Cree® LMH2 850-lm and 1250-lm LED Modules with TrueWhite® Technology

Cree LED modules provide lighting designers and manufacturers with simple, easy-to-adopt LED lighting solutions that reduce luminaire development time and speed time-to-market. The Cree LMH2 850-lm and 1250-lm LED modules are the ideal choice for enabling rapid luminaire development where bright, beautiful, long-life lighting is required. The LMH series of modules incorporates Cree's award-winning TrueWhite LED technology into a system of driver electronics, optics and primary thermal management for use in residential and commercial lighting applications. This versatile LED lighting module jump-starts the design process for recessed downlights, wall sconces or pendant lights in demanding end markets such as retail, museums, hospitality and restaurants.

BENEFITS FOR LUMINAIRE DESIGNERS

- Faster time-to-market and lower system cost with concurrently designed and tested optics, driver electronics, and primary thermal management
- Design flexibility provided by separated light source and power supply with broad selection of mounting and wiring options
- Wide variety of design applications enabled with 2700 K, 3000 K, 3500 K and 4000 K CCT
- Industry-leading 5-year limited system warranty backed by patented, reliable Cree LED technology
- Rapid regulatory approval and voluntary qualification of final luminaire enabled by:
  - UL approval (120 V and 277 V)
  - CE certification (230 V)
  - California Title 24 compliance (120 V and 277 V)
  - LED LM-80 data for US ENERGY STAR

BENEFITS FOR END USERS

- Vibrant color rendering showcases the full beauty of people, rooms, and merchandise with $\geq$ 90 CRI
- Significant energy savings over traditional lighting sources through superior efficacy > 80 lm/W
- Proprietary optics provide a uniform, visually comfortable appearance whether the module is powered on or off
- Designed to last 50,000 hours at L_{70}
- Consistent light quality over time and temperature delivered by built-in optical and thermal management system
- Specification grade dimmability down to 5% of rated light output using standard incandescent and electronic low-voltage dimmers (120 V and 230 V only)
- No UV or mercury

FEATURES

- Industry-leading module efficacy (light source + driver) at 80 lm/W
- 850- and 1250-lumen lighting units, the first members of an extended family of modules
- Optional heat sink

Light Source

120 V & 277 V Driver

230 V Driver

CREE TRUE WHITE TECHNOLOGY

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CHARACTERISTICS

Cree TrueWhite technology is a revolutionary way of generating white light with LEDs. It delivers high efficacy with beautiful light characteristics and color accuracy, while maintaining color consistency over the life of the product.

LMH2 Light Source

Luminous Flux (lm)[1,2]	CCT (K)	CRI	Average Input Power (W)[1]	Module Efficacy (lm/W)[3]
850	4000	≥ 90	10.5	80
	3500	≥ 90	10.5	80
	3000	≥ 90	10.5	80
	2700	≥ 90	10.5	80
1250	4000	≥ 90	15.5	80
	3500	≥ 90	15.5	80
	3000	≥ 90	15.5	80
	2700	≥ 90	15.5	80

LMD125 Driver

Max. Rated Input Power (W)[1]	Input Voltage (V)[1]	Frequency (Hz)	Power Factor		Dimming
			850 lm	1250 lm	
18	120	60	.97	.99	TRIAC
17	277	60	.92	.98	N/A
18	230	50/60	.90	.95	TRIAC

1. ±10% variance
2. Measured at steady state, T_C = 55 °C
3. Includes LMD125 driver losses

The operating temperature at the case temperature (Tc) point is 0-70 °C.

ORDER CODES

Each of the order codes in the following table denotes an LMH2 module at a particular luminous flux and color temperature in combination with a particular LMD125 driver.

LMH2 LED Module

Luminous Flux (lm)	CCT (K)	Driver		
		120 V 60 Hz	277 V 60 Hz	230 V 50/60 Hz
850	4000	LMH020-0850-40G9-10100TW	LMH020-0850-40G9-30000TW	LMH020-0850-40G9-20100TW
	3500	LMH020-0850-35G9-10100TW	LMH020-0850-35G9-30000TW	LMH020-0850-35G9-20100TW
	3000	LMH020-0850-30G9-10100TW	LMH020-0850-30G9-30000TW	LMH020-0850-30G9-20100TW
	2700	LMH020-0850-27G9-10100TW	LMH020-0850-27G9-30000TW	LMH020-0850-27G9-20100TW
1250	4000	LMH020-1250-40G9-10100TW	LMH020-1250-40G9-30000TW	LMH020-1250-40G9-20100TW
	3500	LMH020-1250-35G9-10100TW	LMH020-1250-35G9-30000TW	LMH020-1250-35G9-20100TW
	3000	LMH020-1250-30G9-10100TW	LMH020-1250-30G9-30000TW	LMH020-1250-30G9-20100TW
	2700	LMH020-1250-27G9-10100TW	LMH020-1250-27G9-30000TW	LMH020-1250-27G9-20100TW

Note: The heat sink is designed to work with all LMH2 lumen levels.

