

MEDMASTER™

MPCADE SERIES with BIOS SkyBlue™

PRODUCT FEATURES:

- » Ceiling mount – recessed grid, recessed flange or surface
- » 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 and exam lighting with optional reading function
- » Ingress Barrier Door provides consistent surface for cleanliness



SPECIFICATIONS

HOUSING: FLANGE AND GRID: 20-gauge CRS seam welded one-piece 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 doorframe to housing.

OPTIC: Outer lens constructed of 0.125" clear impact-resistant acrylic and sealed to doorframe with vinyl gasketing. Inner exam and ambient functions are constructed with high-efficiency frost acrylic.

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: 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 and Plaster Frames both 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.

PHOTOMETRICS: Photometry tested to the IESNA LM-79-08 standard by an ILAC/ISO17025 accredited laboratory. For additional photometric data, please go to www.kenall.com.

WARRANTY: Limited five (5) year warranty on LED lamps.

LISTINGS: UL and CUL Listed for Wet Location and UL certified IP65 per IEC 60598. Recessed configurations rated for non-IC applications. NSF2 Splash/Non-Food Zone (IB-AC only). CCEA approved



GRID/FLANGE

ORDERING INFORMATION (Ex: MPCADE24-F-45B/90B-35K8-DIM1-DV-IB-AC)

