PROJECT	Job Name	C;	Catalog Number
INFORMATION	Fixture Type	A	Approved by

MEDMASTER CLEANSCENE™

MRI/Imaging Suite Luminaires

CSMRI SERIES

PRODUCT FEATURES:

- » Recessed ceiling mount grid; 4'×4'
- » Non-ferrous construction
- » Available with iMAGINE Series Graphics
- » Antimicrobial finish option

SPECIFICATIONS

HOUSING: 18-gauge aluminum. Non-ferrous material content. Hole-free seam welded construction. TGIC polyester powder coat finish in standard white or optional black, with five-stage pre-treatment. Salt spray test: 1,000 hours. Antimicrobial finish optional on all exposed painted components of installed luminaire.

DOORFRAME: 18-gauge aluminum. Non-ferrous material content. One-piece inset construction, welded corners. TGIC polyester powder coat finish in standard white or optional black, with five-stage pre-treatment. Salt spray test: 1,000 hours. Internal hinge design. Twelve (12) captive mounted Phillips-head stainless steel fasteners. Antimicrobial finish optional on all exposed painted components of installed luminaire. Closed cell silicone gasket seals doorframe to housing.

LENS: Smooth .177" clear acrylic lens secured with continuous lens retention system.

REGRESSED FRAME KIT (ACCESSORY): One-piece, .08" thick, seamless aluminum con-struction TGIC polyester powder coat finish in matte white or black. Provides easy-to-install, architectural skylight effect by raising fixture 2-inches above standard 1" or 1.5" T-bar grid ceiling.

ELECTRICAL: Replaceable high-brightness 6500K LED light array. Luminaire input 24VDC from remote-located 120-277VAC, high-power-factor power supply with EMI filter. Dimming line EMI filter required if utilizing dimming function. Dimming capability controlled through compatible 0-10V dimmer (supplied by others). Dimming range 10-100%. MRI room EMI filter required (supplied by others). See below for ordering information.

INSTALLATION: 1" or 1.5" T-Bar installation standard. Includes hardware to secure hanger wire. Regress Kit raises fixture 2". All power and signal wiring must be completely shielded in grounded aluminum conduit.

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

WARRANTY: Limited five (5) year LED warranty.

LISTINGS: Luminaire is certified to UL1598 and UL8750 standards by Intertek Testing Services for Damp Location. NSF2 Splash/Non-Food Zone. Build America, Buy America Act compliant.







ORDERING INFORMATION (Ex: CSMRI44-G10-26L65K-24VDC)

Model CSMRI44	Mounting	Lamp Type 26L65K	Voltage 24VDC	Options	Accessory	Image Selection
	Mounting Options G10 Grid (1") G15 Grid (1.5")	Lamp Type 26L65K 26 Watt 6500	K LED		Accessory RFK44W Regressed RFK44B Regressed	rame Kit in White rame Kit in Black

G15 Grid (1.5")

Voltage 24VDC 24 Volts DC

Options

AMF Antimicrobial Finish (All Exposed Surfaces)

BLK Exterior Surfaces in Black

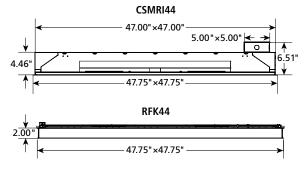
ACCESSORIES ORDERED SEPERATELY

GRAPHIC IMAGE SIZE NEEDED – 4×4 FIXTURE Remote Power Supply with EMI Filter (click <u>here</u> for specifications) MRIPSF Grid 1.0 (G10) 44.575×44.575 Dimming Filter (one per dimming circuit, click here for specifications) MRIFD-1A Grid 1.5 (G15) 44.075×44.075

	•	
MRITIMINIA	IRE CONNECTION PE	POWER SUPPLY

MRI LUMINAIRE CONNECTION PER POWER SUPPLY						
Luminaire	Lamp	Amps/	Max Luminaires per	Max Luminaires per	Max Luminaires per	
Number	Power	Luminaire	MRIPSF-480 Power Supply	MRIPSF-240 Power Supply	MRIPSF-120 Power Supply	
CSMBIAA	261	1 46	13	6	3	

DIMENSIONAL DATA



*Subtract .50" from housing width and length when 1.5" grid mounting option is specified.

