

## Product Overview

An electrically isolated star capable of delivering over 500 lumens, the Endor Star combines high brightness with ease of integration into fixtures and OEM applications. The LUXdrive Endor Star<sup>TM</sup> features the LUXEON<sup>®</sup> Rebel emitter, and a footprint compatible with the LUXEON<sup>®</sup> Star. Inherent electrical isolation means thermal interface materials are not required to be electrically insulative. The Endor Star<sup>TM</sup> is available in ANSI binned white from 2700K to 6500K, red, blue, green, and amber configurations. The Endor Star<sup>TM</sup> is also available in an RGB tri-emitter configuration.



## Features

- Electrically isolated heat sinking surface
- Pb free reflow solder connections
- RoHS Compliant
- Autoclave compliant JESD22 A-102
- Thin, low profile package
- Simple, clearly marked electrical connections
- Superior life span and reliability
- Energy efficient
- Easy mounting

## Typical Applications

- Solar & Landscape Lighting
- Architectural Lighting
- General Illumination
- Automotive & Marine Lighting
- Point of Purchase Lighting
- Signal & Marker Lighting
- Cabinet & Display Case Lighting
- Sign Lighting
- Flashlights

MADE IN  
  
U. S. A.



## Luminous Flux

The Endor Star<sup>TM</sup> is available with a single or tri-emitter configuration. The color code and luminous flux figures are adapted from the LUXEON<sup>®</sup> Rebel data sheet.

**Table 1**  
**Typical Luminous Flux at LED Thermal Pad Temperature of 25°C**

| Part Number  | Color            | CRI    | Number of LEDs | Typ. Lumens at 350mA | Typ. Lumens at 700mA |
|--------------|------------------|--------|----------------|----------------------|----------------------|
| 7040-PW765-N | 6500K White      | 70 typ | 1              | 105                  | 180                  |
| 7007-PW765-N | 6500K White      | 70 typ | 3              | 315                  | 540                  |
| 7040-PW757-N | 5700K White      | 70 typ | 1              | 105                  | 180                  |
| 7007-PW757-N | 5700K White      | 70 typ | 3              | 315                  | 540                  |
| 7040-PW750-N | 5000K White      | 70 typ | 1              | 105                  | 180                  |
| 7007-PW750-N | 5000K White      | 70 typ | 3              | 315                  | 540                  |
| 7040-PW740-N | 4000K White      | 70 typ | 1              | 105                  | 180                  |
| 7007-PW740-N | 4000K White      | 70 typ | 3              | 315                  | 540                  |
| 7040-PW835-L | 3500K White      | 85 typ | 1              | 80                   | 135                  |
| 7007-PW835-L | 3500K White      | 85 typ | 3              | 240                  | 405                  |
| 7040-PW835-K | 3500K White      | 85 typ | 1              | 75                   | 125                  |
| 7007-PW835-K | 3500K White      | 85 typ | 3              | 225                  | 375                  |
| 7040-PW830-K | 3000K White      | 85 typ | 1              | 77                   | 130                  |
| 7007-PW830-K | 3000K White      | 85 typ | 3              | 230                  | 390                  |
| 7040-PW827-K | 2700K White      | 85 typ | 1              | 73                   | 125                  |
| 7007-PW827-K | 2700K White      | 85 typ | 3              | 225                  | 375                  |
| 7040-PW827-J | 2700K White      | 85 typ | 1              | 65                   | 115                  |
| 7007-PW827-J | 2700K White      | 85 typ | 3              | 195                  | 350                  |
| 7007-PRGB0-0 | Red, Green, Blue | N/A    | 3              | N/A                  | N/A                  |
| 7040-PD000-G | Red              | N/A    | 1              | 45                   | 85                   |
| 7007-PD000-G | Red              | N/A    | 3              | 135                  | 255                  |
| 7040-PM000-N | Green            | N/A    | 1              | 105                  | 180                  |
| 7007-PM000-N | Green            | N/A    | 3              | 315                  | 540                  |
| 7040-PB000-E | Blue             | N/A    | 1              | 26                   | 48                   |
| 7007-PB000-E | Blue             | N/A    | 3              | 80                   | 144                  |
| 7040-PL000-F | Amber            | N/A    | 1              | 35                   | 65                   |
| 7007-PL000-F | Amber            | N/A    | 3              | 105                  | 195                  |

Custom units available upon request. Contact LUXdrive for additional details.

