PROJECT

DATE

NOTES

REV: 11/20/2020

Medical Exam Room Troffers - Tunable White

1x4, 2x2 and 2x4 Surface & Recessed High Lumen LED Luminaires with RF Filtering



- IP55 Rating
- RF filtered circuits standard
- Green/white switching available
- Symmetric distribution standard
- Antimicrobial finish standard
- Tunable White 2700k 6500k CCT
- Available With DALI Or 0-10V Controls





















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ORDERING GUIDE

Series Installation Type Material Size Source CCT Circuits (White) Green LED Voltage Mounting Options

ML

Series	Installation Type	Material	Size	Source	сст	Control	Green LED	Voltage	Mounting	Options
ML	ER: Recessed	3: White 430 SS Hsg. &	1x4: 1' x 4' Housing	1/LEDTW	827/865:	0-10v Analog Dimming	(optional)	120V	IND	FC: Fuse & Holder (One Supplied Per Circuit)
	(Suitable for	White AM 430 SS Door		2/LEDTW	80 CRI; 2700k-6500k CCT	10V-CON: Continuous CCT 0-10v dimming	1/GLED	277V	Individual	EM10: 10W Integral LED EM (Specify Input Voltage)
	Flange & Grid) ES: Surface	4: White Alum Hsg. &	NOTE: Only a total of 3 combined rows of leds can be specified.				2/GLED	UNV		EM20: 20W Remote LED EM (Specify Input Voltage)
		White AM 430 SS Door				10V-WD: Warm Dim 0- 10V dimming	Green LED's are provided with a dedicated RF	7	CRM	ASY: Asymmetric Distribution Lens
		5: White Alum Hsg. & White AM Alum Door							2 14	SSP: Satin Polished Stainless Steel Doorframe
E							Filtered circuit.			PxL: Programmed to User Specified Lumen Value
			2x2: 2' x 2' Housing	1/LEDTW		DALI Digital Dimming				PxW: Programmed to User Specified Wattage Value
			OR	2/LEDTW		DAL-CON: Cont. CCT DALI			CRM suitable	GTD: Generator Transfer Device
			2x4: 2' x 4' Housing	3/LEDTW		dimming			for hardlid	WHIP: Must Specify Length and Wire Qty
			NOTE: Only a total of 5 combined rows of leds can be specified.	4/LEDTW					ceilings only.	10KV: 10KV Parallel Surge Protection



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1x4, 2x2 and 2x4 Surface & Recessed High Lumen LED Luminaires with RF Filtering

SPECIFICATIONS

HOUSING: One piece, hole free, robotically seam welded housing has flattened knockouts for a superior seal. Recessed housings are available in .040" 3003 Aluminum or 20Ga 430 Stainless Steel. Optional Row Mounting for Recessed Housings Only with CRM Selected.

DOOR FRAME: Inset door frame made from welded channels regresses into the housing to allow the neoprene gasket to seal to the housing. Door frame is hinged by aircraft cables and secures to housing with captive stainless steel pan head screws. Available in .040" 3003 Aluminum or 20Ga 430 Stainless steel

GASKETS: Closed cell 100% pure neoprene gasket with vulcanized corners making a one-piece oil and solvent resistant gasket system.

LENS: Standard Lens provided is a RF Shielded .125" Symmetric P12 Acrylic Lens. ASY option provides RF Shielded Asymmetric distribution lens with frost overlay.

LEDS: Commercially available minimum 80 CRI 2 channel LED modules use 2700K and 6500K chips to mix color in order to achieve a desired color temperature. Modules have rated lifetime of L70 > 50,000 hrs and efficacy of 165Lm/W . See LED options to specify a custom range of Color temperatures. Consult factory for lumen output configurations not listed on spec sheets.

DRIVERS: Dual Channel Programmable Drivers make color tuning simple. Available in 0-10v Analog Dimming or DALI digital dimming. The 0-10v continuous dimming method uses two sets of dimming wires. 1 set of dimming wires controls the luminous flux while maintaining consistent color and the other set controls the color in a linear dimming curve. 0-10v is also available as warm dimming that uses 1 set of dimming wires that adjust both intensity and color simultaneously. Alternately control is available with DALI Digital Dimming as well.

ELECTRICAL: Multiple internal circuits are available for scene settings, each specified circuit is provided with an RFI filter that is tested to meet MIL-STD-461. Fixtures available with 10w 90min Emergency battery backups and surge protection. Consult factory for additional options not listed.

REFLECTOR: Die formed metal with high reflectance white polyester powder coat finish. Typical reflectivity 92%.

