

MD1U Patient Room

LED - Recessed Ceiling Luminaire with Inset or Overlapping Door Frame with BIOS Technology

Project:	Catalogue #:	Type:
Notes:		

Product Description

The MD1U series by Certolux is a recessed IC-rated IP65 luminaire suitable for grid and flanged patient room applications. This luminaire features a frosted high impact acrylic lens and is triple gasketed for a reliable seal.

This fixture is equipped with BIOS SkyBlue® circadian LED technology, specifically for increased melanopic lux and circadian stimulus for daytime applications. This luminaire can be configured with either BIOS Static for applications where a constant level SkyBlue® content is desired, or BIOS Dynamic for applications requiring variable SkyBlue® content based on time of day. Provides minimum melanopic (M/P) ratio of >0.7 at 3000K, CRI 80+, R9>90; and cyanosis observation index (COI) less than or equal to 5.4.

Features

- Architectural Design
- Available in 2x2 and 2x4
- CRI 80+ and CRI 90+

Featured Options

- Multi Level (Ambient/Reading/Exam)

Housing

Precision formed 20 gauge cold rolled steel housing with no visible, external hardware.

Mounting

Flange installation is supported by swing style mounting brackets. Grid installation suitable for 1" and 1.5" T-Bar ceilings.

Door Frame

One piece door frame, fabricated from 18 gauge, cold rolled steel with TIG welded corners. It is retained by stainless steel aircraft cables. Flat head, stainless steel, captive fasteners with integral silicone o-rings easily secure door frame to housing. Gasket seals door frame to housing.

LED

LED board arrays offered in various color temperatures and lumen packages.

Lens

One piece perimeter door frame with clear sealed lens. Internal frosted single-piece Polycarbonate diffuser offer high levels of efficiency and visual comfort. Indirect reflectors are precision formed and contoured to provide soft, low-glare, indirect illumination, while maintaining high-efficiency and a wide, uniform light distribution.

Finish

White polyester powder-coat finish with a 5-stage pre-treatment. Anti-microbial matte white finish is standard.

Electrical

Long life LED's coupled with high efficiency drivers provide quality illumination. Rated to deliver an L80 performance >50,000 hours. The standard driver has a THD of <10%. Standard low-voltage dimming (0-10v, 1%). All electrical components are CSA or UL approved. A 1/2" EMT hole is provided for wiring connections.

Warranty

5 year limited warranty. For complete warranty, click here:

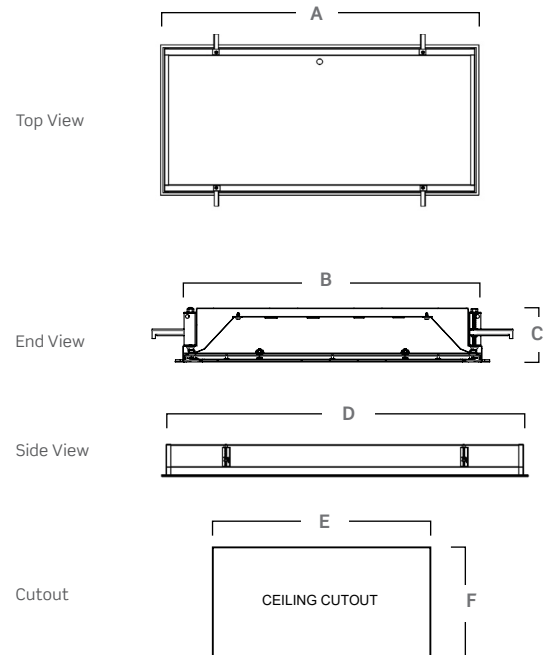


Approvals

- Approved to CSA and UL standards.
- UL listed for insulated ceilings and damp location.



Dimensions



Top View

End View

Side View

Cutout

	Dimensions (inch) & Weights					
	A	B	C	D	E	F
2x2	23 3/4"	23 3/4"	4 1/8"	22 1/2"	22 7/8"	22 7/8"
2x4	47 3/4"	23 3/4"	4 1/8"	46 1/2"	46 3/4"	22 7/8"

Consult installation guide for exact dimensions.

