KURTZON
SPECIFICATION GRADE LIGHTING
ILLUMINATING YOUR WORLD

PROJECT
DATE TYPE
NOTES

REV: 06/09/2021

Cleanroom **KL-R Red Troffers: KL-R-RED-TW**

Tunable White 1x2, 1x4, 2x2 and 2x4 Red/White LED Recessed Luminaires

PRODUCT FEATURES

- ✓ **IP66 Rated**
- ✓ **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 630nm, 660nm, & 735nm Red Non-filtered LEDs**
- ✓ **White / Red Separately Controlled Circuits**
- ✓ **Recessed Housing Suitable for Tbar Grid & 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 & CCT**
- ✓ **Tunable White LEDs Allow a Full Range of CCTs from 2700K–6500K CCT**

5/10 YEAR WARRANTY · NSF · ETL Intertek · CCEA APPROVED · ISO 3-9 · IP66 · BSL 3&4 · 209E 1 · 1700 PSI · MADE IN THE USA · BAA COMPLIANT · BABA COMPLIANT · 2700K TW 6500K

ORDERING GUIDE

Series	Material	Size	Row Qty.	Red LED Wavelength	Row Qty.	White LED	CCT/CRI	Control	Voltage	Optics	Options
KL-R						LEDTW					

Series	Material	Size	Light Source: Row Qty.	Light Source: Red LED Wavelength	Light Source: Row Qty.	Light Source: White LED	Light Source: CCT/CRI	Control	Voltage	Optics
KL-R	1 White CRS Hsg. & White CRS Door	1x2 1' x 2' Housing	1	RLED630	1	LEDTW	80 CRI:	10VA 0-10V Analog Control	120V	P12ACR 0.135" P12 Prismatic Impact Resistant Acrylic (Inverted)
		1x4 1' x 4' Housing	2	RLED660	2		827/ 865 2700K-6500K		277V	LEX 0.125" P12 Prismatic Polycarbonate (Inverted)
	2 White CRS Hsg. & Polished 304 SS Door	3 LED Rows Max		RLED735				10VWD 0-10V Warm Dim Control	UNV	A19 0.156" A19 Prismatic Impact Resistant Acrylic (Inverted)
		2x2 2' x 2' Housing	2		1		90+ CRI:			TG 0.156" Prismatic Tempered Glass (Inverted)
	3 White 430 SS Hsg. & Polished 304 SS Door	OR	3		2		927/965 2700K-6500K			HIA 0.140" P12 Prismatic High Impact Resistant Acrylic (Inverted)
		2x4 2' x 4' Housing	4		3					FROST 0.125" Flat Diffusing Frost Acrylic
	4 White AL Hsg. & Polished 304 SS Door	5 LED Rows Max								2DBW 0.125" Flat Diffused Acrylic with Bi-Directional Batwing Distribution
	5 White AL Hsg. & White AL Door									LBW 0.125" Flat Diffused Acrylic with Linear Batwing Distribution
	6 White CRS Hsg. & White AL Door									GH85 0.125" Flat Diffused Acrylic with Glare Suppression Distribution
	7 White AL Hsg. & White CRS Door									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-Microbrial White Powdercoat
2/EDR	Two Circuits of Red Light
2/EDW	Two Circuits of White Light
GG	1/8" Thick Grid Gasket (Provided Loose)
316SS DOOR **	316 Stainless Steel Door Frame
316SS HSG ***	316 Stainless Steel Housing

Note*: Specify Value in Ordering Notes
Note**: 316 SS Door Frame to Replace 304SS Door on Material Options 3 or 4
Note***: 316 SS Housing to Replace 304SS/430 SS Housing on Material Option 3

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, 20Ga 430 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 .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 Red only or Red & White LEDs, each color will be supplied with its own driver for dual switching. Red LED's provide a narrow 630nm, 660nm, or 735nm spectrum light 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.

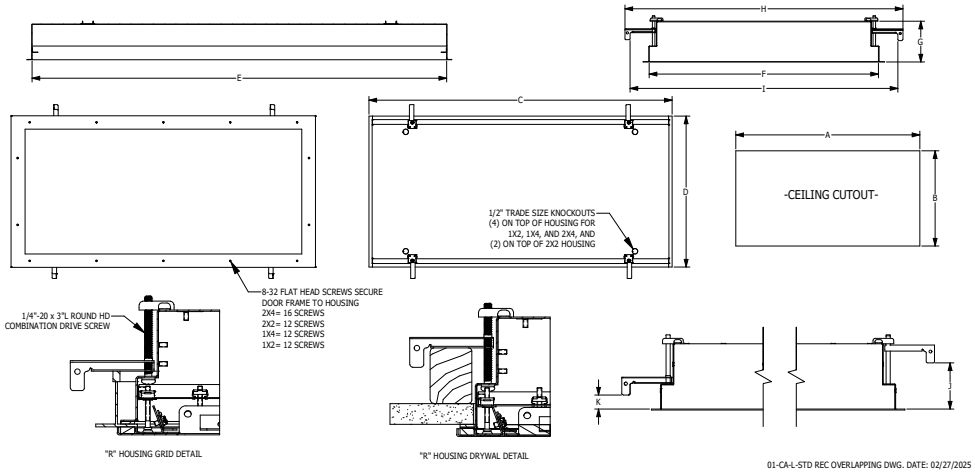
FINISH: Stainless steel door frames are satin polished unless WHT or AMW options are selected. All other materials are provided with gloss high reflectance white polyester powdercoat with 1000hr salt spray test per ASTM B117. AMW option provides a white anti-microbial polyester powder coat to all exposed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

