

<http://farbe.li.tu-berlin.de/eep3/eep310na.txt> /.ps; only vector graphic VG; start output
 see similar files: <http://farbe.li.tu-berlin.de/eep3/eep3.htm>

Equal 9 step grey scaling between $L^*_{0aN}=3.6$ and $L^*_{0aW}=95.9$, $Y_{0ref}=3.6$, normalisation grey U

$L^*_{0aN}=3.6$, $L^*_{0aU}=49.8$, $L^*_{0aW}=96.0$, $Y_{0aN}=0.4$, $Y_{0aU}=18.2$, $Y_{0aW}=90.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=225.0$

$L^*_{taN}=21.4$, $L^*_{taU}=49.8$, $L^*_{taW}=90.9$, $Y_{taN}=3.3$, $Y_{taU}=18.2$, $Y_{taW}=78.2$, $C_{taY}=Y_{taW}:Y_{taN}=23.4$

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

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

L* _{CIELAB} n0.i	intended output				real output				linearized output			
	L* _{0a}	L* _{0r}	Y _{0a}	Y _{0r}	L* _{ta}	ΔL^*_{ta}	L* _{tr}	Y _{ta}	$(L^*_{tr})^{1/1.3}$	L* _{la}	ΔL^*_{la}	
100	96.0	1.0	90.0	1.0	90.9	10.5	1.0	78.2	1.0	90.9	8.2	
84.4	0.875	64.9	0.72	80.3	0.848	57.2	0.881	82.6	8.5			
75	72.9	0.75	45.0	0.498	69.9	10.4	0.698	40.6	0.759	74.1	8.7	
61.3	0.625	29.6	0.326	59.7	10.2	0.551	27.8	0.633	65.4	9.0		
50	49.8	0.5	18.2	0.199	49.8	9.9	0.409	18.2	0.504	56.4	9.2	
38.2	0.375	10.2	0.11	40.5	9.3	0.275	11.5	0.372	47.2	9.1		
25	26.7	0.25	5.0	0.051	32.2	8.3	0.156	7.2	0.24	38.1	8.5	
15.2	0.125	1.9	0.017	25.6	6.6	0.061	4.6	0.118	29.5	8.2		
3.6	0.0	0.4	0.0	21.4	4.3	0.0	3.3	0.0	21.4	8.2		

$\Delta L^*_{0a}=11.5$ (i=1,2,...,8) normalisation: $Y_{taiU}=Y_{0aU} \frac{Y_{0ai}+Y_{0ref}}{Y_{0aU}+Y_{0ref}}$

eep30-3n

Equal 9 step grey scaling between $L^*_{0aN}=3.6$ and $L^*_{0aW}=95.9$, $Y_{0ref}=0.4$, normalisation grey U

$L^*_{0aN}=3.6$, $L^*_{0aU}=49.8$, $L^*_{0aW}=96.0$, $Y_{0aN}=0.4$, $Y_{0aU}=18.2$, $Y_{0aW}=90.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=225.0$

$L^*_{taN}=7.1$, $L^*_{taU}=49.8$, $L^*_{taW}=95.3$, $Y_{taN}=0.8$, $Y_{taU}=18.2$, $Y_{taW}=88.5$, $C_{taY}=Y_{taW}:Y_{taN}=113.0$

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

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

L* _{CIELAB} n0.i	intended output				real output				linearized output			
	L* _{0a}	L* _{0r}	Y _{0a}	Y _{0r}	L* _{ta}	ΔL^*_{ta}	L* _{tr}	Y _{ta}	$(L^*_{tr})^{1/1.05}$	L* _{la}	ΔL^*_{la}	
100	96.0	1.0	90.0	1.0	95.3	11.4	1.0	88.5	1.0	95.3	10.9	
84.4	0.875	64.9	0.72	83.9	11.4	0.871	63.9	0.876	84.4	11.0		
75	72.9	0.75	45.0	0.498	72.5	11.4	0.741	44.4	0.752	73.4	11.0	
61.3	0.625	29.6	0.326	61.1	11.3	0.612	29.4	0.626	62.4	11.1		
50	49.8	0.5	18.2	0.199	49.8	11.2	0.484	18.2	0.5	51.3	11.2	
38.2	0.375	10.2	0.11	38.6	11.0	0.357	10.4	0.374	40.1	11.2		
25	26.7	0.25	5.0	0.051	27.5	10.6	0.231	5.3	0.248	28.9	10.9	
15.2	0.125	1.9	0.017	16.9	9.9	10.6	0.112	2.3	0.124	18.0	10.9	
3.6	0.0	0.4	0.0	7.1	9.9	0.0	0.0	0.8	0.0	7.1	10.9	

$\Delta L^*_{0a}=11.5$ (i=1,2,...,8) normalisation: $Y_{taiU}=Y_{0aU} \frac{Y_{0ai}+Y_{0ref}}{Y_{0aU}+Y_{0ref}}$

eep30-7n

Equal 9 step grey scaling between $L^*_{0aN}=3.6$ and $L^*_{0aW}=95.9$, $Y_{0ref}=0.9$, normalisation grey U

