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

number Colour series	CIELAB differences lightness, chroma, Σ				LABJND differences lightness, chroma, Σ				colour differences other formulae			notes experimental series
	ΔL^*	Δa^*	Δb^*	ΔE^*_{ab}	ΔL^*	Δa^*	Δb^*	ΔE^*	CMC	C94	C00	
0 GDV	0.01	-2.62	0.24	2.63	0.12	-1.66	0.2	1.67	0.86	0.65	0.58	TM
1 GDV	0.01	-2.04	0.12	2.04	0.11	-1.83	0.18	1.84	0.77	0.65	0.6	grey surround
2 GDV	0.01	-1.07	0.05	1.07	0.12	-1.36	0.12	1.37	0.51	0.46	0.44	$Y_G=16.6$
3 GDV	0.01	-0.99	0.04	0.99	0.13	-1.58	0.13	1.6	0.64	0.56	0.63	with white
4 GDV	0.01	-0.91	0.04	0.91	0.11	-1.74	0.16	1.75	0.87	0.69	0.9	border
5 GDV	0.01	-0.76	0.04	0.76	0.13	-1.65	0.17	1.67	1.11	0.75	1.13	$X_W=90.38$
6 GDV	0.01	-0.93	0.02	0.93	0.14	-2.01	0.09	2.02	1.08	0.68	0.89	$Y_W=100.0$
7 GDV	0.01	-0.88	0.04	0.89	0.15	-1.87	0.18	1.88	0.72	0.49	0.53	$Z_W=87.54$
8 GDV	0.01	-0.92	0.02	0.92	0.15	-1.88	0.11	1.89	0.64	0.44	0.43	$x_W=0.3251$
9 GDV	0.01	-0.87	0.01	0.87	0.15	-1.76	0.09	1.77	0.55	0.38	0.37	$y_W=0.3598$
10 GDV	0.01	-0.89	0.02	0.89	0.15	-1.76	0.14	1.77	0.52	0.36	0.34	
11 RDC	0.01	-0.84	0.28	0.89	0.13	-1.41	0.21	1.44	0.62	0.33	0.38	TM
12 RDC	0.01	-0.94	0.17	0.96	0.13	-1.7	0.26	1.73	0.63	0.36	0.39	grey surround
13 RDC	0.01	-0.76	0.08	0.77	0.12	-1.45	0.23	1.48	0.42	0.29	0.29	$Y_G=16.6$
14 RDC	0.01	-0.79	0.05	0.79	0.11	-1.6	0.15	1.61	0.61	0.4	0.43	with white
15 RDC	0.01	-0.79	0.04	0.79	0.11	-1.66	0.14	1.67	0.77	0.53	0.68	border
16 RDC	0.01	-0.7	0.03	0.7	0.11	-1.51	0.12	1.52	1.01	0.69	1.02	$X_W=90.38$
17 RDC	0.01	-0.96	0.03	0.96	0.12	-1.69	0.12	1.7	0.74	0.63	0.77	$Y_W=100.0$
18 RDC	0.01	-1.21	0.04	1.21	0.13	-1.59	0.17	1.6	0.6	0.52	0.52	$Z_W=87.54$
19 RDC	0.01	-1.36	0.02	1.36	0.11	-1.51	0.09	1.51	0.57	0.48	0.48	$x_W=0.3251$
20 RDC	0.01	-1.54	0.03	1.54	0.12	-1.45	0.12	1.46	0.58	0.46	0.46	$y_W=0.3598$
21 RDC	0.01	-2.06	0.03	2.06	0.12	-1.68	0.15	1.69	0.72	0.54	0.54	
22 TDM	0.01	-3.6	0.04	3.6	0.14	-2.27	0.19	2.28	1.16	0.81	0.8	TM
23 TDM	0.01	-2.46	0.04	2.46	0.14	-2.38	0.19	2.39	0.96	0.78	0.77	grey surround
24 TDM	0.01	-1.69	0.05	1.69	0.13	-2.33	0.22	2.35	0.89	0.78	0.79	$Y_G=16.6$
25 TDM	0.01	-1.19	0.02	1.19	0.11	-2.01	0.09	2.01	0.84	0.73	0.86	with white
26 TDM	0.01	-0.94	0.04	0.95	0.12	-1.83	0.18	1.85	0.97	0.76	1.0	border
27 TDM	0.01	-0.78	0.02	0.78	0.11	-1.68	0.11	1.69	1.13	0.77	1.12	$X_W=90.38$
28 TDM	0.01	-0.99	0.04	0.99	0.13	-1.97	0.19	1.99	0.51	0.42	0.43	$Y_W=100.0$
