

Circadian Behavioral Health Troffers

Anti-Ligature 1x4, 2x2 and 2x4 BIOS® LED Basket Luminaires for Behavioral Health Facilities.



- **IP65 Rated**
- **Indirect Basket for Even Illumination**
- **Anti-Ligature Zero Clearance Door Frame Design**
- **Polycarbonate Lensing and Tamper-Resistant Fasteners Standard**
- **0-10V Dimming Down to 1% Standard**
- **Recessed Housing Suitable for Grid or Flange Installation.**
- **This Kurtzon product is Illuminated by BIOS® to provide healthy, low energy lighting that promotes improved sleep, better health and well-being.**



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ORDERING GUIDE

Series	Installation Type	Material	Size	Row Qty.	Voltage	Lens	Lens:	Lens:	Options
VL									
Series	Installation Type	Material	Size	Light Source			Voltage	Lens:	Options
				Row Qty.	LED Type	CCT/Dim Type			
VL	RB: Recessed Basket (Suitable for Grid or Hardlid Installations)	1: White 18Ga. CRS Hsg. & White 18Ga. CRS Door 2: White 18Ga. CRS Hsg. & Polished 304 SS Door	1x4: Nominal 1'x4' Housing	1	LED-XBL1	835BIOS-DY	UNV: 120-277 Vac	Choose One Flat Lens 1: .125" Clear Flat Polycarbonate 2: .187" Clear Flat Polycarbonate 3: .250" Clear Flat Polycarbonate	FF: Fuse & Holder EM10: 10W Integral LED EM (Specify Input Voltage) SW: Wet Location Hub Supplied (not installed) PxL: Programmed to User Specified Lumen Value.∞ PxW: Programmed to User Specified Wattage Value.∞ 10KV: 10KV Parallel Surge Protection (One Supplied Per Circuit) WHIP: Must Specify Length and Wire Qty WHT: White Finished SS Door TPWHT: White Painted Torx Tamperproof Fasteners YMB: Optional Yoke Mounting Bracket AH: Allen Head SS Tamperproof Fasteners
				2	LED-XBL2	840BIOS-DY			
					LED-XBL3	835BIOS-ST			
						840BIOS-ST			
				1	LED-XBL1	835BIOS-DY			
				2	LED-XBL2	840BIOS-DY			
			2x2: Nominal 2'x2' Housing OR 2x4: Nominal 2'x4' Housing	3	LED-XBL3	835BIOS-ST			
				4		840BIOS-ST			

Notes:

BIOS-DY - Dynamic dimming module **BIOS-ST** - Static dimming module

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SPECIFICATIONS

HOUSING: One piece, hole free, robotically seam welded housing has flattened, knockouts for a superior seal. Housings are available in 18Ga. Cold Rolled Steel with White Powdercoat finish.

DOOR FRAME: One piece zero clearance interference fit doorframe regressed into housing and desigend to prevent ligature. Secured by captive torx tamperproof fasteners and hinged to housing with aircraft cables. Available in Powdercoated 18Ga steel OR Polished 304 Stainless steel.

GASKETS: Closed cell microcellular extruded KleanLock SealPro gasket with vulcanized corners making a one-piece oil and solvent resistant gasket system.

LENS: High durability minimum .125" thick clear polycarbonate. Factory sealed to door with silicone. Other options available.

LEDS: Provided with BIOS® LED modules that are available in 3 different luminous flux intensities. When Dynamic dimming is specified, a bio dimmer is included with each driver inside the fixture. BIOS® LEDs have been expertly crafted to perform as advertised. Engineered to only include the highest quality components, the LEDs are backed by a limited 5 year warranty. See last page for more information on how BIOS® works.

DRIVERS: Standard Universal Voltage Class 2 drivers are 0-10v Dimmable to 1% for most LED configurations. They come with at least 2.5Kv surge protection, have less than 10% THD at max load, Ballast Factor Greater than .95 and are programmable to match specific lumen or wattage requirements. Drivers with higher input voltage ratings are available, consult factory for driver specifications.

