



# TAT120015AC8XX TJT120015AC8XX

## 120VAC Round LED Engine and LED Engine Retrofit Kit

- High density, high brightness chip array.
- 120V AC dedicated Input.
- LED Engine with Integrated AC Direct Driver. No DC Driver.
- Available in standard CCT's
- 80 CRI standard and 90 CRI available
- UL Recognized AC Engine Component
- UL Classified AC Retrofit Kit
- Energy Star Listed Luminaire 2.0

### General Ratings

|  |  |
|--|--|
| Input Voltage                              | 120VAC (108~132VAC); 50/60 Hz  |
| Input Current                              | ~.13A  |
| Input Power                                | 15WAC Nominal  |
| Input PF                                   | > 0.97   |
| THD  | < 20%  |
| Max Lumen Output @ Full Power              | 1350 lumens @ 4000K / 80 CRI*  |
| Beam Angle                                 | 120°   |
| CRI  | 80 (standard), 90  |
| Operating Ambient Temperature Range (Ta)   | Engine: -35 to +50°C   |
| Maximum Engine Case Temperature (Tc) Plate | 73°C / 163°F <b>Note:</b> Exceeding max will void warranty and reduce product life                             |
| Estimated Lumen Maintenance (L70)          | 50,000 hours at max Tc Plate   |
| Color Consistency                          | Binning per ANSI C78.377-2008; 4 SDCM  |
| Overall Size                               | 6.5" diameter x 0.56" H  |
| Weight                                     | .41 lbs  |
| Maximum Screw Installation Torque          | 35 inch - ounces   |
| Safety/Compliance                          | Engines: E477266 cURus<br>Kits: E365124 cULus<br>RoHS Compliant<br>Dry Location<br>IC Over Temperature Control |
| Protective Lens                            | Clear Polycarbonate  |
| PCB Material                               | MCPCB  |
| Warranty                                   | 5 years  |

**Caution:** Fulham recommends the Hi-pot test is performed with DC voltage on the AC Engines. See Notes on page 4.

\* At Tc Engine = 25°C



**CAUTION: THIS LUMINAIRE HAS BEEN MODIFIED TO OPERATE LED LAMPS. DO NOT ATTEMPT TO INSTALL OR OPERATE FLUORESCENT LAMPS IN THIS LUMINAIRE.**



AC Engine Retrofit Kit  
only: Hardware and Labels



TAT120015AC8XX  
TJT120015AC8XX

## Part Number Matrix

**T A T 120 015 AC 8 XX**



Compliance  
A = AC Engine

Engine Input Voltage  
120\* = 120VAC

Engine Input Power  
015\* = 15W

Configuration  
8 = 80 CRI

Color Temperature

27 = 2700K  
30\* = 3000K  
35 = 3500K  
40\* = 4000K  
50 = 5000K



\*\*J = AC Engine  
Retrofit Kit Classified



\* Indicates standard engine options. All others are built to order.

\*\* AC Engine Kits (TJ) is only intended for closed type luminaires; the diffuser must be made of glass.

## Electrical and Optical Specifications

| Color Temperature | LED Engine Part Number           | Input Power | Nominal Luminous Flux @ 90 CRI | Nominal Luminous Flux @ 80 CRI | Engine Efficacy @ 80 CRI |
|-------------------|----------------------------------|-------------|--------------------------------|--------------------------------|--------------------------|
| 3000K             | TAT120015AC830<br>TJT120015AC830 | 15W         | 1020                           | 1275                           | 85 lm/W                  |
| 4000K             | TAT120015AC840<br>TJT120015AC840 | 15W         | 1080                           | 1350                           | 90 lm/W                  |

1) Electrical and optical specifications are based on Tc Plate = 25°C / 77°F.

2) Standard lumen output and efficacy is calculated for standard options. Reference CCT vs Lumen Output chart for lumen ratio calculation.

3) Specifications are subject to change without notice.

