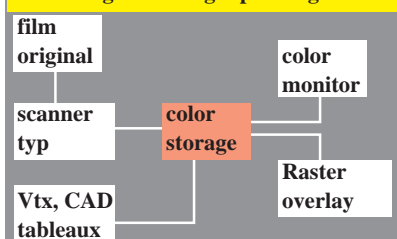


www.ps.bam.de/Ae25/10L/L25E00NA.PS/.TXT; start output
N: No Output Linearization (OL) data in File (F), Startup (S) or Device (D)

diagram for interfaces in the area image handling – printing



Ae250-1

sensation scaling functions lightness L^* and luminous 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:
 $L^* = 100 (Y / 100)^{1/3,0}$

Ae250-2

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



blackness
 $N^* = 1$

Ae251-1

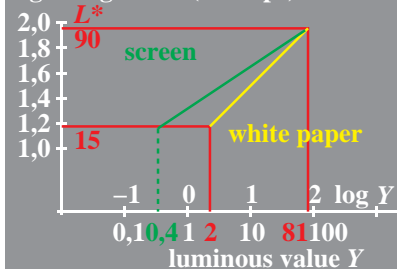
point amount:
 $n = 16^2 - 8^2$
 $= 192$



blackness
 $N^* = 8$

Ae251-2

log L^* lightness (75 steps)

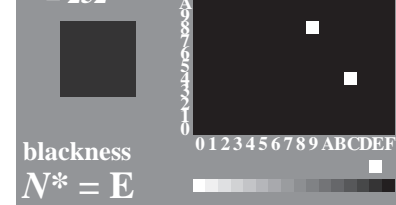


Ae250-3

colorness	luminous value		
N^*	L^*	$Y = (L^*/10)^2 Y_{max}$	$Y = (L^*/10)^3 / 9$
0	90	81 Y_{max}	81,0 $Y_{normalized}$
2	80	64	56,9 (= Y_{paper})
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

Ae250-4

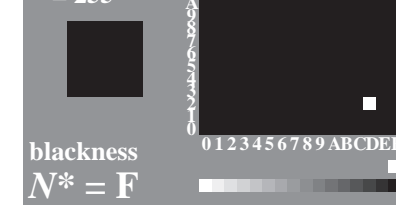
point amount:
 $n = 16^2 - 2^2$
 $= 252$



blackness
 $N^* = E$

Ae251-3

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



blackness
 $N^* = F$

Ae251-4

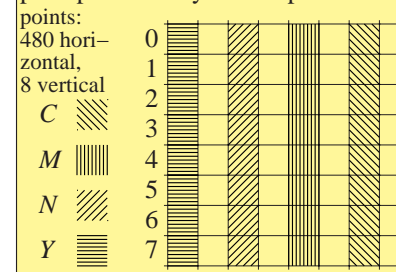
linear scan area	lightness- area	lightness color	
Y	L^*	h^*	no. d
76,6 ... 85,5	87,5 ... 92,4	90 FFF	4095
60,1 ... 68,1	77,5 ... 82,4	80 DDD	3549
45,6 ... 52,5	67,5 ... 72,4	70 BBB	3003
33,1 ... 39,0	57,5 ... 62,4	60 999	2457
22,6 ... 27,5	47,5 ... 52,4	50 777	1911
14,1 ... 18,0	37,5 ... 42,4	40 555	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

Ae250-5

colorness	black-ness	luminous value	coverage
$O^* L^* V^*$	N^*	Y	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

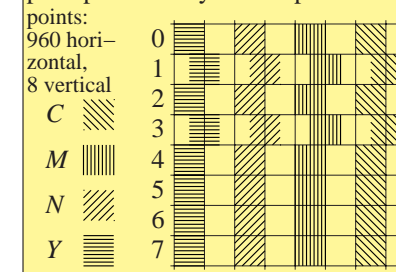
Ae250-6

print positions by matrix printer



Ae251-5

print positions by matrix printer



Ae251-6

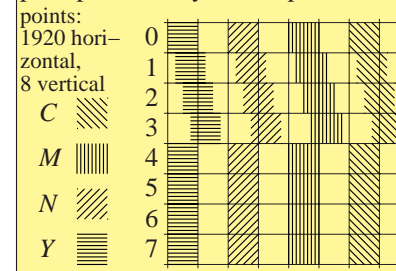
colorness	yellow-ness	luminous value	coverage
$O^* L^* V^*$	Y^*	Y	b
15,15,15	0	81 Y_{max}	0,00
15,15,13	2		0,22
15,15,11	4		0,41
15,15, 9	6		0,57
15,15, 7	8		0,71
15,15, 5	10		0,83
15,15, 3	12		0,91
15,15, 1	14		0,98
15,15, 0	15	76 Y_{min}	1,00

Ae250-7

interfaces in area of:
color film original – color scanner –
color storage – raster area coverage
1. color scanner with color measurement sensitivities = spectral values
2. minimum 12-Bit color image storage generates cubic screen and quadratic raster area function
3. minimum 8-bit resolution for linear photoelectric sensors

Ae250-8

print positions by matrix printer



Ae251-7

colorness	black-ness	luminous value	coverage
$O^* L^* V^*$	N^*	Y	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

Ae251-8

BAM-test chart Ae25; Computer graphics and colorimetry
Colour series from the above book

input: *cmy0* setcmykcolor*
output: *no change compared to input*

BAM registration: 20070901-Ae25/10L/L25E00NA.PS/.TXT
application for measurement of printer or monitor systems

BAM material: code=rh4ta