

# Equal 9 step grey scaling between $L^*_{0aN}=-55$ & $L^*_{0aW}=55.6$ , $Y_{0ref}=120$ , normalisation white W

$L^*_{0aN}=-55.6$ ,  $L^*_{0aU}=0.0$ ,  $L^*_{0aW}=55.7$ ,  $Y_{0aN}=3.3$ ,  $Y_{0aU}=20.0$ ,  $Y_{0aW}=120.0$ ,  $C_{0aY}=Y_{0aW}:Y_{0aN}=36.0$   
 $L^*_{taN}=35.0$ ,  $L^*_{taU}=38.9$ ,  $L^*_{taW}=55.7$ ,  $Y_{taN}=61.7$ ,  $Y_{taU}=70.0$ ,  $Y_{taW}=120.0$ ,  $C_{taY}=Y_{taW}:Y_{taN}=1.9$

**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  $Y_u=20$

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

$g^*_5=10$ ,  $g^*_9=7$

$g^*_5=69$ ,  $g^*_9=51$

n0. i	intended output				real output					linearized output	
	$L^*_{0a}$	$L^*_{0r}$	$Y_{0a}$	$Y_{0r}$	$L^*_{ta}$	$\Delta L^*_{ta}$	$L^*_{tr}$	$Y_{ta}$	$(L^*_{tr})^{1/2.23}$	$L^*_{la}$	$\Delta L^*_{la}$
9	55.7	1.0	120.0	1.0	55.7		1.0	120.0	1.0	55.7	
8	41.7	0.875	76.7	0.628	49.5	6.2	0.701	98.3	0.853	52.6	3.0
7	27.8	0.75	49.0	0.391	44.8	4.7	0.473	84.5	0.715	49.8	2.8
6	13.9	0.625	31.3	0.24	41.3	3.4	0.307	75.6	0.589	47.2	2.6
5	0.0	0.5	20.0	0.143	38.9	2.4	0.19	70.0	0.476	44.8	2.3
4	-13.8	0.375	12.8	0.081	37.3	1.6	0.111	66.4	0.373	42.7	2.1
3	-27.8	0.25	8.1	0.041	36.2	1.1	0.058	64.1	0.279	40.7	1.9
2	-41.7	0.125	5.2	0.016	35.4	0.7	0.023	62.6	0.184	38.8	2.0
1	-55.6	0.0	3.3	0.0	35.0	0.5	0.0	61.7	0.0	35.0	3.8

$\Delta L^*_{0a}=13.9$  (i=1,2,...,8)

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