REFLECTOR: Specially designed perforated reflector for indirect even fixture illumination.

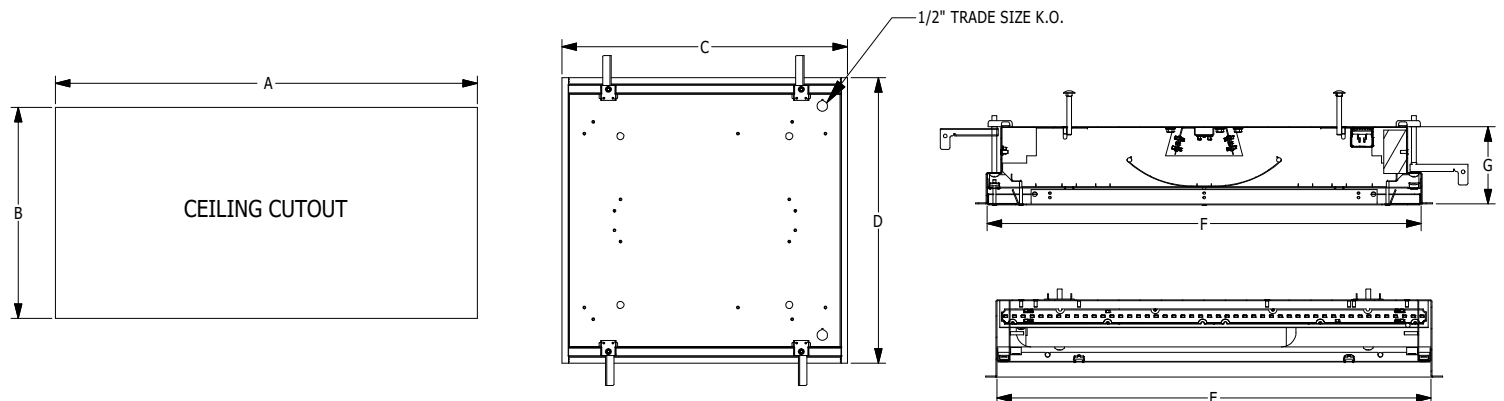
INSTALL RECESSED: One fixture suitable for Grid and Flanged installation. Accommodates 1" T-Bar Grid (Consult factory for 2" T-Bar Grid compatibility). Four adjustable toggle arms with holes for seismic support wire attachment. Supply entry via 1/2" trade size flattened knockouts. Yoke Mount Optional.

FINISH: Gloss white high reflectance 1000 hr. salt spray polyester powder coat finish standard for all housings.

LISTINGS: IP65 rated for dust and water ingress. ETL listed per UL_1598 for wet locations. Chicago Plenum Rated. Drivers and LEDs are covered by a 5 year warranty, the remaining fixture is covered by a 10 year warranty.

PRODUCT DRAWINGS

RECESSED BASKET REFERENCE DIMENSIONS							
SIZE	A	B	C	D	E	F	G
1X4	47.00"	11.00"	47.63"	11.69"	46.50"	10.50"	4.00"
2X2	23.00"	23.00"	23.69"	23.69"	22.50"	22.50"	4.00"
2X4	47.00"	23.00"	47.63"	23.69"	46.50"	22.50"	4.00"