$L^*_{0aN}=3.6$, $L^*_{0aU}=49.8$, $L^*_{0aW}=96.0$, $Y_{0aN}=0.4$, $Y_{0aU}=18.2$, $Y_{0aW}=90.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=225.0$

$L^*_{taN}=10.8$, $L^*_{taU}=49.8$, $L^*_{taW}=94.6$, $Y_{taN}=1.2$, $Y_{taU}=18.2$, $Y_{taW}=86.6$, $C_{taY}=Y_{taW}:Y_{taN}=69.9$

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

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

L* _{CIELAB} n0.i	intended output				real output				linearized output			
	L* _{0a}	L* _{0r}	Y _{0a}	Y _{0r}	L* _{ta}	ΔL^*_{ta}	L* _{tr}	Y _{ta}	$(L^*_{tr})^{1/1.11}$	L* _{la}	ΔL^*_{la}	
100	96.0	1.0	90.0	1.0	94.6	11.3	1.0	86.6	1.0	94.6	10.2	
84.4	0.875	64.9	0.72	83.3	11.2	0.865	62.7	0.878	84.3	10.3		
75	72.9	0.75	45.0	0.498	72.1	11.2	0.731	43.7	0.754	74.0	10.5	
61.3	0.625	29.6	0.326	60.9	11.1	0.598	29.1	0.629	63.5	10.6		
50	49.8	0.5	18.2	0.199	49.8	10.9	0.465	18.2	0.502	52.9	10.7	
38.2	0.375	10.2	0.11	38.9	10.5	0.335	10.6	0.373	42.1	10.8		
25	26.7	0.25	5.0	0.051	28.4	9.6	0.21	5.6	0.245	31.4	10.4	
15.2	0.125	1.9	0.017	18.8	8.0	0.095	2.7	0.12	20.9	10.1		
3.6	0.0	0.4	0.0	10.8	8.0	0.0	1.2	0.0	10.8	10.1		

$\Delta L^*_{0a}=11.5$ (i=1,2,...,8) normalisation: $Y_{taiU}=Y_{0aU} \frac{Y_{0ai}+Y_{0ref}}{Y_{0aU}+Y_{0ref}}$

eep31-3n

Equal 9 step grey scaling between $L^*_{0aN}=3.6$ and $L^*_{0aW}=95.9$, $Y_{0ref}=1.8$, normalisation grey U

$L^*_{0aN}=3.6$, $L^*_{0aU}=49.8$, $L^*_{0aW}=96.0$, $Y_{0aN}=0.4$, $Y_{0aU}=18.2$, $Y_{0aW}=90.0$, $C_{0aY}=Y_{0aW}:Y_{0aN}=225.0$

$L^*_{taN}=15.5$, $L^*_{taU}=49.8$, $L^*_{taW}=93.3$, $Y_{taN}=2.0$, $Y_{taU}=18.2$, $Y_{taW}=83.6$, $C_{taY}=Y_{taW}:Y_{taN}=41.7$

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

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

L* _{CIELAB} n0.i	intended output				real output				linearized output			
	L* _{0a}	L* _{0r}	Y _{0a}	Y _{0r}	L* _{ta}	ΔL^*_{ta}	L* _{tr}	Y _{ta}	$(L^*_{tr})^{1/1.19}$	L* _{la}	ΔL^*_{la}	
100	96.0	1.0	90.0	1.0	93.3	11.0	1.0	83.6	1.0	93.3	9.4	
84.4	0.875	64.9	0.72	82.2	10.9	0.858	60.7	0.879	83.9	9.5		
75	72.9	0.75	45.0	0.498	71.3	10.8	0.717	42.6	0.757	74.3	9.7	
61.3	0.625	29.6	0.326	60.4	10.6	0.578	28.6	0.631	64.6	9.7		
50	49.8	0.5	18.2	0.199	49.8	10.3	0.441	18.2	0.503	54.6	10.0	
38.2	0.375	10.2	0.11	39.5	10.3	0.309	10.9	0.373	44.5	10.1		
25	26.7	0.25	5.0	0.051	29.9	9.6	0.185	6.2	0.242	34.3	9.7	
15.2	0.125	1.9	0.017	21.6	8.3	0.078	3.4	0.118	24.7	9.7		
3.6	0.0	0.4	0.0	15.5	6.1	0.0	2.0	0.0	15.5	9.2		

$\Delta L^*_{0a}=11.5$ (i=1,2,...,8) normalisation: $Y_{taiU}=Y_{0aU} \frac{Y_{0ai}+Y_{0ref}}{Y_{0aU}+Y_{0ref}}$

eep31-7n

Test chart eep3; Equal 9 step grey scaling for four display reflections $Y_{ref} = 3,6, 0,4, 0,9, 1,8$, and black $L^*_{N,CIELAB}=3.61$, $Y_N=0.4$ and white $L^*_{W,CIELAB}=95.99$, $Y_W=90$, normalisation: grey U

see similar files of the whole serie: <http://farbe.li.tu-berlin.de/eep3.htm>
 technical information: <http://farbe.li.tu-berlin.de> or <http://color.li.tu-berlin.de>

TUB registration: 20230701-eep3/eep310na.txt /.ps
 application for evaluation and measurement of display or print output
 TUB material: code=rh4ta