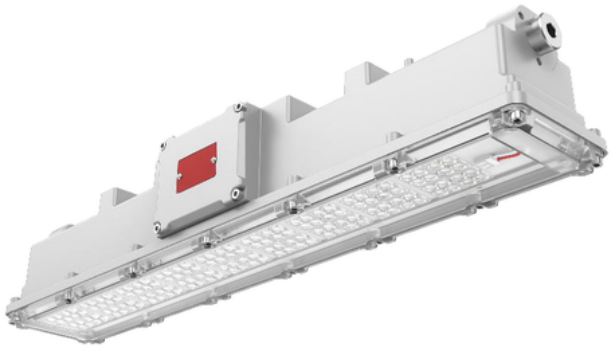
| | |
|---|---|
| Project: | |
| Model Number: | |
| Notes: | |

# Delta 3 Linear

LED EXPLOSION-PROOF LINEAR HIGH BAY

## FEATURES

- High efficacy delivering up to 160 lm/W
- Dimmable 1-10 V
- Color temperatures available from warm white to cool white
- Red, green, blue, and amber CCT LED options available
- Seven power options between 20 W and 100 W
- Power factor >0.90
- Integrated 4 kV, 6 kV, or 10 kV surge protection
- IP66 Rating and IK08 Rating
- Fiberglass with reinforced polycarbonate body in grey housing
- Polycarbonate lens



## REGULATORY QUALIFICATIONS

**NEC/CEC**

- Class I, Division 2, Groups A, B, C, D
- Class II, Division 2, Groups F, G
- Class III
- Class I, Zone 2, Group IIC
- Zone 22

**IECEx/ATEX**

- Ex nR IIC T6 Gc
- Ex tb IIIC T80°C Db
- II 3G Ex nR IIC T6 Gc
- II 2D Ex tb IIIC T80°C Db

## APPLICATIONS

- Manufacturing: food, chemical, oil, gas
- Foundries
- Waste and sewage treatment plants
- Paint booths
- Paper mills
- Suitable for wet locations
- Suitable for marine locations

Big Shine LED is an LED lighting manufacturer, a division of technology company Big Shine Worldwide, Inc. With global manufacturing centers for continuity of supply, Big Shine LED designs lighting fixtures with premium components that meet international certifications.

bigshineled.com | info@bigshineled.com | (845) 444-5255
300 Corporate Blvd., Newburgh, NY 12550


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# TECHNICAL DATA

## BSL-EP[XX]-D3L-[XXXX]K (2 ft model)

| ELECTRICAL DATA | | | | |
|---|---|---|---|---|
| **MODEL** | EP20-D3L | EP30-D3L | EP40-D3L | EP50-D3L |
| **POWER CONSUMPTION (±5%)** | 20 W | 30 W | 40 W | 50 W |
| **INPUT VOLTAGE** | 120-277 VAC | 120-277 VAC or 277-480 VAC | | |
| **POWER FACTOR** | >0.90 | | | |
| **SURGE PROTECTION** | 4 kV line-line, 6 kV line-earth | | | |
| **DRIVER TYPE** | Constant Current | | | |
| **CONTROL OPTIONS** | No dimming, 1-10 V dimming | | | |

| OPTIC SPECIFICATIONS | | | | |
|---|---|---|---|---|
| **LUMINOUS FLUX (±10%)** | 3,200 lm | 4,800 lm | 6,400 lm | 8,000 lm |
| **EFFICACY @ 5000K Ra70** | 160 lm/W | | | |
| **CORRELATED COLOR TEMPERATURE** | 2000 K, 2200 K, 2500 K, 2700 K, 3000 K, 3500 K, 4000 K, 4500 K, 5000 K, 5700 K, 6500 K; Red, Green, Blue, Amber | | | |
| **COLOR RENDERING INDEX** | Ra70, Ra80, Ra90 | | | |
| **BEAM ANGLE** | 17°, 30°, 55°, 85°, 113°<br>Type I Very Short (25x59°, Tile 10°)<br>Type II Short (66x146°, Tilt 60°),<br>Type II Very Short (49x117°, Tilt 45°), Type II Very Short (27x70°, Tilt 39°),<br>Type III Very Short (64x120, Tilt 51°), Type III Very Short (33x143°, Tilt 57°),<br>Type III (55x120°, Tilt 56°)<br>Type V Short (146°) | | | |


