

**Equal 9 step grey scaling between  $L^*_{0aN}=20.0$  and  $L^*_{0aW}=103.0$ ,  $Y_{0ref}=0.9$ , normalisation grey U**

$L^*_{0aN}=20.0$ ,  $L^*_{0aU}=61.5$ ,  $L^*_{0aW}=103.0$ ,  $Y_{0aN}=3.0$ ,  $Y_{0aU}=29.8$ ,  $Y_{0aW}=108.0$ ,  $C_{0aY}=Y_{0aW}:Y_{0aN}=36.0$   
 $L^*_{taN}=22.9$ ,  $L^*_{taU}=61.5$ ,  $L^*_{taW}=102.2$ ,  $Y_{taN}=3.8$ ,  $Y_{taU}=29.8$ ,  $Y_{taW}=105.7$ ,  $C_{taY}=Y_{taW}:Y_{taN}=27.9$

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

$g^* = 100 [\Delta L^*_{min}] / [\Delta L^*_{max}]$ ,  $L^*_{CIE LAB} = 116 [Y/Y_n]^{1/3} - 16$  with  $Y \geq 0.882$ ,  $Y_n=100$

$g^*_5=100$ ,  $g^*_9=99$

$g^*_5=91$ ,  $g^*_9=88$

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

$L^*_{CIE LAB}$	n0. i	intended output				real output					linearized output	
		$L^*_{0a}$	$L^*_{0r}$	$Y_{0a}$	$Y_{0r}$	$L^*_{ta}$	$\Delta L^*_{ta}$	$L^*_{tr}$	$Y_{ta}$	$(L^*_{tr})^{1/1.04}$	$L^*_{la}$	$\Delta L^*_{la}$
100	9	103.0	1.0	108.0	1.0	102.2		1.0	105.7	1.0	102.2	
	8	92.6	0.875	82.1	0.754	92.0	10.2	0.871	80.6	0.876	92.3	9.8
	7	82.3	0.75	60.8	0.55	81.8	10.2	0.743	59.9	0.751	82.4	9.9
75	6	71.9	0.625	43.5	0.386	71.6	10.1	0.614	43.1	0.626	72.5	9.9
	5	61.5	0.5	29.8	0.256	61.5	10.1	0.487	29.8	0.5	62.6	9.9
	4	51.2	0.375	19.4	0.156	51.5	10.0	0.36	19.7	0.374	52.6	10.0
50	3	40.8	0.25	11.7	0.083	41.6	9.9	0.236	12.3	0.249	42.7	9.9
	2	30.4	0.125	6.4	0.032	32.0	9.6	0.114	7.1	0.124	32.8	9.9
25	1	20.0	0.0	3.0	0.0	22.9	9.1	0.0	3.8	0.0	22.9	9.8
0		$\Delta L^*_{0a}=10.4$ (i=1,2,...,8)			normalisation: $Y_{taiU}=Y_{0aU} \frac{Y_{0ai}+Y_{0ref}}{Y_{0aU}+Y_{0ref}}$							