

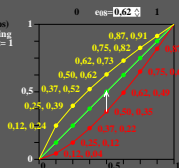
9 step series with grey sample and surround too dark, a just both with a value larger "0.50"

adjust visual equal difference for Grey U between White W 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  
 $0 < r_{gb}^{b^*}_{out} < 1$



so 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)

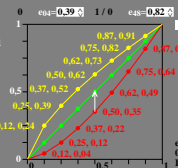
hez81-5a, image 1, produce equal visual difference between Black N – White W

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  
 $0 < r_{gb}^{b^*}_{out} < 1$



so to next image 3

two experimental values:  
 $e_{04}=0.39$   
 $e_{48}=0.82$   
 $e_{04} \cdot e_{48}$   
equally spaced  
 $0 < r_{gb}^{b^*}_{in} < 1$   
Input (9 steps)

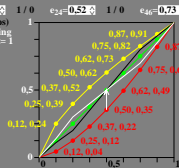
hez81-6a, image 2, produce equal visual difference between two of five steps

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



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



so to next image 4

four experimental values:  
 $e_{02}=0.24$ ,  $e_{24}=0.52$ ,  $e_{46}=0.73$ ,  $e_{68}=0.91$   
 $e_{02} \cdot e_{24} \cdot e_{46} \cdot e_{68}$   
save 7 data above as text

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

hez81-7a, image 3, produce equal visual difference between four of nine steps

hez81-7n

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



calculation with visual experimental (e) data adjusted above

$a_1=e_{08}$ ,  $b_1=e_{04} \cdot a_1$ ,  $b_2=e_{48}(1-b_2)+b_2$ ,  $c_2=b_1$ ,  $c_4=b_2$ ,  $c_6=b_3$

$c_1=e_{02} \cdot b_1$ ,  $c_3=e_{24}(b_2-b_2)+b_1$ ,  $c_5=e_{46}(b_1-b_2)+b_2$ ,  $c_7=e_{08}(1-b_3)+b_3$

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

save 7 data above as text

save 9 data below as text

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

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

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

hez81-8a, image 4, adjust visual threshold (+0.04?) of 9 steps; all equal?