KURTZON
SPECIFICATION GRADE LIGHTING
ILLUMINATING YOUR WORLD

PROJECT

DATE   TYPE

NOTES

REV: 06/09/2021

Cleanroom **EL-S Vivarium Troffers: EL-S-LED-VIVARIUM-TW**

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

- **ETL Listed for Wet Locations**
- **IP55 Rated**
- **Suitable for ISO 5-9 Cleanspaces**
- **Suitable for FED Std 209E Class 100-100,000 Cleanspaces**
- **Channel inset door frame**
- **Robotically seam welded housing**
- **Narrow Spectrum 630nm, 660nm, and 735nm red non-filtered LEDs**
- **White / Red 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
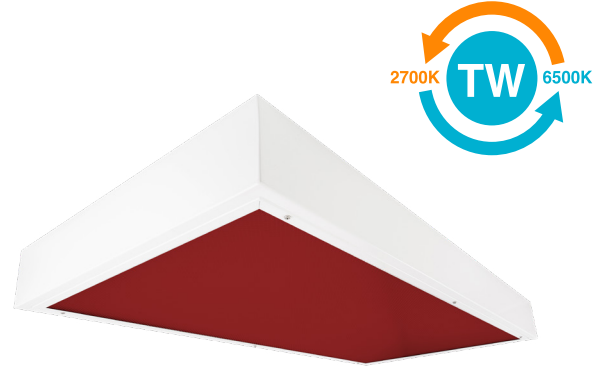
DISCLAIMER: Although KURTZON has prepared the information contained in this document with all due care, KURTZON does not warrant or represent that the information is free from errors or omission. While the information is considered to be true and correct at the date of publication, changes in circumstances after the time of publication may impact on the accuracy of the information. The information may change without notice and KURTZON is not in any way liable for the accuracy of any information printed and stored or in any way interpreted or used.

K 5/10 YEAR WARRANTY | NSF | ETL Intertek | ISO 5-9 ISO 14644-1 CLASS 5 | IP55 IEC 60529 | 209E 100 FED STD 209E CLASS 100 | 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
EL-S						**LEDTW**					

Series	Material	Size			Light Source			Control	Voltage		Optics
			Row Qty.	Red LED Wavelength	Row Qty.	White LED	CCT/CRI				
EL-S	**2** White CRS Hsg. & Polished 304 SS Door	**1x4** 1' x 4' Housing	**1**	**RLED630**	**1**	**LEDTW**	**80 CRI:**	**10VA** 0-10V Analog Control	**120V**	**P12ACR**	0.135" P12 Prismatic Impact Resistant Acrylic (Inverted)
			2	**RLED660**	**2**		**827/ 865** 2700K-6500K		**277V**	**LEX**	0.125" P12 Prismatic Polycarbonate (Inverted)
	3 White 430 SS Hsg. & Polished 304 SS Door	3 LED Rows Max		**RLED735**					**UNV**	**A19**	0.156" A19 Prismatic Impact Resistant Acrylic (Inverted)
		2x2 2' x 2' Housing	**1**		**1**		**90+ CRI:**			**TG**	0.156" Prismatic Tempered Glass (Inverted)
	4 White AL Hsg. & Polished 304 SS Door	**OR**	**2**		**2**		**927/965** 2700K-6500K	**10VWD** 0-10V Warm Dim Control		**HIA**	0.140" P12 Prismatic High Impact Resistant Acrylic (Inverted)
		2x4 2' x 4' Housing	**3**		**3**					**FROST**	0.125" Flat Diffusing Frost Acrylic
	5 White AL Hsg. & White AL Door	5 LED Rows Max	**4**							**2DBW**	0.125" Flat Diffused Acrylic with Bi-Directional Batwing Distribution
										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

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-Microbial White Powdercoat
2/EDR	Two Circuits of Red Light
2/EDW	Two Circuits of White Light

Note*: Specify Value in Ordering Notes

Cleanroom **EL-S Vivarium Troffers: EL-S-LED-VIVARIUM-TW**

1x4, 2x2 and 2x4 Red/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 .040" 3003 Aluminum, 20Ga 430 Stainless Steel, or 20Ga 1008 Cold Rolled Steel.

DOOR FRAME: Inset door frame made from welded channels regresses into the housing to allow the neoprene gasket to seal to the housing. