

CREE HIGH POWER LED STARS

Industry Leading 1-up & 3-up High Powered LED Stars

PRODUCT DESCRIPTION

The Indus Star™ combines high brightness Cree LEDs with ease of integration into fixtures and OEM applications. The LUXdrive™ Indus Star features industry leading Cree emitters in both 1-up and 3-up designs on a 20mm star. The Cree XP-G3 and XP-L2 are fantastic for white colors, offered in 2700-6500K CCT ranges. The Cree XP-E2 line is still the best emitter for delivering a full color range. Inherent electrical isolation means thermal interface materials are not required to be electrically insulative. LEDdynamics strives to use the highest flux bins that are most readily available, please contact us if you require a specific bin.



Superior Performance

Stay current with the highest intensity LEDs

Design Faster

Standard 20mm starboards to shorten development time

Full Color

Multiple CCT and color options for your application

Quick Connections

Simple, clearly marked electrical connections

PRIMARY APPLICATIONS

- | | | | |
|-----------------|---------------|-----------------|------------|
| ✓ PROTOTYPING | ✓ DIRECTIONAL | ✓ ARCHITECTURAL | ✓ PORTABLE |
| ✓ SURFACE MOUNT | ✓ SPOTLIGHTS | ✓ DOWNLIGHT | ✓ GENERAL |

CUSTOM SOLUTIONS

LEDdynamics operates manufacturing facilities with ISO certifications for the LED lighting industry. Our Vermont based office provides quick engineering & sales support with a R&D lab for prototype development and custom solutions. LEDdynamics' electrical engineers merge LED driver design and LED light module disciplines onto a single PCB to create a cost-saving LED light engine that can be incorporated into any LED light fixture.

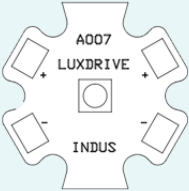
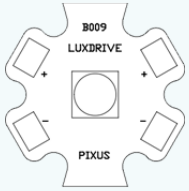
ABOUT LEDDYNAMICS

LEDdynamics accelerates the adoption of LED technology through simple, modular products and custom designs. As an industry innovator, LEDdynamics offers a range of LED drivers, control products, light engines, and modules designed to meet the needs of new product development or retrofit lighting applications. We also specialize in custom engineering and manufacturing services for projects that require a unique form, fit, or function.



CREE HIGH POWER 1-UP STARBOARDS

White Product Selection Guide

STAR DESIGN	CREE LED	PART NUMBER	CCT	CRI	VOLTAGE (V _F)	LUMENS @ 350MA
 <p>Cree XLamp XP Package (3.45mm²) on 20mm Star</p>	XP-L2	A007-CL20830V2	3000K	80	2.79 ¹	400 ¹
		A007-CL20840V3	4000K	80		420 ¹
		A007-CL20750V4	5000K	80		440 ¹
		A007-CL20765V5	6500K	80		460 ¹
	XP-G3	A007-CG30827R4	2700K	80	2.70	119
		A007-CG30830R5	3000K	80		139
		A007-CG30840S2	4000K	80		148
		A007-CG30750S3	5000K	70		156
		A007-CG30765S4	6500K	70		164
	XP-G2 HE	A007-CG2H830R5	3000K	80	2.70	139
		A007-CG2H840S3	4000K	80		156
		A007-CG2H750S3	5000K	70		156
		A007-CG2H765S4	6500K	70		164
	XP-E2	A007-E2827-Q2	2700K	80	2.84	87
		A007-E2830-Q3	3000K	80		93
		A007-E2740-Q4	4000K	70		114
A007-E2750-Q4		5000K	70	156		
 <p>Cree XM-L2 sits at 5mm² on the same MCPCB footprint²</p>	XM-L2	B009-CL20830T4	3000K	80	2.77 ¹	331 ¹
		B009-CL20840T6	4000K	80		386 ¹
		B009-CL20750U3	5000K	75		441 ¹
		B009-CL20665U3	6500K	65		441 ¹

Values specified @ 350mA, T_j 85°C - for more specs, visit emitter data sheets.

