

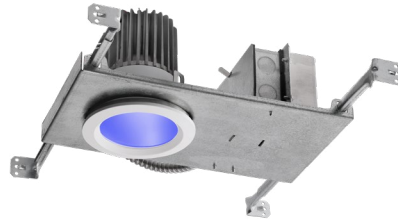
MEDMASTER NARROW SPECTRUM

Luminaires for Medical Applications

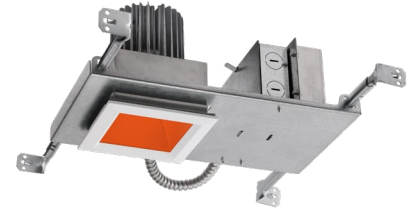
MDL4 SERIES

PRODUCT FEATURES:

- » 4" sealed, recessed downlight with round or square aperture
- » Regressed or flush lensed trim
- » Phosphor-converted 590nm Amber LED source provides higher lumen output and lifetime than native Amber sources
- » Suitable for circadian and other spectrally sensitive healthcare applications
- » 1% Dimming via 0-10V or DALI control



Round - 470nm Blue



Square - 590nm Phosphor Amber

SPECIFICATIONS

HEAT SINK: Die-cast aluminum with external radial fins for natural convection.

ROUGH-IN FRAME: 18-gauge die-formed, corrosion-resistant steel. Vertically adjustable collar accommodates ceiling thicknesses up to 1.5", adjustable post-installation. Adjustable mounting bars for installation with wood and steel frame joists and T-grid ceiling systems spaced up to 24" on center. Quick-access junction box accessible post-installation from above and below ceiling. Includes (5) 1/2" knock-outs to allow straight conduit runs.

TRIM/HOUSING SECTION: IP-rated housing section incorporates the heat sink, LED module, optics and lower trim. Configurable with an IP64-rated Regressed or Flush lens trim that is secured to the Rough-In frame with hidden torsion springs, and an IP65 Flush lens trim secured with three (Round) or four (Square) Phillips-head, captive fasteners. Closed-cell gasketing at ceiling flange. Anti-microbial finish standard on all exposed painted surfaces. See Trim Ordering Information for available options.

OPTICAL: Round or Square aperture. Diffused tempered-glass upper lens. No filtering elements employed. Flush lens trim options include a clear impact-resistant acrylic lens continuously sealed to the trim ring. Available with various reflector finishes. See Ordering Information for available options.

ELECTRICAL: Phosphor-converted (PC) LED source provides Amber light with a 590nm nominal peak wavelength. Phosphor-converted InGaN-based source provides a higher output and efficacy as well as longer lifetime compared to native amber (AlInGaP-based) source for applications where a broader spectrum is acceptable. Native Blue LED option with 470nm nominal peak wavelength. 120-277VAC, 50/60Hz electrical input with serviceable constant current driver (<20% THD, >0.90 PF). Minimum 85% driver efficiency. Standard 0-10V dimming with 1-100% range and dim-to-dark capabilities; 0.2mA maximum source current. Optional eldoLED ECode DALI-2/LEDcode2 driver with 1-100% range.

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

WARRANTY: Limited five (5) year LED warranty.

LISTINGS: Luminaire is certified to UL standards by Intertek Testing Laboratory for non-IC and Wet Location installations. IP64 and IP65 rating per IEC60598. NSF2 Splash/Non-Food Zone. Optional CCEA compliance.



ORDERING INFORMATION (EX: MDL4S-R-DCFW-12PA-CD-RIG4S-277-DALI)

TRIM						ROUGH-IN			
Model	Trim Style	Trim Finish	Lamp Power/Color	Reflector Finish	Flush Lens Type	Rough-In	Input Voltage	Driver Type	Options
Model MDL4 4" Medical - Round MDL4S 4" Medical - Square						Rough-In RIG4 4" Medical Rough-In - Round RIG4S 4" Medical Rough-In - Square			
Trim Style R▲ Regressed Lens NF Flush Lens (Without Fasteners - IP64) FF Flush Lens (With Fasteners - IP65)						Input Voltage 120 120VAC, 50/60Hz 277 277VAC, 50/60Hz 347† 347VAC, 60Hz			
Trim Finish DCFW Die-Cast Aluminum in Flat White (R and NF Trim Style) 2FW Cold-Rolled Steel in Flat White 5BR Type 304 Stainless Steel with 4B Brushed Finish 5FW Type 304 Stainless Steel in Flat White						Driver Type DIM1 0-10V Dimming to 1% with Dim-to-Dark DALI DALI-2/LEDcode2 Dimming to 1% without Dim-to-Dark			
Lamp Power / Color 12PA 12 Watt Phosphor-Converted Amber LED 18BL 18 Watt 470nm Native Blue LED						Options LEL Emergency Battery Backup with Remote Test Switch FS Fuse & Holder CCEA CCEA Approved			

