Equal 9 step grey scaling between L^*_{0aN}=8.1 and L^*_{0aW}=95.9, Y_{0ref}=2.5, normalisation grey *U*

L^*_{0aN}=8.1, L^*_{0aU}=52.1, L^*_{0aW}=96.0, Y_{0aN}=0.9, Y_{0aU}=20.2, Y_{0aW}=90.0, C_{0aY}=Y_{0aW}:Y_{0aN}=99.9

L^*_{taN}=20.1, L^*_{taU}=52.1, L^*_{taW}=92.7, Y_{taN}=3.0, Y_{taU}=20.2, Y_{taW}=82.3, C_{taY}=Y_{taW}:Y_{taN}=27.2

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

g^* = 100 [ΔL^*_{min}] / [ΔL^*_{max}], L^*_{CIELAB} = 116 [Y/Y_n]$^{1/3}$ − 16 with Y >= 0,882, Y_n=100

L^*_{CIELAB}		intended output				real output					linearized output	
		g^*_5= 99, g^*_9= 99				g^*_5= 65, g^*_9= 55					g^*_5= 93, g^*_9= 91	
	n0. i	L*0a	L*0r	Y0a	Y0r	L*ta	ΔL*ta	L*tr	Yta	(L*tr)$^{1/1.19}$	L*la	ΔL*la
100	9	96.0	1.0	90.0	1.0	92.7		1.0	82.3	1.0	92.7	
							10.3					8.8
	8	85.0	0.875	66.0	0.731	82.4		0.857	61.0	0.879	83.9	
							10.2					8.9
75	7	74.0	0.75	46.7	0.515	72.1		0.716	43.8	0.756	75.0	
							10.1					9.1
	6	63.0	0.625	31.6	0.345	62.0		0.576	30.4	0.63	65.9	
							9.9					9.3
50	5	52.1	0.5	20.2	0.217	52.1		0.44	20.2	0.503	56.6	
							9.6					9.4
	4	41.1	0.375	11.9	0.124	42.5		0.308	12.8	0.373	47.2	
							8.9					9.4
25	3	30.1	0.25	6.3	0.06	33.6		0.185	7.8	0.243	37.8	
							7.7					9.0
	2	19.1	0.125	2.8	0.021	25.8		0.078	4.7	0.119	28.8	
							5.7					8.6
0	1	8.1	0.0	0.9	0.0	20.1		0.0	3.0	0.0	20.1	

ΔL^*_{0a}=11.0 (i=1,2,...,8) **normalisation: Y_{taiU}=Y_{0aU} $\frac{Y_{0ai}+Y_{0ref}}{Y_{0aU}+Y_{0ref}}$**

eeq50−3n

Equal 9 step grey scaling between L^*_{0aN}=8.1 and L^*_{0aW}=95.9, Y_{0ref}=20.0, normalisation grey *U*

L^*_{0aN}=8.1, L^*_{0aU}=52.1, L^*_{0aW}=96.0, Y_{0aN}=0.9, Y_{0aU}=20.2, Y_{0aW}=90.0, C_{0aY}=Y_{0aW}:Y_{0aN}=99.9

L^*_{taN}=38.7, L^*_{taU}=52.1, L^*_{taW}=79.2, Y_{taN}=10.5, Y_{taU}=20.2, Y_{taW}=55.3, C_{taY}=Y_{taW}:Y_{taN}=5.3

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

g^* = 100 [ΔL^*_{min}] / [ΔL^*_{max}], L^*_{CIELAB} = 116 [Y/Y_n]$^{1/3}$ − 16 with Y >= 0,882, Y_n=100

L^*_{CIELAB}		intended output				real output					linearized output	
		g^*_5= 99, g^*_9= 99				g^*_5= 29, g^*_9= 21					g^*_5= 95, g^*_9= 88	
	n0. i	L*0a	L*0r	Y0a	Y0r	L*ta	ΔL*ta	L*tr	Yta	(L*tr)$^{1/1.59}$	L*la	ΔL*la
100	9	96.0	1.0	90.0	1.0	79.2		1.0	55.3	1.0	79.2	
							7.5					4.9
	8	85.0	0.875	66.0	0.731	71.7		0.815	43.2	0.879	74.3	
							7.1					5.0
75	7	74.0	0.75	46.7	0.515	64.6		0.639	33.5	0.755	69.3	
							6.6					5.2
	6	63.0	0.625	31.6	0.345	58.0		0.476	25.9	0.627	64.1	
							5.9					5.2
50	5	52.1	0.5	20.2	0.217	52.1		0.329	20.2	0.498	58.9	
							5.0					5.2
	4	41.1	0.375	11.9	0.124	47.0		0.205	16.0	0.369	53.7	
							3.9					5.0
25	3	30.1	0.25	6.3	0.06	43.1		0.107	13.2	0.246	48.7	
							2.7					4.6
	2	19.1	0.125	2.8	0.021	40.3		0.039	11.4	0.131	44.0	
							1.6					5.3
0	1	8.1	0.0	0.9	0.0	38.7		0.0	10.5	0.0	38.7	

ΔL^*_{0a}=11.0 (i=1,2,...,8) **normalisation: Y_{taiU}=Y_{0aU} $\frac{Y_{0ai}+Y_{0ref}}{Y_{0aU}+Y_{0ref}}$**

eeq51−3n

Equal 9 step grey scaling between L^*_{0aN}=8.1 and L^*_{0aW}=95.9, Y_{0ref}=10.0, normalisation grey *U*