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# TECHNICAL DATA

## BSL-EP[XX]-D3L-[XXXX]K (4 ft model)

| ELECTRICAL DATA | | | | |
|---|---|---|---|---|
| **MODEL** | EP60-D3L | EP70-D3L | EP80-D3L | EP100-D3L |
| **POWER CONSUMPTION (±5%)** | 60 W | 70 W | 80 W | 100 W |
| **INPUT VOLTAGE** | 120-277 VAC or 277-480 VAC | | | |
| **POWER FACTOR** | >0.90 | | | |
| **SURGE PROTECTION** | 6 kV line-line, 10 kV line-earth | | | |
| **DRIVER TYPE** | Constant Current | | | |
| **CONTROL OPTIONS** | No dimming, 1-10 V dimming | | | |

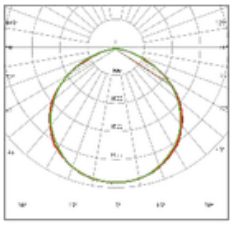
| OPTIC SPECIFICATIONS | | | | |
|---|---|---|---|---|
| **LUMINOUS FLUX (±10%)** | 9,600 lm | 11,200 lm | 12,800 lm | 16,000 lm |

| OTHER TECHNICAL DATA | |
|---|---|
| **OPERATING TEMPERATURE** | -40° C to 45° C \| -40° F to 113° F |
| **LIFESPAN OF LED @ Ta = 25° C** | L90 = 77,000 hrs \| L80 = 175,200 hrs \| L70 = 282,900 hrs |

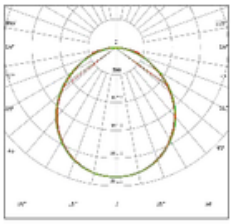

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# PHOTOMETRIC DATA

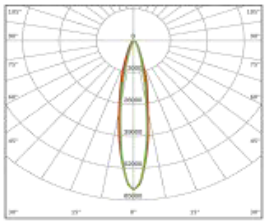
## Distribution Options



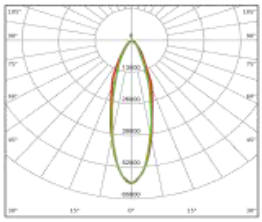
No lens / Clear
Polycarbonate 113°



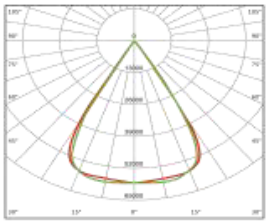
No lens / Clear
Polycarbonate



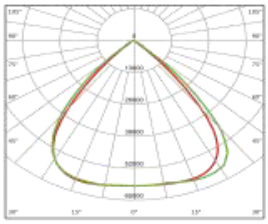
17°



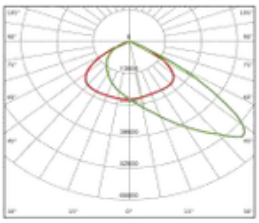
30°



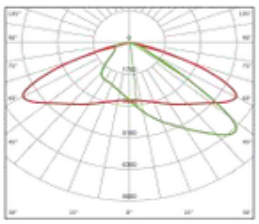
55°



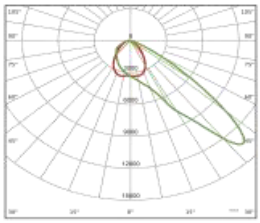
85°



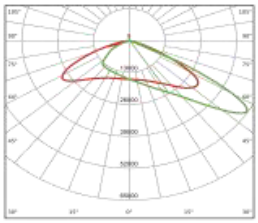
Type II Very Short
(49x117° Tilt 45°)



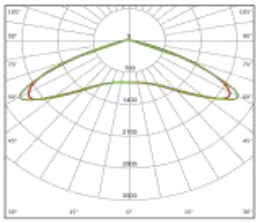
Type II Short
(66x146° Tilt 60°)