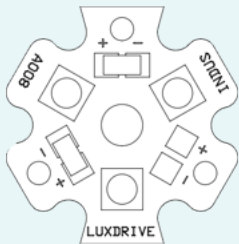
1. Cree XP-L2 and XM-L2 are tested @ 1050mA, T_j 85°C

2. The Cree XML-2 is built on the LUXDrive Pixus Star™ (B009), made to hold the larger 5mm² diode but has the same footprint as the Indus Star.



CREE HIGH POWER **3-UP** STARBOARDS

White Product Selection Guide

STAR DESIGN	CREE LED	PART NUMBER	CCT	CRI	VOLTAGE (V _F)	LUMENS @ 350MA
 <p>Three Cree LEDs on the same 20mm footprint.</p>	XP-L2	A008-CL20830V2	3000K	80	8.37 ¹	1200 ¹
		A008-CL20840V3	4000K	80		1260 ¹
		A008-CL20750V4	5000K	80		1320 ¹
		A008-CL20765V5	6500K	80		1380 ¹
	XP-G3	A008-CG30827R4	2700K	80	8.10	357
		A008-CG30830R5	3000K	80		414
		A008-CG30840S2	4000K	80		444
		A008-CG30750S3	5000K	70		468
		A008-CG30765S4	6500K	70		492
	XP-G2 HE	A008-CG2H830R5	3000K	80	8.10	417
		A008-CG2H840S3	4000K	80		468
		A008-CG2H750S3	5000K	70		468
		A008-CG2H765S4	6500K	70		492
	XP-E2	A008-E2827-Q2	2700K	80	8.52	261
		A008-E2830-Q3	3000K	80		279
		A008-E2740-Q4	4000K	70		342
A008-E2750-Q4		5000K	70	468		

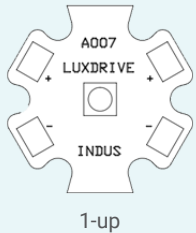
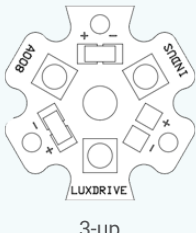
Values specified @ 350mA, T_j 85°C - for more specs, visit emitter data sheets.

1. Cree XP-L2 is tested @ 1050mA, T_j 85°C



CREE COLOR LED STARS

Color Cree XP-G3 & XP-E2 Product Selection Guide

STAR DESIGN	CREE LED	PART NUMBER	COLOR	WAVE-LENGTH (NM)	VOLTAGE (V _F)	LUMENS @ 350MA
	XP-G3	A007-CG30PHR32	Photo Red	645	1.99	500 ²
		A007-CG30ROYF4	Royal Blue	451	2.79	730 ²
	XP-E2	A007-CE20AMBP4	Amber	585-595	2.18	80.6
		A007-CE2BLUM3	Blue	465-485	2.85	45.7
		A007-CE20FAR27	Far Red	720-740	1.85	375 ²
		A007-CE20GRNR3	Green	520-535	2.7	122
		A007-CE20PCAQ5	PC Amber	-	2.94	107
		A007-CE2PHR30	Photo Red	650-670	2.05	450 ²
		A007-CE20REDP3	Red	620-630	2.18	73.9
		A007-CE20RDOQ5	Red-Orange	610-620	2.18	107
		A007-CE20ROY37	Royal Blue	450-465	2.93	450 ²
	XP-G3	A008-CG30PHR32	Photo Red	645	5.97	1500 ²
		A008-CG30ROYF4	Royal Blue	451	8.37	2190 ²
	XP-E2	A008-CE20AMBP4	Amber	585-595	6.54	242
		A008-CE2BLUM3	Blue	465-485	8.55	137
		A008-CE20FAR27	Far Red	720-740	5.55	1125 ²
		A008-CE20GRNR3	Green	520-535	8.1	366
		A008-CE20PCAQ5	PC Amber	-	8.82	321
		A008-CE2PHR30	Photo Red	650-670	6.15	1350 ²
		A008-CE20REDP3	Red	620-630	6.54	222
		A008-CE20RDOQ5	Red-Orange	610-620	6.54	321
		A008-CE20ROY37	Royal Blue	450-465	8.79	1350 ²
		A008-CE20RGB00	Red/Green/Blue	see emitter values	see below ³	see emitter values

