MedMaster™ Healthcare Luminaires
Lighting that Promotes Health & Wellness

HC

HEALTHCARE

A brand of **legrand**®

KENALL®

MedMaster & More –
Kenall Lighting in Every Part of Your Healthcare Facility

Kenall MedMaster lighting combines thoughtful design and development with rigorous testing to create luminaires you can count on to perform as promised, year after year. But today's highly specialized healthcare environments demand more than just good lighting performance and energy savings, which is why Kenall offers features optimized for healthcare applications, including:
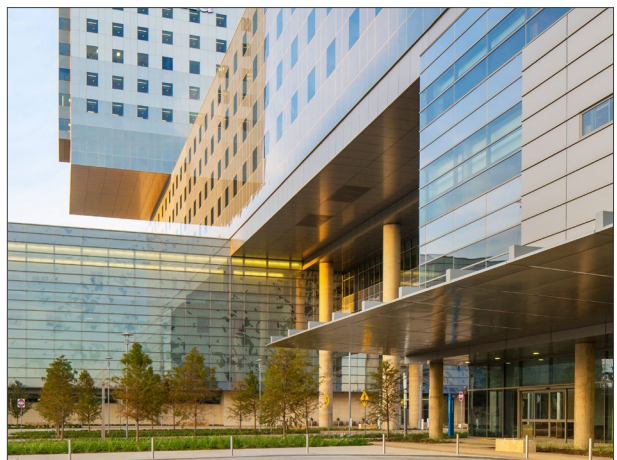
- Safe, continuous, whole room disinfection
- Tunability: The ability to choose specific colors and wavelengths for special tasks
- IP ratings to protect from egress/ingress of dust and bacteria
- Protection from EMI/RFI
- Embedded controls
- Long LED life
- Ligature- and tamper-resistance for behavioral health applications
- Ease of cleaning
- Industry-leading warranties

From surgical suites and stairwells, to patient rooms and parking garages, Kenall luminaires support patient health, safety, visual comfort and staff performance throughout your entire healthcare facility.

Contents

MedMaster™–Helping You Achieve Best Practices for Healthcare Lighting

New Products for Evolving Spaces

Kenall engineers continually invest in research and development to refine existing products and also design innovative new products that promote patient comfort and enhance staff performance. Below is a sample of our most recent product introductions.

MedMaster™
MRI4SEDI & MRI4SESI Series
MRI4SEDI Shown above

MedMaster™
BHH Series

MedMaster™
MPH Series

MedMaster™
MRIRS4 Series

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Rugged Construction, Classic Design, High-tech Healing

Kenall luminaires are designed to perform flawlessly, even in the most challenging healthcare environments. Housings are designed to withstand harsh cleaning, intentional tampering, pressurized environments, electromagnetic interference and more, while maintaining their aesthetic appeal.

But durable housings are only half of the story. Harnessing the latest LED technology is critical to creating luminaires that help set the stage for healing. On the following pages, you'll find out more about our lighting and controls technologies, and the benefits they offer.

CERTIFIED PERFORMANCE

TW TECHNOLOGY

DESIGN

DISINFECTION

Indigo-Clean®

A brand of **legrand**®

Learn More

Indigo-Clean Visible Light Disinfection
Clinically Proven to Kill Harmful Pathogens
MRSA | *C. diff* | SARS-CoV-2 | Influenza-A

SAFE, Whole Room Disinfection

With every new patient, unknown pathogens may enter your facility, setting the stage for healthcare acquired infections (HAIs). But Indigo-Clean breaks the chain of infection. An environmental disinfection technology, it uses visible light to safely, automatically and continuously kill harmful pathogens in the air and on surfaces. Indigo-Clean bolsters current infection prevention protocols and is proven to kill:

- Staph[1] such as MRSA[2]
- SARS-CoV-2[3]
- *C. diff*[4]
- Influenza-A
- *ESKAPE* pathogens
- and more

Clinically Proven to Reduce SSIs

For information about how Indigo-Clean reduces surgical site infections by 73%, read "Continuous Environmental Disinfection in the OR," by Lynnelle Murrell, Director of Infection Prevention at Maury Regional Medical Center. The case study is available *here.*

Indigo-Clean Helps Hospitals Meet the NSF P495-2018 Protocol

Indigo-Clean conforms to NSF P495-2018, a standard of cleanliness that validates the disinfection of surfaces via narrow spectrum visible light (400 – 420nm) in a controlled environment. The P495 certification demonstrates a statistically significant reduction of Staphylococcus aureus (staph, including MRSA) and/or Clostridium difficile (C. diff) endospores on clinically relevant surfaces, such as stainless steel and laminate. Light fixtures must also be NSF2 compliant.
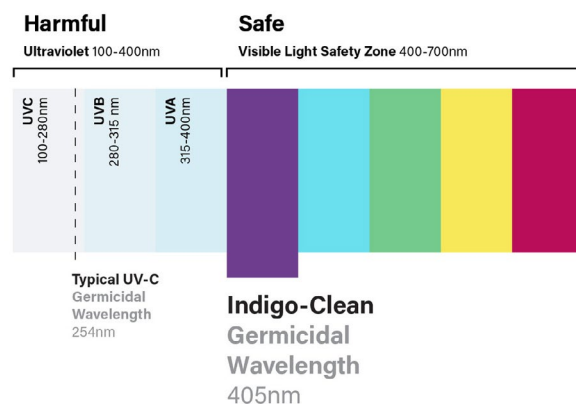
NSF P495 (excerpt)

P495

"This Protocol is intended to validate the product independently of its ability to reduce bacteria on the surface, as a component of an overall disinfection strategy for the environment."

[1,2] Antimicrobial Activity of a Continuous Visible Light Disinfection System by Rutala, et. al, ID Week 2016. Contact manufacturer for additional claim information.
[3] https://www.biorxiv.org/content/10.1101/2021.03.14.435337v1
[4] SGS Lab Report# - 09S17053798. Contact manufacturer for a copy of this report.

Indigo-Clean is Not UV: Here's How It Works

- The 405nm emitted from Indigo-Clean luminaires reflects off walls and surfaces, penetrating harmful micro-organisms

- The 405nm light targets and excites naturally occurring molecules within the bacteria (porphyrins) to produce intra-cellular Reactive Oxygen Species (ROS).

- Similar to bleach, these ROS create an oxidative environment within the organism, inactivating it and preventing it from repopulating the space.

Harmful
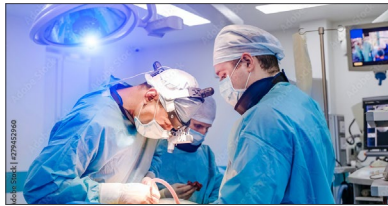Ultraviolet 100-400nm

Safe
Visible Light Safety Zone 400-700nm

UVC 100-280nm
UVB 280-315 nm
UVA 315-400nm

Typical UV-C
Germicidal Wavelength
254nm

Indigo-Clean
Germicidal Wavelength
405nm

ICT

Learn More

Three Categories of Indigo-Clean: Which Should I Choose?

	Indigo-Clean EX	Indigo-Clean DM	Indigo-Clean SM
Bactericidal	X	X	X*
Sporicidal	X		X
Virucidal	X	X	X

*Control rate not equal to DM or EX

Dual-mode Indigo-Clean EX
is a Continuous Environmental Disinfection System that employs *high-power* blended— white + 405nm indigo—light, and full 405nm indigo light via a lighting control system to disinfect the space. This dual-mode system delivers blended white light when the room is occupied, and full 405nm indigo light when it is not.

Dual-mode (DM) Indigo-Clean Technology
is a Continuous Environmental Disinfection System that employs *mid-power* blended— white + 405nm indigo—light, and full 405nm indigo light via a lighting control system to disinfect the space. This dual-mode system delivers blended white light when the room is occupied, and full 405nm indigo light when it is not.

Single-mode (SM) Indigo-Clean Technology
is a Continuous Environmental Disinfection System that employs blended—white + 405nm visible light—exclusively, to disinfect the space. When the light is on, disinfection is active. 24/7 use is recommended for optimal disinfection.

Both modes **contain NO UV and are safe for room occupants.**

Recommended for use in Critical Care Areas:

- Operating Rooms
- Recovery Rooms
- Emergency Departments
- Procedure Rooms
- Treatment Rooms
- Triage Rooms

Both modes **contain NO UV and are safe for room occupants.**

Recommended for 12 hrs White/12 hrs Indigo Operation:

- Conference Rooms
- General Office
- Locker Rooms
- Public Restrooms
- MRI
- Exam Rooms
- Endoscopy Rooms
- Consultation Rooms
- Physical Therapy
- Soiled Workrooms

Single-mode contains **NO UV and is safe for room occupants.**

Recommended for Use in Areas in Operation 24/7:

- Staff lounges
- Waiting rooms
- Lunch/break rooms
- Pharmacies
- Kitchens
- Nurses stations
- Corridors
- ED waiting rooms
- Patient rooms
- ICUs
- Isolation rooms

bios
ILLUMINATED

Learn More

What is BIOS SkyBlue®?

A NASA spinoff, BIOS lighting promotes health and wellness using brilliant, high-quality architectural white light.

How does BIOS SkyBlue work?

- Research has established that effective circadian lighting should include a "sky blue" (490nm) wavelength, which is found in daylight, but is missing from most traditional LED lighting systems

- The SkyBlue 490nm wavelength communicates directly with human biology via non-visual photoreceptors in the eye, known as ipRGCs (photosensitive retinal ganglion cells)

- ipRGCs contain melanopsin, a protein, which, when stimulated by light, sends a signal to the body to reset its cycle for the next 24 hours.

- This triggers a variety of biological processes, including the production of cortisol for morning alertness and melatonin for a good night's sleep

- BIOS SkyBlue optimizes this natural process, without complicated controls, energy-sapping increases in illumination, or uncomfortable color temperature changes

- Choose from three modes based on your environment:
  1. biological static
  2. biological dynamic
  3. biological tunable

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Kenall's Tunable White Technology
Tailor Lighting to Patient & Staff Needs

TW

Learn More

Kenall's tunable white lighting technology enables users to independently change the color of light from warm to neutral to cool in appearance, over time, based on the needs of the occupant or the space.
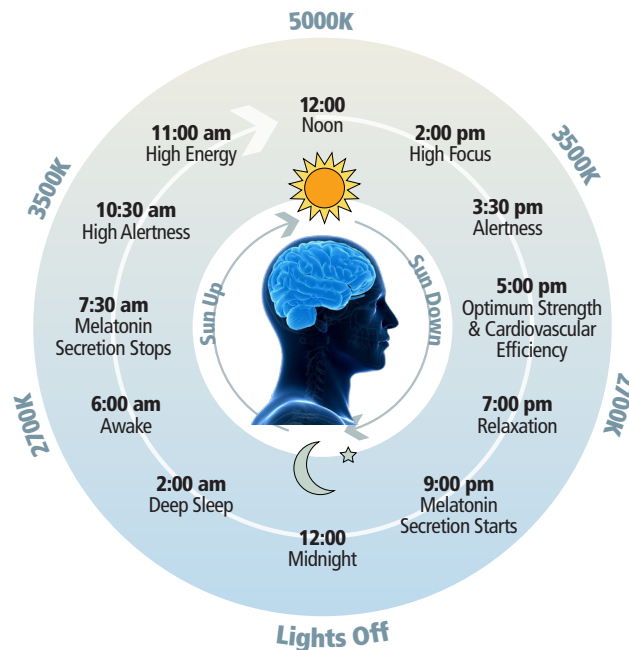
In addition, Kenall's combination of white color tuning and warm dimming creates flexibility in adjusting the ambiance of the space, while providing excellent value and controls compatibility.Kenall offers a choice of 0-10V dimming or Digital Addressable Lighting Interface (DALI) for more sophisticated capabilities. Both options provide the ability to interface with building automation systems, including Pico®, EcoSystems® and Fresco™. Consult factory regarding specific controls compatibility.

Benefits to patients & staff:

- *Improves patient rest & recovery[1]*
- *Assists shift workers to stay alert while on duty*
- *Integrates simply with existing controls*

[1]*https://www.hfmmagazine.com/articles/2244-lighting-it-up-with-tunable-white-light*

Natural Light Simulation

5000K

3500K

3500K

2700K

2700K

11:00 am
High Energy

12:00
Noon

2:00 pm
High Focus

10:30 am
High Alertness

3:30 pm
Alertness

7:30 am
Melatonin
Secretion Stops

5:00 pm
Optimum Strength
& Cardiovascular
Efficiency

6:00 am
Awake

7:00 pm
Relaxation

2:00 am
Deep Sleep

9:00 pm
Melatonin
Secretion Starts

12:00
Midnight

Sun Up

Sun Down

Lights Off

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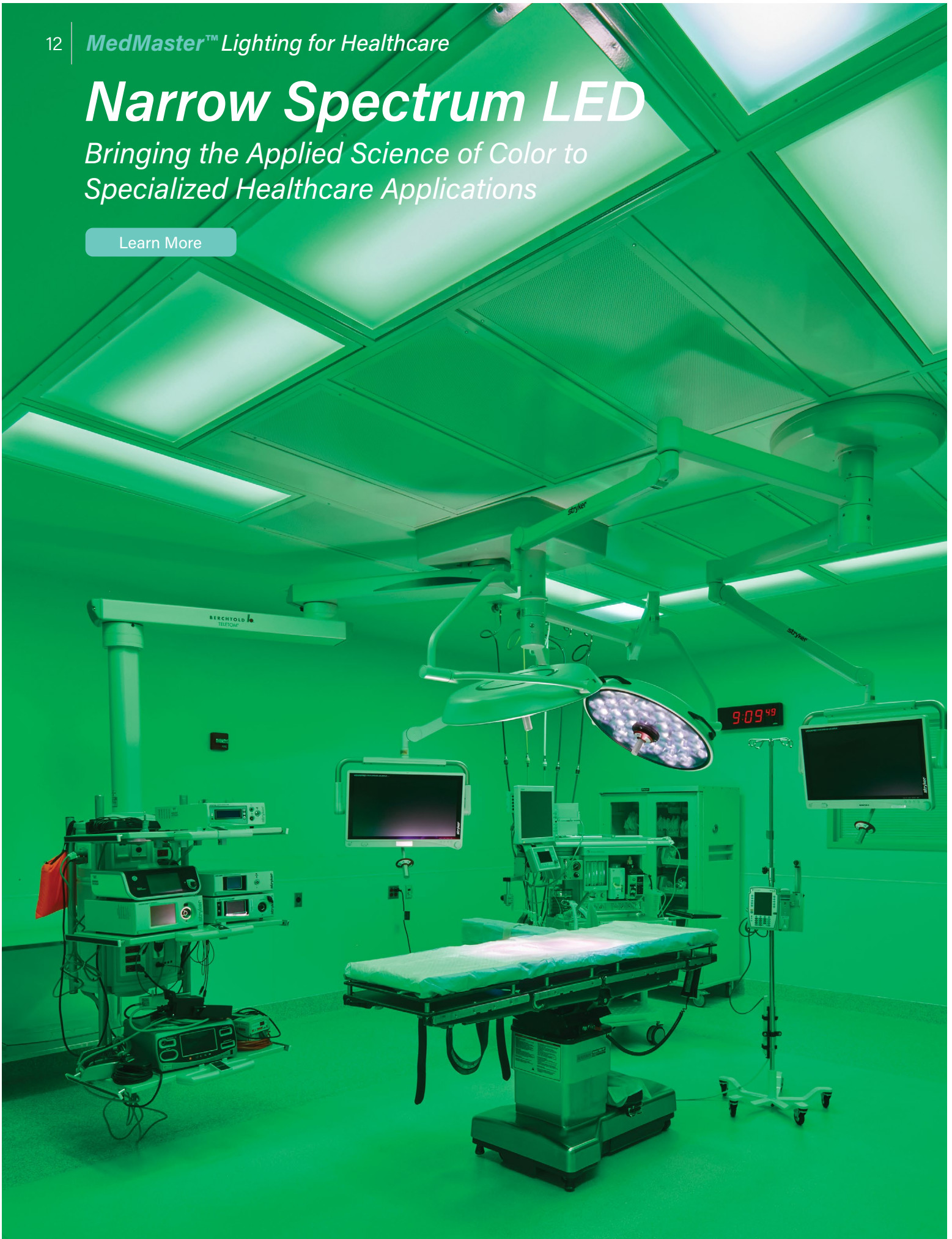
Narrow Spectrum LED

Bringing the Applied Science of Color to Specialized Healthcare Applications

Learn More

Improve Procedure & Research Outcomes with Specific LED Wavelengths

Kenall has utilized the applied science of color to develop high-quality, sealed, narrow-spectrum luminaires for specialized applications. Rather than employing color filters or color mixing, specific wavelengths of the color spectrum are pinpointed to provide the best delivery of light, tailored for your unique healthcare and scientific applications.

