

## INTRODUCTION

Wamco **F-LED 125** is an LED illumination system for front-lit or back-lit channel letter signage as well as indoor and outdoor decorative lighting.

**F-LED 125** is typically used in small stroke width channel letter illumination applications. **F-LED 125** provides many advantages including brilliant white light output, significant energy savings and reduced maintenance costs.



## FEATURES

- Energy efficient (up to 80% energy efficiency over neon)
- Long service life (up to 30,000 hours)
- Easy installation and maintenance
- 100% waterproof (IP67)
- Safety due to low voltage operation (12VDC)
- 3 year warranty



## APPLICATIONS

- Signage (small stroke channel letters)
- Indoor & outdoor lighting decorations

## CERTIFICATIONS

- UL (E258512), CE, RoHS



## MATERIALS

- CASE : PBT (UL Recognized), WIRE : AWG 20 (80°C)

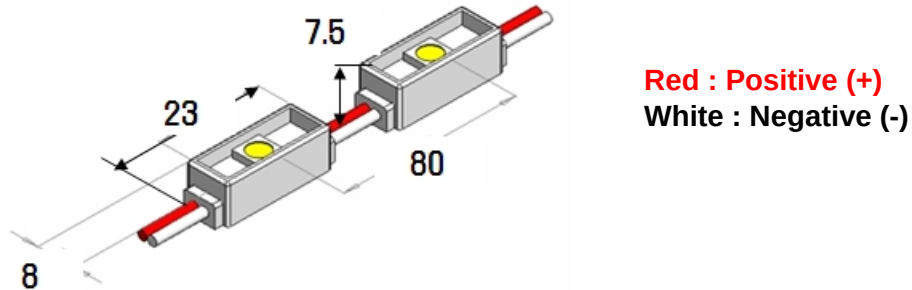
## SPECIFICATIONS

- Operating Temp. : -20°C~+70°C

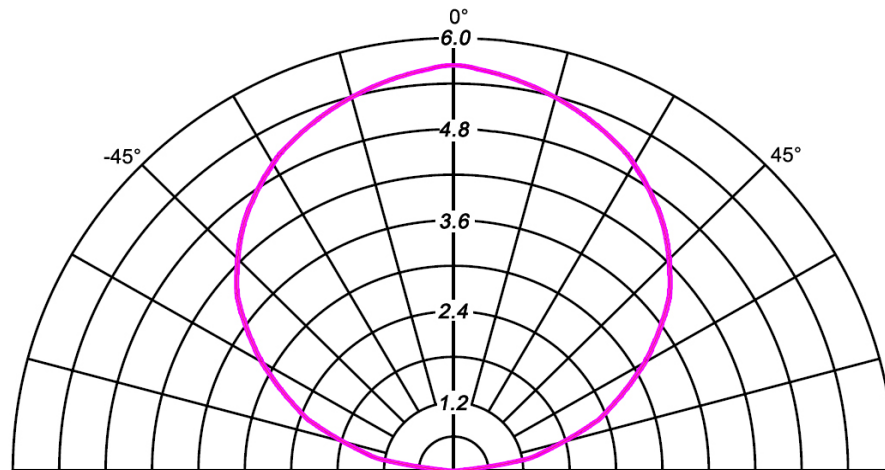
|                           |                                     |
|---------------------------|-------------------------------------|
| Color                     | White                               |
| Model                     | WL-BFL125-DW12                      |
| Input Voltage             | <b>12VDC</b>                        |
| Operating Current         | 0.02A (Max.)                        |
| Power Consumption         | 0.24W (Max.)                        |
| Dimensions                | 23mm(L) x 8mm(W) x 7.5mm(H)         |
| Viewing angle             | 120°                                |
| Luminous Flux (Typ.)      | 13lm                                |
| Wavelength<br>Color Temp. | <b>8,200K~15,000K 6,000K~8,200K</b> |