See LUXEON<sup>®</sup> Rebel data sheet for more details

## Part Number Identification

The part number is explained below:

70xx- P B C DD - E

Where:

7040 designates the LUXdrive Product ID for an optically centered LED board

7007 designates the LUXdrive Product ID for a three LED board

P designates Radiation Pattern (P for Lambertian 120° typ)

B designates LED color (W= White, D= Red, M=Green, B=Blue, L=Amber)

C designates CRI value (7= 70 typ, 8=85 typ, 0 for direct color variants)

DD designates Color Variant (30=3000K White, 40=4000K White, 50=5000K White, 00 for direct color variants)

E designates Typical Luminous Flux (D=20 Lumens, F=35 Lumens, H=55 Lumens, J=65 Lumens, K=75 Lumens, L=85 Lumens, N=105 Lumens, 0 for RGB)

## Temperature Ratings

Table 2

| <b>Color</b> | <b>Number of LEDs</b> | <b>Thermal Resistance<br/>(LED junction to bottom<br/>of MCPCB)</b> |
|--------------|-----------------------|---------------------------------------------------------------------|
| White        | 1                     | 12°C/W                                                              |
| White        | 3                     | 6.3°C/W                                                             |
| RGB          | 3                     | 7°C/W                                                               |
| Red          | 1                     | 15°C/W                                                              |
| Red          | 3                     | 7°C/W                                                               |
| Green        | 1                     | 12°C/W                                                              |
| Green        | 3                     | 6.3°C/W                                                             |
| Blue         | 1                     | 12°C/W                                                              |
| Blue         | 3                     | 6.3°C/W                                                             |
| Amber        | 1                     | 15°C/W                                                              |
| Amber        | 3                     | 7°C/W                                                               |

Storage Temperature..... <135°C

Recommended Operating Temperature (T<sub>opr</sub>)..... <135°C<sup>3</sup>

See LUXEON® Rebel data sheet for more details

<sup>3</sup> Junction temperature

## Drivers

LUXdrive offers a line of drivers designed for use with high-power LED modules such as the Endor Star<sup>TM</sup>. The choice of driver will depend upon number of modules to be driven, the input voltage source, and the desired forward drive current. See the full line of LUXdrive products at [www.LUXdrive.com](http://www.LUXdrive.com)

## Heat Sinking and Mounting

The Endor Star<sup>TM</sup> has six mounting points for #4 screws. It should be attached to additional heat sinking for proper thermal management. At minimum, a heat sink of a metal plate (copper or aluminum), attached using a thermal interface material, (such as LUXdrive HexaTherm<sup>TM</sup> A001), should be used to increase the area exposed to free air. The Endor Star<sup>TM</sup> Metal Core Printed Circuit Board has a backing plate that is electrically isolated from the emitter. It is not necessary to use an electrically insulated thermal interface material.

Table 3

| Part Number | Description                              | Number of Parts | Compatible With |
|-------------|------------------------------------------|-----------------|-----------------|
| A001-010H   | HexaTherm <sup>TM</sup> Thermal Adhesive | 10              | 7007 & 7040     |
| A001-150H   | HexaTherm <sup>TM</sup> Thermal Adhesive | 150             | 7007 & 7040     |

## Optics

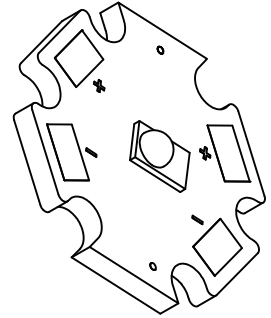
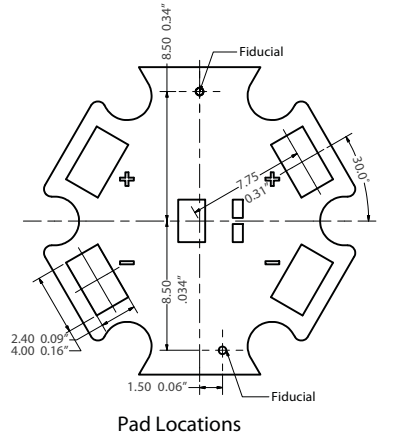
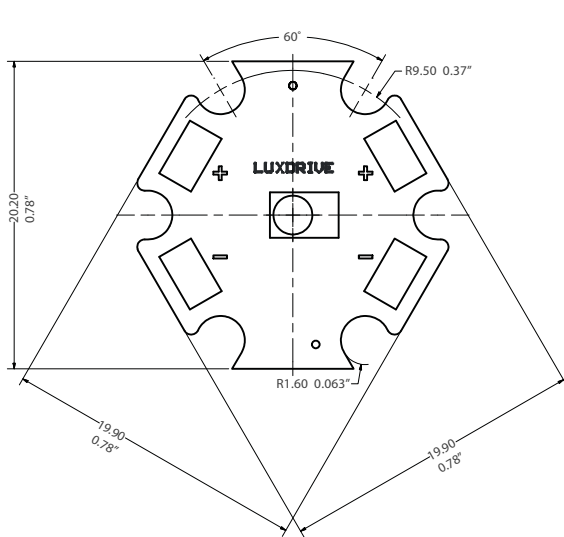
The Endor Star<sup>TM</sup> can be fitted with many different optics from major optics manufacturers. On the 7040 there are four indentations on the board, designed as registration holes for the Carclo1041x series of optics. These small 10mm optics are available in multiple viewing angles and work extremely well in applications where a low profile is desired.