1. Values specified @ 350mA, T_j 25°C - for more specs, visit emitter data sheets.

2. Photo Red, Far Red, and Royal Blue are binned by radiometric power. All other colors are binned by luminous flux.

3. RGB LED boards are built without the 0 ohm jumpers connecting the LEDs in series, each LED is individually driven so that you can RGB color mix.



CREE HIGH POWER STARS

Cree LED Specific Maximum Ratings

LED Series	DC Current (mA)	Typ. Viewing Angle	Thermal Resistance (°C/W)*
Cree XP-L2	3000	125°	1-up: 1.60° 3-up: 1.20°
Cree XP-G3 - Whites	2000	125°	1-up: 4.00° 3-up: 2.00°
Cree XP-G3 - Photo Red	1500	125°	1-up: 3.50° 3-up: 2.00°
Cree XP-G3 - Royal Blue	2000	130°	1-up: 3.00° 3-up: 1.83°
Cree XP-G2 HE	2000	125°	1-up: 4.00° 3-up: 2.00°
Cree XM-L2	3000	170°	3.5°
Cree XP-E2 - Whites	1500	110°	1-up: 6.80° 3-up: 2.93°
Cree XP-E2 - Amber	1500	130°	1-up: 8.50° 3-up: 3.50°
Cree XP-E2 - Blue, Royal Blue	1200	135°	1-up: 6.70° 3-up: 2.90°
Cree XP-E2 - Far Red	1500	140°	1-up: 7.50° 3-up: 3.17°
Cree XP-E2 - Green	1500	135°	1-up: 10.0° 3-up: 2.00°
Cree XP-E2 - PC Amber	1500	105°	1-up: 6.50° 3-up: 2.83°
Cree XP-E2 - Photo Red, Red, Red-Orange	1500	130°	1-up: 7.50° 3-up: 3.17°

*LED junction to bottom of starboard (MCPCB), measured in °C/W

Accessories for High Power Cree LED Stars

LED Drivers

LUXdrive™ offers a line of drivers designed for use with high-power LED modules such as the Indus & Pixus Star. The choice of driver will depend on number of LEDs to be driven, the input voltage source, and the desired forward drive current. See the full line of Luxdrive drivers [here](#).

Heat Sinking & Mounting

LUXdrive™ starboards have six mounting points for #4 screws. The LED stars should be attached to additional heat sinking for proper thermal management. A specialty heatsink or metal plate (copper or aluminum) should be used with a thermal interface material.

LUXdrive Thermal Adhesives	Star #	Compatibility
A001-010H Hexatherm thermal adhesive	10	20mm Stars
A001-100H Hexatherm thermal adhesive	100	