Green LED Light

White LED Light

M4SEDI Green Series

530nm green LED light enhances the visibility of monitors during surgical procedures, and reduces staff eye strain

- Diffused high-efficiency lens for reduced glare
- Symmetric and asymmetric optical distributions
- Dual-function white and green LED sources provide individually-dimmable illumination
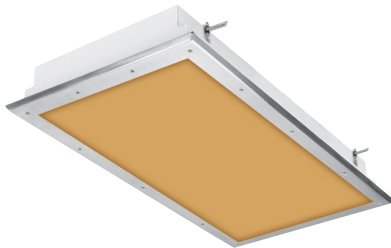- Also available in green only

530nm "green" LED light significantly reduces monitor glare allowing the medical staff to see clearly without adjusting the lights.

CSED_ Amber Series

Features 570nm Phosphor-Converted (PC) amber LED light, which performs better than native amber, especially in warm temperatures

- Provides visual acuity for detailed tasks without the damaging effects of white light to light-sensitive products and processes
- Used to increase cell viability at in-vitro fertilization clinics
- Reduces possible damage to delicate DNA during stem-cell transplant procedures
- Protects light-sensitive ingredients used in pharmaceutical compounding
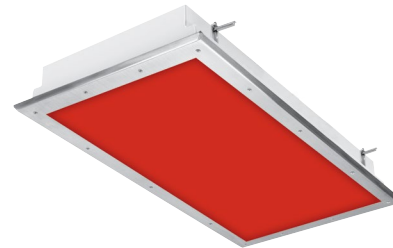
CSED_ Red Series

630nm red LED light provides consistent, controllable red light, supporting the natural circadian rhythm of laboratory animals in research environments

- Offers pure, consistent and controllable red light intensity over time.
- Does not degrade in purity, even when light output has degraded

For detailed information on Kenall's Narrow Spectrum product offering, visit kenall.com and download the brochure.

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Lighting Controls Add Ease & Convenience

Low Voltage Controllers

Low voltage controllers (LVCs) interface with nurse call systems or pillow speakers to allow safe operation of high voltage lighting systems. The low voltage controller isolates the patient from the high voltage, and provides the logical control of multi-function luminaires to reduce the number of switches needed on the pillow speaker, bed or wall. These LVCs are designed to eliminate interference with sensitive medical equipment common to the hospital patient room.

Kenall MedMaster Patient Wall Switch

Kenall's low voltage controller wall switch allows the clinical staff to easily regulate patient room lighting. It can be placed at the entrance of the room, next to the patient bed, or any other location that is deemed convenient. Different control configurations can be used together to create customized access without complicating the installation. The switch is wired in parallel with the pillow speaker, bedside rail, and/or entertainment station to the low voltage side of the low voltage controller.

- Easy access for staff
- Controls up to four separate lights/loads
- Seamless integration with any nurse call system
- Permits convenient dimming and easy on/off for lights

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Contents

Diagnostic & Treatment Area Luminaires

Addressing the Needs of Modern ORs, Exam Rooms & Diagnostic Spaces
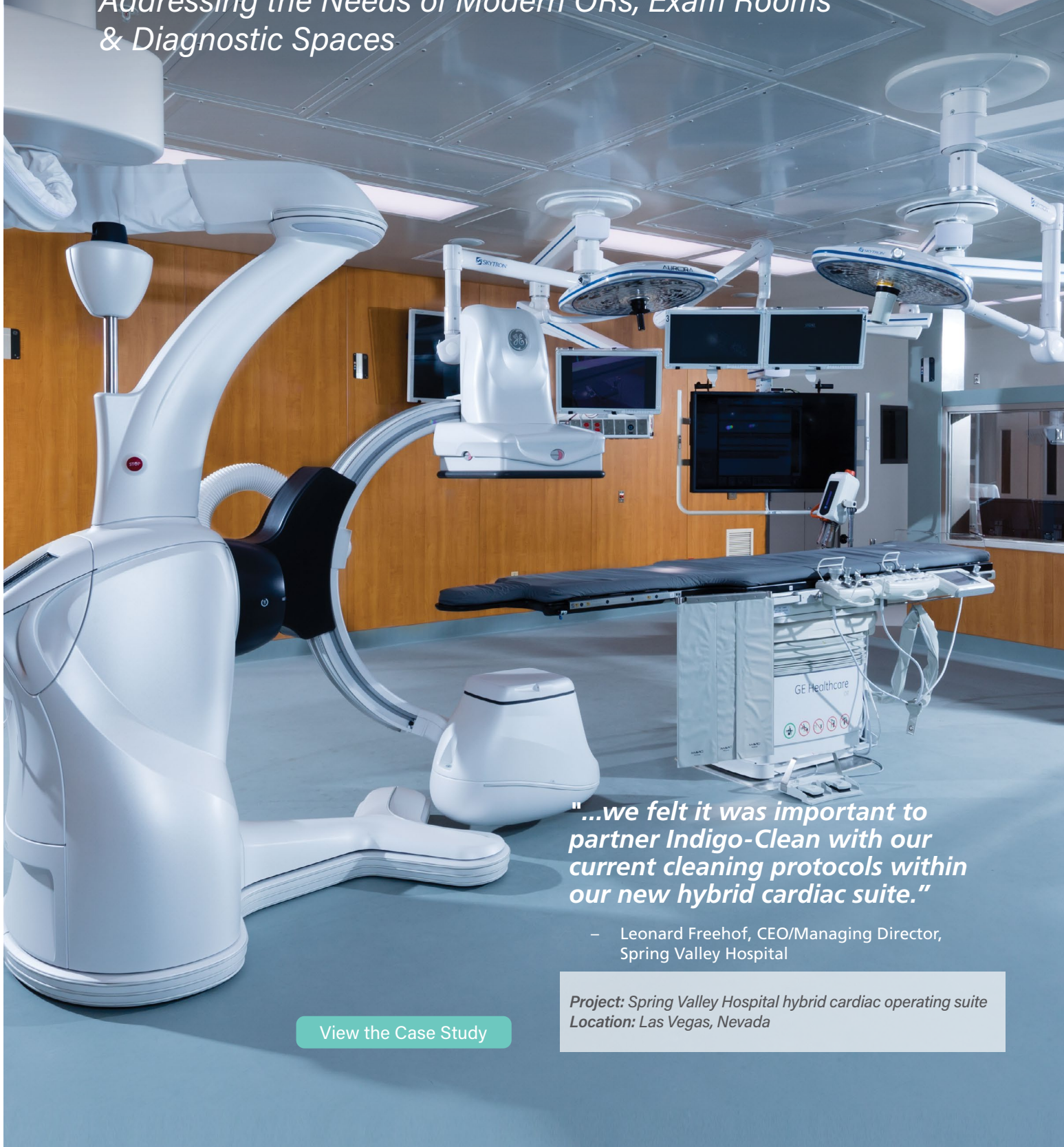
"...we felt it was important to partner Indigo-Clean with our current cleaning protocols within our new hybrid cardiac suite."

– Leonard Freehof, CEO/Managing Director, Spring Valley Hospital

Project: *Spring Valley Hospital hybrid cardiac operating suite*
Location: *Las Vegas, Nevada*

View the Case Study

Best Practices:
Performance Requirements for Lighting Diagnostic & Treatment Areas – and How We Meet Them

1. Excellent light quality

Nowhere is it more important to have high-quality light than in ORs, exam rooms and emergency rooms. Kenall combines the latest in optics and LED technology to provide caregivers adjustable, comfortable lighting.

Kenall Solutions:

- Offer a range of color temperatures, including natural-appearing white light
- Feature advanced optics that provide a high level of uniformity, while minimizing eye fatigue
- Offer color rendering of 80 or 90 CRI
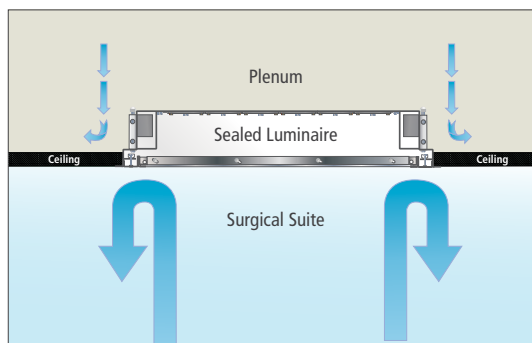- Provide maximum lumens to minimize the number of luminaires required, preserving critical ceiling space

2. Sealed for infection control & ease of cleaning

Luminaires must be sealed against contaminants from either the room or plenum side, and the seal must be able to withstand rigorous cleaning protocols.

Kenall Solutions:

- NSF International listed for use in "Splash Non-Food Zones"
- Toxin-free, corrosion resistant, and easy to clean
- Provide a leak-proof barrier between the flange and ceiling, preventing contaminants from entering around the luminaire from the plenum
- Internal components are isolated from the surrounding environment, protecting against heat, sparks, arcing, dirt, dust, moisture, air pressure differences and other conditions

3. Electromagnetic Interference (EMI) mitigation

Lighting must not produce electromagnetic emissions that interfere with the performance of other equipment in these areas, and it must also provide multi-level switching and dimming without EMI.

Kenall Solutions Mitigate:

- Voltage dips, interruptions and variations
- Radiated 60Hz magnetic fields from power lines, transformers and motors
- Electrical fast transient arcing of contacts on nearby power and signal lines
- Surge voltage from lightning
- Radiated electromagnetic fields from walkie-talkies and commercial radio station broadcasts
- Electrostatic discharge
- Conducted radio frequency

4. Improved monitor visibility

The increased use of minimally invasive surgical techniques requires clear, comfortable monitor viewing. Kenall addresses those needs as well.

Kenall Solutions:

- High-quality green LED options
- Patented optics that maximize lumens while dramatically reducing veiling reflections in electronic displays

MedMaster IP-rated luminaires feature a leaf-proof barrier to prevent contaminants from entering or escaping.

Advanced optics provide uniformity and minimize glare, while reducing eye fatigue.

Lighting that Supports the Latest Surgical Technologies

Advanced medical equipment, air handling, and power sources now claim ceiling space that lighting used to occupy. The previous commercial standard for asymmetric distribution (2.5 to 5 degrees) may not always be enough, so Kenall incorporated 7 degree and 10-12 degree distribution options in the M4SEDI product family, which provide the opportunity to significantly increase illuminance on the surgical field while also reducing power consumption.

Legacy Optics

Designed for fluorescent sources commonly in use, symmetric/asymmetric prismatic lenses increase glare and create lens surface pixelation.

MedMaster M4 Asymmetric Distribution Options

Kenall's M4 symmetric/asymmetric and full asymmetric options both add total internal reflection optics working in conjunction with a high-efficiency, diffused lens. By doing so they provide asymmetry while also maintaining uniform lens appearance.

Symmetric Light Distribution

Model: M4SEDI24-200L-40K8-DCC-120-2F-2H-SYM
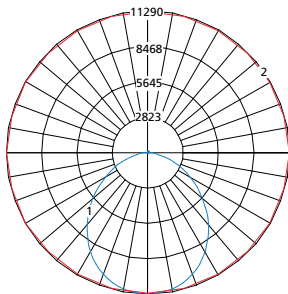
Max Candela = 11290 Located At Horizontal Angle = 90, Vertical Angle = 2.5

— 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
— 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Asymmetric Light Distribution

Model: M4SEDI24-200L-40K8-DCC-120-2F-2H-ASYM
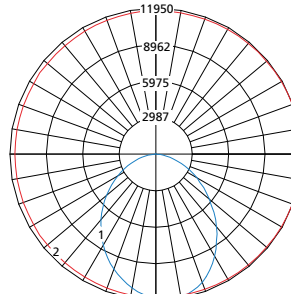
Max Candela = 11950 Located At Horizontal Angle = 0, Vertical Angle = 5

— 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
— 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

Full Asymmetric Light Distribution

Model: M4SEDI24-200L-40K8-DCC-120-2F-2H-FASYM
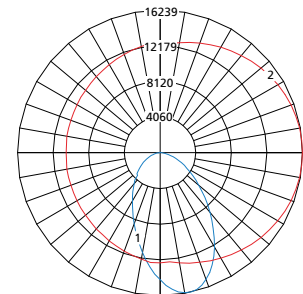
Max Candela = 16239 Located At Horizontal Angle = 0, Vertical Angle = 12.5

— 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
— 2 - Horizontal Cone Through Vertical Angle (12.5) (Through Max. Cd.)

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MRI Suite Configuration – Plan View

Proper installation and configuration of lighting and supporting equipment in MRI / imaging suites is critical in ensuring successful operation, patient safety and comfort, and optimum scan/image resolution. In addition to non-ferrous fixture construction and proper room shielding, special low-voltage DC power supplies, RF filtering, and shielded, grounded conduit are essential elements to successful installation.

To assure a trouble-free installation, Kenall provides detailed configuration, installation sheets and technical support. If Kenall's installation instructions are followed and confirmed, Kenall offers a "Scan Safe" guarantee against fixture interference and susceptibility.

The wiring diagrams (below) illustrate two different room configurations, depending on the need for single or multiple power supplies.
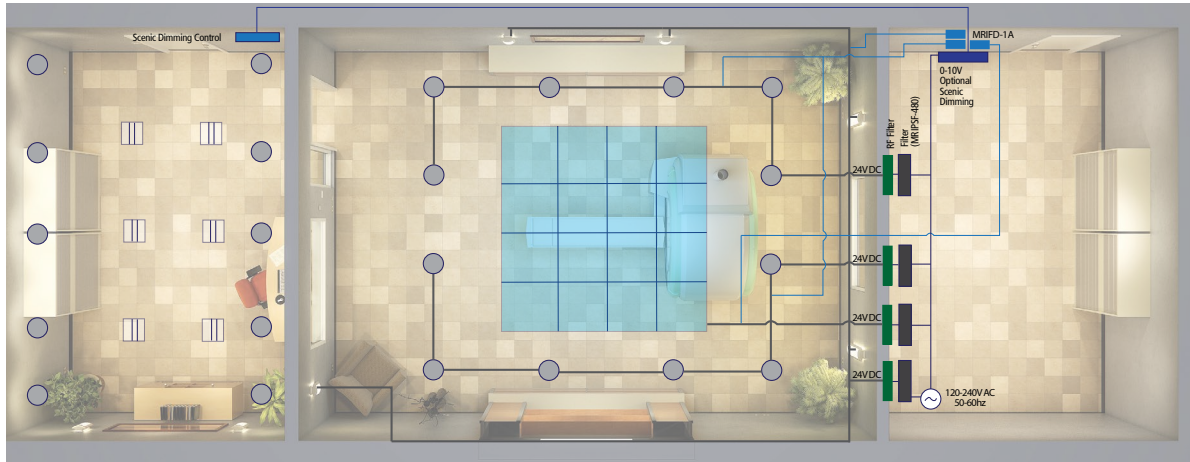
Control Room
(Non-Shielded MRI Installation)

Lighting for the control room of MRI/imaging suites requires the combination of even ambient and non-glare task illumination with the added flexibility of dimmable controls.