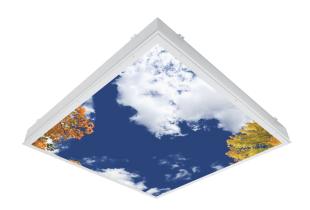


Image Selection

Click here for iMAGINE series image selections and ordering numbers.

Consult factory for alternate image selection approval.

CSMRI SERIES



IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED. DISCONNECT POWER TO ALL CIRCUITS BEFORE WIRING FIXTURE. INSTALL IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL CODES. DO NOT CONNECT TO AN UNGROUNDED SUPPLY. READ ALL FIXTURE MARKINGS AND LABELS TO ENSURE CORRECT INSTALLATION OF FIXTURE. SUPPLEMENTAL INSTRUCTIONS MAY BE LOCATED ON THE FIXTURE, IN ADDITION TO THIS INSTRUCTION SHEET, REGARDING ORIENTATION, OR MOUNTING RESTRICTIONS.

SAVE THESE INSTRUCTIONS

INSTALLATION INSTRUCTIONS

- Disconnect power to all circuits before wiring system.
- Install in accordance with all national, state, and local codes.
- Do not connect to an ungrounded supply.
- Wiring connections must be made internal to the enclosure.
- Failure to install unit on a mechanically-sound surface may result in personal injury, physical damage, or potential fire hazard.
- Use installation procedures appropriate for an environment involving MRI and sensitive electronic equipment.
- Read all markings and labels to ensure correct installation of the power supply. Supplemental instructions may be located on the enclosure, in addition to this instruction sheet, regarding orientation, or mounting restrictions.
- Read instructions provided with the MedMaster™ MRIPSF-480 external power supply system for proper installation and electrical connection to the lighting system.

I. LIGHTBOX MOUNTING PROCEDURE

CleanScene MRITM lightboxes are designed for either 1" or $1\frac{1}{2}$ " (G10 or G15 respectively—see product label) T-bar grid systems with vertical grid T thickness of less than $\frac{1}{4}$ ". Grid systems can be installed with standard 24" x 24", 24" x 48" or 48" x 48" centerline grid spacing.

Use the following procedure to install the lightbox(es) into the ceiling grid:

- Unpack products from the shipping carton.
- Determine where lightbox(es) will be mounted and note the desired orientation of graphic images within room.

NOTE: For installations with a multiple-configuration (the image is divided among multiple lightboxes), make sure lightbox is oriented to produce a continuous image.

• It is recommended that the door remain attached to the lightbox housing during installation. This will prevent damage to internal components, particularly the LED light sources. All electrical connections are accessible through the external junction box located on the top of the lightbox housing.



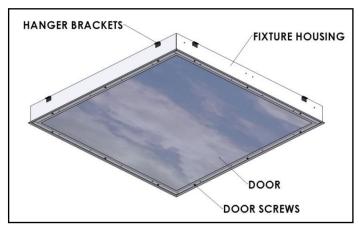
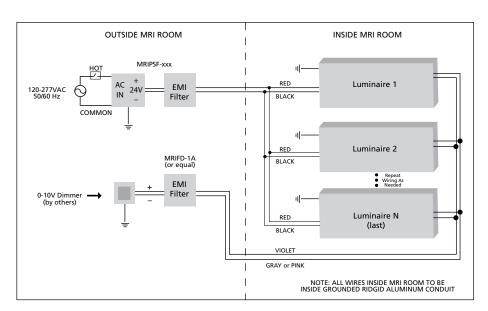


Figure 1: Product Description

- Lift lightbox(es) into ceiling structure using a recommended minimum of two able-bodied individuals.
- Lay lightbox(es) into grid.
- Attach support wires between hanger brackets and ceiling support structure.
- Install the MRIPSF remote power supply and EMI filter in accordance with the supplied installation instructions.
- If a 0-10V dimming circuit is to be connected, install at this time. The 0-10V dimmer must be installed outside the shielded MRI environment with the Kenall MRIFD-1A dimming line filter (or equivalent) installed in accordance with the supplied installation instructions. Kenall recommends the Lutron Diva (DVSTV) and Lutron Nova T (NTSTV-DV) series to ensure full range of dimming can be achieved.

