

# Equal 9 step grey scaling between $L^*_{0aN}=-57.2$ and $L^*_{0aW}=57.2$ , $Y_{0ref}=180.0$ , normalisation white

$L^*_{0aN}=-57.1$ ,  $L^*_{0aU}=0.0$ ,  $L^*_{0aW}=57.2$ ,  $Y_{0aN}=1.8$ ,  $Y_{0aU}=18.0$ ,  $Y_{0aW}=180.0$ ,  $C_{0aY}=Y_{0aW}:Y_{0aN}=100.0$   
 $L^*_{taN}=40.2$ ,  $L^*_{taU}=42.4$ ,  $L^*_{taW}=57.2$ ,  $Y_{taN}=90.9$ ,  $Y_{taU}=99.0$ ,  $Y_{taW}=180.0$ ,  $C_{taY}=Y_{taW}:Y_{taN}=2.0$

**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  $Y_u=18$

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

$g^*_5=5$ ,  $g^*_9=3$

$g^*_5=64$ ,  $g^*_9=44$

$L^*_{TUBJND1}$	n0. i	intended output				real output				linearized output		
		$L^*_{0a}$	$L^*_{0r}$	$Y_{0a}$	$Y_{0r}$	$L^*_{ta}$	$\Delta L^*_{ta}$	$L^*_{tr}$	$Y_{ta}$	$(L^*_{tr})^{1/2.75}$	$L^*_{la}$	$\Delta L^*_{la}$
50	9	57.2	1.0	180.0	1.0	57.2		1.0	180.0	1.0	57.2	
	8	42.9	0.875	101.2	0.558	51.1	6.1	0.638	140.6	0.849	54.7	2.5
25	7	28.6	0.75	56.9	0.309	46.8	4.3	0.388	118.5	0.708	52.3	2.4
	6	14.3	0.625	32.0	0.169	44.1	2.8	0.225	106.0	0.581	50.1	2.1
0	5	0.0	0.5	18.0	0.091	42.4	1.7	0.125	99.0	0.469	48.2	1.9
	4	-14.2	0.375	10.1	0.047	41.3	1.0	0.065	95.1	0.371	46.5	1.7
	3	-28.5	0.25	5.7	0.022	40.8	0.6	0.031	92.8	0.283	45.0	1.5
-25	2	-42.8	0.125	3.2	0.008	40.4	0.3	0.011	91.6	0.196	43.6	1.5
	1	-57.1	0.0	1.8	0.0	40.2	0.2	0.0	90.9	0.0	40.2	3.3

$\Delta L^*_{0a}=14.3$  (i=1,2,...,8)

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