On the 7007 there are three holes in the board, designed to hold the Carclo CO-105xx series of optics. These 20mm optics are available in multiple viewing angles 16°, 22°, 26°, 37°, and 43 x 16°.

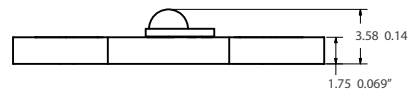
Table 5

| TYPE              | Part Number | Description    | Number of LEDs | Full Width Viewing Angle | Compatible With |
|-------------------|-------------|----------------|----------------|--------------------------|-----------------|
| Endor Star Optics | CO-10507    | Narrow Spot    | 3              | 16°                      | A008            |
|                   | CO-10511    | Frosted Narrow | 3              | 22°                      | A008            |
|                   | CO-10508    | Frosted Medium | 3              | 26°                      | A008            |
|                   | CO-10509    | Frosted Wide   | 3              | 37°                      | A008            |
|                   | CO-10510    | Elliptical     | 3              | 43° x 16°                | A008            |

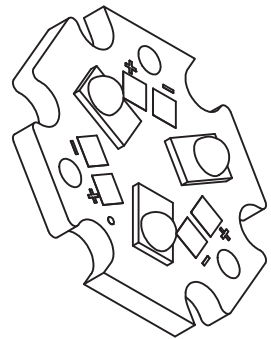
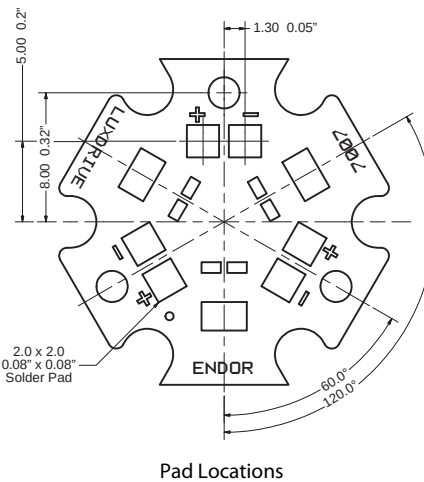
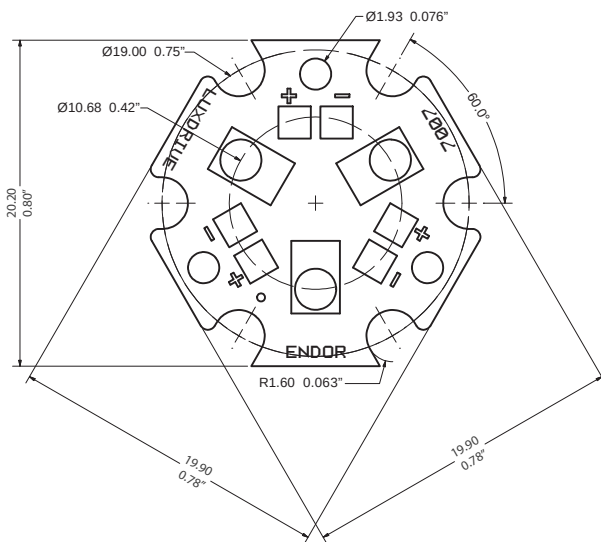
## Physical Dimensions



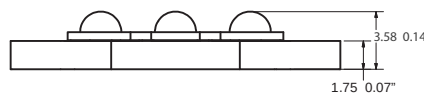
Pad Locations



**Figure 1**  
**7040 1-up**



Pad Locations



**Figure 2**  
**7007 3-up**