

Equal 9 step grey scaling between $L^*_{0aN}=3.6$ and $L^*_{0aW}=95.9$, $Y_{0ref}=2.5$, normalisation grey U

$L^*_{0aN}=3.6$, $L^*_{0aU}=49.8$, $L^*_{0aW}=96.0$, $Y_{0aN}=0.4$, $Y_{0aU}=18.2$, $Y_{0aW}=90.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=225.0$

$L^*_{taN}=18.1$, $L^*_{taU}=49.8$, $L^*_{taW}=92.3$, $Y_{taN}=2.5$, $Y_{taU}=18.2$, $Y_{taW}=81.3$, $C_{taY}=Y_{taW}:Y_{taN}=31.9$

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

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

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

$g^*_5 = 58$, $g^*_9 = 48$

$g^*_5 = 91$, $g^*_9 = 89$

$L^*_{CIE LAB}$	n0. i	intended output				real output					linearized output	
		L^*_{0a}	L^*_{0r}	Y_{0a}	Y_{0r}	L^*_{ta}	ΔL^*_{ta}	L^*_{tr}	Y_{ta}	$(L^*_{tr})^{1/1.24}$	L^*_{la}	ΔL^*_{la}
100	○ 9	96.0	1.0	90.0	1.0	92.3		1.0	81.3	1.0	92.3	
	● 8	84.4	0.875	64.9	0.72	81.5	10.8	0.854	59.3	0.88	83.4	8.8
75	● 7	72.9	0.75	45.0	0.498	70.7	10.7	0.709	41.8	0.758	74.3	9.1
	● 6	61.3	0.625	29.6	0.326	60.1	10.6	0.566	28.3	0.632	65.0	9.3
50	● 5	49.8	0.5	18.2	0.199	49.8	10.3	0.427	18.2	0.504	55.5	9.5
	● 4	38.2	0.375	10.2	0.11	39.9	9.9	0.293	11.2	0.372	45.7	9.7
	● 3	26.7	0.25	5.0	0.051	30.8	9.1	0.171	6.6	0.241	36.0	9.7
25	● 2	15.2	0.125	1.9	0.017	23.3	7.5	0.07	3.9	0.117	26.9	9.2
	● 1	3.6	0.0	0.4	0.0	18.1	5.2	0.0	2.5	0.0	18.1	8.7

$\Delta L^*_{0a}=11.5$ (i=1,2,...,8)

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