

Equal 9 step grey scaling between $L^*_{0aN}=14.4$ and $L^*_{0aW}=95.9$, $Y_{0ref}=10.0$, normalisation white W

$L^*_{0aN}=14.4, L^*_{0aU}=55.2, L^*_{0aW}=96.0, Y_{0aN}=1.8, Y_{0aU}=23.1, Y_{0aW}=90.0, C_{0aY}=Y_{0aW}:Y_{0aN}=50.0$

$L^*_{taN}=38.9, L^*_{taU}=61.5, L^*_{taW}=96.0, Y_{taN}=10.6, Y_{taU}=29.8, Y_{taW}=90.0, C_{taY}=Y_{taW}:Y_{taN}=8.5$

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

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

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

$g^*_5=48, g^*_9=39$

$g^*_5=96, g^*_9=93$

L^*_{CIELAB}	intended output			real output			linearized output				
	n0. i	L^*0a	L^*0r	$Y0a$	$Y0r$	L^*ta	ΔL^*ta	L^*tr	Yta	$(L^*tr)^{1/1.33}$	L^*la

9	96.0	1.0	90.0	1.0	96.0	9.1	1.0	90.0	1.0	96.0	6.9
8	85.8	0.875	67.6	0.746	86.9	8.8	0.841	69.8	0.878	89.0	7.1
7	75.6	0.75	49.2	0.538	78.1	8.5	0.686	53.3	0.754	81.9	7.2
6	65.4	0.625	34.5	0.371	69.5	8.0	0.536	40.1	0.627	74.7	7.2
5	55.2	0.5	23.1	0.242	61.5	7.4	0.395	29.8	0.499	67.4	7.3
4	45.0	0.375	14.5	0.144	54.1	6.4	0.266	22.1	0.371	60.1	7.1
3	34.8	0.25	8.4	0.075	47.7	5.1	0.154	16.6	0.246	53.0	6.8
2	24.6	0.125	4.3	0.028	42.5	3.6	0.063	12.8	0.127	46.2	7.2
1	14.4	0.0	1.8	0.0	38.9	0.0	0.0	10.6	0.0	38.9	7.2

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

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

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