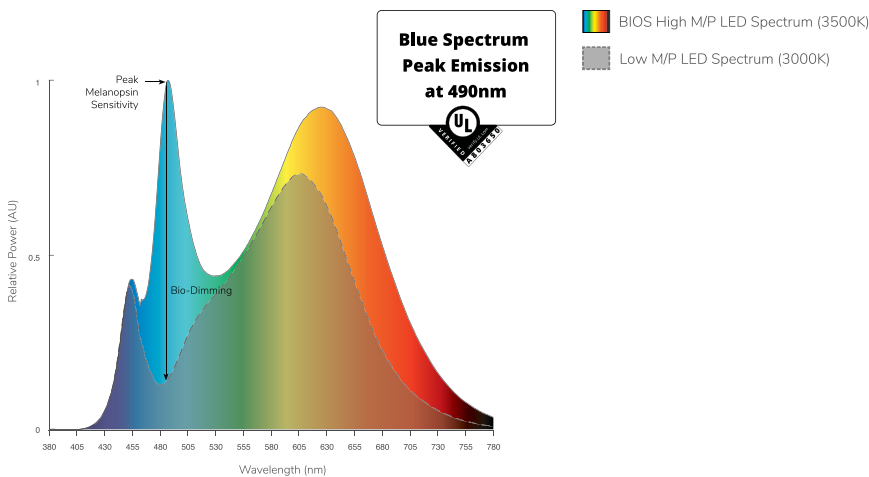
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ENERGY DATA

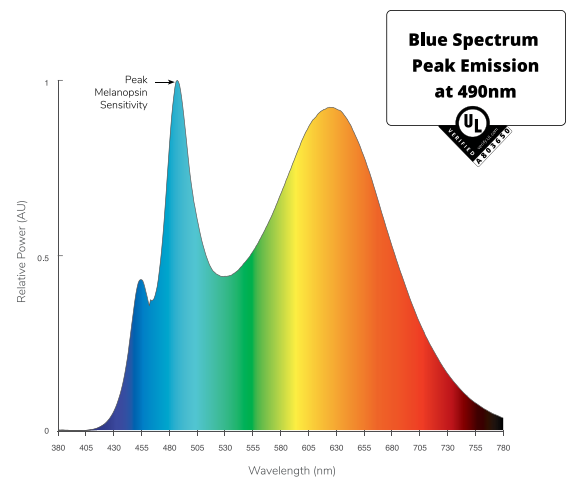
Energy Data Pending

PHOTOMETRICS - DYNAMIC



Dynamic Board Spectral Power Distribution (3500K)

PHOTOMETRICS - STATIC



Static Board Spectral Power Distribution (3500K)

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HOW BIOS® WORKS

Production of melatonin, the hormone that helps us to sleep, is regulated by the ipRGC, a non-visual photoreceptor in the human eye. The wavelength of blue sky light at 490nm, present in sunlight, prevents melatonin production during the day. These signals are crucial in allowing humans to distinguish between day and night, promoting better sleep, health and well-being.

**Blue Spectrum
Peak Emission
at 490nm**




DYNAMIC LIGHT ENGINE

The SkyBlue® Dynamic Light Engine automatically calibrates the light level, reducing melanopic lux while keeping photopic lux at a constant. Dynamic light engines are paired with the current sensing smart BIOS® Bio-Dimming module allowing it operate using any single channel CC LED driver, using any dimming interface. Available in 3500K (dim to 3000K), and 4000K (dim to 3500K).

STATIC LIGHT ENGINE

The SkyBlue® Static Spectrum Light Engine delivers the industry's best melanopic-to-photopic (m/p) ratio, with R9 greater than 90 at each color temperature. Easily integrated into existing LED fixtures and compatible with all LED drivers, the SkyBlue® Static Spectrum Light Engine is the ideal replacement for static color light fixtures. Static light engines have the full output of BIOS® SkyBlue® all the time and the peak cannot be adjusted.

DIMMER SETTINGS WITH BIOS® DYNAMIC DIMMING TECHNOLOGY

	DIMMER SETTING	BIOS® SKYBLUE®	LIGHT OUTPUT
	100% (full on)	100%	100%
	99%-51%	100%-0%	100%-90%
	50%	No BIOS®	~90%
	49%-0%	No BIOS®	Linear Dimming

BIOS® SkyBlue® operates at 100% when the light output is at 100%, for maximum circadian impact. As the light is dimmed, BIOS® SkyBlue® dims until 50% is reached when the BIOS® SkyBlue® is no longer present.