Optional Heat Sink Order Code
LMH020-HS00-0000-0000001

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CHROMATICITY

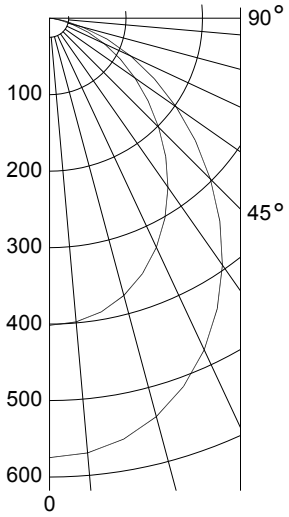
The Cree LMH2 LED module provides high color consistency within a 3-step MacAdams ellipse around the specified color temperature. Individual LEDs are tested and matched to meet our designed chromaticity specification.

Secondary optics can be added to the module but will reduce light output and may also alter the color characteristics of the final luminaire design.

THERMAL MANAGEMENT GUIDELINES

The Cree LMH2 LED module is designed to perform in a variety of environments without the need for active cooling. To achieve lifetime and performance estimates, and to maintain the warranty, the final luminaire design cannot allow the Tc point shown below to exceed 70 °C for the light source or power supply when the luminaire is at thermal equilibrium. Follow the mechanical and thermal design guidelines listed in the "Cree LMH2 LED Module Design Guide" to ensure proper thermal management. An optional heat sink is available.

PHOTOMETRY



Intensity (Candlepower)

Angle	850	1250
0°	402	575
5°	399	571
15°	375	539
25°	331	479
35°	270	394
45°	202	297
55°	136	202
65°	79	118
75°	30	45
85°	3	5
90°	0	0

Zonal Lumens - 850

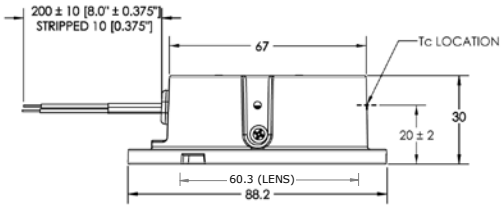
Zone	Lumens	%
0-30°	295	34
0-40°	464	54
0-60°	742	87
0-90°	858	100
0-180°	858	100

Zonal Lumens - 1250

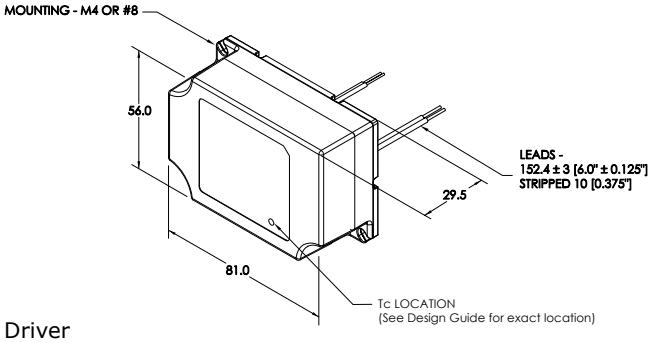
Zone	Lumens	%
0-30°	426	34
0-40°	672	54
0-60°	1082	86
0-90°	1256	100
0-180°	1256	100

MECHANICAL DESIGN

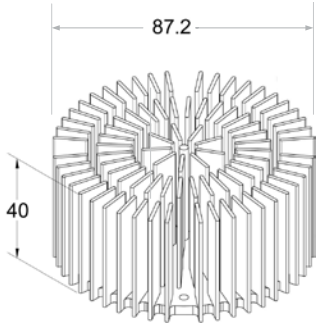
Light Source



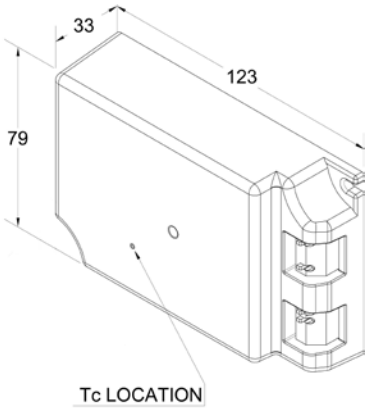
120 V & 277 V Driver



Optional Heat Sink



230 V Driver



units: mm

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