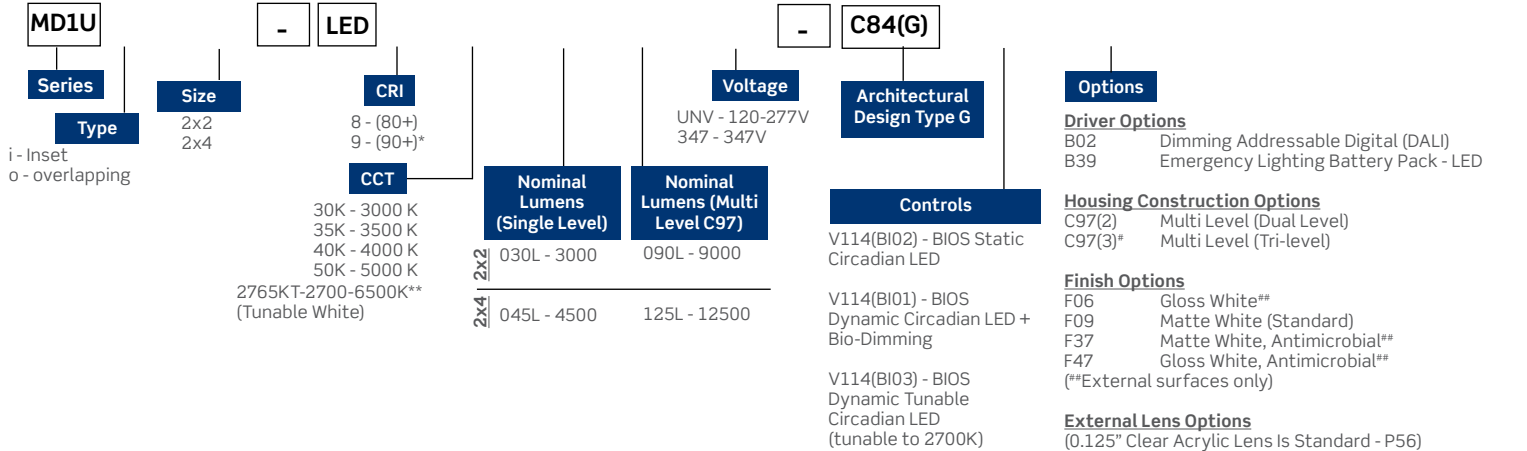
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Order Key

EXAMPLE: MD1U2X4-LED840K125LUNV-C84(G)C97(3)



Performance Data							
Size	Construction Code	Reading Level		Ambient Level		Exam Level*	
		Nominal Lumens	Watts	Nominal Lumens	Watts	Nominal Lumens	Watts
2x2	-	-	-	3000	27	-	-
2x4	-	-	-	4500	40	-	-
2x2	C97(2)	-	-	3000	27	9000	79
2x4	C97(2)	-	-	4500	40	12500	113
	C97(3)	2000	19	4500	40	12500	113

* Exam level includes reading and ambient outputs.

Ordering Key Example

MD1U2x2-LED840K030LUNV-V114(BI02)	<ul style="list-style-type: none"> Static CCT (4000K) fixture, output dimmable to 1% SkyBlue™ is always present
MD1U2x2-LED840K030LUNV-V114(BI03)	<ul style="list-style-type: none"> 2-Channel Tunable (4000K - 2700K) fixture dimmable to 1% SkyBlue™ is always present from 4000K-3000K
MD1U2x2-LED840K030LUNV-V114(BI01)	<ul style="list-style-type: none"> Single-Channel Bio-Dimming from 4000K with SkyBlue™ to >2700K At 2700K, dim total output to 1% At 2700K, SkyBlue™ no longer present

Wiring Options

- V40 Low Voltage Controller (No Dimming)
- V40(D) Low Voltage Controller (Dimmable)
- V39 Night / Chart Light, White
- V98 Night / Chart Light, Amber

Interior Lens Options

- C24 Overlay Rectangular Pattern Matte White
- C26 Overlay Perforated Pattern Matte White

Accessories

- M70 Install Frame

* 90+ CRI reduces lumen output by 20%, not available with 5000K

** When Selecting 2765KT, if a tunable white-compatible control is not selected the luminaire will come standard with two sets of 0-10V wires for dimming and color tuning. For compatible control options please consult factory.

Only Available in size 2x4

Other options may be available, consult factory. Specifications and data subject to change without notice.



