

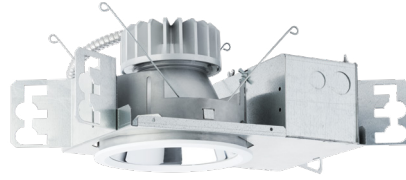
MEDMASTER DOWNLIGHT

Luminaires for Medical Applications

MDL SERIES – TUNABLE WHITE LED

PRODUCT FEATURES:

- » 6" sealed, recessed downlight with regressed or flush lens trim
- » High-output, high CRI LED lamp sources with 2700K-6500K white tuning capability



PROJECT INFORMATION

Job Name _____

Fixture Type _____

Catalog Number _____

Approved by _____

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 (4) 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: High-efficiency mixing chamber design producing uniform light output. Flush lens trims provided with clear acrylic outer lens. Available with various reflector distribution patterns and 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. Optional DALI (Type 8) driver. Logarithmic intensity profile with 0.1-100% range, with dim-to-dark capabilities. Linear profile on CCT adjustment. Refer to charts on page 2 for further details.

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: MDL6-FF-2FW-22T-27/65K8-W-CSS-T-RIG6-DV-ATW-LEL)

TRIM

Model	Trim Style	Trim Finish	Lamp Power	Lamp Color	Distribution	Reflector Finish	Flush Lens Type
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MDL6 _____ **27/65K8**

Trim Style

- R** Regressed Lens (IP64)
- NF** Flush Lens (Without Fasteners - IP64)
- FF** Flush Lens (With Fasteners - IP65)

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

Lamp Power

- 22T** 22W Tunable White LED
- 28T** 28W Tunable White LED

Lamp Color

- 27/65K8** 2700-6500K CCT Range (82 CRI min)

Distribution

- M** Medium
- W** Wide

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

ROUGH-IN

Rough-In	Input Voltage	Driver Type	Options
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RIG6 _____

Rough-In

- RIG6** 6" Rough-In

Input Voltage

- DV** 120-277V, 50/60Hz
- 120** 120VAC, 60Hz
- 277** 277VAC, 60Hz

Driver Type

- ATW** Analog (0-10V) Dimming Tunable White Driver
- DTW** DALI Tunable White Driver
- DMX** DMX Tunable White Driver (Consult Factory)

Options

- LEL** Emergency Battery Backup with Remote Test Switch
- FS** Fuse & Holder
- CCEA** CCEA Approved (specified voltage required)



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MDL SERIES – TUNABLE WHITE LED

