

# LED Module - Luminus SST-20

Power of Luminus in standard and custom LED modules

# Data Sheet

Version 1.0

## Lean & Fast. Made Smarter.

**Design Faster** – use standard modules to shorten development time

**Superior Performance** – stay current with the top flux bin LEDs

**Maximum Flexibility** – use off-the-shelf optics and drivers

**Innovation** – work with NewEnergy on your custom solution

## Primary Applications



Horticulture  
High Mast  
Streetlight  
Stadium  
Architectural  
Canopy  
Garage  
Portable  
High bay



## Superior Performance in Standard & Custom Modules

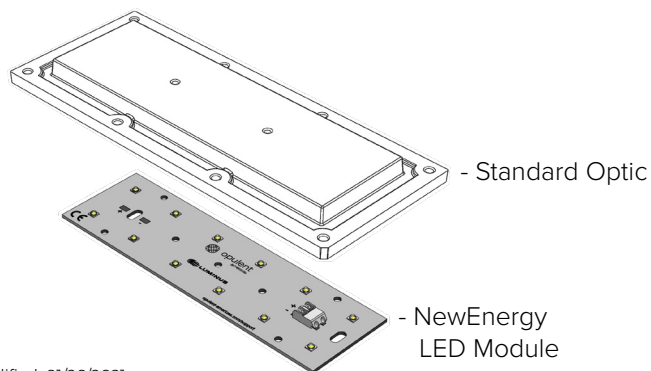
- Up to 180 lumen per watt when driven at 350mA
- 70 and 95 CRI LEDs available
- Metal core PCB for optimal thermal management
- Configurable with off-the-shelf optics
- Talk to NewEnergy about your custom or private label designs

## Simplify Your Next Design

The Luminus SST-20 modules are an off-the-shelf platform to rapidly move from prototype to finished LED lighting fixture. These competitively priced modules come in a range of lumen outputs.

## Custom Solutions

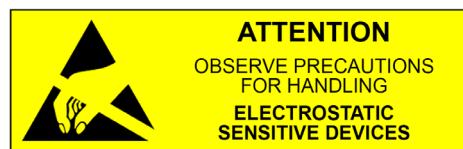
NewEnergy operates facilities globally with ISO certifications for the LED lighting, automotive and medical industries. Our North Carolina based office provides quick engineering & sales support with a R&D lab for prototype development and custom solutions. Our in-house global manufacturing capabilities allow for both building in the United States as well as overseas at scale.



## About NewEnergy

NewEnergy accelerates the adoption of LED technology through simple, modular products and custom designs. Through 30 years of experience, state of the art manufacturing, full traceability and advanced quality controls, NewEnergy offers leading solid state lighting components, modules and custom solutions. NewEnergy customers get to market faster, with less resources, at lower costs. Visit [New-EnergyLLC.com](http://New-EnergyLLC.com) for more information.

