

# Cree Standard XP-G3 LED Module

Power of Cree in Standard and Custom LED modules

# Data Sheet

## Illumination Accelerated

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

**Superior Performance & Cost** – top flux bin LEDs at competitive prices

**Thermal Interface Included** – pre-installed to simplify assembly

**Add Standard Optics** – configured for off-the-shelf optics

## Primary Applications



High Mast	Canopy
Streetlight	Garage
Stadium	Portable
Architectural	High bay



## Superior Performance in Standard & Custom Modules

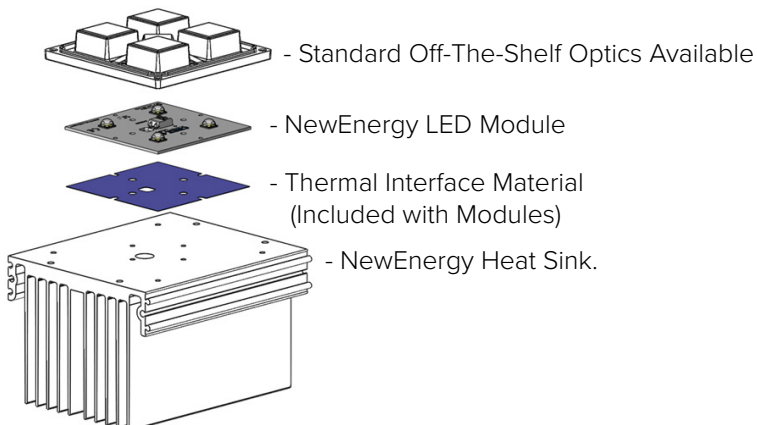
- Market leading L90 & L70 lifetimes, even in high stress conditions
- 70, 80, and 90 CRI LEDs available
- Metal core PCB for optimal thermal management
- Configurable with off the shelf optics, and heat sinks
- Private label or custom designs available

## Simplify Your Next Design

The Cree standard modules are an off-the-shelf platform to rapidly move from prototype to finished LED lighting fixture. The thermal interface is already installed with easy to use connectors to help simplify the lighting design and get to market faster. These competitively priced modules come in a range of lumen outputs and can achieve both DLC Premium or DLC Standard lumens per watt specifications.

## Integrate Further

NewEnergy also offers standard heat sinks and fully assembled IP-rated modules.



## 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.

# XP-G3 Series Specifications

## Product Selection Table

Configuration	LED Layout	Part Number	CCT	CRI	Binning	Luminous Flux (lm)		Efficacy Nominal (lm/W)	Watts (W)	
						Nominal	Max		Nominal	Max
Rectangular <sup>(1)</sup>	2x2	LSR1-04C32-2780-00	2700K	80	5-Step	556	2374	145	3.8	24.5
Rectangular <sup>(1)</sup>	2x2	LSR1-04C32-2790-00	2700K	90	5-Step	456	1947	119	3.8	24.5
Rectangular <sup>(1)</sup>	2x2	LSR1-04C32-3070-00	3000K	70	5-Step	624	2665	163	3.8	24.5
Rectangular <sup>(1)</sup>	2x2	LSR1-04C32-3080-00	3000K	80	5-Step	556	2372	145	3.8	24.5
Rectangular <sup>(1)</sup>	2x2	LSR1-04C32-4070-00	4000K	70	5-Step	656	2802	171	3.8	24.5
Rectangular <sup>(1)</sup>	2x2	LSR1-04C32-4080-00	4000K	80	5-Step	592	2528	155	3.8	24.5
Rectangular <sup>(1)</sup>	2x2	LSR1-04C32-5070-00	5000K	70	5-Step	656	2802	171	3.8	24.5
Rectangular <sup>(1)</sup>	2x2	LSR1-04C32-5080-00	5000K	80	5-Step	624	2665	163	3.8	24.5
Rectangular <sup>(1)</sup>	2x2	LSR1-04C32-5770-00	5700K	70	5-Step	656	2802	171	3.8	24.5
Rectangular <sup>(1)</sup>	2x2	LSR1-04C32-5780-00	5700K	80	5-Step	624	2665	163	3.8	24.5
Rectangular <sup>(1)</sup>	2x6	LSR1-12C32-2780-00	2700K	80	5-Step	1668	7123	145	11.5	73.4
Rectangular <sup>(1)</sup>	2x6	LSR1-12C32-2790-00	2700K	90	5-Step	1368	5841	119	11.5	73.4
Rectangular <sup>(1)</sup>	2x6	LSR1-12C32-3070-00	3000K	70	5-Step	1872	7995	163	11.5	73.4
Rectangular <sup>(1)</sup>	2x6	LSR1-12C32-3080-00	3000K	80	5-Step	1668	7116	145	11.5	73.4
Rectangular <sup>(1)</sup>	2x6	LSR1-12C32-4070-00	4000K	70	5-Step	1968	8405	171	11.5	73.4
Rectangular <sup>(1)</sup>	2x6	LSR1-12C32-4080-00	4000K	80	5-Step	1776	7584	155	11.5	73.4
Rectangular <sup>(1)</sup>	2x6	LSR1-12C32-5070-00	5000K	70	5-Step	1968	8405	171	11.5	73.4
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Rectangular <sup>(1)</sup>	2x6	LSR1-12C32-5780-00	5700K	80	5-Step	1872	7995	163	11.5	73.4

