

**Performance (STRESS values) for Large Colour Difference data (LCD)**

data set	Calculations with data for grey backgrounds (chromaticity near D65)									
	Colour difference $\Delta E^*_{CIELAB}$					Colour difference formula and STRESS value				
Name	Pairs	$\Delta E^*_{ab}$ range	min	max	mean	CIELAB $\Delta E^*_{ab}$	CMC $\Delta E^*_{CM}$	CIE94 $\Delta E^*_{94}$	CIEDE2000 $\Delta E^*_{00}$	LABJND $\Delta E^*_{85}$
OS_0128	128	0.0 to <99.0	7.33	21.63	14.32	24.5	27.2	21.6	22.1	44.2
MU_0844	844	0.0 to <99.0	4.17	22.59	10.05	17.2	33.0	31.3	29.9	54.8
PO_1308	1308	0.0 to <99.0	0.87	26.19	8.9	29.6	38.2	30.6	34.0	40.0
GU_0292	292	0.0 to <99.0	4.79	20.86	11.42	24.9	24.7	18.8	19.3	42.6
ZH_0144	144	0.0 to <99.0	4.85	19.79	9.91	26.3	47.0	34.5	31.0	36.7
BA_0238	238	0.0 to <99.0	4.11	35.78	11.74	30.6	24.4	20.1	18.9	39.6
RL_0080	80	0.0 to <99.0	1.38	36.6	11.11	47.4	62.0	56.2	54.5	52.8
KL_0624	624	0.0 to <99.0	1.91	43.77	21.21	25.0	42.2	33.1	28.9	36.5
OS_0128	0									
MU_0844	17	0.0 to <5.0	4.17	4.97	4.63	4.6	14.1	5.9	17.6	21.8
PO_1308	268	0.0 to <5.0	0.87	4.99	3.36	26.8	35.3	27.2	31.1	40.4
GU_0292	1	0.0 to <5.0	4.79	4.79	4.79	0.1	0.1	0.1	0.1	0.1
ZH_0144	3	0.0 to <5.0	4.85	4.96	4.91	0.5	9.0	0.6	5.3	28.3
BA_0238	8	0.0 to <5.0	4.11	4.92	4.63	19.9	13.1	23.8	16.7	38.5
RL_0080	13	0.0 to <5.0	1.38	4.93	3.27	29.2	31.8	28.3	25.6	36.4
KL_0624	6	0.0 to <5.0	1.91	4.88	3.23	44.0	45.8	45.4	48.4	49.0
OS_0128	128	5.0 to <99.0	7.33	21.63	14.32	24.5	27.2	21.6	22.1	44.2
MU_0844	827	5.0 to <99.0	5.01	22.59	10.16	17.0	33.1	31.3	29.9	54.7
PO_1308	1040	5.0 to <99.0	5.01	26.19	10.33	29.1	37.8	30.2	33.6	39.9
GU_0292	291	5.0 to <99.0	5.33	20.86	11.44	24.9	24.7	18.8	19.3	42.6
ZH_0144	141	5.0 to <99.0	5.0	19.79	10.01	26.3	47.1	34.6	31.1	36.7
BA_0238	230	5.0 to <99.0	5.0	35.78	11.98	30.5	24.5	20.1	18.8	39.4
RL_0080	67	5.0 to <99.0	5.14	36.6	12.63	47.4	62.4	56.7	55.0	52.3
KL_0624	618	5.0 to <99.0	5.02	43.77	21.38	25.0	42.1	33.1	28.9	36.4
OS_0128	9	5.0 to <10.0	7.33	9.86	8.71	21.2	26.6	24.1	25.5	28.6
MU_0844	411	5.0 to <10.0	5.01	9.99	8.58	11.6	28.3	33.7	31.3	48.9
PO_1308	567	5.0 to <10.0	5.01	9.99	7.44	25.8	35.5	27.6	33.6	36.3
GU_0292	95	5.0 to <10.0	5.33	9.97	8.64	20.1	17.6	18.0	16.3	44.1
ZH_0144	70	5.0 to <10.0	5.0	9.98	7.4	24.7	37.3	23.6	22.4	38.1
BA_0238	33	5.0 to <10.0	5.0	9.96	7.09	23.2	23.2	31.0	21.4	61.1
RL_0080	27	5.0 to <10.0	5.14	9.99	7.54	39.3	55.3	49.8	54.8	57.2
KL_0624	68	5.0 to <10.0	5.02	9.99	8.08	43.6	46.8	43.5	44.9	44.2
OS_0128	115	10.0 to <20.0	10.2	19.7	14.54	23.7	26.7	20.4	21.8	41.7
MU_0844	412	10.0 to <20.0	10.0	19.34	11.63	15.2	31.0	27.9	26.2	53.7
PO_1308	460	10.0 to <20.0	10.02	19.87	13.55	27.9	36.3	29.1	32.0	40.2
GU_0292	195	10.0 to <20.0	10.01	18.64	12.76	24.3	25.0	18.0	19.1	41.9
ZH_0144	71	10.0 to <20.0	10.02	19.79	12.59	20.8	44.9	33.7	32.5	33.1
BA_0238	191	10.0 to <20.0	10.11	19.3	12.39	25.2	24.6	18.0	17.9	36.0
RL_0080	33	10.0 to <20.0	10.1	19.9	14.34	34.6	47.5	47.4	51.1	50.5
KL_0624	211	10.0 to <20.0	10.0	19.95	14.86	28.5	37.7	30.6	30.7	33.1
OS_0128	4	20.0 to <99.0	20.01	21.63	20.85	17.3	20.9	24.7	17.1	63.8
MU_0844	4	20.0 to <99.0	20.81	22.59	21.89	13.1	3.1	7.6	6.0	10.4
PO_1308	13	20.0 to <99.0	20.02	26.19	22.77	20.6	24.8	19.9	16.8	25.2
GU_0292	1	20.0 to <99.0	20.86	20.86	20.86	0.1	0.1	0.1	0.1	0.1
ZH_0144	0									
BA_0238	6	20.0 to <99.0	20.19	35.78	26.08	6.9	9.8	20.3	21.5	33.9
RL_0080	7	20.0 to <99.0	20.07	36.6	24.25	31.7	56.1	54.9	47.5	41.1
KL_0624	339	20.0 to <99.0	20.06	43.77	28.11	17.7	39.1	29.4	24.4	35.6