CE  
RoHS



Last Modified: 01/26/2021

# LED Module Specifications - Luminus SST-20

## Product Selection Table<sup>(1,2)</sup>

| LED Layout   | Part Number        | CCT   | CRI | Luminous Flux (lm) |            | Efficacy Nominal (lm/W) | Watts (W) |                        |
|--------------|--------------------|-------|-----|--------------------|------------|-------------------------|-----------|------------------------|
|              |                    |       |     | Nominal 700mA      | Max 3000mA |                         | Nominal   | Max                    |
| Warm CCT 2x2 | LSR3-04G03-2795-00 | 2700K | 95  | 668                | 1936       | 87                      | 7.6       | 32.8                   |
|              | LSR3-04G03-3095-00 | 3000K | 95  | 720                | 2080       | 94                      | 7.6       | 32.8                   |
|              | LSR3-04G03-3595-00 | 3500K | 95  | 772                | 2224       | 101                     | 7.6       | 32.8                   |
|              | LSR3-04G03-4095-00 | 4000K | 95  | 820                | 2372       | 107                     | 7.6       | 32.8                   |
| Warm CCT 2x6 | LSR3-12G03-2795-00 | 2700K | 95  | 2004               | 5808       | 87                      | 22.9      | 98.3                   |
|              | LSR3-12G03-3095-00 | 3000K | 95  | 2160               | 6240       | 94                      | 22.9      | 98.3                   |
|              | LSR3-12G03-3595-00 | 3500K | 95  | 2316               | 6672       | 101                     | 22.9      | 98.3                   |
|              | LSR3-12G03-4095-00 | 4000K | 95  | 2460               | 7116       | 107                     | 22.9      | 98.3                   |
| Cool CCT 2x2 | LSR3-04G03-5070-00 | 5000K | 70  | 1208               | 3612       | 144                     | 8.4       | 36.0                   |
|              | LSR3-04G03-5770-00 | 5700K | 70  | 1208               | 3612       | 144                     | 8.4       | 36.0                   |
|              | LSR3-04G03-6070-00 | 6000K | 70  | 1264               | 3776       | 150                     | 8.4       | 36.0                   |
|              | LSR3-04G03-6570-00 | 6500K | 70  | 1264               | 3776       | 150                     | 8.4       | 36.0                   |
| Cool CCT 2x6 | LSR3-12G03-5070-00 | 5000K | 70  | 3624               | 10836      | 144                     | 25.2      | 100/108 <sup>(3)</sup> |
|              | LSR3-12G03-5770-00 | 5700K | 70  | 3624               | 10836      | 144                     | 25.2      | 100/108 <sup>(3)</sup> |
|              | LSR3-12G03-6070-00 | 6000K | 70  | 3792               | 11328      | 150                     | 25.2      | 100/108 <sup>(3)</sup> |
|              | LSR3-12G03-6570-00 | 6500K | 70  | 3792               | 11328      | 150                     | 25.2      | 100/108 <sup>(3)</sup> |

<sup>(1)</sup> Product performance based on the typical luminous flux at T<sub>j</sub> = 85°C.

<sup>(2)</sup> NewEnergy may ship modules in flux bins higher than the values specified by the order code without advance notice. Shipments will always adhere to the chromaticity bin restrictions specified by the order code.

<sup>(3)</sup> Input power not to exceed 100W for UL Class 2. Suitability for usage in other than Class 2 circuits shall be determined in the end-product investigation.

# LED Module Specifications - Luminus SST-20

## Order Code Formatting

| Series                                                   | - | LED Count    | LED Code                 | - | Color Temperature | Color Rendering Index | - | Internal Code |
|----------------------------------------------------------|---|--------------|--------------------------|---|-------------------|-----------------------|---|---------------|
| LSR3 - Standard High Power LED PCB Assembly, Rectangular |   | 04 - 4 LEDs  | G03 - Luminus SST-20 LED |   | 27 - 2700K        | 70 - 70 CRI           |   | XX            |
|                                                          |   | 12 - 12 LEDs |                          |   | 30 - 3000K        | 95 - 95 CRI           |   |               |
|                                                          |   |              |                          |   | 40 - 4000K        |                       |   |               |
|                                                          |   |              |                          |   | 50 - 5000K        |                       |   |               |
|                                                          |   |              |                          |   | 57 - 5700K        |                       |   |               |

## Electrical Characteristics

| Part Number              | Forward Voltage (V) |         | Typical Thermal Resistance - Junction to Solder Point (K/W) RTh J-HS |
|--------------------------|---------------------|---------|----------------------------------------------------------------------|
|                          | Nominal             | Maximum |                                                                      |
| LSR3-04x (2700K - 4000K) | 10.92               | 12.4    | 1.8                                                                  |
| LSR3-04x (5000K - 6500K) | 12                  | 13.2    | 1.8                                                                  |
| LSR3-12x (2700K - 4000K) | 32.76               | 37.2    | 1.8                                                                  |
| LSR3-12x (5000K - 6500K) | 36                  | 39.6    | 1.8                                                                  |

Intended for connection to a class 2 power source with a maximum operating voltage of 50 Vdc

