	0.135	%V=B=BR+BG	05 380_515
0.729	0.47	1.072	0.321	0.206	0.282	-0.224	0.36	0.6	-0.47	0.76	74.2	68.9	-43.4	81.5	0.108	-0.11	0.133	%M=V+O	06 380_515+575_770
0.58	0.349	0.193	0.516	0.311	0.248	0.074	0.259	0.71	0.21	0.74	65.7	72.0	28.4	77.4	0.096	0.031	0.1	%R	07 0,18*M+0,82*O
0.548	0.323	0.0	0.628	0.37	0.241	0.14	0.279	0.74	0.43	0.86	63.6	73.0	109.1	131.3	0.093	0.057	0.106	%O=JR	08 575_770
0.0	0.001	0.001	0.311	0.327	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	%N0 ($\beta=0,001$)	09 380_770
0.95	1.0	1.088	0.312	0.329	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	%W1 ($\beta=1,000$)	10 380_770
CIE Illuminant D50																			
0.609	0.354	0.0	0.632	0.367	0.268	0.116	0.292	0.75	0.32	0.82	66.0	75.4	113.1	135.9	0.103	0.047	0.111	%O=JR	00 575_770
0.829	0.873	0.015	0.482	0.508	-0.012	0.281	0.282	-0.01	0.32	0.32	94.8	-2.3	137.9	137.9	-0.005	0.107	0.107	%Y=J=JG+JR	01 515_770
0.22	0.519	0.015	0.291	0.688	-0.28	0.165	0.325	-0.54	0.31	0.62	77.2	-96.2	107.9	144.6	-0.143	0.066	0.122	%L=JG	02 515_575
0.26	0.557	0.257	0.242	0.518	-0.276	0.08	0.288	-0.49	0.14	0.51	79.4	-88.2	28.8	92.8	-0.14	0.033	0.11	%G	03 0,70*L+0,30*C
0.354	0.645	0.824	0.194	0.353	-0.268	0.116	0.292	-0.41	-0.18	0.45	84.2	-73.9	-27.0	78.7	-0.135	-0.053	0.111	%C=L+V	04 380_575
0.134	0.126	0.809	0.125	0.118	0.012	-0.281	0.282	0.09	-2.22	2.22	42.2	8.1	-98.3	98.6	0.005	-0.143	0.107	%V=B=BR+BG	05 380_515
0.744	0.48	0.809	0.365	0.236	0.28	-0.165	0.325	0.58	-0.34	0.67	74.8	66.9	-42.1	79.0	0.107	-0.078	0.122	%M=V+O	06 380_515+575_770
0.633	0.376	0.146	0.547	0.325	0.27	0.065	0.278	0.71	0.17	0.73	67.7	73.5	32.1	80.3	0.103	0.027	0.106	%R	07 0,18*M+0,82*O
0.609	0.354	0.0	0.632	0.367	0.268	0.116	0.292	0.75	0.32	0.82	66.0	75.4	113.1	135.9	0.103	0.047	0.111	%O=JR	08 575_770
0.0	0.0	0.0	0.344	0.357	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	%N0 ($\beta=0,001$)	09 380_770
0.964	1.0	0.824	0.345	0.358	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	%W1 ($\beta=1,000$)	10 380_770
CIE Standard Illuminant A																			
0.835	0.467	0.0	0.64	0.358	0.321	0.066	0.328	0.68	0.14	0.7	74.0	68.2	125.5	142.9	0.121	0.027	0.123	%O=JR	00 575_770
1.043	0.925	0.012	0.526	0.467	0.027	0.126	0.129	0.02	0.13	0.14	97.0	4.2	130.1	130.2	0.011	0.051	0.052	%Y=J=JG+JR	01 515_770
0.208	0.458	0.011	0.307	0.675	-0.294	0.06	0.3	-0.64	0.13	0.65	73.4	-97.9	90.3	133.2	-0.151	0.025	0.114	%L=JG	02 515_575
0.225	0.48	0.114	0.274	0.585	-0.302	0.022	0.303	-0.62	0.04	0.63	74.8	-96.7	19.5	98.7	-0.156	0.009	0.115	%G	03 0,70*L+0,30*C
0.263	0.532	0.355	0.228	0.462	-0.321	0.066	0.328	-0.6	-0.12	0.61	78.0	-94.6	-37.8	101.9	-0.168	-0.029	0.123	%C=L+V	04 380_575
0.054	0.074	0.343	0.115	0.157	-0.027	0.126	0.129	-0.36	-1.7	1.74	32.7	-26.3	-113.6	116.6	-0.011	-0.058	0.052	%V=B=BR+BG	05 380_515
0.889	0.541	0.344	0.501	0.305	0.294	-0.06	0.3	0.54	-0.11	0.55	78.5	58.4	-34.7	67.9	0.112	-0.027	0.114	%M=V+O	06 380_515+575_770
0.844	0.48	0.062	0.608	0.346	0.316	0.043	0.319	0.65	0.09	0.66	74.8	66.3	44.7	80.0	0.119	0.018	0.12	%R	07 0,18*M+0,82*O
0.835	0.467	0.0	0.64	0.358	0.321	0.066	0.328	0.68	0.14	0.7	74.0	68.2	125.5	142.9	0.121	0.027	0.123	%O=JR	08 575_770
0.001	0.0	0.0	0.445	0.405	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	%N0 ($\beta=0,001$)	09 380_770
1.098	0.999	0.355	0.447	0.407	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	%W1 ($\beta=1,000$)	10 380_770
$A = [(X/X_n) - (Y/Y_n)]Y = [a - a_n]Y \quad B = -0,4[(Z/Z_n) - (Y/Y_n)]Y = -0,4[b - b_n]Y \quad a = X/Y = x/y \quad b = -0,4 Z/Y = -0,4 z/y \quad (X, Y, Z \geq 0,89)$ $a^* = 500 [(X/X_n)^{1/3} - (Y/Y_n)^{1/3}] \quad b^* = 200 [(Y/Y_n)^{1/3} - (Z/Z_n)^{1/3}] \quad a' = (1/X_n)^{1/3} (x/y)^{1/3} \quad b' = -0,4 (1/Z_n)^{1/3} (z/y)^{1/3}$ $= 500 (a' - a'_n) Y^{1/3} \quad = 500 (b' - b'_n) Y^{1/3} \quad = 0,2191 (x/y)^{1/3} \quad = -0,08376 (z/y)^{1/3} \quad \text{CIELAB for } n=D65$																			