

Cleanroom KL Amber Troffers

1x4, 2x2 and 2x4 Amber/White LED 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 Standard for most configurations.**
- **Narrow Spectrum 590nm True Amber LEDs**
- **White / Amber separately controlled circuits**
- **Recessed Housing suitable for Tbar Grid AND Hardlid Installations**
- **Made in the USA by a Family Owned US Corporation**



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ORDERING GUIDE

Series	Installation Type	Material	Size	Amber LED	White LED	CCT (White LED)	Voltage	Options
KL								
KL	R: Recessed (Suitable for Flange & Grid Installations)	3: White 430 SS Hsg. & Polished 304 SS Door 4: White AL Hsg. & Polished 304 SS Door 5: White AL Hsg. & White AL Door 7: White AL Hsg. & White CRS Door	1x4: 1' x 4' Housing	1/YLED590	1/LEDR	83 CRI:	120V	FC: Fuse & Holder (One Supplied Per Circuit)
			MAX 3 Arrays Total (2 Max Per Color)	2/YLED590	1/LEDH	830 = 3000K CCT	277V	2/EDW: Two Circuits of White Light
					1/LEDHF	835 = 3500K CCT	UNV	2/EDY: Two Circuits of Yellow Light
						840 = 4000K CCT	EDL: -40F Electronic Driver	
						850 = 5000K CCT	EM10: 10W Integral LED EM (Specify Input Voltage)	
							EM20: 20W External LED EM (Specify Input Voltage)	
	S: Surface	1: White CRS Hsg. & White CRS Door 2: White CRS Hsg. & Polished 304 SS Door 3: Polished 304 SS Hsg. & Polished 304 SS Door 4: White AL Hsg. & Polished 304 SS Door 5: White AL Hsg. & White AL Door 6: White CRS Hsg. & White AL Door 7: White AL Hsg. & White CRS Door	1x4: 1' x 4' Housing	1/YLED590	1/LEDR	90+ CRI:	347V*	EM10: 10W Integral LED EM (Specify Input Voltage)
			MAX 2 Arrays Total	2/YLED590	1/LEDH	935 = 3500K CCT	EM20: 20W External LED EM (Specify Input Voltage)	
					1/LEDHF	940 = 4000K CCT	WHT: White Finished Door & HSG	
						950 = 5000K CCT	LEX: .125" Prismatic Polycarbonate	
							A19: .156" Prismatic P19 Pattern Clear Acrylic	
							HIA: .140" High Impact P12 Pattern Clear Acrylic	
		2x2: 2' x 2' Housing	1/YLED590	1/LEDR		TG: .156" Prismatic Tempered Glass		
		MAX 4 Arrays Total	2/YLED590	1/LEDH		SW: Wet Location Hub Supplied (not installed)		
		OR	3/YLED590	1/LEDHF		PxL: Programmed to User Specified Lumen Value.		
			4/YLED590	2/LEDR		PxW: Programmed to User Specified Wattage Value.		
				2/LEDH		10KV: 10KV Parallel Surge Protection		
				2/LEDHF		(One Supplied Per Circuit)		
		2x4: 2' x 4' Housing	4/YLED590	3/LEDR		GTD: Generator Transfer Device		
		MAX 4 Arrays Total		3/LEDH		WHIP: Must Specify Length and Wire Qty		
				3/LEDH		.125 FROST: 1/8" Frost Acrylic Lens		
				3/LEDH		HF1: 1% Dimming for 2x2 with LEDHF		
				3/LEDH		OCCMW: Internal microwave OCC Sensor		
				3/LEDH				

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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. Surface housings are available in .040" 3003 Aluminum, 20Ga 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 mounting surface. 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 .040" 3003 Powder coated Alum. , 20Ga 304 Polished SS, or 18Ga 1008 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.

LENS: Impact resistant .135" thick virgin acrylic with P12 prismatic pattern inverted. Sealed to door with NSF listed RTV silicone. See "Options" for other choices.

LEDS: Fixture available with Amber only or Amber & White LED's, each color will be supplied with its own driver for dual switching. Amber LED's provide a narrow 590nm spectrum for wavelength sensitive applications. White high efficiency LEDs are commercially available & available in a wide variety of CRI and CCT. All boards have zhaga recognized hole patterns and come with a 5 year warranty.

