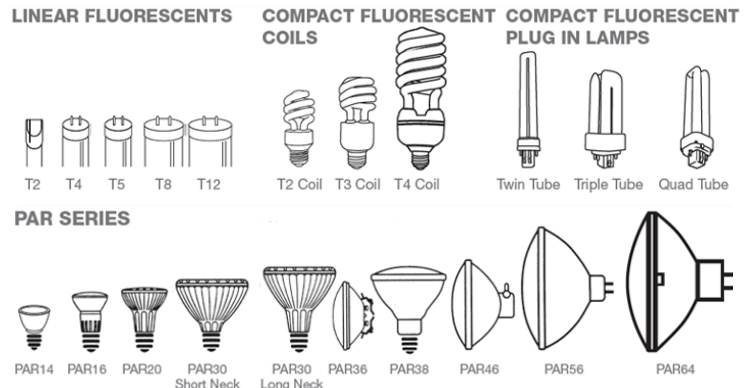
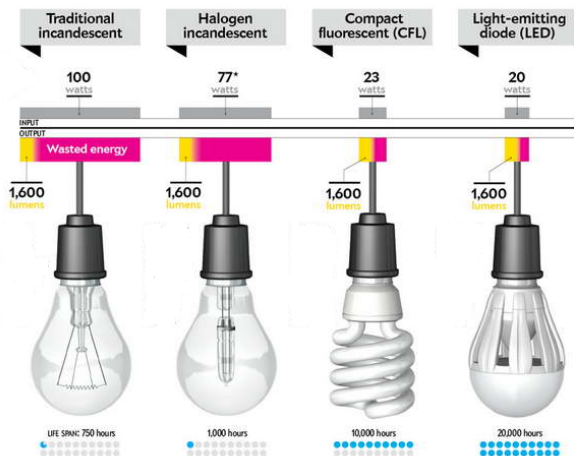


Identifying Lighting Types



LED Options

LED Fixtures – Lamp + Fixture

LED Retrofits – Lamp to fit into existing fixture



Lighting Level Recommendations by IES

Offices	Foot-candles	Assembly	Foot-candles	Electronic Manufacturing	Foot-candles
Drafting	50-200	Rough Easy seeing	25-50	Impregnating	20-50
General /private offices	50-100	Rough difficult seeing	50-100	Insulating coil windings	50-100
Conference Areas	20-70	Medium	100-200	Sheet Metal Works	Foot-candles
Corridors, Stairways	20	Fine	200-500	General	100
Lobbies, lounges	0-20	Extra Fine	500-1000	Galvanized, inspection	100-200
Automobile Manufacturing	Foot-candles	Machine Shop	Foot-candles	Warehousing/ Storage	Foot-candles
Final assembly, finishing	200	Medium bench, rough grinding, buffing	50-100	Inactive	5-10
Body assembly	100	Rough bench	20-50	Active – Rough bulky	10-20
Body manufacturing	100	Fine bench and work	200-500	Active – Medium	20
Frame assembly	50	Welding	20-50	Active – Fine	20-50

Lighting Controls

Dimmers:

To provide variable indoor lighting.

Occupancy sensors:

To turn on /off lights based on activity in light levels.

Photo sensors:

To turn on /off lights based on ambient light levels.

Timers:

To turn on and off lights at specific times.

Tips

- Make use of lighting plans to get the count of lights
- De-lamping is an easy way to reduce lighting levels and energy use
- LED retrofits (available are all applications) are cheaper than LED fixtures
- Leverage sky lighting