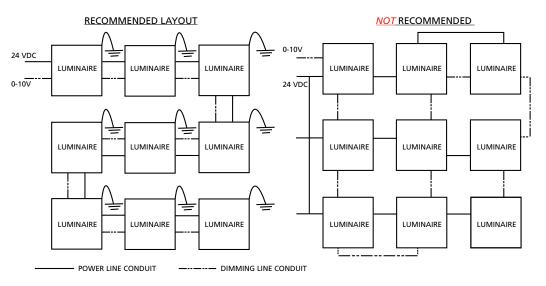


Single-Supply System Schematic

Run DC wiring, equal in size and temperature rating to the filter input wiring, between the filter output cables
and the first luminaire within the shielded room. Follow recommended wiring layout described within SingleSupply System Schematic. All wiring must be within completely-enclosed, grounded conduit suitable for an
MRI environment. Any gaps, regardless of size, must be closed or wrapped in copper foil tape. Special attention
should be paid to the wiring entry point into the shielded space. Class 1 wiring methods are required.



- Run the dimming signal wiring, equal in specification to the filter input wiring, between the filter output cables
 and the first luminaire within the shielded room. Maintain polarity between input and output sides of the filter
 and follow wiring recommendation in Multi-Fixture Wiring Schematic. All wiring must be within completely
 enclosed, grounded conduit suitable for an MRI environment. Any gaps, regardless of size, must be closed or
 wrapped in copper foil tape. Special attention should be paid to the wiring entry point into the shielded space.
 Cap gray (or pink) and violet leads at luminaire(s) if dimming function is not implemented.
- Connect power on line voltage side and test system operation. Test operation of lighting system, including dimming functionality, during MRI machine idle mode and during scanning operations.
- Fill out the Installation Registration Form and fax to Kenall at (262) 891-9701.



Multi-Fixture Wiring Schematic

II. DOOR OPENING, CLOSING AND REMOVAL PROCEDURE

NOTE: OPENING THE DOOR DURING NORMAL INSTALLATION IS NOT NECESSARY. ALL WIRING SHOULD BE ACCESSED THROUGH THE EXTERNAL JUNCTION BOX MOUNTING AT THE TOP OF THE LIGHTBOX HOUSING.

Opening the Door

- Unfasten all door screws. The screws contain a captive washer which prevents it from falling out of the door. Only
 unfasten to thepoint where the screw is disengaged from the fixture housing. Door will now hang freely about
 1½" below the housing.
- Test operation of lighting during MRI machine idle mode and during scanning operations.
- Disengage spring clips from fixture housing on one side of the door. This will allow the door to pivot down (see WARNING)

WARNING: DO NOT ALLOW THE DOOR TO SWING DOWN FREELY. SERIOUS PERSONAL OR PROPERTY DAMAGE MAY OCCUR. PIVOT DOOR SLOWLY UNTIL IT RESTS VERTICALLY.

• Perform internal maintenance with door hanging vertically. To change graphic image the door will need to be removed.



Removing the Door

- Open door following instructions in the previous section.
- CSMRI24 and CSMRI44: With door hanging vertically, grasp sides of door frame and lift vertically to disengage the door catch hooks from the housing. The door is now detached from the lightbox. See Figure 4.

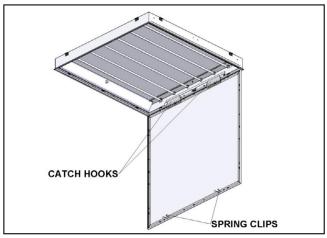


FIGURE 4: Door Attachment

- CSMRI22 only: This product contains four (4) spring clips to retain the door after removing the screws. To remove door, disengage the remaining spring clips.
- Lay door flat on a protected surface while performing maintenance.
- If the intent of removing the door is to change the graphic image, please refer to Section III.

Installing the Door (CSMRI24 and CSMRI44)

- Lift door with the catch arms upward.
- Hook catch arms into housing flange so that catch arms rest on housing flange and engage the mating slots on the housing.
- The door should now hang freely. Check for proper engagement of catch hooks before closing door.

Installing the Door (CSMRI22)

- Lift door by spring clips on one side.
- Engage spring clips on one side to hang vertically.

