

Equal 9 step grey scaling between $L^*_{0aN}=-34$ & $L^*_{0aW}=34.1$, $Y_{0ref}=60$, normalisation white W

$L^*_{0aN}=-34.0$, $L^*_{0aU}=0.0$, $L^*_{0aW}=34.1$, $Y_{0aN}=6.7$, $Y_{0aU}=20.0$, $Y_{0aW}=60.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=9.0$
 $L^*_{taN}=15.9$, $L^*_{taU}=21.5$, $L^*_{taW}=34.1$, $Y_{taN}=33.3$, $Y_{taU}=40.0$, $Y_{taW}=60.0$, $C_{taY}=Y_{taW}:Y_{taN}=1.8$

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

$g^* = 100 [\Delta L^*_{min}] / [\Delta L^*_{max}]$, $L^*_{TUBLOG,Ua} = 50 / \log(5) [\log(Y/Y_u)]$ with $Y_u=20$

$g^*_5 = 100$, $g^*_9 = 100$

$g^*_5 = 29$, $g^*_9 = 24$

$g^*_5 = 78$, $g^*_9 = 64$

n0. i	intended output				real output						linearized output	
	L^*_{0a}	L^*_{0r}	Y_{0a}	Y_{0r}	L^*_{ta}	ΔL^*_{ta}	L^*_{tr}	Y_{ta}	$(L^*_{tr})^{1/1.62}$	L^*_{la}	ΔL^*_{la}	
9	34.1	1.0	60.0	1.0	34.1		1.0	60.0	1.0	34.1		
8	25.6	0.875	45.6	0.73	30.1	4.0	0.782	52.8	0.859	31.6	2.6	
7	17.1	0.75	34.6	0.524	26.7	3.4	0.596	47.3	0.726	29.1	2.4	
6	8.5	0.625	26.3	0.368	23.9	2.8	0.44	43.2	0.602	26.9	2.3	
5	0.0	0.5	20.0	0.25	21.5	2.4	0.31	40.0	0.485	24.7	2.1	
4	-8.4	0.375	15.2	0.16	19.6	1.9	0.205	37.6	0.376	22.7	2.0	
3	-17.0	0.25	11.5	0.091	18.1	1.5	0.12	35.8	0.27	20.8	1.9	
2	-25.5	0.125	8.8	0.039	16.8	1.2	0.053	34.4	0.163	18.8	2.0	
1	-34.0	0.0	6.7	0.0	15.9	1.0	0.0	33.3	0.0	15.9	3.0	

$\Delta L^*_{0a} = 8.5$

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

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