

MEDMASTER DOWNLIGHT

Luminaires for Surgical Applications

M4DL4 SERIES – TUNABLE WHITE LED

PROJECT INFORMATION

Job Name _____

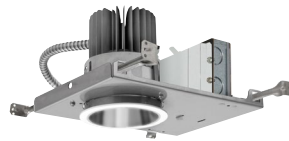
Fixture Type _____

Catalog Number _____

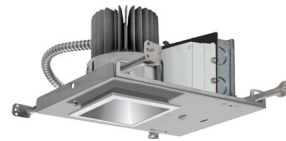
Approved by _____

PRODUCT FEATURES:

- » 4" sealed, recessed downlight with round or square aperture
- » High-output, high CRI LED lamp sources with 2700K-6500K white tuning capability
- » Conducted emissions controlled as per MIL-STD-461G



Round



Square

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. 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. Regressed lens trim is secured to the Rough-In frame with hidden torsion springs. Anti-microbial finish standard on all exposed painted surfaces.

OPTICAL: High-efficiency mixing chamber design with regressed diffused tempered glass lens producing uniform light output. Available with various reflector finishes – see Ordering Information for available options.

LED MODULE: Tunable-white LED array provides 2700K through 6500K CCT range with a two-point path. 3-step MacAdam variation allowance on each CCT. Minimum 82 CRI (R9 >20).

DRIVER: 120-277VAC, 50/60Hz electrical input (PF ≥ 0.9, THD < 20%). Minimum 85% electrical efficiency. Serviceable, constant-current multi-channel programmable driver with dual analog (0-10V) control inputs for intensity and CCT. Linear intensity and CCT adjustment profiles with 1-100% range and dim-to-dark capabilities on intensity. Optional DALI-2 driver with 0.1-100% range and dim-to-dark intensity dimming with linear intensity and CCT adjustment profiles.

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 rating per IEC60598. Conducted emissions controlled as per MIL-STD-461G. NSF2 Splash/Non-Food Zone. Optional CCEA compliance.



ORDERING INFORMATION (EX: M4DL4-DCFW-28T-27/65K8-CSS-RIS4-277-ATW-FS)

TRIM					ROUGH-IN			
Model	Trim Finish	Lamp Power	Lamp Color	Reflector Finish	Rough-In	Input Voltage	Driver Type	Options
	DCFW	28T	27/65K8					
Model			Lamp Color		Rough-In			
M4DL4	4" Surgical - Round		27/65K8	2700-6500K CCT Range (82 CRI min)	RIS4	4" Surgical Rough-In - Round		
M4DL4S	4" Surgical - Square				RIS4S	4" Surgical Rough-In - Square		
Trim Finish			Reflector Finish		Input Voltage			
DCFW	Die-Cast Aluminum in Flat White		FW	Flat White	120	120 VAC, 50/60Hz		
			CD	Clear Diffuse	277	277 VAC, 50/60Hz		
			CS	Clear Specular (square only)				
			CSS	Clear Semi-Specular (round only)				
Lamp Power					Driver Type			
28T		28W Tunable White LED			ATW	Analog (0-10V) Dimming Tunable White Driver		
					DTW	DALI-2 Tunable White Driver		
					DMX	DMX Tunable White Driver (Consult Factory)		
					Options			
					FS	Fuse & Holder		
					CCEA	CCEA Approved		



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PERFORMANCE

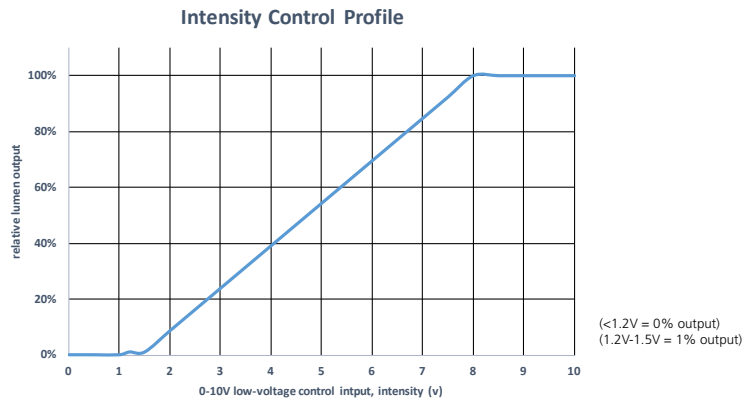
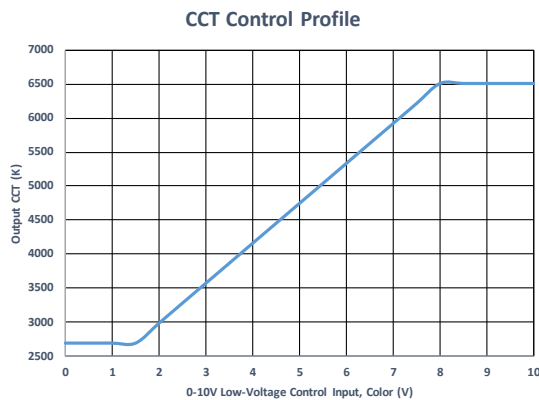
Optic		Lamp Code	Delivered Performance at 4000K			Estd. L70 LED Life (hrs)
Reflector	Reflector Finish		Lumen Output (lm)	Efficacy (lm/W)	Input Power (W)	
Round	CD	28T-27/65K8	2,139	71	30	60,000
	CSS	28T-27/65K8	2,272	76	30	60,000
	FW	28T-27/65K8	2,372	79	30	60,000
Square	CD	28T-27/65K8	2,277	76	30	60,000
	CS	28T-27/65K8	2,469	82	30	60,000
	FW	28T-27/65K8	2,457	82	30	60,000

