

# MEDMASTER™

## Behavioral Healthcare Luminaires

### MMAC SERIES using Indigo-Clean Technology

#### PRODUCT FEATURES:

- » Provides environmental disinfection and effective, efficient lighting performance via visible LED light
- » Dual-Mode Indigo-Clean Technology is independently tested to kill 94% of SARS CoV-2 and Influenza-A\*\*\*, in addition to MRSA
- » Single-Mode Indigo-Clean Technology is independently tested to kill harmful bacteria, such as Staph\*, including MRSA\*\* Surface, recessed grid or recessed flange mount – 1'x4', 2'x2', 2'x4'
- » Center diffuser provides direct/indirect ambient lighting
- » Ligature resistant construction



#### PROJECT INFORMATION

Job Name \_\_\_\_\_

Fixture Type \_\_\_\_\_

Catalog Number \_\_\_\_\_

Approved by \_\_\_\_\_

#### SPECIFICATIONS

**HOUSING:** Die-formed prime grade material as specified – see Ordering Information. TIG and spot welded construction.

**DOOR:** One-piece die-formed prime grade material as specified – see Ordering Information. Door/frame supported to housing with two aircraft cables. Corners continuously seam welded and smooth with no post grinding (TIG). Closed cell silicone gasket seals door to housing.

**FINISH:** TGIC polyester powder coat – 5-stage pre-treatment. Salt spray test: 1,000 hours; Reflectance: 92%. Optional antimicrobial finish.

**OPTICS:** Extruded high-efficiency frosted DR acrylic inner diffuser. Clear impact-resistant polycarbonate outer lens as specified—see Ordering Information.

**FASTENERS:** Torx® head with center pin hardened security screws. Fully recessed.

**ELECTRICAL: (Single- and Dual-Mode ICT)** Serviceable mid-power white and 405nm Indigo LED array. Available 3200K, 3700K and 4300K color temperatures with 3-step MacAdam variation allowance. Minimum 82 CRI standard. 120-277VAC and 347VAC electrical input with serviceable high power factor electronic, constant-current drivers (<10% THD, >0.90 PF). Minimum 85% driver efficiency. Standard 0-10V dimming with 1-100% range and dim-to-dark capabilities (non-dim-to-dark on Dual-Mode ICT). 330µA maximum source current. **Single-Mode ICT** provides a single, white disinfection operational mode. **Dual-Mode ICT** provides two operational modes based on room occupancy. White Disinfection Mode is a white LED array for ambient lighting plus a simultaneous low-power 405nm LED array for low-level, continuous and safe environmental disinfection. Indigo Disinfection Mode is a higher-level 405nm array for continuous safe environmental disinfection during periods of room vacancy. The operational mode is determined via internal low-voltage device based upon the input signal provided by an external control device/system, such as the [IC150](#) product. Luminaire dimming is overridden in this operational state. Refer to the [Kenall Dual-Mode ICT Control Application Guide](#) for further description.

**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 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.

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

**LISTINGS:** Luminaire is certified to UL Standards by Intertek Testing Laboratory for Wet Location and non-IC recessed installations. ETL certified IP65 per IEC 60598. NSF2 Splash/Non-Food Zone. Ligature resistant construction. EPA Est. No. 99283-WI-1.

\* Per independent lab report #5GS-09517036476. Contact Kenall for a copy of this report.  
 \*\*Antimicrobial Activity of a Continuous Visible Light Disinfection System by Rutala, et. al, ID Week 2016.  
 \*\*\*Refer to [www.indigo-clean.com](http://www.indigo-clean.com) for details.