Shielded Imaging Room Closed MRI

Providing for patient comfort during imaging procedures is achieved with gentle ambient illumination and decorative sconces, along with the calming effect of beautiful graphic image lightboxes.

Shielded Imaging Room Open MRI

Ambient illumination can also be achieved from a variety of light sources, where light levels can be adjusted through conventional dimming or through sophisticated control systems.

Equipment Room
(Non-Shielded Installation)

All line voltage and 24-volt DC power supplies, RF filtering and dimming control systems are located in an adjacent equipment room with general illumination.

Wiring Diagram
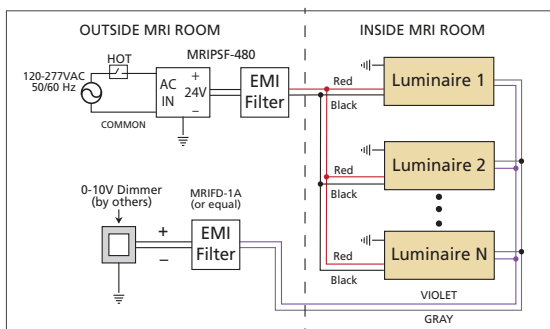
Wiring procedure for installations with single MRI Power Supply System
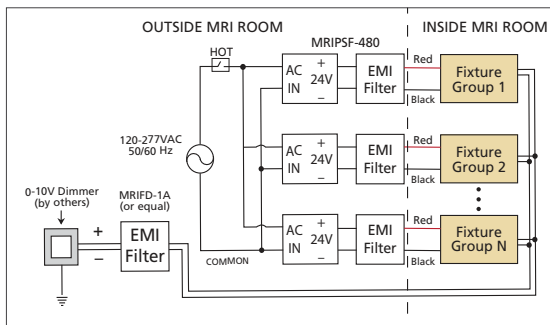
Wiring procedure for installations with multiple MRI Power Supply Systems

Remote Power Supply System: MRI External Power Supply with EMI Filter

- Low-voltage DC remote power supply to reduce MRI room radio frequency interference (RFI)
- DC line EMI filter
- Optional dimming circuit EMI filter (MRIFD-1A)
- Certified to UL1012 and CSA C22.2 No. 107.1 by Intertek Testing Services; Dry Location only

MRIPSF

MedMaster™ *Surgical Suites - Ceiling Mount*

M4SEDI Series

- Delivered lumen range: 2,404 - 28,435 lm
- Input power: 43 – 227W
- Efficacy: 86 – 134 lm/W
- Available in 530nm green LED to enhance monitor visibility and reduce eye strain

Nominal sizes:	1'×4'; 2'×2'; 2'×4'
Installation Types:	Grid, flange
Lamp Types:	White LED, 530nm green LED

Indigo-Clean™ *Surgical Suites - Ceiling Mount*

M4SEDIC Series

The ground-breaking M4SEDIC Indigo-Clean visible light disinfection luminaire is proven to reduce surgical site infections and the harmful bacteria that cause them.

- Delivered lumen range: 5,576 – 14,712 lm
- Input power: 68 – 149W
- Continuous environmental disinfection via safe wavelength of visible light (405nm)
- Kills 88%+ of harmful bacteria and 94% of viruses, including *SARS-CoV-2* and *Influenza-A*
- High performance LEDs switch between white and indigo modes
- Automated with Indigo-Clean (IC100) room controls system

Nominal sizes:	1'×4'; 2'×2'; 2'×4'
Installation Types:	Grid, flange
Lamp Types:	White LED, 405nm Indigo LED

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"We chose to partner with Indigo-Clean over other disinfecting technologies because of the ease of use and the proven efficacy of the disinfecting lights. We look forward to expanding our usage of Indigo-Clean in other areas of the hospital in the future."

- **Lisa Sherman**
  Director, Operating Room, Holy Family Memorial

View the Case Study

MedMaster™ Surgical Suites - Downlight
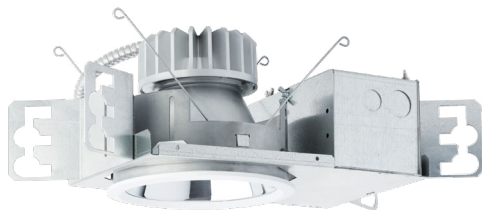
M4DLIC6 Series

- Delivered lumen range: 1,118 – 2,330 lm
- Input power: 33W, 39W
- Continuous environmental disinfection via safe wavelength of visible light (405nm)
- Two operational modes: white LED mode and Indigo disinfection mode
- Indigo mode provides concentrated disinfection for high-contamination areas

Nominal sizes:	6" Aperture
Installation Types:	Recessed
Lamp Types:	White LED, 405nm Indigo LED

MedMaster™ Surgical Suites - Downlight
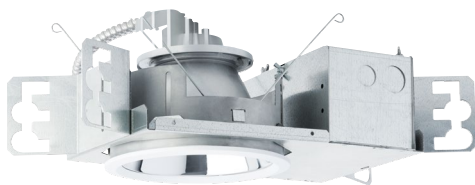
Round
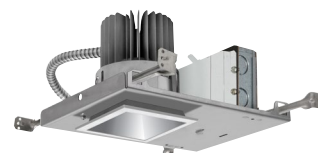
Square

M4DL6 Series

- Delivered lumen range: 794 – 5,543 lm
- Input Power: 15 – 62W
- Efficacy: 53 – 90 lm/W
- Aluminum, stainless or cold-rolled steel trim ring
- Indigo-Clean technology option available

Nominal size:	6" aperture
Lamp Type:	LED

M4DL4 Series

- Delivered lumen range: 983 – 2,640 lm
- Input Power: 16 – 31W
- Efficacy: 58 – 90 lm/W
- Aluminum trim ring
- Indigo-Clean and Tunable White technology options available

Nominal size:	4" aperture
Installation Type:	Recessed
Lamp Type:	LED

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MedMaster™ Surgical Suites - Undercabinet

MAUCLED Series

- Delivered lumen range: 1,233 – 2,035 lm
- Input Power: 15 – 22W
- Efficacy: 84 – 93 lm/W
- Antimicrobial finish
- Indigo-Clean technology option

Nominal sizes:	4.5"× 18"/24"/36"/48"
Installation Type:	Surface
Lamp Type:	LED
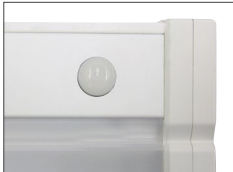
Solid Front
Sharp cutoff distribution

Options
Available occupancy sensor, dimming ballast, convenience outlet and rocker switch
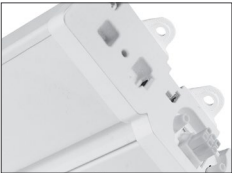
External Mounting Feet

Continuous Row Connectivity

Power Connections

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MedMaster CleanScene™ *MRI Suites - Backlit Graphic Panels*

CSMRI Series

- Non-ferrous construction
- Expansive offering of high quality graphic images
- Antimicrobial finish option available

Nominal sizes:	2' × 2'; 2' × 4'; 4' × 4'
Installation Type:	Recessed mount, Grid
Lamp Type:	LED

Image library sample graphics

View the Library

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MedMaster™ MRI Suites - Ceiling Mount

ME11MRI Series

- Delivered lumen range: 1,274 – 1,778 lm
- Input Power: 34W
- Efficacy: 37 – 52 lm/W
- Unique, patented optical chamber eliminates glare & reflections
- Standard dimming provides flexible light levels

Nominal Size:	1'×1'
Installation types:	recessed mount, 1" and slot T grid
Lamp Type	LED

MedMaster™ MRI Suites - Downlight

MRIDL6 Series

- Delivered lumen range: 591–2,953 lm
- Input Power: 16 – 37W
- Efficacy: 20 – 80 lm/W
- Wall-wash option
- 24V DC

Nominal sizes:	6" aperture
Installation Type:	Recessed
Lamp Type:	LED

MedMaster™ MRI Suites - Downlight
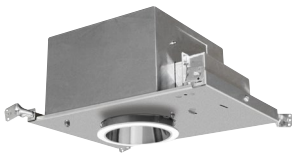
Round

Square

MRIDL4 Series

- Delivered lumen range: 930–1,364 lm
- Input Power: 15W
- Efficacy: 60 – 89 lm/W
- Round or square aperture
- Wall-wash option
- 24V DC
- Standard dimming provides flexible light levels

Nominal sizes:	4" aperture
Installation Type:	Recessed
Lamp Type:	LED

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MedMaster™ *MRI Suites - Ceiling Mount*

MRIGT Series

- Delivered lumen range: 2,141 – 7,508 lm
- Input power range: 28 – 77W
- Efficacy: 72 – 98 lm/W

Nominal sizes:	2' × 2' & 2' × 4'
Installation types:	Recessed Grid Mount
Lamp types:	LED

MedMaster™ *MRI Suites - Ceiling Mount*

MedMaster® MedSlot™ MRIRS4 Series

- Delivered lumen range: 364 – 1,006 lm
- Input power: 4 – 9W
- Efficacy: 91 – 118 lm/W
- Non-ferrous construction and remote power supplies provide safe operation with medical imaging devices
- Symmetric optical distribution with uniform lens appearance
- Radiated and conducted emissions controlled as per MIL-STD-461G

Nominal size:	2', 4' and 8' lengths
Installation type:	Grid or flange recessed mount
Lamp type:	LED

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MedMaster™ MRI Suites - Ceiling Mount

MedMaster® MRI4SEDI & MRI4SESI Series

- Delivered lumen range: 2,187 – 15,617 lm
- Input power: 30 – 121W
- Efficacy: 83 – 129 lm/W
- Non-ferrous construction and remote power supplies provide safe operation with medical imaging devices
- Includes 530nm green option for improved monitor visibility in surgical suites
- Symmetric, asymmetric/symmetric and full asymmetric optical distribution options with uniform lens appearance
- Radiated and conducted emissions controlled as per MIL-STD-461G

Nominal size:	1' × 4'; 2' × 2'; 2' × 4'
Installation type:	surface mount; recessed
Lamp type:	LED

MedMaster™ MRI Suites - Wall Sconce

MRIMAS Series

- Input Power: 6 – 32W
- Non-ferrous, marine-grade, extruded aluminum construction
- Sealed backlighting creates a pleasing visual accent and supports an NSF2 listing
- Standard antimicrobial finish for cleanability
- Multiple frame finishes and decorator lenses available

Nominal Size:	8"×13"/26"/38"/50"
Installation types:	Surface
Lamp Type:	LED

Architectural Decorative Outer Lens
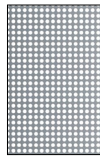
AS Frosted Acrylic	**CAP** Clear Acrylic w/Perforation	**NL** Natural Leaf	**SS** Silver Spun	**OL** Oyster Linen	**PL** Paper Leaf
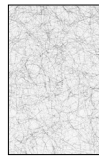
MedMaster™ MRI Suites - Wall Sconce

LPS5MRI, LPSR5MRI Series

- Delivered lumen range: 452 – 587 lm
- Input Power: 16W
- Efficacy: 28 – 37 lm/W
- One-piece, die-cast aluminum frames with edge-lit LED lamp source
- Optional decorative lens
- Easy-to-clean construction—meets NSF2 requirements
- Product meets California OSHPD requirements (LPSR5MRI only)

Nominal Size:	1' length
Installation types:	Surface, semi-recessed
Lamp Type:	LED

Architectural Decorative Outer Lens

FP Frosted Polycarbonate	**MDT** Monochrome Dots	**WVE** Weave	**BRC** Branches	**VNE** Vine	**PIP** Pipes	**CD** Custom Signage

MedMaster™ MRI Suites - Undercabinet

MRIAUC Series

- Delivered lumen range: 1,072 – 2,286 lm
- Input Power: 15 – 30W
- Efficacy: 70 – 75 lm/W
- Antimicrobial finish standard
- External mounting feet allow for easy installation

Nominal sizes:	1.5' or 3' lengths
Installation Type:	Surface
Lamp Type:	LED

Solid Front
Sharp cutoff distribution

External Mounting Feet

Power Connections

Continuous Row Connectivity

Options
Available occupancy sensor, dimming ballast, convenience outlet and rocker switch

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MedMaster CleanScene™ Exam Rooms - Backlit Graphic Panels

CS Series

- Expansive offering of soothing, high-quality graphic images
- Antimicrobial finish option available

Nominal sizes:	2'×2'; 2'×4'; 4'×4'
Installation types:	Recessed mount, grid or flange; surface
Lamp Type:	LED, fluorescent

MedMaster CleanScene™ Exam Rooms - Backlit Graphic Panels

CSMEC Series

- Symmetric fluorescent exam light with LED or fluorescent center graphic compartment
- Antibacterial finish standard

Nominal Size:	4'×4'
Installation Type:	Recessed mount, grid
Lamp Type:	LED, fluorescent

MedMaster™ Exam Rooms - Ceiling Mount

MAEC Series

- Delivered lumen range: 953 – 7,022 lm
- Input Power: 45–91W
- Efficacy: 65–88 lm/W
- Symmetric ambient, reading and asymmetric exam function
- Antimicrobial finish option
- Tunable White option available

Nominal Size:	8"×48"
Installation types:	Recessed mount, grid or flange
Lamp Type:	LED

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MedMaster™ Exam Rooms - Ceiling Mount

MedSlot™ MRS4 Series

- Delivered lumen range: 409 – 1,215 lm/ft
- Input Power: 4 – 12 W/ft
- Efficacy: 79 – 128 lm/W
- Single-function linear slot luminaire provides ambient light
- Symmetric and asymmetric optical distribution options
- BIOS SkyBlue™ and Tunable White options available

Nominal sizes:	4" × 24", 36", 48", 72" or 96"
Installation Types:	Recessed ceiling mount, grid or flange
Lamp Type:	LED

MedMaster™ Exam Rooms - Ceiling Mount

MAERS4 Series

- Delivered lumen range: 957 – 5,468 lm
- Input Power: 10 – 57W
- Efficacy: 76 – 108 lm/W
- Multi-function linear slot luminaire provides ambient, exam and reading light options
- Symmetric and asymmetric optical distribution options

Nominal size:	4" × 48"
Installation Types:	Recessed ceiling mount, grid or flange
Lamp Type:	LED

