

Equal 9 step grey scaling between $L^*_{0aN}=22.3$ and $L^*_{0aW}=95.9$, $Y_{0ref}=1.8$, normalisation white W

$L^*_{0aN}=22.3$, $L^*_{0aU}=59.1$, $L^*_{0aW}=96.0$, $Y_{0aN}=3.6$, $Y_{0aU}=27.2$, $Y_{0aW}=90.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=25.0$

$L^*_{taN}=27.6$, $L^*_{taU}=60.3$, $L^*_{taW}=96.0$, $Y_{taN}=5.3$, $Y_{taU}=28.4$, $Y_{taW}=90.0$, $C_{taY}=Y_{taW}:Y_{taN}=17.0$

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

$g^* = 100 [\Delta L^*_{min}] / [\Delta L^*_{max}]$, $L^*_{CIE LAB} = 116 [Y/Y_n]^{1/3} - 16$ with $Y \geq 0.882$, $Y_n=100$

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

$g^*_5=86$, $g^*_9=82$

$g^*_5=98$, $g^*_9=98$

| $L^*_{CIE LAB}$ | n0. i | intended output | | | | real output | | | | | linearized output | |
|-----------------|-------|-----------------|------------|----------|----------|-------------|-------------------|------------|----------|-----------------------|-------------------|-------------------|
| | | L^*_{0a} | L^*_{0r} | Y_{0a} | Y_{0r} | L^*_{ta} | ΔL^*_{ta} | L^*_{tr} | Y_{ta} | $(L^*_{tr})^{1/1.06}$ | L^*_{la} | ΔL^*_{la} |
| 100 | ○ 9 | 96.0 | 1.0 | 90.0 | 1.0 | 96.0 | | 1.0 | 90.0 | 1.0 | 96.0 | |
| | ● 8 | 86.8 | 0.875 | 69.6 | 0.763 | 87.0 | 9.0 | 0.868 | 70.0 | 0.876 | 87.5 | 8.5 |
| | ● 7 | 77.6 | 0.75 | 52.5 | 0.566 | 78.0 | 9.0 | 0.737 | 53.2 | 0.751 | 78.9 | 8.5 |
| 75 | ● 6 | 68.4 | 0.625 | 38.5 | 0.403 | 69.1 | 8.9 | 0.607 | 39.5 | 0.625 | 70.4 | 8.6 |
| | ● 5 | 59.1 | 0.5 | 27.2 | 0.273 | 60.3 | 8.8 | 0.478 | 28.4 | 0.5 | 61.8 | 8.6 |
| | ● 4 | 49.9 | 0.375 | 18.4 | 0.171 | 51.6 | 8.7 | 0.351 | 19.8 | 0.374 | 53.1 | 8.6 |
| 50 | ● 3 | 40.7 | 0.25 | 11.7 | 0.094 | 43.1 | 8.5 | 0.227 | 13.2 | 0.249 | 44.6 | 8.6 |
| | ● 2 | 31.5 | 0.125 | 6.9 | 0.038 | 35.0 | 8.1 | 0.109 | 8.5 | 0.124 | 36.1 | 8.5 |
| 25 | ● 1 | 22.3 | 0.0 | 3.6 | 0.0 | 27.6 | 7.4 | 0.0 | 5.3 | 0.0 | 27.6 | 8.5 |

$\Delta L^*_{0a}=9.2$

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

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