



## Light Matters –

When it comes to LED replacement bulbs there are many choices. And, just like your RV or boat there are your inexpensive models and your high end models.

At Bee Green LED we believe our customer should have choices – not just “one size fits all”, which is why we offer 60+ varieties of LED replacement bulbs. We believe in customization. Perhaps you like a brighter bulb in your reader, or a “whiter” bulb in a work area.

Not all LED bulbs are created equal – some key items to look for:

### **Diodes and Lumens and Color Temp.**

Diode – SMD - surface mount diode-



Diodes require space to dissipate heat. Extra diodes do not necessarily mean more light. When making your comparison look at the “Lumens” (measured light output) as well as the Kelvin – Color Temperature rating. *(Please see below for more info. on this).*

**Binning** –LED diodes are color matched through a process called binning. Simply stated this is a color matching process for each diode. Our products utilize LED chips which are closely binned (+/-10%) for the best color match within the individual bulb and overall production of bulbs.

**Size** – there are varying sizes of bulbs for each category. (For instance -not all G4 bulbs are the same size). We list the dimensions of our products to allow you the opportunity to check and see if the bulb will fit your particular fixture.

## Lumens and Wattage Comparison – Approximation Guideline

Translation of lumens to wattage is not a direct science.

By design, incandescent, halogen and Xenon bulbs all have an initial lumen output (measurement of the perceived power of light) which not only varies by manufacturer, but also degrades in time as the bulb is used. In some cases, bulb brightness may degrade as much as 60% from its initial installation.

Therefore, we can only offer a guideline as to what brightness you may expect when replacing and comparing LED bulbs, since the current lumens of your bulbs is unknown.

We have used the following number of efficacy (lumens /watts) to establish our wattage comparison figures:\*

Incandescent bulbs – 7 (LED bulb lumens / 7 = our comparison)

Approximately 90% of all the power consumed by an incandescent light bulb is emitted as heat rather than visible light.

Halogen (Xenon) bulbs - 16 (LED bulb lumens / 16 = our comparison)

MR16 halogen bulbs - 16 (LED bulb lumens / 16 = our comparison)

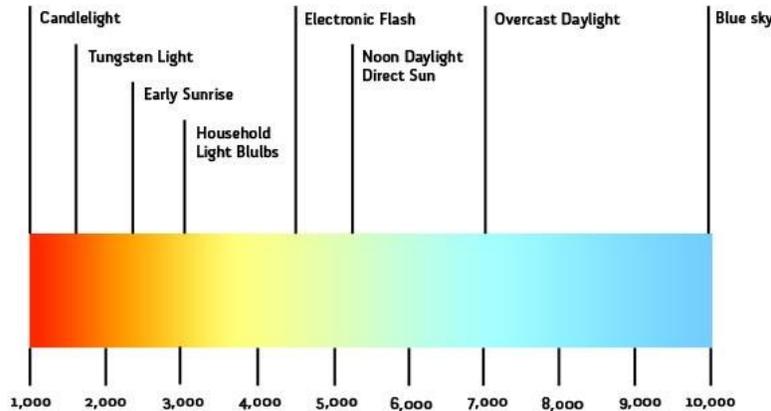
Halogen is a form of incandescent. It has the truest color rendering of any light source other than the sun. The MR16 spot is amplified by an integrated reflector, greatly increasing its apparent efficacy.

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## Color Temperatures - Warm White vs. Cool White – (explained as simply as we can)

The Kelvin scale is utilized in making measurements of light (CCT-Correlated Color Temperature) – as seen in the chart below.

### Colour Temperatures in the Kelvin Scale



Generally, light bulbs range from a warm yellow (2700K) to a cool (blue-ish) white (7000K). By comparison, a typical incandescent bulb has a CCT of 2800K. A typical halogen is a bit higher, maybe 3500K. Daylight white bulbs are generally around 4500K and a cool white fluorescent is 6000K or more.

Our Bee Green LED warm white LEDs have a 3200K (+/- 10%) color temperature and our cool white LEDs are 6500K (+/-8%). This color has advanced from prior technology and production – allowing for a brighter “warm” white and a not as cold (blue) “cool” white. That being stated, we have found most people will have a “color” preference based on the purpose and type of fixture in which the bulb is to be installed. (“Warm” white appears to be favored around wood and skin tones, while stainless steel, blue tones and outside usage tend to follow the “cool” white requests).

Seeing is believing. In order to allow you the opportunity to visually learn about our products, we offer a liberal return / exchange policy. Our goal is your satisfaction.

\*sources cited – eelek.com – lamping comparison chart

Thank you for choosing Bee Green LED.

[www.beegreenled.com](http://www.beegreenled.com)