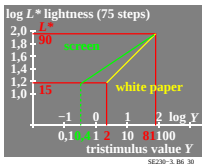


sensation scaling functions
lightness L^* and tristimulus value Y
adaptation on surround white:
 $L^* = 100 (Y / 100)^{1/2,0}$
adaptation on surround gray:
 $L^* = 100 (Y / 100)^{1/2,4}$
description with CIELAB 1976:
 $L^* = 116 (Y / 100)^{1/3,0} - 16$
adaptation on surround black:
 $L^* = 100 (Y / 100)^{1/3,0}$

SE230-2, B6_39



colorness luminous value
 $N^* \quad L^* \quad Y = (L^*/10)^2 \quad Y = (L^*/10)^2 / 9$

0	90	81	Y_{max}	81,0	$Y_{normalized}$
2	80	64		56,9	(=Ypaper)
4	70	49		38,1	
6	60	36		24,0	
8	50	25		13,9	
10	40	16		7,1	
12	30	9		3,0	
14	20	4		0,9	
15	15	2,25	Y_{min}	0,4	

SE230-4, B6_31

linear scan area Y lightness- lightness color area $L^* h^* no. d$

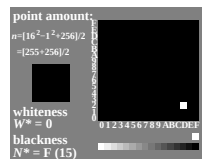
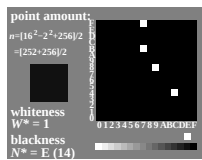
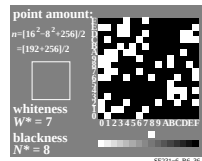
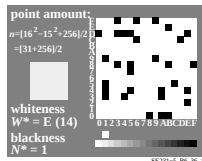
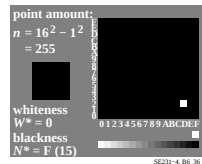
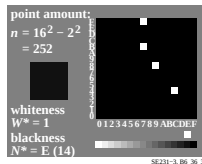
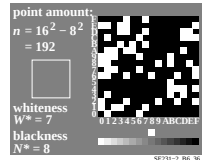
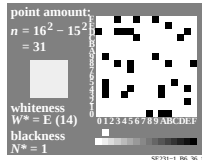
76,6 ... 85,5	87,5 ... 92,4	90 FFF	4095
60,1 ... 68,1	77,5 ... 82,4	80 DDD	3549
45,6 ... 52,5	67,5 ... 72,4	70 BBB	3003
33,1 ... 39,0	57,5 ... 62,4	60 999	2457
22,6 ... 27,5	47,5 ... 52,4	50 777	1911
14,1 ... 18,0	37,5 ... 42,4	40 555	1365
7,6 ... 10,5	27,5 ... 32,4	30 333	819
3,1 ... 5,0	17,5 ... 22,4	20 111	273
1,6 ... 3,0	12,5 ... 17,4	15 000	0

SE230-5, B6_32

whiteness $r_a^* g_a^* b_a^*$	black- ness N^*	tristimulus value Y	cover- age b
15,15,15	0	81 $Y_{\max}$	0,00
13,13,13	2	64	0,22
11,11,11	4	49	0,41
9, 9, 9	6	36	0,57
7, 7, 7	8	25	0,71
5, 5, 5	10	16	0,83
3, 3, 3	12	9	0,91
1, 1, 1	14	4	0,98
0, 0, 0	15	2,25 $Y_{\min}$	1,00

whiteness $r_d^* g_d^* b_d^*$	yellow- ness Y^*	tristimulus value Y	cover- age b
15,15,15	0	81 $Y_{\max}$	0,00
15,15,13	2		0,22
15,15,11	4		0,41
15,15, 9	6		0,57
15,15, 7	8		0,71
15,15, 5	10		0,83
15,15, 3	12		0,91
15,15, 1	14		0,98
15,15, 0	15	76 $Y_{\min}$	1,00

whiteness $r_d^* g_d^* b_d^*$	black- ness N^*	tristimulus value Y	cover- age b
15,15,15	0	81 $Y_{\max}$	0,00
13,13,13	2	64	0,22
11,11,11	4	49	0,41
9, 9, 9	6	36	0,57
7, 7, 7	8	25	0,71
5, 5, 5	10	16	0,83
3, 3, 3	12	9	0,91
1, 1, 1	14	4	0,98
0, 0, 0	15	2,25 $Y_{\min}$	1,00



TUB-test chart SE23; Colour scaling
Lightness and scaling functions, area coverage

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