Model	Mounting Options	Lamp Power	Lamp Color	Driver Type	Voltage	Doorframe	Options	Accessories
MPCADE24		45B/90B		DV		IB-		
	Mounting Options S Surface G Grid (1" and 1.5") F Flange	Lamp Power (Ambient/Exam) 45B/90B 45B Watt BIOS/90B Watt Static BIOS	Lamp Color 35K8 3500K SkyBlue / 80CRI min / R9 90+ 40K8 4000K SkyBlue / 80CRI min / R9 90+	Input Voltage DV 120-277 Volts Doorframe AC Ingress Barrier w/Aircraft Cables HD Ingress Barrier w/Continuous Piano Hinge (not NSF2 listed)			Options (continued) FS Single Fuse & Holder (1 per function) LRL† Dual 3500K, 90CRI LED Reading Lights TC T-Bar Clips (Grid only) TH 1/2" Trade Size Threaded Hub HJ Sealed Wireway	Accessories IF Install Frame (Flange only) PF Plaster Frame (Flange only)
	Driver Type♦ DIM1 BIOS Biological Static with 0-10V Dimming to 1% with Dim-to-Dark Capabilities BIODIM1 BIOS Biological Dynamic with 0-10V Intensity Dimming to 1% and Dim-to-Dark Capabilities ATW BIOS Biological Tunable White with 0-10V Control of Intensity and CCT independently on 2 separate channels DTW BIOS Biological Tunable White with DALI Control of Intensity and CCT independently on 2 separate channels			Options LEL▲ LED Emergency Battery Pack AMF Antimicrobial Finish on exposed surfaces NLW 2700K White LED Night Light NLA Amber LED Night Light LVC* Low Voltage Controller (Click here for specifications) LVCD* Low Voltage Controller with Dimming (Click here for specifications)			♦ 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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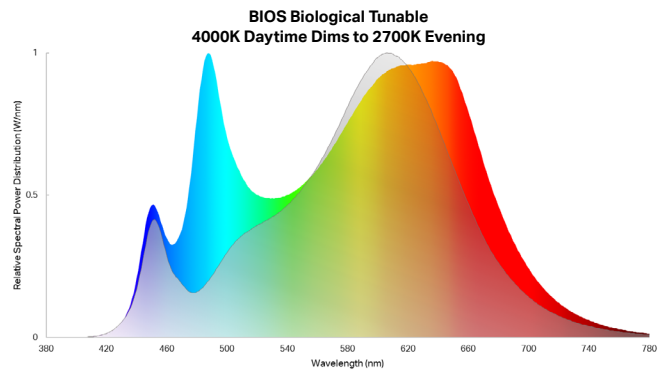
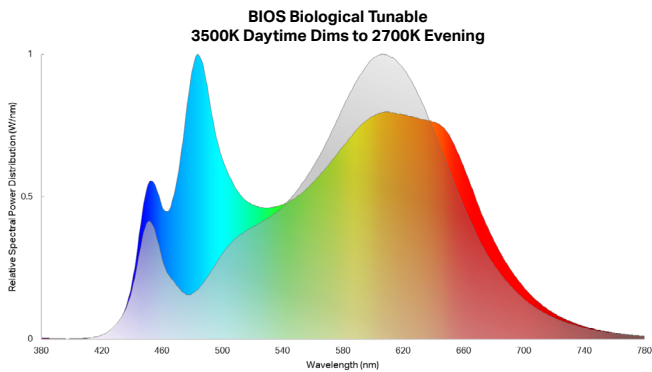
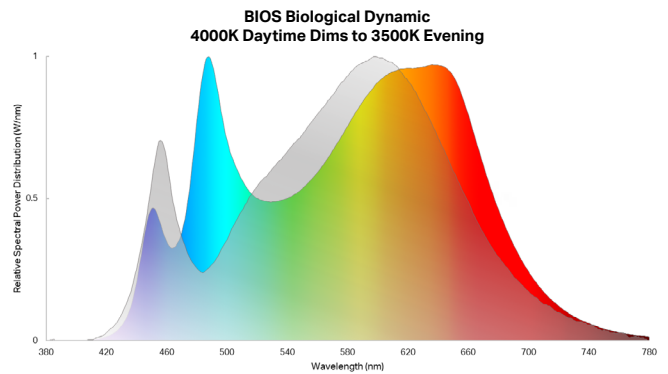
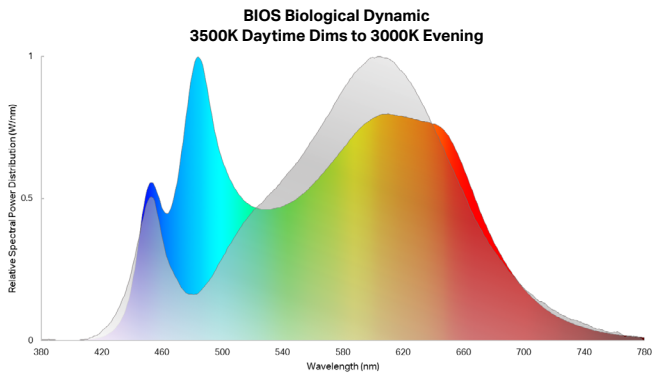
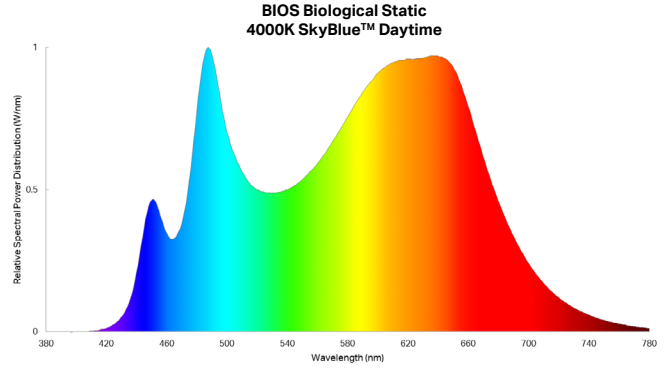
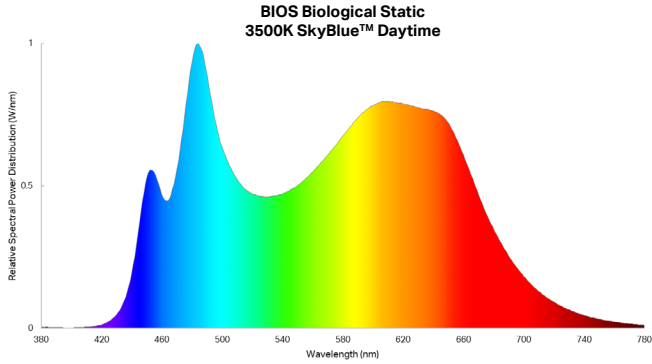
DELIVERED MELANOPIC RATIO OF 35K8 BIOS