Indigo-Clean™ Exam Rooms - Ceiling Mount
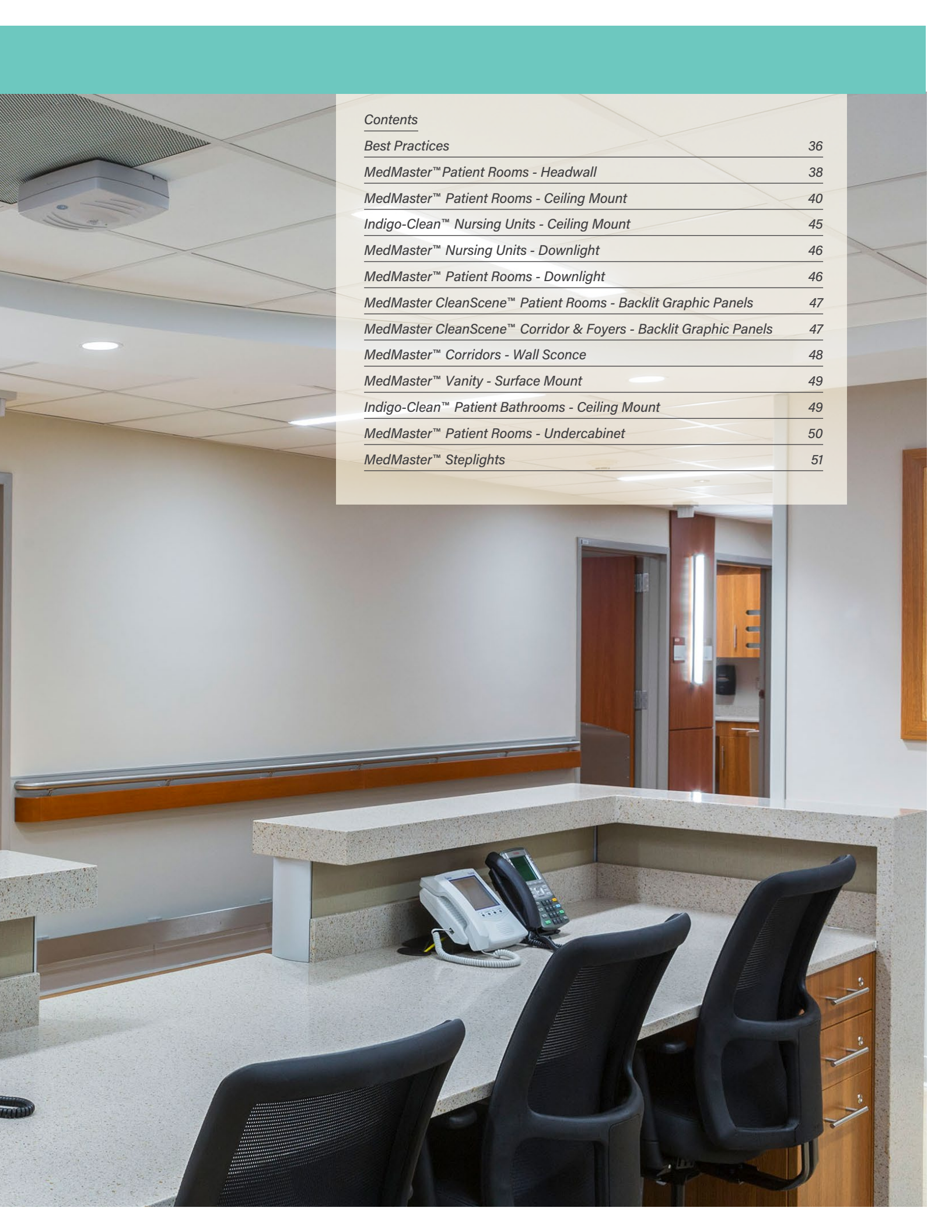
MEIC Series

- Delivered lumen range (white disinfection mode): 3,168 – 8,593 lm
- Input power: 33 – 75W
- Continuous environmental disinfection via safe wavelength of visible light (405nm)
- Kills 88%+ of harmful bacteria
- Provided with Indigo-Clean (IC100) room control system
- Standard dimming provides flexible light levels

Nominal sizes:	2' × 2', 2' × 4'
Installation types:	Recessed mount, grid or flange
Lamp types:	White LED, 405nm Indigo LED

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Englewood Hospital, Englewood, New Jersey

Contents

Best Practices: Nursing Units & Patient Care Areas
Performance Requirements & How We Meet Them

1. Multi-Function Capability

The patient room requires different illumination levels for various tasks, including ambient illumination, patient exams, caregiving, charting, reading and wayfinding. Often, multiple patients share a space, (for example, double-occupancy rooms, and specialized nursing units, such as neonatal ICUs) resulting in the need for individual reading and task lighting. Kenall offers multi-function luminaires to meet a wide variety of patient care needs.

Kenall Solutions:

- Multiple functions include ambient, reading, exam, charting and night light
- Dimming
- Tunable White option to support circadian rhythms
- Visible light disinfection using Indigo-Clean
- Patient- and staff-friendly controls

2. Ease of Maintenance & Cleanability

Patient care and nursing unit lighting should be easy to clean and maintain to minimize room downtime.

Kenall Solutions:

- Long life LEDs reduce maintenance
- Smooth, antimicrobial finishes and thoughtful design promote easy cleaning

3. Sealed for Safety & Infection Control

Patient room care area fixtures must support patient safety and infection prevention protocols.

Kenall Solutions:

- NSF Listed
- IP Rated to prevent the spread of airborne pathogens and maintain protective environments for immunosupressed/immunocompromised patients
- One-piece, seam-welded construction
- Standard antimicrobial finish

4. Wayfinding Capability

At night, wayfinding or step lighting in patient rooms can be critical to the safety of both caregiver and patient.

Kenall Solutions:

- Exit signage and wayfinding available in a variety of configurations
- Step lighting available in a variety of wattages, shapes and colors
- ADA-compliant

5. Aesthetic Appeal

In a continuing effort to optimize patient comfort, contemporary patient rooms often mimic residential design aesthetics.

Kenall Solutions:

- Inviting residential look and feel
- Consistent design aesthetics
- Reduced glare

Patient Room Lighting Considerations

Effective patient room lighting must balance both the aesthetic and analytic aspects of patient care. While patient comfort is certainly of primary importance, caregiver performance remains the most critical component in determining patient outcome. As a result, variable lighting options — including color tuning, multi-level switching, and dimming capabilities — become essential to an effective patient room lighting design.

The diagram below describes each functional area of the patient room and the IES recommended footcandle levels required to effectively light each area. This section details the solutions Kenall offers to meet these recommended levels, including lighting fixtures that address the specific needs of each area.

Night Observation
Healthcare professionals require sufficient light in the patient room for reading of charts without disturbing the sleep of the patient. Recommended levels are 3 fc @ 3 ft.

Patient Bed
Dimming or multiple switching levels required for various activities
Exam   75 fc @ 3 ft.
Reading   75 fc @ 3 ft.
General   20 fc @ 0 ft.

Office Desk
Sufficient lighting is necessary for reading and writing activities. Recommended light levels are 40 fc @ 2.5 ft.

Casual Chair
Lighting for guest chairs should be between 30 fc @ 25 ft.

Steplight
Low levels suitable for nighttime circulation by patient and healthcare providers - 0.4 fc @ 0.0 ft.

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MedMaster™ Patient Rooms - Headwall

MPH Series

- Delivered Lumen Range: 1,999-11,327
- Input Power: 25-97W
- Efficacy: 79-117 lm/W
- Bi-directional (up/down) illumination in a thin profile, wall-mounted luminaire
- Multi-function capability, providing ambient and examination lighting and a nightlight option
- Indigo-Clean technology option available

Nominal Size:	24", 36" or 48" length
Installation Type:	Surface Wall Mount
Lamp Type:	LED

MedMaster™ Patient Rooms - Headwall

MPWF Series

- Delivered lumen range: 4,304 – 9,810 lm
- Input Power: 44 – 93W
- Efficacy: 96 – 105 lm/W
- Uplight, downlight or combination for ambient, reading and exam functionality
- Amber night light option

Nominal Size:	36" or 48" length
Installation Type:	Standard six-point mounting
Lamp Type:	LED, Fluorescent

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MedMaster™ Patient Rooms - Headwall

MPWUD Series

- Delivered lumen range: 2,981 – 11,534 lm
- Input Power: 28 – 93W
- Efficacy: 106 – 126 lm/W
- Uplight, downlight or combination for ambient and reading functionality
- Amber night light option
- BIOS SkyBlue™ and Tunable White options available

Nominal sizes:	24", 36" or 48" length
Installation Type:	Standard four-or six-point mounting
Lamp Type:	LED, Fluorescent

cETLus   OSHPD   TW   bios
TW option only

MedMaster™ Patient Rooms - Headwall

MPWV Series

- Delivered lumen range: 2,960 – 11,449 lm
- Input Power: 28 – 95W
- Efficacy: 105 – 124 lm/W
- Ambient and reading functions
- Amber night light option

Traditional (T)   Contemporary (C)

Nominal sizes:	24" or 48" length
Installation Type:	Standard four- or six-point mounting
Lamp Type:	LED, fluorescent

cULus   OSHPD

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MedMaster™ Patient Rooms - Ceiling Mount

MedSlot™ MRS4 Series

- Delivered lumen range: 409 – 1,215 lm/ft
- Input Power: 4 – 12 W/ft
- Efficacy: 79 – 128 lm/W
- Single-function linear slot luminaire provides ambient light
- Symmetric and asymmetric optical distribution options
- BIOS SkyBlue™ and Tunable White options available

Nominal sizes:	4" × 24", 36", 48", 72" or 96"
Installation Types:	Recessed ceiling mount, grid or flange
Lamp Type:	LED

cETLus IP64 NSF CCEA Approved TW bios

MedMaster™ Patient Rooms - Ceiling Mount

MAERS4 Series

- Delivered lumen range: 957 – 5,468 lm
- Input Power: 10 – 57W
- Efficacy: 76 – 108 lm/W
- Multi-function linear slot luminaire provides ambient, exam and reading light options
- Symmetric and asymmetric optical distribution options

Nominal size:	4" × 48"
Installation Types:	Recessed ceiling mount, grid or flange
Lamp Type:	LED

cETLus IP64 NSF CCEA Approved

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Carle Foundation Hospital Intensive Care Unit, Urbana, Illinois

MedMaster™ Patient Rooms - Ceiling Mount

MPCNGX Series

- Delivered lumen range: 1,302 – 17,746 lm
- Input Power: 26 – 188W
- Efficacy: 59 – 103 lm/W
- Ambient, exam and reading functions
- Antimicrobial finish standard
- Tunable White option available

Nominal sizes:	2' × 2'; 2' × 4'
Installation types:	Recessed mount, grid or flange
Lamp Type:	LED

c ETL us   IP64   NSF   TW

MedMaster™ Patient Rooms - Ceiling Mount

MPC Series

- Delivered lumen range: 2,014 – 17,102 lm
- Input Power: 29 – 167W
- Efficacy: 69 – 116 lm/W
- Ambient, exam and reading functions
- Standard 0-10V dimming with 1-100% range
- Amber night light option

Nominal sizes:	2' × 2'; 2' × 4'
Installation types:	Recessed mount, grid or flange; surface
Lamp Type:	LED

c UL us   IP65 OPTION   NSF IB-AC ONLY

MedMaster™ Patient Rooms - Ceiling Mount

MPCADE Series

- Delivered lumen range: 1,705 – 11,894 lm
- Input Power: 26 – 148W
- Efficacy: 66 – 87 lm/W
- Ambient and direct exam functions
- Indigo-Clean, BIOS SkyBlue™ and Tunable White options available
- Amber night light option

Nominal sizes:	2' × 2'; 2' × 4'
Installation types:	Recessed mount, grid or flange; surface
Lamp Type:	LED

c(UL)us   IP65   NSF   CCEA Approved   (ICT)   TW   bios
1B-AC only   grid/flange

MedMaster™ Patient Rooms - Ceiling Mount

MPCAIE Series

- Delivered lumen range: 3,856 – 14,138 lm
- Input Power: 44 – 172W
- Efficacy: 70 – 115 lm/W
- Ambient, reading and indirect exam function
- Antimicrobial finish standard
- BIOS SkyBlue(tm) and Tunable White options available
- Amber night light option

Nominal sizes:	2' × 2'; 2' × 4'
Installation types:	Recessed mount, grid or flange; surface
Lamp Type:	LED

c(ETL)us   IP65   NSF   CCEA Approved   TW   bios
Flange only

MedMaster™ Patient Rooms - Ceiling Mount
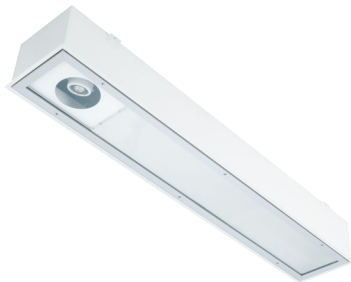
MAEC Series

- Delivered lumen range: 463 – 7,022 lm
- Input Power: 8 – 91W
- Efficacy: 56 – 88 lm/W
- Symmetric ambient, reading and asymmetric exam function
- Antimicrobial finish option
- Tunable White technology option available

Nominal Size:	8" × 48"
Installation types:	Recessed mount, grid or flange
Lamp Type:	LED

c(ETL)us   NSF   IP65   TW

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MedMaster™ *Patient Rooms - Ceiling Mount*

ME Series

- Delivered lumen range: 1,687 – 12,365 lm
- Input Power: 29 – 98W
- Efficacy: 58 – 126 lm/W
- Fully sealed, NSF2 rated optical system; impact resistant acrylic lens
- Indigo-Clean, BIOS SkyBlue™ and Tunable White options available

Nominal sizes:	1'×1'; 1'×4'; 2'×2'; 2'×4'
Installation types:	Recessed mount, grid or flange
Lamp Type:	LED

MedMaster™ *Patient Rooms - Ceiling Mount*

MEP Series

- Delivered lumen range: 9,539 – 10,577 lm
- Input Power: 99W
- Efficacy: 96 – 107 lm/W
- Ambient and exam functions
- Fully sealed, NSF2 rated optical system; impact resistant acrylic lens
- Indigo-Clean, BIOS SkyBlue™ and Tunable White options available

Nominal sizes:	2'×2'; 2'×4'
Installation types:	Recessed mount, grid or flange
Lamp Type:	LED

MedMaster™ *Patient Rooms - Ceiling Mount*

AMB Series

- Recessed mount – Flange or Grid; 2'×2', 2'×4'
- High R9 value and High CRI provide biologically optimized LED spectrum for early detection of cyanosis.
- Features BIOS SkyBlue™ Technology to benefit daytime alertness, cognition, mood and circadian rhythms
- Tool-less access for servicing
- Wipe-down cleanability with NSF2 rating

Nominal sizes:	2'×2'; 2'×4'
Installation types:	Recessed mount or grid
Lamp Type:	LED

MedMaster™ Patient Rooms - Ceiling Mount

MAC Series

- Delivered lumen range: 3,652 – 11,095 lm
- Input Power: 46 – 122W
- Efficacy: 76 – 122 lm/W
- Central diffuser combined with upper reflectors provide soft, ambient illumination
- IIndigo-Clean, BIOS SkyBlue™ and Tunable White options available
- Amber night light option

Nominal sizes:	1'×4'; 2'×2'; 2'×4'
Installation types:	Recessed mount, grid or flange; surface
Lamp Type:	LED, fluorescent

c(ETL)us IP65 NSF. (ICT) TW bios

MedMaster™ Patient Rooms - Ceiling Mount

MADC Series

- Delivered lumen range: 3,816 – 9,228 lm
- Input Power: 50 – 98W
- Efficacy: 76 – 98 lm/W
- Perforated basket with center pearlescent acrylic diffuser
- Amber night light option

Nominal sizes:	2'×2'; 2'×4'
Installation types:	Recessed mount, grid or flange; surface
Lamp Type:	LED, fluorescent

c(ETL)us IP65 NSF.
IB-AC ONLY

Indigo-Clean™ Nursing Units - Ceiling Mount

MEIC Series

- Delivered lumen range (white disinfection mode): 3,168 – 8,593 lm
- Input power: 33 – 75W
- Continuous environmental disinfection via safe wavelength of visible light (405nm)
- Kills 88%+ of harmful bacteria
- Provided with Indigo-Clean (IC100) room control system
- Standard dimming provides flexible light levels

Nominal sizes:	2'×2'; 2'×4'
Installation types:	Recessed mount, grid or flange
Lamp types:	White LED, 405nm Indigo LED

c(ETL)us IP64 NSF. CCEA Approved P495 *Indigo-Clean®*

KENALL®

MedMaster™ Nursing Units - Downlight
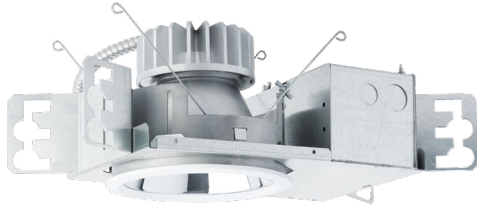
MDL6 Series

- Delivered lumen range: 768 – 5,543 lm
- Input Power: 15 – 62W
- Efficacy: 24 – 90 lm/W
- Aluminum, stainless or cold-rolled steel trim ring
- Indigo-Clean and Tunable White technology options available

