

ATMOSPHERIC TRANSMISSION FACTOR

The atmosphere absorbs some of the light energy emitted by a light source, and the magnitude of this absorption depends upon the prevailing atmospheric conditions.

The transmission factor (T) indicates the light transmission per nautical mile through the atmosphere.

To say that $T = 0.74$ means that 74% of the original intensity remains when a light beam has passed a distance of one nautical mile through the atmosphere and, consequently, that the absorption loss is 26%.

For North Atlantic and similar conditions it is customary to use a factor of 0.74 for T and, for various values of T, at a contrast ratio of 0.05.

T-Factor	Visibility	Weather
0.10	1.3 nm	Haze
0.20	1.8 nm	-
0.30	2.5 nm	Light haze
0.40	3.2 nm	-
0.50	4.3 nm	-
0.60	6.0 nm	Clear
0.70	8.5 nm	-
0.74	10.0 nm	Very clear
0.80	14.0 nm	-
0.85	20.0 nm	-
0.90	29.0 nm	Exceptionally clear
1.00	Unlimited	-

GEOGRAPHICAL RANGE

The geographical range of a light is the range at which it can be seen over the horizon, and is dependant on the height above water level of the lightsource and the observer's eye.

Height of light above sea level	Geographical Range in N Miles				
	Height of observer above sea				
	0m	5m	8m	11m	15m
3m	3.6	8.3	9.5	10.5	11.7
5m	4.7	9.3	10.5	11.6	12.7
7m	5.5	10.2	11.4	12.4	13.6
10m	6.6	11.2	12.5	13.5	14.6
15m	8.1	12.7	13.9	15.0	16.1
20m	9.3	14.0	15.2	16.2	17.4
30m	11.4	16.0	17.3	18.3	19.4
40m	13.2	17.8	19.0	20.1	21.2
50m	14.7	19.4	20.6	21.6	22.8
60m	16.1	20.8	22.0	23.0	24.2
70m	17.4	22.1	23.3	24.3	25.5
80m	18.6	23.3	24.5	25.5	26.7
90m	19.7	24.4	25.6	26.6	27.8
100m	20.8	25.5	26.7	27.7	28.9