KURTZON
SPECIFICATION GRADE LIGHTING
ILLUMINATING YOUR WORLD

PROJECT

DATE   TYPE

NOTES

REV: 06/09/2021

Cleanroom **KL-S Amber Troffers: KL-S-LED-AMBER-TW**

1x4, 2x2 and 2x4 Amber/White 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 Standard for most configurations.**

- **Narrow Spectrum 590nm True Amber LEDs**

- **White / Amber separately controlled circuits**

- **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.**

2700K TW 6500K

Badges: 5/10 YEAR WARRANTY | NSF | ETL Intertek c US | ISO 3-9 (ISO 14644-1 CLASS 3) | IP66 (IEC 60529) | BSL 3&4 (BIO SAFETY LEVELS) | 209E 1 (FED STD 209E CLASS 1) | 1700 PSI (HOSEDOWN) | MADE IN THE USA | BAA COMPLIANT | BABA COMPLIANT | 2700K TW 6500K

ORDERING GUIDE

Series	Material	Size	Row Qty.	Amber LED	Row Qty.	White LED	CCT/CRI	Control	Voltage	Optics	Options
KL-S				**YLED590**		**LEDTW**					

Series	Material	Size	Light Source					Control	Voltage	Optics	
			Row Qty.	Amber LED	Row Qty.	White LED	CCT/CRI				
KL-S	1 White CRS Hsg. & White CRS Door	**1x4** 1' x 4' Housing	1	YLED590	1	LEDTW	**80 CRI:**	**10VA** 0-10V Analog Control	**120V**	**P12ACR** 0.135" P12 Prismatic Impact Resistant Acrylic (Inverted)	
		3 LED Rows Max	2		2		**827/ 865** 2700K-6500K		**277V**	**LEX** 0.125" P12 Prismatic Polycarbonate (Inverted)	
	2 White CRS Hsg. & Polished 304 SS Door	**2x2** 2' x 2' Housing	2		1			**10VWD** 0-10V Warm Dim Control	**UNV**	**A19** 0.156" A19 Prismatic Impact Resistant Acrylic (Inverted)	
	3 Polished 304 SS Hsg. & Polished 304 SS Door	**OR**	3		2		**90+ CRI:**			**TG** 0.156" Prismatic Tempered Glass (Inverted)	
		2x4 2' x 4' Housing	4		3		**927/965** 2700K-6500K			**HIA** 0.140" P12 Prismatic High Impact Resistant Acrylic (Inverted)	
	4 White AL Hsg. & Polished 304 SS Door	5 LED Rows Max								**FROST** 0.125" Flat Diffusing Frost Acrylic	
	5 White AL Hsg. & White AL Door									**2DBW** 0.125" Flat Diffused Acrylic with Bi-Directional Batwing Distribution	
	6 White CRS Hsg. & White AL Door									**LBW** 0.125" Flat Diffused Acrylic with Linear Batwing Distribution	
	7 White AL Hsg. & White CRS Door									**GH85** 0.125" Flat Diffused Acrylic with Glare Suppression Distribution	
										NOTE: P12ACR option is standard and will be provided when no other option is selected	

Ordering Notes, If Applicable

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/EDY	Two Circuits of Amber Light
2/EDW	Two Circuits of White Light

Note*: Specify Value in Ordering Notes

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1x4, 2x2 and 2x4 Amber/White LED Surface Luminaires

