



Mastering LED Cooling

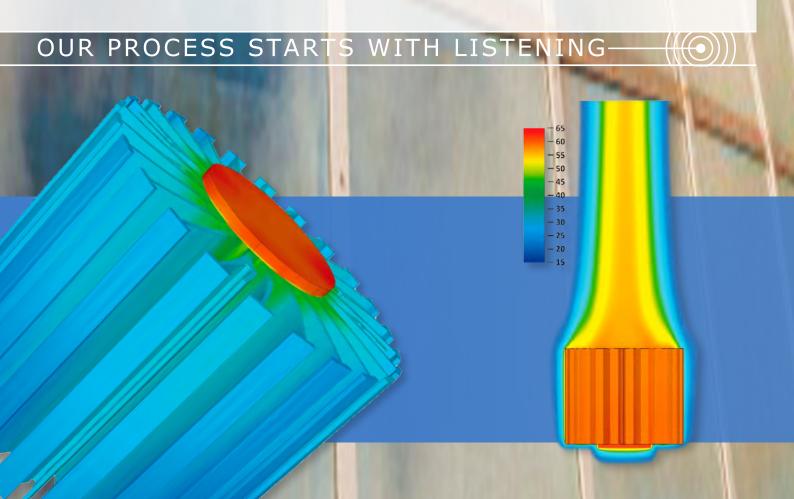
With the evolution of LED lighting over the last years, the demand for professional thermal solutions has grown exponentially. And now that we no longer remain in the realm of low power LED's, thermal management becomes a critical factor within LED fixtures. To that end, MechaTronix has developed several series of pin-fin and star heat sinks, manufactured through die casting, forging or extrusion. This has resulted in a comprehensive range of more than 400 off-the-shelf available LED coolers, for passive or active heat dissipation.

After initial reservations concerning active LED coolers, specialists have found that there really is no better option, when closing in on the 8000 lumen mark. Admittedly, the fan's lifespan becomes somewhat of a focal point in the application of an active LED cooler, but given that the lifespan of the LED engine itself dramatically decreases at high temperatures, the lifespan of the fan looks rather favourable all of a sudden.

MechaTronix' ground breaking ModuLED coolers and its actively cooled sibling IceLED have garnered a lot of attention and positive reviews in the LED market. ModuLED and IceLED are just precursors of a complete range of dedicated and highly effective LED coolers for professional deployment in spotlights, downlights, high bays and a further score of architectural and utility LED applications.

Both ModuLED and IceLED, as well as their upcoming descendants are Zhaga-ready and have a matrix of mounting holes that allows for very easy attachment of a great number of various Lumileds LED modules. Simply apply a thermal interface of your choice, put the LED engine in place and fasten with self-tapping screws and you are good to go! No drilling, customisation or special mounting brackets are needed.

Thanks to an extremely thorough thermal verification of all heat sink lines, MechaTronix provides total thermal disclosure for each model, coupled with all Lumileds Luxeon LED COB's and engines. All thermal data is available in the product specifications, that come with every MechaTronix heat sink. In this way, engineers save time and effort during the design stage of their LED fixture and will significantly shorten their time to market.





Gen4 LUXEON series 1203, 1204, 1205, 1208, 1211, 1216, 1812, 1321, 1825 LED COB LUXEON SunPlus 1211, 1825, XR-M, XR-TX

LPF4768-ZHP

Lumileds LED Pin Fin cooler Ø47mm - h68mm - Rth 3.9°C/W Cooling performance 1,300 - 2,500 lm

Cooling performance 1,300 - 2,5			errormance 1,300 - 2,500 in
	Direct mount	Zhaga holder	Lumileds Luxeon LED COB
	✓	7	G4 1202s G4 1202, 1203, 1204 High Density 1202



LPF6050-ZHC

Lumileds LED Pin Fin cooler Ø60mm - h50mm - Rth 4.0°C/W Cooling performance 1,200 - 2,300 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
	✓	G4 1202s
✓	✓	G4 1202, 1203
	✓	G4 1204
	✓	High Density 1202