## Maximum Ratings

| Part Number              | DC Current (A) | Tsp Temp (°C) | Power (W)              |
|--------------------------|----------------|---------------|------------------------|
| LSR3-04x (2700K - 4000K) | 3              | 105           | 32.76                  |
| LSR3-04x (5000K - 6500K) | 3              | 105           | 36                     |
| LSR3-12x (2700K - 4000K) | 3              | 105           | 98.3                   |
| LSR3-12x (5000K - 6500K) | 3              | 105           | 100/108 <sup>(1)</sup> |

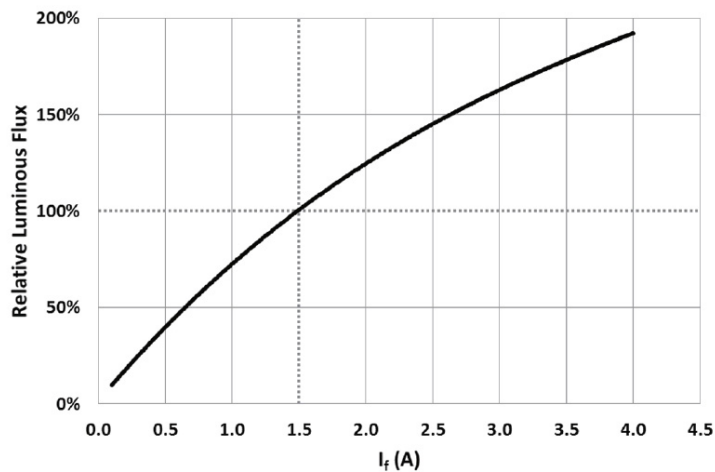
<sup>(1)</sup> Input power not to exceed 100W for UL Class 2. Suitability for usage in other than Class 2 circuits shall be determined in the end-product investigation.

## Board Material Properties

| Property          | Value | Unit |
|-------------------|-------|------|
| Solder Mask Color | White | -    |
| Thickness         | .062  | in   |
| Construction      | AL    | -    |
| Temperature       | 130   | °C   |
| Flame Rating      | V-0   | -    |
| Copper Thickness  | 2     | oz   |

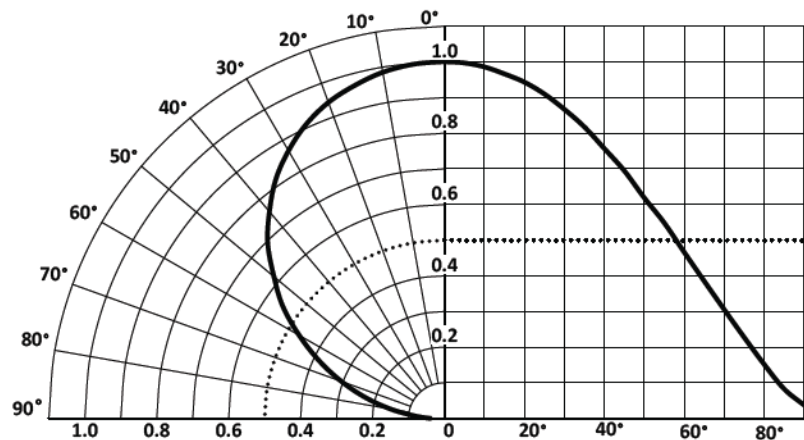
# LED Module Specifications - Luminus SST-20