29 TDM	0.01	-0.96	0.04	0.96	0.15	-1.69	0.2	1.71	0.35	0.26	0.26	$Z_W=87.54$
30 TDM	0.01	-1.1	0.03	1.1	0.12	-1.74	0.16	1.76	0.37	0.24	0.24	$x_W=0.3251$
31 TDM	0.01	-1.04	0.04	1.04	0.11	-1.55	0.19	1.57	0.33	0.2	0.2	$y_W=0.3598$
32 TDM	0.02	-1.1	0.03	1.1	0.25	-1.59	0.19	1.63	0.34	0.2	0.2	
33 BDY	0.01	-0.94	0.01	0.94	0.12	-1.87	0.06	1.87	0.8	0.68	0.75	TM
34 BDY	0.01	-0.8	0.01	0.8	0.11	-1.66	0.08	1.66	0.8	0.62	0.81	grey surround
35 BDY	0.01	-0.8	0.02	0.8	0.12	-1.66	0.12	1.67	0.95	0.67	0.94	$Y_G=16.6$
36 BDY	0.01	-0.77	0.01	0.77	0.12	-1.61	0.06	1.61	1.0	0.68	0.98	with white
37 BDY	0.01	-0.76	0.02	0.76	0.12	-1.63	0.11	1.64	1.0	0.72	1.07	border
38 BDY	0.0	-0.7	0.03	0.7	0.0	-1.52	0.12	1.53	1.07	0.7	1.02	$X_W=90.38$
39 BDY	0.01	-0.78	0.03	0.78	0.12	-1.7	0.08	1.7	1.24	0.67	1.02	$Y_W=100.0$
40 BDY	0.01	-0.88	0.06	0.88	0.11	-1.82	0.11	1.83	0.93	0.62	0.77	$Z_W=87.54$
41 BDY	0.01	-0.86	0.11	0.86	0.12	-1.82	0.13	1.83	0.78	0.55	0.65	$x_W=0.3251$
42 BDY	0.01	-0.95	0.21	0.98	0.12	-2.01	0.16	2.02	0.74	0.54	0.66	$y_W=0.3598$
43 BDY	0.01	-0.92	0.4	1.01	0.1	-1.93	0.14	1.94	0.64	0.46	0.58	
mean				1.14				1.75	0.76	0.55	0.65	
standard deviation				0.57				0.22	0.23	0.16	0.26	

Samples: Green (G, no. 00), Violet V (no. 10), Red (R, no. 11), Cyan (C, no. 21)
 Turquoise (T, no. 22), Magenta (M, no. 32), Blue (B, no. 33), Yellow (Y, no. 43)
 Source: BAM Research Report no. 115 (1985), Tables 5.40;1 to 11

TUB-test chart VE70; Colour thresholds data
 RI experiments: Series GDV, RDC, TDM, BDY in directions TM, BY

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 series
	ΔL^*	Δa^*	Δb^*	ΔE^*_{ab}	ΔL^*	Δa^*	Δb^*	ΔE^*	CMC	C94	C00	
0 GDV	0.01	-0.27	-2.11	2.13	0.12	-0.16	-1.83	1.84	0.86	0.81	0.67	BY
1 GDV	0.0	-0.19	-1.15	1.17	0.0	-0.17	-1.78	1.79	0.55	0.56	0.48	grey surround
2 GDV	0.0	-0.15	-0.82	0.83	0.0	-0.2	-1.94	1.95	0.51	0.52	0.46	$Y_G=16.6$
3 GDV	0.0	-0.11	-0.71	0.72	0.0	-0.17	-2.12	2.13	0.59	0.54	0.49	with white
4 GDV	0.0	-0.1	-0.6	0.61	0.0	-0.2	-2.09	2.1	0.71	0.54	0.51	border
5 GDV	0.0	-0.09	-0.52	0.53	0.0	-0.21	-1.99	2.0	0.78	0.51	0.52	$X_W=90.38$
6 GDV	0.01	-0.13	-0.62	0.63	0.14	-0.3	-2.49	2.51	1.09	0.54	0.51	$Y_W=100.0$
7 GDV	0.0	-0.14	-0.55	0.57	0.0	-0.3	-2.33	2.35	0.77	0.41	0.37	$Z_W=87.54$
8 GDV	0.01	-0.12	-0.58	0.59	0.15	-0.27	-2.51	2.53	0.67	0.39	0.35	$x_W=0.3251$
9 GDV	0.01	-0.12	-0.57	0.58	0.15	-0.27	-2.5	2.52	0.6	0.35	0.32	$y_W=0.3598$
10 GDV	0.01	-0.1	-0.54	0.55	0.15	-0.22	-2.41	2.43	0.53	0.32	0.28	