DRIVERS: 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. Drivers with higher input voltage ratings are available, consult factory for driver specifications. (each color LED comes standard with its own driver)

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

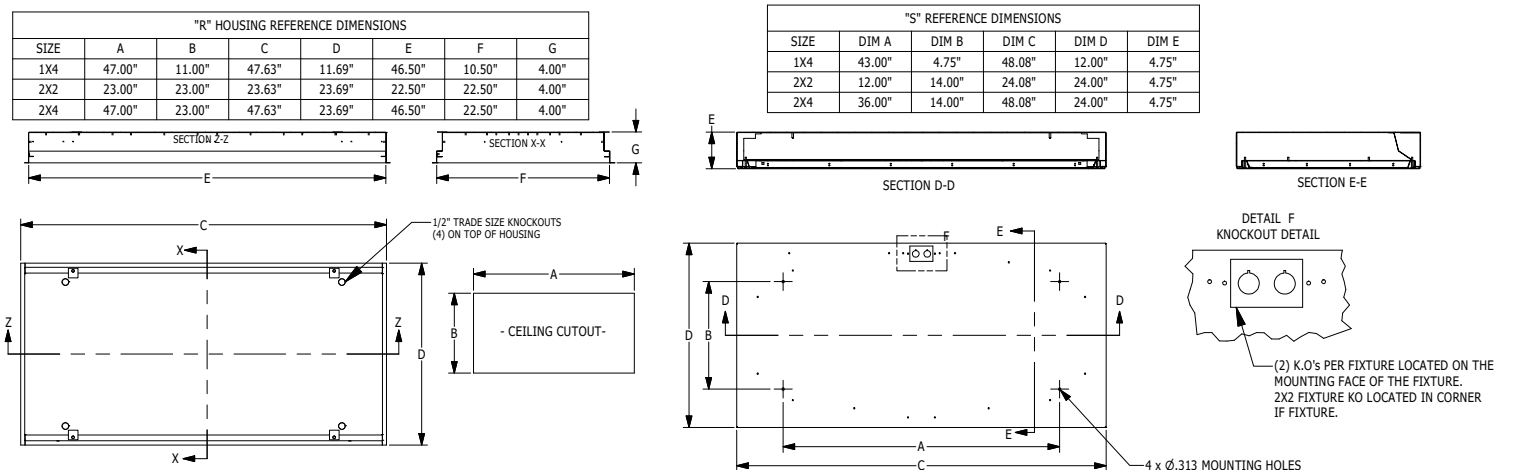
INSTALL RECESSED: 1 fixture suitable for Grid & Flanged installation. Accommodates 1" & 1.5" T-Bar Grid (Consult factory for 2" T-Bar Grid compatibility). 4 adjustable toggle arms with holes for seismic support wire attachment. Supply entry via 1/2" trade size flattened knockouts.

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

FINISH: Gloss white high reflectance 1000 hr. salt spray polyester powder coat finish standard for all recessed housings. Stainless steel doorframes & surface housings are satin polished unless option WHT is chosen.

LISTINGS: IP66 rated for dust and water ingress. Suitable for 1700 PSI high pressure hosedowns. ETL listed per UL_1598 for wet locations. Chicago Plenum Rated. Certified ISO-14644-1 for class 3 through class 9 cleanspaces. Certified Fed Std 209E for Class 1 through Class 100,000 cleanspaces. 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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1x4, 2x2 and 2x4 Amber/White LED Luminaires