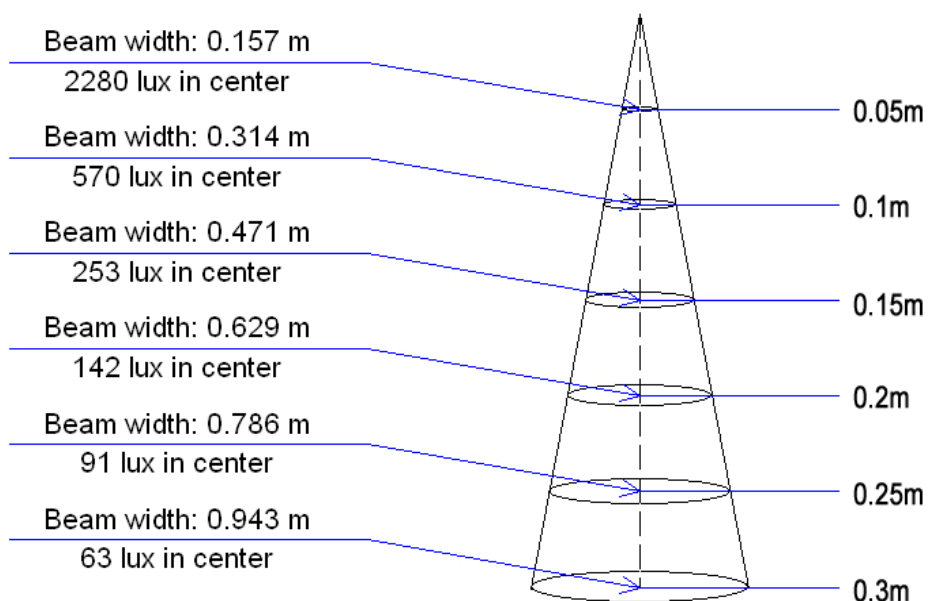
## PHYSICAL SPECIFICATION (Unit : mm)



## LUMINOUS INTENSITY DISTRIBUTION (WHITE, Unit : cd)



## ILLUMINATION DISTRIBUTION (WHITE, Unit : lx)



## LUMINOUS FLUX RANK

Ta=25°C

| Rank |           | White |
|------|-----------|-------|
| O    | 11~14(lm) | ●     |

\* Measurement allowance is  $\pm 10\%$ 

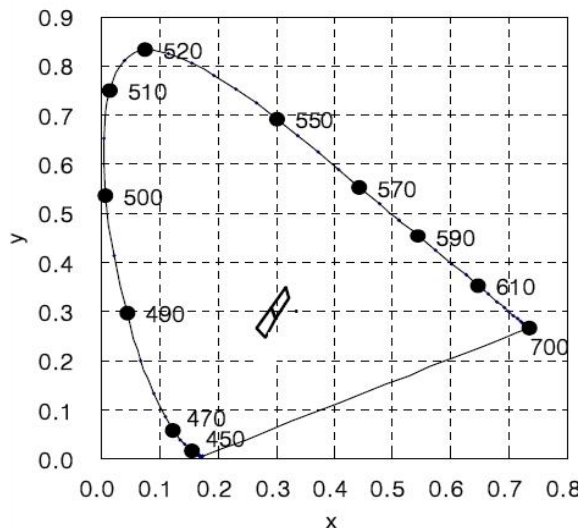
## COLOR RANK

Ta=25°C

| Rank |   | Color Coordinates |        |        |        | CCT                 |
|------|---|-------------------|--------|--------|--------|---------------------|
| A    | x | 0.2805            | 0.2896 | 0.2833 | 0.2725 | 10,200K~<br>15,000K |
|      | y | 0.2465            | 0.2648 | 0.2763 | 0.2564 |                     |
| C    | x | 0.2725            | 0.2833 | 0.2783 | 0.2655 |                     |
|      | y | 0.2564            | 0.2763 | 0.2854 | 0.2650 |                     |
| B    | x | 0.2896            | 0.2995 | 0.2951 | 0.2833 | 8,200K~<br>10,200K  |
|      | y | 0.2648            | 0.2849 | 0.2981 | 0.2763 |                     |
| D    | x | 0.2833            | 0.2951 | 0.2919 | 0.2783 |                     |
|      | y | 0.2763            | 0.2981 | 0.3077 | 0.2854 |                     |
| G    | x | 0.2951            | 0.3065 | 0.3046 | 0.2919 | 7,000K~<br>8,200K   |
|      | y | 0.2981            | 0.3192 | 0.3285 | 0.3077 |                     |
| E    | x | 0.2976            | 0.3081 | 0.3065 | 0.2951 |                     |
|      | y | 0.2906            | 0.3110 | 0.3192 | 0.2981 |                     |
| H    | x | 0.3065            | 0.3178 | 0.3165 | 0.3046 | 6,000K~<br>7,000K   |
|      | y | 0.3192            | 0.3401 | 0.3480 | 0.3285 |                     |
| F    | x | 0.3081            | 0.3190 | 0.3178 | 0.3065 |                     |
|      | y | 0.3110            | 0.3322 | 0.3401 | 0.3192 |                     |

\* Measurement allowance is  $\pm 0.01$ 

&lt;Serial No.&gt;

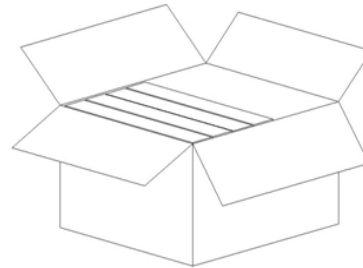
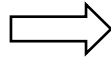


| H 7 OG W |                                                                                |
|----------|--------------------------------------------------------------------------------|
| H        | Manufacturing year<br>- 2001 : A, .....2008 : H.....                           |
| 7        | Month<br>- 1~9 : 1~9 Ex) July. - "7"<br>- 10 : "X"<br>- 11 : "Y"<br>- 12 : "Z" |
| OG       | Rank<br>(O : Luminous flux rank , G : Color rank)                              |
| W        | LED Color                                                                      |

# F-LED 125

## PACKAGE

1pack = 50 modules



1000 modules

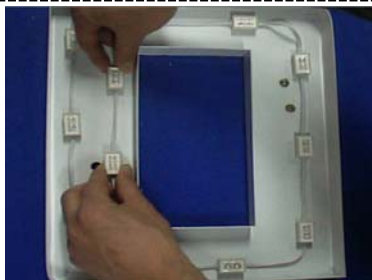


## INSTALLATION

- Determine number of modules, pitch and power supplies needed based on channel depth, stroke, cover materials, total power consumption of the modules, etc.



1) Clean inside the channel letters.



2) Remove VHB tape on the backside of the modules and attach modules according to the layout determined. For secure mounting, use screws or silicone.



3) Connect modules in series or parallel with wire nuts or electric tape after considering the maximum number of modules in series. Cap all unused wires. Place silicone in the wire nuts for maximum outdoor protection.



Caution :

Check polarity. All connections must be Red (+ : Positive) to Red and White (- : Negative) to White.



4) Drill holes at the bottom or side of the letters for the wire connection to DC power supplies, place bushings into the holes and thread wires out of the letters.

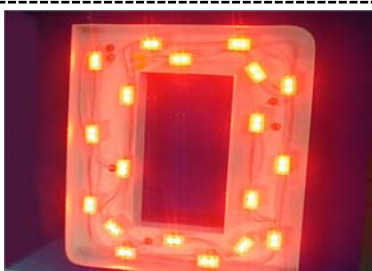


5) Connect DC wires from the letters to DC power supplies and AC wires from input power source to DC power supplies. Check DC polarity (+ : Positive, - : Negative) and AC connection (L, N, FG : 1 phase, 100~240VAC, 50/60Hz).