11 RDC	0.01	-0.06	-2.38	2.39	0.13	-0.13	-1.89	1.9	1.59	0.86	1.0	BY
12 RDC	0.01	-0.1	-1.31	1.32	0.13	-0.2	-2.15	2.16	1.08	0.6	0.65	grey surround
13 RDC	0.01	-0.08	-0.89	0.9	0.12	-0.17	-2.6	2.6	1.0	0.53	0.51	$Y_G=16.6$
14 RDC	0.01	-0.11	-0.79	0.8	0.11	-0.24	-2.34	2.36	1.05	0.53	0.52	with white
15 RDC	0.0	-0.09	-0.65	0.65	0.0	-0.19	-2.24	2.25	1.2	0.53	0.5	border
16 RDC	0.0	-0.12	-0.5	0.51	0.0	-0.27	-1.91	1.93	0.75	0.49	0.51	$X_W=90.38$
17 RDC	0.0	-0.1	-0.53	0.54	0.0	-0.19	-2.09	2.1	0.51	0.44	0.42	$Y_W=100.0$
18 RDC	0.0	-0.15	-0.57	0.59	0.0	-0.2	-2.27	2.28	0.36	0.37	0.38	$Z_W=87.54$
19 RDC	0.0	-0.12	-0.52	0.53	0.0	-0.14	-2.05	2.05	0.28	0.3	0.31	$x_W=0.3251$
20 RDC	0.0	-0.15	-0.5	0.52	0.0	-0.15	-1.98	1.99	0.24	0.26	0.27	$y_W=0.3598$
21 RDC	0.01	-0.21	-0.51	0.55	0.12	-0.16	-2.04	2.05	0.24	0.25	0.26	
22 TDM	0.0	-0.25	-0.51	0.57	0.0	-0.16	-2.17	2.17	0.22	0.22	0.22	BY
23 TDM	0.0	-0.22	-0.51	0.55	0.0	-0.21	-2.11	2.12	0.26	0.27	0.28	grey surround
24 TDM	0.0	-0.11	-0.46	0.47	0.0	-0.16	-1.84	1.85	0.3	0.31	0.31	$Y_G=16.6$
25 TDM	0.0	-0.1	-0.47	0.48	0.0	-0.18	-1.86	1.86	0.41	0.37	0.35	with white
26 TDM	0.0	-0.09	-0.5	0.51	0.0	-0.19	-1.94	1.95	0.58	0.45	0.44	border
27 TDM	0.0	-0.09	-0.48	0.49	0.0	-0.21	-1.86	1.87	0.71	0.48	0.48	$X_W=90.38$
28 TDM	0.0	-0.1	-0.55	0.56	0.0	-0.2	-2.22	2.23	0.75	0.39	0.33	$Y_W=100.0$
29 TDM	0.01	-0.12	-0.6	0.62	0.15	-0.23	-2.48	2.5	0.59	0.32	0.27	$Z_W=87.54$
30 TDM	0.01	-0.07	-0.63	0.63	0.12	-0.14	-2.61	2.61	0.54	0.28	0.23	$x_W=0.3251$
31 TDM	0.01	-0.06	-0.69	0.69	0.11	-0.12	-2.89	2.89	0.55	0.28	0.23	$y_W=0.3598$
32 TDM	0.01	-0.08	-0.74	0.75	0.11	-0.14	-3.13	3.13	0.58	0.29	0.23	
33 BDY	0.0	-0.09	-0.36	0.37	0.0	-0.18	-1.54	1.55	0.2	0.17	0.17	BY
34 BDY	0.0	-0.12	-0.46	0.48	0.0	-0.25	-1.96	1.97	0.3	0.26	0.27	grey surround
35 BDY	0.0	-0.1	-0.42	0.44	0.0	-0.22	-1.73	1.75	0.34	0.28	0.29	$Y_G=16.6$
36 BDY	0.0	-0.1	-0.42	0.43	0.0	-0.21	-1.69	1.7	0.41	0.32	0.33	with white
37 BDY	0.0	-0.1	-0.46	0.47	0.0	-0.21	-1.77	1.79	0.56	0.41	0.41	border
38 BDY	0.0	-0.09	-0.45	0.46	0.0	-0.19	-1.73	1.74	0.69	0.45	0.46	$X_W=90.38$
39 BDY	0.0	-0.13	-0.74	0.75	0.0	-0.3	-2.11	2.13	0.6	0.5	0.51	$Y_W=100.0$
40 BDY	0.0	-0.09	-0.81	0.82	0.0	-0.19	-1.44	1.46	0.42	0.36	0.36	$Z_W=87.54$
41 BDY	0.0	-0.08	-1.24	1.24	0.0	-0.17	-1.59	1.6	0.54	0.45	0.45	$x_W=0.3251$
42 BDY	0.0	-0.09	-2.0	2.0	0.0	-0.2	-1.56	1.57	0.75	0.58	0.59	$y_W=0.3598$
43 BDY	0.01	-0.11	-4.84	4.85	0.1	-0.24	-1.71	1.73	1.59	1.1	1.14	</