#### ORDERING INFORMATION (Ex: MMAC22-F-1/2-9-55C-37K8-DCC-DV-FS)

Model	Mounting	Door/Housing Material	Lens	Diffuser Type	Lamp Power	Lamp Color	Driver Type	Voltage	Options	Accessory
		/	FA				DCC			
<b>Model</b>				<b>Diffuser Type</b>				<b>Voltage</b>		
MMAC14 1'x4'				FA Frosted Acrylic				DV 120-277VAC, 50/60Hz		
MMAC22 2'x2'								347 347VAC, 50/60Hz		
MMAC24 2'x4'										
<b>Mounting Options</b>				<b>Lamp Power</b>					<b>Options</b>	
F Flange				1x4					LEL** LED Emergency Battery Pack	
S Surface				55C 55W Single-Mode ICT					AMF Antimicrobial Finish on exposed surfaces	
G Grid (1" and 1.5")				231/55C 55W Dual-Mode ICT					NLW^ 2700K White LED Night Light	
				2x2					NLA^ Amber LED Night Light	
				55C 55W Single-Mode ICT					FS Fuse & Holder	
				231/55C 55W Dual-Mode ICT					LVC* Low Voltage Controller (Click <a href="#">here</a> for specifications)	
				2'x4'					LVCD* Low Voltage Controller with Dimming (Click <a href="#">here</a> for specifications)	
				55C 55W Single-Mode ICT					TC T-Bar Clips (Grid Mount only)	
				82C 82W Single-Mode ICT						
				110C 110W Single-Mode ICT						
				231/55C 55W Dual-Mode ICT						
				341/82C 82W Dual-Mode ICT						
				461/110C 110W Dual-Mode ICT						
<b>Lens</b>				<b>Lamp Color</b>					<b>Accessory</b>	
7 .187" Clear Polycarbonate				32K8 3200K / 82 CRI min.					IF Install Frame (Flange only; add .375 to each Ceiling Cutout dimension)	
9 .250" Clear Polycarbonate				37K8 3700K / 82 CRI min.						
B .375" Clear Polycarbonate				43K8 4300K / 82 CRI min.						
				<b>Driver Type</b>						
				DCC 0-10V Dimming Constant Current Driver						

**ACCESSORIES ORDERED SEPARATELY**  
 MPWS Low Voltage Wall Switch (Click [here](#) for Specifications)  
 IC150 External Room Control System for Dual-Mode ICT Products (click [here](#) for Specifications)



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#### PERFORMANCE

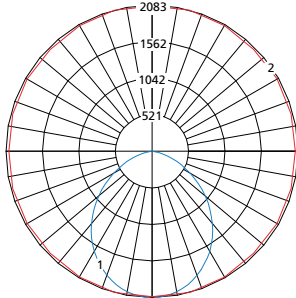
Technology	Length	Lamp Code	Lumen Output by Color (lm) <sup>1</sup>			Efficacy (lm/W)	Power Consumption <sup>2</sup>			Estd L70 LED Life (Hrs)
			32K8	37K8	43K8		Occupied (W)	LPD (W)	Unoccupied (W)	
Single-Mode ICT	1 x 4	55C	4,077	4,183	4,226	67 - 69	61	51	n/a	80,000
	2 x 2	55C	4,131	4,238	4,281	68 - 70	61	51		
	2 x 4	55C	5,071	5,203	5,256	83 - 86	61	51		
		82C	7,659	7,858	7,938	82 - 85	93	77		
		110C	9,438	9,683	9,782	77 - 80	122	101		
Dual-Mode ICT	1 x 4	23I/55C	4,077	4,183	4,226	67 - 69	61	51	29	80,000
	2 x 2	23I/55C	4,131	4,238	4,281	68 - 70	61	51	29	
	2 x 4	23I/55C	5,071	5,203	5,256	83 - 86	61	51	29	
		34I/82C	7,659	7,858	7,938	82 - 85	93	77	44	
		46I/110C	9,438	9,683	9,782	77 - 80	122	101	58	

<sup>1</sup>Lumen output is with the FA lens type. Information subject to change without notice. Visit [www.kenall.com](http://www.kenall.com) for IES files and additional information.

<sup>2</sup>Lighting Power and Energy Calculations:

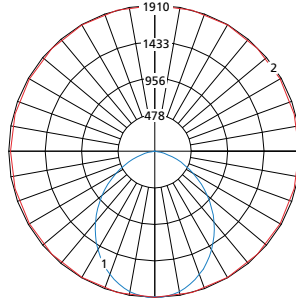
- Use **Occupied Power** for total electrical load calculations. Use this value to estimate branch circuit lighting loads.
- Use **LPD Power** for lighting power density calculations. Only the power attributed to white light is required per NEMA LSD EB 84-202X. Power used toward germicidal disinfection has been removed for this calculation.
- Use **Unoccupied** and **Occupied Power** for Energy calculations to determine the power consumed over time based on the use of the space.

