

log ΔY IECsRGBJND–tristimulus

log(ΔY) ΔY

value difference

2 100

$$L^*_{IECsRGBJND} = 100 (Y/Y_n)^{1/7,2}$$

IECsRGBJND–tristimulus value difference

$$\begin{aligned} \log(dY) &= \log(7,2 (Y_n/100)) + (1-(1/7,2)) \log(Y/Y_n) \\ &= \log(7,2(Y_n^{1/7,2})/100) + (1-(1/7,2)) \log(Y) \end{aligned}$$

1 10

$$Y_u=0, dY_u=0,09, dY_u/Y_u=0,1440$$

$$\log(dY)=1,64, m_u=0,86$$

application range

-1 0,1 1 2 log(Y)

$Y_N=4$ 10 $Y_u=18$ 100 Y