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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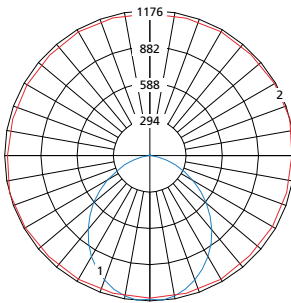
PERFORMANCE

Model	Function	Lamp Type	Initial Delivered Lumens		Input Power (W)	Drive Current (mA)	Estd. L70 LED Life (Hrs)
			@ 25°C	Efficacy (lm/W)			
MPCADE24	Ambient	45B-35K8	3,179	65	49	100	80,000
		45B-40K8	3,452	70			
	Exam	90B-35K8	5,716	57	100	100	80,000
		90B-40K8	6,207	62			
	Ambient/Exam	45B/90B-35K8	8,848	60	148	100/100	80,000
		45B/90B-40K8	9,607	65			

Information subject to change without notice. Visit www.kenall.com for ies files additional information.

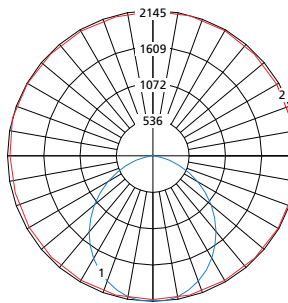
PERFORMANCE

Model: MPCADE24-F-45B-90B-35K8-DIM1-DV-IB-AC
Ambient



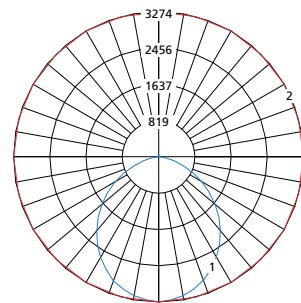
Maximum Candela = 1176 Located At Horizontal Angle = 195, Vertical Angle = 5
 1 - Vertical Plane Through Horizontal Angles (195-15) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

Model: MPCADE24-F-45B-90B-35K8-DIM1-DV-IB-AC
Exam



Maximum Candela = 2145 Located At Horizontal Angle = 165, Vertical Angle = 5
 1 - Vertical Plane Through Horizontal Angles (165-345) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

Model: MPCADE24-F-45B-90B-35K8-DIM1-DV-IB-AC
Ambient and Exam

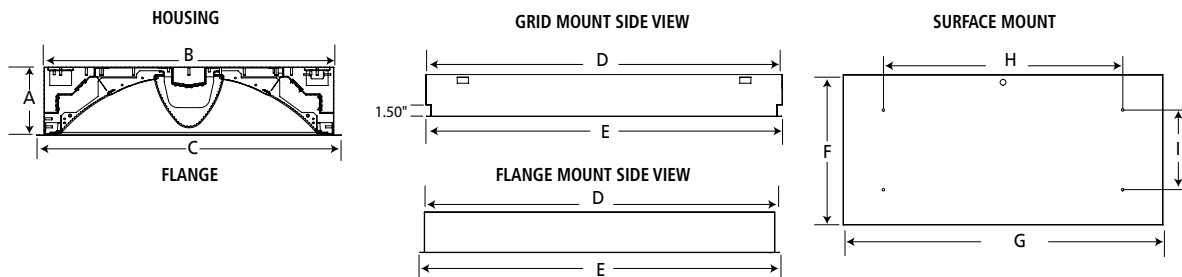


Maximum Candela = 3274 Located At Horizontal Angle = 0, Vertical Angle = 0
 1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)



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DIMENSIONAL DATA



DIMENSIONAL DATA (IN INCHES)

	A	B	C	D	E	F	G	H	I
Flange*	5.93	22.60	23.75	48.13	49.28	---	---	---	---
Grid	5.93	22.60	23.75	48.00	47.75	---	---	---	---
Surface	5.93	---	---	---	---	22.60	48.13	30.00	12.00

*Flange Ceiling Cutout: 22.88 x 48.38 (Add .25" to each dimension when Install Frame (IF) or Plaster Frame (PF) is specified.)

