

# Equal 9 step grey scaling between $L^*_{0aN}=21$ & $L^*_{0aW}=107.2$ , $Y_{0ref}=120$ , normalisation white W

$L^*_{0aN}=21.3$ ,  $L^*_{0aU}=64.3$ ,  $L^*_{0aW}=107.3$ ,  $Y_{0aN}=3.3$ ,  $Y_{0aU}=33.2$ ,  $Y_{0aW}=120.0$ ,  $C_{0aY}=Y_{0aW}:Y_{0aN}=36.0$   
 $L^*_{taN}=82.7$ ,  $L^*_{taU}=90.1$ ,  $L^*_{taW}=107.3$ ,  $Y_{taN}=61.7$ ,  $Y_{taU}=76.6$ ,  $Y_{taW}=120.0$ ,  $C_{taY}=Y_{taW}:Y_{taN}=1.9$

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

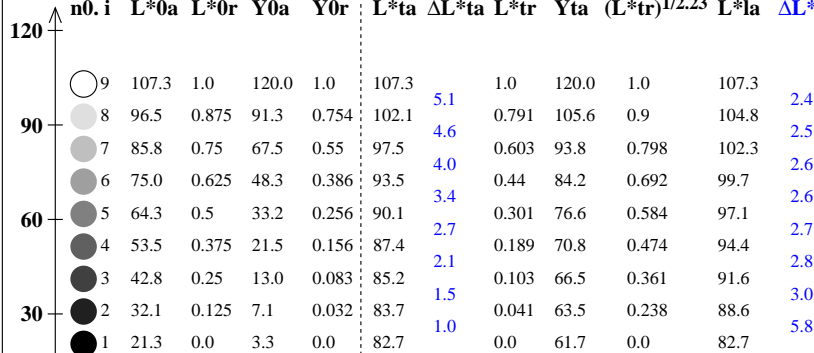
$g^* = 100 [\Delta L^*_{min}] / [\Delta L^*_{max}]$ ,  $L^*_{CIELAB,W} = 116 [Y/Y_n]^{1/3} - 16$  with  $Y \geq 0.882$ ,  $Y_n=100$

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

$g^*_5 = 25$ ,  $g^*_9 = 19$

$g^*_5 = 56$ ,  $g^*_9 = 41$

$L^*_{CIELAB,W}$  intended output real output linearized output  
 n0. i  $L^*_{0a}$   $L^*_{0r}$   $Y_{0a}$   $Y_{0r}$   $L^*_{ta}$   $\Delta L^*_{ta}$   $L^*_{tr}$   $Y_{ta}$   $(L^*_{tr})^{1/2.23}$   $L^*_{la}$   $\Delta L^*_{la}$



$\Delta L^*_{0a} = 10.7$  (i=1,2,...,8)

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