## Relative Flux vs. Board Current

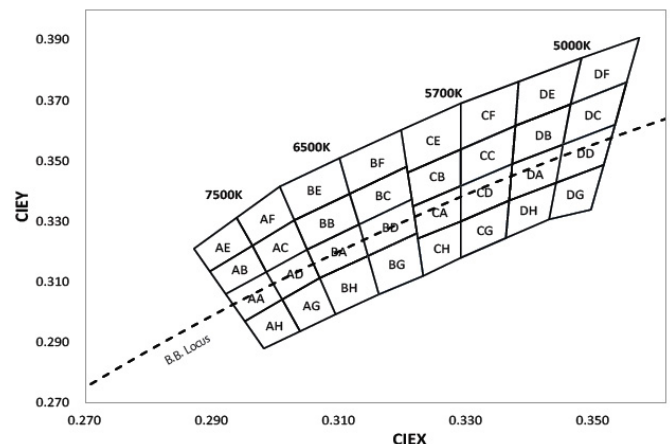
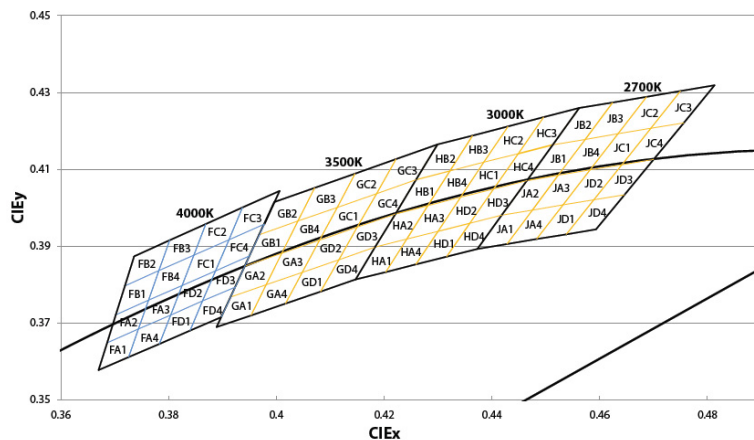


