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Equal 16 step grey scaling between L^*_N and L^*_W for three reflections of ambient light

L^*	No ambient reflection $Y_N=0, L^*_N=0$ lightness difference $\Delta L^*=6,3$						Ambient reflection $Y_N=2,5, L^*_N=18$ lightness difference $\Delta L^*=5,1$						Ambient reflection $Y_N=40, L^*_N=70$ lightness difference $\Delta L^*=1,7$															
	n0.	w*	w*	L^*_{it}	Y_N		n0.	w*	w*	L^*_{it}	Y_N		n0.	w*	w*	L^*_{it}	Y_N		n0.	w*	w*	L^*_{it}	Y_N					
100	○	16	1.0	1.0	95.4	88.5	0.0	○	16	1.0	1.0	95.4	88.5	2.5	○	16	1.0	1.0	95.4	88.5	40.3	○	16	1.0	1.0	95.4	88.5	40.3
	●	15	0.933	0.933	89.0	74.2	0.0	●	15	0.945	0.933	90.2	76.8	2.5	●	15	0.982	0.933	93.6	84.5	40.3	●	15	0.982	0.933	93.6	84.5	40.3
	●	14	0.866	0.866	82.6	61.5	0.0	●	14	0.891	0.866	85.0	66.1	2.5	●	14	0.964	0.866	91.9	80.6	40.3	●	14	0.964	0.866	91.9	80.6	40.3
	●	13	0.8	0.8	76.3	50.4	0.0	●	13	0.837	0.799	79.9	56.5	2.5	●	13	0.946	0.8	90.2	76.8	40.3	●	13	0.946	0.8	90.2	76.8	40.3
	●	12	0.733	0.733	69.9	40.6	0.0	●	12	0.783	0.733	74.7	47.9	2.5	●	12	0.928	0.733	88.5	73.2	40.3	●	12	0.928	0.733	88.5	73.2	40.3
	●	11	0.666	0.666	63.6	32.3	0.0	●	11	0.729	0.666	69.6	40.1	2.5	●	11	0.91	0.666	86.8	69.6	40.3	●	11	0.91	0.666	86.8	69.6	40.3
	●	10	0.6	0.6	57.2	25.1	0.0	●	10	0.675	0.599	64.4	33.3	2.5	●	10	0.892	0.6	85.1	66.2	40.3	●	10	0.892	0.6	85.1	66.2	40.3
	●	9	0.533	0.533	50.8	19.1	0.0	●	9	0.621	0.533	59.2	27.3	2.5	●	9	0.874	0.533	83.4	62.9	40.3	●	9	0.874	0.533	83.4	62.9	40.3
	●	8	0.466	0.466	44.5	14.2	0.0	●	8	0.567	0.466	54.1	22.0	2.5	●	8	0.836	0.466	81.6	59.7	40.3	●	8	0.836	0.466	81.6	59.7	40.3
	●	7	0.4	0.4	38.1	10.1	0.0	●	7	0.513	0.4	48.9	17.5	2.5	●	7	0.839	0.4	81.6	59.7	40.3	●	7	0.839	0.4	81.6	59.7	40.3
	●	6	0.333	0.333	31.8	6.9	0.0	●	6	0.459	0.333	43.8	13.7	2.5	●	6	0.82	0.333	78.2	53.6	40.3	●	6	0.82	0.333	78.2	53.6	40.3
	●	5	0.266	0.266	25.4	4.5	0.0	●	5	0.405	0.266	38.6	10.4	2.5	●	5	0.802	0.266	75.9	50.7	40.3	●	5	0.802	0.266	75.9	50.7	40.3
	●	4	0.2	0.2	19.0	2.7	0.0	●	4	0.351	0.199	33.4	7.7	2.5	●	4	0.784	0.199	74.8	48.0	40.3	●	4	0.784	0.199	74.8	48.0	40.3
	●	3	0.133	0.133	12.7	1.5	0.0	●	3	0.296	0.133	28.3	5.5	2.5	●	3	0.766	0.133	71.1	45.3	40.3	●	3	0.766	0.133	71.1	45.3	40.3
	●	2	0.066	0.066	6.3	0.7	0.0	●	2	0.242	0.066	23.1	3.8	2.5	●	2	0.748	0.066	71.4	42.7	40.3	●	2	0.748	0.066	71.4	42.7	40.3
	●	1	0.0	0.0	0.0	0.0	0.0	●	1	0.188	0.0	18.0	2.5	2.5	●	1	0.73	0.0	69.6	40.3	40.3	●	1	0.73	0.0	69.6	40.3	40.3

