

Fitment Issue:

LED Lamps don't follow the same rules

Chad Palmer, CLEP, Energyefficient Systems, Inc.

When you buy an A Type LED lamp and it specifies it is an A21. You would expect it to meet the specification of an A21 lamp. If you bought a glass incandescent light bulb that was marked A21 you can bet that the bulb would indeed measure A21.

The shape of A meaning "Alpha" or others have referred to it as an "Apple" shape. The two digits following the letter represents the outside diameter of the light bulb at its widest point in eighths of an inch. For example, an A19 measures 2 3/8" diameter and an A21 measures 2 5/8" diameter, an A23 measures 2 7/8" in diameter.

Knowing the history of incandescent light bulbs is relative to this situation. A light fixture designed for an 150 Watt maximum incandescent lamp would have anticipated a lamp size not to exceed A21 and they would have made the fixtures not accept an A23 because the larger the diameter of the lamp the larger wattage when considering incandescent lamps. By limiting the overall size of the lamp to A21 the manufacturer would in fact have built in a stop safe. 150 Watt was the max wattage of an A21 shape.

When considering LED lamps recently we found LED lamps manufactured by several brands that advertise they are A21 shape, but when measured they are actually A23 shape and are 1/4" larger in diameter than an A21. They may not fit inside a fixture that was designed for a max wattage of 150 Watt.



Figure 1 Comparing Lamp Sizes

LED Lamps claim they are A21 or A19 but may measure much larger.

Utility Glass Jar fixtures will be prone to a fitment issue if using these oversized lamps. The glass jar fixtures of yesterday were rated for a max wattage of 150W incandescent and may have a limit on the size of lamp that will fit within the jar.

LED Lamp manufacturers should be held to the same standard as all previous light sources when it comes to specifications. Responsibly marking the lamp to designate its actual size should be a common-sense thing and shouldn't have to be demanded.

We found GE, Greenlite, and Overdrive lamps were not labeled properly. We did not test every available brand in the market today.

