PROJECT	Job Name	 Catalog Number	
NFORMATION	Fixture Type	 Approved by	

# Luminaires for Surgical Applications

# **M4DL SERIES GREEN LED**

### PRODUCT FEATURES:

- » 6" sealed, recessed downlight with regressed or flush lens trim
- » Conducted emissions controlled as per MIL-STD-461G
- » 530nm Green LED source provides increased visual acuity during specialized surgical procedures
- » 1% Dimming via 0-10V or DALI control
- » For M4SEDI troffers with color-matched Green LEDs, click here

# E

530nm (Green)

### **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 2", adjustable post-installation. Universal mounting brackets accept 3/4" and 1-1/2" lathers channel, 1/2" EMT conduit and hanger bars. Quick-access junction box accessible post-installation from above and below ceiling. Includes (4) 1/2" and (2) 3/4" knock-outs to allow straight conduit runs. Listed for (8) 12AWG, 90°C conductors and feed-thru branch wiring. Provided with FMC with electrical quick-connect to Trim Section.

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 four (4) Phillips-head, captive fasteners. Anti-microbial finish standard on all exposed painted surfaces. See trim ordering information for available options.

**OPTICAL:** Diffused tempered glass upper lens. No light filtering elements employed. Available with various reflector distribution patterns and finishes. Flush lens trim options include a clear lens. See distribution and reflector finish ordering information for available options.

**ELECTRICAL:** Native green LED source with 530nm nominal peak wavelength. 120-277VAC or 347VAC, 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 (non dim-to-dark with 347V); 165μA maximum source current. Optional eldoLED ECOdrive DALI 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. Conducted emissions controlled as per MIL-STD-461G. Optional CCEA compliant.















## ORDERING INFORMATION (EX: M4DL6-FF-2FW-12G-W-CSS-T-RIS6-120-DIM1)

TRIM		ROUGH-IN			
Model Trim Style Trim Finish Lamp Power	Distribution Reflector Finish Flush Lens Type	Rough-In Input Voltage Driver Type Options			
M4DL6 12G		RIS6			
Trim Style R Regressed Lens (IP64) NF Flush Lens (Without Fasteners - IP64) FF Flush Lens (With Fasteners - IP65)	Distribution M Medium W Wide	Rough-in RIS6 6" Surgical Rough-In Input Voltage			
Trim Finish  DCFW Die-Cast Aluminum in Flat White (R and NF Trim Style)  2FW Cold-Rolled Steel in Flat White  Type 304 Stainless Steel with 4B Brushed Finish  Type 304 Stainless Steel in Flat White	Reflector Finish FW Flat White CS Clear Specular CSS Clear Semi-Specular Flush Lens Type (n/a Regressed Trim Style) T 1/8" Clear High-Impact Acrylic	120 120VAC, 50/60Hz 277 277VAC, 50/60Hz 347† 347VAC, 60Hz  Driver Type DIM1 0-10V Dimming to 1% DALI DALI DIMMIng to 1%			
Lamp Power / Color 12G 12 Watt 530nm Native Green LED		Options LEL 7W Emergency Battery Backup with Remote Test Switch FS Fuse & Holder CCEA CCEA Approved (specified voltage required; n/a 347V)			

† N/A with DALI Driver Type. N/A with LEL option



**Luminaires for Surgical Applications** 

# **M4DL SERIES GREEN LED**

### PHOTOMETRIC PERFORMANCE

	Optic							
Distribution	Distribution	Reflector Finish	Lens Type	Lamp Code	Lamp Color	Initial Delivered Lumens	Input Power (W)	Estd. L70 LED Life (hrs)
		CS				756		
	М	CSS		- 12G	530nm Green	710	15	60,000
R		FW	n/a			819		
, n	W	CS	i iva			832		
		CSS				732		
		FW				794		
		CS	CS CSS			692		
	М	CSS		650				
FF / NF		FW				642	_	
11 / NI	W	CS				779		
		CSS				661		
		FW				733		

