

Equal 9 step grey scaling between $L^*_{0aN}=8.1$ and $L^*_{0aW}=95.9$, $Y_{0ref}=90.0$, normalisation grey U

$L^*_{0aN}=8.1$, $L^*_{0aU}=52.1$, $L^*_{0aW}=96.0$, $Y_{0aN}=0.9$, $Y_{0aU}=20.2$, $Y_{0aW}=90.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=99.9$

$L^*_{taN}=47.8$, $L^*_{taU}=52.1$, $L^*_{taW}=64.2$, $Y_{taN}=16.7$, $Y_{taU}=20.2$, $Y_{taW}=33.0$, $C_{taY}=Y_{taW}:Y_{taN}=2.0$

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}
100	9	96.0	1.0	90.0	1.0	64.2		1.0	33.0	1.0	64.2	
	8	85.0	0.875	66.0	0.731	60.4	3.7	0.772	28.6	0.872	62.1	2.1
75	7	74.0	0.75	46.7	0.515	57.1	3.3	0.57	25.1	0.743	60.0	2.1
	6	63.0	0.625	31.6	0.345	54.3	2.8	0.399	22.3	0.615	57.9	2.1
	5	52.1	0.5	20.2	0.217	52.1	2.3	0.259	20.2	0.49	55.8	2.0
50	4	41.1	0.375	11.9	0.124	50.3	1.7	0.152	18.7	0.369	53.9	2.0
	3	30.1	0.25	6.3	0.06	49.1	1.2	0.076	17.6	0.255	52.0	1.9
25	2	19.1	0.125	2.8	0.021	48.3	0.8	0.027	17.0	0.147	50.2	1.8
	1	8.1	0.0	0.9	0.0	47.8	0.4	0.0	16.7	0.0	47.8	2.4

$\Delta L^*_{0a}=11.0$

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

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