Nominal Size:	6" aperture
Installation types:	Recessed
Lamp Type:	LED

MedMaster™ Patient Rooms - Downlight
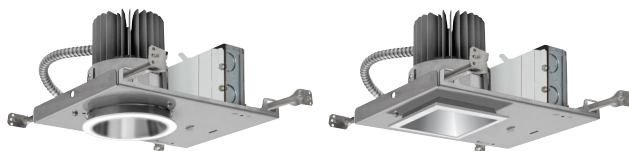
Round   Square

MDL4 Series

- Delivered lumen range: 983 – 2,640 lm
- Input Power: 16 – 31W
- Efficacy: 58 – 90 lm/W
- Round or square aperture
- Indigo-Clean and Tunable White technology options available

Nominal Size:	4" aperture
Installation types:	Recessed
Lamp Type	LED

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MedMaster CleanScene™ Patient Rooms - Backlit Graphic Panels

CSMEC Series

- Symmetric fluorescent exam light with LED or fluorescent center graphic compartment
- Antibacterial finish standard

Nominal Size:	4' × 4'
Installation Type:	Recessed mount, grid
Lamp Type:	LED, fluorescent

View the Image Library

MedMaster CleanScene™ Corridor & Foyers - Backlit Graphic Panels

CS Series

- Expansive offering of soothing, high-quality graphic images
- Antimicrobial finish option available

Nominal sizes:	2'×2'; 2'×4'; 4'×4'
Installation types:	Recessed mount, grid
Lamp Type:	LED

View the Image Library

MedMaster™ Corridors - Wall Sconce

LPS Series

- Delivered lumen range: 506 – 2,100 lm
- Input Power: 15 – 42W
- Efficacy: 34 – 50 lm/W
- One-piece, die-cast aluminum housing with LED edge-lit decorative lens
- Wall backlight on damp location configurations

Nominal sizes:	12", 24" or 36" lengths
Installation Type:	Wall mount or semi-recessed
Lamp Type:	LED

Archiectural Decorative Outer Lens

FP	MDT	WVE	BRC	VNE	PIP	CD
Frosted Polycarbonate	Monochrome Dots	Weave	Branches	Vine	Pipes	Custom Signage

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MedMaster™ *Vanity - Surface Mount*

MLHA5V Series

- Delivered lumen range: 2,374 – 5,062lm
- Input Power: 25W, 49W
- Efficacy: 95 – 103 lm/W
- Four end cap styles available
- Natatorium environment option

Nominal sizes:	24" or 48" lengths
Installation Type:	Surface
Lamp Type:	LED

Multiple End Cap Options

End caps are marine grade, die-cast aluminum with a 1,000-hour salt spray tested finish.

Stepped	Reveal	Flat	Round

Indigo-Clean™ *Patient Bathrooms - Ceiling Mount*

MSDIC Series

- Delivered lumen range: 2,332-2,432 lm
- Input power: 35-37W
- Continuous environmental disinfection via safe wavelength of visible light (405nm)
- Kills 88%+ of harmful bacteria
- Estimated LED life: 100,000 (white); 50,000 (Indigo)

Nominal size:	13"
Installation type:	surface mount
Lamp Type:	White LED, 405nm Indigo LED

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MedMaster™ Patient Rooms - Undercabinet

Stratalume Connects™ MAUCLED Series

- Delivered lumen range: 1,127 – 2,466 lm
- Input Power: 14 – 29W
- Efficacy: 80 – 93 lm/W
- Occupancy sensor option
- Indigo-Clean® Technology (ICT) option
- Extruded, die-cast aluminum construction

Nominal sizes:	18", 24", 36" or 48" lengths
Installation Type:	Surface – individual or series-mount
Lamp Type:	LED

Solid Front
Sharp cutoff distribution
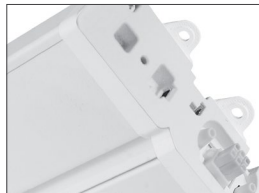
External Mounting Feet

Power Connections

Continuous Row Connectivity

Options
Available occupancy sensor, dimming ballast, convenience outlet and rocker switch

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MedMaster™ *Steplights*

VO

HO

VR

HR

MCSL Series
MedMaster™ SoftStep Contour™ steplight

- Delivered lumen range: 5 – 38lm
- Input Power: 0.5 – 3.3W
- Die-cast aluminum housings
- White, amber or blue LED options
- Lumen output field adjustable to 100%, 50% and 25%
- Multiple decorator finishes

Nominal sizes:	6.10" × 4.85"; 4.85"× 6.10"; 5.6"× 3.7"; 4"× 5.38"
Installation Type:	Semi-recessed wall mount
Lamp Type:	LED

MSLS

MSLR-H

MSLR-V

MSL

MSLT

MSLD

MSL Series
MedMaster™ SoftStep™ steplight

- White, amber, blue or red LED options
- Fabricated plates; square or rectangle face
- Painted or brushed stainless steel finish
- Duplex outlet option (MSLD)

Nominal sizes:	5"× 5"; 4.375" × 7"; 3.75" × 9.25"; 5.25" × 9.25"; 6.5"× 9.25"
Installation Type:	Semi-recessed wall mount
Lamp Type:	LED

Seattle Childrens® Psychiatry & Behavioral Medicine Unit, Seattle, Washington

Contents

Best Practices: Behavioral Health Lighting

Performance Requirements for Behavioral Health Settings – and How We Meet Them

Many healthcare facilities contain units specifically designed for the care of patients in crisis due to mental health issues or addiction. Lighting for these spaces must be sufficiently robust to support patient and staff safety, while still providing suitable illumination and comfort.

1. Sealed for Safety & Security

To provide patient safety and security, lighting should be IP-certified and tamper-resistant to facilitate easy cleaning and help prevent the spread of pathogens.

Kenall Solutions:

- Ingress Protection ratings
- Antimicrobial finishes
- NSF listings to ensure cleanability

2. Multi-function Capabilities

Because behavioral health needs are varied, room luminaires must be multi-functional. Healthcare appropriate listings, such as IP and NSF, are desirable, but lighting should also be comfortable for patients and support their needs while in crisis.

Kenall Solutions:

- Fixtures with multiple functions, including ambient, exam, reading and night light
- Lighting with single and double apertures to direct light when and where it's needed
- Optional Indigo-Clean Technology (ICT) to reduce the spread of harmful viruses and bacteria
- Standard 0-10V dimming

3. Designed for Durability

Healthcare luminaires must be durable, and should be built with materials that support the protection of patients and staff.

Kenall Solutions:

- Security-grade housings with durable doorframes and tamper-resistant fasteners
- Impact-resistant polycarbonate lenses

4. Lighting Considerations for Behavioral Health Settings

To create an environment of healing, behavioral health lighting must be built to mitigate attempts at self-injury. Features such as color-tuning can also help preserve normal sleep/wake cycles, reducing patient irritability.

Kenall Solutions:

- Ligature resistant designs
- Optional Tunable White (TW) lighting
- BIOS® SkyBlue™ Circadian Solutions

Kenall Luminaires Recommended by Leading Behavioral Health Authorities

Kenall is the leading manufacturer of luminaires that are recommended for use in behavioral health settings by state and federal agencies, including the Department of Veteran's Affairs, and independent lighting consultants.

In addition to luminaires featured in this guide, the Kenall website contains other lighting appropriate for behavioral health settings.

For additional information about individual product recommendations, visit the behavioral health section of kenall.com and click *"View the Guidelines".*

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MedMaster™ Behavioral Health - Headwall

BHH Series

- Delivered lumen range: 1,317 – 7,757 lm
- Input Power: 21 – 90 W
- Efficacy: 59 – 89 lm/W
- Bi-directional (up/down) luminaire proves multi-function ambient and exam lighting
- Durable, die-cast and extruded aluminum construction and tamper-resistant fasteners
- Diffused polycarbonate lenses with continuous lens retention
- BIOS SkyBlue™ option available

Nominal Size:	24", 36" or 48" length
Installation Type:	Surface Wall Mount
Lamp Type:	LED

MedMaster™ Behavioral Health - Ceiling Mount

SafeSlot™ BHRS4 Series

- Delivered lumen range: 412 – 1,035 lm/ft
- Input Power: 7 – 13 W/ft
- Efficacy: 52 – 84 lm/W
- Single function linear slot luminaire provides ambient light
- Symmetric and asymmetric optical distribution options
- BIOS SkyBlue™ and Tunable White options available

Nominal sizes:	4"×24", 36", 48", 72" or 96"
Installation Types:	Recessed ceiling mount, grid or flange
Lamp Type:	LED

MedMaster™ Behavioral Health - Ceiling Mount

SafeSlot™ BHAERS4 Series

- Delivered lumen range: 533 – 3,880 lm
- Input Power: 11 – 56W
- Efficacy: 47 – 75 lm/W
- Multi-function linear slot luminaire provides ambient, exam and reading light options
- Symmetric and asymmetric optical distribution options

Nominal size:	4"×48"
Installation Types:	Recessed ceiling mount, grid or flange
Lamp Type:	LED

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MedMaster™ Behavioral Health - Ceiling Mount

MMAC Series

- Delivered lumen range: 3,749 – 11,214 lm
- Input Power: 46 – 122W
- Efficacy: 67 – 1 21 lm/W
- Center diffuser provides direct/indirect ambient lighting
- White and amber night light option
- Indigo-Clean, BIOS SkyBlue™ and Tunable White options available

Nominal sizes:	1' × 4'; 2' × 2'; 2' × 4'
Installation Type:	Surface; Recessed ceiling mount, grid or flange
Lamp Type:	LED, T5, T5HO, T8

MedMaster™ Behavioral Health - Ceiling Mount

MMPC Series

- Delivered lumen range: 1,869 – 15,870 lm
- Input Power: 28 – 167W
- Efficacy: 64 – 107 lm/W
- Multi-function luminaire offers ambient, reading, exam, chart and night light options

Nominal sizes:	2' × 2'; 2' × 4'
Installation Type:	Surface; Recessed ceiling mount, flange
Lamp Type:	LED

MedMaster™ Behavioral Health - Ceiling Mount

MMPCADE Series

- Delivered lumen range: 1,502 – 10,976 lm
- Input Power: 26 – 148W
- Efficacy: 57 – 80 lm/W
- Doorframe with polycarbonate lens secured with Torx® fasteners for enhanced security
- Available in a variety of lens thicknesses, up to .375" for optimal security
- Multi-function luminaire offers ambient, reading, exam, chart and night light options
- Indigo-Clean, BIOS SkyBlue™ and Tunable White options available
- Amber night light option

Nominal sizes:	2' × 2'; 2' × 4'
Installation Type:	Surface; Recessed ceiling mount, flange
Lamp Type:	LED, T5, T5HO, T8

ETL · c UL us · IP65 · CCEA Approved · ICT · TW · bios

MedMaster™ Behavioral Health - Ceiling Mount

MMPCAIE Series

- Delivered lumen range: 3,637 – 13,334 lm
- Input Power: 44 – 172W
- Efficacy: 66 – 108 lm/W
- Doorframe with polycarbonate lens secured with Torx fasteners for enhanced security
- Available in a variety of lens thicknesses, up to .375" for optimal security
- Multi-function luminaire offers ambient, reading, exam, chart and night light options
- Amber night light option

Nominal sizes:	2' × 2'; 2' × 4'
Installation Type:	Surface; Recessed ceiling mount, flange
Lamp Type:	LED, T5, T5HO, T8

ETL · c UL us · IP65 · NSF · CCEA Approved

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MedMaster™ Behavioral Health - Downlight

BHDL6 Series

- Delivered lumen range: 628 – 5,305 lm
- Input Power: 15 – 62W
- Efficacy: 48 – 86 lm/W
- Stainless or cold-rolled steel trim ring
- 1% dimming via 0-10V Driver
- Tunable White technology option available

Nominal size:	6" aperture
Installation Type:	Recessed
Lamp Type:	LED

MedMaster™ Behavioral Health - Wall Mount

BHWB Series

- Delivered lumen range: 5,286 – 8,816 lm
- Input power: 57– 81W
- Efficacy: 90 – 112 lm/W
- Bullnose profile with sloped sides for reduced patient injury risk
- Available integral, low-voltage controllers for wall- and bed-mounted patient control

Nominal Sizes:	7" × 37.7" , 6.5" deep
Installation Type:	Wall Mount
Lamp types:	LED

SimpleSeal™ Behavioral Health - Ceiling Mount

HASEDI Series

- Delivered lumen range: 4,480 – 22,539 lm
- Input power: 46 – 196W
- Efficacy: 93 – 137 lm/W
- High-output lamp source for accurate color rendition and lighting performance
- One-piece inset doorframe, secured to housing with continuous piano hinge and Torx® fasteners
- Indigo Clean technology option available

Nominal sizes:	1' × 4', 2' × 2' or 2' × 4'
Installation types:	Recessed mount, grid or flange
Lamp type:	LED

"Kenall is one of the few manufacturers that offers architecturally sensitive products that are also physically robust enough to be considered for these environments."

- **– Mark de la Fuente, Senior Associate, Mazzetti**

Fulton State Behavioral Health Hospital
Fulton, Missouri

View the Case Study

Mighty Mac™ *Behavioral Health - Doorless Wall Mount*

WCBS Series

- Delivered lumen range: 6,056 – 10,265 lm
- Input power: 57 – 81W
- Efficacy: 104 – 128 lm/W
- Two apertures provide both up and down light

Nominal size:	9" × 38.5" , 6.5" deep
Installation type:	wall mount
Lamp type:	LED

Mighty Mac™ *Behavioral Health - Doorless Wall Mount*

WCBHS Series

- Delivered lumen range: 2,339 – 5,270 lm
- Input power: 22– 44W
- Efficacy: 98 – 127 lm/W
- Downlight only

Nominal size:	9"× 38.5" , 6.5" deep
Installation type:	wall mount
Lamp type:	LED

Mighty Mac™ Behavioral Health - Doorless Wall Mount

WCHS Series

- Delivered lumen range: 2,339 – 5,270lm
- Input power: 22 – 44W
- Efficacy: 98 – 127 lm/W
- Downlight only

Nominal size:	8" × 38.5"
Installation type:	wall mount
Lamp type:	LED

Mighty Mac™ Behavioral Health - Doorless Wall Mount

WCUS Series

- Delivered lumen range: 6,056 – 10,265lm
- Input power: 57 – 81W
- Efficacy: 104 – 128 lm/W
- Two apertures provide both up and down light

Nominal size:	8" × 38.5"
Installation type:	wall mount
Lamp type:	LED

Mighty Mac™ Behavioral Health - Wall Mount

BHWHS Series

- Delivered lumen range: 1,919 – 4,325 lm
- Input power: 22– 44W
- Efficacy: 80 – 104 lm/W
- Bullnose profile with sloped sides for reduced patient injury risk
- Available integral low-voltage controllers for wall- and bed-mounted patient control

Nominal Sizes:	7" × 37.7" , 6.5" deep
Installation Type:	Wall Mount
Lamp types:	LED

Mighty Mac™ Behavioral Health - Wall Mount

WCB Series

- Delivered lumen range: 2,001 – 4,200 lm
- Input Power: 28 – 47W
- Efficacy: 70 – 89 lm/W
- Completely concealed, internal drop-slot piano hinge
- Downlight only

Nominal Sizes:	9"× 11"× 29", 9"× 11"× 53"
Lamp Types:	LED

Mighty Mac™ Behavioral Health - Wall Mount

WCBU Series

- Delivered lumen range: 3,751 – 6,152 lm
- Input Power: 57 - 94W
- Efficacy: 77 – 91 lm/W
- Two apertures provide up and down light
- Smooth, ligature-resistant bull-nose design

Nominal Sizes:	9"× 11"× 29"; 9"× 11"× 53"
Installation Type:	Wall
Lamp Types:	LED, T8

Mighty Mac™ Behavioral Health - Corner Mount

CC Series

- Delivered lumen range: 2,199 – 9,112 lm
- Input Power: 28 – 122W
- Efficacy: 62 – 99 lm/W
- Clamshell housing style prevents concealment of unauthorized items
- Indigo-Clean, BIOS SkyBlue™ and Tunable White options available

