

Equal 9 step grey scaling between $L^*_{0aN}=14.4$ and $L^*_{0aW}=125.1$, $Y_{0ref}=180.0$, normalisation grey U

$L^*_{0aN}=14.4$, $L^*_{0aU}=69.7$, $L^*_{0aW}=125.1$, $Y_{0aN}=1.8$, $Y_{0aU}=40.4$, $Y_{0aW}=180.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=99.9$

$L^*_{taN}=64.4$, $L^*_{taU}=69.7$, $L^*_{taW}=85.0$, $Y_{taN}=33.3$, $Y_{taU}=40.4$, $Y_{taW}=66.0$, $C_{taY}=Y_{taW}:Y_{taN}=2.0$

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 $Y \geq 0.882$, $Y_n=100$

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

$g^*_5=17$, $g^*_9=11$

$g^*_5=91$, $g^*_9=73$

$L^*_{CIE LAB}$	n0. i	intended output				real output				linearized output		
		L^*_{0a}	L^*_{0r}	Y_{0a}	Y_{0r}	L^*_{ta}	ΔL^*_{ta}	L^*_{tr}	Y_{ta}	$(L^*_{tr})^{1/1.89}$	L^*_{la}	ΔL^*_{la}
120	○ 9	125.1	1.0	180.0	1.0	85.0		1.0	66.0	1.0	85.0	
	● 8	111.3	0.875	132.1	0.731	80.3	4.7	0.772	57.2	0.872	82.3	2.6
	● 7	97.4	0.75	93.5	0.514	76.1	4.1	0.57	50.1	0.743	79.7	2.6
90	● 6	83.6	0.625	63.3	0.345	72.6	3.5	0.399	44.6	0.615	77.1	2.6
	● 5	69.7	0.5	40.4	0.217	69.7	2.9	0.259	40.4	0.49	74.5	2.6
60	● 4	55.9	0.375	23.8	0.124	67.5	2.2	0.152	37.4	0.369	72.0	2.5
	● 3	42.1	0.25	12.5	0.06	66.0	1.6	0.076	35.3	0.255	69.7	2.3
30	● 2	28.2	0.125	5.5	0.021	65.0	1.0	0.027	34.0	0.147	67.4	2.2
	● 1	14.4	0.0	1.8	0.0	64.4	0.5	0.0	33.3	0.0	64.4	3.0

$\Delta L^*_{0a}=13.8$

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

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