

# MEDMASTER™

## MPCAIE SERIES with BIOS SkyBlue™

### PRODUCT FEATURES:

- » Ceiling mount – recessed grid, flange or surface; 2'x4'
- » Features BIOS SkyBlue Technology to benefit daytime alertness, cognition, mood and circadian rhythms
- » High R9 value and High CRI provide biologically optimized LED spectrum for early detection of cyanosis
- » Ambient/Reading and indirect exam functions
- » Ingress Barrier Door provides consistent surface for cleanliness



### SPECIFICATIONS

**HOUSING:** FLANGE AND GRID: 20-gauge CRS one-piece seam welded construction. SURFACE: 18-gauge CRS one-piece seam welded construction. White TGIC polyester powder coat – 5-stage pre-treatment. Salt spray test 1,000 hours. Reflectance 92%. (See options for Antimicrobial Finish). Housing Flanges – 18-gauge CRS .

**DOORFRAME:** Heavy duty extruded aluminum with clear satin anodized finish. Doorframe supported to housing with aircraft cables (IB-AC) to provide NSF2 listing, or an optional continuous hinged doorframe (IB-HD). Select in ordering options below. Phillips-head stainless steel fasteners secure door to housing - (8) with IB-AC and (2) with IB-HD. Extruded closed cell gasket seals lens frame to housing.

**OPTIC:** Outer lens constructed of 0.125" clear impact-resistant acrylic and sealed to doorframe with vinyl gasketing. Inner basket constructed with extruded frost acrylic over central Ambient function lamping, flanked on both sides with diffused painted aluminum perforated shields over Exam function lamping.

**LED MODULE:** AMBIENT: Serviceable static, dynamic or tunable mid-power Gen 2 BIOS Biological LED modules. Biological Static, Biological Dynamic, and Biological Tunable LED source with blue spectrum peak at 490nm and higher melanopic ratio. CRI 80+ with R9 > 90. Dynamic features 500K downward CCT shift when dimmed for evening applications requiring lower melanopic ratio. Tunable features 2700K CCT for evening applications. Refer to table for specific melanopic values. EXAM: Serviceable Biological Static LED source with blue spectrum peak at 490nm and higher melanopic ratio. 3500K or 4000K selection options. CRI 80+ with R9 > 90.

**DRIVER/CONTROL:** 120-277VAC, 50/60Hz electrical input (PF ≥ 0.9, THD < 20%). AMBIENT: Biological Static: Serviceable, constant-current single channel driver with single analog (0-10V) control input for intensity. 1-100% range with dim to dark capabilities and a linear dimming curve. Biological Dynamic: Serviceable constant-current driver with the BIOS Dynamic Bio-Dimming™ module keeps light output constant while reducing melanopic lux. Single analog (0-10V) control input. 1-100% dimming range with dim-to-dark capabilities and a linear dimming curve. Dimming from 100-75% reduces CCT by 500K, dimming below 75% reduces light level. Biological Tunable: Serviceable, constant-current multi-channel programmable driver with dual analog (0-10V) control inputs for intensity and CCT. Optional DALI (Type 8) driver. Logarithmic intensity profile with 0.1-100% range, with dim-to-dark capabilities. Linear profile on CCT adjustment. EXAM: Serviceable constant-current programmable driver. Dimming protocol matches BIOS Biological circuit selection: 0-10V dimming with 1-100% range and dim-to-dark capabilities or DALI with 1-100% range and dim-to-dark capability

**INSTALLATION :** SURFACE MOUNT: Four .312" diameter holes. GRID MOUNT: Designed for 1" and 1.5" grid. (Housing includes hanging brackets to secure housing with wire to super structure). FLANGE MOUNT: Yoke mounting hardware & brackets included. Install Frame positively locates yoke brackets within ceiling opening assures alignment of fixture. Install frame has no need for drywall backing. Backing is supplied on the frame brackets.

**WARRANTY:** Limited five (5) year warranty.

**LISTINGS:** Luminaire is certified to UL Standards by Intertek Testing Laboratory for Wet Location and non-IC recessed installation. ETL certified IP65 per IEC 60598. Recessed configurations rated for non-IC applications. CCEA approved (Flange). NSF2 Splash/Non-Food Zone (IB-AC only).