† N/A with DALI Driver Type. N/A with LEL and CCEA option
 ▲ Available with DCFW Trim Finish only



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For additional photometry, go to www.kenall.com

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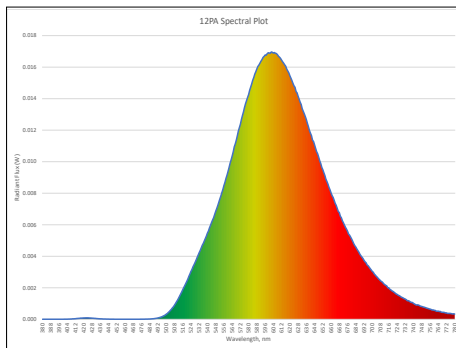
MDL4 SERIES

PERFORMANCE

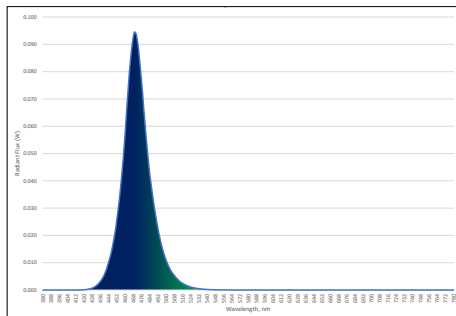
Optic				Lamp Code	Lamp Color	Initial Delivered Lumens	Input Power (W)	Estd. L70 LED Life (hrs)
Aperture	Trim Style	Reflector Finish	Lens Type					
Round	R	CD	n/a	12PA	590nm PC Amber	851	14	72,000
				18BL	470nm Blue	225	21	60,000
		CSS		12PA	590nm PC Amber	862	14	72,000
				18BL	470nm Blue	228	21	60,000
		FW		12PA	590nm PC Amber	660	14	72,000
				18BL	470nm Blue	175	21	60,000
	NF / FF	CD	T	12PA	590nm PC Amber	808	14	72,000
				18BL	470nm Blue	214	21	60,000
		CSS		12PA	590nm PC Amber	819	14	72,000
				18BL	470nm Blue	217	21	60,000
		FW		12PA	590nm PC Amber	767	14	72,000
				18BL	470nm Blue	203	21	60,000
Square	R	CD	n/a	12PA	590nm PC Amber	741	14	72,000
				18BL	470nm Blue	196	21	60,000
		CSS		12PA	590nm PC Amber	867	14	72,000
				18BL	470nm Blue	229	21	60,000
		FW		12PA	590nm PC Amber	762	14	72,000
				18BL	470nm Blue	202	21	60,000
	NF / FF	CD	T	12PA	590nm PC Amber	704	14	72,000
				18BL	470nm Blue	186	21	60,000
		CSS		12PA	590nm PC Amber	824	14	72,000
				18BL	470nm Blue	218	21	60,000
		FW		12PA	590nm PC Amber	724	14	72,000
				18BL	470nm Blue	191	21	60,000

Subject to change without notice. Visit www.kenall.com for ies files and additional information.

SPECTROPHOTOMETRIC PERFORMANCE



12PA	
Purity	0.993
UV (<400nm)	0.003%
Radiant Flux (≤560nm)	13.400%
Bandwidth	101.6 nm
Peak Wavelength	590 nm



18BL	
Purity	0.9583
Bandwidth	24.4 nm
Peak Wavelength	470 nm



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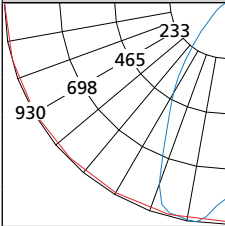
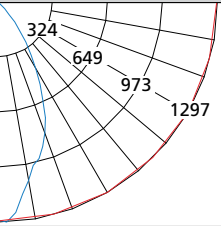
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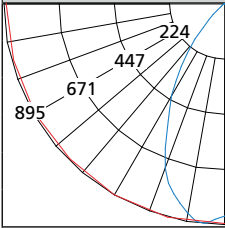
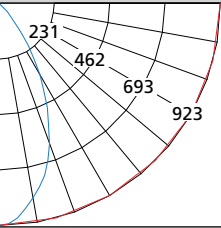
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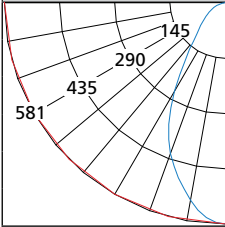
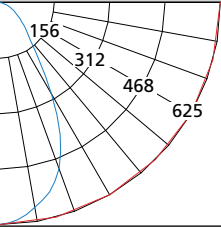
Luminaires for Medical Applications