"R" HOUSING REFERENCE DIMENSIONS

SIZE	A	B	C	D	E	F	G	H	I	J	K
1X2	23.14"	11.00"	23.76"	11.69"	22.64"	10.50"	4.00"	15.275"	14.27"	2.81"	0.86"
1X4	47.00"	11.00"	47.63"	11.69"	46.50"	10.50"	4.00"	15.275"	14.27"	2.81"	0.86"
2X2	23.00"	23.00"	23.63"	23.69"	22.50"	22.50"	4.00"	27.31"	26.31"	2.81"	0.86"
2X4	47.00"	23.00"	47.63"	23.69"	46.50"	22.50"	4.00"	27.31"	26.31"	2.81"	0.86"



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ENERGY DATA - WHITE LED

OVERLAP-FGRS-RED LED TROFFER						
ENCLOSURE SIZE	LED SELECTION	80 CRI (3000K - 5000K)			AMBIENT TEMP RATING	
		LUMENS	WATTS	EFFICACY	MAXIMUM[3]	CCT RANGE
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.

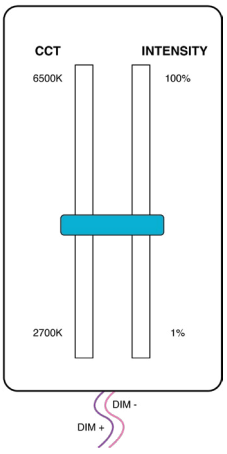
4 MAX AMBIENT TEMP RATING, NON-IC INSTALLATON. TEMP RATING MAY VARY WITH SPECIFIED DRIVERS OR ANY NON STANDARD SELECTION

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

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

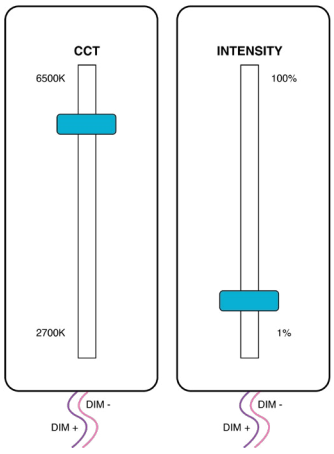
CONTROL OPTIONS

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.

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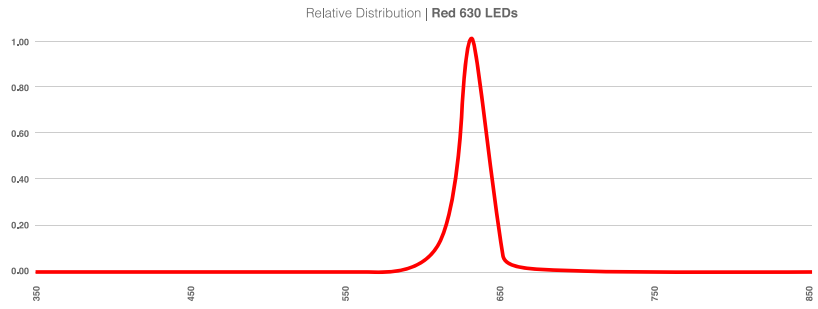
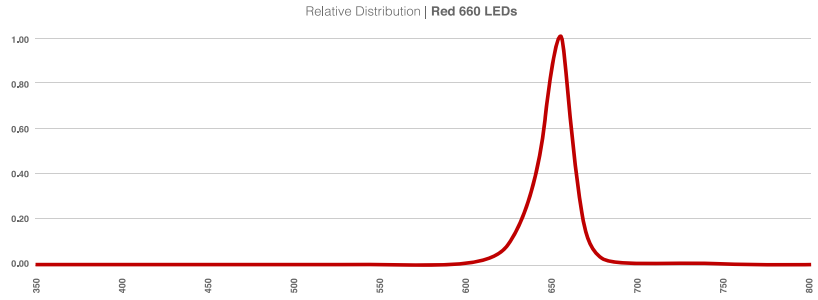
ENERGY DATA - COLOR LED

OVERLAP-FGRS-RED LED TROFFER								
ENCLOSURE SIZE	LED SELECTION	630nm (RED)			660nm (RED)			AMBIENT TEMP RATING
		LUMENS	WATTS	EFFICACY	LUMENS	WATTS	EFFICACY	MAXIMUM[3]
1X2	1RLED	539	14	38	577	22.2	26	40°C (104°F)
1X2	2RLED	993	27	37	1,154	44.5	26	40°C (104°F)
1X4	1RLED	1,122	27	42	1,202	44.5	27	40°C (104°F)
1X4	2RLED	2,068	53	39	2,405	88.9	27	40°C (104°F)
2X2	1RLED	549	14	39	593	22.2	27	40°C (104°F)
2X2	2RLED	1,011	27	37	1,185	44.5	27	40°C (104°F)
2X2	3RLED	1,560	51	31	1,778	66.7	27	40°C (104°F)
2X2	4RLED	2,022	53	38	2,371	88.9	27	40°C (104°F)
2X4	1RLED	1,247	27	46	1,281	44.5	29	40°C (104°F)
2X4	2RLED	2,298	53	43	2,562	89	29	40°C (104°F)
2X4	3RLED	3,545	80	44	3,844	133.5	29	40°C (104°F)
2X4	4RLED	4,596	106	43	5,125	178	29	40°C (104°F)

* View previous page for energy data notes.

NOTE: 735nm Far Red light is measured in radiometric power since the wavelengths are so close to the human non-visible light spectrums. Each module of 735nm LEDs generates ≈ 7,000 mW of radiometric power.

COLOR LED RELATIVE DISTRIBUTION