LPF6768-ZHP

Lumileds LED Pin Fin cooler ø67mm - h68mm - Rth 2.1°C/W Cooling performance 2,300 - 4,600 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
V	< < <	G4 1202s G4 1202, 1203, 1204, 1205, 1208 High Density 1202
✓	✓	High Density 1204, 1205



LPF8050-ZHC

Lumileds LED Pin Fin cooler Ø80mm - h50mm - Rth 2.34°C/W Cooling performance 2,000 - 4,000 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
V	V	G4 1202s, 1202, 1203 G4 1204, 1205, 1208 High Density 1202, 1204, 1205



LPF8668-ZHC

Lumileds LED Pin Fin cooler Ø86mm - h68mm - Rth 1.46°C/W Cooling performance 3,300 - 6,500 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
✓	V	G4 1204, 1205, 1208, 1211 High Density 1204, 1205



LPF11180-ZHE

Lumileds LED Pin Fin cooler ø111mm - h80mm - Rth 1.07°C/W Cooling performance 4,800 - 9,600 lm

Direct Zhaga mount holder		Lumileds Luxeon LED COB
	✓	G4 1208, 1211, 1216, 1812 High Density 1204, 1205



CoolStar® White 4740

Lumileds Designer LED Star cooler ø47mm - h40mm - Rth 5°C/W Cooling performance 1,000 - 2,000 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
☑	V V	G4 1202s G4 1202, 1203 High Density 1202



CoolStar® White 4760

Lumileds Designer LED Star cooler Ø47mm - h60mm - Rth 4.17°C/W Cooling performance 1,200 - 2,400 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
~	✓ ✓ ✓	G4 1202s, 1204 G4 1202, 1203 High Density 1202



CoolStar® White 6730

Lumileds Designer LED Star cooler Ø67mm - h30mm - Rth 3.13°C/W Cooling performance 1,600 - 3,100 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
	✓	G4 1202s, 1202, 1203, 1204, 1205 High Density 1202



CoolStar® White 6760

Lumileds Designer LED Star cooler Ø67mm - h60mm - Rth 2.27°C/W Cooling performance 2,100 - 4,200 lm

Cool	Cooling performance 2,100 - 4,200 lm		
Direct Zhaga holder Lumileds Luxeon LED COB			
	7	G4 1202s, 1202, 1203, G4 1204, 1205, 1208 High Density 1202, 1204	

Gen4 LUXEON series 1203, 1204, 1205, 1208, 1211, 1216, 1812, 1321, 1825 LED COB LUXEON SunPlus 1211, 1825, XR-M, XR-TX



CoolStar® White 8630

Lumileds Designer LED Star cooler Ø86mm - h30mm - Rth 2.08°C/W Cooling performance 2,300 - 4,600 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
	V	G4 1202s, 1202, 1203 G4 1204, 1205, 1208 High Density 1202, 1204, 1205



CoolStar® White 8660

Lumileds Designer LED Star cooler Ø86mm - h60mm - Rth 1.56°C/W Cooling performance 3.100 - 6.100 In

Cool	ing pe	erformance 3,100 - 6,100 lm
Direct	Zhaga holder	Lumileds Luxeon LED COB
	V	G4 1204, 1205, 1208, 1211 High Density 1202, 1204, 1205



ModuLED Pico 4750

Lumileds Modular LED Star cooler Ø47mm - h50mm - Rth 5.3°C/W Cooling performance 900 - 1,800 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
✓	▽	G4 1202s G4 1202, 1203 High Density 1202



ModuLED Pico 4780

Lumileds Modular LED Star cooler Ø47mm - h80mm - Rth 4.2°C/W Cooling performance 1.200 - 2.300 lm

Co	Cooling performance 1,200 - 2,300 im		
Dire	ct	Zhaga holder	Lumileds Luxeon LED COB
		✓	G4 1202s
V	4	✓	G4 1202, 1203, 1204
		✓	High Density 1202