<sup>(1)</sup> Product performance at 350mA T<sub>j</sub> = 85°C.

<sup>(2)</sup> Cree XLamp XP-G3 LED order codes specify only a minimum flux bin and not a maximum. NewEnergy may ship modules in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity bin restrictions specified by the order code.

# XP-G3 Series Specifications

## Order Code Formatting

Series	-	LED Count	LED Code	-	Color Temperature	Color Rendering Index	-	Internal Code
LSR1 - Standard High Power LED PCB Assembly, Rectangular		04 - 4 LEDs	C32 - Cree XPG3		27 - 2700K	70 - 70 CRI		XX
		12 - 12 LEDs			30 - 3000K	80 - 80 CRI		
					40 - 4000K	90 - 90 CRI		
					50 - 5000K			
					57 - 5700K			

# XP-G3 Series Specifications

## Electrical Characteristics

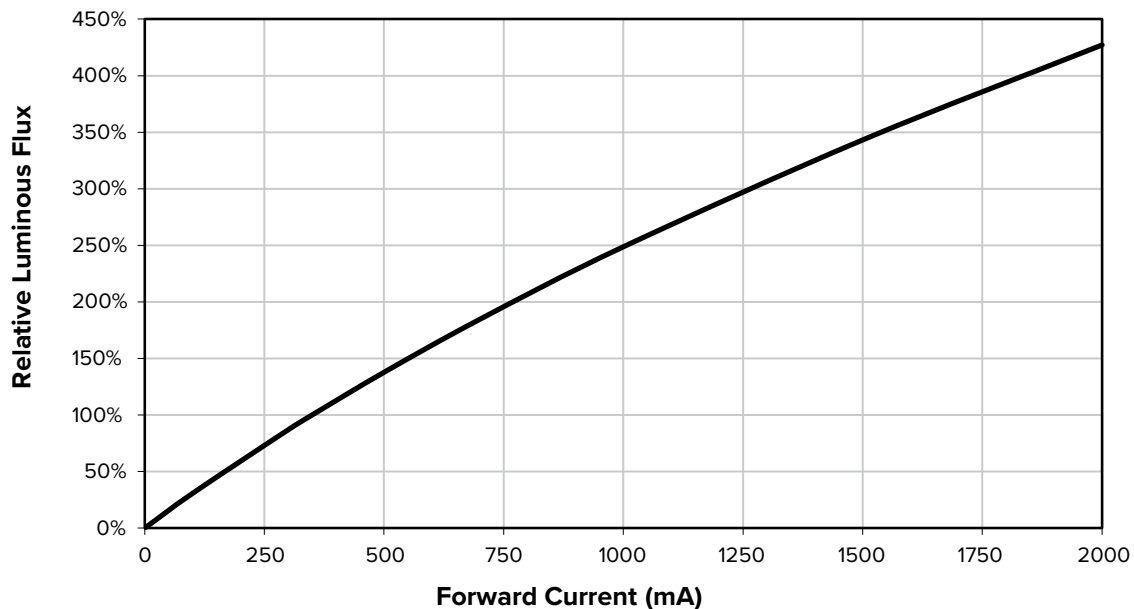
Part Number	Forward Voltage (v)		Typical Thermal Resistance - Junction to Heat Sink (K/W) RTh J-HS
	Typical	Maximum	
LSR1-04x	10.92	12.32	1.8
LSR1-12x	32.76	36.96	1.8

