

Cleanroom KL-S Troffers

1x4, 2x2 and 2x4 High Efficiency LED Surface Luminaires

- **Rated IP66**
- **Suitable for ISO 3-9 Cleanspaces**
- **Suitable for 209E Class 1-100,000 Cleanspaces**
- **ETL listed for Wet Locations**
- **One piece overlapping doorframe**
- **Robotically seam welded housing**
- **0-10V 1% dimming comes standard**
- **Up to 39,000 Lm Delivered @129 Lm/W**
- **BAA Compliant & Made in the USA by a Family Owned US Corporation**



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ORDERING GUIDE

Series	Material	Size	Row Qty.	LED Type	CCT/CRI	Voltage	Optics	Options
KL-S								
Series	Material	Size	Row Qty.	Light Source		Voltage	Optics	Options
KL-S	1 White CRS Hsg. & White CRS Door	1x4 1' x 4' Housing	1	LEDR	83 CRI:	120V	P12ACR 0.135" P12 Prismatic Impact Resistant Acrylic (Inverted)	SW Wet Location Hub Supplied (not installed)
			2	LEDH	830 3000K	277V	LEX 0.125" P12 Prismatic Polycarbonate (Inverted)	PxL* Programmed to User Specified Lumen Value.
	2 White CRS Hsg. & Polished 304 SS Door	2x2 2' x 2' Housing	2	LEDHF	835 3500K	UNV	A19 0.156" A19 Prismatic Impact Resistant Acrylic (Inverted)	PxW* Programmed to User Specified Wattage Value.
					840 4000K	347V*	TG 0.156" Prismatic Tempered Glass (Inverted)	10KV 10KV Parallel Surge Protection (One Supplied Per Circuit)
	3 Polished 304 SS Hsg. & Polished 304 SS Door	OR 2' x 4' Housing	3		850 5000K		HIA 0.140" P12 Prismatic High Impact Resistant Acrylic (Inverted)	GTD Generator Transfer Device
			4				FROST 0.125" Flat Diffusing Frost Acrylic	WHIP Must Specify Length and Wire Qty
	4 White AL Hsg. & Polished 304 SS Door	2' x 4' Housing			90+ CRI:		2DBW 0.125" Flat Diffused Acrylic with Bi-Directional Batwing Distribution	OCCMW Internal microwave OCC Sensor
5 White AL Hsg. & White AL Door				935 3500K		LBW 0.125" Flat Diffused Acrylic with Linear Batwing Distribution	FC Fuse & Holder (One Supplied Per Circuit)	
6 White CRS Hsg. & White AL Door				940 4000K		GH85 0.125" Flat Diffused Acrylic with Glare Suppression Distribution	EM10 10W Integral LED EM (Specify Input Voltage)	
7 White AL Hsg. & White CRS Door				950 5000K		EM20 20W Remote LED EM (Specify Input Voltage)	EDL -40F Electronic Driver	
				NOTE: Additionally available in 95+ CRI with Seoul Sun-Like LEDs. Consult factory for more information.		NOTE: P12ACR option is standard and will be provided when no other option is selected		WHT White Finished Door & HSG
								AMW Anti-Microbial White Powdercoat
								2/ED Two Drivers/Two Circuits
Note*: Specify Value in Ordering Notes								

Ordering Notes, If Applicable

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SPECIFICATIONS

HOUSING: One piece, hole free, robotically seam welded housing has flattened knockouts for a superior seal. Housings are available in .050" 3003 Aluminum, 18Ga 304 Stainless Steel, or 20Ga Cold Rolled Steel.

DOOR FRAME: One piece door frame with welded corners overlaps the fixture allowing the NSF approved microcellular gasket to seal to the housing. Door frame is hinged by aircraft cables and is supplied with captive stainless steel flush head screws to allow easy wiping of the surface. Available in .050" 3003 Powder coated Alum., 20Ga 304 Polished SS, or 18Ga Powder coated CRS.

GASKETS: NSF Listed closed cell microcellular extruded KleanLock SealPro gasket with vulcanized corners making a one-piece oil and solvent resistant gasket system.

OPTICS: Standard P12 prismatic acrylic lens is provided when no other options are selected. All prismatic lensing options come with an inverted lens so the smooth side faces the room for easy cleaning. All optics are sealed to the door with NSF listed RTV silicone sealant. Other optics are available, consult factory for more information or options not listed.

LEDS: Commercially available in a wide variety of Color Temperature (CCT), FLUX, and CRI. Highly efficient and consistent color maintained to 3 SDMC for color critical applications. B50/L70 and compliant with Zhaga recognized hole patterns. Consult factory for LED options or configurations not listed below.

DRIVERS: Standard Universal Voltage Class 2 drivers are 0-10v Dimmable to 1%, and rated -20C (-4F). 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. Drivers with higher input voltage ratings are available, consult factory for driver specifications.

