

# Equal 9 step grey scaling between $L^*_{0aN}=23.6$ and $L^*_{0aW}=95.5$ , $Y_{0ref}=0.9$ , normalisation grey $U$

$L^*_{0aN}=23.6$ ,  $L^*_{0aU}=59.6$ ,  $L^*_{0aW}=95.5$ ,  $Y_{0aN}=3.6$ ,  $Y_{0aU}=30.3$ ,  $Y_{0aW}=90.0$ ,  $C_{0aY}=Y_{0aW}:Y_{0aN}=25.0$

$L^*_{taN}=25.7$ ,  $L^*_{taU}=59.6$ ,  $L^*_{taW}=94.7$ ,  $Y_{taN}=4.4$ ,  $Y_{taU}=30.3$ ,  $Y_{taW}=88.3$ ,  $C_{taY}=Y_{taW}:Y_{taN}=20.2$

## 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  $Y \geq 0,3$ ,  $Y_n=100$

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

$g^*_5=94$ ,  $g^*_9=91$

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

n0. i	intended output				real output						linearized output	
	$L^*_{0a}$	$L^*_{0r}$	$Y_{0a}$	$Y_{0r}$	$L^*_{ta}$	$\Delta L^*_{ta}$	$L^*_{tr}$	$Y_{ta}$	$(L^*_{tr})^{1/1.03}$	$L^*_{la}$	$\Delta L^*_{la}$	
9	95.5	1.0	90.0	1.0	94.7		1.0	88.3	1.0	94.7		
8	86.5	0.875	71.7	0.788	85.9	8.8	0.872	70.5	0.876	86.2	8.5	
7	77.5	0.75	55.7	0.603	77.1	8.8	0.745	54.9	0.752	77.6	8.6	
6	68.5	0.625	41.9	0.443	68.3	8.8	0.617	41.6	0.627	69.0	8.6	
5	59.6	0.5	30.3	0.309	59.6	8.7	0.491	30.3	0.503	60.4	8.6	
4	50.6	0.375	20.8	0.199	50.9	8.7	0.365	21.1	0.377	51.7	8.6	
3	41.6	0.25	13.3	0.112	42.2	8.6	0.24	13.7	0.252	43.1	8.7	
2	32.6	0.125	7.6	0.046	33.8	8.4	0.117	8.2	0.126	34.4	8.7	
1	23.6	0.0	3.6	0.0	25.7	8.1	0.0	4.4	0.0	25.7	8.7	

$\Delta L^*_{0a}=9.0$

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

normalisation:  $Y_{taiU}=Y_{0aU} \frac{Y_{0ai}+Y_{0ref}}{Y_{0aU}+Y_{0ref}}$