

MechaTronix in LED

LPF11180-ZHE Cree XLamp Pin Fin LED Cooler ø 111mm



Features & Benefits

- The LPF11180-ZHE Zhaga Pin Fin LED cooler is specifically designed for luminaires using the Cree XLamp LED array. Mechanical compatibility with direct mounting of the LED modules to the LED cooler and thermal performance matching the lumen packages.
- For spot and downlight designs from 2,000 to 4,500 lumen
- Thermal resistance R_{th} 1.07°C/W
- Modular design with mounting holes foreseen for Cree XLamp CXA1816 / CXA1820 / CXA1830 / CXA2520 / CXA2530 LED array by use of Zhaga Book 3 LED holder.
- Diameter 111mm - Standard height 80
Other heights on request
- Forged from highly conductive aluminum



Order Information

 Zhaga

 CREE

Example : LPF11180-ZHE-B

LPF11180-ZHE- **1**

- 1** Anodising Color
B - Black
C - Clear
Z - Custom (specify)

The LPF11180-ZHE LED pin fin cooler is designed in this way that you can mount various LED modules on the same LED cooler

Simple mounting with 2 screws

Recommended screw force 6lb/in

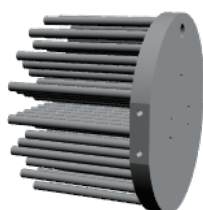
Screws are available from MechaTronix

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Product Details



Model n°

LPF11180-ZHE

Dimension (mm)* ¹	ø111 x h80
Volume (mm ³)	210075
Cooling Surface (mm ²)	115637
Weight (gr)	567
Thermal Resistance (°C/W)* ²	1.07
Power Pd (W)* ³	50
Heat Sink Material	AL1070

*¹ 3D files are available in ParaSolid, STP and IGS on request

*² The thermal resistance Rth is determined with a calibrated heat source of 30mm x 30mm central placed on the heat sink, Tamb 40° and an open environment. Reference data @ heat sink to ambient temperature rise Ths-amb 50°C
The thermal resistance of a LED cooler is not a fix value and will vary with the applied dissipated power Pd

*³ Dissipated power Pd. Reference data @ heat sink to ambient temperature rise Ths-amb 50°C
The maximal dissipated power needs to be verified in function of required case temperature Tc or junction temperature Tj and related to the estimated ambient temperature where the light fixture will be placed
Please be aware the dissipated power Pd is not the same as the electrical power Pe of a LED module

To calculate the dissipated power please use the following formula: $P_d = P_e \times (1 - \eta_L)$

Pd - Dissipated power

Pe - Electrical power

η_L = Light efficiency of the LED module

Notes:

- MechaTronix reserves the right to change products or specifications without prior notice.
- Mentioned models are an extraction of full product range.
- For specific mechanical adaptations please contact MechaTronix.

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Mounting Options

The LPF11180-ZHE Pin Fin LED cooler is standard foreseen from a variety of mounting holes which allow direct mounting of LED engines, COB's and secondary optics on the LED heat sink.

In this way mechanical afterwork and related costs can be avoided, and lighting designers can standardize their designs on a limited number of LED coolers.

Below you find an overview of Cree XLamp LED array which standard fit on the LPF11180-ZHE Pin Fin LED cooler.

MechaTronix performs thermal validation tests on each of the LED modules mounted on the LED cooler and publishes this data in the LED brand thermal validation reports.

For a full overview of available LED coolers for Cree XLamp LEDs, please refer to the Cree XLamp LED cooler overview on www.led-heatsink.com/Download.php or scan the QR code here.



Cree XLamp LED Array

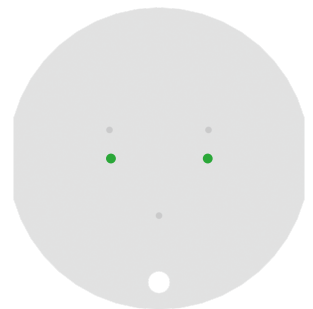


Cree XLamp® LEDs deliver the industry's best lighting-class performance and are application-optimized to enable the lowest system cost.