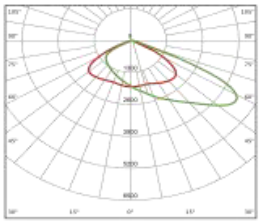
Type II Very Short
(27x70° Tilt 39°)



Type III Very Short
(33x143° Tilt 57°)



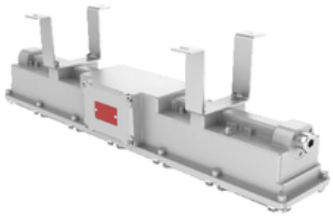
Type V (146°)



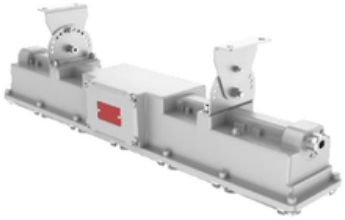
Type III Very Short
(55x120° Tilt 56°)


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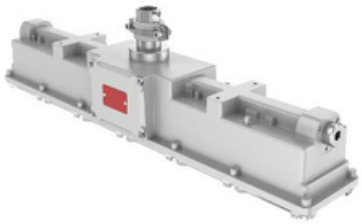
# MOUNTING OPTIONS



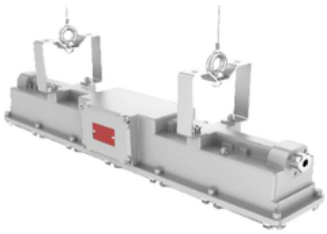
Ceiling Mount



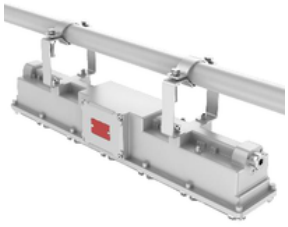
Trunnion Mount



Pendant Mount



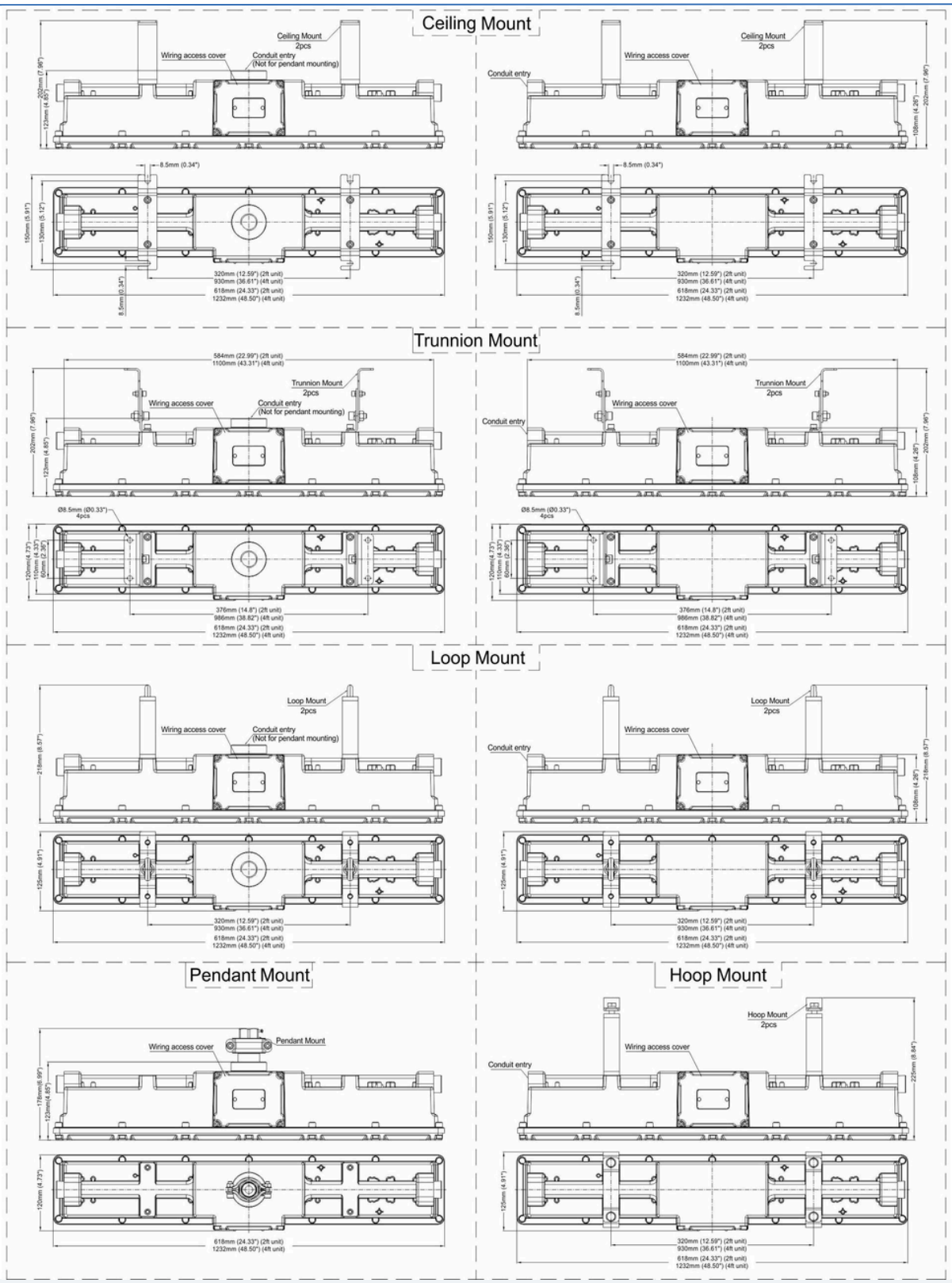
Loop Mount



Hoop Mount


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# DIMENSIONAL DATA





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# ORDERING INFORMATION

**BSL-EP[power option]-D3L-[CCT option]-[beam angle]-L[lens]-CGRY-D[dimming]-M[mounting option]-V[voltage]**

Sample: BSL-EP100-D3L-4000K-113-LF-CGRY-D1-10V-MCL-V120-277

| POWER | CCT | BEAM ANGLE | LENS | DIMMING OPTIONS | MOUNTING OPTIONS | VOLTAGE |
|---|---|---|---|---|---|---|
| 20 | 2000 K<br>2200 K<br>2500 K<br>2700 K<br>3000 K<br>3500 K<br>4000 K<br>4500 K<br>5000 K<br>5700 K<br>6500 K<br>Re: Red<br>Gr: Green<br>Bl: Blue<br>Am: Amber | 17°<br>30°<br>55°<br>85°<br>113°<br>146°<br>25x59°<br>66x146°<br>49x117°<br>27x70°<br>64x120<br>33x143°<br>55x120° | C: Clear Polycarbonate<br><br>F: Diffused Polycarbonate | NA: No dimming<br><br>110V: 1-10 V | CL: Ceiling Mount<br><br>TR: Trunnion Mount<br><br>PT: Pendant Mount<br><br>LP: Loop Mount<br><br>HP: Hoop Mount | 120-277 |
| 30 | | | | | | 120-277: 120-277 VAC 50/60 Hz<br><br>277-480: 277-480 VAC 50/60 Hz |
| 40 | | | | | | |
| 50 | | | | | | |
| 60 | | | | | | |
| 70 | | | | | | |
| 80 | | | | | | |
| 100 | | | | | | |

*Accessories sold separately.


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# WARRANTY




Big Shine LED products are covered by a five-year limited warranty against defects in materials. A fixture is considered defective if 10% or more of the LED fixture's components have failed. Visit our website to learn more about our product warranty: bigshineled.com/resources.

**Covered Under Warranty:**
Warranty Length: 5 years from purchase date (or installed date in some cases)
Coverage: Manufacturer defects in materials
Repair or Replacement: Big Shine LED may determine to repair or replace the product.

**Not Covered Under Warranty:**

- Damage caused by misuse, accidents, weather, improper installation, or unauthorized repairs.
- Using the product for something other than its intended purpose.

Visit our website to read the terms and conditions of our product warranty at bigshineled.com/resources.

**How to Submit a Warranty Claim:**
To submit a warranty claim, visit our website at bswpartnerhub.com or contact us at (845) 219-5548.

