office

20° → office ← 20°

Y, L Y, L
ΔY ΔL ΔY ΔL
Y_W Y_g L_g L_W Y_W Y_g L_g L_W
← 2,6° →   ← 2,6° →

gap:
0mm
1 mm
2 mm

office viewing distance 500mm

1-000030-L0   WE40-1N

colour difference ΔE^*_{ab} at threshold

colour pair
L^* a^* b^*
50 0   0
90 0   0
50 0   0
50 40 0
50 −40 0
50 0 40

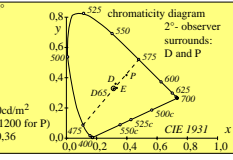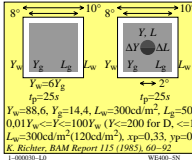colour sample gap in mm

1-000030-L0   WE400-2N

1-000030-L0   WE400-3N

Coefficients for PF correction in colour difference formulae

Power-function (PF) coefficients	Formula and colour difference				
	CIELAB ΔE^*_{ab}	CMC ΔE^*_{CM}	CIE94 ΔE^*_{94}	CIEDE2000 ΔE^*_{00}	LABJND ΔE^*_{85}
a	1,26	1,34	1,41	1,43	1,17
b	0,55	0,66	0,70	0,70	0,35

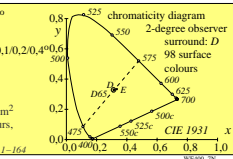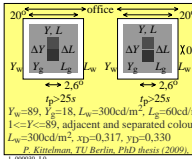PF-colour difference formula: $\Delta E^*_{PF} = a \cdot (\Delta E^*_{XX})^b$ (XX = ab, CM, 94, 00, 85)

1-000030-L0   WE400-3N

8° → ← 10° → ← 8°

Y, L Y, L
ΔY ΔL
Y_W Y_g L_g L_W Y_W Y_g L_g L_W
$Y_W=6Y_g$ ← 2° →
$t_p=25s$ $t_p=25s$

$Y_W=88,6$, $Y_g=14,4$, $L_W=300cd/m^2$, $L_g=50cd/m^2$
$0,01Y_W<=Y<=100Y_W$ ($Y<=200$ for D, $<=1200$ for P)
$L_W=300cd/m^2 (120cd/m^2)$, $x_P=0,33$, $y_P=0,36$
K. Richter, BAM Report 115 (1985), 60−92

1-000030-L0   WE40-5N

chromaticity diagram
2°-observer
surrounds:
D and P

525
550
500
575
600
625
700
D, *P*
D65 *E*
475
550c *525c*
500c
CIE 1931
400 *0,0* *x*

0,8 *y*
0,6
0,4
0,2
0,0 0,2 0,4 0,6 0,8

1-000030-L0   WE401-7N

20° → office ← 20°

Y, L Y, L
ΔY ΔL ΔY ΔL
Y_W Y_g L_g L_W Y_W Y_g L_g L_W
← 2,6° →   ← 2,6° →
$t_p>25s$ $t_p>25s$

X 0,1/0,2/0,4

$Y_W=89$, $Y_g=18$, $L_W=300cd/m^2$, $L_g=60cd/m^2$
$1<=Y<=89$, adjacent and separated colours,
$L_W=300cd/m^2$, $x_D=0,317$, $y_D=0,330$
P. Kittelman, TU Berlin, PhD thesis (2009), 1−164

1-000030-7N

chromaticity diagram
2-degree observer
surround: *D*
98 surface
colours

525
550
500
575
600
625
700
D65 D, *P* *E*
475
550c *525c*
500c
CIE 1931 *x*
400 *0,0*

0,8 *y*
0,6
0,4
0,2
0,0 0,2 0,4 0,6 0,8

TUB-test chart WE40; Colour threshold experiments
viewing situations and chromaticity, LABJND formulae

input: *w/rgb/cmyk −> w/rgb/cmyk_*
output: no change