ISO/CIE 11664-4: L^*_{it} = intended CIELAB lightness of output

IEC 61966-2-1: w^*_sRGB is approximately proportional to L^*

$w^*_sRGB = L^*/95.4$; $w^*_I = [L^* \cdot L^*_N] / [L^* \cdot w^*_N]$

Y_N = intended tristimulus value with output linearization

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	n0.	w*	w*	L_{re}^*	Y_N		n0.	w*	w*	L_{re}^*	Y_N		n0.	w*	w*	L_{re}^*	Y_N	
100	16	1.0	1.0	95.4	88.59	0.0	16	1.0	1.0	95.4	88.59	2.52	16	1.0	1.0	95.4	88.59	40.32
	15	0.933	0.933	89.0	74.27	0.0	15	0.945	0.933	89.2	74.67	2.52	15	0.982	0.933	82.0	80.78	40.32
	14	0.866	0.866	82.6	61.58	0.0	14	0.891	0.866	83.0	62.34	2.52	14	0.964	0.866	88.8	73.87	40.32
	13	0.8	0.8	76.3	50.42	0.0	13	0.837	0.799	76.9	51.51	2.52	13	0.946	0.8	85.9	67.79	40.32
	12	0.733	0.733	69.9	40.7	0.0	12	0.783	0.733	70.9	42.06	2.52	12	0.928	0.733	83.1	62.49	40.32
	11	0.666	0.666	63.6	32.32	0.0	11	0.729	0.666	64.9	33.92	2.52	11	0.91	0.666	80.7	57.93	40.32
	10	0.6	0.6	57.2	25.17	0.0	10	0.675	0.599	58.9	26.98	2.52	10	0.892	0.6	79.4	54.03	40.32
	9	0.533	0.533	50.8	19.17	0.0	9	0.621	0.533	53.1	21.14	2.52	9	0.874	0.533	76.5	50.76	40.32
	8	0.466	0.466	44.5	14.2	0.0	8	0.567	0.466	47.3	16.32	2.52	8	0.856	0.466	74.8	48.06	40.32
	7	0.4	0.4	38.1	10.18	0.0	7	0.513	0.4	41.8	12.41	2.52	7	0.838	0.4	72.4	45.86	40.32
	6	0.333	0.333	31.8	7.0	0.0	6	0.459	0.333	36.5	9.32	2.52	6	0.82	0.333	72.3	44.13	40.32
	5	0.266	0.266	25.4	4.56	0.0	5	0.405	0.266	31.6	6.95	2.52	5	0.802	0.266	70.6	42.8	40.32
	4	0.2	0.2	19.0	2.76	0.0	4	0.351	0.199	27.3	5.2	2.52	4	0.784	0.199	70.7	41.82	40.32
	3	0.133	0.133	12.7	1.51	0.0	3	0.296	0.133	23.6	3.99	2.52	3	0.766	0.133	70.2	41.4	40.32
	2	0.066	0.066	6.3	0.7	0.0	2	0.242	0.066	20.8	3.2	2.52	2	0.748	0.066	69.9	40.7	40.32
	1	0.0	0.0	0.0	0.0	0.0	1	0.188	0.0	18.0	2.52	2.52	1	0.73	0.0	69.6	40.32	40.32

ISO/CIE 11664-4: L^*_{it} = intended CIELAB lightness of output

IEC 61966-2-1: w^*_{sRGB} is approximately proportional to L^*

$w^*_{sRGB} = L^*/95,4$; $w^*_I = [L^* \cdot L^*_N] / [L^* \cdot w^* \cdot L^*_N]$

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No ambient reflection $Y_N=0, L_N^*=0$ lightness difference $\Delta L^*=6,3$							Ambient reflection $Y_N=2,5, L_N^*=18$ lightness difference $\Delta L^*=5,1$							Ambient reflection $Y_N=40, L_N^*=70$ lightness difference $\Delta L^*=1,7$						
L^*	n0.	w*	w*	L^*_{it}	L^*_{re}	ΔL^*_{re}	n0.	w*	w*	L^*_{it}	L^*_{re}	ΔL^*_{re}	n0.	w*	w*	L^*_{it}	L^*_{re}	ΔL^*_{re}		
100	16	1.0	1.0	95.4	95.4	6.35	16	1.0	1.0	95.4	95.4	6.16	16	1.0	1.0	95.4	95.4	3.37		
	15	0.933	0.933	89.0	89.0	6.35	15	0.945	0.933	90.2	89.2	6.14	15	0.962	0.966	91.9	88.8	3.17		
	14	0.866	0.866	82.6	82.6	6.35	14	0.891	0.866	85.0	83.0	6.11	14	0.946	0.966	90.2	86.8	2.95		
80	13	0.8	0.8	76.3	76.3	6.35	13	0.837	0.799	79.9	76.9	6.06	13	0.928	0.933	88.5	83.1	2.72		
	12	0.733	0.733	69.9	69.9	6.35	12	0.783	0.733	74.7	70.9	6.01	12	0.91	0.966	86.8	80.7	2.21		
	11	0.666	0.666	63.6	63.6	6.35	11	0.729	0.666	69.6	64.9	5.94	11	0.892	0.96	85.1	78.4	1.94		
60	10	0.6	0.6	57.2	57.2	6.35	10	0.621	0.533	59.2	53.1	5.71	10	0.874	0.933	83.4	76.5	1.47		
	9	0.533	0.533	50.8	50.8	6.35	9	0.567	0.466	54.1	47.3	5.53	9	0.856	0.906	81.6	74.8	1.14		
	8	0.466	0.466	44.5	44.5	6.35	8	0.513	0.4	48.9	41.8	5.26	8	0.82	0.856	78.7	72.3	0.89		
40	7	0.4	0.4	38.1	38.1	6.35	7	0.459	0.333	43.8	36.5	4.89	7	0.807	0.866	76.9	71.4	0.67		
	6	0.333	0.333	31.8	31.8	6.35	6	0.405	0.266	38.6	31.6	4.37	6	0.784	0.199	74.8	70.7	0.47		
	5	0.266	0.266	25.4	25.4	6.35	5	0.351	0.199	33.4	27.3	3.66	5	0.766	0.153	73.1	70.2	0.31		
20	4	0.2	0.2	19.0	19.0	6.35	4	0.296	0.133	28.3	23.6	2.81	4	0.748	0.066	71.4	69.9	0.31		
	3	0.133	0.133	12.7	12.7	6.35	3	0.242	0.066	23.1	20.8	2.83	3	0.73	0.0	69.6	69.6	0.27		
0	2	0.066	0.066	6.3	6.3	6.35	2	0.188	0.0	18.0	18.0		2							
	1	0.0	0.0	0.0	0.0	6.35	1						1							