Closing the Door

- With catch hooks (clips for CSMRI22) properly engaged into housing, swing door from the bottom end, up until the spring clips on the opposite side meet the housing flange.
- Squeeze spring clips and insert into slots on housing flange (located near the lens gasket). Door will now hang horizontally below the lightbox approximately 1½".
- Push up on one side of the door so that the captive lens screws meet the cage nuts attached to the housing.
- Fasten lens screws into place by working around the perimeter. No specific fastening order is required.

Check to ensure that all screws are adequately tightened to maintain ratings on fixture. All screws should be equally torqued—do not over-torque.



IV. CLEANING THE LENS AND GRAPHIC PANEL

Use the following procedure to properly clean the graphic panel and clear acrylic lens. This should be done in a clean, dust-free environment to avoid additional contamination. The printed side of the graphic panel is a sensitive photographic film. Handle with extreme care. Avoid contact with solvents and oils from the skin as they may permanently damage the image.

- Remove graphic panel from door.
- Gently wipe down image with a clean, damp micro-fiber cloth. Hard wiping and abrasive cloths will scratch the film and clear lens.
- For heavier smudges and residue, use a diluted mild dish soap solution. Afterward, rinse-off solution with a clean, damp microfiber cloth.
- Dry panels with a clean, dry micro-fiber cloth.

CUSTOMER SERVICE

For technical assistance, call 1-800-4KENALL (1-800-453-6255).

WARRANTY

For warranty information visit www.kenall.com/Resources/Certified-Performance-Warranties



CUSTOMER ACKNOWLEDGEMENT

Customer acknowledges that these Installation Instructions are part of the product specification, and that the attached Installation Registration Form will be provided to the installer to sign and return to Kenall after installation is complete. This signed release is required by Kenall before order will be released into production.

Signature:	Date:
Print Name:	Company Name:

IMPORTANT SAFEGUARDS

To prevent MRI machine interference, all DC power and dimming signal wiring must be completely shielded within grounded aluminum conduit and a suitable MRI room EMI filter must be installed on each line.

When using electrical equipment, basic safety precautions should always be followed, including the following:

THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE

CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED.

SAVE THESE INSTRUCTIONS

- Disconnect power to all circuits before wiring system.
- Install in accordance with all national, state, and local codes.
- Do not connect to an ungrounded supply.
- Wiring connections must be made internal to the enclosure.
- Failure to install unit on a mechanically-sound surface may result in personal injury, physical damage, or potential fire hazard.
- Use installation procedures appropriate for an environment involving MRI and sensitive electronic equipment.
- Read all markings and labels to ensure correct installation of the power supply. Supplemental instructions may be located on the enclosure, in addition to this instruction sheet, regarding orientation, or mounting restrictions.
- Read instructions provided with the MedMaster™ MRIPSF remote power supply and DC filter system for proper installation and electrical connection to the lighting system.

CUSTOMER ACKNOWLEDGEMENT MRI INSTALLATION REGISTRATION FORM

Customer acknowledges that the attached Installation Registration Form will be provided to the installer to sign and return to Kenall after installation is complete. For warranty purposes, please fill out this form and return to Kenall by fax at (262) 891-9701.

I certify that the lighting installation for the listed MRI suite location is completed per the provided installation instructions and to the best of my abilities.

Plea	ase check off items to denote status:			
	Installation instruction sheets for MRIPSF reindividual luminaire(s) read and followed.	emote power supply and DC filter system and		
	MRIPSF power supply and EMI filters are loc	cated outside the shielded enclosure.		
	has no ungrounded/unshielded portions of o	conduit or openings of any size or shape.		
$\ \square$ All dimming signal wiring is completely enclosed within grounded aluminum cond				
	<u>-</u>	portions of conduit or openings of any size or		
_	shape. Check here if dimming is not applical			
	MRI Room EMI filters for the 24VDC supply and dimming signal are of the type intended for MRI suites and are sized to the electrical load.			
		OT running through the same EMI filter. Check here		
	if dimming is not applicable: □			
	in idle and scan operation mode.			
Tec	ny of these steps cannot be completed or you hnical Support at 1-800-4KENALL (1-800-453-	u need technical assistance, please contact Kenall -6255). Installation Site		
		Installation Site		
Nam	ne:	Name:		
City	'State:	City/State:		
Pho	ne:			
Insta	allation Date:	FAX FORM TO (262) 891-9701		
	(Do not w	rite below line)		
Ke	enall Received By:	Received Date:		