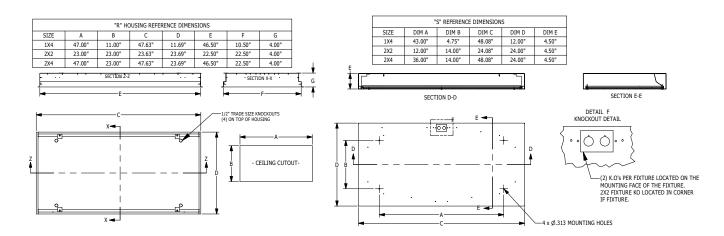
INSTALLATION: Fixtures are supplied with .875" flattened knockouts for supply entry. Recessed housings have (4) swing out toggle arms that are used to draw the fixture in to the ceiling for hard lid installation without the need for a yoke hanger. The toggle arm adjuster bolts are accessible from the room side of the luminaire and the actual toggles can be used as means of establishing a seismic support for lay in ceiling installations.

CRM: Continuous Row Mounting (CRM) option provides a means of securing luminaires to each other end to end in straight rows only. While all recessed luminaries are suitable for thru wiring, the CRM option is only available for Hard lid installation. CRM fixtures come with flanges on 2 of the 4 sides so that the luminaires can mount to each other without the appearance of a larger gap between the two fixtures. Endcaps are factory installed based upon customer provided row configuration information and the Ceiling cutouts can be determined as shown on the CRM installation instructions that can be found on our website.

DOOR FINISH: White Dupont Alesta using Agion silver ion antimicrobial powder coat finish standard. see options for polished stainless steel.

LISTINGS: Military Standard 461F compliant for conducted and radiated emissions. IP55 rated for dust and water ingress. ETL listed per UL_1598 for wet locations. Chicago Plenum Rated. Certified ISO-14644-1 for class 5 through class 9 cleanspaces. Certified Fed Std 209E for Class 100 through Class 100,000 cleanspaces. NSF2 listed for non-food & splash zones. Drivers and LEDs are covered by a 5 year warranty, the remaining fixture is covered by a 10 year warranty.

PRODUCT DRAWINGS





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ENERGY DATA

MEDICAL SYMMETRIC CHANNEL-FGRS-LED TROFFER (APPROX¹ LUMENS DELIVERED)									
ENCLOSURE	LIGHT PACKAGE	Tunable White 80 CRI (4000K)				AMBIEN	T TEMP	CCT RANGE	
SIZE		LUMENS	WATTS ²	EFFICACY ³		MINIMUM	MAXIMUM ⁴	CCT RANGE	
1X4	1LEDTW	3,400	34	100		-20°C (-4°F)	40°C (104°F)	2700k - 6500k	
1X4	2LEDTW	6,900	68	101		-20°C (-4°F)	40°C (104°F)	2700k - 6500k	
1X4	EM10	1000*	4	NA		0°C (32°F)	40°C (104°F)	NA	
2X2	2LEDTW	3,500 35 100			-20°C (-4°F)	40°C (104°F)	2700k - 6500k		
2X2	3LEDTW	5,300	53	100		-20°C (-4°F)	40°C (104°F)	2700k - 6500k	
2X2	4LEDTW	6,650	68	98		-20°C (-4°F)	40°C (104°F)	2700k - 6500k	
2X2	EM10	1000*	4	NA		0°C (32°F)	40°C (104°F)	NA	
2X4	2LEDTW	7,750	68	114		-20°C (-4°F)	40°C (104°F)	2700k - 6500k	
2X4	3LEDTW	11,700	103	114		-20°C (-4°F)	40°C (104°F)	2700k - 6500k	
2X4	4LEDTW	15,200	135	113		-20°C (-4°F)	40°C (104°F)	2700k - 6500k	
2X4	EM10	1100*	4	NA		0°C (32°F)	40°C (104°F)	NA	

¹ DELIVERED LUMEN DATA IS CALCULATED BASED ON STATIC WHITE PHOTOMETRY @ 4000K CCT

MEDICAL SYMMETRIC CHANNEL-FGRS-LED TROFFER (APPROX¹ LUMENS DELIVERED)									
ENCLOSURE	LIGHT	STANDARD		540nm GREEN LED					
SIZE	PACKAGE	DIMMING		LUMENS	WATTS ²	EFFICACY ³			
1X4	1GLED	0-10V 1%		2,500	36	69			
1X4	2GLED	0-10V 1%		5,000	72	69			
2X2	1GLED	0-10V 1%		1,200	18	67			
2X2	2GLED	0-10V 1%		2,400	36	67			
2X4	1GLED	0-10V 1%		2,500	36	69			
2X4	2GLED	0-10V 1%		5,000	72	69			

² WATTAGE IS MEASURED WITH 4000K SELECTION @ 120vAC AND Tambient = 25C, WATTAGES MAY VARY WITH ALTERNATE CONFIGURATIONS

³ EFFICACY CALCULATED USING 4000K CCT DATA.

⁴ MAX AMBIENT TEMP RATING, NON-IC INSTALLATON. TEMP RATING MAY VARY WITH SPECIFIED DRIVERS OR ANY NON STANDARD SELECTION

^{5 90} MINUTE 10W EMERGENCY DRIVER: LUMENS CALCULATED BASED ON FIXTURE EFFICACY.

⁶ EM10 DELIVERED LUMENS = (DELIVERED LUMENS/LUMINAIRE WATTS)*10