ModuLED Nano 7050

Lumileds Modular LED Star cooler Ø70mm - h50mm - Rth 2.2°C/W Cooling performance 2,200 - 4,300 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
	✓	G4 1202s
✓	✓	G4 1202, 1203, 1204, 1205, 1208
		High Density 1202
✓	✓	High Density 1204



ModuLED Nano 7080

Lumileds Modular LED Star cooler Ø70mm - h80mm - Rth 1.8°C/W Cooling performance 2,700 - 5,300 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED CC
✓	✓	G4 1203, 1204, 1205, 1208 High Density 1202 High Density 1204, 1205
	✓	High Density 1202
✓	✓	High Density 1204, 1205



ModuLED Micro 8630

Lumileds Modular LED Star cooler Ø86mm - h30mm - Rth 1.8°C/W Cooling performance 2,700 - 5,300 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
✓	> >	G4 1203, 1204, 1205, 1208 High Density 1202
✓	✓	High Density 1204, 1205



ModuLED Micro 8650

Lumileds Modular LED Star cooler Ø86mm - h50mm - Rth 1.5°C/W Cooling performance 3,200 - 6,400 lm

Cooling performance 3,200 - 6,400 im		
Direct mount	Zhaga holder	Lumileds Luxeon LED COB
✓	✓	G4 1204, 1205, 1208 G4 1211
✓	✓	High Density 1204, 1205



ModuLED Micro 8680

Lumileds Modular LED Star cooler Ø86mm - h80mm - Rth 1.2°C/W Cooling performance 4,000 - 8,000 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
✓	< <	G4 1205, 1208 G4 1211, 1216, 1812
✓	▼	High Density 1204, 1205



ModuLED Xtra 9950

Lumileds Modular LED Star cooler ø99mm - h50mm - Rth 1.34°C/W Cooling performance 3,600 - 7,200 lm

Direct mount		Lumileds Luxeon LED COB
V	> >	G4 1205, 1208 G4 1211
▼	V	High Density 1204, 1205

Gen4 LUXEON series 1203, 1204, 1205, 1208, 1211, 1216, 1812, 1321, 1825 LED COB LUXEON SunPlus 1211, 1825, XR-M, XR-TX

ModuLED Xtra 9980

Lumileds Modular LED Star cooler ø99mm - h80mm - Rth 1.02°C/W Cooling performance 4.700 - 9.400 lm

Cooling performance 4,700 - 9,400 im		
Direct mount	LED holder	Lumileds Luxeon LED COB
V	₹	G4 1208 G4 1211, 1216, 1812
✓	V	High Density 1204, 1205



ModuLED Mega 13420

Lumileds Modular LED Star cooler ø134mm - h20mm - Rth 1.32°C/W Cooling performance 3,700 - 7,300 lm

mount	holder	Lumileds Luxeon LED COE
✓	✓	G4 1205, 1208
✓	✓	G4 1211, 1216, 1812
	✓	High Density 1204, 1205



ModuLED Mega 13450-HBG

Lumileds High Bay LED cooler with direct mounting holes for Mean Well HBG series driver ø134mm - h50mm - Rth 0.88°C/W Cooling performance 5,500 - 11,000 lm

Direct mount	LED holder	Lumileds Luxeon LED COB
✓	V V	G4 1208 G4 1211, 1216, 1812, 1321 High Density 1204, 1205



ModuLED Mega 134100-HBG

Lumileds High Bay LED cooler with direct mounting holes for Mean Well HBG series driver

ø134mm - h100mm - Rth 0.67°C/W Cooling performance 7,200 - 14,300 lm

Direct Zhaga mount holder	Lumileds Luxeon LED COB
V V	G4 1211, 1216, 1812 G4 1321



ModuLED Giga 15220

Lumileds Modular LED Star cooler ø152mm - h20mm - Rth 1.13°C/W Cooling performance 4,300 - 8,500 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
V	✓	G4 1205, 1208
✓	✓	G4 1211, 1216, 1812
	✓	High Density 1204, 1205



