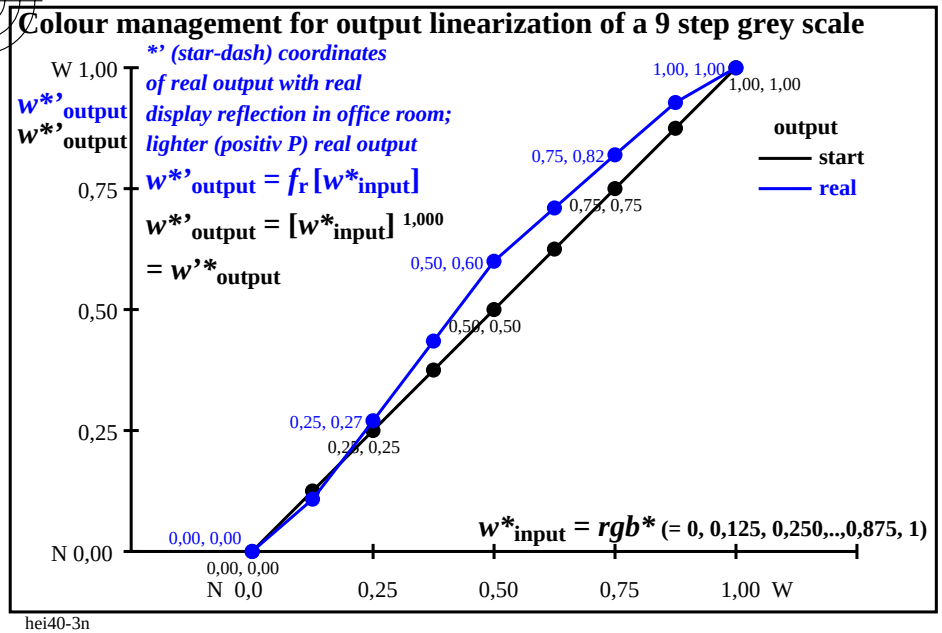
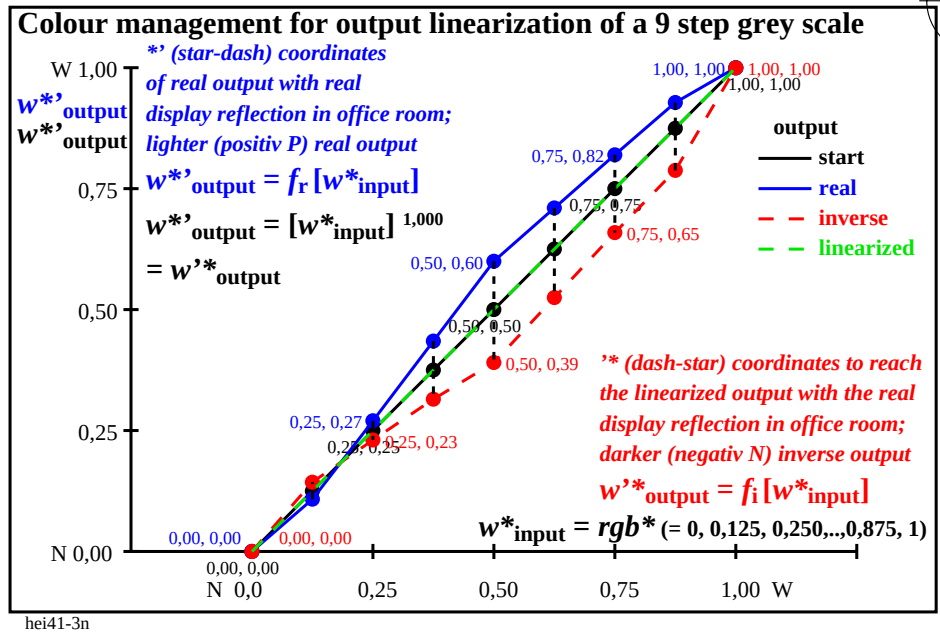
Colour management for output linearization of a 9 step grey scale



hei40-3n

Colour management for output linearization of a 9 step grey scale



hei41-3n

Three, 5 and 9 colour steps for visual evaluation

s: 0, 125, 250, 375, 500, 625, 750, 875, 1000
Black N00b − Black N16b = Blue B

$L^*_{TUBLOG,U}=[50/\log(5)]\ \log(Y/Y_U)+50,\ Y_N=4,\ Y_U=20,\ Y_W=100$

N00b	N08b	N16b	N00b	N04b	N08b	N12b	N16b	N00b	N02b	N04b	N06b	N08b	N10b	N12b	N14b	N16b
0		1	0		1			0		1		0		1		1
0		1	0		0			0		0		1		0		1
	e08=0, . .			e04=0, . .		e48=0, . .			e02=0, . .		c24=0, . .		e46=0, . .		e68=0, . .	
	a1=e08			b1=e04*a1	b2=a1	b3=e48* (1−b2)+b2			c1=e02*b1	c2=b1	c3=e24* (b2−b1)+b1	c4=b2	c5=e46* (b3−b2)+b2	c6=b3	c7=e68* (1−b3)+b3	
0,00		1,00	0,00		1,00		1,00	0,00		1,00		0,00		1,00		1,00
0,00		1,00	0,00		0,00		1,00	0,00		0,00		1,00		0,00		1,00

Three, 5 and 9 colour steps, numeric specification

N00b	N08b	N16b	N00b	N04b	N08b	N12b	N16b	N00b	N02b	N04b	N06b	N08b	N10b	N12b	N14b	N16b
0		1	0		1			0		1		0		1		1
12?			25?					37?				50?		62?		87?
0,00	e08=0, . .	1,00	0,00	e04=0, . .	1,00	e48=0, . .	1,00	0,00	e02=0, . .	1,00	c24=0, . .	0,00	e46=0, . .	1,00	e68=0, . .	1,00
0,00	a1=e08	1,00	0,00	b1=e04*a1	0,00	b2=a1	1,00	0,00	c1=e02*b1	0,00	c2=b1	1,00	c3=e24* (b2−b1)+b1	0,00	c4=b2	1,00	c5=e46* (b3−b2)+b2	0,00	c6=b3	1,00	c7=e68* (1−b3)+b3	1,00

Three, 5 and 9 colour steps, numeric calculation example

N00b	N08b	N16b	N00b	N04b	N08b	N12b	N16b	N00b	N02b	N04b	N06b	N08b	N10b	N12b	N14b	N16b
0		1	0		1			0		1		0		1		1
12?			25?					37?				50?		62?		87?
0,00	0,60	1,00	0,00	0,45	1,00	0,55	1,00	0,00	0,40	1,00	0,49	0,00	0,50	1,00	0,60	1,00
0,000	0,600	1,000	0,000	0,270	0,600	0,820	1,000	0,000	0,108	0,270	0,435	0,600	0,710	0,820	0,928	1,000
0,000	0,390	1,000	0,000	0,230	0,390	0,658	1,000	0,000	0,143	0,230	0,314	0,390	0,524	0,658	0,787	1,000

r: 0, 108, 270, 435, 600, 710, 820, 928, 1000
i: 0, 143, 230, 314, 390, 524, 658, 787, 1000

Three, 5 and 9 colour steps, produced visual linearization

Black N00b − Black N16b = Blue B

$L^*_{TUBLOG,U}=[50/\log(5)]\ \log(Y/Y_U)+50,\ Y_N=4,\ Y_U=20,\ Y_W=100$

N00b	N08b	N16b	N00b	N04b	N08b	N12b	N16b	N00b	N02b	N04b	N06b	N08b	N10b	N12b	N14b	N16b

hei40-7n, Test samples: 3, 5 and 9 colour steps, greu=0,500, expu=1,000, expa=1,000, expi=1,000