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

## Maximum Ratings

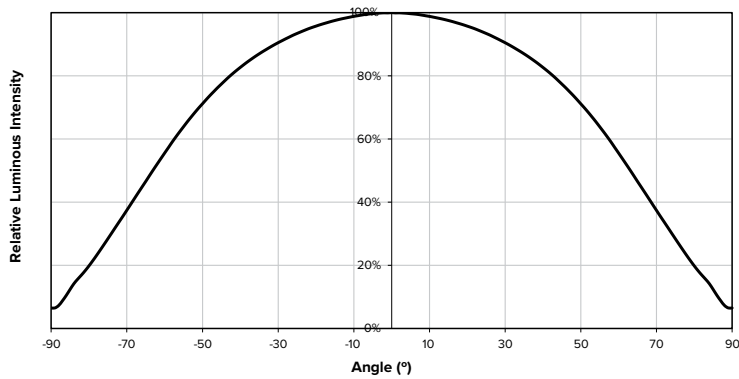
Part Number	DC Current (A)	Tsp Temp (°C)	Power (W)
LSR1-04x	2.00	105	24.5
LSR1-12x	2.00	105	73.4

## Relative Flux Vs Board Current (TJ = 85°C)



# XP-G3 Series Specifications

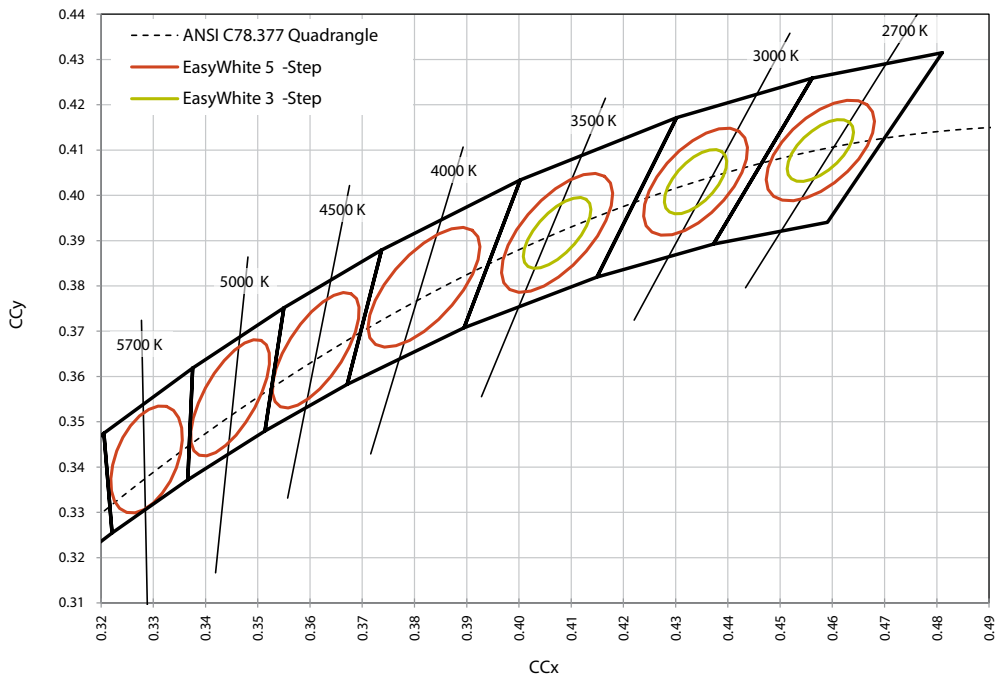
## Spatial Distribution



## Performance Groups – Chromaticity

5-Step Binning					
CCT	Center Point		Major Axis	Minor Axis	Rotation Angle (°)
	X	Y	a	b	
5700K	0.3287	0.3417	0.0123	0.0060	72.0
5000K	0.3447	0.3553	0.0140	0.0052	65.0
4000K	0.3818	0.3797	0.0157	0.0067	53.7
3000K	0.4338	0.4030	0.0139	0.0068	53.2
2700K	0.4577	0.4099	0.0135	0.0070	48.5

