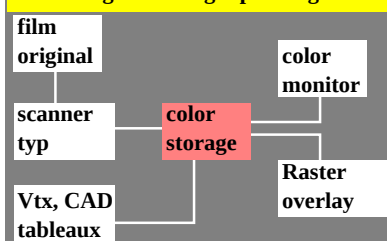


diagram for interfaces in the area image handling – printing



SF230-1, B6_28

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:

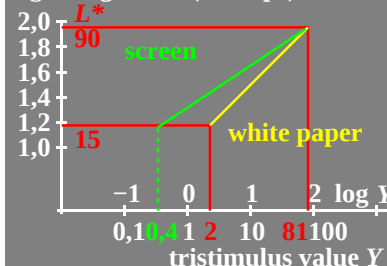
$$L^* = 116 (Y / 100)^{1/3,0} - 16$$

adaptation on surround black:

$$L^* = 100 (Y / 100)^{1/3,0}$$

SF230-2, B6_29

log L^* lightness (75 steps)



SF230-3, B6_30

colorness luminous value

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

SF230-4, B6_31

linear scan area	lightness- area	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			

SF230-5, 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

SF230-6, B6_33

whiteness $r_a^* g_a^* b_a^*$	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

SF230-7, B6_34

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

SF231-8, B7_03

point amount:
 $n = 16^2 - 15^2$
 $= 31$



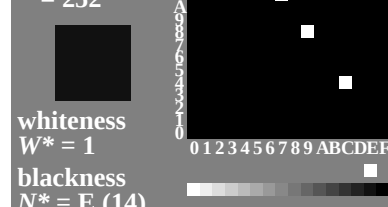
SF231-1, B6_36_1

point amount:
 $n = 16^2 - 8^2$
 $= 192$



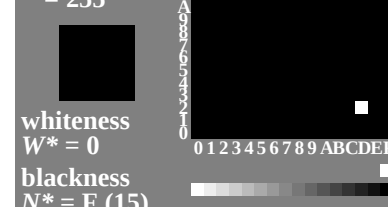
SF231-2, B6_36_2

point amount:
 $n = 16^2 - 2^2$
 $= 252$



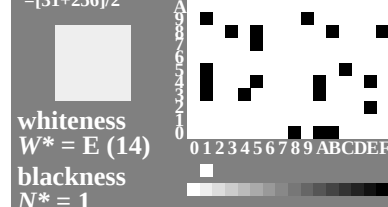
SF231-3, B6_36_3

point amount:
 $n = 16^2 - 1^2$
 $= 255$



SF231-4, B6_36_4

point amount:
 $n = [16^2 - 15^2 + 256] / 2$
 $= [31 + 256] / 2$



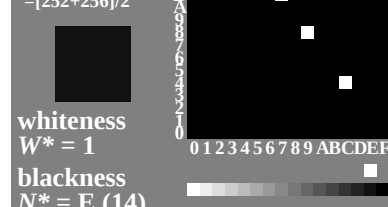
SF231-5, B6_36_1

point amount:
 $n = [16^2 - 8^2 + 256] / 2$
 $= [192 + 256] / 2$



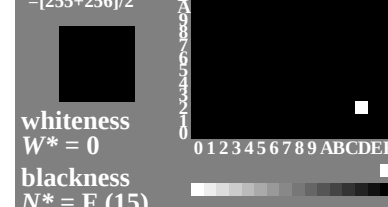
SF231-6, B6_36_2

point amount:
 $n = [16^2 - 2^2 + 256] / 2$
 $= [252 + 256] / 2$



SF231-7, B6_36_3

point amount:
 $n = [16^2 - 1^2 + 256] / 2$
 $= [255 + 256] / 2$



SF231-8, B6_36_4

TUB-test graphique SF23; Colour scaling
Lightness and scaling functions, area coverage

entrée: w/rgb/cmyk -> w/rgb/cmyka
sortie: aucun changement