Exam



Ambient

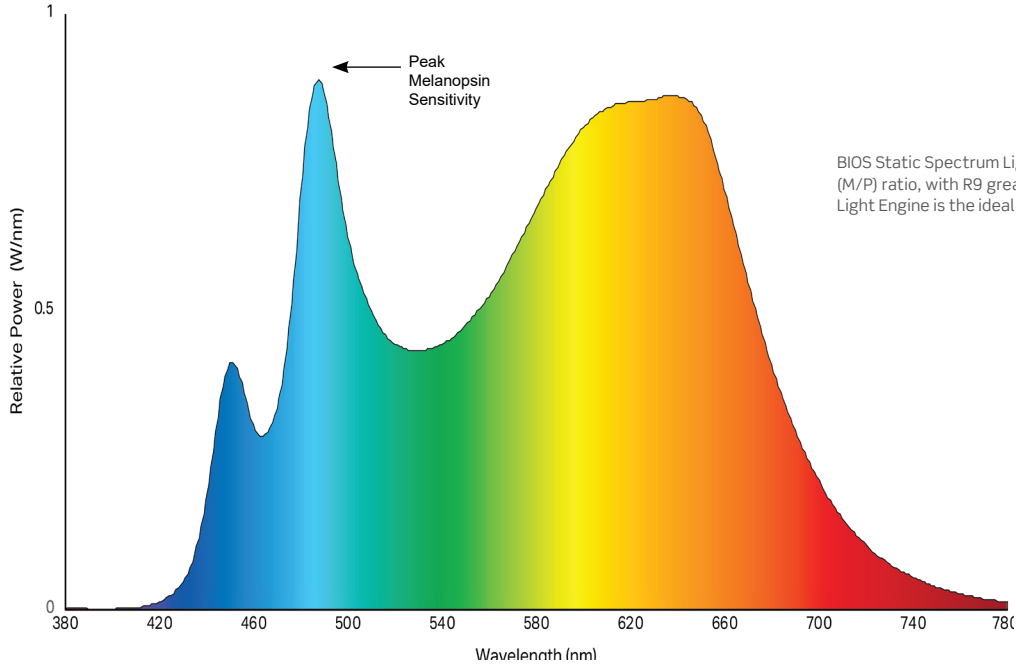


Reading

Project:	Catalogue #:	Type:
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BIOS Static Circadian LED Solution - V114 (BI02)

BIOS SkyBlue® Spectrum lighting solutions support proper daytime circadian stimulus, communicating directly with human circadian biology through a non-visual photo receptor in the eye.



Static Engine Spectral Power Distribution (3500K)

Nominal Performance

CCT	Melanopic Ratio (M/P) ¹	CRI	R9	COI ²
3000K	0.74	81	90	5.4
3500K	0.83	84	96	3.3
4000K	0.92	84	95	1.5

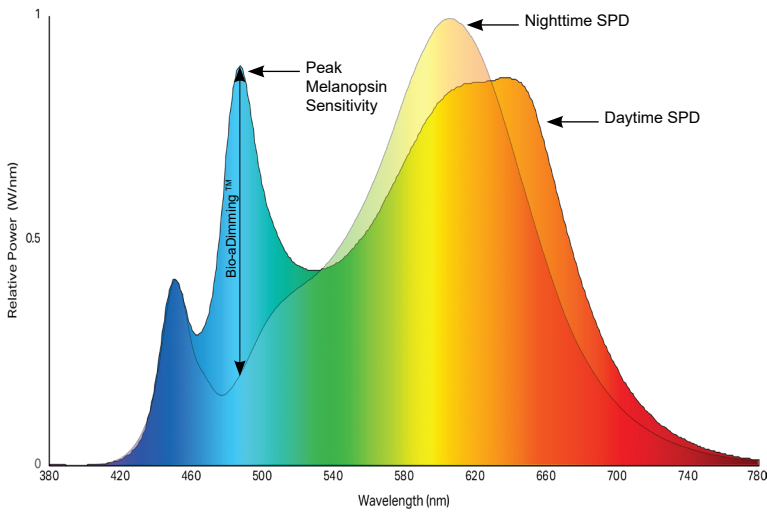
¹ M/P is a ratio that describes the relative melanopic lux (M) versus the photopic lux (P)

