

Performance (STRESS values) for threshold colour difference data (TCD)

data set	Calculations with data for grey surrounds (D65) and $0.1 < Y < 190$						Colour difference formula and STRESS value				
	Difference $\Delta E^*_{\text{CIELAB}}$										
	Name	Pairs	ΔE^*_{ab} range	min	max	mean	CIELAB $\Delta E_{\text{ab_PF}}$	CMC $\Delta E_{\text{CMs_PF}}$	CIE94 ΔE_{94_PF}	CIEDE2000 ΔE_{00_PF}	LABJND ΔE_{85_PF}
WA_0100	100	0.0 to <99.0	0.19	1.35	0.54	20.2	15.5	22.5	13.4	21.0	
1S_0890	890	0.0 to <99.0	0.1	4.87	1.09	35.7	35.4	35.0	35.8	28.4	
2M_0399	399	0.0 to <99.0	0.09	2.74	0.7	40.8	38.4	38.4	38.2	32.6	
2S_0446	446	0.0 to <99.0	0.07	4.28	1.08	36.8	38.9	38.6	39.5	36.9	
2G_0379	379	0.0 to <99.0	0.08	2.61	0.81	45.2	43.6	42.9	44.0	37.1	
WA_0100	99	0.0 to <1.0	0.19	0.94	0.54	19.2	15.4	22.6	13.4	21.1	
1S_0890	513	0.0 to <1.0	0.1	0.99	0.63	30.0	34.2	34.4	34.6	30.3	
2M_0399	316	0.0 to <1.0	0.09	0.99	0.53	36.9	35.2	36.3	34.8	32.5	
2S_0446	255	0.0 to <1.0	0.07	0.99	0.51	35.1	36.4	37.8	36.9	37.4	
2G_0379	276	0.0 to <1.0	0.08	0.99	0.57	48.1	47.8	46.5	47.8	40.9	
WA_0100	46	0.0 to <0.5	0.19	0.49	0.39	12.7	17.5	16.9	12.0	23.5	
1S_0890	157	0.0 to <0.5	0.1	0.49	0.35	30.6	35.7	35.0	37.7	30.1	
2M_0399	143	0.0 to <0.5	0.09	0.49	0.3	35.2	37.9	36.8	35.7	31.5	
2S_0446	133	0.0 to <0.5	0.07	0.49	0.32	32.0	35.0	35.1	35.7	34.4	
2G_0379	106	0.0 to <0.5	0.08	0.49	0.34	47.7	48.6	47.2	47.4	44.4	
WA_0100	53	0.5 to <1.0	0.5	0.94	0.66	11.0	13.1	23.3	14.1	18.1	
1S_0890	356	0.5 to <1.0	0.5	0.99	0.75	26.4	29.8	29.4	29.2	29.4	
2M_0399	173	0.5 to <1.0	0.5	0.99	0.72	30.1	30.2	31.0	29.6	31.8	
2S_0446	122	0.5 to <1.0	0.5	0.99	0.72	35.4	37.3	38.5	37.3	38.9	
2G_0379	170	0.5 to <1.0	0.5	0.99	0.71	44.5	44.1	42.3	44.0	38.1	
WA_0100	1	1.0 to <1.5	1.35	1.35	1.35	0.1	0.1	0.1	0.1	0.1	
1S_0890	198	1.0 to <1.5	1.0	1.49	1.23	24.5	28.6	29.3	30.8	26.9	
2M_0399	66	1.0 to <1.5	1.02	1.49	1.21	32.9	33.7	32.5	33.7	31.8	
2S_0446	76	1.0 to <1.5	1.0	1.49	1.2	32.6	34.9	38.2	37.5	36.6	
2G_0379	64	1.0 to <1.5	1.0	1.49	1.23	30.6	29.4	29.4	29.7	28.4	
WA_0100	0										
1S_0890	84	1.5 to <2.0	1.5	1.98	1.72	22.7	24.7	26.6	26.4	26.2	
2M_0399	12	1.5 to <2.0	1.5	1.97	1.67	38.2	34.3	30.2	34.5	29.2	
2S_0446	49	1.5 to <2.0	1.51	1.99	1.74	30.1	31.4	30.5	30.7	30.5	
2G_0379	29	1.5 to <2.0	1.51	1.99	1.69	24.7	25.3	25.7	26.4	26.7	
WA_0100	100	0.0 to <2.0	0.19	1.35	0.54	20.2	15.5	22.5	13.4	21.0	
1S_0890	795	0.0 to <2.0	0.1	1.98	0.89	30.4	33.0	33.8	34.1	28.9	
2M_0399	394	0.0 to <2.0	0.09	1.97	0.68	39.7	37.8	37.8	37.7	32.5	
2S_0446	380	0.0 to <2.0	0.07	1.99	0.81	34.9	35.5	36.9	36.5	36.8	
2G_0379	369	0.0 to <2.0	0.08	1.99	0.77	46.0	44.3	43.6	44.7	37.9	

data sets: WA=WANG, 1S=BIGC_T1_SG, 2M=BIGC_T2_M, 2S=BIGC_T2_SG, 2G=BIGC_T2_G

Performance (STRESS values) for threshold colour difference data (TCD)