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	n0.	w*	w*	L_{it}^*	L_{re}^*	Y_{re}	n0.	w*	w*	L_{it}^*	L_{re}^*	Y_{re}	n0.	w*	w*	L_{it}^*	L_{re}^*	Y_{re}
100	16	1.0	1.0	95.4	95.4	88.59	16	1.0	1.0	95.4	95.4	88.59	16	1.0	1.0	95.4	95.4	88.59
80	15	0.933	0.933	89.0	89.0	74.27	15	0.945	0.933	90.2	89.2	74.67	15	0.962	0.933	93.6	92.0	80.78
	14	0.866	0.866	82.6	82.6	61.58	14	0.891	0.866	85.0	83.0	62.34	14	0.964	0.866	91.9	88.9	73.87
	13	0.8	0.8	76.3	76.3	50.42	13	0.837	0.799	79.9	76.9	51.51	13	0.946	0.8	90.2	85.9	67.79
	12	0.733	0.733	69.9	69.9	40.7	12	0.783	0.733	74.7	70.9	42.06	12	0.928	0.733	88.5	83.1	62.49
	11	0.676	0.666	63.6	63.6	32.32	11	0.729	0.666	69.6	64.9	33.92	11	0.91	0.666	86.8	80.7	57.93
60	10	0.6	0.6	57.2	57.2	25.17	10	0.675	0.599	64.4	58.9	26.98	10	0.892	0.6	85.1	78.4	54.03
	9	0.533	0.533	50.8	50.8	19.17	9	0.567	0.466	54.1	47.3	16.32	9	0.874	0.533	83.4	76.5	50.76
	8	0.466	0.466	44.5	44.5	14.2	8	0.513	0.4	48.9	41.8	12.41	8	0.856	0.466	81.6	74.8	48.06
	7	0.4	0.4	38.1	38.1	10.18	7	0.459	0.333	43.8	36.5	9.32	7	0.838	0.399	79.9	73.4	45.86
	6	0.333	0.333	31.8	31.8	7.0	6	0.405	0.266	38.6	31.6	6.95	6	0.82	0.333	78.2	72.3	44.13
40	5	0.266	0.266	25.4	25.4	4.56	5	0.351	0.199	33.4	27.3	5.2	5	0.802	0.266	76.6	71.4	42.18
	4	0.2	0.2	19.0	19.0	2.76	4	0.296	0.133	28.3	23.6	3.99	4	0.784	0.199	74.8	70.7	41.82
	3	0.133	0.133	12.7	12.7	1.51	3	0.242	0.066	23.1	20.8	3.2	3	0.766	0.133	73.1	70.2	41.4
	2	0.066	0.066	6.3	6.3	0.7	2	0.188	0.0	18.0	18.0	2.52	2	0.748	0.066	71.4	69.9	40.7
	1	0.0	0.0	0.0	0.0	0.0	1	0.188	0.0	18.0	18.0	2.52	1	0.73	0.0	69.6	69.6	40.32

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Test chart AE81; Equal 16 step grey scaling
between L^*_N and L^*_W for three reflections of ambient light

input: `rgb/cmy0/000n/w set...`
output: `->rgbdd setrgbcolor`

TUB registration: 20181001-AE81/AE81LL0NP.PDF /.PS
application for measurement or viewing of display output

TUB material: code=rha4ta