### ORDERING INFORMATION (Ex: MPCAIE24-S-45B/90B-35K8-DIM1-DV-IB-AC-LVCD)

Model	Mounting Options	Lamp Power	Lamp Color	Driver	Voltage	Doorframe	Options	Accessories
<b>MPCAIE24</b>					<b>DV</b>	<b>IB-</b>		
	<b>Mounting</b> <b>S</b> Surface <b>G</b> Recessed Grid <b>F</b> Recessed Flange  <b>Lamp Power (Ambient/Exam)</b> <b>45B/90B</b> 45 Watt BIOS/90 Watt BIOS <b>67B/90B+</b> 67 Watt BIOS/90 Watt BIOS  <b>Lamp Color</b> <b>35K8</b> 3500K SkyBlue / 80CRI min / R9 90+ <b>40K8</b> 4000K SkyBlue / 80CRI min / R9 90+	<b>Driver Type</b> ♦ <b>DIM1</b> BIOS Biological Static with 0-10V Dimming to 1% with Dim-to-Dark Capabilities <b>BIODIM1</b> BIOS Biological Dynamic with 0-10V Intensity Dimming to 1% and Dim-to-Dark Capabilities  <b>ATW</b> BIOS Biological Tunable White with 0-10V Control of Intensity and CCT independently on 2 separate channels  <b>DTW</b> BIOS Biological Tunable White with DALI Control of Intensity and CCT independently on 2 separate channels  <b>Input Voltage</b> <b>DV</b> 120-277 Volts  <b>Doorframe</b> <b>AC</b> Ingress Barrier w/Aircraft Cables (STD) <b>HD</b> Ingress Barrier w/Continuous Piano Hinge	<b>Options</b> <b>LEL</b> ▲ 10W LED Emergency Battery Pack <b>AMF</b> Antimicrobial Finish on exposed surfaces <b>NLW</b> 2700K White LED Night Light <b>NLA</b> Amber LED Night Light <b>FS</b> Single Fuse & Holder <b>LRL</b> † Dual 3500K, 90CRI Reading Lights <b>LVC</b> * Low Voltage Controller (Click <a href="#">here</a> for specifications) <b>LVCS</b> * Low Voltage Controller with Secondary Conduit Entry (Click <a href="#">here</a> for specifications) <b>LVCD</b> * Low Voltage Controller with Dimming (Click <a href="#">here</a> for specifications) <b>LVCDs</b> * Low Voltage Controller with Dimming and Secondary Conduit Entry (Click <a href="#">here</a> for specifications)  <b>Accessories</b> <b>IF</b> Install Frame (Flange only)  + n/a with BIODIM1 Driver Type ♦ Refer to LED Module and Driver/Control specifications above for the BIOS options available with the Ambient and Exam functions ▲ Wired to Ambient function † Not a BIOS lamp source. Consult factory for DALI control selection. * Low Voltage Controller compatible with bed controls; not compatible with DTW option. LVC wired to provide ON/OFF control to Ambient, Exam, Reading and Night Light function. LVCD wired to provide ON/OFF and dimming control to Ambient and Exam function; ON/OFF function capability for NLW/NLA or LRL option when ordered in conjunction					

**ACCESSORIES ORDERED SEPARATELY**  
**MPWS** Low Voltage Wall Switch (Click [here](#) for Specifications)



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## MPCAIE SERIES with BIOS SkyBlue™

