

Cleanroom KL-R Amber Troffers: KL-R-LED-AMBER-TW

Tunable White 1x2, 1x4, 2x2 and 2x4 Amber/White LED Recessed 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**
- **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.**



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ORDERING GUIDE

Series	Material	Size	Row Qty.	Amber LED	Row Qty.	White LED	CCT/CRI	Control	Voltage	Optics	Options						
KL-R				YLED590		LEDTW											
Series	Material	Size	Row Qty.	Amber LED	Row Qty.	White LED	CCT/CRI	Control	Voltage	Optics	Options						
KL-R	White 430 SS Hsg. & Polished 304 SS Door	1x2 1' x 2' Housing	1	YLED590	1	LEDTW	80 CRI:	10VA 0-10V Analog Control	120V	P12ACR	0.135" P12 Prismatic Impact Resistant Acrylic (Inverted)						
			2								827/865 2700K-6500K	277V	0.125" P12 Prismatic Polycarbonate (Inverted)				
		3	90+ CRI:								10VWD 0-10V Warm Dim Control		UNV	0.156" A19 Prismatic Impact Resistant Acrylic (Inverted)			
	4	0.156" Prismatic Tempered Glass (Inverted)															
	5	0.140" P12 Prismatic High Impact Resistant Acrylic (Inverted)															
	White AL Hsg. & Polished 304 SS Door	2x2 2' x 2' Housing	2						1		927/965 2700K-6500K	0.125" Flat Diffusing Frost Acrylic					
			3					2	0.125" Flat Diffused Acrylic with Bi-Directional Batwing Distribution								
	White AL Hsg. & White AL Door	OR	3					2					0.125" Flat Diffused Acrylic with Linear Batwing Distribution				
			4					3						0.125" Flat Diffused Acrylic with Glare Suppression Distribution			
	White AL Hsg. & White CRS Door	5 LED Rows Max	2x4 2' x 4' Housing					4							NOTE: P12ACR option is standard and will be provided when no other option is selected		
																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)																	
EDL -40F Electronic Driver																	
WHT White Finished Door & HSG																	
AMW Anti-Microbial White Powdercoat																	
2/EDY Two Circuits of Amber Light																	
2/EDW Two Circuits of White Light																	
GG 1/8" Thick Grid Gasket (Provided Loose)																	

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 .040" 3003 Aluminum or 20Ga 430 Stainless 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 .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. GG option provides a loose 1/8" thick adhesive backed gasket intended to adhere to the top face of a suspended grid ceiling for grid profiles that do not already have gasket on them.

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: 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 minimum 80 or 90 CRI 2 channel LED modules and 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.. 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%, 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. (each color LED comes standard with its own driver)

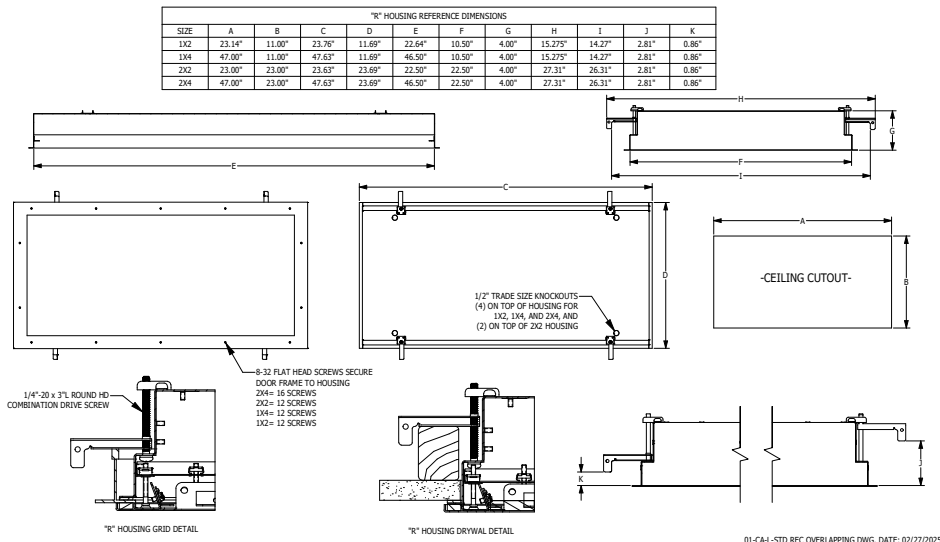
REFLECTOR: Die formed metal with high reflectance white polyester powder coat finish. Typical reflectivity 92%.

