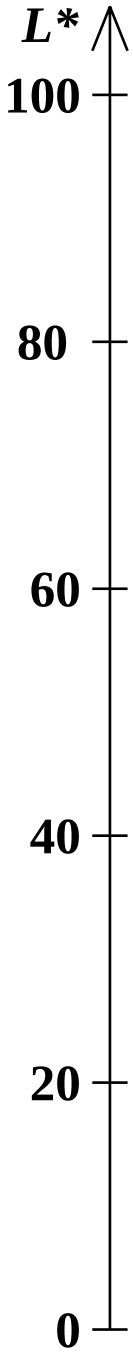
Equal 16 step grey scaling between L^*_N and L^*_W for three reflections of ambient light



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

lightness difference ΔL^*=6,3

n0.	w^*	w^*_r	L^*_{it}	Y_{it}	Y_N
16	1.0	1.0	95.4	88.5	0.0
15	0.933	0.933	89.0	74.2	0.0
14	0.866	0.866	82.6	61.5	0.0
13	0.8	0.8	76.3	50.4	0.0
12	0.733	0.733	69.9	40.6	0.0
11	0.666	0.666	63.6	32.3	0.0
10	0.6	0.6	57.2	25.1	0.0
9	0.533	0.533	50.8	19.1	0.0
8	0.466	0.466	44.5	14.2	0.0
7	0.4	0.4	38.1	10.1	0.0
6	0.333	0.333	31.8	6.9	0.0
5	0.266	0.266	25.4	4.5	0.0
4	0.2	0.2	19.0	2.7	0.0
3	0.133	0.133	12.7	1.5	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^*_{it}	Y_{it}	Y_N
16	1.0	1.0	95.4	88.5	2.5
15	0.945	0.933	90.2	76.8	2.5
14	0.891	0.866	85.0	66.1	2.5
13	0.837	0.799	79.9	56.5	2.5
12	0.783	0.733	74.7	47.9	2.5
11	0.729	0.666	69.6	40.1	2.5
10	0.675	0.599	64.4	33.3	2.5
9	0.621	0.533	59.2	27.3	2.5
8	0.567	0.466	54.1	22.0	2.5
7	0.513	0.4	48.9	17.5	2.5
6	0.459	0.333	43.8	13.7	2.5
5	0.405	0.266	38.6	10.4	2.5
4	0.351	0.199	33.4	7.7	2.5
3	0.296	0.133	28.3	5.5	2.5
2	0.242	0.066	23.1	3.8	2.5
1	0.188	0.0	18.0	2.5	2.5

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

lightness difference ΔL^*=1,7

n0.	w^*	w^*_r	L^*_{it}	Y_{it}	Y_N
16	1.0	1.0	95.4	88.5	40.3
15	0.982	0.933	93.6	84.5	40.3
14	0.964	0.866	91.9	80.6	40.3
13	0.946	0.8	90.2	76.8	40.3
12	0.928	0.733	88.5	73.2	40.3
11	0.91	0.666	86.8	69.6	40.3
10	0.892	0.6	85.1	66.2	40.3
9	0.874	0.533	83.4	62.9	40.3
8	0.856	0.466	81.6	59.7	40.3
7	0.838	0.399	79.9	56.6	40.3
6	0.82	0.333	78.2	53.6	40.3
5	0.802	0.266	76.5	50.7	40.3
4	0.784	0.199	74.8	48.0	40.3
3	0.766	0.133	73.1	45.3	40.3
2	0.748	0.066	71.4	42.7	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^*

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

Y_{it} = intended tristimulus value with output linearization