

## Small Format High Output Module For Directional Applications

### Features & Benefits

- Small 2.4" x 0.88" intensely concentrated light source
- High density LED module is 2x light output of Metal Halide
- Replaces legacy light sources with superior CRI
- Ideal for commercial or decorative wall pack, bollard, step and high end architectural luminaires
- Includes mounting holes and adhesive tape for thermal transfer and simple installation
- Available as single modules with pre-wired pigtails or strings of modules in parallel for building blocks to create a family of luminaires with various power and lumen packages
- 2000K version replaces HPS with same CCT but CRI of 83 vs. 22
- 80 CRI version meets DLC criteria for exterior luminaires



### Compatible LED Drivers or Modules

Recommended Maximum DC Input Current to Module ..... 350mA  
 Typical DC input Voltage to Module ..... 31V

### Ratings and Performance Specifications

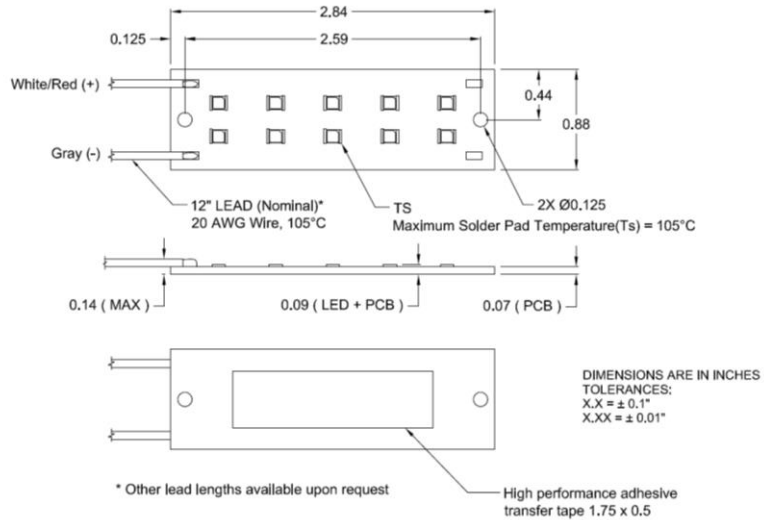
Nominal DC Power Consumption ..... 11WDC  
 Recommended Screw Installation Torque ..... 75 inch ounces  
 Maximum Operating Range Ambient Temperature (Ta) ..... -40 to +50°C  
 Maximum Solder Pad Temperature (Ts) ..... +105°C  
 Estimated Lumen Depreciation (TM-21) ..... 0% initial lumens (L70) @ 100,000 hours  
 Nominal Weight ..... 15 grams  
 Safety/Compliance UL Class 2 Recognized Component..... E321468

### Application Notes

1. The use of any washer (lock, flat, etc.) will void the warranty due to possible damage and/or shorting to the circuit board.
2. This module requires a heat sink at full power for maximum performance. Care should be taken in the luminaire designs to allow heat to escape the system. Contact factory for thermal guidelines.
3. Abnormal operating conditions such as elevated ambient temperatures can be expected to negatively impact lumen output, product lifetime and/or performance.

BB10T™ Series

## Physical Dimensions



**Table 1, Performance Characteristics at 25C**

Data from laboratory test measurements, actual results may vary.

Part Number	Designed to Replace	Nominal CCT (Kelvin)	Minimum CRI	Nominal Light Output @ Max Current (Lumens)	Nominal Power Consumption (WDC)	Nominal Module Efficacy (DC LPW)
BB10TW-20-80-01	High Pressure Sodium	2000	80	868	10.8	80
BB10TW-27-80-01	Incandescent	2700	80	1291	10.8	120
BB10TW-30-80-01	Halogen	3000	80	1345	10.8	125
BB10TW-40-80-01	Flourescent	4000	80	1421	10.8	132
BB10TW-50-80-01	Metal Halide	5000	80	1486	10.8	138

### Options available

Other power ratings, number of LED, CCT and CRI available on special order  
90 CRI minimum available on special order 2700K - 4000K, subtract 25% lumens  
For chain configurations, contact factory

### Packaging

Product is marked with SKU and lot information on non-LED side of module.  
Sold in groups of (40) unit(s) and packaged in ESD bags with SKU and lot information.

### Warranty

5-Year limited warranty in accordance with published warranty conditions. Product must be used with compatible components (modules, drivers, engines and/or accessories) and no maximum ratings (such as Ts) shall be exceeded during any expected operating conditions of the system. If product is used with other manufacturer's product, compatibility must be recognized in writing by Permlight Technologies.

Permlight Technologies owns the following United States patents of which one or more may be applicable to the design and/or manufacture of this product: 6712486, 6578986, 6846093, 7114831, 7306353, 7102172, 7108396, 7329024, 7387406, 7582911, 7649327, 8926145, 8729810. Additional granted patents, patents pending and other IP protection rights may apply.