Model: MMAC-14-x-1-2-B-55C-37K8-DCC-DV and MMAC-14-x-1-2-B-23I/55C-37K8-DCC-DV



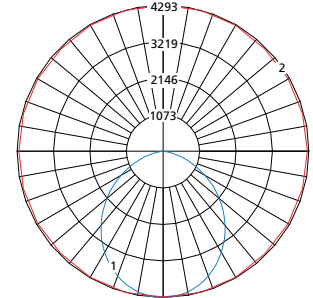
Max Candela = 1988 Located At Horizontal Angle = 75, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (75 - 255) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: MMAC-22-x-1-2-B-55C-37K8-DCC-DV and MMAC-22-x-1-2-B-23I/55C-37K8-DCC-DV



Max Candela = 1717 Located At Horizontal Angle = 90, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: MMAC-24-x-1-2-B-110C-37K8-DCC-DV and MMAC-24-x-1-2-B-46I/110C-37K8-DCC-DV



Max Candela = 3811 Located At Horizontal Angle = 75, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (75 - 255) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)



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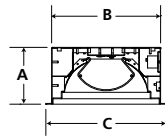
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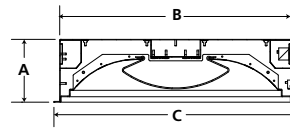
### DIMENSIONAL DATA

#### GRID DIMENSIONAL DATA (IN INCHES)

	A	B	C	D	E
1x4	5.56	10.60	11.75	46.60	47.75
2x2	6.10	22.60	23.75	22.60	23.75
2x4	6.10	22.60	23.75	46.60	47.75



MAC14

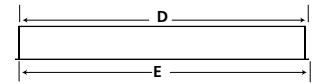


MAC22 & MAC24

#### GRID MOUNT

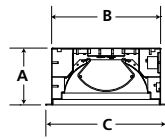
CROSS SECTION

SIDE VIEW

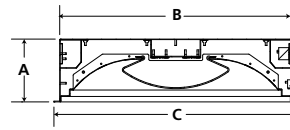


#### FLANGE DIMENSIONAL DATA (IN INCHES)

	A	B	C	D	E	F	G
1x4	5.56	10.60	11.75	46.60	47.75	30.00	5.25
Recommended Ceiling Cutout: 10.88" x 46.88"							
2x2	6.10	22.60	23.75	22.60	23.75	12.00	12.00
Recommended Ceiling Cutout: 22.88" x 22.88"							
2x4	6.10	22.60	23.75	46.60	47.75	30.00	12.00
Recommended Ceiling Cutout: 22.88" x 46.88"							



MAC14

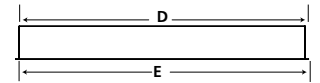


MAC22 & MAC24

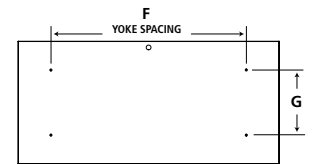
#### FLANGE MOUNT

CROSS SECTION

SIDE VIEW

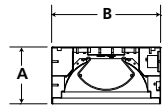


TOP VIEW

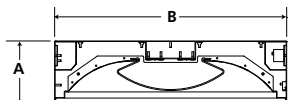


#### SURFACE DIMENSIONAL DATA (IN INCHES)

	A	B	C	D	E
1x4	5.56	10.60	30.00	5.25	46.60
2x2	6.13	22.60	12.00	12.00	22.60
2x4	6.13	22.60	30.00	12.00	46.60



MAC14

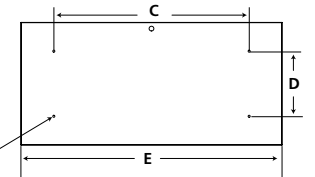


MAC22 & MAC24

#### SURFACE MOUNT

CROSS SECTION

TOP VIEW



Mounting Holes



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