

Example colour stimuli of just noticeable colour thresholds

Colour series number	Colour stimuli colour values			Colour stimuli differences at threshold					notes
	Y	x	y	-WN ΔY	-RG Δx	-BY Δy	Δx	Δy	
WPN_01	196.9	0.3986	0.4175	1.199	-0.0011	0.0009	-0.0016	-0.0014	P40
WPN_02	74.13	0.3919	0.4139	0.411	-0.0012	0.0011	-0.0016	-0.0013	
WPN_03	34.31	0.3926	0.414	0.18	-0.0013	0.0011	-0.0017	-0.0015	
WPN_04	17.69	0.3973	0.4153	0.099	-0.0016	0.0013	-0.002	-0.0017	
WPN_05	9.15	0.4052	0.4185	0.079	-0.0017	0.0015	-0.0029	-0.0024	
WPN_06	4.65	0.4159	0.4226	0.051	-0.0023	0.002	-0.0042	-0.0036	
WPN_07	3.14	0.386	0.4113	0.049	-0.0027	0.0022	-0.0039	-0.0034	
WPN_08	1.26	0.3829	0.4091	0.029	-0.0045	0.0036	-0.0062	-0.0053	
WPN_09	0.62	0.3856	0.4108	0.02	-0.0076	0.0064	-0.0102	-0.0088	
WPN_10	0.29	0.3905	0.4148	0.019	-0.0132	0.0108	-0.0157	-0.0137	
WPN_11	0.16	0.402	0.4177	0.019	-0.021	0.0164	-0.0251	-0.0235	
TDM_01	14.96	0.1198	0.3961	0.069	-0.0061	0.003	-0.0012	-0.0022	D65
TDM_02	15.71	0.2422	0.3728	0.069	-0.0037	0.0021	-0.0013	-0.0016	
TDM_03	16.52	0.321	0.3578	0.069	-0.0017	0.001	-0.0016	-0.0013	
TDM_04	16.96	0.4598	0.2388	0.079	-0.0022	0.0011	-0.0022	-0.001	
TDM_05	17.17	0.485	0.2119	0.09	-0.002	0.0009	-0.0026	-0.001	
BDY_01	17.29	0.2497	0.2914	0.07	-0.0018	0.0008	-0.0011	-0.0009	D65
BDY_02	17.26	0.2877	0.3257	0.06	-0.0017	0.0009	-0.0013	-0.0011	
BDY_03	16.44	0.3232	0.3593	0.06	-0.0016	0.001	-0.0014	-0.0013	
BDY_04	17.72	0.4338	0.4529	0.059	-0.002	0.0019	-0.0026	-0.0024	
BDY_05	18.46	0.4841	0.4968	0.059	-0.002	0.0025	-0.0037	-0.0032	

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Colour stimuli of just noticeable colour thresholds, see Richter (1985)

Colour series number	Colour stimuli colour values			Colour stimuli differences at threshold					notes
	Y	x	y	-WN ΔY	-RG Δx	-BY Δy	Δx	Δy	
WPN_01	197.5	0.3987	0.4175	1.2	-0.0012	0.001	-0.0017	-0.0015	
WPN_02	74.3	0.3919	0.414	0.41	-0.0013	0.0011	-0.0016	-0.0013	
WPN_03	34.4	0.3926	0.414	0.18	-0.0013	0.0012	-0.0018	-0.0016	
WPN_04	17.7	0.3973	0.4153	0.1	-0.0017	0.0013	-0.0021	-0.0018	
WPN_05	9.1	0.4052	0.4185	0.08	-0.0018	0.0016	-0.0029	-0.0025	
WPN_06	4.6	0.4158	0.4226	0.05	-0.0024	0.0021	-0.0043	-0.0036	
WPN_07	3.1	0.3861	0.4114	0.05	-0.0027	0.0023	-0.0039	-0.0034	
WPN_08	1.2	0.3831	0.409	0.03	-0.0047	0.0038	-0.0063	-0.0054	
WPN_09	0.6	0.3859	0.4107	0.02	-0.0075	0.006	-0.01	-0.0089	
WPN_10	0.3	0.3907	0.4143	0.02	-0.014	0.011	-0.016	-0.014	
WPN_11	0.1	0.4019	0.4167	0.02	-0.02	0.016	-0.026	-0.023	
TDM_01									
TDM_02									
TDM_03									
TDM_04									
TDM_05									
BDY_01									
BDY_02									
BDY_03									
BDY_04									
BDY_05									

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TUB-test chart WE41; Colour thresholds data
Experimental data of Richter (1985) for series WN, RG, YB

