

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

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

$L^*_{taN}=34.5, L^*_{taU}=55.2, L^*_{taW}=86.9, Y_{taN}=8.2, Y_{taU}=23.1, Y_{taW}=69.8, C_{taY}=Y_{taW}:Y_{taN}=8.5$

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

120											
90	9	96.0	1.0	90.0	1.0	86.9	8.3	1.0	69.8	1.0	86.9
85.8	8	85.8	0.875	67.6	0.746	78.5	8.1	0.841	54.2	0.878	80.5
75.6	7	75.6	0.75	49.2	0.538	70.4	7.8	0.686	41.3	0.754	74.0
65.4	6	65.4	0.625	34.5	0.371	62.6	7.4	0.536	31.1	0.627	67.4
55.2	5	55.2	0.5	23.1	0.242	55.2	6.8	0.395	23.1	0.499	60.6
45.0	4	45.0	0.375	14.5	0.144	48.4	5.9	0.266	17.1	0.371	53.9
34.8	3	34.8	0.25	8.4	0.075	42.5	4.7	0.154	12.8	0.246	47.4
24.6	2	24.6	0.125	4.3	0.028	37.8	3.3	0.063	10.0	0.127	41.1
14.4	1	14.4	0.0	1.8	0.0	34.5	0.0	8.2	0.0	34.5	6.6

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

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

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