## Thermal Specifications

|                                     | AC LED Engine         | AC LED Engine Retrofit Kit*** |
|-------------------------------------|-----------------------|-------------------------------|
| Storage Temperature Range           | -35 to 100°C          | -35 to 100°C                  |
| Operating Ambient Temperature Range | -35 to 45°C           | -35 to 40°C                   |
| Maximum Case Temperature (Tc) Plate | Engine : 73°C / 163°F |                               |



Tc Plate

Tc Plate located on engine

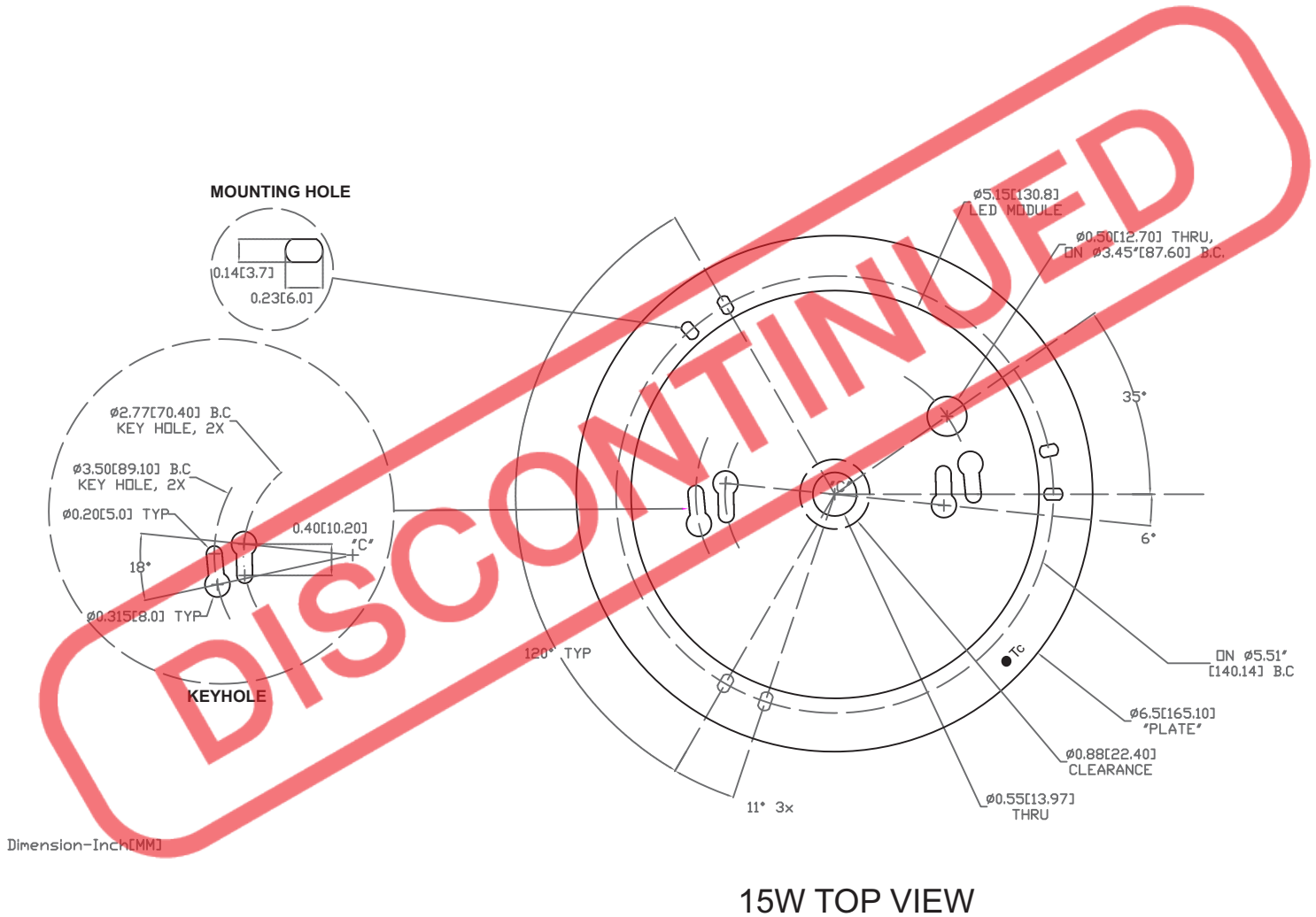
\*\*\*\*Suitable for ceiling luminaire with minimum dimensions: 10.5" diameter with a height of 1.3".

Refer to LED Engine Retrofit Kit Installation Instructions for further detail.



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**Mechanical Drawings**





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## Termination Notes

- If connectors are used, use stranded wire size 24 – 18 AWG, rated at a minimum 200V, minimum 105°C, and stripped to length between 6-7 mm (0.24-0.28 inches).

## Fastening Notes

- When installing by “mounting holes” (recommended), use any screw with diameter less than 0.14in. [3.6mm]. Mount on a flat surface and use all 3 mounting holes to ensure good contact between back side of Engine and mounting surface. Refer to max specified torque for installation. Suggested screw sizes: #6 or M3.5 Pan Head screw.