PERFORMANCE - REGRESSED LENS

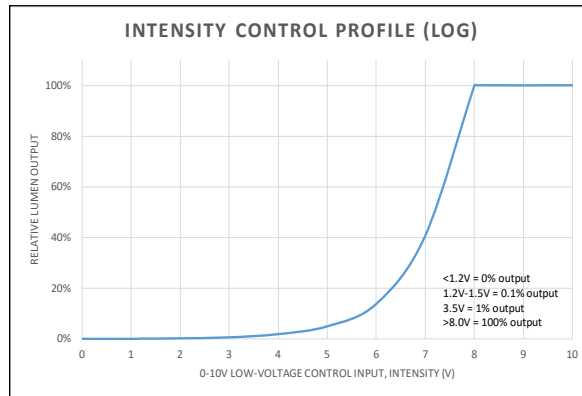
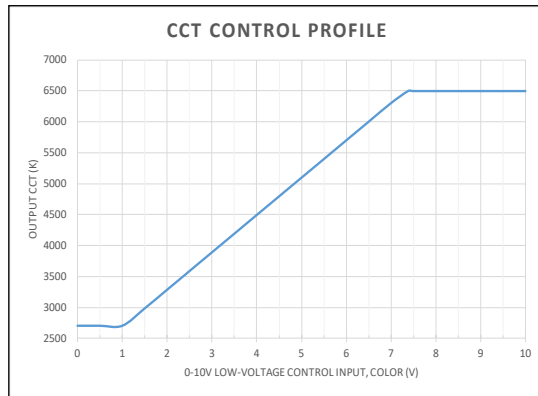
Optic		Lamp Code	Delivered Performance at 4000K			Estd. L70 LED Life (hrs)
Distribution	Reflector Finish		Lumen Output (lm)	Efficacy (lm/W)	Input Power (W)	
M	CS	22T-27/65K8	1,931	81	24	75,000
		28T-27/65K8	2,375	79	30	60,000
	CSS	22T-27/65K8	1,812	76	24	75,000
		28T-27/65K8	2,230	74	30	60,000
	FW	22T-27/65K8	2,092	88	24	75,000
		28T-27/65K8	2,573	86	30	60,000
W	CS	22T-27/65K8	2,123	89	24	75,000
		28T-27/65K8	2,612	87	30	60,000
	CSS	22T-27/65K8	1,868	79	24	75,000
		28T-27/65K8	2,298	77	30	60,000
	FW	22T-27/65K8	2,026	85	24	75,000
		28T-27/65K8	2,492	83	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					27/65K9				
	LUMEN SCALE FACTOR	Ra	R9	Rf	Rg	LUMEN SCALE FACTOR	Ra	R9	Rf	Rg
2700	0.92	83	10	83	97	0.95	92	57	89	98
3000	0.95	84	15	83	98	0.97	94	70	91	99
3500	0.99	86	23	84	98	0.99	95	77	92	99
4000	1.00	86	26	84	98	1.00	96	83	92	99
4600	1.00	86	28	84	98	1.00	96	90	92	100
5000	1.01	86	25	83	98	1.01	96	96	91	101
5700	0.99	85	23	82	98	0.99	96	96	91	100
6500	0.99	84	16	82	96	0.99	96	96	90	100

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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MDL SERIES – TUNABLE WHITE LED

PERFORMANCE - REGRESSED LENS

Wide Distribution Candela Curve	MDL6-R-22T-27/65K8-W-CS		Distance to illuminated plane (ft)	MDL6-R-22T-27/65K8-M-CS		Medium Distribution Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	49.0	7.5	5'	149.7	4.2	
	39.2	8.0	6'	103.9	4.4	
	28.8	9.0	7'	76.4	5.2	
	22.0	10.0	8'	58.5	6.0	
	17.5	11.7	9'	46.2	6.3	
	14.2	13.0	10'	37.4	7.5	
Spacing Criteria: 1.42	Delivered performance at 4000K. See "Performance Scaling, By Lamp Color" chart for foot-candle multipliers at alternate CCTs				Spacing Criteria: 0.64	
Beam Angle: 60°	Beam diameter is where foot-candles drop to 50% of maximum				Beam Angle: 31°	

Wide Distribution Candela Curve	MDL6-R-28T-27/65K8-W-CS		Distance to illuminated plane (ft)	MDL6-R-28T-27/65K8-M-CS		Medium Distribution Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	64.9	7.2	5'	371.0	3.0	
	56.6	7.3	6'	257.6	3.3	
	42.0	8.3	7'	189.3	3.6	
	32.1	9.5	8'	144.9	4.0	
	24.4	10.8	9'	114.5	4.5	
	20.3	12.0	10'	92.8	4.8	
Spacing Criteria: 1.36	Delivered performance at 4000K. See "Performance Scaling, By Lamp Color" chart for foot-candle multipliers at alternate CCTs				Spacing Criteria: 0.36	
Beam Angle: 60°	Beam diameter is where foot-candles drop to 50% of maximum				Beam Angle: 21°	