Optics

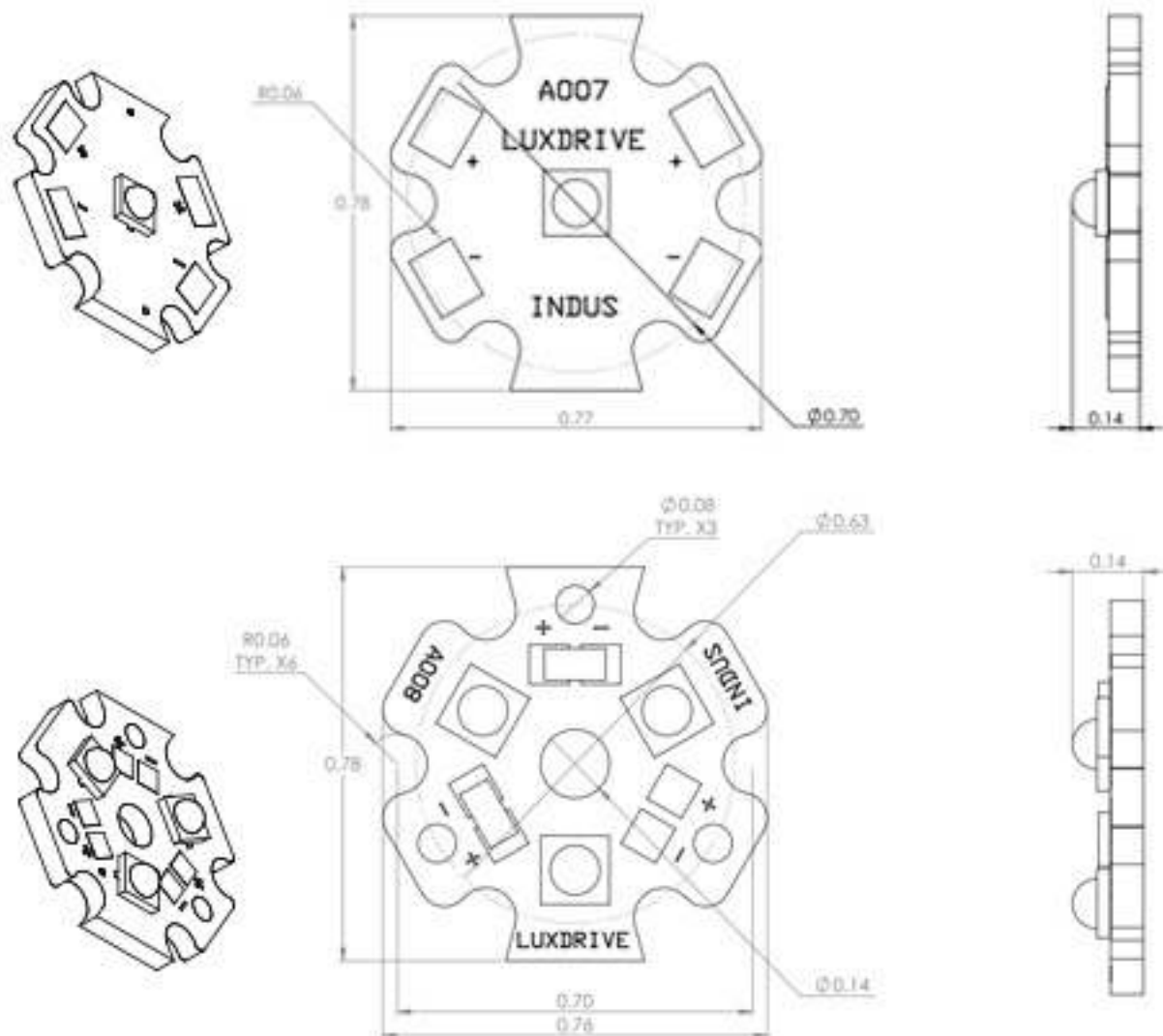
LUXdrive™ starboards feature indentations on the board, designed specifically as registration slots for the Carclo 1041_ (1up) and 105__ (3up) Optic series. These small 10mm optics are available in multiple viewing angles and work well in applications where a low profile optic is needed. Carclo 20mm optics and holders also work well with Cree High Power LED Stars. All specific optic information and pictures are found at the links below or at [Carclo.com](#).

Optic Throw	1-up	3-up
Narrow Spot	CO-10412	CO-10507
Frosted Narrow	N/A	CO-10511
Frosted Medium	CO-10413	CO-10508
Frosted Wide	CO-10414	CO-10509
Elliptical	CO-10415	CO-10510



LEDDYNAMICS STARBOARD MECHANICAL

(Units: Inches)



MCPCB FABRICATION

- LEDdynamics standard 20mm Aluminum, Metal Core Printed Circuit Board
- Pb free reflow solder connections
- Electrically isolated heat sinking surface
- White solder mask
- ROHS Compliant