

Medical Exam Room Troffers: ML-ES-LED-TW

Tunable White 1x4, 2x2 and 2x4 High Lumen LED Surface Luminaires with RF Filtering

- **For use in Medical Patient and Exam Rooms**
- **IP55 Rating**
- **RF filtered circuits standard**
- **Symmetric distribution standard**
- **Antimicrobial finish standard**
- **B.A.A. & B.A.B.A Compliant & Made in the USA by a Family Owned US Corporation**
- **Available as Warm Dim or as Separately controlled intensity and CCT**
- **Tunable white LEDs allow a full range of CCTS from 2700K - 6500K CCT.**



DISCLAIMER: Although KURTZON has prepared the information contained in this document with all due care, KURTZON does not warrant or represent that the information is free from errors or omission. While the information is considered to be true and correct at the date of publication, changes in circumstances after the time of publication may impact on the accuracy of the information. The information may change without notice and KURTZON is not in any way liable for the accuracy of any information printed and stored or in any way interpreted or used.

ORDERING GUIDE

ML-ES													
Series	Material	Size	Row Qty.	LED Type	CCT/CRI	Control	Circuits (white)	Green LED	Voltage	Mounting	Optics	Options	
				LEDTW					UNV	IND			
ML-ES	3	White 430 SS Hsg. & White AM 430 SS Door	1x4 1' x 4' Housing	1	LEDTW	80 CRI:	10VA 0-10V Analog Control	1/CIR	(optional)	UNV	IND Individual	SYM P12 Prismatic Lens With Embedded RF Grid	
				2		827/865 2700K-6500K		2/CIR				1/GLED	ASY Diffusing Optics Assembly With Linear Prismatic Asymmetric Distribution
	4	White Alum Hsg. & White AM 430 SS Door	2x2 2' x 2' Housing	2		90+ CRI:	10VWD 0-10V Warm Dim Control					2/GLED	FROST 0.125" Flat Diffusing Frost Acrylic (No RFI Grid)
				OR 3								3/GLED	LBW 0.125" Flat Diffused Acrylic with Linear Batwing Distribution (No RFI Grid)
	5	White Alum Hsg. & White AM Alum Door	2x4 2' x 4' Housing	4		927/965 2700K-6500K	Specify Qty of RF Filtered Circuits for White Light						GH85 0.125" Flat Diffused Acrylic with Glare Suppression Distribution (No RFI Grid)
									AB20 0.125" Flat Diffused 20 Degree Asymmetric Distribution (No RFI Grid)				
											Note*: SYM option is standard and will be provided when no other option is selected		

Ordering Notes, If Applicable

Options	
SW	Wet Location Hub Supplied (not installed)
PxL*	Programmed to User Specified Lumen Value.
PxW*	Programmed to User Specified Wattage Value.
10KV	10KV Parallel Surge Protection (One Supplied Per Circuit)
GTD	Generator Transfer Device
WHIP	Must Specify Length and Wire Qty
OCCMW	Internal Microwave OCC Sensor
FC	Fuse & Holder (One Supplied Per Circuit)
EM10	10W Integral LED EM (Specify Input Voltage)
EM20	20W Remote LED EM (Specify Input Voltage)
SSP	Satin Polished Stainless Steel Doorframe
Note*: Specify Value in Ordering Notes Below	

Medical Exam Room Troffers: ML-ES-LED-TW

Tunable White 1x4, 2x2 and 2x4 High Lumen LED Surface Luminaires with RF Filtering

SPECIFICATIONS

HOUSING: One piece, hole free, robotically seam welded housing has flattened knockouts for a superior seal. Surface housings are available in .040" 3003 Aluminum or 20Ga 430 Stainless Steel.

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. Four .312" dia. mounting holes and a removable gasketed wiring access plate with Supply entry via 1/2" trade size flattened knockouts..