ENERGY DATA - WHITE LED

OVERLAP-FGRS-AMBER LED TROFFER										
ENCLOSURE SIZE	LED SELECTION	DIMMING	83 CRI			90+ CRI			AMBIENT TEMP RATING	
			LUMENS	WATTS	EFFICACY	LUMENS	WATTS	EFFICACY	MINIMUM	MAXIMUM ³
1x4	1LEDR	0-10V 1%	4,100	37	110	2,880	34	85	-20°C (-4°F)	40°C (104°F)
1x4	1LEDH	0-10V 1%	6,700	51	131	6,200	74	84	-20°C (-4°F)	40°C (104°F)
1x4	1LEDHF	0-10V 1%	7,800	83	94	7,773	91	85	-20°C (-4°F)	40°C (104°F)
2x2	1LEDR	0-10V 1%	2,220	19	117	1,370	17	81	-20°C (-4°F)	40°C (104°F)
2x2	1LEDH	0-10V 1%	3,240	27	120	2,600	37	70	-20°C (-4°F)	40°C (104°F)
2x2	1LEDHF	0-10V 5%	4,750	43	110	4,106	46	89	-20°C (-4°F)	40°C (104°F)
2x2	2LEDR	0-10V 1%	4,450	37.4	119	2,746	32	86	-20°C (-4°F)	40°C (104°F)
2x2	2LEDH	0-10V 1%	6,500	51	127	5,251	73	72	-20°C (-4°F)	40°C (104°F)
2x2	2LEDHF	0-10V 5%	9,500	86	110	8,212	91.9	89	-20°C (-4°F)	40°C (104°F)
2x2	3LEDR	0-10V 1%	6,670	55.2	121	4,182	48	87	-20°C (-4°F)	40°C (104°F)
2x2	3LEDH	0-10V 1%	9,880	76.9	129	8,343	110	76	-20°C (-4°F)	40°C (104°F)
2x2	3LEDHF	0-10V 5%	14,250	129	110	12,319	137.9	89	-20°C (-4°F)	40°C (104°F)
2x4	1LEDR	0-10V 1%	4,590	38	121	3,200	32	100	-20°C (-4°F)	40°C (104°F)
2x4	1LEDH	0-10V 1%	7,030	51	137	6,500	75	87	-20°C (-4°F)	40°C (104°F)
2x4	1LEDHF	0-10V 1%	9,000	70	129	8,872	93	95	-20°C (-4°F)	40°C (104°F)
2x4	2LEDR	0-10V 1%	9,180	74	124	6,528	62	105	-20°C (-4°F)	40°C (104°F)
2x4	2LEDH	0-10V 1%	14,340	103	139	12,949	148	87	-20°C (-4°F)	40°C (104°F)
2x4	2LEDHF	0-10V 1%	18,000	140	129	17,744	187	95	-20°C (-4°F)	40°C (104°F)
2x4	3LEDR	0-10V 1%	13,770	111	124	9,797	94	104	-20°C (-4°F)	40°C (104°F)
2x4	3LEDH	0-10V 1%	21,060	153	138	19,549	221	88	-20°C (-4°F)	40°C (104°F)
2x4	3LEDHF	0-10V 1%	27,000	210	129	26,616	280	95	-20°C (-4°F)	40°C (104°F)

- ¹ DELIVERED LUMEN DATA IS EXTRAPOLATED FROM MEASURED DATA @25C WITH NO EXTRA OPTIONS. VARIANCES WILL OCCUR WHEN OTHER SELECTIONS ARE MADE
- ² WATTAGE IS MEASURED WITH LED 840 SELECTION @ 120vAC AND Tambient = 25C. WATTAGES WILL VARY AND INCREASE WHEN ALTERNATE OPTIONS ARE SELECTED
- ³ MAX AMBIENT TEMP RATING, NON-IC INSTALLATION. TEMP RATING IS WITH NO OTHER OPTIONS SELECTED. WHITE LEDS ONLY SUITABLE FOR 40C AMBIENT

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ENERGY DATA - COLOR LED

OVERLAP-FGRS-AMBER LED TROFFER							
ENCLOSURE SIZE	LED SELECTION	DIMMING	590nm (Amber)			AMBIENT TEMP RATING	
			LUMENS	WATTS	EFFICACY	MINIMUM	MAXIMUM ³
1X4	1YLED	0-10V 1%	1,972	43	46	-20°C (-4°F)	40°C (104°F)
1X4	2YLED	0-10V 1%	3,945	86	46	-20°C (-4°F)	40°C (104°F)
2X2	1YLED	0-10V 1%	1,132	22	51	-20°C (-4°F)	40°C (104°F)
2X2	2YLED	0-10V 1%	2,264	43	53	-20°C (-4°F)	40°C (104°F)
2X2	3YLED	0-10V 1%	3,396	65	52	-20°C (-4°F)	40°C (104°F)
2X2	4YLED	0-10V 1%	4,528	86	53	-20°C (-4°F)	40°C (104°F)
2X4	1YLED	0-10V 1%	2,428	44	55	-20°C (-4°F)	40°C (104°F)
2X4	2YLED	0-10V 1%	4,856	87	56	-20°C (-4°F)	40°C (104°F)
2X4	3YLED	0-10V 1%	7,283	130	56	-20°C (-4°F)	40°C (104°F)
2X4	4YLED	0-10V 1%	9,711	173	56	-20°C (-4°F)	40°C (104°F)

* View previous page for energy data notes.

COLOR LED RELATIVE DISTRIBUTION