INSTALLATION: Suitable for recessed Non-IC installation into covered ceilings. 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. Confirm ceiling compatibility with dimension drawings below.

FINISH: Stainless steel door frames are satin polished unless WHT or AMW options are selected. All other materials are provided with gloss high reflectance white polyester powdercoat 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. 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. NSF2 Listed for non-food zones & 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



Cleanroom KL-R Amber Troffers: KL-R-LED-AMBER-TW

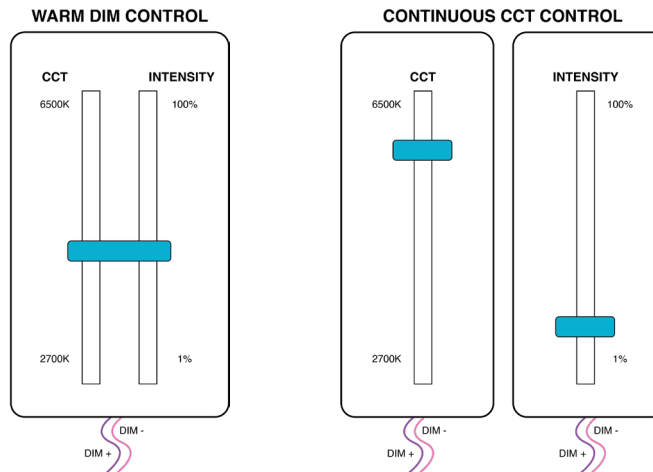
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ENERGY DATA - WHITE LED

OVERLAP-FGRS-AMBER LED TROFFER						
ENCLOSURE SIZE	LED SELECTION	Tunable White 80 CRI (4000K)			MAX AMBIENT TEMP ³	CCT RANGE
		LUMENS	WATTS	EFFICACY		
1X2	1LEDTW	1,656	18	92	40°C (104°F)	2700k - 6500k
1X2	2LEDTW	3,384	35	97	40°C (104°F)	2700k - 6500k
1x4	1LEDTW	3,450	34	101	40°C (104°F)	2700k - 6500k
1X4	2LEDTW	7,050	68	104	40°C (104°F)	2700k - 6500k
2x2	1LEDTW	1,900	18	106	40°C (104°F)	2700k - 6500k
2x2	2LEDTW	3,750	35	107	40°C (104°F)	2700k - 6500k
2x2	3LEDTW	5,650	53	107	40°C (104°F)	2700k - 6500k
2x2	4LEDTW	7,550	68	111	40°C (104°F)	2700k - 6500k
2X4	1LEDTW	3,900	34	115	40°C (104°F)	2700k - 6500k
2X4	2LEDTW	7,800	68	115	40°C (104°F)	2700k - 6500k
2X4	3LEDTW	11,700	103	114	40°C (104°F)	2700k - 6500k
2X4	4LEDTW	15,600	135	116	40°C (104°F)	2700k - 6500k

- 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

CONTROL OPTIONS



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.

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

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ENERGY DATA - COLOR LED

OVERLAP-FGRS-AMBER LED TROFFER					
ENCLOSURE SIZE	LED SELECTION	590nm (Amber)			MAX AMBIENT TEMP ³
		LUMENS	WATTS	EFFICACY	
1X2	1YLED	947	22	43	40°C (104°F)
1X2	2YLED	1,894	43	44	40°C (104°F)
1X4	1YLED	1,972	43	46	40°C (104°F)
1X4	2YLED	3,945	86	46	40°C (104°F)
2X2	1YLED	1,132	22	51	40°C (104°F)
2X2	2YLED	2,264	43	53	40°C (104°F)
2X2	3YLED	3,396	65	52	40°C (104°F)
2X2	4YLED	4,528	86	53	40°C (104°F)
2X4	1YLED	2,428	44	55	40°C (104°F)
2X4	2YLED	4,856	87	56	40°C (104°F)
2X4	3YLED	7,283	130	56	40°C (104°F)
2X4	4YLED	9,711	173	56	40°C (104°F)

* View previous page for energy data notes.

COLOR LED RELATIVE DISTRIBUTION