OPTICS: Standard "SYM" lens provided is a 12 Prismatic Acrylic Lens. ASY Lens option provide a linear prismatic lense with 20 degree beam distribution with frosted overlay. Both SYM & ASY options include a silkscreened RF grid to absorb radiated emissions, (Prisms must face outward). Other optic options are available but do not include the RF grid.

LEDs: Commercially available minimum 80 or 90 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 . LEDs are controllable via 0-10v dimming, see next page for control options. Consult factory for lumen output configurations not listed on spec sheets.

ELECTRICAL: Standard Universal Voltage Class 2 drivers are 0-10v Dimmable to 1% for most LED configurations. They come with at least 2.5Kv surge protection, have less than 10% THD at max load, Ballast Factor Greater than .95 and are programmable to match specific lumen or wattage requirements. 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 backup and surge protection. Consult factory for additional options not listed.

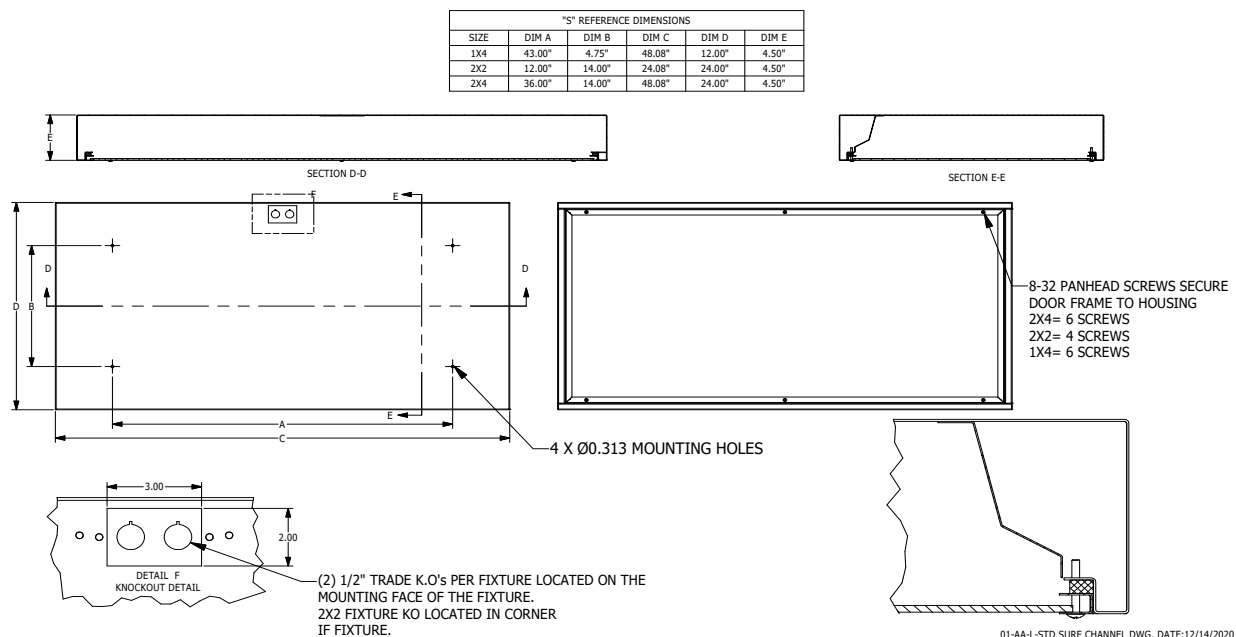
REFLECTOR: Die formed metal with high reflectance white polyester powder coat finish. Typical reflectivity 92%.

INSTALLATION: Fixtures are supplied with .875" flattened knockouts for supply entry. Suitable for surface installation onto covered ceilings only.

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

LISTINGS: Military Standard 461G compliant for conducted and radiated emissions. IP55 rated for dust and water ingress. ETL listed per UL_1598 for wet locations. 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. This product Series is both Build America Buy America (B.A.B.A.) & Buy American Act (B.A.A.) compliant.

