

Forget what you know about incandescents - your watts are no good here. When shopping for bulbs, you're probably accustomed to looking for watts, an indication of how bright the bulb will be. The brightness of LEDs, however, is determined a little differently. Contrary to common belief, wattage isn't an indication of brightness, but a measurement of how much energy the bulb draws. For example, an LED bulb with comparable brightness to a 60W incandescent is only 8 to 12 watts. The lumen (lm) is the real measurement of brightness provided by a light bulb, and is the number you should look for when shopping for LEDs.

For reference, here's a chart that shows the watt-lumen conversion for incandescents and LEDs.

LUMENS	INCANDESCENT	LED
2600 lm	150 W	25-28 W
1600 lm	100 W	16-20 W
1100 lm	75 W	9-13 W
800 lm	60 W	8-12 W
450 lm	40 W	6-9 W
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LED bulbs are like hybrid cars: cheaper to operate but pricey upfront.

When switching to LED bulbs, don't expect to save buckets of cash. Instead, think of it as an investment. Luckily, competition has increased and LED bulbs have come down in price, but you should still expect to pay much more than an incandescent.

Bottom line: unless you're replacing many incandescent bulbs in a large house, you won't see significant savings in your electricity bill. Because of their circuitry, LEDs are not always compatible with traditional dimming switches. In some cases, the switch must be replaced.

Most dimmers, which were likely designed to work with incandescents, work by cutting off the amount of electricity sent to the bulb. The less electricity drawn, the dimmer the light. If you'd like your LED to be dimmable, you need to do one of two things: find LED bulbs compatible with traditional dimmers, or replace your current dimming switch with a leading-edge (LED-compatible) dimmer. Knowing where it's OK to place an LED will ensure that the bulb won't fizzle ahead of its time.

You probably know that LED bulbs run dramatically cooler than their incandescent cousins, but that doesn't mean they don't produce heat. LED bulbs do get hot, but the heat is pulled away by a heat sink in the base of the bulb. From there, the heat dissipates into the air and the LED bulb stays cool, helping to keep its promise of a very long life.

And therein lies the problem: the bulb needs a way to dissipate the heat. If an LED bulb is placed in an enclosed housing, the heat won't have anywhere to go, sending it right back to the bulb, and sentencing it to a slow and painful death. Consider where you'd like to place your LED bulbs. If you have fully or semi-enclosed fixtures you need to light up, look for LEDs that are approved for recessed or enclosed spaces.