## Electrostatic Sensitive Product (ESD)

- Fulham LED products should be handled with proper measures to protect against any potential ESD damage.
- When servicing, personnel should be grounded and direct contact with LED should be avoided.

## Thermal Management

- Proper thermal management must be employed to ensure life and reliability of product.
- Use of thermal grease, paste, pad, or other thermally conductive interface is highly recommended.

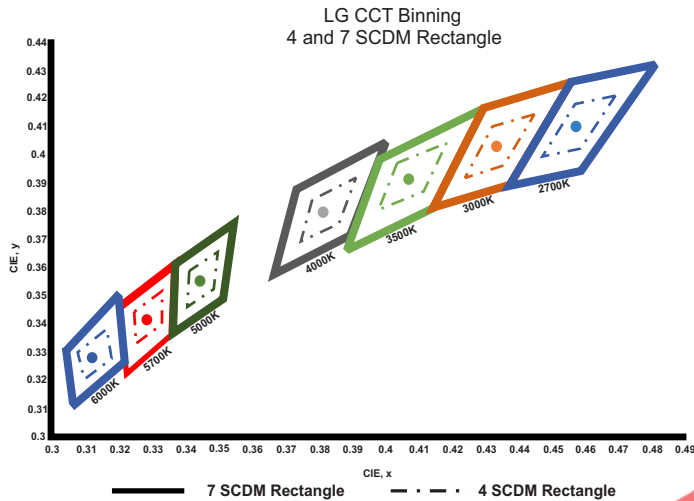
## Recommendations for Hi-pot Testing

- Fulham recommends NOT to use AC voltage during Hi-pot test. AC Hi-pot voltage conducts leakage current through stray capacitances. As a result, components within the AC Engine could be damage even without any breakdowns being observed during AC Hi-pot testing.
- Fulham recommends to use DC voltage during Hi-pot Test. With DC voltage minimal leakage current occurs, making it safer for the components.
- Contact your Fulham representative if further clarification is needed.



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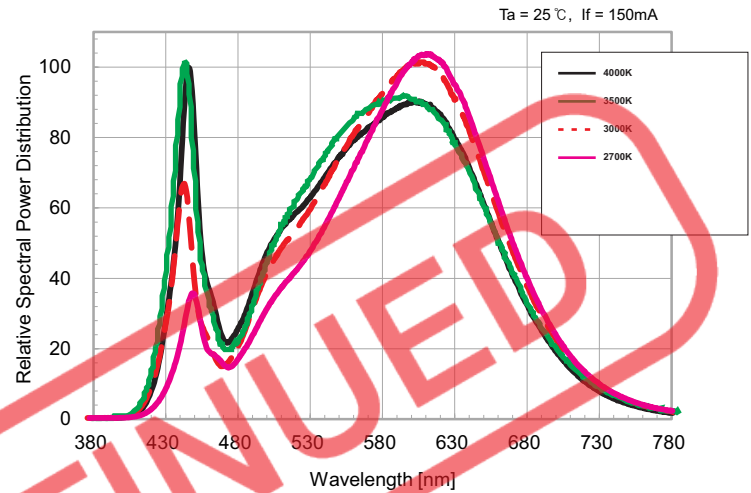
## Color and Binning



Ref. LG Chromaticity Diagram  
For reference only. For more detailed info, contact factory.

## Optical Spectrum\*\*\*

■ Spectrum



\*\*\* Value varies depending on product type and color rank  
Ref. LG 3030N  
LED Catalogue 2015  
For reference only. For more detailed info, contact factory.

## Thermal De-Rating

## CCT vs Luminous Flux

| Ambient Temperature (Ta) | Thermal De-rating Multiplier |
|--------------------------|------------------------------|
| 25°C                     | 1                            |
| 30°C                     | 0.991                        |
| 35°C                     | 0.989                        |
| 40°C                     | 0.980                        |
| 45°C                     | 0.975                        |
| 50°C                     | 0.970                        |
| 55°C                     | 0.960                        |
| 60°C                     | 0.950                        |

| CCT   | Luminous Flux Ratio |
|-------|---------------------|
| 2700K | 0.87                |
| 3000K | 0.93                |
| 3500K | 0.96                |
| 4000K | 1.00                |
| 5000K | 1.07                |

Ref. LG 3030N  
LED 3030N Spec Sheet  
For reference only. For more detailed info, contact factory.

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