MDL4 SERIES

PERFORMANCE

Round Aperture Candela Curve	MDL4-R-tttt-12PA-CSS		Distance to illuminated plane (ft)	MDL4S-R-tttt-12PA-CS		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	33.0	5.5	5'	51.4	4.1	
	23.0	6.6	6'	35.7	5.0	
	16.9	7.7	7'	26.2	5.8	
	12.9	8.8	8'	20.1	6.6	
	10.2	9.9	9'	15.9	7.5	
	8.3	11.0	10'	12.9	8.3	
Spacing Criteria: 0.97	Beam diameter is where foot-candles drop to 50% of maximum					Spacing Criteria: 0.69
Beam Angle: 58						Beam Angle: 45

Round Aperture Candela Curve	MDL4-R-tttt-12PA-CD		Distance to illuminated plane (ft)	MDL4S-R-tttt-12PA-CD		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	34.4	5.5	5'	36.9	4.8	
	23.9	6.6	6'	25.7	5.7	
	17.5	7.7	7'	18.9	6.7	
	13.4	8.8	8'	14.4	7.7	
	10.6	9.9	9'	11.4	8.6	
	8.6	11.0	10'	9.2	9.6	
Spacing Criteria: 0.91	Beam diameter is where foot-candles drop to 50% of maximum					Spacing Criteria: 0.79
Beam Angle: 57						Beam Angle: 51

Round Aperture Candela Curve	MDL4-R-tttt-12PA-FW		Distance to illuminated plane (ft)	MDL4S-R-tttt-12PA-FW		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	23.2	5.5	5'	25.0	5.6	
	16.1	6.6	6'	17.4	6.8	
	11.9	7.6	7'	12.8	7.9	
	9.1	8.7	8'	9.8	9.0	
	7.2	9.8	9'	7.7	10.1	
	5.8	10.9	10'	6.3	11.3	
Spacing Criteria: 0.86	Beam diameter is where foot-candles drop to 50% of maximum					Spacing Criteria: 0.91
Beam Angle: 57						Beam Angle: 59



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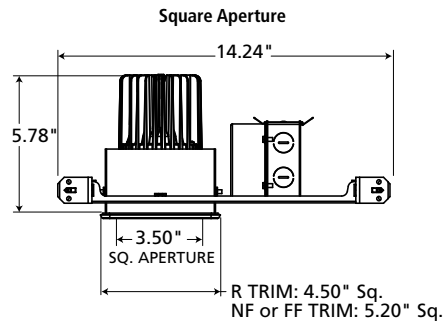
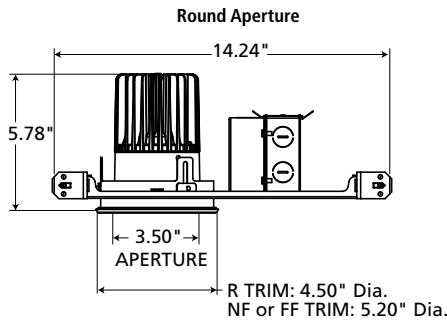
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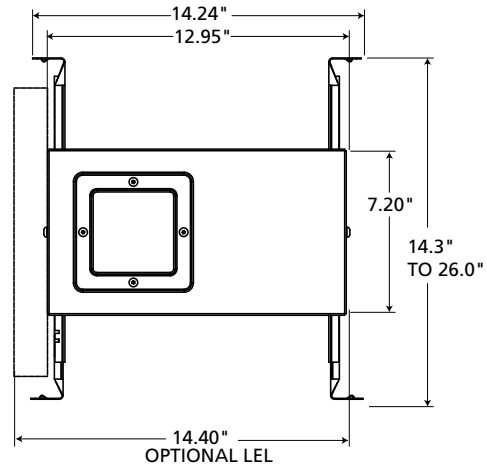
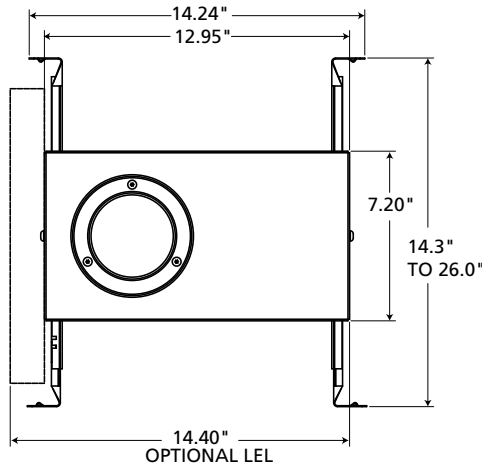
MDL4 SERIES

DIMENSIONAL DATA

CROSS SECTION



BOTTOM VIEW



RECOMMENDED CEILING CUTOUT: R TRIM: 4.125" DIA.
NF TRIM: 4.750" DIA. FF TRIM: 4.875" DIA.

RECOMMENDED CEILING CUTOUT: R TRIM: 4.125" X 4.125"
NF TRIM: 4.750" X 4.750" FF TRIM: 4.875" X 4.875"



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