

# Equal 9 step grey scaling between $L^*_{0aN}=-40.0$ and $L^*_{0aW}=40.0$ , $Y_{0ref}=1.8$ , normalisation white W

$L^*_{0aN}=-39.9$ ,  $L^*_{0aU}=0.0$ ,  $L^*_{0aW}=40.0$ ,  $Y_{0aN}=3.6$ ,  $Y_{0aU}=18.0$ ,  $Y_{0aW}=90.0$ ,  $C_{0aY}=Y_{0aW}:Y_{0aN}=25.0$

$L^*_{taN}=-30.3$ ,  $L^*_{taU}=1.9$ ,  $L^*_{taW}=40.0$ ,  $Y_{taN}=5.3$ ,  $Y_{taU}=19.4$ ,  $Y_{taW}=90.0$ ,  $C_{taY}=Y_{taW}:Y_{taN}=17.0$

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

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

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

$g^*_5=76$ ,  $g^*_9=72$

$g^*_5=98$ ,  $g^*_9=94$

$L^*_{TUBJND1}$	n0. i	intended output				real output					linearized output	
		$L^*_{0a}$	$L^*_{0r}$	$Y_{0a}$	$Y_{0r}$	$L^*_{ta}$	$\Delta L^*_{ta}$	$L^*_{tr}$	$Y_{ta}$	$(L^*_{tr})^{1/1.12}$	$L^*_{la}$	$\Delta L^*_{la}$
50	9	40.0	1.0	90.0	1.0	40.0		1.0	90.0	1.0	40.0	
	8	30.0	0.875	60.2	0.655	30.2	9.7	0.861	60.8	0.875	31.2	8.8
25	7	20.0	0.75	40.2	0.424	20.6	9.6	0.724	41.2	0.75	22.4	8.8
	6	10.0	0.625	26.9	0.27	11.1	9.5	0.59	28.1	0.624	13.5	8.8
0	5	0.0	0.5	18.0	0.167	1.9	9.2	0.458	19.4	0.498	4.7	8.8
	4	-9.9	0.375	12.0	0.098	-6.9	8.9	0.332	13.6	0.373	-4.0	8.8
	3	-19.9	0.25	8.0	0.051	-15.4	8.4	0.212	9.6	0.25	-12.7	8.7
-25	2	-29.9	0.125	5.4	0.021	-23.2	7.8	0.101	7.0	0.129	-21.3	8.6
	1	-39.9	0.0	3.6	0.0	-30.3	7.1	0.0	5.3	0.0	-30.3	9.0

$\Delta L^*_{0a}=10.0$  (i=1,2,...,8)

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