Example colour differences for just noticeable colour thresholds

Colour series number	Colour difference ISO 11644-4 (CIELAB)						Colour difference CIEDE2000		
	ΔL^*	ΔE^*_{ab}	Δa^*	$\Delta E^*_{ab,3}$	Δb^*_6	$\Delta E^*_{ab,6}$	ΔE^*_{00}	ΔE^*_{00}	ΔE^*_{00}
WPN_01	0.29	0.29	-0.37	0.37	-0.29	0.29	0.13	1.62	1.72
WPN_02	0.19	0.19	-0.3	0.3	-0.19	0.19	0.12	1.25	1.0
WPN_03	0.14	0.14	-0.25	0.25	-0.16	0.17	0.11	1.07	0.91
WPN_04	0.12	0.12	-0.23	0.23	-0.15	0.15	0.12	1.03	0.92
WPN_05	0.15	0.15	-0.2	0.2	-0.18	0.18	0.12	0.87	1.02
WPN_06	0.15	0.15	-0.21	0.21	-0.21	0.22	0.11	0.88	1.15
WPN_07	0.19	0.19	-0.22	0.22	-0.16	0.16	0.13	0.94	0.89
WPN_08	0.21	0.21	-0.26	0.26	-0.18	0.18	0.13	1.14	1.03
WPN_09	0.18	0.18	-0.28	0.28	-0.21	0.21	0.1	1.25	1.21
WPN_10	0.18	0.18	-0.23	0.23	-0.15	0.15	0.1	1.03	0.91
WPN_11	0.18	0.18	-0.2	0.2	-0.14	0.14	0.1	0.91	0.84
TDM_01	0.09	0.47	-1.2	1.2	-0.08	0.09	0.13	0.8	0.22
TDM_02	0.09	0.14	-0.56	0.56	-0.07	0.07	0.1	0.79	0.31
TDM_03	0.08	0.08	-0.26	0.26	-0.08	0.08	0.08	1.12	0.48
TDM_04	0.1	0.2	-0.36	0.36	-0.1	0.1	0.1	0.24	0.23
TDM_05	0.11	0.28	-0.36	0.36	-0.12	0.12	0.12	0.2	0.23
BDY_01	0.08	0.09	-0.31	0.31	-0.06	0.06	0.08	0.79	0.18
BDY_02	0.07	0.07	-0.26	0.26	-0.07	0.07	0.07	0.95	0.29
BDY_03	0.07	0.07	-0.23	0.23	-0.07	0.07	0.07	1.02	0.46
BDY_04	0.07	0.19	-0.28	0.28	-0.2	0.2	0.09	0.65	0.45
BDY_05	0.07	0.8	-0.3	0.33	-0.8	0.8	0.2	0.58	1.14

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Example colour differences for just noticeable colour thresholds

Colour series number	Colour difference ISO 11644-4 (CIELAB)						Colour difference LABJND 1985					
	ΔL^*	ΔE^*_{ab}	Δa^*	ΔE^*_{ab}	Δb^*	ΔE^*_{ab}	ΔL^*	ΔE^*_{ab}	Δa^*	ΔE^*_{ab}	Δb^*	ΔE^*_{ab}
WPN_01	0.29	0.29	-1.13	1.13	-1.75	1.75	1.03	1.03	-0.87	0.87	-1.06	1.07
WPN_02	0.19	0.19	-0.9	0.9	-1.16	1.16	0.91	0.91	-0.93	0.93	-0.98	0.99
WPN_03	0.14	0.14	-0.75	0.75	-1.01	1.02	0.83	0.83	-0.96	0.97	-1.07	1.07
WPN_04	0.12	0.12	-0.71	0.71	-0.94	0.95	0.82	0.82	-1.06	1.07	-1.13	1.14
WPN_05	0.15	0.15	-0.62	0.62	-1.08	1.08	1.13	1.13	-1.02	1.02	-1.36	1.37
WPN_06	0.15	0.15	-0.64	0.64	-1.31	1.32	1.15	1.15	-1.07	1.07	-1.54	1.55
WPN_07	0.19	0.19	-0.66	0.67	-0.97	0.98	1.41	1.41	-1.05	1.06	-1.31	1.32
WPN_08	0.21	0.21	-0.8	0.8	-1.12	1.13	1.22	1.22	-1.0	1.01	-1.22	1.23
WPN_09	0.18	0.18	-0.85	0.86	-1.26	1.27	0.96	0.97	-1.0	1.0	-1.16	1.17
WPN_10	0.18	0.18	-0.69	0.69	-0.91	0.92	1.06	1.06	-0.89	0.89	-0.93	0.93
WPN_11	0.18	0.18	-0.61	0.61	-0.84	0.84	1.11	1.11	-0.81	0.81	-0.89	0.89
TDM_01	0.09	0.47	-3.6	3.6	-0.51	0.57	1.0	1.09	-2.27	2.28	-2.17	2.17
TDM_02	0.09	0.14	-1.69	1.69	-0.46	0.47	0.96	0.99	-2.33	2.35	-1.84	1.85
TDM_03	0.08	0.08	-0.78	0.78	-0.48	0.49	0.92	0.92	-1.68	1.69	-1.86	1.87
TDM_04	0.1	0.2	-1.1	1.1	-0.63	0.63	1.03	1.17	-1.74	1.76	-2.61	2.61
TDM_05	0.11	0.28	-1.1	1.1	-0.74	0.75	1.15	1.37	-1.59	1.63	-3.13	3.13
BDY_01	0.08	0.09	-0.94	0.94	-0.36	0.37	0.89	0.94	-1.87	1.87	-1.54	1.55
BDY_02	0.07	0.07	-0.8	0.8	-0.42	0.44	0.76	0.77	-1.66	1.67	-1.73	1.75
BDY_03	0.07	0.07	-0.7	0.7	-0.45	0.46	0.81	0.81	-1.52	1.53	-1.73	1.74
BDY_04	0.07	0.19	-0.86	0.86	-1.24	1.24	0.75	0.8	-1.82	1.83	-1.59	1.6
BDY_05	0.07	0.8	-0.92	1.01	-4.84	4.85	0.72	0.79	-1.93	1.94	-1.71	1.73

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input: w/rgb/cmyk -> w/rgb/cmyk-
output: no change