

Equal 9 step grey scaling between $L^*_{0aN}=14.4$ and $L^*_{0aW}=95.9$, $Y_{0ref}=3.6$, normalisation white W

$L^*_{0aN}=14.4, L^*_{0aU}=55.2, L^*_{0aW}=96.0, Y_{0aN}=1.8, Y_{0aU}=23.1, Y_{0aW}=90.0, C_{0aY}=Y_{0aW}:Y_{0aN}=50.0$
 $L^*_{taN}=27.3, L^*_{taU}=57.7, L^*_{taW}=96.0, Y_{taN}=5.2, Y_{taU}=25.7, Y_{taW}=90.0, C_{taY}=Y_{taW}:Y_{taN}=17.3$

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

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

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

$g^*_5=67, g^*_9=59$

$g^*_5=96, g^*_9=95$

L^*_{CIELAB}	intended output			Y_{0r}	real output			linearized output		
	n0. i	L^*_{0a}	L^*_{0r}		Y_{0a}	L^*_{ta}	ΔL^*_{ta}	L^*_{tr}	Y_{ta}	$(L^*_{tr})^{1/1.18}$

120 ↑	9	96.0	1.0	90.0	1.0	96.0	9.8	1.0	90.0	1.0	96.0	8.4
90	8	85.8	0.875	67.6	0.746	86.2	9.7	0.858	68.4	0.878	87.6	8.5
60	7	75.6	0.75	49.2	0.538	76.6	9.5	0.717	50.8	0.754	79.1	8.6
30	6	65.4	0.625	34.5	0.371	67.0	9.3	0.579	36.7	0.628	70.4	8.7
0	5	55.2	0.5	23.1	0.242	57.7	8.9	0.443	25.7	0.501	61.7	8.8
0	4	45.0	0.375	14.5	0.144	48.8	8.3	0.313	17.4	0.373	52.9	8.7
0	3	34.8	0.25	8.4	0.075	40.5	7.4	0.192	11.5	0.246	44.2	8.5
0	2	24.6	0.125	4.3	0.028	33.1	5.8	0.085	7.6	0.123	35.7	8.4
0	1	14.4	0.0	1.8	0.0	27.3	0.0	5.2	0.0	0.0	27.3	

$\Delta L^*_{0a}=10.2$

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

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