## Standard White Chromaticity Regions



# XP-G3 Series Specifications

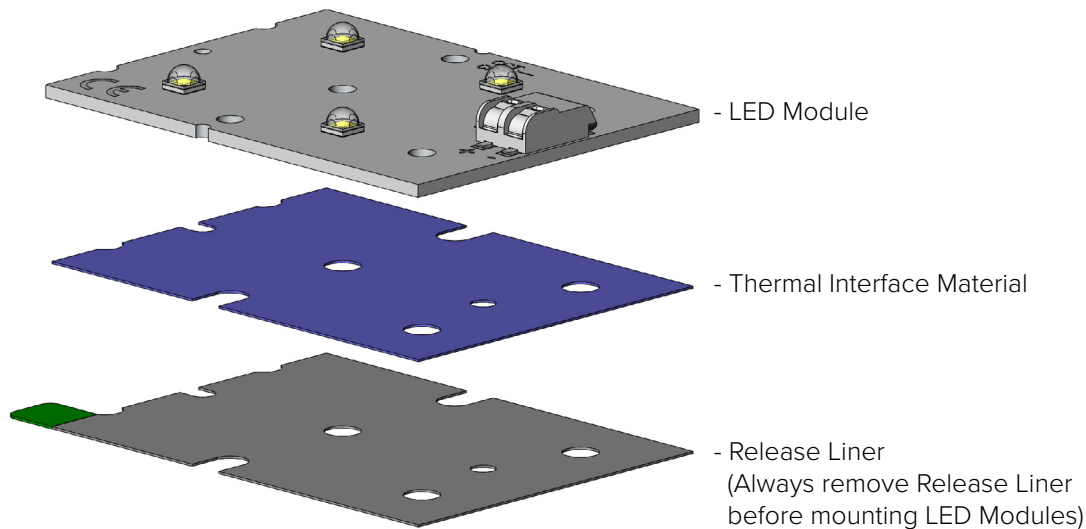
## Thermal Interface Properties

Property	Test Method	Value	Unit
Color	-	Blue	-
Thickness	ASTM D374	0.3	mm
Construction	-	Silicone / Ceramic	-
Temperature Range	EN344	-50-200	°C
Breakdown Voltage	ASTM D149	>8.0	Kv/mm
Flame Rating	UL94	V-0	-
Thermal Conductivity	ASTM D5470	3.0	W/m-K