data set	Calculations with data for grey surrounds (D65) and 0,1 < Y < 190						Colour difference formula and STRESS value				
	Difference $\Delta E^*_{CIEDE2000}$						CIEDE2000				
Name	Pairs	ΔE^*_{C00} range	min	max	mean	min	max	mean	min	max	mean
WA_0100	100	0.0 to <99.0	0.19	1.35	0.54	20.2	15.5	22.5	13.4	21.0	21.0
1S_0890	890	0.0 to <99.0	0.1	4.87	1.09	35.7	35.4	35.0	35.8	28.4	28.4
2M_0399	399	0.0 to <99.0	0.09	2.74	0.7	40.8	38.4	38.4	38.2	32.6	32.6
2S_0446	446	0.0 to <99.0	0.07	4.28	1.08	36.8	38.9	38.6	39.5	36.9	36.9
2G_0379	379	0.0 to <99.0	0.08	2.61	0.81	45.2	43.6	42.9	44.0	37.1	37.1
WA_0100	100	0.0 to <1.0	0.19	1.35	0.54	20.2	15.5	22.5	13.4	21.0	21.0
1S_0890	772	0.0 to <1.0	0.1	3.52	0.93	34.2	32.6	32.5	32.6	28.6	28.6
2M_0399	395	0.0 to <1.0	0.09	2.21	0.69	40.9	38.2	38.1	38.0	32.7	32.7
2S_0446	380	0.0 to <1.0	0.07	2.84	0.86	35.4	34.8	36.3	35.5	38.1	38.1
2G_0379	357	0.0 to <1.0	0.08	2.26	0.75	47.1	44.9	44.0	45.1	38.6	38.6
WA_0100	98	0.0 to <0.5	0.19	1.35	0.55	19.8	15.6	22.6	13.5	20.5	20.5
1S_0890	339	0.0 to <0.5	0.1	1.71	0.59	34.3	32.6	32.3	33.8	28.6	28.6
2M_0399	280	0.0 to <0.5	0.09	1.35	0.49	38.9	35.7	36.1	35.3	32.4	32.4
2S_0446	229	0.0 to <0.5	0.07	1.51	0.52	37.1	37.1	39.2	37.2	39.7	39.7
2G_0379	234	0.0 to <0.5	0.08	1.49	0.59	52.5	46.4	46.1	46.7	41.7	41.7
WA_0100	2	0.5 to <1.0	0.36	0.44	0.4	5.4	6.6	7.1	0.1	10.4	10.4
1S_0890	433	0.5 to <1.0	0.44	3.52	1.2	31.7	27.1	26.0	25.6	27.5	27.5
2M_0399	115	0.5 to <1.0	0.64	2.21	1.15	37.1	34.5	33.0	32.9	32.4	32.4
2S_0446	151	0.5 to <1.0	0.44	2.84	1.36	32.3	31.9	32.8	32.4	35.7	35.7
2G_0379	123	0.5 to <1.0	0.47	2.26	1.07	36.1	36.5	34.7	36.1	32.6	32.6
WA_0100	0	1.0 to <1.5	0.74	4.85	1.93	31.6	23.7	22.0	21.7	24.6	24.6
1S_0890	92	1.0 to <1.5	1.44	2.74	1.92	25.4	11.6	14.2	14.9	20.0	20.0
2M_0399	4	1.0 to <1.5	1.1	3.61	2.17	30.1	30.2	28.4	28.7	30.0	30.0
2S_0446	53	1.0 to <1.5	1.17	2.61	1.73	20.7	19.0	17.0	17.8	18.3	18.3
2G_0379	21	1.0 to <1.5									
WA_0100	0	1.5 to <2.0	1.57	4.87	2.91	34.9	28.5	19.2	22.1	22.3	22.3
1S_0890	19	1.5 to <2.0									
2M_0399	0	1.5 to <2.0	2.37	4.28	2.97	41.6	42.4	39.9	40.7	38.7	38.7
2S_0446	10	1.5 to <2.0	2.07	2.07	2.07	0.1	0.1	0.1	0.1	0.1	0.1
2G_0379	1	1.5 to <2.0									
WA_0100	100	0.0 to <2.0	0.19	1.35	0.54	20.2	15.5	22.5	13.4	21.0	21.0
1S_0890	883	0.0 to <2.0	0.1	4.87	1.08	35.9	35.3	34.5	35.3	28.4	28.4
2M_0399	399	0.0 to <2.0	0.09	2.74	0.7	40.8	38.4	38.4	38.2	32.6	32.6
2S_0446	443	0.0 to <2.0	0.07	4.28	1.06	36.3	37.8	37.7	38.4	36.8	36.8
2G_0379	379	0.0 to <2.0	0.08	2.61	0.81	45.2	43.6	42.9	44.0	37.1	37.1

data sets: WA=WANG, 1S=BIGC_T1_SG, 2M=BIGC_T2_M, 2S=BIGC_T2_SG, 2G=BIGC_T2_G

Performance (STRESS values) for threshold colour difference data (TCD)

