

Equal 9 step grey scaling between $L^*_{0aN}=-34$ & $L^*_{0aW}=34.1$, $Y_{0ref}=2$, normalisation white W

$L^*_{0aN}=-34.0$, $L^*_{0aU}=0.0$, $L^*_{0aW}=34.1$, $Y_{0aN}=6.7$, $Y_{0aU}=20.0$, $Y_{0aW}=60.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=9.0$
 $L^*_{taN}=-26.9$, $L^*_{taU}=1.9$, $L^*_{taW}=34.1$, $Y_{taN}=8.4$, $Y_{taU}=21.3$, $Y_{taW}=60.0$, $C_{taY}=Y_{taW}:Y_{taN}=7.1$

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 $Y_u=20$

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

$g^*_5 = 84$, $g^*_9 = 82$

$g^*_5 = 98$, $g^*_9 = 95$

$L^*_{TUBLOG,Ua}$ intended output

real output

linearized output

n0. i	intended output				real output						linearized output	
	L^*_{0a}	L^*_{0r}	Y_{0a}	Y_{0r}	L^*_{ta}	ΔL^*_{ta}	L^*_{tr}	Y_{ta}	$(L^*_{tr})^{1/1.07}$	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	25.9	8.2	0.865	46.0	0.874	26.4	7.7	
● 7	17.1	0.75	34.6	0.524	17.8	8.1	0.733	35.5	0.748	18.7	7.7	
● 6	8.5	0.625	26.3	0.368	9.8	8.0	0.602	27.4	0.623	11.1	7.7	
● 5	0.0	0.5	20.0	0.25	1.9	7.8	0.473	21.3	0.498	3.5	7.6	
● 4	-8.4	0.375	15.2	0.16	-5.6	7.6	0.348	16.6	0.374	-4.0	7.6	
● 3	-17.0	0.25	11.5	0.091	-13.0	7.4	0.227	13.1	0.251	-11.5	7.5	
● 2	-25.5	0.125	8.8	0.039	-20.1	7.1	0.111	10.4	0.128	-19.0	7.5	
● 1	-34.0	0.0	6.7	0.0	-26.9	6.8	0.0	8.4	0.0	-26.9	7.8	

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

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

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