$\phi_v/\phi_v(1.5A)$  Single Pulse 20ms  $T_j = 85^\circ C$

## Spatial Distribution

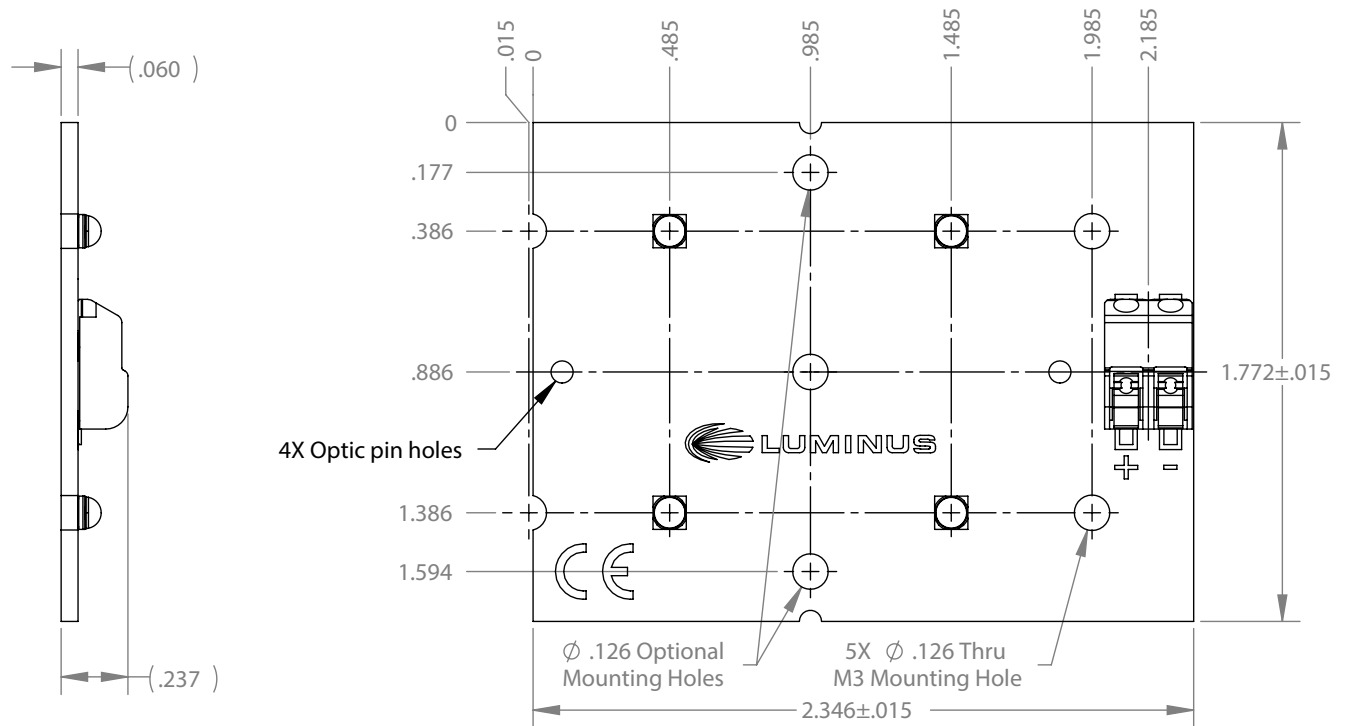


## Standard White Chromaticity Regions

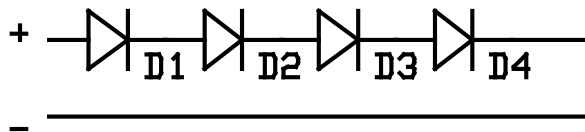


# LED Module Specifications - Luminus SST-20

## NewEnergy Rectangular 4 LED Module



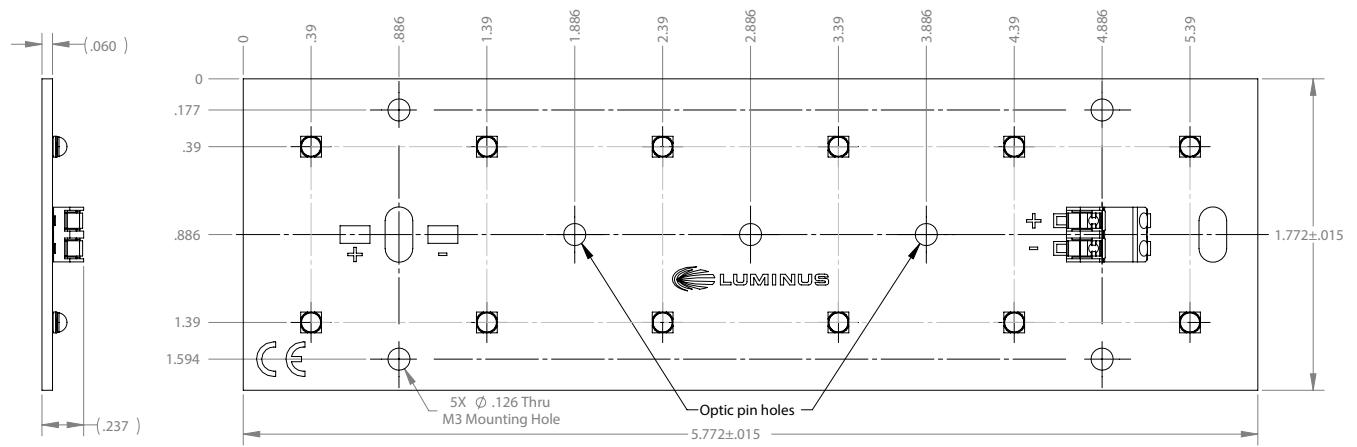
### Schematic



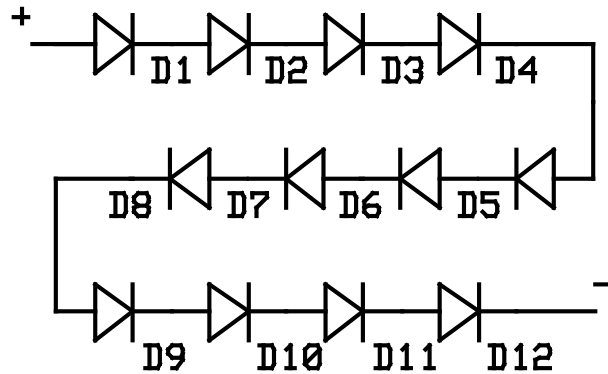
1. Dual Poke-In Connectors accept 18-24 AWG solid or stranded wire
2. Recommended Mounting Hardware: 5x M3-.5 Socket Head Cap Screws

# LED Module Specifications - Luminus SST-20

## NewEnergy Rectangular 12 LED Module



### Schematic



1. Dual Poke-In Connectors accept 18-24 AWG solid or stranded wire
2. Recommended Mounting Hardware: 5x M3-.5 Socket Head Cap Screws