1. Introduction of LED PL-L Lamp

LED PL-L lamps are assembled by using the highest grade SMD LEDs and components to ensure reliability and efficient heat management to ensure optimal levels of light. Integrated constant current LED driver generates less heat and lengthens the life of the lamp. Designed to replace conventional PL-L lamps, PL-L will easily outperform its predecessor, offering up to 36,000hrs lamp life, high lumen output, low power consumption and better quality light. And it can be a direct replacement for lamps that you use at this moment in time. Extremely bright, high Ra-color rendering index, it’s the latest indoor illumination product. No need to use ballast and starter, and no flicker.

1.1 Physical Dimension:

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>41.4mm</td>
<td>41.4mm</td>
<td>41.4mm</td>
<td>41.4mm</td>
<td>41.4mm</td>
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<tr>
<td>L</td>
<td>210.1mm</td>
<td>310.1mm</td>
<td>404.1mm</td>
<td>526.1mm</td>
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<tr>
<td>L1</td>
<td>217mm</td>
<td>317mm</td>
<td>411mm</td>
<td>533mm</td>
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<tr>
<td>L2</td>
<td>197.4mm</td>
<td>297.4mm</td>
<td>391.4mm</td>
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<tr>
<td>L3</td>
<td>144.4mm</td>
<td>244.4mm</td>
<td>338.4mm</td>
<td>460.4mm</td>
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</table>
1.2 Two Beam Angle for Selection:

Default: 220°

Optional: 140°

2. PL-L Lamp Features

High Luminous Efficiency

We used top-brand LED chip package for this PL-L Lamp. In structural design, a unique optical mixed astigmatism technology ensures non-point source and soft light.

Quality of light

adopts constant-current output power to fully guarantee the long life span and stable performance of the products. By using the excellent leds with wonderful color rendering index, high lumen maintain rate, no-flicker trait.

Fantastic Design

This PL-L lamp was designed with 2 beam angle: 140° and 220°, more flexible for you to choose the idea illuminant.

Low lumen depreciation

The white light is adopting new technology, less than 3% light decay in 3000 hours, about 10% to 15% in 20,000 hours and 30% in 36,000 hours.

Environmentally responsible

This environmentally responsible LED system complies with RoHS standards, CE. Shine Lighting contains no lead, mercury or glass, so handling and disposal are less of a concern. What is more, it is higher as efficient as our previous cabinet light, effectively delivering more lumens per watt.

2.1. Absolute Maximum Ratings

<table>
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<tr>
<th>Item</th>
<th>Unit</th>
<th>Minimum</th>
<th>Standard</th>
<th>Maximum</th>
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<tbody>
<tr>
<td>Voltage</td>
<td>V</td>
<td>AC 90V</td>
<td>AC 100V/240V</td>
<td>AC 264V</td>
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<tr>
<td>Operating Humidity</td>
<td>%DH</td>
<td>10%</td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Storage Humidity</td>
<td>%DH</td>
<td>10%</td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>℃</td>
<td>-20℃</td>
<td>-20℃-60℃</td>
<td>60℃</td>
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<tr>
<td>Storage Temperature</td>
<td>℃</td>
<td>-40℃</td>
<td></td>
<td>85℃</td>
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</table>
2.2. Color Parameters:

1> Day Light :

X=0.32  Y=0.34  
Tc=5600K-6300K  
**Dominant WL:** 543nm  **Purity:** 5%  **Centroid WL:** 549nm  
**Ratio:** R=13.7%  G=83.3%  B=3%  
**Peak WL:** Lp=450nm  **HWL:** 23.5nm  
**Render Index:** Ra=80

![Day Light Color Parameter Graph]

2> Warm white :

X1=0.44  Y1=0.42  
Tc=2900K-3250K  
**Dominant WL:** 580.5nm  **Purity:** 61.5%  **Centroid WL:** 592nm  
**Ratio:** R=22.6%  G=76.3%  B=1.1%  
**Peak WL:** Lp=590nm  **HWL:** 141.7nm  
**Render Index:** Ra=80

![Warm White Color Parameter Graph]
2.3. Parameters:

<table>
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<tr>
<th>Model</th>
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<tr>
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<tr>
<td>Led Qty</td>
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<td>60</td>
<td>80</td>
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<td>120</td>
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<td>Lumen</td>
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<td>CRI</td>
<td>80Ra</td>
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<td>&gt;0.92</td>
<td>&gt;0.92</td>
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</table>

1> 12W PL-L Lamp Illuminance and Distribution Curve

Figure 2.3.1.1 12W day light PL-L lamp illuminance

Figure 2.3.1.2 12W warm light PL-L lamp illuminance

Figure 2.3.1.3 12W daylight PL-L lamp Isolux curve at the height of 2.5m

Figure 2.3.1.4 12W daylight PL-L lamp distribution curve
2> 16W PL-L Lamp Illuminance and Distribution Curve

Figure 2.3.2.1 16W daylight PL-L lamp illuminance
Figure 2.3.2.2 16W warm light PL-L lamp illuminance

Figure 2.3.2.3 16W daylight PL-L lamp Isolux curve at the height of 2.5m
Figure 2.3.2.4 16W daylight PL-L lamp distribution curve

3> 20W PL-L Lamp Illuminance and Distribution Curve

Figure 2.3.3.1 20W daylight PL-L lamp illuminance
Figure 2.3.3.2 20W warm light PL-L lamp illuminance
3. Wiring Diagram

Remove the traditional ballast (for both electronic & magnetic ballast) before installing the PL-L lamp. Connecting wires as below:

4. Application

Applications: LED PL-L lamps are extensively applied in situations where traditional fluorescent lamps would normally be used. It can be used in almost all kinds of circumstances that need light, such as factories, hotels, stores, offices, and so on.

5. Attention

1. Please maintain normal voltage required
2. The outside temperature, when it is working, should be maintained between -20°C and 60°C
3. Storage temperature should be maintained at -40 to +85°C
4. Please do not use in the moist or corrosive environment.
5. Please use it according to the instruction and avoid electric shock. Laypeople do not mount or take down.
6. LED PL-L lamp and all of its components must not be subjected to mechanical stress.
7. The complete installation must be done by an electrical expert who is familiar with the valid directives.
8. If any doubt about the installation or use of this product, consult a competent electrician.
9. Don’t use it if aluminum of the PL-L lamp has any damage or distortion. Otherwise, the product or the installation might not be sufficiently safe!
10. Switch off power of the mains supply or respectively of the connection lead before doing any works.
11. Assembly must not damage or destroy conducting paths.
12. Make sure that the product is mounted on a stable, even and tilt-fixed background.
13. Keep away from direct sunshine and high temperature.
14. Indoor use only.