Caution :

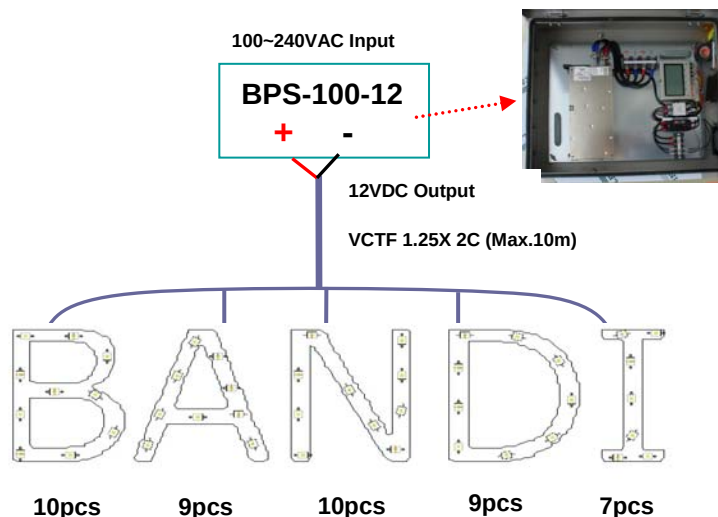
Electric power should be off when DC and AC wires are connected to DC power supplies.



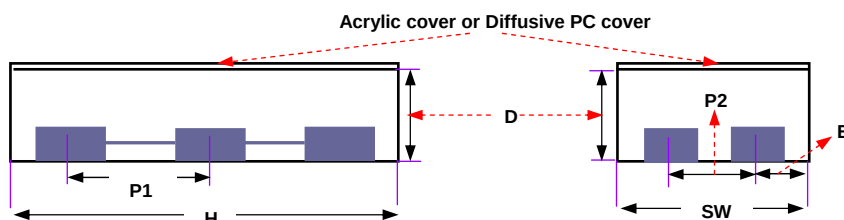
6) Turn on electric power and check all modules for illumination. Review all installation steps above if F-LED 125 fails to light.

## INSTALLATION

- Recommended channel depth : **70mm~90mm** (less than 70mm depth, some dots may be seen through the cover)
- Recommended installation pitch between centers of the modules : **50mm~60mm at 70mm~90mm depth**
- Maximun number of modules connected in series : **50 modules**
- Installation layout (example) : Channel height-200mm, Channel depth-80mm, Stroke width-20mm



**Total 45 modules (11W power consumption)**



|    |                                                                                 |           |
|----|---------------------------------------------------------------------------------|-----------|
| H  | Channel Letter Height                                                           |           |
| D  | Channel Letter Depth                                                            | 70mm~90mm |
| SW | Channel Letter Stroke Width                                                     |           |
| E  | Distance between the center of the LED module to the edge of the Channel letter |           |
| P1 | Installation pitch in a row                                                     | 50~60mm   |
| P2 | Installation pitch in a column                                                  |           |

■ Primary DC Cable Specification Table

| Module Number connected | Cable Specification |
|-------------------------|---------------------|
| ~200 modules            | VCTF 1.25X2C        |
| ~300 modules            | VCTF 2.0X2C         |
| ~500 modules            | VCTF 3.5X2C         |
| ~700 modules            | VCTF 5.5X2C         |

■ Power Supply Capacity Table

| Power Supply             | Max. Module Number connected |
|--------------------------|------------------------------|
| BPS-020-12 (20W,Outdoor) | 60 modules                   |
| BPS-040-12 (40W Outdoor) | 120 modules                  |
| BPS-060-12 (60W Outdoor) | 180 modules                  |
| BPS-100-12 (100W,Indoor) | 300 modules                  |
| BPS-300-12 (300W,Indoor) | 900 modules                  |