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

PERFORMANCE SCALING, BY LAMP COLOR

CCT (K)	27/65K8				
	LUMEN SCALE FACTOR	Ra	R9	Rf	Rg
2700	0.95	82	3	82	94
3000	0.96	84	18	84	95
3500	0.96	87	27	85	96
4000	1.00	88	30	85	96
4600	1.00	88	33	85	96
5000	1.00	88	35	85	96
5700	1.00	88	33	85	96
6500	1.01	88	31	84	95

CCT AND INTENSITY ADJUSTMENT PROFILE - ATW DRIVER TYPE



NOTE: The provided information is the typical expected performance of a single luminaire. Additional luminaires on the same 0-10V line may result in different control profiles. Fine tuning of system performance should be completed after installation is complete. To avoid CCT shift between luminaires, care should be taken to minimize voltage drop on the CCT Control line. It is recommended to limit the load on the CCT control circuit to twenty (20) luminaires or less.



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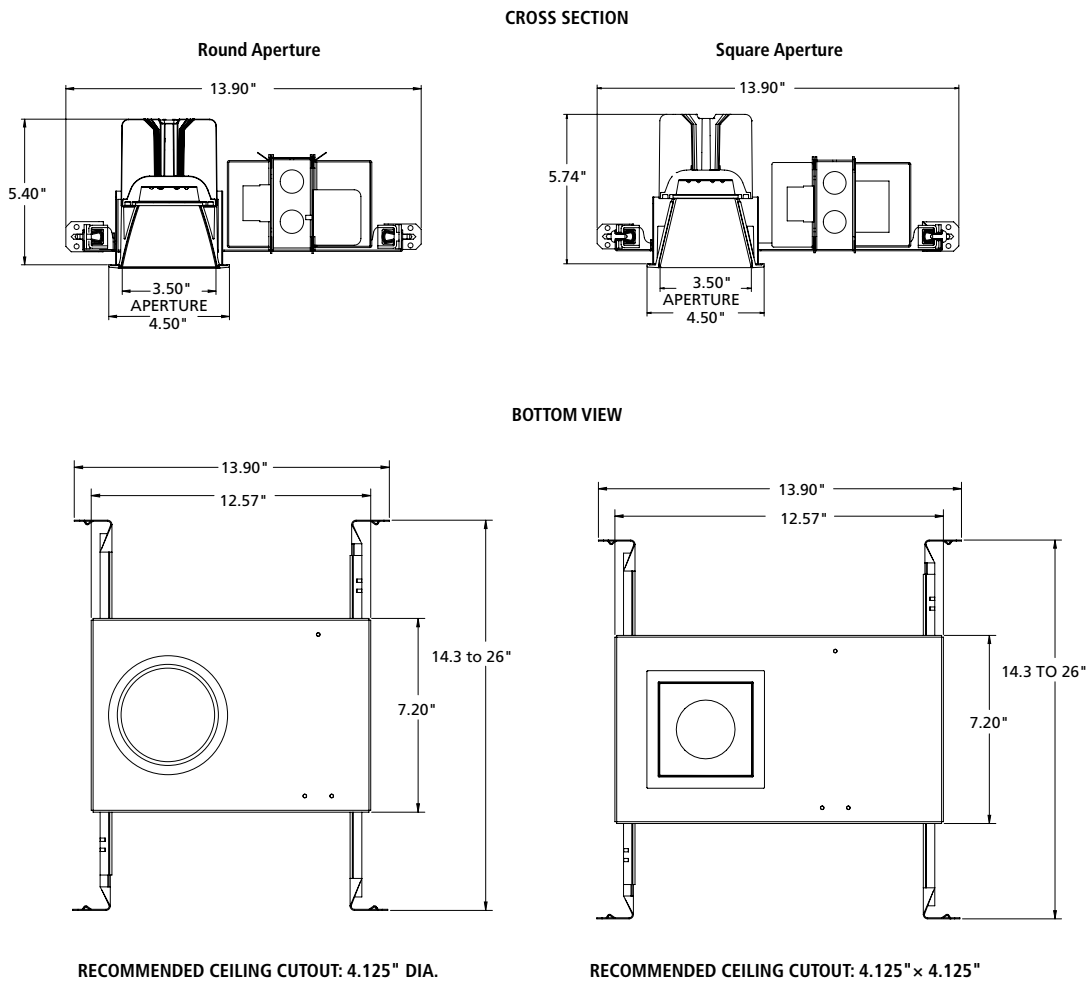
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PERFORMANCE

Round Aperture Candela Curve	M4DL4-DCFW-28T-27/65K8-FW		Distance to illuminated plane (ft)	M4DL4S-DCFW-28T-27/65K8-FW		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	41.7	4.2	5'	40.2	4.3	
	28.9	5.2	6'	27.9	5.6	
	21.3	6.2	7'	20.5	6.6	
	16.3	7.0	8'	15.7	7.6	
	12.9	8.0	9'	12.4	8.6	
	10.4	8.7	10'	10.0	9.6	
Spacing Criteria: 0.88	foot-candle multipliers for 30K8(.96), 30K9(.80), 35K8(.96), 35K9(.81), 40K9(.81), 50K8(1.0)				Spacing Criteria: 0.92	
Beam Angle: 57.1	Beam diameter is where foot-candles drop to 50% of maximum				Beam Angle: 58.6	

DIMENSIONAL DATA



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