

Colour stimuli of just noticeable colour thresholds ($p=50\%$) in three directions

number Colour series	Colour stimuli colour values			Colour stimuli differences at threshold			notes experimental series
	Y	x	y	WN Δx	GR Δx	BY Δx	
0 WPN	196.90	0.3986	0.4175	1.19	-0.0011	0.0009	WN, GR, BY
1 WPN	74.13	0.3919	0.4139	0.41	-0.0012	0.0011	grey background
2 WPN	34.31	0.3926	0.4140	0.18	-0.0013	0.0011	CIE data no. 03
3 WPN	17.69	0.3973	0.4153	0.09	-0.0016	0.0013	with white
4 WPN	9.15	0.4052	0.4185	0.07	-0.0017	0.0015	border
5 WPN	4.65	0.4159	0.4226	0.05	-0.0023	0.0020	
6 WPN	3.14	0.3860	0.4113	0.04	-0.0027	0.0022	
7 GDR	14.96	0.1198	0.3961	0.06	-0.0061	0.0030	WN, GR, BY
8 GDR	15.71	0.2422	0.3728	0.06	-0.0037	0.0021	grey background
9 GDR	16.52	0.3210	0.3578	0.06	-0.0017	0.0010	CIE data no. 09
10 GDR	16.96	0.4598	0.2388	0.07	-0.0022	0.0011	with white
11 GDR	17.17	0.4850	0.2119	0.09	-0.0020	0.0009	border
12 BDY	17.29	0.2497	0.2914	0.07	-0.0018	0.0008	WN, GR, BY
13 BDY	17.26	0.2877	0.3257	0.06	-0.0017	0.0009	grey background
14 BDY	16.44	0.3232	0.3593	0.06	-0.0016	0.0010	CIE data no. 14
15 BDY	17.72	0.4338	0.4529	0.05	-0.0020	0.0019	with white
16 BDY	18.46	0.4841	0.4968	0.05	-0.0020	0.0025	border

Samples: bright white (W, no. 0), black (N, no. 6), Green (G-T (turquoise), no. 7)

Red (R-M (magenta), no. 11), Blue (B, no. 12), Yellow (Y, no. 16)

Source: BAM Research Report no. 115 (1985), Tables 5.40;1 to 11

1-00030-LB

XE060-3N

Colour stimuli of just noticeable colour thresholds ($p=50\%$) in WN direction

number Colour series	CIELAB differences lightness, chroma, Σ			LABJND differences lightness, chroma, Σ			colour differences other formulae		CIELAB data $L^* a^* b^*$ WN series	
	ΔL^*	Δa^*	Δb^*	ΔL^*	Δa^*	Δb^*	CMC/C94	C00	L	a
0 WPN	0.29	0.00	0.00	0.29	1.54	0.00	0.00	0.00	1.54	0.14
1 WPN	0.19	-0.00	-0.00	0.19	1.37	0.10	0.19	0.12	89	-1
2 WPN	0.14	0.00	-0.00	0.14	1.24	0.09	0.14	0.11	65	0
3 WPN	0.12	0.00	-0.00	0.12	1.23	0.09	0.12	0.12	49	0
4 WPN	0.15	-0.01	-0.01	0.15	1.70	0.14	0.15	0.12	36	1
5 WPN	0.15	-0.02	-0.03	0.15	1.73	0.19	0.15	0.11	26	3
6 WPN	0.19	-0.00	0.02	0.19	2.11	0.00	0.07	2.12	0.28	19
7 GDR	0.09	0.46	0.03	0.47	0.67	0.24	0.14	0.73	0.16	0.13
8 GDR	0.09	0.11	0.01	0.14	0.64	0.14	0.04	0.66	0.09	0.10
9 GDR	0.08	-0.00	0.00	0.08	0.61	-0.00	0.00	0.61	0.07	0.08
10 GDR	0.10	-0.17	0.04	0.20	0.69	-0.31	0.18	0.78	0.09	0.10
11 GDR	0.11	-0.25	0.06	0.28	0.77	-0.40	0.27	0.91	0.11	0.12
12 BDY	0.08	-0.00	0.03	0.09	0.59	0.00	0.18	0.62	0.07	0.08
13 BDY	0.07	0.00	0.01	0.07	0.51	0.00	0.08	0.51	0.06	0.07
14 BDY	0.07	-0.00	0.00	0.07	0.54	-0.00	0.00	0.54	0.06	0.07
15 BDY	0.07	-0.01	-0.17	0.19	0.50	-0.03	-0.17	0.53	0.09	0.09
16 BDY	0.07	-0.01	-0.80	0.80	0.48	-0.02	-0.19	0.52	0.27	0.20

