

Equal 9 step grey scaling between $L^*_{0aN}=-27.3$ and $L^*_{0aW}=27.3$, $Y_{0ref}=1.8$, normalisation grey U

$L^*_{0aN}=-27.2$, $L^*_{0aU}=0.0$, $L^*_{0aW}=27.3$, $Y_{0aN}=6.0$, $Y_{0aU}=18.0$, $Y_{0aW}=54.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=9.0$

$L^*_{taN}=-23.1$, $L^*_{taU}=0.0$, $L^*_{taW}=25.7$, $Y_{taN}=7.1$, $Y_{taU}=18.0$, $Y_{taW}=50.7$, $C_{taY}=Y_{taW}:Y_{taN}=7.1$

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

$g^* = 100 [\Delta L^*_{min}] / [\Delta L^*_{max}]$, $L^*_{TUBJND1} = 40 / \log(5) [\log (Y/Y_u)]$ with $Y_u=18$

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

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

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

$L^*_{TUBJND1}$ 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	27.3	1.0	54.0	1.0	25.7		1.0	50.7	1.0	25.7		
8	20.5	0.875	41.0	0.73	19.2	6.6	0.865	38.9	0.874	19.6	6.1	
7	13.6	0.75	31.2	0.524	12.7	6.5	0.733	30.0	0.748	13.4	6.1	
6	6.8	0.625	23.7	0.368	6.3	6.4	0.602	23.2	0.623	7.3	6.1	
5	0.0	0.5	18.0	0.25	0.0	6.3	0.473	18.0	0.498	1.2	6.1	
4	-6.7	0.375	13.7	0.16	-6.0	6.1	0.348	14.1	0.374	-4.8	6.1	
3	-13.6	0.25	10.4	0.091	-12.0	5.9	0.227	11.1	0.251	-10.8	6.0	
2	-20.4	0.125	7.9	0.039	-17.7	5.7	0.111	8.8	0.128	-16.8	6.0	
1	-27.2	0.0	6.0	0.0	-23.1	5.4	0.0	7.1	0.0	-23.1	6.3	

$\Delta L^*_{0a}=6.8$

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

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