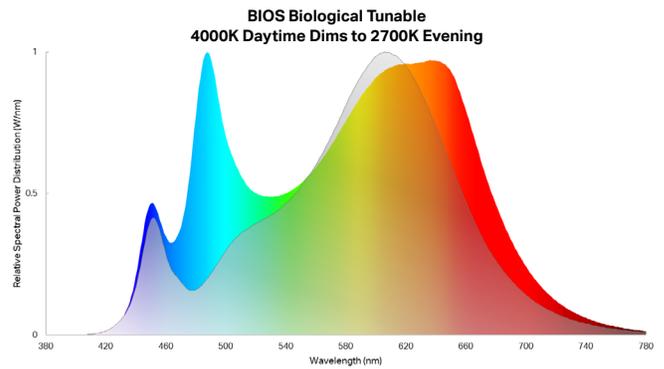
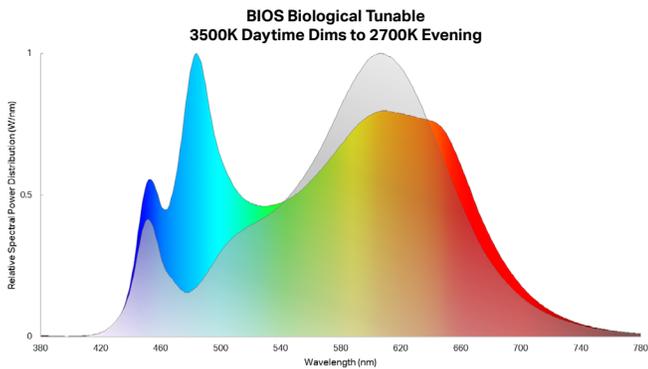
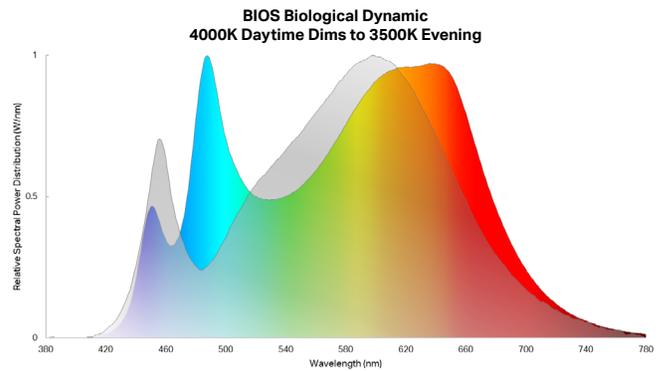
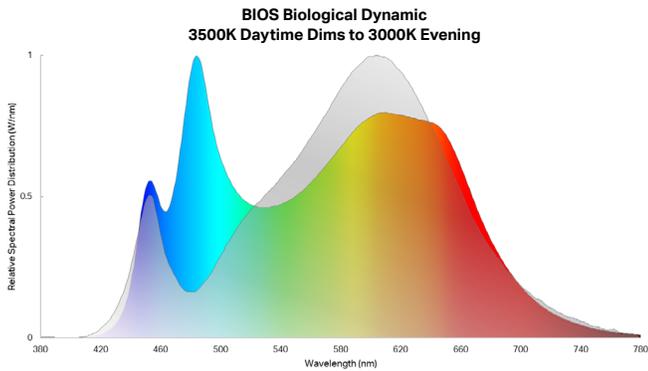
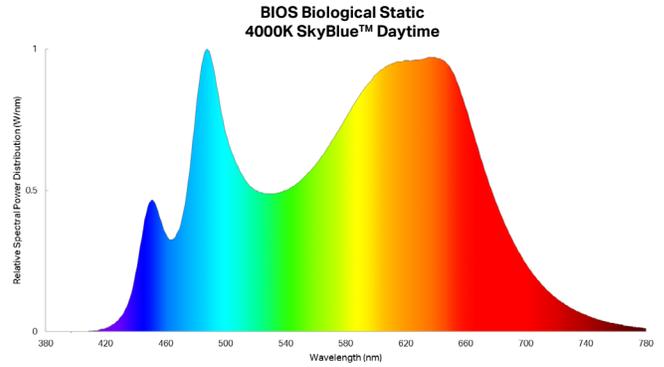
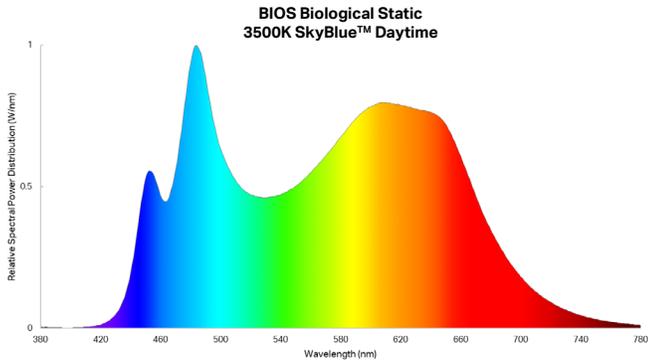
### DELIVERED MELANOPIC RATIO OF 35K8 BIOS

BIOS Type	Spectral Mode	Nominal CCT	Melanopic Ratio*	
			m-EER	m-DER
Biological Static	Daytime	3500K	≥0.80	≥0.72
Biological Dynamic	Daytime	3500K	≥0.80	≥0.72
	Evening	3000K	≤0.49	≤0.44
Biological Tunable	Daytime	3500K	≥0.80	≥0.72
	Evening	2700K	≤0.47	≤0.42

### DELIVERED MELANOPIC RATIO OF 40K8 BIOS

BIOS Type	Spectral Mode	Nominal CCT	Melanopic Ratio*	
			m-EER	m-DER
Biological Static	Daytime	4000K	≥0.90	≥0.81
Biological Dynamic	Daytime	4000K	≥0.90	≥0.81
	Evening	3500K	≤0.57	≤0.51
Biological Tunable	Daytime	4000K	≥0.90	≥0.81
	Evening	2700K	≤0.47	≤0.42

\*Melanopic ratios are provided in two forms: (m-EER) which is calculated using the WELL v2 methodology and the corresponding CIE melanopic Daylight Equivalent Ratio, (m-DER).



