BRIGHTNESS

Because incandescent bulbs have been around for more than a century, most people use them as a point of reference, equating familiar wattages to degrees of brightness. But wattage is actually a measure of energy used. Lumens are a measure of brightness. What's important to understand is that LED bulbs use significantly lower wattage to produce the same brightness as incandescent bulbs. That means that while an LED may cost more up front to purchase, it costs much less to operate over time.

Because LEDs emit more lumens while using less wattage, substituting an LED bulb for an incandescent allows a fixture to produce brighter light safely, without exceeding its maximum wattage rating.

Additionally, LED bulbs last much longer than incandescents.

Average incandescent burn hours : 1,500 - 2,000
Average LED burn hours: 15,000 - 27,000

The chart below shows equivalent LED bulbs required to produce as much light as incandescent bulbs.

INCANDESCENT	LUMENS EMITTED	LED EQUIVALENT
25W	220 lm	1-2W
40W	450 lm	6-9W
60W	800 lm	8-12W
75W	1100 lm	9-13W
100W	1600 lm	16-20W
150W	2600 lm	25-28W

Note: While nostalgic filament bulbs are beautiful, they are generally less efficient than other incandescents and will have a lower lumen output.

COLOR

Light color, also referred to as color temperature, is measured in degrees Kelvin, and is unrelated to brightness. Incandescent bulbs typically have a correlated color temperature (CCT) rating of 2700K to 3000K. They produce a warm white light, as shown on the scale below.

LEDs are available anywhere from warm tones (2700K) tones to cool daylight tones (5000K). If you want to match the warm white light of an incandescent, choose an LED bulb with a rating of 2700K.

2700K Warm White
3000K
3500K
Cool White
4100K
5000K
6500K Daylight