

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

$L^*_{0aN}=23.6, L^*_{0aU}=59.6, L^*_{0aW}=95.5, Y_{0aN}=3.6, Y_{0aU}=30.3, Y_{0aW}=90.0, C_{0aY}=Y_{0aW}:Y_{0aN}=25.0$   
 $L^*_{taN}=25.9, L^*_{taU}=60.1, L^*_{taW}=95.5, Y_{taN}=4.4, Y_{taU}=30.9, Y_{taW}=90.0, C_{taY}=Y_{taW}:Y_{taN}=20.2$

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  $Y \geq 0.3, Y_n=100$   
 $g^*_5=99, g^*_9=99 \quad g^*_5=94, g^*_9=91 \quad g^*_5=98, g^*_9=98$

L* <sub>TUBsRGB</sub> , intended output					real output					linearized output		
	n0. i	L*0a	L*0r	Y0a	Y0r	L*ta	ΔL*ta	L*tr	Yta	(L*tr) <sup>1/1.03</sup>	L*la	ΔL*la
100	9	95.5	1.0	90.0	1.0	95.5		8.9	90.0	1.0	95.5	8.6
	8	86.5	0.875	71.7	0.788	86.6		8.9	87.2	0.876	86.9	8.6
75	7	77.5	0.75	55.7	0.603	77.7		8.8	74.5	56.0	75.2	78.3
	6	68.5	0.625	41.9	0.443	68.9		8.8	61.7	42.4	62.7	69.6
50	5	59.6	0.5	30.3	0.309	60.1		8.8	49.1	30.9	50.3	60.9
	4	50.6	0.375	20.8	0.199	51.3		8.7	36.5	21.5	37.7	52.2
25	3	41.6	0.25	13.3	0.112	42.6		8.5	24.0	14.0	25.2	43.4
	2	32.6	0.125	7.6	0.046	34.1		8.2	11.7	8.4	12.6	34.7
0	1	23.6	0.0	3.6	0.0	25.9			0.0	4.4	0.0	25.9

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

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

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