

# Equal 9 step grey scaling between $L^*_{0aN}=-44.5$ and $L^*_{0aW}=44.5$ , $Y_{0ref}=108.0$ , normalisation white

$L^*_{0aN}=-44.4$ ,  $L^*_{0aU}=0.0$ ,  $L^*_{0aW}=44.5$ ,  $Y_{0aN}=3.0$ ,  $Y_{0aU}=18.0$ ,  $Y_{0aW}=108.0$ ,  $C_{0aY}=Y_{0aW}:Y_{0aN}=36.0$   
 $L^*_{taN}=28.0$ ,  $L^*_{taU}=31.1$ ,  $L^*_{taW}=44.5$ ,  $Y_{taN}=55.5$ ,  $Y_{taU}=63.0$ ,  $Y_{taW}=108.0$ ,  $C_{taY}=Y_{taW}:Y_{taN}=1.9$

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

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

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

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

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

$L^*_{TUBJND1}$	n0. i	intended output				real output					linearized output	
		$L^*_{0a}$	$L^*_{0r}$	$Y_{0a}$	$Y_{0r}$	$L^*_{ta}$	$\Delta L^*_{ta}$	$L^*_{tr}$	$Y_{ta}$	$(L^*_{tr})^{1/2.23}$	$L^*_{la}$	$\Delta L^*_{la}$
50	9	44.5	1.0	108.0	1.0	44.5		1.0	108.0	1.0	44.5	
	8	33.4	0.875	69.0	0.629	39.6	4.9	0.701	88.5	0.853	42.1	2.4
25	7	22.3	0.75	44.1	0.391	35.8	3.8	0.473	76.0	0.715	39.8	2.3
	6	11.1	0.625	28.2	0.24	33.1	2.7	0.307	68.1	0.589	37.7	2.1
0	5	0.0	0.5	18.0	0.143	31.1	1.9	0.19	63.0	0.476	35.8	1.9
	4	-11.0	0.375	11.5	0.081	29.8	1.3	0.111	59.7	0.373	34.2	1.7
	3	-22.2	0.25	7.3	0.041	28.9	0.9	0.058	57.7	0.279	32.6	1.6
-25	2	-33.3	0.125	4.7	0.016	28.4	0.6	0.023	56.3	0.184	31.0	1.6
	1	-44.4	0.0	3.0	0.0	28.0	0.4	0.0	55.5	0.0	28.0	3.0

$\Delta L^*_{0a} = 11.1$  (i=1,2,...,8)

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