## LED PREVENTATIVE MAINTENANCE

Implementing a preventative maintenance plan helps ensure optimal performance and longevity of LED lighting systems through regular inspections and upkeep. Here are some steps to take to keep LED lighting systems in good working condition, prevent malfunction, and extend their lifespan.

I. Maintenance schedule: The frequency of maintenance tasks will depend on the specific lighting system, its environment, and usage. As a general rule, LED fixtures should be inspected and cleaned at least once every six months. Tasks should be performed more frequently in high-traffic areas or in environments with excessive dust and debris.

II. Record keeping: It is also important to keep accurate records of all maintenance tasks performed on the lighting system. This information can be used to track the performance of the system, identify any trends or patterns, and schedule future maintenance tasks.

For a more detailed preventative maintenance plan, visit the Resource Center in our website at bigshineled.com/resources.


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# DEFINITIONS

### LM-80 Testing
The LM-80 test method that measures the lumen maintenance, or long-term light output, of an LED light source over a period of time. Big Shine LED fixtures are tested at three different temperatures for at least 6,000 hours and up to 10,000 hours. By measuring the LED's light output at regular intervals during this extended period, the LM-80 test can determine how the performance of the LED degrades over its lifespan. To obtain test results for individual Big Shine LED fixtures, visit our website or contact us at info@bigshineled.com.

### TM-21 Method
TM-21 is a method for projecting the lumen maintenance and lifespan of an LED light source based on data collected from LM-80 testing. The data collected during the LM-80 testing must show a stable trend in lumen maintenance. The TM-21 calculates a decay rate based on the data, which shows how quickly the LED's brightness is diminishing over time. The TM-21 sets a limit on how far the projected lifespan can be estimated base on the LM-80 data. The lifespan cannot exceed six times the duration of the LM-80 testing. The extrapolation limit ensures that predictions made by the TM-21 are based on solid data and do not exceed too far beyond the actual testing period.

### L70 Rating
The L70 is a measure of an LED's longevity. It represents the time it takes for the LED's brightness or lumen output to drop to 70% of its original level. In other words, it estimates how long the LED will last before it dims significantly.

### L90 Rating
The L90 rating is similar to the L70 rating, but it measures a different level of light output maintenance in LEDs. This measures the time it takes for an LED light source to decrease to 90% of its original brightness or lumen output. It's a stricter standard compared to the L70 because it represents a higher level of light output maintenance. This rating is important for applications where higher light levels must be maintained for a longer period of time.

### Total Harmonic Distortion (THD)
The Total Harmonic Distortion is a measure of the distortion in the electrical current caused by non-linear loads. THD is expressed as a percentage and represents the deviation of the current waveform from a perfect sinusoidal wave. Lower THD percentages in LED improve energy efficiency as the fixture has less wasted energy. It also extends the life of the LED fixture and other connected devices in a building's electrical system as less heat is generated in the electrical wiring and components, reducing the risk of overheating. Lower THD also improves power quality, causes less interference and enhances the reliability of the entire electrical system. To better understand the benefits of lower THD in LED fixtures, visit our website at bigshineled.com.

### Power Factor
A higher power factor in LED fixtures means the fixture uses electrical power more efficiently. Less power is wasted in the form of reactive power, so the lighting system consumes less electricity overall. A higher power factor also improves the overall power quality of the electrical system, resulting in a more stable and consistent power supply, which benefits other devices connected to the same electrical network. Other benefits include reducing the load on the electrical grid, reducing heat generation, and enhancing the lifespan of all equipment on the system. For more details on power factor, visit our website at bigshineled.com.

### Efficacy
The efficacy in an LED fixture refers to how efficiently the  light converts electrical power into visible light. It's typically measured in lumens per watt, indicating how much light is produced for each watt of electricity used.

### Luminous Flux
Luminous flux is the total amount of visible light emitted by a light source, measured in lumens. It represents the overall brightness of the light produced.

### Dominant Peak Wavelength
It represents the wavelength that contributes most to the perceived color of the light source.

### Full Width at Half Maximum (FWHM)
It is a measure of the spectral bandwidth of a light source. Specifically, it is the width of the spectral curve at half of its maximum intensity. A narrower FWHM indicates a more focused spectral distribution, while a wider FWHM suggests a broader spectral distribution.


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