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

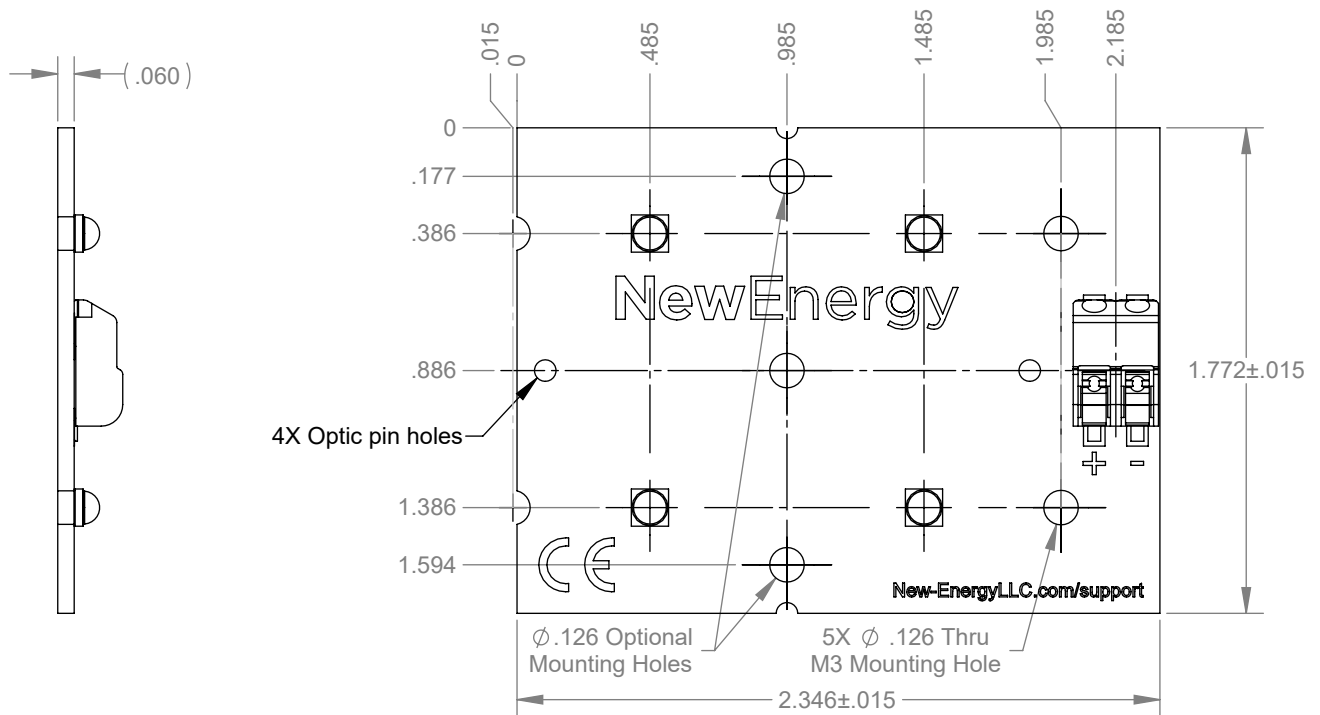
## Board Material Properties

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

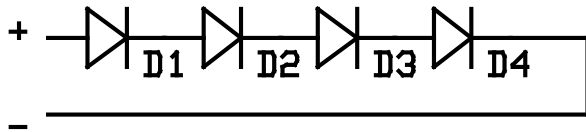


# XP-G3 Series Specifications

## NewEnergy Rectangular 4 LED XP-G3 Module



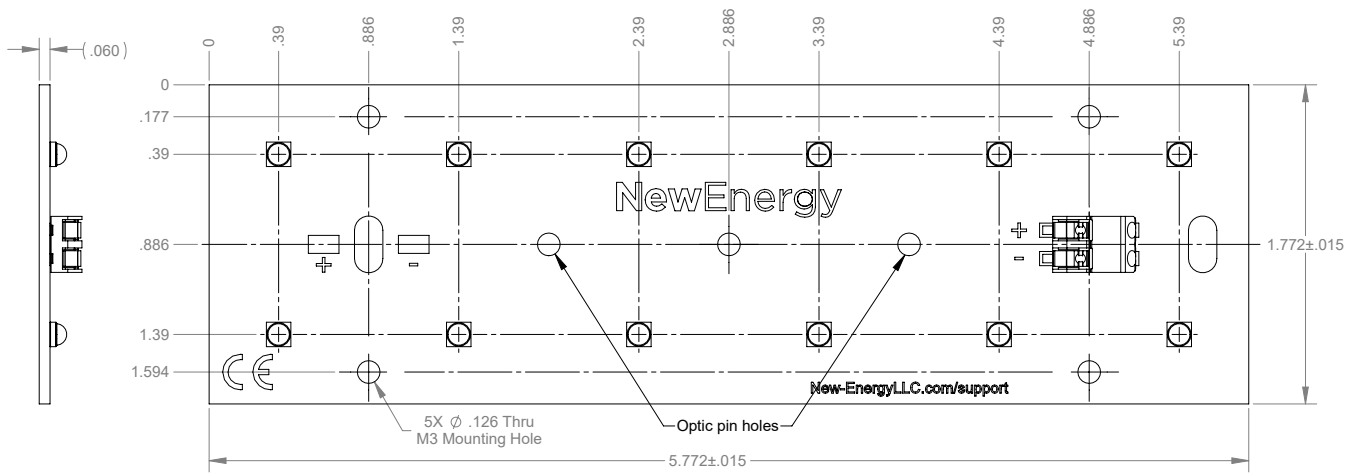
### Schematic



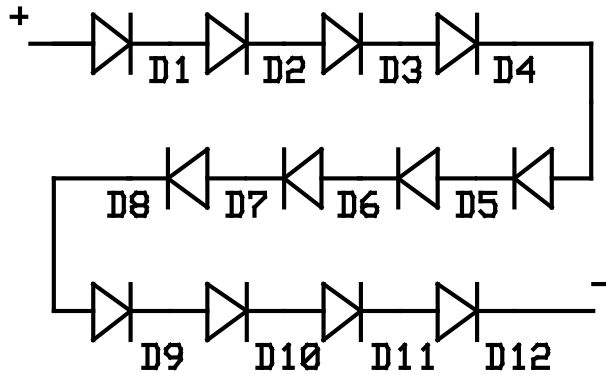
1. Dual Poke-In Connectors accept 18-24 AWG solid or stranded wire
2. Recommended Mounting Hardware: 5x M3-5 Socket Head Cap Screws

# XP-G3 Series Specifications

## NewEnergy Rectangular 12 LED XP-G3 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