



Bulbs, Lights, and Lumens

Types of Bulbs

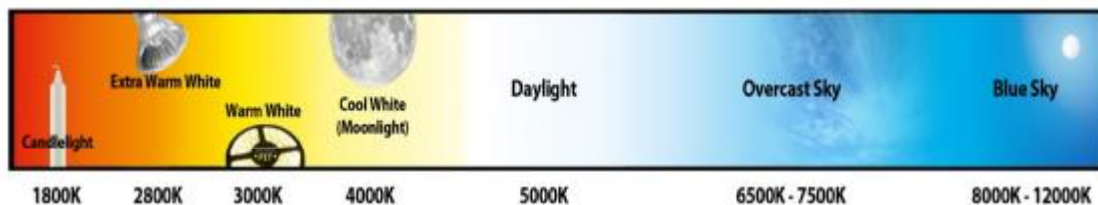
Incandescent	Traditional Lightbulb. These were banned in Ireland in 2009. These bulbs convert less than 4% of the energy used into visible light, all the rest is heat!
Halogen	Similar and about 20% more efficient
C.F.L Compact Fluorescent Lamp	The first energy efficient technology
LED Light Emitting Diode	The way of the future

Watt = The energy the lamp uses

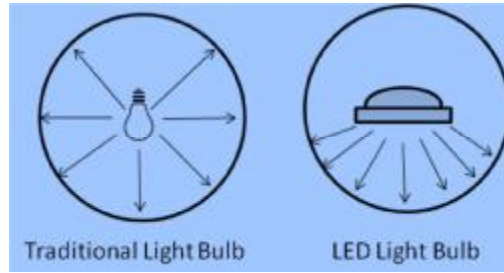
Lumen = The light output from the lamp. 1 Lumen = light of a candle 30cm away.

Temperature = The 'colour' of the light generated

Colour Temperature Chart



2,700 K Warm White - 4,000 K Cool White - 6,000 K Daylight



Incandescent, Halogen, and C.F.L. all emit light all around them through 360 degrees





L.E.D. produce directional light.

A bare lightbulb in a ceiling fitting will have half its output directed down into the room.

The directional light of a LED can appear brighter in a room than another light which has a higher Lumen output.

Lumen	Incandescent Bulb	Halogen Bulb	C.F.L.	L.E.D.
200	25Watt	18Watt	3 - 5	3
450	40Watt	28W	9 - 11	5 - 8
800	60Watt	42W	13-15	9 - 12
1,100	75Watt	53W	18 - 20	12 - 16
1,600	100Watt	70W	24 - 28	18 - 22
2,400	150Watt	120W	30 - 50	30
3,100	200Watt		49 - 75	32
4,000	300W		75 - 100	40
8,000	500W	400W		

Other Comparisons

				
Lumen	Incandescent	Halogen Bulb	C.F.L.	L.E.D.
Lifetime In hours	1,000	2,000	8,000	25,000 - 50,000
On / Off Cycling	Some effect	Some Effect	Yes, shortens life	No Effect
Turns on instantly	Yes	Yes	No, takes time to reach brightness	Yes
Durability	No	No	No	Very Durable
Lumen / Watt	10 - 15	13 - 20	40 - 50	90 - 105