data sets: OS\_0128, MU\_0844, PO\_1308, GU\_0292, ZH\_0144, BA\_0238, RL\_0080, KL\_0624

see similar files: http://130.149.60.45/~farbmetrik/WE23/WE23L0NP.PDF /.PS  
 technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20140801-WE23/WE23L0NP.PDF /.PS  
 application for measurement of display or printer output

TUB material: code=rh4ta

**Performance (STRESS values) for Large Colour Difference data (LCD)**

data set	Calculations with data for grey backgrounds (chromaticity near D65)									
	Name	Pairs	Colour difference $\Delta E^*_{CIEDE2000}$			Colour difference formula and STRESS value				
$\Delta E^*_{C00}$			range	min	max	mean	CIELAB $\Delta E^*$	CMC $\Delta E^*$	CIE94 $\Delta E^*$	CIEDE2000 $\Delta E^*$
OS_0128	128	0.0 to <99.0	7.33	21.63	14.32	24.5	27.2	21.6	22.1	44.2
MU_0844	844	0.0 to <99.0	4.17	22.59	10.05	17.2	33.0	31.3	29.9	54.8
PO_1308	1308	0.0 to <99.0	0.87	26.19	8.9	29.6	38.2	30.6	34.0	40.0
GU_0292	292	0.0 to <99.0	4.79	20.86	11.42	24.9	24.7	18.8	19.3	42.6
ZH_0144	144	0.0 to <99.0	4.85	19.79	9.91	26.3	47.0	34.5	31.0	36.7
BA_0238	238	0.0 to <99.0	4.11	35.78	11.74	30.6	24.4	20.1	18.9	39.6
RL_0080	80	0.0 to <99.0	1.38	36.6	11.11	47.4	62.0	56.2	54.5	52.8
KL_0624	624	0.0 to <99.0	1.91	43.77	21.21	25.0	42.2	33.1	28.9	36.5
OS_0128	7	0.0 to <5.0	7.33	16.91	10.65	23.7	20.4	22.0	13.7	50.2
MU_0844	228	0.0 to >5.0	4.17	15.18	8.58	18.9	22.6	22.4	25.4	34.7
PO_1308	543	0.0 to <5.0	0.87	12.69	5.17	28.3	33.0	27.1	28.0	39.1
GU_0292	35	0.0 to <5.0	4.79	15.27	9.73	19.8	16.5	20.2	18.4	25.8
ZH_0144	73	0.0 to >5.0	4.85	16.42	8.06	32.6	19.1	17.1	16.4	39.5
BA_0238	38	0.0 to <5.0	4.11	20.19	8.22	40.2	21.6	33.4	21.7	56.1
RL_0080	34	0.0 to <5.0	1.38	20.07	7.45	39.5	47.5	53.3	51.3	70.9
KL_0624	41	0.0 to <5.0	1.91	15.72	8.12	58.9	52.7	50.3	51.7	51.0
OS_0128	121	5.0 to >99.0	8.75	21.63	14.54	24.4	27.0	21.1	21.6	44.0
MU_0844	616	5.0 to >99.0	5.76	22.59	10.6	16.2	28.5	24.3	22.0	50.6
PO_1308	765	5.0 to >99.0	4.12	26.19	11.55	29.0	36.2	28.6	31.5	39.4
GU_0292	257	5.0 to >99.0	6.31	20.86	11.65	24.5	24.7	17.4	17.9	41.4
