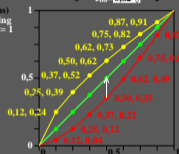


9 step series with grey sample and surround too dark, a just both with a value larger "0.50"

adjust visual equal difference for Grey U and Black N

The gamma value  $\gamma=0.666$  of the software Gamma Adjuster reaches equal differences and corresponds to  $e_{05}=0.62$ .

Output (9 steps)  
adjusted spacing  
 $0 < r_{gb}^{b^*}_{out} < 1$



go to next image 2

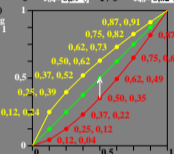
one experimental value:  
 $e_{05}=0.62$   
real gamma value:  
 $\gamma_{re} = \log [0.50] / \log [e_{05}] = 1.500$   
inverse gamma value:  
 $\gamma_{in} = \log [e_{05}] / \log [0.50] = 0.666$   
The software Gamma Adjuster reaches equal differences for  $\gamma=0.666$   
equally spaced  
 $0 < r_{gb}^{b^*}_{in} < 1$   
Input (9 steps)

hez80-1a, image 1, produce equal visual difference between Black N - White U

9 step series with grey sample and surround appears too dark, all will be lighter below

adjust visual equal difference for two of 5 steps

Output (9 steps)  
adjusted spacing  
 $0 < r_{gb}^{b^*}_{out} < 1$



go to next image 3

two experimental values:  
 $e_{04}=e_{48}$   
equally spaced  
 $0 < r_{gb}^{b^*}_{in} < 1$   
Input (9 steps)

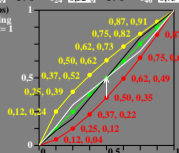
hez80-2a, image 2, produce equal visual difference between two of five steps

9 step series with grey sample and surround appears too dark, all will be lighter below

adjust visual equal difference for four of 9 steps

0  $e_{02}=0.24$  1/0  $e_{24}=0.52$  1/0  $e_{46}=0.73$  1/0  $e_{68}=0.91$  1

Output (9 steps)  
adjusted spacing  
 $0 < r_{gb}^{b^*}_{out} < 1$



go to next image 4

four experimental values:  
 $e_{02}, e_{24}, e_{46}, e_{68}$   
save 7 data above as text

equally spaced  
 $0 < r_{gb}^{b^*}_{in} < 1$   
Input (9 steps)

hez80-3a, image 3, produce equal visual difference between four of nine steps

hez80-3n

9 step series with grey sample and surround appears too dark, all will be lighter below

9 step series based on all visual adjustments used for output linearization

0,00  $c_1=0.12$   $c_2=0.25$   $c_3=0.37$   $c_4=0.50$   $c_5=0.62$   $c_6=0.75$   $c_7=0.87$  1,00

calculation with visual experimental (e) data adjusted above

$a_1=e_{05}, b_1=e_{04} \cdot a_1, b_2=e_{48}(1-b_2)+b_1, c_2=b_1, c_4=b_2, c_6=b_3$   
 $c_1=e_{02} \cdot b_1, c_3=e_{24}(b_2-b_2)+b_1, c_5=e_{46}(b_1-b_2)+b_2, c_7=e_{68}(1-b_3)+b_3$

save 7 data above as text

save 9 data below as text

$\pm 0.04$   $\pm 0.04$   $\pm 0.04$   $\pm 0.04$   $\pm 0.04$   $\pm 0.04$   $\pm 0.04$   $\pm 0.04$   $\pm 0.04$



grey example  
difference visible?

0.25  $\pm 0.06$  adjust threshold  
0.25  $\pm 0.00$  no change

adjust and proof threshold of the linearized output

restart with image 1

hez80-4a, image 4, adjust visual threshold ( $\pm 0.04$ ) of 9 steps; all equal?