PRODUCT DRAWINGS



Medical Exam Room Troffers: ML-ES-LED-TW

Tunable White 1x4, 2x2 and 2x4 High Lumen LED Surface Luminaires with RF Filtering

ENERGY DATA

MEDICAL SYMMETRIC CHANNEL-FGRS-LED TROFFER (APPROX ¹ LUMENS DELIVERED)							
ENCLOSURE SIZE	LIGHT PACKAGE	Tunable White 80 CRI (4000K)			AMBIENT TEMP		CCT RANGE
		LUMENS	WATTS ²	EFFICACY ³	MINIMUM	MAXIMUM ⁴	
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

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 INSTALLATION. TEMP RATING MAY VARY WITH SPECIFIED DRIVERS OR ANY NON STANDARD SELECTION

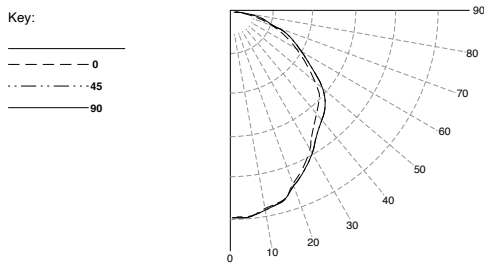
5 90 MINUTE 10W EMERGENCY DRIVER; LUMENS CALCULATED BASED ON FIXTURE EFFICACY.

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

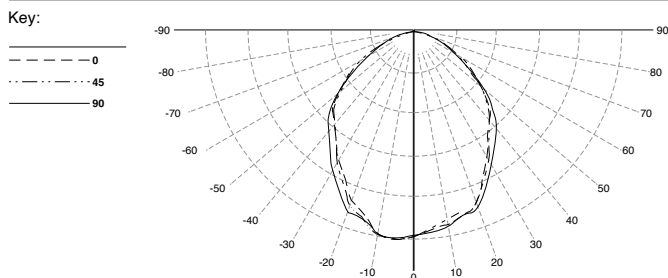
MEDICAL SYMMETRIC CHANNEL-FGRS-LED TROFFER (APPROX ¹ LUMENS DELIVERED)					
ENCLOSURE SIZE	LIGHT PACKAGE	STANDARD DIMMING	540nm GREEN LED		
			LUMENS	WATTS ²	EFFICACY ³
1X4	1GLED	0-10V 1%	2,500	36	69
1X4	2GLED	0-10V 1%	5,000	72	69
2X2	1GLED	0-10V 1%	1,200	18	67
2X2	2GLED	0-10V 1%	2,400	36	67
2X4	1GLED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

PHOTOMETRICS

SYMMETRIC DISTRIBUTION

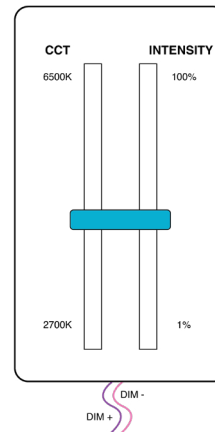


ASYMMETRIC DISTRIBUTION



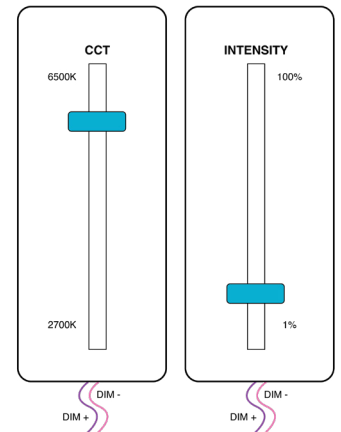
CONTROL OPTIONS

WARM DIM CONTROL



Only one set of dimming Leads are required. As Intensity is increased so is the CCT. As intensity decreases the CCT decreases to warmer color Temperatures.

CONTINUOUS CCT CONTROL



Two set of dimming leads are required. Intensity and CCT of light are controlled independently from one another.