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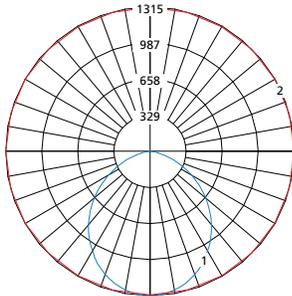
**MEDMASTER™**  
**MPCAIE SERIES with BIOS SkyBlue™**  
**PERFORMANCE**

Model	Lamp Compartment	Lamp Type	Initial Delivered Lumens		Input Power (W)	Drive Current (mA)	Estd. L70 LED Life (Hrs)
			@ 25°C	Efficacy (lm/W)			
MPCAIE24	Ambient	45B-35K8	3,085	63	49	100	80,000
		45B-40K8	3,452	70			
		67B-35K8	4,943	68	73	75	
		67B-40K8	5,533	76			
	Exam	90B-35K8	5,513	56	99	100	60,000
		90B-40K8	6,171	62			
	Ambient/Exam	45B/90B-35K8	8,415	57	148	100/100	60,000
		45B/90B-40K8	9,419	64			
		67B/90B-35K8	10,201	59	172	75/100	
		67B/90B-40K8	11,419	66			

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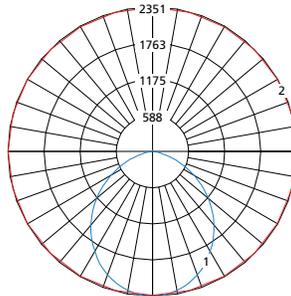
**PERFORMANCE**

Model: MPCAIE24-G-45B-90B-35K8-DIM1-DV-AC  
 Ambient



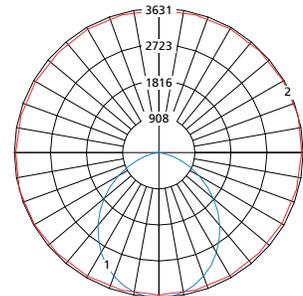
Maximum Candela = 1315 Located At Horizontal Angle = 15, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (15-195) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: MPCAIE24-G-45B-90B-35K8-DIM1-DV-AC  
 Exam



Maximum Candela = 2351 Located At Horizontal Angle = 15, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (15-195) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: MPCAIE24-G-45B-90B-35K8-DIM1-DV-AC  
 Ambient and Exam



Maximum Candela = 3631 Located At Horizontal Angle = 195, Vertical Angle = 5  
 1 - Vertical Plane Through Horizontal Angles (195-15) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

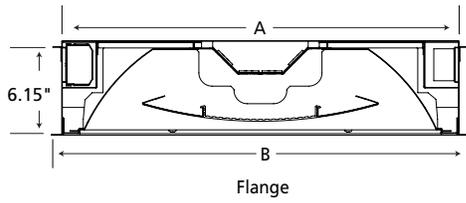


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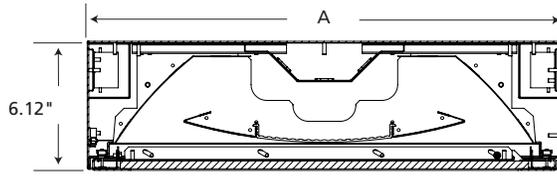
## MPCAIE SERIES with BIOS SkyBlue™

### DIMENSIONAL DATA

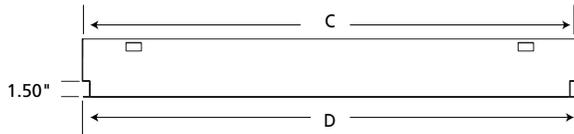
GRID/FLANGE MOUNT



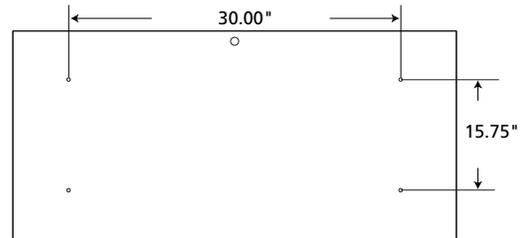
SURFACE MOUNT



GRID/FLANGE MOUNT SIDE VIEW



SURFACE MOUNT TOP VIEW  
(MOUNTING HOLE PATTERN)



DIMENSIONAL DATA (IN INCHES)				
	A	B	C	D
GRID	6.00	22.60	48.00	47.75
FLANGE	6.00	22.60	48.12	49.28
RECOMMENDED CEILING CUTOUT (FLANGE)** - 22.60x48.13				
** ADD .25" TO EACH CUT-OUT DIMENSION WHEN INSTALL FRAME (IF ACCESSORY IS SPECIFIED (FLANGE ONLY)				



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