

Surgical/Medical ML-FGPA Series

2x4 Plenum Access LED Surgical Troffer With Asymmetric Distribution

- For use in Operating and Exam Rooms
- IP65 Rated
- Access to Plenum using Sealed Access Panel in Housing
- Available in Row Mounted Configurations
- Optional Green/White Switching circuit
- Asymmetric Distribution Lens Standard for Directing Light Over the Operating Table
- Anti-Microbial White Finish Standard



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ORDERING GUIDE

Series	Installation Type	Material	Size	Source	CCT	Green LED	Voltage	Circuits	Mounting	Options
ML										
ML	FGPA: Recessed Luminaire for Grid and Flange with Plenum Access	4: White Alum Hsg. & White AM 430 SS Door 5: White Alum Hsg. & White AM Alum Door 7: White Alum Hsg. & White AM CRS Door	2x4: Nominal 2'x4' Housing	2/LEDR: 2/LEDH: 3/LEDR: 3/LEDH: 4/LEDR: 4/LEDH: 4/LEDHF:	83 CRI: 830 = 3000K CCT 835 = 3500K CCT 840 = 4000K CCT 850 = 5000K CCT 90 CRI: 935 = 3500K CCT 940 = 4000K CCT 950 = 5000K CCT	(OPTIONAL) 1/GLED 2/GLED 3/GLED	120V 277V UNV 347V*	1/CIR 2/CIR	IND Individual CRM Continuous Row Mount <i>CRM suitable for hardlid ceilings only.</i>	FC: Fuse & Holder (One Supplied Per Circuit) EM10: 10W Integral LED EM (Specify Input Voltage) EM20: 20W Remote LED EM (Specify Input Voltage) SYM: Symmetric pattern Acrylic Lens (Inverted) SSP: Satin Polished Stainless Steel Doorframe 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, Type, Wire Qty
<p><i>NOTE: Only a total of 4 combined rows of leds can be specified. Each color will be provided with its own filtered circuit and does not need to be specified.</i></p>										

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SPECIFICATIONS

HOUSING: Welded .050" thick aluminum construction. Hole free housing with flattened knockouts and a large plenum access plate hinged to housing by (2) aircraft cables allowing simple access to the area above the ceiling.

DOOR FRAME: One piece inset door frame with seam welds regressing into housing to allowing the extruded 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 Powder coated Alum. , 20Ga 304 Polished SS, or 18Ga 1008 Powder coated CRS.

REFLECTOR: Die formed high reflectance white powder coated (min. 92% reflectivity). When removed, provides easy access to the large wireway and convenient thru-wiring.

GASKETS: Extruded closed cell gasket with vulcanized corners form a one-piece gasket system. Gasket is on both the plenum access panel and the door frame to completely seal the enclosure

LENS: Standard Lens is a 3 piece assembly consisting of a clear flat acrylic lens on the room side followed by a linear asymmetric lens and finished with a frost overlay on top. The clear flat room side lens is used to allow an easy to clean surface. The frosted diffusing top layer provides a more evenly illuminated surface. Center lens is an Asymmetric distribution pattern optimized for high visibility within the surgical field. Symmetric lens with inverted pattern available in options.

WHITE LEDs: Zhaga replaceable LED arrays using commercially available boards backed by a 5 year warranty. Available in both 83 & 90 CRI with a wide variety of color temperatures and lumen outputs. Consult factory for LED options no listed.

GREEN LEDs: Optional Green LEDs are designed for reduced eye strain and glare control when using monitors outside the surgical field. When specified, the green LED's are provided with their own filtered power supply for separate switching.

DRIVERS: Universal voltage (120-277volt). LED drivers are commercially available high efficiency, HPF and dimmable to 1% with 0-10v control. Standard drivers are programmable to match wattage or lumen requirements. Provided with a five (5) year warranty. Each fixture is standard with one RFI filter per circuit specified (see "Circuits" below). Tested to surpass conducted emissions of Mil. Std. 461F. Filter designed specifically for today's high frequency electronic drivers used in surgical and other medical applications. Drivers are programmable to match wattage or lumen requirements.

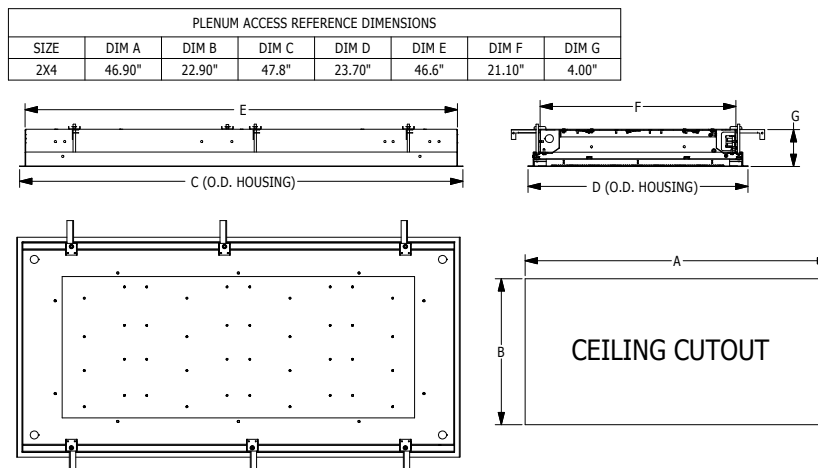
FINISH: Alesta-AM antimicrobial polyester powder coating using a silver ion antimicrobial process. See option SSP for satin polished stainless steel doors.