ModuLED Giga 15250

Lumileds Modular LED Star cooler ø152mm - h50mm - Rth 0.7°C/W Cooling performance 6,800 - 13,500 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB	
✓	✓	G4 1211, 1216, 1812	
✓	✓	G4 1321	



ModuLED Giga 152100-HBG

Lumileds High Bay LED cooler with direct mounting holes for Mean Well HBG series driver #152mm - h100mm - Rth 0.52°C/W

Cool	Cooling performance 9,000 - 18,000 lm				
Direct mount	Zhaga holder	Lumileds Luxeon LED COB			
▽	V	G4 1216, 1812 G4 1321, 1825			



ModuLED Giga 152150-HBG

Lumileds High Bay LED cooler with direct mounting holes for Mean Well HBG series driver ø152mm - h150mm - Rth 0.46°C/W Cooling performance 10,500 - 21,000 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
✓	V	G4 1812 G4 1321, 1825

Gen4 LUXEON series 1203, 1204, 1205, 1208, 1211, 1216, 1812, 1321, 1825 LED COB LUXEON SunPlus 1211, 1825, XR-M, XR-TX



CoolBay® Giga-A

Lumileds High Bay LED cooler with CoolTube® heat tube and direct mounting holes for Mean Well HBG series driver ø152mm - h200mm - Rth 0.34°C/W Cooling performance 14,500 - 29,000 lm

Direct mount	Zhaga holder	Lumileds Luxeon LED COB
V	V	G4 1825



CoolBlock® SQ-01 2x2MX

Square Pin Fin LED Cooler for the Lumileds Luxeon XR-M 2x2MX LED module which consist of 4 Luxeon M LEDs. Accommodating Ledil Strada 2x2MX lenses for IP67 waterproof with just a few screws

W96mm - L96mm - H61.5mm Thermal resistance Rth 1.45°C/W Cooling performance 3,300 - 6,500 lm Black electro-coating



CoolBlock® LX-01 2x6

Advanced high power rectangle Pin Fin LED Cooler for the Lumileds Luxeon XR-TX 2x6 LED module which consist of 12 Luxeon TX LEDs. Accommodating Ledil Strada & HB 2x6 lenses for IP67 waterproof with just a few screws

W80mm - L192mm - H45mm Thermal resistance Rth 1.09°C/W Cooling performance 4,400 - 8,700 lm Black electro-coating



CoolFin® Giga

Advanced Ultra High power LED cooler with stackfin and heat pipe structure For 28x28 COB Luxeon 1211 - 1216 -1812, SunPlus 1211 and 38x38 COB Luxeon 1321 - 1825, SunPlus 1825 by use of LED holder. Accommodating multiple brands LED driver & accessories.

W468mm - L446mm - H226mm Thermal resistance Rth 0.1°C/W Cooling performance 50,000 - 100,000 lm



CoolFin® Giga Tilt

Advanced Ultra High power LED cooler with stackfin and heat pipe structure For 28x28 COB Luxeon 1211 - 1216 -1812, SunPlus 1211 and 38x38 COB Luxeon 1321 - 1825, SunPlus 1825 by use of LED holder. Accommodating multiple brands LED driver & accessories.

W468mm - L446mm - H394mm Thermal resistance Rth 0.1°C/W Cooling performance 50,000 - 100,000 lm



CoolCube® Giga

Advanced Ultra High power LED cooler with stackfin and heat pipe structure For 28x28 COB Luxeon 1211 - 1216 -1812, SunPlus 1211 and 38x38 COB Luxeon 1321 - 1825, SunPlus 1825 by use of LED holder. Accommodating multiple brands LED driver & accessories.

W200mm - L575mm - H417mm Thermal resistance Rth 0.1°C/W Cooling performance 50,000 - 100,000 lm



Lumileds Modular Active LED cooler ø99mm - h55mm - Rth 0.46°C/W Cooling performance 10,500 - 21,000 lm



Lumileds Luxeon LED COB

✓ G4 1812