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MDL SERIES

PERFORMANCE - FLUSH LENS

Optic		Lamp Code	Delivered Performance at 4000K			Estd. L70 LED Life (hrs)
Distribution	Reflector Finish		Lumen Output (lm)	Efficacy (lm/W)	Input Power (W)	
M	CS	22T-27/65K8	1,356	57	24	75,000
		28T-27/65K8	2,170	72	30	60,000
	CSS	22T-27/65K8	1,273	54	24	75,000
		28T-27/65K8	2,037	68	30	60,000
	FW	22T-27/65K8	1,257	53	24	75,000
		28T-27/65K8	2,012	67	30	60,000
W	CS	22T-27/65K8	1,526	64	24	75,000
		28T-27/65K8	2,442	81	30	60,000
	CSS	22T-27/65K8	1,295	55	24	75,000
		28T-27/65K8	2,073	69	30	60,000
	FW	22T-27/65K8	1,435	60	24	75,000
		28T-27/65K8	2,297	77	30	60,000

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Wide Distribution Candela Curve	MDL6-FF-22T-27/65K8-W-CS-T		Distance to illuminated plane (ft)	MDL6-FF-22T-27/65K8-M-CS-T		Medium Distribution Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	35.4	6.4	5'	107.4	3.0	
	27.9	7.5	6'	74.6	3.3	
	20.5	8.5	7'	54.8	4.0	
	15.7	10.0	8'	42.0	4.6	
	12.5	11.2	9'	33.2	5.2	
	10.1	12.5	10'	26.9	5.8	
Spacing Criteria: 1.4	Delivered performance at 4000K. See "Performance Scaling, By Lamp Color" chart for foot-candle multipliers at alternate CCTs				Spacing Criteria: 0.62	
Beam Angle: 59°	Beam diameter is where foot-candles drop to 50% of maximum				Beam Angle: 34°	

Wide Distribution Candela Curve	MDL6-FF-28T-27/65K8-W-CS-T		Distance to illuminated plane (ft)	MDL6-FF-28T-27/65K8-M-CS-T		Medium Distribution Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	59.5	7.0	5'	339.1	2.9	
	52.8	7.2	6'	235.5	3.0	
	38.9	8.0	7'	173.0	3.3	
	29.7	9.4	8'	132.4	3.8	
	23.4	10.5	9'	104.7	4.4	
	19.0	11.5	10'	84.8	4.8	
Spacing Criteria: 1.36	Delivered performance at 4000K. See "Performance Scaling, By Lamp Color" chart for foot-candle multipliers at alternate CCTs				Spacing Criteria: 0.36	
Beam Angle: 54°	Beam diameter is where foot-candles drop to 50% of maximum				Beam Angle: 21°	



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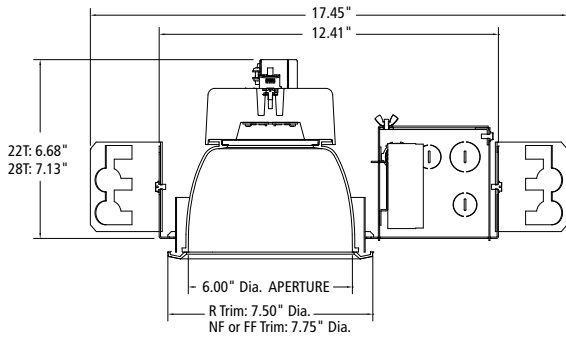
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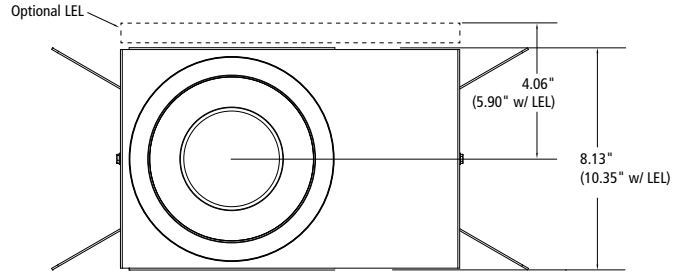
MDL SERIES

DIMENSIONAL DATA

CROSS SECTION



BOTTOM VIEW



RECOMMENDED CEILING CUT-OUT

R and NF Trims: 7.13" Dia.

FF Trims: 7.38" Dia.