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 luminaires 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.

LISTINGS: ETL Listed per UL-1598 Wet Locations. Suitable for non-IC installation. IP-65 dust and water jet resistance. IBEW Union Label. Military Standard 461F compliant for conducted and radiated emissions. 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

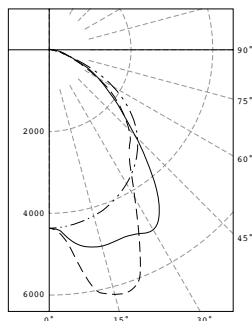
MEDICAL PLENUM ACCESS TROFFER (APPROX ¹ LUMENS DELIVERED)											
ENCLOSURE SIZE	LIGHT PACKAGE	CRI	STANDARD DIMMING	ASYMMETRIC LENS (STANDARD)				SYMMETRIC LENS (OPTIONAL)			
				LUMENS	WATTS ²	EFFICACY ³	MAXIMUM ⁴	LUMENS	WATTS ²	EFFICACY ³	MAXIMUM ⁴
2X4	2LEDR	83	0-10V 1%	6,400	68	94	40°C (104°F)	8,036	68	118	40°C (104°F)
2X4	2LEDR	90+	0-10V 1%	5,300	62	85	40°C (104°F)	6,429	62	104	40°C (104°F)
2X4	3LEDR	83	0-10V 1%	9,691	103	94	40°C (104°F)	12,061	103	117	40°C (104°F)
2X4	3LEDR	90+	0-10V 1%	8,043	94	86	40°C (104°F)	9,649	94	103	40°C (104°F)
2X4	2LEDH	83	0-10V 1%	11,500	113	102	40°C (104°F)	13,300	113	118	40°C (104°F)
2X4	2LEDH	90+	0-10V 1%	11,100	148	75	35°C (95°F)	12,835	148	87	35°C (95°F)
2X4	4LEDR	83	0-10V 1%	12,827	135	95	40°C (104°F)	15,711	135	116	40°C (104°F)
2X4	4LEDR	90+	0-10V 1%	10,646	124	86	40°C (104°F)	12,569	124	101	40°C (104°F)
2X4	3LEDH	83	0-10V 1%	17,000	169	101	40°C (104°F)	19,952	169	118	40°C (104°F)
2X4	3LEDH	90+	0-10V 1%	16,400	221	74	35°C (95°F)	19,254	221	87	35°C (95°F)
2X4	4LEDH	83	0-10V 1%	23,000	225	102	40°C (104°F)	26,600	225	118	40°C (104°F)
2X4	4LEDH	90+	0-10V 1%	22,100	295	75	35°C (95°F)	25,519	295	87	35°C (95°F)
2X4	4LEDHF	83	0-10V 5%	28,400	279	102	40°C (104°F)	34,839	279	125	40°C (104°F)
2X4	4LEDHF	90+	0-10V 5%	PENDING	PENDING	PENDING	35°C (95°F)	PENDING	PENDING	PENDING	35°C (95°F)
2X4	EM10	83	NA	880-1270	4	NA	35°C (95°F)	870-1250	4	NA	35°C (95°F)
2X4	1GLED	540nm	0-10V 1%	2500	36	69	40°C (104°F)	3000	36	83	40°C (104°F)
2X4	2GLED	540nm	0-10V 1%	5000	72	69	40°C (104°F)	6000	72	83	40°C (104°F)
2X4	3GLED	540nm	0-10V 1%	7500	108	69	40°C (104°F)	9000	108	83	40°C (104°F)

- ¹ DELIVERED LUMEN DATA IS EXTRAPOLATED FROM MEASURED DATA @25C WITH NO EXTRA OPTIONS. VARIANCES WILL OCCUR WHEN OPTIONS ARE CHOSEN
- 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

PHOTOMETRICS

ML-FGPA-X-2X4-4/LEDR835-UNV

Report No: ITL84378
 Total Lumens: 12,827
 Wattage: 145.5
 Efficacy: 88.2 (Lumens Per Watt)
 Fixture Size: 2'x4'
 Key:
 - - - 0
 - · - · 90
 - - - 180



ML-FGPA-X-2X4-1/GLED-UNV

Report No: ITL84380
 Total Lumens: 2,511
 Wattage: 36.1
 Efficacy: 69.6 (Lumens Per Watt)
 Fixture Size: 2'x4'
 Key:
 - - - 0
 - · - · 90
 - - - 180

