

**Equal 9 step grey scaling between  $L^*_{0aN}=22.3$  and  $L^*_{0aW}=95.9$ ,  $Y_{0ref}=2.5$ , normalisation white W**

$L^*_{0aN}=22.3$ ,  $L^*_{0aU}=59.1$ ,  $L^*_{0aW}=96.0$ ,  $Y_{0aN}=3.6$ ,  $Y_{0aU}=27.2$ ,  $Y_{0aW}=90.0$ ,  $C_{0aY}=Y_{0aW}:Y_{0aN}=25.0$

$L^*_{taN}=29.2$ ,  $L^*_{taU}=60.7$ ,  $L^*_{taW}=96.0$ ,  $Y_{taN}=5.9$ ,  $Y_{taU}=28.9$ ,  $Y_{taW}=90.0$ ,  $C_{taY}=Y_{taW}:Y_{taN}=15.2$

**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  $Y \geq 0,882$ ,  $Y_n=100$

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

$g^*_5=82$ ,  $g^*_9=77$

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

$L^*_{CIE LAB}$	n0. i	intended output				real output					linearized output	
		$L^*_{0a}$	$L^*_{0r}$	$Y_{0a}$	$Y_{0r}$	$L^*_{ta}$	$\Delta L^*_{ta}$	$L^*_{tr}$	$Y_{ta}$	$(L^*_{tr})^{1/1.09}$	$L^*_{la}$	$\Delta L^*_{la}$
100	9	96.0	1.0	90.0	1.0	96.0		1.0	90.0	1.0	96.0	
	8	86.8	0.875	69.6	0.763	87.0	8.9	0.866	70.1	0.876	87.7	8.3
	7	77.6	0.75	52.5	0.566	78.2	8.9	0.733	53.5	0.751	79.4	8.3
75	6	68.4	0.625	38.5	0.403	69.4	8.8	0.601	39.8	0.626	71.0	8.4
	5	59.1	0.5	27.2	0.273	60.7	8.7	0.471	28.9	0.5	62.6	8.4
	4	49.9	0.375	18.4	0.171	52.2	8.5	0.343	20.3	0.374	54.2	8.4
50	3	40.7	0.25	11.7	0.094	44.0	8.2	0.22	13.8	0.248	45.8	8.4
	2	31.5	0.125	6.9	0.038	36.2	7.7	0.104	9.1	0.125	37.6	8.2
25	1	22.3	0.0	3.6	0.0	29.2	7.0	0.0	5.9	0.0	29.2	8.3

$\Delta L^*_{0a}=9.2$

(i=1,2,...,8)

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