Nominal Sizes:	9" × 24"; 9" × 48"
Installation Type:	Corner
Lamp types:	LED, T5, T5HO, T8

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Mighty Mac™ Behavioral Health - Corner Mount

CD Series

- Delivered lumen range: 2,151 – 8,911 lm
- Input Power: 28 – 122W
- Efficacy: 59 – 99 lm/W
- Hinged door style
- Indigo-Clean, BIOS SkyBlue™ and Tunable White options available

Nominal Sizes:	8"× 24"; 8"× 48"
Installation Type:	Corner
Lamp types:	LED, T5, T5HO, T8

Mighty Mac™ Behavioral Health - Doorless Ceiling Mount

SSAS Series

- Delivered lumen range: 2,235 lm – 5,035 lm
- Input Power: 22 – 43W
- Efficacy: 96 – 122 lm/W
- One-piece, TIG-welded housing with reinforced, continuous lens retention

Nominal size:	9" × 36"
Installation type:	surface ceiling mount
Lamp type:	LED

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Mighty Mac™ Behavioral Health - Ceiling Mount

RMCA Series

- Delivered lumen range: 1,811 – 7,503 lm
- Input Power: 28 – 97W
- Lumens per watt: 64 – 83 lm/W
- Suitable for both grid and flange applications
- Full-length, concealed internal piano hinge

Nominal Sizes:	12" × 24", 12 "× 48"
Installation Type:	Recessed ceiling mount, grid or flange
Lamp types:	LED, T8

Mighty Mac™ Behavioral Health - Ceiling Mount

RMCD Series

- Delivered lumen range: 3,364 – 9,529 lm
- Input Power: 29 – 97W
- Lumens per watt: 61 – 122 lm/W
- Suitable for both grid and flange applications
- Full-length, concealed internal piano hinge
- Indigo-Clean, BIOS SkyBlue(tm) and Tunable White options available

Nominal Sizes:	24" × 24", 24" × 48"
Installation Type:	Recessed ceiling mount, grid or flange
Lamp types:	LED, T8

Mighty Mac™ Behavioral Health - Ceiling Mount

WCU Series

- Delivered lumen range: 4,416 – 9,278 lm
- Input Power: 57 - 92W
- Efficacy: 78 – 101 lm/W
- Two apertures provide up and down light

Nominal Sizes:	7"×11" × 29"; 7"× 11"× 53"
Installation Type:	Wall
Lamp types:	LED, T8

Mighty Mac™ Behavioral Health - Ceiling Mount

WCH Series

- Delivered lumen range: 2,775 – 3,076 lm
- Input Power: 50W
- Efficacy: 55 – 62 lm/W
- Single-aperture fixture

Nominal Sizes:	7"× 11"× 29"; 7"× 11"× 53"
Installation Type:	Wall
Lamp types:	LED, T8

Mighty Mac™ Behavioral Health - Ceiling Mount

SSA Series

SS_ Series

- Delivered lumen range: 2,530 – 11,867 lm
- Input power: 28 – 97W
- Efficacy: 72 – 130 lm/W
- Completely concealed internal drop slot piano hinge
- Die-formed blade trap (1/4" minimum) prevents contraband concealment and unauthorized access
- Indigo-Clean and Tunable White technology options available

Nominal Sizes	
SSA:	12" × 24"; 12"× 48"
SSB:	16" × 24"; 16"× 48"
SSC:	20" × 24"; 20"× 48"
SSD:	24" × 24"; 24"× 48"
Installation type:	surface ceiling mount
Lamp Types:	LED, T5, T5HO, T8

SSA-TW and SSA-ICT   SSA Only   SSA Only

SSB Series   SSC Series   SSD Series

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MedMaster™ Behavioral Health - Exit Signs

METSU

METDU

METSW

Millenium METSU, METDU, METSW

- Surface mount – wall or ceiling; single-face (METSU) or dual-face (METDU) option
- Wall mount – single face (METSW)
- Indirect red or green LED
- Internal battery backup system
- High impact polycarbonate construction

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MedMaster™ Behavioral Health - Exit Signs

Millenium METSR

- Semi-recessed wall mount – single face
- Indirect red or green LED
- Internal battery backup system
- 20-gauge cold rolled steel housing
- Self diagnostic testing features

c(UL)us IP65 UL 924 NFPA 101 PEACE OF MIND Guarantee®

MightyMac MMEX

- Surface mount – wall or ceiling
- Single- and dual-face options
- Indirect red or green LED
- 14-gauge cold rolled steel or stainless steel housing

c(UL)us IP65 UL 924 NFPA 101

MedMaster SofStep Contour™ Behavioral Health - Steplights

VO   HO

VR   HR

MCSL Series

- Delivered lumen range: 5 – 38 lm
- Input Power: 0.5 – 3.3W
- Efficacy: 10 – 13 lm/W
- Die-cast aluminum housings
- White, amber or blue LED options
- Lumen output field adjustable to 100%, 50% and 25%
- Multiple decorator finishes available

Nominal sizes:	6.10"× 4.85"; 4.85"× 6.10"; 5.6"× 3.7"; 4"× 5.38"
Installation Type:	Semi-recessed wall mount
Lamp Type:	LED

c(UL)us NSF ADA IP64 OPTION

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Contents

Best Practices:

Performance Requirements for Circulation Area Lighting & Signage – and How We Meet Them

Kenall's lighting is engineered to support busy facilities by providing optimum light quality, simple wayfinding, and energy efficiency.

1. Life Safety Code® Compliant

The National Fire Protection Association's (NFPA) Life Safety Code requirements, specific to the Illumination of Means of Egress, address the illumination levels and duration required for various applications.

Kenall Solutions:

- Are designed and engineered to meet or exceed NFPA requirements
- Offer a variety of configurations designed to light variably-sized paths of egress
- Feature bright, evenly illuminated faces with red or green exit stencils, and remote operating capabilities
- Meet NFPA 101 and UL 924 standards to ensure safe operation

2. Durable, Rugged Construction

Kenall Solutions:

- Are built using the highest quality injection-molded polycarbonate housings, baseplates and mounting components
- Carry ingress protection (IP) ratings to protect against the penetration of moisture, dirt, and debris
- Are NSF listed, indicating the product is simple to clean, supporting infection prevention
- Meet NFPA 101 and UL 924 standards to ensure safe operation
- Offer a standard ambient temperature rating of 10°C to 45°C, or if optional cold weather package is specified, the fixture is rated to -45°C
- Are ADA compliant and carry an exclusive Peace of Mind Guarantee® against breakage for the life of the product installation

3. LED Technology for Long Life

Kenall Solutions:

- Are often underdriven to increase LED life (up to 50,000 hours)
- Feature LED lamps that do not contain filaments, making the fixtures ideal for high-vibration areas
- Require less battery power, so maintenance is reduced, and sustainability is enhanced

4. Integrated Controls & Motion Sensing Capability

Lighting should accommodate fluctuating activity levels while conserving energy.

Kenall Solutions:

- Feature integrated controls to detect occupancy* and daylight levels**—with adjustments for both time delay and sensitivity
- Frequently embed occupancy sensors behind a polycarbonate lens, adding extra durability
- Offer a daylight-hold/off feature that overrides the sensitivity control setting, keeping the fixture off if sufficient ambient daylight is detected

5. Emergency Lighting

Stairwells must meet the illumination levels required for both stairs and landings, and, as a result, pose particular emergency lighting challenges due to inherent changes in elevation.

Kenall Solutions:

- Whether your emergency lighting need calls for a 3' or 6' wide path of egress, Kenall's Millenium Series offers systems capable of exceeding Life Safety Code requirements for a wide variety of spatial configurations

* Motion Sensing
** with TekLink Controls

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MedMaster™ Ceiling Mount

MGT Series

- Delivered lumen range: 2,734 – 8,787 lm
- Input power range: 29 – 70W
- Efficacy: 97 – 128 lm/W
- Indigo Clean technology option available

Nominal sizes:	2'× 2' & 2'× 4'
Installation types:	Recessed Mount
Lamp types:	LED

Millenium Stretch™ Ceiling Mount

MLHA Series

- Delivered lumen range: 2,374 – 16,561 lm
- Input power range: 25 – 167W
- Efficacy: 93 – 113 lm/W
- Polycarbonate lens for added durability
- Embedded motion sensing option available (CA Title 24-compliant)
- TekLink controls compatible
- Indigo-Clean, BIOS SkyBlue™ and Tunable White options available

Nominal sizes:	5", 8", 12" widths; 24", 36", 48", 72", 96" lengths
Installation types:	Surface mount–ceiling, wall, corner or optional pendant mount
Lamp types:	LED, T5, T5HO, T8, T8HO

EnviroSeal™ Ceiling Mount

ES Series

- Delivered lumen range: 2,205 –10,325 lm
- Input power range: 25 – 98W
- Efficacy: 88 – 110 lm/W
- One-piece, seam-welded, cold-rolled or stainless steel housing
- UV-stabilized, pearlescent or clear polycarbonate lens
- Embedded motion sensing options available (CA Title 24-compliant)

Nominal size:	3", 5", 8" and 12" widths; 2', 4' and 8' lengths
Installation types:	Surface ceiling or wall mount; optional pendant mount
Lamp types:	LED, T5, T5HO, T8, T8HO

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Nova™ Ceiling Mount

N Series

- Delivered lumen range: 3,216 – 11,068 lm
- Input power range: 28 – 93W
- Efficacy: 104 –124 lm/W
- Cold-rolled steel baseplate
- One-piece, injected-molded, polycarbonate wraparound lens
- Embedded motion sensing options available (CA Title 24-compliant)

Nominal Size:	5" or 10" widths; 48" lengths
Installation types:	Surface ceiling or wall mount
Lamp types:	LED, T5, T5HO, T8

c UL us   ADA   PEACE OF MIND Guarantee®

Sheriff™ Ceiling Mount
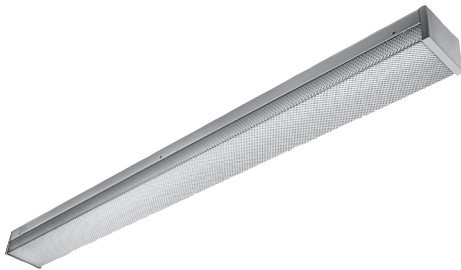
Sheriff™ SH Series

- Delivered lumen range: 4,534 – 10,434 lm
- Input power range: 48 – 95W
- Efficacy: 94 – 111 lm/W
- Cold-rolled steel baseplate
- Polycarbonate wraparound lens
- Embedded motion sensing options available (CA Title 24-compliant)

Nominal Size:	5", 8" or 12" widths; 24", 36" or 48" lengths
Installation types:	Surface ceiling, wall or pendant mount
Lamp types:	LED, T5, T8, T5HO

c UL us   ADA   PEACE OF MIND Guarantee®

Millenium OS™ Stairwell - Surface Mount

MOS Series

- Delivered lumen range: 2,527 – 4,720 lm
- Input power range: 25 – 46W
- Efficacy: 98 – 108 lm/W
- Vandal-resistant for high-abuse areas
- Compatible with TekLink™ Controls (CA Title 24-compliant)
- Emergency battery backup option available

Nominal Size:	11" w × 18" l × 4" h
Installation types:	Surface mount–ceiling or wall
Lamp Type:	LED

c ETL us   IP65   ADA   Next Generation LUMINAIRES   PEACE OF MIND Guarantee®

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MedMaster™ *Circulation Area - Wall Sconce*

Auracyl™ MAS Series

- Delivered lumen range: 698 – 2,749 lm
- Input Power: 14 – 49W
- Efficacy: 47 – 57 lm/W
- MRI Option
- Variety of decorative frame and outer lens options
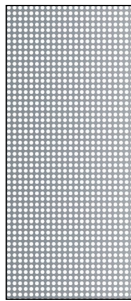- Optional emergency pack

Nominal sizes:	8"×13", 26", 38"or 50"
Installation types:	surface mount
Lamp Type:	LED

Decorative Outer Lens

AS	**CAP**	**NL**	**SS**	**OL**	**PL**
Frosted Acrylic	Clear Acrylic w/Perforation	Natural Leaf	Silver Spun	Oyster Linen	Paper Leaf

Frame finish
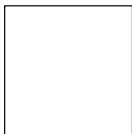
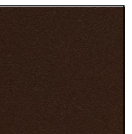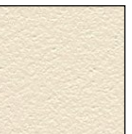| **MB**	**MW**	**WS**	**CS**	**BR**	**DB**	**BE**
Matte Black	Matte White	Warm Satin	Cool Satin	Bronze	Dark Bronze	Beige

Millenium Metrex™ Exit & Emergency Lighting

METSU

METDU   METSW

METSU/METDU/METSW Series

- Surface mount — wall or ceiling; single-face (METSU) or dual-face (METDU) option
- Wall mount — single face (METSW
- Indirect red or green LED
- Internal battery backup system
- High impact polycarbonate construction

Installation types: Surface mount; wall or ceiling; single or double face
Lamp types: LED

Millenium Metrex™ Exit & Emergency Lighting

METSR Series

- Semi-recessed wall mount —single face
- Indirect red or green LED exit
- Internal battery backup system
- 20-Guage cold rolled steel housing
- Self diagnostic testing features

Installation types: Semi-recessed wall; single face
Lamp types: LED

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Millenium Metrex™ Exit & Emergency Lighting

METEC Series

- Remote Exit Ready; can power Kenall METSS and METER emergency remote units
- Surface wall mount – single face
- Indirect red or green LED
- Exit/emergency combo unit
- High impact polycarbonate construction
- Meets all Life Safety Code® requirements

Installation types:	Surface wall mount single face
Lamp types:	LED

c(UL)us IP64 UL 924 NFPA 101 PEACE OF MIND Guarantee®

METEDU Series

- LED Emergency Signage
- Surface mount – wall or ceiling; double face
- Indirect red or green LED
- High impact polycarbonate construction
- Meets all Life Safety Code® requirements

Installation types:	Surface mount wall or ceiling double face
Lamp types:	LED

c(UL)us NSF IP64 UL 924 NFPA 101 PEACE OF MIND Guarantee®

METMDU Series

- LED Signage
- Surface mount – wall or ceiling; double face
- Indirect, red, green or blue LED
- High impact polycarbonate construction

Installation types:	Surface mount wall or ceiling double face
Lamp types:	LED

c(UL)us NSF UL 48 PEACE OF MIND Guarantee®

Millenium Metrex™ *Exit & Emergency Lighting*

METER Series

- Remote powered emergency luminaire
- Low profile, ADA compliant
- Die-cut, closed cell neoprene gasket seals lens/housing to mounting surface
- Meets all Life Safety Code requirements
- 1 or 2 lamp LED

Installation types:	Surface ceiling or wall mount
Lamp types:	LED

METEL/METELHC Series

- Remote Exit Ready: can power Kenall METSS and METER emergency remote units
- Self-contained emergency luminaires
- Two or four lamp, high capacity units featuring the most advanced battery technology available
- Meets all Life Safety Code requirements

Installation types:	Surface wall mount
Lamp types:	LED

METEL

METELHC

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MightyMac™ Exit & Emergency Lighting

MMEX Series

- Surface mount — wall or ceiling
- Single and dual-face options
- Indirect red or green LED exit
- 14-Guage cold rolled steel or stainless steel housing

| Installation types: | Surface mount; wall or ceiling; single or double face |
| Lamp types: | LED |

