

Recommended light levels - illuminance - for some common types of working activities

Light Level or Illuminance, is the amount of light measured in a plane. The work plane is where the most important tasks in the room or space are performed.

Measuring Units Light Level - Illuminance

Illuminance is measured in foot candles (ftcd, fc) (or lux in the metric SI system). A foot candle is actually one lumen of light density per square foot, one lux is one lumen per square meter.

$$\text{lux} = \text{fc} \cdot 10.752$$

$$\text{fc} = \text{lux} / 10.752$$

Common Light Levels Outdoor

Common light levels outdoor at day and night can be found in the table below:

Condition	Illumination	
	(ftcd)	(lux)
Sunlight	10,000	107,527
Full Daylight	1,000	10,752.7
Overcast Day	100	1,075.3
Very Dark Day	10	107.53
Twilight	1	10.75
Deep Twilight	.1	1.08
Full Moon	.01	.108
Quarter Moon	.001	.0108
Starlight	.0001	.0011
Overcast Night	.00001	.0001

Common and Recommended Light Levels Indoor

The outdoor light level is approximately 10,000 lux on a clear day. In the building, in the area closest to windows, the light level may be reduced to approximately 1,000 lux. In the middle area its may be as low as 25 - 50 lux. Additional lighting equipment is often necessary to compensate the low levels.

Earlier it was common with light levels in the range 100 - 300 lux for normal activities. Today the light level is more common in the range 500 - 1000 lux - depending on activity. For precision and detailed works, the light level may even approach 1500 - 2000 lux.

The table below is a guide for recommended light level in different work spaces:

Activity	Illumination (lux, lumen/m ²)
Warehouses, Homes, Theaters, Archives	150
Easy Office Work, Classes	250
Normal Office Work, PC Work, Study Library, Groceries, Show Rooms, Laboratories	500
Supermarkets, Mechanical Workshops, Office Landscapes	750
Normal Drawing Work, Detailed Mechanical Workshops, Operation Theatres	1,000
Detailed Drawing Work, Very Detailed Mechanical Works	1,500 - 2,000