



What Is Power Factor and Why Does It Matter?

- 0.95** **Power Factor (PF)** is used to determine how effectively energy is being utilized. It is measured from -1 to 1 with 1 being the most effective, and is calculated by dividing working power (kW) by apparent power (kVA).
- lm/W** **Efficacy** is measured in lumens per watt and describes the amount of useful light output per unit of electricity. This is calculated by dividing the total lumen output by the total wattage consumed.
- 80%** **Efficiency** is measured in percentage and is calculated by dividing the total amount of light coming out of the fixture by the amount of light produced by the light source.

Power Factor Beer Analogy

CAPACITY
(**KVA** - Apparent Power)

$$PF = \frac{KW}{KVA}$$

Beer ÷ (Beer + Foam)



WASTED CAPACITY
(**KVAR** - Reactive Power)

WATTAGE
(**KW** - Working Power)

Luminous Efficacies by Light Source

LIGHT SOURCE	EFFICACY (lm/W)	LIGHT SOURCE	EFFICACY (lm/W)
LED	100-200+	LOW PRESSURE SODIUM	100-200
FLUORESCENT	45-70	HIGH PRESSURE SODIUM	85-150
HALOGEN	16-24	METAL HALIDE	75-100
INCANDESCENT	10-17	MERCURY VAPOR	35-65