SimpleSeal™ Exit & Emergency Lighting

CMEXR Series

- Single-faced, recessed wall mount
- Indirect red or green LED exit
- Internal battery backup options
- Cold temperature options
- High impacy polycarbonate lens
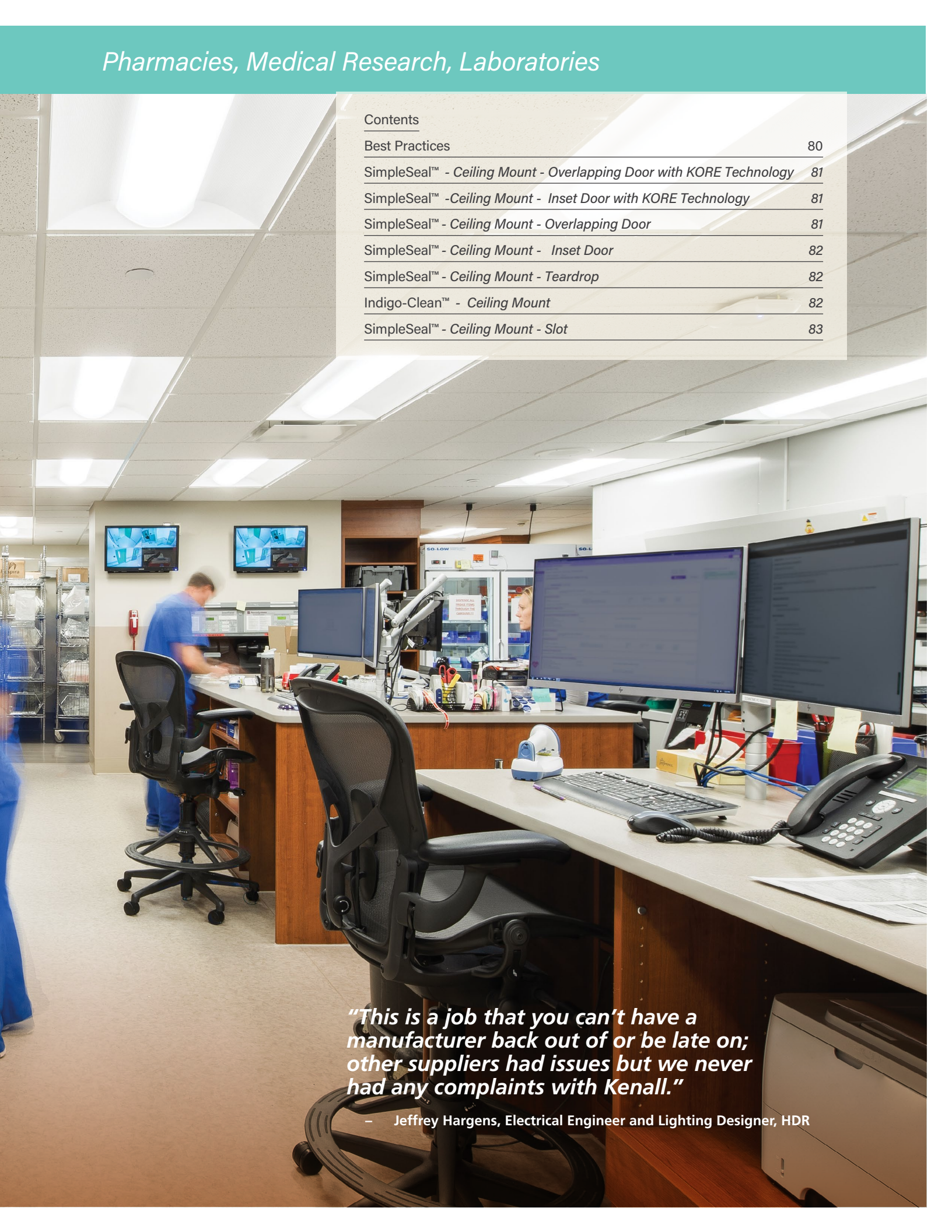
| Installation types: | Recessed wall; single face |
| Lamp types: | LED |

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Contents

"This is a job that you can't have a manufacturer back out of or be late on; other suppliers had issues but we never had any complaints with Kenall."

–   Jeffrey Hargens, Electrical Engineer and Lighting Designer, HDR

Best Practices:

Performance Requirements for Patient Support Facilities Lighting – and How We Meet Them

There are a number of specialized areas in a healthcare facility that have very specific lighting needs, such as pharmacies, medication preparation areas, laboratories, wash down areas and certain types of storage. Kenall provides luminaires that address those varied needs.

1. Illumination that protects the accuracy of work

Kenall Solutions:

- Option for high color rendering index (CRI) luminaires, to better perceive colors
- Specialized optics that reduce veiling reflections
- Red lamps for use in vivariums
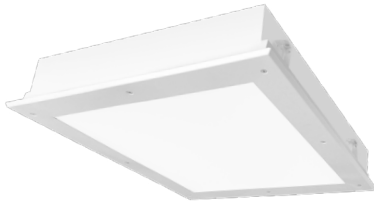- Amber LEDs for areas where procedures may be photosensitive

2. Protects against contaminants and moisture

Kenall Solutions:

- Sealed with closed cell gasketing
- IP-rated fixtures that do not allow dust, debris or other contaminants to enter from the plenum
- Luminaires rated for use where water jets may be in use
- Luminaires that are purpose-built for positive and negative pressure rooms and specific types of air-handling systems
- Biosafety rated lab luminaires (BSL 1-4) for handling hazardous compounds or pathogens
- Visible light disinfection via Indigo-Clean® technology
- Antimicrobial finish option

3. Energy efficiency

Kenall Solutions:

- Specialized optics provide unparalleled performance, reducing the number of luminaires required
- Feature high-efficacy, long-lasting LEDs

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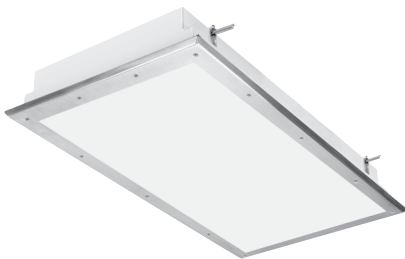## SimpleSeal™ - Ceiling Mount - Overlapping Door with KORE Technology

SimpleSeal™ CSERO Series

- Input watts: 18 – 136W
- Lumen range: 2,109 – 21,637 lm
- Designed specifically to improve the visual performance while providing industry leading efficacy of up to 175 lm/W
- Distribution provides uniform flat-field illumination, suppressing central hot spots and allowing greater ceiling spacing

Nominal sizes:	1' × 4'; 2' × 2'; 2' × 4'
Installation Type:	Universal installation into 1.0" and 1.5" grid or flange (drywall) ceilings
Lamp Type:	LED

KORE TECHNOLOGY

SimpleSeal™ -Ceiling Mount - Inset Door with KORE Technology

SimpleSeal™ CSERI Series

- Input watts: 18 – 136W
- Lumen range: 2,109 – 21,637 lm
- Designed specifically to improve the visual performance while providing industry leading efficacy of up to 175 lm/W
- Distribution provides uniform flat-field illumination, suppressing central hot spots and allowing greater ceiling spacing

Nominal sizes:	1' × 4'; 2' × 2'; 2' × 4'
Installation Type:	Universal installation into 1.0" and 1.5" grid or flange (drywall) ceilings
Lamp Type:	LED

KORE TECHNOLOGY

SimpleSeal™ - Ceiling Mount - Overlapping Door

CSEDO Series

- Delivered lumen range: 4,906 - 24,103 lm
- Input power: 46 –196W
- Efficacy: 99 – 152 lm/W
- Available in 570nm amber LED or 630nm red LED
- Indigo-Clean, BIOS SkyBlue™ and Tunable White options available

Nominal sizes:	1'×4'; 2'×2'; 2'×4'
Installation Types:	Grid, flange
Lamp Types:	White LED, 570nm amber LED, 630nm red LED

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SimpleSeal™ - Ceiling Mount - Inset Door

CSEDI Series

- Delivered lumen range: 4,906 – 24,103 lm
- Input power: 46 – 196W
- Efficacy: 99 – 152 lm/W
- Available in 570nm amber LED or 630nm red LED
- Indigo-Clean, BIOS SkyBlue™ and Tunable White options available

Nominal sizes:	1'×4'; 2'×2'; 2'×4'
Installation Types:	Grid, flange
Lamp Types:	White LED, 570nm amber LED, 630nm red LED

SimpleSeal™ - Ceiling Mount - Teardrop

CTD Series

- Delivered lumen range: 4,241 – 12,320 lm
- Input Power: 52 – 106W
- Efficacy: 82 – 117 lm/W
- Optical system reduces glare and improves visibility
- Low profile construction for a modern design aesthetic

Nominal sizes:	4', 8'
Installation Types:	Surface grid mount – continuous row option
Lamp Types:	LED

Indigo-Clean™ - Ceiling Mount

CSEDOIC Series

- Delivered lumen range: 5,576 – 14,712 lm
- Input power: 68 – 149 W
- Continuous environmental disinfection via safe wavelength of visible light (405nm)
- High performance LEDs switch between white and indigo modes
- Kills harmful viruses and bacteria including *SARS-CoV-2, Influenza-A, C. diff* and *MRSA*
- Automated with Indigo-Clean (IC150) room controls system

Nominal sizes:	1'×4'; 2'×2'; 2'×4'
Installation Types:	Grid, flange
Lamp Types:	White LED, 405nm Indigo LED

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SimpleSeal™ - Ceiling Mount - Slot

SimpleSeal CleanSlot CRS4 Series

- Delivered lumen range: 408 – 1,248 lms/ft
- Input Power: 4 – 12 W/ft
- Efficacy: 79 – 128 lm/W
- Symmetric and asymmetric distribution options
- Tunable white option available in 2', 4' & 8' lengths

Nominal size:	4"× 2', 3', 4', 6' & 8'
Installation type:	grid or flange
Lamp Types:	LED

Project: City of Omaha Parking Garages
Location: Omaha, Nebraska

Contents

Best Practices:

Performance Requirements for Parking & Site Lighting – and How We Meet Them

While architects, engineers, and lighting designers increasingly seek the highest architectural standards in design and materials for hospital exterior lighting, durable fixtures with energy-saving daylight and occupancy sensors are a requirement in many states and municipalities. Kenall site lighting is designed to provide ample light where it's needed and TekLink™ controls ensure smooth, efficient operation.

1. Aesthetic Appeal

Exterior lighting should provide function, durability and energy efficiency, without compromising aesthetics.

Kenall Solutions:

- Provide versatility in frame styles, finishes and sizes
- Support design continuity throughout the facility

2. Safety & Security

Lighting fixtures must be able to withstand physical punishment while remaining attractive and performing as intended.

Kenall Solutions:

- SenScapes' integrated cameras provide an added level of security for building exteriors and parking structures
- TekLink controls provides numerous lighting performance reporting options
- Specialized Optics reduce glare to create a safer driving experience in parking structures

3. Durability

Lighting fixtures must be able to withstand physical punishment while remaining attractive and performing as intended.

Kenall Solutions:

- Constructed with marine-grade or heavy-duty, low-copper aluminum housings
- DR acrylic or polycarbonate lensing
- Tamper resistant Torx® fasteners
- Backed by Kenall's exclusive 'Peace of Mind Guarantee®' against breakage

4. Sealed against Dust & Water Penetration

Kenall Solutions:

- Sealed with closed cell gasketing
- Impervious to the penetration of dust, moisture, bugs, dirt and debris

5. Long Life LED Technology

Kenall Solutions:

- Featuring long life LEDs, expertly designed and engineered to provide up to 130,000 hours of service life
- Provide an energy efficient, sustainable lighting system ideal for use in hospital exteriors— even in the most challenging environments

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Project: *City of Omaha Parking Garages*
Location: *Omaha, Nebraska*

SenScape™ Area Series

Lighting that Provides a Safer Path

The SenScape™ Area series consists of LED luminaires that integrate sophisticated next-generation controls and optics into a clean design that provides added safety & security throughout the parking area. SenScape embeds camera technology in a completely unobtrusive— and undetectable— way; allowing pathways and parking lots to inconspicuously add an extra element of protection.

SenScape Area SA Series

- Delivered lumen range: 1,662–43,347 lm
- Input power: 35–306W
- Efficacy: 90–152 lm/W
- Architectural, modern design aesthetic scaled for mounting heights of 15-30 feet
- TekLink advanced wireless networked control and innovative Integrated Camera Module options

Nominal Sizes:	18" or 26" Diameter
Installation Type:	Pole Mount, Post Top or Wall Mount
Lamp type:	LED

cETLus   IP65   3G

Post Top Mount

Pole Mount

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SenScape™ *Parking*

SPG18 Series

- Delivered lumen range: 3,086 – 12,943 lm
- Input power range: 35 – 139W
- Efficacy: 74 – 129 lm/W
- Standard & enhanced uplight; 100% downlight versions also available
- Optical distribution patterns designed specifically for covered parking, canopy and low bay applications
- TekLink™ Controls compatible: embedded microwave sensor with an industry exclusive Peace of Mind Guarantee®

Nominal Sizes:	18" diameter, 4.5" depth
Installation Types:	Direct-to-surface, quick mount, pendant mount or trunnion kit
Lamp type:	LED

cETLus IP65 IP66 3G plus®
Option

PEACE OF MIND Guarantee®
Polycarbonate Lens & Direct-to-surface Mount Only

TekDek™

TD17 Series

- Delivered lumen range: 4,080 – 14,866 lm
- Input power range: 36 – 105W
- Efficacy: 96 – 152 lm/W
- Textured tertiary lens for glare reduction; uplight feature to eliminate "cave effect"
- Variety of distribution options
- TekLink™ Controls compatible: embedded microwave sensor with an industry exclusive Peace of Mind Guarantee®

Nominal Sizes:	17" diameter; maximum depth 25.5"
Installation Types:	Direct-to-surface, quick mount, pendant mount or trunnion kit
Lamp type:	LED

cETLus IP65 3G

PEACE OF MIND Guarantee®
Polycarbonate Lens & Direct-to-surface Mount Only

Millenium™ Rounds, Ovals & Squares

MR Series

M_ Series

- Delivered lumen range: 871 – 5,672 lm
- Input power: 11 – 57W
- Efficacy: 63 – 121 lm/W
- Die-cast aluminum backplate
- Polycarbonate lens for added durability
- Embedded motion sensing option available (CA Title 24-compliant)

Nominal Size:	13" and 17" diameters
Installation Types:	Surface or semi-recessed, wall or ceiling mount options
Lamp Types	LED

Available Shapes & Housing Styles

MR Series	MO Series	MS Series	Low Profile	Deep	Semi-Recessed

Millenium™ Edge™
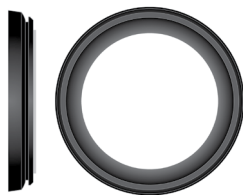
MR_FF_ Series

- Delivered lumen range: 1,111 – 3,206 lm
- Input power: 13 – 29W
- Efficacy: 86 –111 lm/W
- Marine-grade, die-cast aluminum housing
- Emergency battery backup option available
- Dark-sky friendly (ceiling mount only)

Nominal Sizes:	13" or 17"
Installation Type:	Surface or semi-recessed, ceiling or wall mount
Lamp type:	LED

Herculux™

H612 Series

H1212 Series

H69 Series

H99 Series

H Series

- Delivered lumen range: 691 – 5,509 lm
- Input power: 11 – 54W
- Efficacy: 72 – 117 lm/W
- One-piece, powder-coated, marine-grade aluminum backplate
- Injection-molded, UV-resistant polycarbonate diffuser
- Stainless steel, tamper-resistant Torx® fasteners

Nominal sizes:	6" × 12", 6" × 9", 9" × 9", 12" × 12"
Installation Types:	Surface ceiling or wall
Lamp type:	LED

ETL us ADA PEACE OF MIND Guarantee®

Millenium Freescale™

FS Series

- Delivered lumen range: 967 – 7,779 lm
- Input power range: 14 – 98W
- 48 – 79 lm/W
- CCT: 3500K, 4000K or 5000K; 82 CRI
- Round or triangular 100% DR acrylic lens options with multiple lens frame styles
- Marine-grade aluminum baseplate

Nominal Size:	5", 8" or 12" widths; 12", 18", 24" and 48" lengths
Installation Types:	Wall mount
Lamp Types:	LED