data set	Calculations with data for grey surrounds (D65) and 0,1 < Y < 190									
	Difference ΔE^*_{LABJND}					Colour difference formula and STRESS value				
Name	Pairs	ΔE^*_{C85} range	min	max	mean	CIELAB ΔE	CMC ΔE	CIE94 ΔE	CIEDE2000 ΔE	LABJND ΔE
WA_0100	100	0.0 to <99.0	0.19	1.35	0.54	20.2	15.5	22.5	13.4	21.0
1S_0890	890	0.0 to <99.0	0.1	4.87	1.09	35.7	35.4	35.0	35.8	28.4
2M_0399	399	0.0 to <99.0	0.09	2.74	0.7	40.8	38.4	38.4	38.2	32.6
2S_0446	446	0.0 to <99.0	0.07	4.28	1.08	36.8	38.9	38.6	39.5	36.9
2G_0379	379	0.0 to <99.0	0.08	2.61	0.81	45.2	43.6	42.9	44.0	37.1
WA_0100	9	0.0 to <1.0	0.19	0.67	0.38	20.6	8.2	12.5	7.9	5.1
1S_0890	30	0.0 to <1.0	0.1	0.52	0.27	34.7	39.5	35.8	39.2	25.2
2M_0399	23	0.0 to <1.0	0.1	0.6	0.23	39.2	32.1	33.7	35.2	26.7
2S_0446	12	0.0 to <1.0	0.07	0.3	0.15	39.3	51.3	49.4	51.5	38.1
2G_0379	26	0.0 to <1.0	0.08	0.72	0.34	45.2	44.9	45.1	46.1	40.0
WA_0100	0									
1S_0890	4	0.0 to <0.5	0.16	0.35	0.22	25.5	27.7	22.8	28.7	19.1
2M_0399	4	0.0 to <0.5	0.1	0.12	0.11	27.4	18.4	20.0	12.0	31.7
2S_0446	2	0.0 to <0.5	0.07	0.1	0.08	4.1	13.4	12.5	17.7	16.8
2G_0379	6	0.0 to <0.5	0.08	0.3	0.18	41.2	41.6	43.1	43.8	46.7
WA_0100	9	0.5 to <1.0	0.19	0.67	0.38	20.6	8.2	12.5	7.9	5.1
1S_0890	26	0.5 to <1.0	0.1	0.52	0.27	35.6	39.3	36.2	39.3	24.7
2M_0399	19	0.5 to <1.0	0.11	0.6	0.25	35.9	29.9	29.8	33.0	21.4
2S_0446	10	0.5 to <1.0	0.11	0.3	0.17	38.6	47.8	45.8	47.4	37.9
2G_0379	20	0.5 to <1.0	0.12	0.72	0.39	45.1	43.8	43.4	44.3	38.3
WA_0100	12	1.0 to <1.5	0.29	0.74	0.49	20.2	9.9	7.8	10.4	11.9
1S_0890	37	1.0 to <1.5	0.16	1.31	0.55	33.7	36.4	31.0	36.0	19.9
2M_0399	63	1.0 to <1.5	0.09	1.06	0.42	46.4	39.6	39.1	41.3	26.6
2S_0446	23	1.0 to <1.5	0.12	0.88	0.34	40.7	44.5	43.3	46.7	40.1
2G_0379	29	1.0 to <1.5	0.11	1.01	0.57	58.3	54.8	53.7	52.7	43.1
WA_0100	17	1.5 to <2.0	0.34	1.35	0.63	22.1	14.5	11.7	11.6	7.1
1S_0890	75	1.5 to <2.0	0.18	2.1	0.61	36.0	38.5	33.3	37.3	25.0
2M_0399	57	1.5 to <2.0	0.18	1.39	0.6	39.6	34.9	33.3	35.8	22.8
2S_0446	29	1.5 to <2.0	0.16	1.06	0.48	33.8	35.3	33.6	36.6	38.7
2G_0379	52	1.5 to <2.0	0.18	1.46	0.65	47.4	43.9	42.8	42.3	34.3
WA_0100	38	0.0 to <2.0	0.19	1.35	0.53	24.1	14.4	13.3	10.8	13.3
1S_0890	142	0.0 to <2.0	0.1	2.1	0.52	37.1	40.1	35.6	39.5	25.2
2M_0399	143	0.0 to <2.0	0.09	1.39	0.46	44.4	37.9	37.9	39.6	26.3
2S_0446	64	0.0 to <2.0	0.07	1.06	0.37	37.8	40.7	39.3	42.1	39.2
2G_0379	107	0.0 to <2.0	0.08	1.46	0.55	51.7	49.8	49.0	48.4	39.6

data sets: WA=WANG, 1S=BIGC_T1_SG, 2M=BIGC_T2_M, 2S=BIGC_T2_SG, 2G=BIGC_T2_G

TUB-test chart WE65; Colour differences and formulae

input: w/rgb/cmyk -> (w/rgb/cmyk)

VCD datasets: WA, 1S, 2M, 2S, 2G, ΔE^* ranges of LABJND, all colours of 399