ZH_0144	71	5.0 to >99.0	6.3	19.79	11.81	22.3	44.2	32.1	30.6	33.1
BA_0238	200	5.0 to >99.0	5.12	35.78	12.4	29.3	24.5	18.9	18.1	38.1
RL_0080	46	5.0 to >99.0	6.44	36.6	13.82	48.2	58.8	50.2	48.8	42.7
KL_0624	583	5.0 to >99.0	5.68	43.77	22.13	23.9	41.5	32.1	27.7	35.6
OS_0128	82	5.0 to <10.0	8.75	21.63	14.4	25.1	25.0	22.7	20.0	36.0
MU_0844	532	5.0 to <10.0	5.76	19.17	10.36	16.2	30.8	25.0	21.5	50.8
PO_1308	542	5.0 to <10.0	4.12	20.02	10.19	29.0	34.7	27.5	29.7	37.4
GU_0292	185	5.0 to >10.0	6.31	20.86	11.13	25.4	22.9	17.5	14.2	44.2
ZH_0144	60	5.0 to <10.0	6.3	16.88	11.11	21.8	35.2	20.6	19.9	34.7
BA_0238	147	5.0 to <10.0	5.12	29.29	11.7	28.3	25.4	22.2	15.6	45.6
RL_0080	33	5.0 to >10.0	6.44	24.29	12.62	47.9	46.3	41.9	41.5	43.5
KL_0624	146	5.0 to <10.0	5.68	29.88	12.87	36.4	33.6	29.5	30.6	32.0
OS_0128	39	10.0 to <20.0	10.63	20.68	14.81	18.3	27.2	16.9	19.4	43.0
MU_0844	84	10.0 to >20.0	10.35	22.59	12.1	14.5	9.6	18.6	13.2	47.1
PO_1308	220	10.0 to <20.0	7.82	25.81	14.73	28.2	30.7	25.4	26.0	41.9
GU_0292	72	10.0 to <20.0	9.25	18.64	12.98	21.4	26.0	13.9	17.5	34.2
ZH_0144	11	10.0 to >20.0	10.34	19.79	15.66	17.1	33.6	16.8	21.1	22.6
BA_0238	53	10.0 to <20.0	9.83	35.78	14.36	26.6	23.3	13.9	20.4	25.5
RL_0080	12	10.0 to >20.0	9.99	26.36	15.23	49.5	49.5	37.7	50.0	34.7
KL_0624	301	10.0 to >20.0	10.79	41.13	22.71	22.2	34.5	24.7	22.2	32.3
OS_0128	0									
MU_0844	0									
PO_1308	3	20.0 to <99.0	24.26	26.19	25.31	8.6	18.6	6.9	6.3	8.5
GU_0292	0									
ZH_0144	0									
BA_0238	0									
RL_0080	1	20.0 to <99.0	36.6	36.6	36.6	0.1	0.1	0.1	0.1	0.1
KL_0624	136	20.0 to <99.0	23.23	43.77	30.79	13.9	31.2	20.1	15.0	30.1

data sets: OS\_0128, MU\_0844, PO\_1308, GU\_0292, ZH\_0144, BA\_0238, RL\_0080, KL\_0624

see similar files: http://130.149.60.45/~farbmetrik/WE23/WE23L0NP.PDF /.PS  
 technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20140801-WE23/WE23L0NP.PDF /.PS  
 application for measurement of display or printer output, no separation  
 TUB material: code=rh4ta