UL us IP65 ADA PEACE OF MIND Guarantee®

Finishes

CA	**CS**	**WS**	**BR**	**DB**	**FG**	**LG**	**MB**	**MW**	**CC**
Clear Anodized	Cool Satin	Warm Satin	Bronze	Dark Bronze	Forest Green	Light Gray	Matte Black	Matte White	Custom Color (Kenall Blue shown)

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Millenium Auracyl™

MLAS Series

- Delivered lumen range: 698 – 2,749 lm
- Input power range: 14 – 49W
- Efficacy: 50 – 57 lm/W
- CCT: 3500K, 4000K or 5000K; 82 CRI
- Marine grade aluminum housing with die-cast end caps
- Peace of Mind Guarantee against breakage

Nominal Size:	8"×13"; 8"×26"; 8"×38" and 8"×50"
Installation Types:	Surface wall mount
Lamp Types:	LED

Frame Type

Pane	Pillar	Capital	Slot	Prairie
Rank	Lattice	Squares	Bricks	Orbs
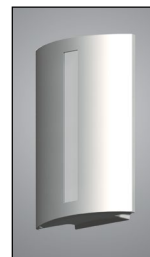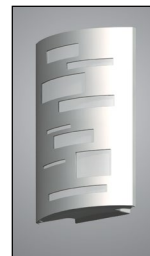
Millenium™ Finite

FN Series

- Delivered lumen range: 1,788 – 12,221 lm
- Input power: 20 – 122W
- Efficacy: 79 –123 lm/W
- Full cut-off, LED wall-pack with classic design aesthetic
- Type II, III and IV optical distribution options
- Available two-circuit and cold-weather battery pack options

FN6

FN15   FN9

Nominal Sizes:

FN9:	9" × 9" × 9"
FN15:	9" × 12" × 15"
FN6:	4" × 6" × 12"; 4" × 6" × 24"
Installation Type:	Surface wall mount
Lamp type:	LED

Millenium™ Finite Linear

FNL Series

- Delivered lumen range: 1,154 – 6,874 lm
- Input power: 14 – 72W
- Efficacy: 82 – 96 lm/W
- Marine grade aluminum housing with die-cast end caps
- Embedded motion sensing options available (CA Title 24-compliant)
- Configurable as full-cutoff, full-cutoff/continuous row, uplight, uplight/continuous row

Nominal Sizes:	6"W × 1', 2', 3', 4' & 6' lengths
Installation Type:	Surface wall mount
Lamp Types:	LED

Downlight Only

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TekLink™ Lighting Controls

TekLink: A Full Range of Lighting Control Systems

Many of our products are controls compatible, and Kenall offers integrated solutions to suit a variety of budgets.

TL50M / TL50DM

Remote Controller   SenScape™

System Features

- Embedded motion sensor
- Daylight harvesting
- Settings configurable via remote controller

Learn More

TL100

Controller   Sensor   SenScape™

System Features

- Zonal occupancy detection
- Closed loop daylight harvesting
- One button commissioning

Learn More

TL1000/TL2000

System Features

- Web based user interface
- Wired and wireless options
- Email and text alerts
- Power monitoring
- Data reporting

Learn More

Kenall TekLink Control System Overview

Features	TL50	TL100	TL1000	TL2000	TL2000PS
			TekLink Cloud		
Sensor Technology	Microwave / Infrared	Infrared / Ultrasonic	Infrared / Microwave	Infrared / Microwave	Image Sensor
Wireless Communication				√	√
Adjustable Occupancy Time-Out	√	√	√	√	√
Daylight Feedback	√	√	√	√	√
Adjustable Dim-Level	√	√	√	√	√
Zonal Control		√	√	√	√
One Touch Light Level Commissioning*		√	√	√	√
L70 Detection*		√	√	√	√
Scheduling			√	√	√
Reporting			√	√	√
Car Counting					√

*Patent No: US 20120153840

Learn More About Teklink Controls

www.kenall.com | **P: 800-4-Kenall** | **F: 262-891-9701** | **10200 55th Street Kenosha, Wisconsin 53144**

A brand of **legrand**

This product complies with the Buy American Act: manufactured in the United States with more than 50% of the component cost of US origin. It may be covered by patents found at www.kenall.com/patents. Content of specification sheets is subject to change; please consult www.kenall.com for current product details.

Project: City of Omaha Parking Garages
Location: Omaha, Nebraska

Warranties

On behalf of our valued customers, Kenall promises to stand behind our luminaires. Our commitment to excellence enables us to offer a variety of product warranties, including the Kenall exclusive Peace of Mind Guarantee, 5-year LED and 10-year limited product warranty. For more detailed, product specific warranty information, please visit our website at *www.kenall.com*.

Peace of Mind Guarantee
Kenall's High Abuse luminaires are designed and built to take exceptional physical punishment. When installed according to our instructions, Kenall will repair or replace any unit rendered inoperable due to physical abuse for the normal service life of the fixture.

LED 5-year Warranty
This warranty covers select Kenall LED products for a period of 5 years from the date of manufacture. For complete warranty information, please visit us on the web at www.kenall.com.

LED 10-year Warranty
This warranty covers select Kenall LED products for a period of 10 years from the date of manufacture. For complete warranty information, please visit us on the web at www.kenall.com.

Sample Ordering Information

Example: MGT24-G-FA-67L-40K8-DIM1-DV-FS

ORDERING INFORMATION

Model	Mounting	Lens Type	Lamp Type	Lamp Color	Driver Type	Voltage	Options
		FA			**DIM1**		
Model		**Lamp Power**		**Lamp Color**		**Voltage**	
MGT22 2'×2'		**2×2**		**30K8** 3000K / 82CRI		**DV** 120-277 VAC, 50/60Hz	
MGT24 2'×4'		**25L** 25 Watt LED		**35K8** 3500K / 82CRI		**347** 347 Volts	
		35L 35 Watt LED		**35K9** 3500K / 90CRI			
Mounting Options				**40K8** 4000K / 82CRI			
G Grid (1")		**2×4**		**40K9** 4000K / 90CRI		**Options**	
F Flange		**45L** 45 Watt LED				**FS** Fuse & Holder	
		67L 67 Watt LED		**Driver Type**			
Lens Type				**DIM1** 0-10V Dimming to 1%			
FA Frost DR Acrylic							

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Listings & Certifications

Fixtures designed for use in healthcare settings must satisfy a large number of demanding lighting and environmental requirements. Listings applicable to the healthcare luminaires featured in this product selector guide are shown below. Please refer to the products within each section of this guide to determine specific listings, or visit us on the web at *www.kenall.com*

ADA Compliant—Although ADA is not specific to lighting, it does impact fixture design by creating standards for wall sconce projection space and hanging light clearance. Section 4.4 of the ADA states that "objects projecting from walls with their leading edges between 27" and 80" above the finished floor shall protrude no more than 4" into walks, halls, corridors, passageways or aisles."

BSL BioSafety Level (BSL-x) classifies the relative danger from biohazardous material to the surrounding people and environment. There are four biosafety levels (BSL1 – BSL4), with the highest number representing the greatest risk. Luminaires in each class are designed to provide the protections necessary for containing the risks associated with that level. See the chart on page 39 for more information.

CCEA Approved—The City of Chicago Environmental Air (CCEA) rating ensures that the luminaire is inherently airtight. Wiring and/or branch circuit terminations are sealed off and gasketed from the plenum air space. This listing ensures that the luminaire is sealed to limit air flow from the room side to the plenum.

ETL—A product bearing the ETL Listed mark is determined to have met the minimum requirements of prescribed product safety standards as certified by a Nationally Recognized Testing Laboratory (NTL). The mark also indicates that the manufacturer's production site conforms to a range of compliance measures and is subject to periodic follow-up inspections to verify continued conformance.

FN Option — FN refers to Food Zone/Non-Food Contact. Fixtures are located in food preparation and handling areas but do not come in contact with food under normal conditions. All fixtures in this category have a higher level of construction: housing painted with paint that meets U.S. Code of Federal Regulations; fasteners constructed with stainless-steel and removable without tools; and FDA approved Food Grade polycarbonatematerial outer exposed lensing.

HAZ —The National Electric Code (NEC) identifies and classifies potentially hazardous materials and conditions. Kenall's hazardous rated products are approved for use in Class 1, Division 2, Groups A, B, C, and D. Basic requirements for Class I Division 2 electrical equipment is no arcing or sparking parts be present, or if present, be in an explosion-proof enclosure.

ICT—Indicates white, ambient Kenall luminaires using Indigo-Clean Technology, which kills harmful bacteria, including Staph, such as MRSA.

IP53 — UL certified IP53 per IEC 60598 ensures that the enclosure is protected from: a) dust of sufficient quantity to interfere with satisfactory equipment operation and b) the harmful effects of water falling as a spray at an angle of up to 60 degrees from vertical."

IP64—UL Certified IP64 per IEC 60598 ensures that the enclosure is dust-tight and protected against splashing water without any harmful effects.

IP65— UL Certified IP65 per IEC 60598 ensures that the enclosure is dust-tight and protected against jet streams of water from any direction without any harmful effects.

IP66 —UL Certified IP66 per IEC 60598 ensures that the enclosure is dust tight and protected against water projected in powerful jets without any harmful effects.

ISO 3 — Suitable for ISO 3, Class 1 Rated Rooms (FED-STD209E). Measures the number of particles equal to or greater than 0.5 mm in one cubic foot of air. The measurement must not exceed specified particle limits in order for the space to be considered a controlled 'clean room' environment.

ISO 5 — Suitable for ISO 5, Class 100 Rated Rooms (FED-STD209E). Measures the number of particles equal to or greater than 0.5 mm in one cubic foot of air. The measurement must not exceed specified particle limits in order for the space to be considered a controlled 'clean room' environment.

MIL STD 461G— Military Standards testing measurements cover both radiated and conducted electromagnetic emissions in addition to maximum allowable amounts of emitted energy based on both frequency range and field strength. Luminaires meeting MIL STD 461G pose the lowest possible likelihood of causing EMI-related issues.

NFPA101—This National Fire Protection Agency (NFPA) Life Safety Code pertains to egress facilities. The code establishes minimum criteria for the design of egress facilities so as to allow prompt escape of occupants from buildings or, where desirable, into safe areas within buildings.

NSF2— An NSF2 Listing denotes that the luminaire has been evaluated for corrosion resistance, cleanability and the ability of exposed material to withstand normal wear. This supports infection control standards as it indicates that the luminaire is easy to sanitize.

NSF P442— This protocol is a series of minimum requirements for the design, construction, performance and certifications of luminaires for cleanrooms. It requires ingress protection IEC 60529/60598 (IP-65) and NSF-2 Food Equipment certifications and a performance test for pressure decay resistance in which the sealed fixture is stressed with positive and negative pressure and checked to ensure that no leaks are present.

NSF P495— Indigo-Clean conforms to NSF P495-2018, a new standard of cleanliness that validates the disinfection of surfaces via narrow spectrum visible light (400nm – 420nm) in a controlled environment. The P495 certification demonstrates a statistically significant reduction of Staphylococcus aureus and/or Clostridium difficile endospores on clinically relevant surfaces, such as stainless steel and laminate. Light fixtures must also be NSF2 compliant.

OSHPD listing pertains to standards that protruding objects and horizontal projections must meet in order to comply with the requirements of California Office of State Health Planning and Development (OSHPD) California Building Code, Sections 1003.3.1 through 1003.3.4, for buildings and structures used for medical, surgical, psychiatric, nursing or custodial care for persons who are nonambulatory or bedridden.

UL/CUL Listed—The UL symbol signifies that Underwriter's Laboratory (UL) has determined that a manufacturer has demonstrated the ability to produce a product complying with UL's requirements with respect to specific risk, performance under specific conditions, compliance with regulatory codes and specified standards, or any other conditions as determined by UL.

UL48 — The ANSI/UL 48 signifies that a manufacturer's products are in compliance with Underwriter's Laboratories (UL) requirements for all electric signs, art forms and outline lighting for use in accordance with the National Electrical Code, NFPA 70.

UL 924—UL 924 is UL's Standard for Safety of Emergency Lighting and Power Equipment. UL 924 listed electrical exit signs are tested and given a visibility rating of at least 100 feet, requiring them to be legible from a 100 foot viewing distance in total darkness. The battery backup is tested by UL and must provide at least 90 minutes of emergency operation. Letters must be red or green and at least 6" height with a 3/4" letter stroke.

Tunable White — Tunable white technology enables the user to independently control both color temperature and intensity of light within a given application. This provides the ability to change the color of light from warm to neutral to cool in appearance, over time, based on the needs of the occupant or the space.

Kenall Manufacturing headquarters in Kenosha, WI, showing Indigo-Clean Continuous Environmental Disinfection in office area.

Kenall's luminaires are expertly designed in our state-of-the-art, vertically integrated, static-controlled manufacturing facility in Wisconsin. This enables us to provide tight control over the entire development process from fixture design and engineering to full-fledged metal fabrication, paint, assembly and shipping. We also take great care in sourcing only the highest-quality components to assure optimal product performance.

Buy American Act Compliant   Our products comply with the Buy American Act: manufactured in the United States with more than 50% of the component cost of US origin.

State-of-the-art, certified testing facility

Kenall is equipped with a state-of-the-art certified safety laboratory, providing comprehensive in-house testing capabilities:
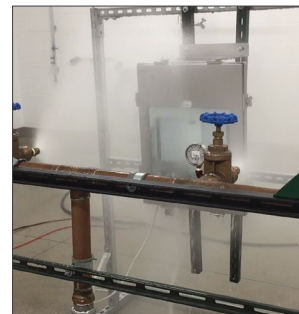
Thermal Testing

Cold Weather Testing
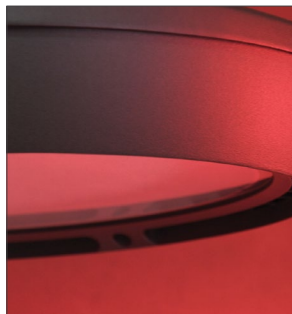
High Temperature Testing

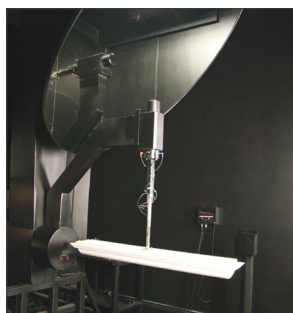### Ingress Testing

Solids and Particulates Testing

Water Ingress Testing

Photometrics Testing

Luminous Intensity Distribution Testing

Since 1963, Kenall has built its reputation on lighting challenging environments, and continues to develop innovative, energy efficient and sustainable solid state lighting solutions. Kenall pursues quality, durability, reliability and excellence by way of rigorous testing and certifications, dependable service and the innovation of state-of-the-art technologies.

Learn More

Kenall Market Segments

Kenall offers luminaires designed according to industry best practices and certified performance standards in each market segment we serve. From high abuse fixtures with an exclusive 'Peace of Mind' Guarantee® against breakage and healthcare fixtures sealed for infection control, to sealed enclosure fixtures that comply with stringent military standards for RFI/EMI and food processing fixtures that carry mission critical NSF, NEMA and IP ratings, our fixtures are designed with your specific needs in mind.
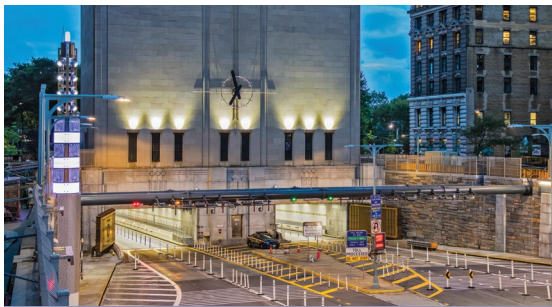
CORRECTIONAL

EDUCATION

HEALTHCARE

BEHAVIORAL HEALTH

CLEANROOM

INDUSTRIAL FOOD

TUNNEL & TRANSPORTATION

PARKING & SITE