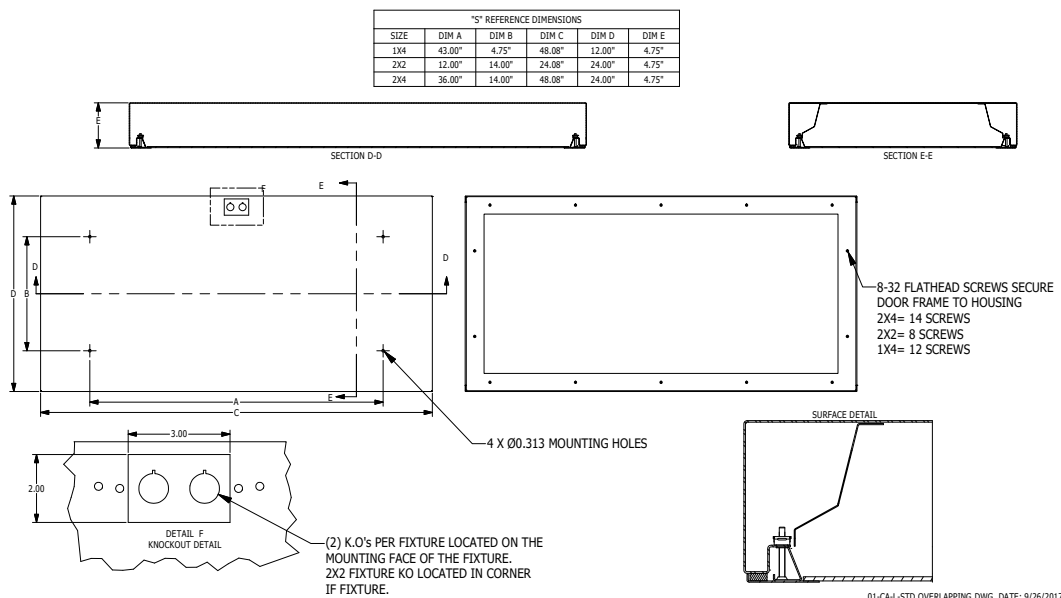
REFLECTOR: Die formed metal with high reflectance white polyester powder coat finish. Typical reflectivity 92%.

INSTALL SURFACE: Four .312" dia. mounting holes and a removable gasketed wiring access plate with Supply entry via 1/2" trade size flattened knockouts. Suitable for surface installation onto covered ceilings only.

FINISH: Stainless steel door frames & housings are satin polished unless WHT or AMW options are selected. All other materials are provided with gloss high reflectance white polyester powder coat with 1000hr salt spray test per ASTM B117. AMW option provides a white anti-microbial polyester powder coat to all exposed surfaces.

LISTINGS: IP66 rated for dust and water ingress. Suitable for 1700 PSI high pressure hosedowns. ETL listed per UL_1598 for wet locations. Certified ISO-14644-1 for class 3 through class 9 cleanspaces. Certified Fed Std 209E for Class 1 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 is Buy American Act (B.A.A.) compliant.

PRODUCT DRAWINGS



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ENERGY DATA

SURFACE & RECESSED OVERLAPPING LED TROFFER (APPROX ¹ LUMENS DELIVERED)										
ENCLOSURE SIZE	LIGHT PACKAGE	83 CRI (3000K - 5000K)				90 CRI (3500K, 4000K)				STANDARD DIMMING
		LUMENS	WATTS ²	EFFICACY ³	MAX AMB TEMP	LUMENS	WATTS ²	EFFICACY ³	MAX AMB TEMP ⁴	
1X4	1LEDR	2,974	29	103	45°C (113°F)	2,868	29	99	45°C (113°F)	0-10V 1%
1X4	2LEDR	5,948	55	108	45°C (113°F)	5,736	56	103	45°C (113°F)	0-10V 1%
1X4	2LEDH	11,493	109	106	35°C (95°F)	10,980	109	101	35°C (95°F)	0-10V 1%
1X4	2LEDHF	18,046	153	118	35°C (95°F)	15,546	183	85	35°C (95°F)	0-10V 1%
1X4	EM10	1030-1180	4	NA	40°C (104°F)	850-1030	4	NA	40°C (104°F)	NA
2X2	2LEDR	3,165	29	109	45°C (113°F)	3,042	29	105	45°C (113°F)	0-10V 1%
2X2	3LEDR	4,747	42	113	45°C (113°F)	4,563	42	109	45°C (113°F)	0-10V 1%
2X2	2LEDH	6,213	55	113	40°C (104°F)	5,928	55	108	40°C (104°F)	0-10V 1%
2X2	4LEDR	6,328	55	115	45°C (113°F)	6,084	55	111	45°C (113°F)	0-10V 1%
2X2	3LEDH	9,319	80	116	40°C (104°F)	8,892	81	110	35°C (95°F)	0-10V 1%
2X2	4LEDH	12,425	109	114	40°C (104°F)	11,856	109	109	35°C (95°F)	0-10V 1%
2X2	4LEDHF	18,523	153	121	35°C (95°F)	16,425	184	89	35°C (95°F)	0-10V 1%
2X2	EM10	1090-1210	4	NA	40°C (104°F)	890-1110	4	NA	40°C (104°F)	NA
2X4	2LEDR	6,864	55	125	45°C (113°F)	6,567	56	117	45°C (113°F)	0-10V 1%
2X4	3LEDR	10,295	83	124	45°C (113°F)	9,851	83	119	45°C (113°F)	0-10V 1%
2X4	2LEDH	13,488	109	124	40°C (104°F)	12,816	109	118	40°C (104°F)	0-10V 1%
2X4	4LEDR	13,726	111	124	45°C (113°F)	13,134	113	116	45°C (113°F)	0-10V 1%
2X4	3LEDH	20,233	165	123	40°C (104°F)	19,224	165	117	40°C (104°F)	0-10V 1%
2X4	4LEDH	26,977	220	123	40°C (104°F)	25,632	220	117	40°C (104°F)	0-10V 1%
2X4	4LEDHF	39,373	305	129	35°C (95°F)	35,488	373	95	35°C (95°F)	0-10V 1%
2X4	EM10	1230-1290	4	NA	40°C (104°F)	950-1190	4	NA	40°C (104°F)	NA

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 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.

PHOTOMETRICS

P12 PRISMATIC

Key:

