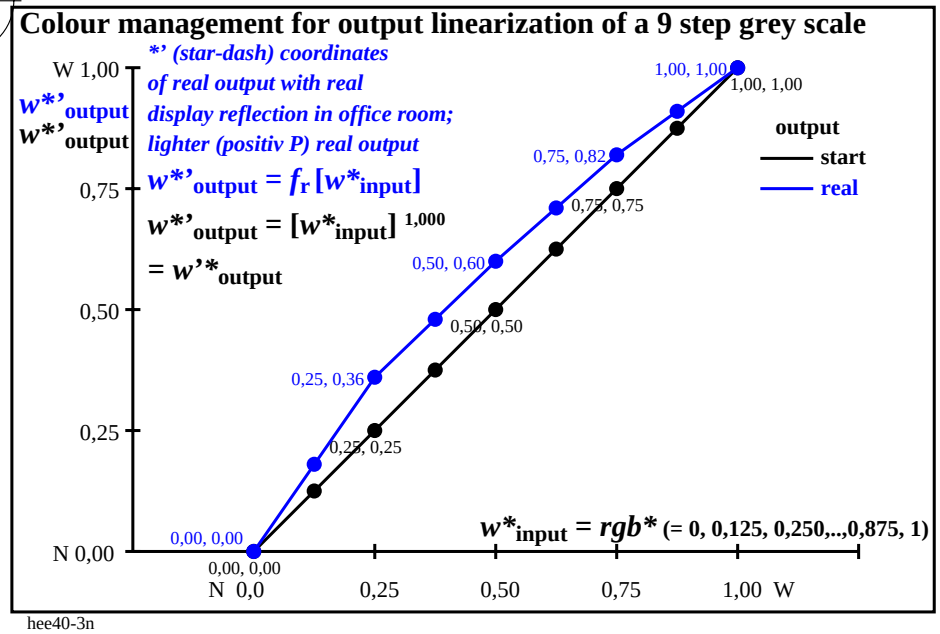
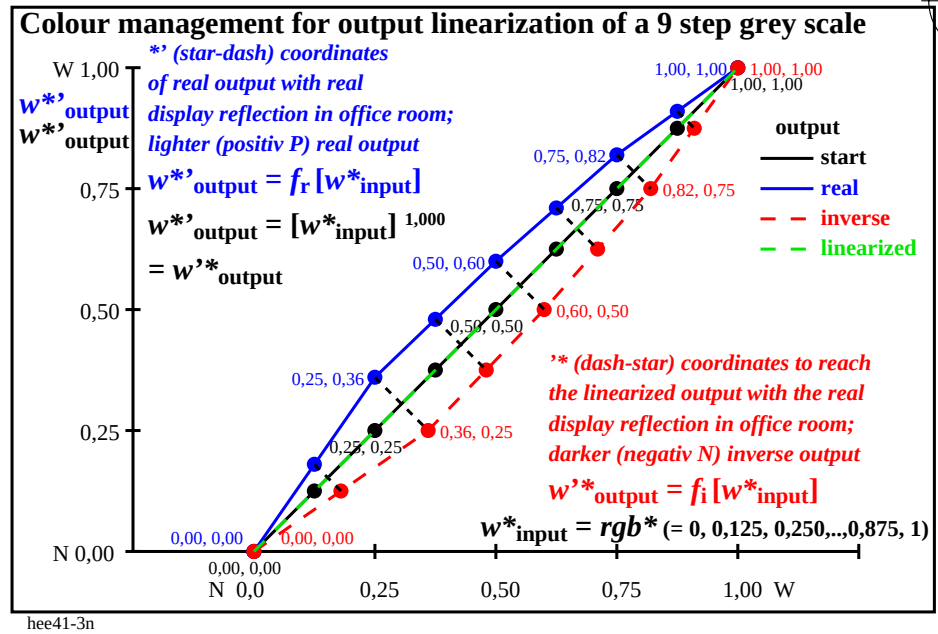
Colour management for output linearization of a 9 step grey scale



hee40-3n

Colour management for output linearization of a 9 step grey scale



hee41-3n

Three, 5 and 9 colour steps for visual evaluation

0, 125, 250, 375, 500, 625, 750, 875, 1000
Black N00w − Black N16w = White W

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

0,000	0,500	1,000
N00w	N08w	N16w

0,000	0,250	0,500	0,750	1,000
N00w	N04w	N08w	N12w	N16w

0,000	0,125	0,250	0,375	0,500	0,625	0,750	0,875	1,000
N00w	N02w	N04w	N06w	N08w	N10w	N12w	N14w	N16w
0	12?	25?	37?	50?	62?	75?	87?	100

Three, 5 and 9 colour steps, numeric specification

0,00 0,00	e08=0, . . a1=e08	1,00 1,00

0,00 0,00	e04=0, . . b1=e04*a1	1,00 0,00 b2=a1	e48=0, . . b3=e48* (1−b2)+b2	1,00 1,00

0,00 0,00	e02=0, . . c1=e02*b1	1,00 0,00 c2=b1	c24=0, . . c3=e24* (b2−b1)+b1	0,00 1,00 c4=b2	e46=0, . . c5=e46* (b3−b2)+b2	1,00 0,00 c6=b3	e68=0, . . c7=e68* (1−b3)+b3	1,00 1,00

Three, 5 and 9 colour steps, numeric calculation example

0,00 0,000	0,60 0,600	1,00 1,000

0,00 0,000	0,60 0,360	1,00 0,00 0,600	0,55 0,820	1,00 1,000

0,00 0,000	0,50 0,180	1,00 0,00 0,360	0,50 0,480	0,00 1,00 0,600	0,50 0,710	1,00 0,00 0,820	0,50 0,910	1,00 1,000

Three, 5 and 9 colour steps, produced visual linearization

0, 180, 360, 480, 600, 710, 820, 910, 1000
Black N00w − Black N16w = White W

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

0,000	0,600	1,000
N00w	N08w	N16w

0,000	0,360	0,600	0,820	1,000
N00w	N04w	N08w	N12w	N16w

0,000	0,180	0,360	0,480	0,600	0,710	0,820	0,910	1,000
N00w	N02w	N04w	N06w	N08w	N10w	N12w	N14w	N16w

hee40-7n, Test samples: 3, 5 and 9 colour steps, greu=0,500, expu=1,000, expa=1,000, expi=1,000