

Equal 9 step grey scaling between $L^*_{0aN}=30$ & $L^*_{0aW}=80.1$, $Y_{0ref}=1$, normalisation white W

$L^*_{0aN}=30.8$, $L^*_{0aU}=55.5$, $L^*_{0aW}=80.1$, $Y_{0aN}=6.7$, $Y_{0aU}=25.7$, $Y_{0aW}=60.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=9.0$

$L^*_{taN}=32.5$, $L^*_{taU}=56.0$, $L^*_{taW}=80.1$, $Y_{taN}=7.5$, $Y_{taU}=26.3$, $Y_{taW}=60.0$, $C_{taY}=Y_{taW}:Y_{taN}=7.9$

Regularity index according to ISO/IEC 15775:2022, annex G for 5 and 9 steps

$g^* = 100 [\Delta L^*_{min}] / [\Delta L^*_{max}]$, $L^*_{TUBsRGB,W} = 100 [Y/Y_n]^{1/\ln(10)}$ with $Y \geq 0,39 = 100/255$, $Y_n=100$

$g^*_5=99$, $g^*_9=99$

$g^*_5=95$, $g^*_9=94$

$g^*_5=96$, $g^*_9=94$

$L^*_{TUBsRGB,W}$ intended output

real output

linearized output

| n0. i | intended output | | | | real output | | | | | linearized output | |
|-------|-----------------|------------|----------|----------|-------------|-------------------|------------|----------|-----------------------|-------------------|-------------------|
| | L^*_{0a} | L^*_{0r} | Y_{0a} | Y_{0r} | L^*_{ta} | ΔL^*_{ta} | L^*_{tr} | Y_{ta} | $(L^*_{tr})^{1/1.04}$ | L^*_{la} | ΔL^*_{la} |
| 9 | 80.1 | 1.0 | 60.0 | 1.0 | 80.1 | | 1.0 | 60.0 | 1.0 | 80.1 | |
| 8 | 73.9 | 0.875 | 49.9 | 0.811 | 74.0 | 6.0 | 0.873 | 50.1 | 0.877 | 74.3 | 5.8 |
| 7 | 67.8 | 0.75 | 40.8 | 0.641 | 68.0 | 6.0 | 0.746 | 41.2 | 0.754 | 68.4 | 5.9 |
| 6 | 61.6 | 0.625 | 32.8 | 0.49 | 62.0 | 6.0 | 0.619 | 33.3 | 0.63 | 62.5 | 5.9 |
| 5 | 55.5 | 0.5 | 25.7 | 0.358 | 56.0 | 6.0 | 0.493 | 26.3 | 0.506 | 56.6 | 5.9 |
| 4 | 49.3 | 0.375 | 19.6 | 0.243 | 50.0 | 6.0 | 0.368 | 20.3 | 0.381 | 50.7 | 5.9 |
| 3 | 43.2 | 0.25 | 14.4 | 0.146 | 44.1 | 5.9 | 0.243 | 15.2 | 0.256 | 44.7 | 5.9 |
| 2 | 37.0 | 0.125 | 10.1 | 0.065 | 38.3 | 5.8 | 0.12 | 10.9 | 0.13 | 38.7 | 6.0 |
| 1 | 30.8 | 0.0 | 6.7 | 0.0 | 32.5 | 5.7 | 0.0 | 7.5 | 0.0 | 32.5 | 6.2 |

$\Delta L^*_{0a}=6.1$

(i=1,2,...,8)

normalisation: $Y_{taiW}=Y_{0aW} \frac{Y_{0ai}+Y_{0ref}}{Y_{0aW}+Y_{0ref}}$