L^*_{0aN}=8.1, L^*_{0aU}=52.1, L^*_{0aW}=96.0, Y_{0aN}=0.9, Y_{0aU}=20.2, Y_{0aW}=90.0, C_{0aY}=Y_{0aW}:Y_{0aN}=99.9

L^*_{taN}=32.5, L^*_{taU}=52.1, L^*_{taW}=85.4, Y_{taN}=7.3, Y_{taU}=20.2, Y_{taW}=66.9, C_{taY}=Y_{taW}:Y_{taN}=9.2

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

g^* = 100 [ΔL^*_{min}] / [ΔL^*_{max}], L^*_{CIELAB} = 116 [Y/Y_n]$^{1/3}$ − 16 with Y >= 0,882, Y_n=100

L^*_{CIELAB}		intended output				real output					linearized output	
		g^*_5= 99, g^*_9= 99				g^*_5= 39, g^*_9= 29					g^*_5= 94, g^*_9= 91	
	n0. i	L*0a	L*0r	Y0a	Y0r	L*ta	ΔL*ta	L*tr	Yta	(L*tr)$^{1/1.44}$	L*la	ΔL*la
100	9	96.0	1.0	90.0	1.0	85.4		1.0	66.9	1.0	85.4	
							8.8					6.3
	8	85.0	0.875	66.0	0.731	76.6		0.833	50.8	0.88	79.1	
							8.6					6.5
75	7	74.0	0.75	46.7	0.515	68.0		0.67	38.0	0.757	72.6	
							8.2					6.7
	6	63.0	0.625	31.6	0.345	59.8		0.515	27.8	0.63	65.8	
							7.7					6.9
50	5	52.1	0.5	20.2	0.217	52.1		0.37	20.2	0.5	59.0	
							6.9					6.9
	4	41.1	0.375	11.9	0.124	45.2		0.24	14.6	0.37	52.1	
							5.8					6.7
25	3	30.1	0.25	6.3	0.06	39.4		0.131	10.9	0.242	45.3	
							4.3					6.3
	2	19.1	0.125	2.8	0.021	35.1		0.05	8.5	0.123	39.0	
							2.6					6.5
0	1	8.1	0.0	0.9	0.0	32.5		0.0	7.3	0.0	32.5	

ΔL^*_{0a}=11.0 (i=1,2,...,8) **normalisation: Y_{taiU}=Y_{0aU} $\frac{Y_{0ai}+Y_{0ref}}{Y_{0aU}+Y_{0ref}}$**

eeq50−7n

Equal 9 step grey scaling between L^*_{0aN}=8.1 and L^*_{0aW}=95.9, Y_{0ref}=90.0, normalisation grey *U*

L^*_{0aN}=8.1, L^*_{0aU}=52.1, L^*_{0aW}=96.0, Y_{0aN}=0.9, Y_{0aU}=20.2, Y_{0aW}=90.0, C_{0aY}=Y_{0aW}:Y_{0aN}=99.9

L^*_{taN}=47.8, L^*_{taU}=52.1, L^*_{taW}=64.2, Y_{taN}=16.7, Y_{taU}=20.2, Y_{taW}=33.0, 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 [ΔL^*_{min}] / [ΔL^*_{max}], L^*_{CIELAB} = 116 [Y/Y_n]$^{1/3}$ − 16 with Y >= 0,882, Y_n=100

L^*_{CIELAB}		intended output				real output					linearized output	
		g^*_5= 99, g^*_9= 99				g^*_5= 17, g^*_9= 11					g^*_5= 91, g^*_9= 73	
	n0. i	L*0a	L*0r	Y0a	Y0r	L*ta	ΔL*ta	L*tr	Yta	(L*tr)$^{1/1.89}$	L*la	ΔL*la
100	9	96.0	1.0	90.0	1.0	64.2		1.0	33.0	1.0	64.2	
							3.7					2.1
	8	85.0	0.875	66.0	0.731	60.4		0.772	28.6	0.872	62.1	
							3.3					2.1
75	7	74.0	0.75	46.7	0.515	57.1		0.57	25.1	0.743	60.0	
							2.8					2.1
	6	63.0	0.625	31.6	0.345	54.3		0.399	22.3	0.615	57.9	
							2.3					2.0
50	5	52.1	0.5	20.2	0.217	52.1		0.259	20.2	0.49	55.8	
							1.7					2.0
	4	41.1	0.375	11.9	0.124	50.3		0.152	18.7	0.369	53.9	
							1.2					1.9
25	3	30.1	0.25	6.3	0.06	49.1		0.076	17.6	0.255	52.0	
							0.8					1.8
	2	19.1	0.125	2.8	0.021	48.3		0.027	17.0	0.147	50.2	
							0.4					2.4
0	1	8.1	0.0	0.9	0.0	47.8		0.0	16.7	0.0	47.8	

ΔL^*_{0a}=11.0 (i=1,2,...,8) **normalisation: Y_{taiU}=Y_{0aU} $\frac{Y_{0ai}+Y_{0ref}}{Y_{0aU}+Y_{0ref}}$**

eeq51−7n

Test chart eeq5; Equal 9 step grey scaling for four display reflections Y_{ref}= 2,5, 10, 20, 90, and black $L^*_{N,CIELAB}$=8.13, Y_N=0.9 and white $L^*_{W,CIELAB}$=95.99, Y_W=90, normalisation: grey *U*