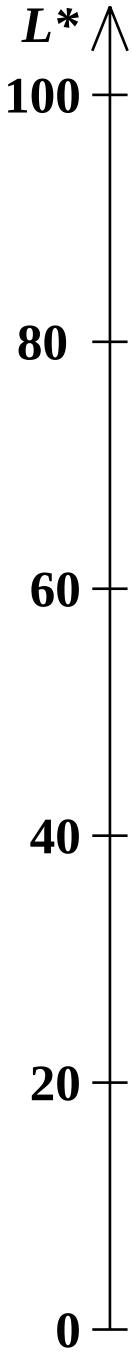
Equal 16 step grey scaling between L^*_N and L^*_W for three reflections of ambient light



No ambient reflection Y_N=0, L^*_N=0

lightness difference ΔL^*=6,3

n0.	w^*	w^*_r	L^*_{re}	Y_{re}	Y_N
16	1.0	1.0	95.4	88.59	0.0
15	0.933	0.933	89.0	74.27	0.0
14	0.866	0.866	82.6	61.58	0.0
13	0.8	0.8	76.3	50.42	0.0
12	0.733	0.733	69.9	40.7	0.0
11	0.666	0.666	63.6	32.32	0.0
10	0.6	0.6	57.2	25.17	0.0
9	0.533	0.533	50.8	19.17	0.0
8	0.466	0.466	44.5	14.2	0.0
7	0.4	0.4	38.1	10.18	0.0
6	0.333	0.333	31.8	7.0	0.0
5	0.266	0.266	25.4	4.56	0.0
4	0.2	0.2	19.0	2.76	0.0
3	0.133	0.133	12.7	1.51	0.0
2	0.066	0.066	6.3	0.7	0.0
1	0.0	0.0	0.0	0.0	0.0

Ambient reflection Y_N=2,5, L^*_N=18

lightness difference ΔL^*=5,1

n0.	w^*	w^*_r	L^*_{re}	Y_{re}	Y_N
16	1.0	1.0	95.4	88.59	2.52
15	0.945	0.933	89.2	74.67	2.52
14	0.891	0.866	83.0	62.34	2.52
13	0.837	0.799	76.9	51.51	2.52
12	0.783	0.733	70.9	42.06	2.52
11	0.729	0.666	64.9	33.92	2.52
10	0.675	0.599	58.9	26.98	2.52
9	0.621	0.533	53.1	21.14	2.52
8	0.567	0.466	47.3	16.32	2.52
7	0.513	0.4	41.8	12.41	2.52
6	0.459	0.333	36.5	9.32	2.52
5	0.405	0.266	31.6	6.95	2.52
4	0.351	0.199	27.3	5.2	2.52
3	0.296	0.133	23.6	3.99	2.52
2	0.242	0.066	20.8	3.2	2.52
1	0.188	0.0	18.0	2.52	2.52

Ambient reflection Y_N=40, L^*_N=70

lightness difference ΔL^*=1,7

n0.	w^*	w^*_r	L^*_{re}	Y_{re}	Y_N
16	1.0	1.0	95.4	88.59	40.32
15	0.982	0.933	92.0	80.78	40.32
14	0.964	0.866	88.8	73.87	40.32
13	0.946	0.8	85.9	67.79	40.32
12	0.928	0.733	83.1	62.49	40.32
11	0.91	0.666	80.7	57.93	40.32
10	0.892	0.6	78.4	54.03	40.32
9	0.874	0.533	76.5	50.76	40.32
8	0.856	0.466	74.8	48.06	40.32
7	0.838	0.399	73.4	45.86	40.32
6	0.82	0.333	72.3	44.13	40.32
5	0.802	0.266	71.4	42.8	40.32
4	0.784	0.199	70.7	41.82	40.32
3	0.766	0.133	70.2	41.14	40.32
2	0.748	0.066	69.9	40.7	40.32
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^*

$w^*_{sRGB} = L^*/95{,}4$; $w^*_r = [L^*-L^*_N] / [L^*_W-L^*_N]$

Y_{re} = real tristimulus value without output linearization