

Equal 9 step grey scaling between $L^*_{0aN}=29.4$ and $L^*_{0aW}=78.4$, $Y_{0ref}=0.9$, normalisation grey U

$L^*_{0aN}=29.4, L^*_{0aU}=53.9, L^*_{0aW}=78.5, Y_{0aN}=6.0, Y_{0aU}=21.9, Y_{0aW}=54.0, C_{0aY}=Y_{0aW}:Y_{0aN}=9.0$

$L^*_{taN}=30.9, L^*_{taU}=53.9, L^*_{taW}=77.7, Y_{taN}=6.6, Y_{taU}=21.9, Y_{taW}=52.7, C_{taY}=Y_{taW}:Y_{taN}=7.9$

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

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

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

$g^*_5=94, g^*_9=93$

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

| L^*_{CIELAB} n0. i | intended output | | | Y0r | real output | | | linearized output | | |
|-------------------------|-----------------|------------|----------|-------|-------------|-------------------|------------|-------------------|-----------------------|------------|
| | L^*_{0a} | L^*_{0r} | Y_{0a} | | L^*_{ta} | ΔL^*_{ta} | L^*_{tr} | Y_{ta} | $(L^*_{tr})^{1/1.02}$ | L^*_{la} |
| 9 | 78.5 | 1.0 | 54.0 | 1.0 | 77.7 | 6.0 | 1.0 | 52.7 | 1.0 | 77.7 |
| 8 | 72.3 | 0.875 | 44.1 | 0.795 | 71.7 | 5.9 | 0.872 | 43.3 | 0.875 | 71.9 |
| 7 | 66.2 | 0.75 | 35.6 | 0.616 | 65.8 | 5.9 | 0.745 | 35.0 | 0.75 | 66.0 |
| 6 | 60.1 | 0.625 | 28.2 | 0.462 | 59.8 | 5.9 | 0.618 | 27.9 | 0.624 | 60.2 |
| 5 | 53.9 | 0.5 | 21.9 | 0.332 | 53.9 | 5.9 | 0.491 | 21.9 | 0.499 | 54.3 |
| 4 | 47.8 | 0.375 | 16.6 | 0.222 | 48.1 | 5.8 | 0.366 | 16.8 | 0.374 | 48.5 |
| 3 | 41.7 | 0.25 | 12.3 | 0.131 | 42.3 | 5.7 | 0.242 | 12.7 | 0.25 | 42.6 |
| 2 | 35.5 | 0.125 | 8.8 | 0.058 | 36.5 | 5.6 | 0.12 | 9.3 | 0.125 | 36.8 |
| 1 | 29.4 | 0.0 | 6.0 | 0.0 | 30.9 | 5.6 | 0.0 | 6.6 | 0.0 | 30.9 |

