

## J2 LED Lighting, LLC

[www.j2ledlighting.com](http://www.j2ledlighting.com)

### Application Note

**Enhanced Effects Light 12 Volts DC LED Candle Bi-Pin Lamp Assy**

**J2 LED Lighting, LLC P/N: EEL1- CBL1**



The J2 LED Lighting, LLC EEL1-CBL1 (Enhanced Effects Light & Candle Bi-Pin Lamp) is a professional large format LED candle simulation light source and cable socket with DC barrel type connector. The 2.1 x 5.5mm barrel connector on the cable end is common for many low voltage DC power applications simplifying the building of props and scenery effects. The Candle Bi-Pin Lamp operates from 12 volts DC at 80ma nominal current with a static steady (nonflickering) 50 lumen output.

Flames are very complex light sources and can be difficult to simulate with LEDs because they are composed predominantly of a spectrum that includes blue, yellow and orange light. The flame emission can produce a color temperature of light typically ranging from 2,100 Kelvin (K) of a clean burning flame down to 1,000K, for embers. The flame's emission varies throughout this range of color temperatures as it burns. The average color temperatures for specific flame sources are: candles - 1,900K, oil lamps or burning paper - 1,876K, and fast burning soft wood - 1,937K. Some flame source's Kelvin temperatures will decrease as they burn, such as a wood or paper fire, as light is increasingly emitted from soot, glowing embers and residual matter more than the flames themselves. The EEL1-CBL1's average color temperature is 1,450K when all the light is integrated. The Candle Bi-Pin Lamp has a wide spectral color content that provides rich toned reflections from scenery and objects.

The EEL1 socket cable is designed for mounting into High Density Urethane (HDU) styling and modeling board. The cable socket fits into a mounting hole from the material's front side. The tapered fit of the socket's body locks it into place, and a front 5/8" diameter flange provides an insertion stop. Lock ribs on the taper provide for anti-rotation of the socket in the material. The EEL1 cable socket light assembly is optimized for 6 lb. density foam board when an 11mm (7/16") hole is used; though it can be mounted into higher density boards with the hole size increased slightly to reduce insertion pressure, or with lower density foam board reducing the hole diameter for a tighter grip. The EEL1 cable socket may be used with other materials adjusting the hole size accordingly for proper fit of the socket body taper.

Well suited for various LED lighting applications such as:

- Large theatrical candles
- Gas lamps for props and scenery
- Large décor lanterns, and torches
- Ultra-Warm light source for "old world" light fixture designs