

Equal 9 step grey scaling between $L^*_{0aN}=-50$ & $L^*_{0aW}=50.0$, $Y_{0ref}=4$, normalisation white W

$L^*_{0aN}=-49.9$, $L^*_{0aU}=0.0$, $L^*_{0aW}=50.0$, $Y_{0aN}=4.0$, $Y_{0aU}=20.0$, $Y_{0aW}=100.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=25.0$
 $L^*_{taN}=-29.6$, $L^*_{taU}=4.4$, $L^*_{taW}=50.0$, $Y_{taN}=7.7$, $Y_{taU}=23.1$, $Y_{taW}=100.0$, $C_{taY}=Y_{taW}:Y_{taN}=13.0$

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

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

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

$g^*_5 = 63$, $g^*_9 = 57$

$g^*_5 = 97$, $g^*_9 = 89$

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

real output

linearized output

50 25 0 -25 -50	n0. i	intended output				real output					linearized output	
		L^*_{0a}	L^*_{0r}	Y_{0a}	Y_{0r}	L^*_{ta}	ΔL^*_{ta}	L^*_{tr}	Y_{ta}	$(L^*_{tr})^{1/1.21}$	L^*_{la}	ΔL^*_{la}
	9	50.0	1.0	100.0	1.0	50.0		1.0	100.0	1.0	50.0	
	8	37.5	0.875	66.9	0.655	38.1	11.9	0.85	68.1	0.875	40.0	10.0
	7	25.0	0.75	44.7	0.424	26.4	11.6	0.704	46.8	0.749	30.0	10.0
	6	12.5	0.625	29.9	0.27	15.2	11.3	0.563	32.6	0.622	19.9	10.1
	5	0.0	0.5	20.0	0.167	4.4	10.7	0.428	23.1	0.497	9.9	10.0
	4	-12.4	0.375	13.4	0.098	-5.5	10.0	0.302	16.7	0.373	0.0	9.9
	3	-24.9	0.25	8.9	0.051	-14.6	9.1	0.188	12.4	0.251	-9.6	9.7
	2	-37.4	0.125	6.0	0.021	-22.7	8.1	0.086	9.6	0.132	-19.0	9.5
	1	-49.9	0.0	4.0	0.0	-29.6	6.9	0.0	7.7	0.0	-29.6	10.5

$\Delta L^*_{0a} = 12.5$ (i=1,2,...,8)

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