

Equal 9 step grey scaling between $L^*_{0aN}=-71$ & $L^*_{0aW}=71.5$, $Y_{0ref}=4$, normalisation white W

$L^*_{0aN}=-71.4$, $L^*_{0aU}=0.0$, $L^*_{0aW}=71.5$, $Y_{0aN}=2.0$, $Y_{0aU}=20.0$, $Y_{0aW}=200.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=100.0$
 $L^*_{taN}=-37.9$, $L^*_{taU}=5.0$, $L^*_{taW}=71.5$, $Y_{taN}=5.9$, $Y_{taU}=23.5$, $Y_{taW}=200.0$, $C_{taY}=Y_{taW}:Y_{taN}=34.0$

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 $Y_u=20$

$g^*_5 = 100$, $g^*_9 = 99$

$g^*_5 = 48$, $g^*_9 = 41$

$g^*_5 = 96$, $g^*_9 = 89$

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

real output

linearized output

70	n0. i	intended output				real output					linearized output	
		L^*_{0a}	L^*_{0r}	Y_{0a}	Y_{0r}	L^*_{ta}	ΔL^*_{ta}	L^*_{tr}	Y_{ta}	$(L^*_{tr})^{1/1.34}$	L^*_{la}	ΔL^*_{la}
	9	71.5	1.0	200.0	1.0	71.5		1.0	200.0	1.0	71.5	
	8	53.6	0.875	112.5	0.558	54.1	17.4	0.841	114.2	0.879	58.2	13.3
35	7	35.8	0.75	63.2	0.309	37.0	17.1	0.685	65.9	0.754	44.6	13.6
	6	17.9	0.625	35.6	0.169	20.6	16.5	0.535	38.8	0.626	30.6	14.0
	5	0.0	0.5	20.0	0.091	5.0	15.5	0.393	23.5	0.498	16.5	14.1
	4	-17.8	0.375	11.2	0.047	-9.0	14.1	0.264	14.9	0.37	2.5	14.0
	3	-35.7	0.25	6.3	0.022	-21.1	12.1	0.154	10.1	0.247	-10.9	13.5
-35	2	-53.6	0.125	3.5	0.008	-30.8	9.7	0.065	7.4	0.13	-23.6	12.8
	1	-71.4	0.0	2.0	0.0	-37.9	7.2	0.0	5.9	0.0	-37.9	14.3

$\Delta L^*_{0a} = 17.9$ (i=1,2,...,8)

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