² COI - Cyanosis Observation Index

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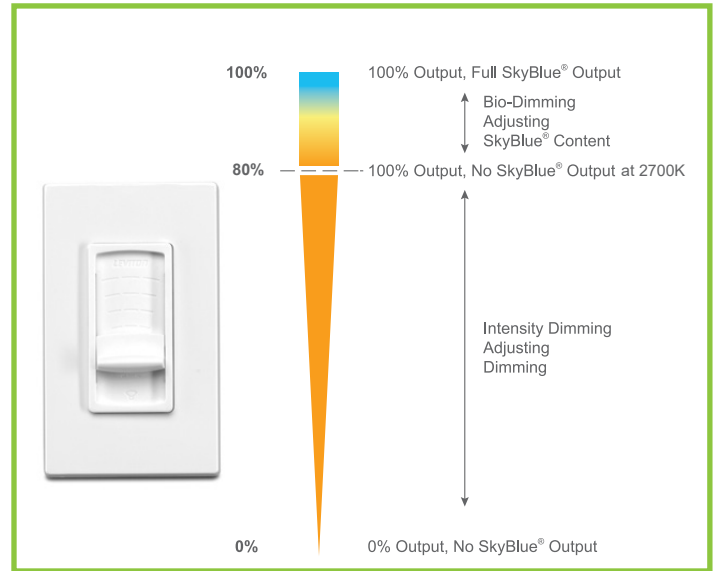
BIOS Dynamic Circadian LED Solution - V114 (BI01)

BIOS SkyBlue® Dynamic Light Engine provides full daytime circadian stimulus and can be dynamically adjusted via the Bio-Dimming™ module. Using a standard single channel 0-10V dimmer reducing melanopic lux while keeping light and CCT constant³. When the SkyBlue® content has been removed (at 2700K), the light level can be adjusted. The Bio-Dimming™ module also detects the preferred light levels over time and will adjust the high end trim of the system to those preferences.



Dynamic Engine Spectral Power Distribution (3500K)

BIOS Dynamic Circadian LED + Bio-Dimming™



Nominal Performance

CCT		Melanopic Ratio (M/P) ¹		CRI	R9	COI ²
Daytime	Night-time	Daytime	Nitght-time			
3000K	2700K	0.74	0.47	81	90	5.4
3500K	2700K	0.83	0.47	84	96	3.3
4000K	2700K	0.92	0.47	84	95	1.5

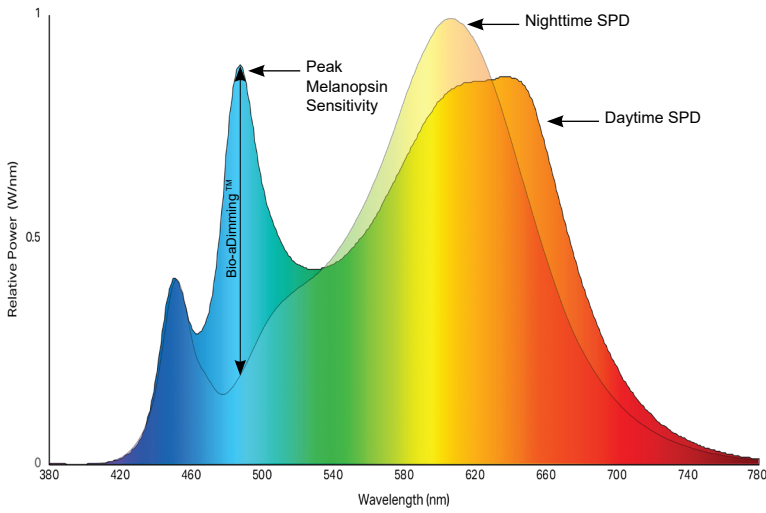
³CCT may vary by up to 500K

⁴Value as shown represents COI provided by daytime LED Spectrum.

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BIOS Dynamic Circadian LED Solution - V114 (BI03)

BIOS SkyBlue® Dynamic Light Engine provides full daytime circadian stimulus and can be dynamically adjusted via tunable circadian LED module. Using a standard two channel 0-10V dimmer reducing melanopic lux and adjusting the output light level while keep CCT constant³. The SkyBlue® below 3000K no longer present. The tunable module also detects the preferred light levels over time and will adjust the high end trim of the system to those preferences.



Dynamic Engine Spectral Power Distribution (3500K)

BIOS Dynamic Tunable Circadian LED (tunable to 2700K)

Nominal Performance

CCT		Melanopic Ratio (M/P) ¹		CRI	R9	COI ²
Daytime	Night-time	Daytime	Nitght-time			
3000K	2700K	0.74	0.47	81	90	5.4
3500K	2700K	0.83	0.47	84	96	3.3
4000K	2700K	0.92	0.47	84	95	1.5

³CCT may vary by up to 500K

⁴Value as shown represents COI provided by daytime LED Spectrum.