Supplemental Material

Table 1.1: SD ellipse parameters for an average observer for each primary set and CMF set. Center chromaticity, ellipse orientation, area and lengths of the major and minor ellipse axes are reported in CIE 1976 *u'v'* units.

Primary set peak wavelengths (nm)	CMF set	Ellipse orientation (°)	Ellipse area ($\times 10^{-4}$)	Length of ellipse major axis in *u'v'* ($\times 10^{-2}$)	Length of ellipse minor axis in *u'v'* ($\times 10^{-2}$)
P1: 636-502-447	CIE 31 2°	19.4	3.55	2.38	1.90
	CIE 64 10°	22.5	3.22	2.18	1.88
	CIE 06 2°	21.5	3.42	2.38	1.83
	CIE 06 10°	24.3	3.33	2.20	1.93
P2: 636-502-404	CIE 31 2°	74.7	3.44	2.50	1.75
	CIE 64 10°	85.6	4.00	3.18	1.60
	CIE 06 2°	81.2	4.77	3.68	1.65
	CIE 06 10°	85.3	4.10	3.20	1.63
P3: 636-521-447	CIE 31 2°	41.0	1.84	1.80	1.30
	CIE 64 10°	48.2	1.70	1.80	1.20
	CIE 06 2°	39.1	1.79	1.85	1.23
	CIE 06 10°	49.1	1.72	1.83	1.20
P4: 636-521-404	CIE 31 2°	93.6	4.18	3.48	1.53
	CIE 64 10°	91.8	4.80	4.53	1.35
	CIE 06 2°	89.6	5.73	5.03	1.45
	CIE 06 10°	91.1	4.82	4.55	1.35
P5: 598-521-447	CIE 31 2°	54.0	1.72	2.08	1.05
	CIE 64 10°	52.7	1.64	2.13	0.98
	CIE 06 2°	50.6	1.65	2.10	1.00
	CIE 06 10°	52.4	1.65	2.15	0.98
P6: 598-521-404	CIE 31 2°	102.1	4.58	3.43	1.70
	CIE 64 10°	96.0	5.53	4.40	1.60
	CIE 06 2°	94.3	6.21	4.85	1.63
	CIE 06 10°	95.1	5.63	4.40	1.63
P7: 673-521-447	CIE 31 2°	12.0	2.01	1.73	1.48
	CIE 64 10°	43.9	1.83	1.63	1.43
	CIE 06 2°	20.1	1.94	1.73	1.43
	CIE 06 10°	46.6	1.85	1.65	1.43
P8: 636-521-475	CIE 31 2°	92.9	3.54	2.68	1.68
	CIE 64 10°	70.6	2.71	2.33	1.48
	CIE 06 2°	83.0	3.08	2.38	1.65
	CIE 06 10°	68.1	2.65	2.33	1.45

Table 2.1 Results of the variability contrast analysis for the eight primary sets using a Box's M test applied between all CMF set pairs (contrasts). The *p*-values of each contrast are reported in four sub-tables, for primary set (P1, P2), (P3, P4), (P5, P6), (P7, P8) respectively; wherein the upper-right half and the lower-left half of the sub-tables correspond to the primary sets with odd numbers (upper table), and the primary sets with even numbers (lower sub-table), respectively. The table cells with the contrast *p*-values for the primary sets with even numbers have been shaded grey. When the *p*-value is significant (<5% significance) it has been printed in bold; when the *p*-value is still significant after a Bonferroni correction it has been printed in *bold-italic*.

Primary set (P1, P2): 636-502-447 nm / 636-502-404 nm

CMF set	CIE 1931 2°	CIE 1964 10°	CIE 2006 2°	CIE 2006 10°
CIE 1931 2°	NA	0.952	0.990	0.956
CIE 1964 10°	0.235	NA	0.941	0.998
CIE 2006 2°	0.054	0.689	NA	0.927
CIE 2006 10°	0.272	1.000	0.703	NA

Primary set (P3, P4): 636-521-447 nm / 636-521-404 nm

CMF set	CIE 1931 2°	CIE 1964 10°	CIE 2006 2°	CIE 2006 10°
CIE 1931 2°	NA	0.903	0.976	0.895
CIE 1964 10°	0.198	NA	0.919	0.999
CIE 2006 2°	0.055	0.756	NA	0.904
CIE 2006 10°	0.203	0.997	0.815	NA

Primary set (P5, P6): 598-521-447 nm / 598-521-404 nm

CMF set	CIE 1931 2°	CIE 1964 10°	CIE 2006 2°	CIE 2006 10°
CIE 1931 2°	NA	0.957	0.941	0.948
CIE 1964 10°	0.214	NA	0.988	0.999
CIE 2006 2°	**0.049**	0.894	NA	0.991
CIE 2006 10°	0.219	0.997	0.905	NA

