

# Equal 9 step grey scaling between $L^*_{0aN}=23$ & $L^*_{0aW}=104.2$ , $Y_{0ref}=1$ , normalisation white W

$L^*_{0aN}=23.7$ ,  $L^*_{0aU}=64.0$ ,  $L^*_{0aW}=104.2$ ,  $Y_{0aN}=3.6$ ,  $Y_{0aU}=35.7$ ,  $Y_{0aW}=110.0$ ,  $C_{0aY}=Y_{0aW}:Y_{0aN}=30.2$   
 $L^*_{taN}=26.2$ ,  $L^*_{taU}=64.5$ ,  $L^*_{taW}=104.2$ ,  $Y_{taN}=4.6$ ,  $Y_{taU}=36.4$ ,  $Y_{taW}=110.0$ ,  $C_{taY}=Y_{taW}:Y_{taN}=23.9$

## 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  $Y \geq 0,39 = 100/255$ ,  $Y_n=100$   
 $g^*_5=99$ ,  $g^*_9=99$                        $g^*_5=93$ ,  $g^*_9=91$                        $g^*_5=91$ ,  $g^*_9=89$

$L^*_{TUBsRGB,W}$  intended output                      real output                      linearized output  
 n0. i    $L^*_{0a}$     $L^*_{0r}$     $Y_{0a}$     $Y_{0r}$     $L^*_{ta}$     $\Delta L^*_{ta}$     $L^*_{tr}$     $Y_{ta}$     $(L^*_{tr})^{1/1.07}$     $L^*_{la}$     $\Delta L^*_{la}$

120	○ 9	104.2	1.0	110.0	1.0	104.2		1.0	110.0	1.0	104.2	
90	● 8	94.2	0.875	87.1	0.784	94.2	10.0	0.872	87.3	0.88	94.8	9.4
	● 7	84.1	0.75	67.1	0.597	84.3	9.9	0.744	67.5	0.759	85.4	9.4
	● 6	74.0	0.625	50.0	0.436	74.4	9.9	0.617	50.6	0.637	75.9	9.5
60	● 5	64.0	0.5	35.7	0.302	64.5	9.9	0.49	36.4	0.513	66.3	9.6
	● 4	53.9	0.375	24.1	0.192	54.6	9.8	0.364	24.9	0.389	56.5	9.7
	● 3	43.8	0.25	15.0	0.107	44.9	9.7	0.239	15.8	0.262	46.7	9.8
30	● 2	33.8	0.125	8.2	0.043	35.4	9.5	0.117	9.1	0.134	36.7	10.0
	● 1	23.7	0.0	3.6	0.0	26.2	9.1	0.0	4.6	0.0	26.2	10.5

$\Delta L^*_{0a}=10.1$                       (i=1,2,...,8)

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