

Equal 9 step grey scaling between $L^*_{0aN}=22.3$ and $L^*_{0aW}=95.9$, $Y_{0ref}=90.0$, normalisation grey U

$L^*_{0aN}=22.3$, $L^*_{0aU}=59.1$, $L^*_{0aW}=96.0$, $Y_{0aN}=3.6$, $Y_{0aU}=27.2$, $Y_{0aW}=90.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=25.0$

$L^*_{taN}=53.7$, $L^*_{taU}=59.1$, $L^*_{taW}=70.7$, $Y_{taN}=21.7$, $Y_{taU}=27.2$, $Y_{taW}=41.8$, $C_{taY}=Y_{taW}:Y_{taN}=1.9$

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

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

$g^*_5=30$, $g^*_9=23$

$g^*_5=88$, $g^*_9=74$

$L^*_{CIE LAB}$	n0. i	intended output				real output					linearized output	
		L^*_{0a}	L^*_{0r}	Y_{0a}	Y_{0r}	L^*_{ta}	ΔL^*_{ta}	L^*_{tr}	Y_{ta}	$(L^*_{tr})^{1/1.6}$	L^*_{la}	ΔL^*_{la}
100	9	96.0	1.0	90.0	1.0	70.7		1.0	41.8	1.0	70.7	
	8	86.8	0.875	69.6	0.763	67.3	3.4	0.799	37.0	0.869	68.5	2.2
	7	77.6	0.75	52.5	0.566	64.2	3.1	0.617	33.1	0.74	66.3	2.2
75	6	68.4	0.625	38.5	0.403	61.5	2.7	0.457	29.8	0.613	64.1	2.1
	5	59.1	0.5	27.2	0.273	59.1	2.3	0.319	27.2	0.491	62.1	2.1
	4	49.9	0.375	18.4	0.171	57.2	1.9	0.205	25.1	0.372	60.0	2.0
50	3	40.7	0.25	11.7	0.094	55.7	1.5	0.115	23.6	0.259	58.1	1.9
	2	31.5	0.125	6.9	0.038	54.5	1.1	0.047	22.5	0.149	56.3	1.9
25	1	22.3	0.0	3.6	0.0	53.7	0.8	0.0	21.7	0.0	53.7	2.5

identical rgb^*_{0r}

rgb^*_{tr} $(rgb^*_{tr})^{1/1.6}$

$\Delta L^*_{0a}=9.2$

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

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