Primary set (P7, P8): 673-521-447 nm / 636-521-475 nm

CMF set	CIE 1931 2°	CIE 1964 10°	CIE 2006 2°	CIE 2006 10°
CIE 1931 2°	NA	0.839	0.985	0.821
CIE 1964 10°	0.121	NA	0.899	0.999
CIE 2006 2°	0.657	0.658	NA	0.881
CIE 2006 10°	0.080	0.996	0.560	NA

Table 2.2: Results of the variability contrast analysis for the four CMF sets using a Box's M test applied between all primary set pairs (contrasts). The *p*-values of each contrast are reported in two sub-tables, one for the 2° CMFs and one for the 10° CMFs; wherein the upper-right half and the lower-left half of the sub-tables correspond to the CIE 1931 and CIEPO06 2° CMFs (upper table), and the CIE 1964 and CIEPO06 10° CMFs (lower sub-table), respectively. The table cells with the contrast *p*-values for the CIEPO06 CMFs have been shaded grey. When the *p*-value is significant (<5% significance) it has been printed in bold; when the *p*-value is still significant after a Bonferroni correction it has been printed in *bold-italic*. The numbers (1, 2, 3, 4, 5, 6, 7, 8) in the first column and the first row correspond to the primary sets, i.e. P1: 636-502-447 nm, P2: 636-502-404 nm, P3: 636-521-447 nm, P4: 636-521-404 nm, P5: 598-521-447 nm, P6: 598-521-404 nm, P7: 673-521-447 nm, P8: 636-521-475 nm.

CMF set: CIE 1931 2° / CIEPO06 2°

Primary set	P1	P2	P3	P4	P5	P6	P7	P8
P1	NA	1.61E-01	**8.14E-03**	***1.88E-05***	***2.90E-05***	***9.31E-05***	**2.35E-02**	**1.14E-02**
P2	***6.25E-05***	NA	**7.75E-03**	**2.05E-02**	***3.89E-04***	**1.42E-02**	**8.08E-03**	4.95E-01
P3	**8.61E-03**	***5.38E-08***	NA	***1.27E-07***	1.65E-01	***7.43E-08***	5.86E-01	***3.97E-04***
P4	***3.96E-11***	**2.82E-02**	***2.74E-14***	NA	***4.79E-09***	5.81E-01	***3.23E-07***	2.79E-01
P5	***3.01E-05***	***4.74E-09***	1.73E-01	***1.52E-15***	NA	***3.65E-10***	**5.17E-03**	***7.26E-06***
P6	***8.16E-10***	**2.31E-02**	***5.96E-14***	5.43E-01	***6.58E-16***	NA	***6.71E-07***	2.64E-01
P7	**2.53E-02**	***7.44E-08***	5.84E-01	***8.86E-14***	**5.76E-03**	***5.06E-13***	NA	**1.16E-03**
P8	**4.91E-02**	**1.31E-02**	**7.59E-03**	***1.92E-06***	***1.29E-04***	***6.06E-06***	**2.24E-02**	NA

CMF set: CIE 1964 10° / CIEPO06 10°

Primary set	P1	P2	P3	P4	P5	P6	P7	P8
P1	NA	**2.28E-03**	**5.13E-03**	***2.11E-09***	***2.31E-05***	***9.58E-08***	**2.10E-02**	8.47E-02
P2	**4.79E-03**	NA	***4.17E-06***	**2.42E-02**	***8.14E-08***	**4.72E-02**	***1.39E-05***	**3.13E-02**
P3	**4.70E-03**	***1.02E-05***	NA	***2.77E-12***	2.29E-01	***4.59E-12***	6.00E-01	1.07E-01
P4	***6.96E-09***	**2.44E-02**	***9.17E-12***	NA	***2.69E-14***	4.91E-01	***1.99E-11***	***7.58E-07***
P5	***2.10E-05***	***1.43E-07***	2.39E-01	***5.70E-14***	NA	***1.52E-14***	**9.16E-03**	**8.44E-03**
P6	***4.01E-07***	5.61E-02	***1.76E-11***	4.79E-01	***4.18E-14***	NA	***6.93E-11***	***1.30E-06***
P7	**1.98E-02**	***3.27E-05***	**6.11E-01**	***5.88E-11***	**1.01E-02**	***2.33E-10***	NA	9.99E-02
P8	9.63E-02	**2.34E-02**	1.93E-01	***4.26E-07***	**1.52E-02**	***9.46E-07***	1.63E-01	NA