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



**Luminaires for Surgical Applications** 

# **M4DL SERIES GREEN LED**

### PHOTOMETRIC PERFORMANCE

	M4DL6-R-	12G-W-CS	Distance to illuminated plane (ft)	M4DL6-R-12G-M-CS			
Wide Distribution Candela Curve	Initial center beam footcandles	Beam diameter (ft)		Initial center beam footcandles	Beam diameter (ft)	Medium Distribution Candela Curve	
174	17.5	7.4	5'	58.6	3.0	448	
348	12.2	8.9	6'	40.7	3.6	896	
522	8.9	10.3	7'	29.9	4.2	1344 /	
090	6.9	11.8	8'	22.9	4.8	1792	
	5.4	13.3	9'	18.1	5.4	$HT \setminus Y \mid$	
	4.4	14.8	10'	14.7	6.1		
Spacing Criteria: 1.41						Spacing Criteria: 0.63	
Beam Angle: 73°		Beam diame	eter is where foot-candles drop to 50%	of maximum		Beam Angle: 34°	

	M4DL6-R-12G-W-CSS			M4DL6-R-12G-M-CSS			
Wide Distribution Candela Curve	Initial center beam footcandles	Beam diameter (ft)	Distance to illuminated plane (ft)	Initial center beam footcandles	Beam diameter (ft)	Medium Distribution Candela Curve	
131/	20.0	7.3	5'	30.8	5.6	192	
263	13.9	8.7	6'	21.4	6.7	385	
394	10.2	10.2	7'	15.7	7.9	577 / 769	
320	7.8	11.6	8'	12.0	9.0		
	6.2	13.1	9'	9.5	10.1	$HX \setminus Y \mid$	
	5.0	14.5	10'	7.7	11.2		
Spacing Criteria: 1.19						Spacing Criteria: 0.91	
Beam Angle: 72°		Beam diame	eter is where foot-candles drop to 50%	of maximum		Beam Angle: 59°	

	M4DL6-vF-12G-W-CS-T			M4DL6-vF-12G-M-CS-T			
Wide Distribution Candela Curve	Initial center beam footcandles	Beam diameter (ft)	Distance to illuminated plane (ft)	Initial center beam footcandles	Beam diameter (ft)	Medium Distribution Candela Curve	
163	17.2	7.3	5'	55.1	2.8	385	
326	11.9	8.8	6'	38.3	3.4	769	
489	8.8	10.2	7'	28.1	3.9	1154	
032	6.7	11.7	8'	21.5	4.5	1539	
	5.3	13.2	9'	17.0	5.0		
	4.3	14.6	10'	13.8	5.6		
Spacing Criteria: 1.38						Spacing Criteria: 0.61	
Beam Angle: 72°		Beam diame	eter is where foot-candles drop to 50%	of maximum		Beam Angle: 31°	

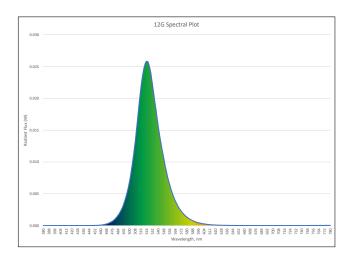
	M4DL6-vF-12G-W-CSS-T			M4DL6-vF-12G-M-CSS-T			
Wide Distribution Candela Curve	Initial center beam footcandles	Beam diameter (ft)	Distance to illuminated plane (ft)	Initial center beam footcandles	Beam diameter (ft)	Medium Distribution Candela Curve	
118	18.8	5.7	5'	35.0	4.6	225	
236	13.0	6.8	6'	24.3	5.5	451	
354	9.6	7.9	7'	17.9	6.5	676	
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7.3	9.1	8'	13.7	7.4	901	
	5.8	10.2	9'	10.8	8.3		
	4.7	11.3	10'	8.8	9.2		
Spacing Criteria: 1.13						Spacing Criteria: 0.77	
Beam Angle: 59°		Beam diame	eter is where foot-candles drop to 50%	of maximum		Beam Angle: 50°	



**Luminaires for Surgical Applications** 

# **M4DL SERIES GREEN LED**

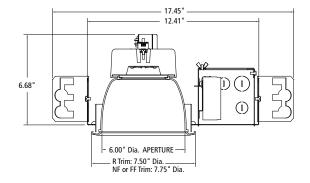
## SPECTROPHOTOMETRIC PERFORMANCE



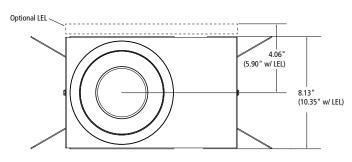
12G					
Purity	0.8093				
Bandwidth	37.2 nm				
Peak Wavelength	530 nm				

# **DIMENSIONAL DATA**

### **CROSS SECTION**



## **BOTTOM VIEW**



RECOMMENDED CEILING CUT-OUT R and NF Trims: 7.13" Dia. FF Trims: 7.38" Dia.