**Performance (STRESS values) for Large Colour Difference data (LCD)**

data set	Calculations with data for grey backgrounds (chromaticity near D65)									
	Colour difference $\Delta E^*_{LABJND}$					Colour difference formula and STRESS value				
Name	Pairs	$\Delta E^*_{C85}$ range	min	max	mean	CIE LAB $\Delta E^*$	CMC $\Delta E^*$	CIE94 $\Delta E^*$	CIEDE2000 $\Delta E^*$	LABJND $\Delta E^*$
OS_0128	116	0.0 to <99.0	7.33	21.63	14.23	23.6	28.0	22.4	23.5	31.8
MU_0844	701	0.0 to <99.0	4.17	22.59	9.95	18.8	27.1	31.2	30.4	52.7
PO_1308	1283	0.0 to <99.0	0.87	25.81	8.7	28.8	36.9	29.5	33.5	38.1
GU_0292	242	0.0 to <99.0	4.79	20.86	11.37	23.1	26.4	20.8	21.6	44.4
ZH_0144	141	0.0 to <99.0	4.85	19.79	9.82	26.5	47.8	35.0	31.7	35.9
BA_0238	212	0.0 to <99.0	4.11	35.78	11.38	30.9	24.8	21.9	19.5	42.9
RL_0080	76	0.0 to <99.0	1.38	36.6	10.81	49.0	64.3	60.2	57.8	54.6
KL_0624	273	0.0 to <99.0	1.91	41.4	16.6	34.4	51.3	40.1	37.3	33.8
OS_0128	0									
MU_0844	0									
PO_1308	16	0.0 to <5.0	0.87	2.94	1.71	37.5	42.1	39.2	44.3	25.9
GU_0292	0									
ZH_0144	0									
BA_0238	0									
RL_0080	0									
KL_0624	0									
OS_0128	116	5.0 to <99.0	7.33	21.63	14.23	23.6	28.0	22.4	23.5	31.8
MU_0844	701	5.0 to <99.0	4.17	22.59	9.95	18.8	27.1	31.2	30.4	52.7
PO_1308	1267	5.0 to <99.0	1.12	25.81	8.79	28.8	36.9	29.4	33.4	38.1
GU_0292	242	5.0 to <99.0	4.79	20.86	11.37	23.1	26.4	20.8	21.6	44.4
ZH_0144	141	5.0 to <99.0	4.85	19.79	9.82	26.5	47.8	35.0	31.7	35.9
BA_0238	212	5.0 to <99.0	4.11	35.78	11.38	30.9	24.8	21.9	19.5	42.9
RL_0080	76	5.0 to <99.0	1.38	36.6	10.81	49.0	64.3	60.2	57.8	54.6
KL_0624	273	5.0 to <99.0	1.91	41.4	16.6	34.4	51.3	40.1	37.3	33.8
OS_0128	0									
MU_0844	2	5.0 to <10.0	4.69	5.26	4.97	5.7	7.1	6.5	6.9	9.8
PO_1308	52	5.0 to <10.0	1.12	7.58	3.13	30.5	35.4	27.7	36.2	30.3
GU_0292	1	5.0 to <10.0	7.57	7.57	7.57	0.1	0.1	0.1	0.1	0.1
ZH_0144	1	5.0 to <10.0	7.55	7.55	7.55	0.1	0.1	0.1	0.1	0.1
BA_0238	0									
RL_0080	4	5.0 to <10.0	2.31	7.44	5.14	23.2	24.2	24.5	25.3	36.6
KL_0624	0									
OS_0128	4	10.0 to <20.0	7.33	10.69	9.1	22.5	27.3	10.7	13.7	27.1
MU_0844	133	10.0 to <20.0	4.42	15.18	8.88	19.4	37.5	30.0	40.0	22.7
PO_1308	259	10.0 to <20.0	1.31	10.26	4.9	25.8	34.3	26.7	35.9	31.8
GU_0292	34	10.0 to <20.0	5.33	14.0	9.25	27.2	17.5	15.6	16.8	19.0
ZH_0144	31	10.0 to <20.0	4.85	12.61	7.58	30.0	22.6	17.7	17.6	22.4
BA_0238	28	10.0 to <20.0	5.12	20.19	9.63	39.6	19.7	20.0	17.4	20.6
RL_0080	20	10.0 to <20.0	1.38	20.72	7.98	51.2	54.7	55.2	57.0	47.2
KL_0624	6	10.0 to <20.0	1.91	8.58	6.39	33.2	30.8	30.1	31.1	36.1
OS_0128	112	20.0 to <99.0	7.51	21.63	14.42	23.3	27.7	21.6	23.1	30.9
MU_0844	566	20.0 to <99.0	4.17	22.59	10.22	18.7	24.8	29.9	28.2	49.1
PO_1308	956	20.0 to <99.0	2.11	25.81	10.15	28.8	36.7	29.2	33.1	36.6
GU_0292	207	20.0 to <99.0	4.79	20.86	11.74	22.6	26.5	19.7	21.0	42.8
ZH_0144	109	20.0 to <99.0	4.92	19.79	10.48	25.8	48.1	34.9	32.6	28.1
BA_0238	184	20.0 to <99.0	4.11	35.78	11.65	29.8	24.5	20.1	18.6	39.9
RL_0080	52	20.0 to <99.0	2.51	36.6	12.33	47.1	62.4	58.0	55.3	49.1
KL_0624	267	20.0 to <99.0	2.02	41.4	16.83	34.1	51.0	39.7	36.9	33.4

data sets: OS\_0128, MU\_0844, PO\_1308, GU\_0292, ZH\_0144, BA\_0238, RL\_0080, KL\_0624

see similar files: http://130.149.60.45/~farbmetrik/WE23/WE23L0NP.PDF /.PS; transfer output  
 technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20140801-WE23/WE23L0NP.PDF /.PS TUB material: code=rhta  
 application for measurement of display or printer output, no separation