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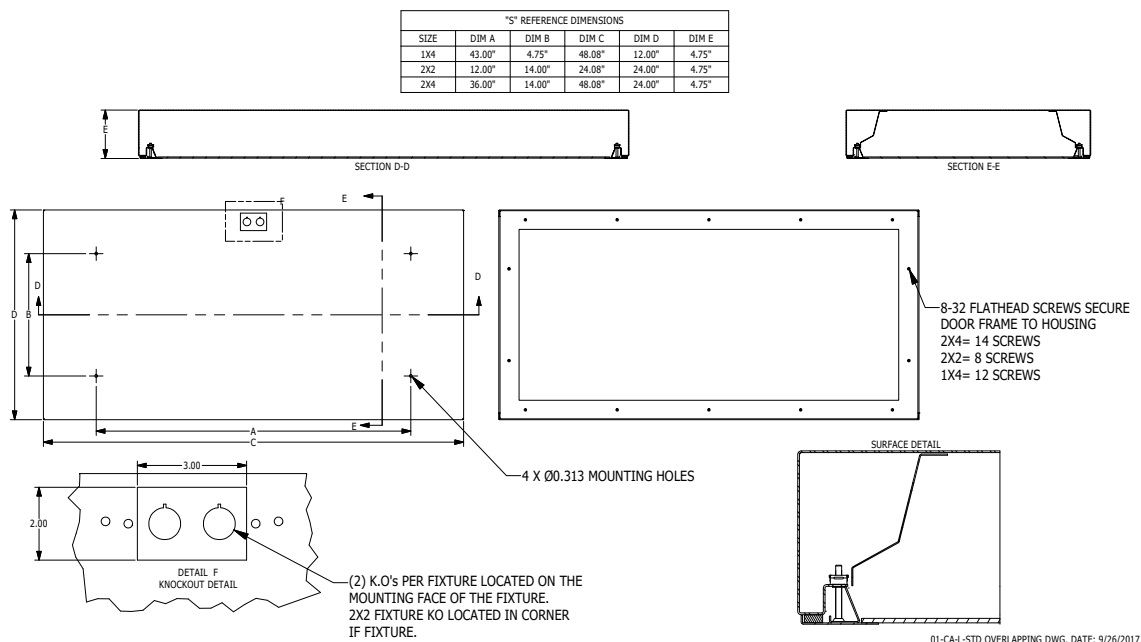
REFLECTOR: Die formed metal with high reflectance white polyester powder coat finish. Typical reflectivity 92%.

INSTALLATION: 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 Series is both Build America Buy America (B.A.B.A.) & Buy American Act (B.A.A.) compliant.

PRODUCT DRAWINGS

"S" REFERENCE DIMENSIONS					
SIZE	DIM A	DIM B	DIM C	DIM D	DIM E
1X4	43.00"	4.75"	48.08"	12.00"	4.75"
2X2	12.00"	14.00"	24.08"	24.00"	4.75"
2X4	36.00"	14.00"	48.08"	24.00"	4.75"

SECTION D-D

SECTION E-E

8-32 FLATHEAD SCREWS SECURE DOOR FRAME TO HOUSING
2X4= 14 SCREWS
2X2= 8 SCREWS
1X4= 12 SCREWS

4 X Ø0.313 MOUNTING HOLES

3.00

2.00

DETAIL F
KNOCKOUT DETAIL

(2) K.O's PER FIXTURE LOCATED ON THE MOUNTING FACE OF THE FIXTURE. 2X2 FIXTURE KO LOCATED IN CORNER IF FIXTURE.

SURFACE DETAIL

01-CA-L-STD OVERLAPPING DWG. DATE: 9/26/2017

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ENERGY DATA - WHITE LED

OVERLAP-FGRS-AMBER LED TROFFER						
ENCLOSURE SIZE	LED SELECTION	Tunable White 80 CRI (4000K)			MAX AMBIENT TEMP³	CCT RANGE
		LUMENS	WATTS	EFFICACY		
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

CCT — INTENSITY
6500K — 100%
2700K — 1%
DIM -
DIM +
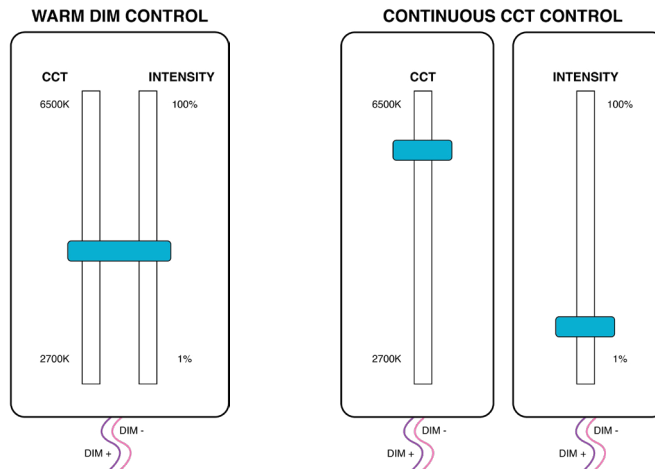
Only one set of dimming Leads are required. As Intensity is Increased so is the CCT. As intensity decreases the CCT decreases to warmer color Temperatures.

CONTINUOUS CCT CONTROL

CCT — INTENSITY
6500K — 100%
2700K — 1%
DIM -
DIM +

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 TEMP³
		LUMENS	WATTS	EFFICACY	
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

Relative Distribution | **Amber LEDs**