mean
standard deviation

Source: BAM Research Report no. 115 (1985), Tables 5.40;1 to 11

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XE060-3N

Colour stimuli of just noticeable colour thresholds ($p=50\%$) in GR direction

number Colour series	CIELAB differences lightness, chroma, Σ			LABJND differences lightness, chroma, Σ			colour differences other formulae		notes experimental GR series	
	ΔL^*	Δa^*	Δb^*	ΔL^*	Δa^*	Δb^*	CMC/C94	C00		
0 WPN	0.01	-1.13	0.10	1.13	0.06	-1.31	0.10	1.31	1.59	1.08
1 WPN	0.00	-0.90	0.10	0.90	0.07	-1.40	0.13	1.40	1.18	0.85
2 WPN	0.00	-0.75	0.08	0.75	0.06	-1.45	0.14	1.46	1.00	0.72
3 WPN	0.01	-0.71	0.06	0.71	0.11	-1.60	0.11	1.60	1.01	0.69
4 WPN	0.00	-0.62	0.07	0.62	-0.00	-1.53	0.15	1.54	0.84	0.59
5 WPN	0.00	-0.64	0.07	0.64	-0.00	-1.61	0.14	1.61	0.89	0.60
6 WPN	0.00	-0.66	0.06	0.67	-0.00	-1.58	0.14	1.59	0.89	0.64
7 GDR	0.01	-3.60	0.04	3.60	0.09	-1.51	0.12	1.52	1.16	0.81
8 GDR	0.01	-1.69	0.05	1.69	0.09	-1.55	0.14	1.56	0.89	0.78
9 GDR	0.01	-0.78	0.02	0.78	0.07	-1.12	0.07	1.13	1.13	0.77
10 GDR	0.01	-1.10	0.03	1.10	0.08	-1.16	0.10	1.17	1.37	0.24
11 GDR	0.02	-1.10	0.03	1.10	0.17	-1.06	0.12	1.08	0.34	0.20
12 BDY	0.01	-0.94	0.01	0.94	0.08	-1.24	0.04	1.25	0.80	0.68
13 BDY	0.01	-0.80	0.02	0.80	0.08	-1.10	0.07	1.11	0.95	0.67
14 BDY	-0.00	-0.70	0.03	0.70	-0.00	-1.01	0.07	1.01	1.07	0.70
15 BDY	0.01	-0.86	0.11	0.86	0.08	-1.21	0.08	1.21	0.78	0.55
16 BDY	0.01	-0.92	0.40	1.01	0.07	-1.28	0.08	1.29	0.64	0.58

mean
standard deviation

Source: BAM Research Report no. 115 (1985), Tables 5.40;1 to 11

1-00030-LB

XE060-3N

Colour stimuli of just noticeable colour thresholds ($p=50\%$) in BY direction

number Colour series	CIELAB differences lightness, chroma, Σ			LABJND differences lightness, chroma, Σ			colour differences other formulae		notes experimental BY series	
	ΔL^*	Δa^*	Δb^*	ΔL^*	Δa^*	Δb^*	CMC/C94	C00		
0 WPN	0.00	-0.14	-1.75	1.75	0.05	-0.16	-1.69	1.70	2.49	1.71
1 WPN	0.00	-0.10	-1.16	1.16	0.07	-0.16	-1.56	1.57	1.40	1.02
2 WPN	0.00	-0.08	-1.01	1.02	0.06	-0.16	-1.70	1.70	1.32	0.93
3 WPN	-0.00	-0.08	-0.94	0.95	-0.00	-0.19	-1.80	1.81	1.40	0.93
4 WPN	-0.00	-0.09	-1.08	1.08	-0.00	-0.23	-2.16	2.17	1.43	1.01
5 WPN	-0.00	-0.10	-1.31	1.32	-0.00	-0.26	-2.46	2.47	1.55	1.12
6 WPN	-0.00	-0.08	-0.97	0.98	-0.00	-0.20	-2.09	2.10	1.29	0.90
7 GDR	-0.00	-0.25	-0.53	0.57	-0.00	-0.10	-1.36	1.37	0.22	0.22
8 GDR	-0.00	-0.11	-0.46	0.47	-0.00	-0.10	-1.16	1.16	0.30	0.31
9 GDR	-0.00	-0.09	-0.48	0.49	-0.00	-0.14	-1.17	1.18	0.71	0.48
10 GDR	0.01	-0.07	-0.63	0.63	0.08	-0.09	-1.64	1.64	0.54	0.28
11 GDR	0.01	-0.08	-0.74	0.75	0.07	-0.09	-1.97	1.97	0.58	0.29
12 BDY	-0.00	-0.09	-0.36	0.37	-0.00	-0.12	-0.97	0.97	0.20	0.17
13 BDY	-0.00	-0.10	-0.42	0.44	-0.00	-0.15	-1.09	1.10	0.34	0.28
14 BDY	-0.00	-0.09	-0.45	0.46	-0.00	-0.13	-1.08	1.09	0.69	0.45
15 BDY	-0.00	-0.08	-1.24	1.24	-0.00	-0.11	-1.00	1.01	0.54	0.45
16 BDY	0.01	-0.11	-4.84	4.85	0.07	-0.16	-1.07	1.09	1.59	1.10

mean
standard deviation

Source: BAM Research Report no. 115 (1985), Tables 5.40;1 to 11

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XE060-3N

TUB-test chart XE06; Colour thresholds data

RI experiments: Series WPN, GDR, BDY in directions WN, GR, BY; LABJND_A & D65

input: w/r/g/b/c/m/yk -> w/r/g/b/c/m/yk-