Cree's new CXA LED Arrays deliver high lumen output and efficacy in a family of single, easy-to-use components. Optimized to simplify designs and lower system cost, Cree's CXA LED arrays are available in system level performance from 300 to over 16,000 lumens and can enable applications ranging from GU10s and commercial downlights to outdoor area lighting and high-bay lighting.

Mounting indicator marks overview

MechaTronix recommends the use of a high thermal conductive interface between the LED module and the LED cooler. Either thermal grease, a thermal pad or a phase change thermal pad thickness 0.1-0.15mm is recommended. Thermal pads or phase change thermal pads can be pre-applied from MechaTronix.



Cree XLamp CXA18 LED Array

Model names

- CXA1816-xxxx
- CXA1820-xxxx
- CXA1830-xxxx

Mounting

- With Zhaga Book 3 LED holder
- BJB Spotlight connector 47.319.2130
- TE Connectivity Lumawise type Z50 2213401-1
- TE Connectivity Lumawise type Z50 2213401-2
- Mounting with 2 screws M3 x 10mm
- Green indicator marks



Cree XLamp CXA25 LED Array

Model names

- CXA2520-xxxx
- CXA2530-xxxx

Mounting

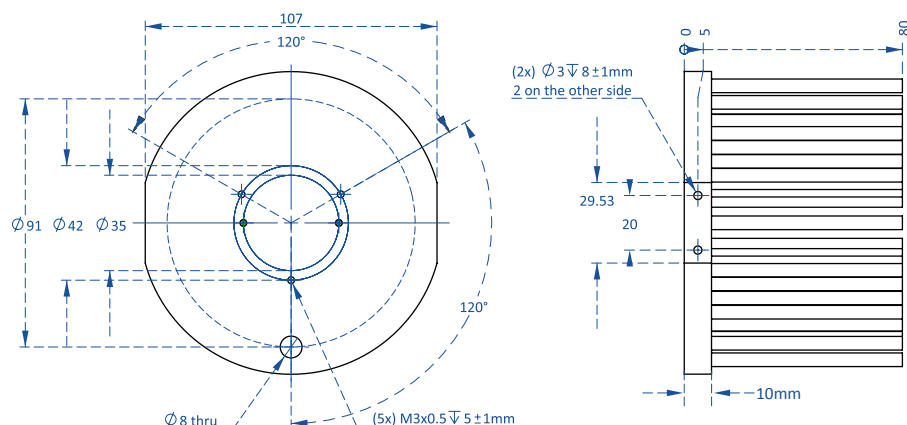
- With Zhaga Book 3 LED holder
- BJB Spotlight connector 47.319.2140
- Mounting with 2 screws M3 x 10mm
- Green indicator marks

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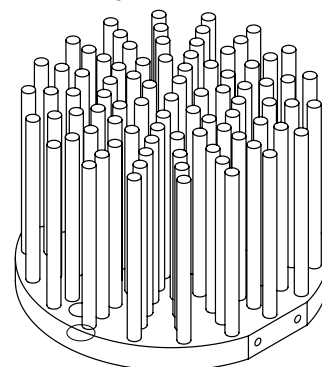
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Drawings & Dimensions



Example: LPF11180-ZHE



Thermal Data

$P_d = P_e \times (1 - \eta_L)$			LED Light efficiency, η_L (%)			Heat sink to ambient thermal resistance R_{hs-amb} (°C/W)	Heat sink to ambient temperature rise T_{hs-amb} (°C)
			17%	20%	25%	LPF11180-ZHE	LPF11180-ZHE
Dissipated Power P_d (W)	20	Electrical Power P_e (W)	24	25	26.66	1.25	27.0
	30		36.14	37.5	40	1.18	35.2
	40		48.19	50	53.33	1.12	43.3
	50		60.24	62.5	66.66	1.06	51.4
	60		72.28	75	80	1.00	59.6
	70		84.33	87.5	93.33	0.94	67.7

Heat sink to ambient temperature rise T_{hs-amb} (°C)

— LPF11180-ZHE

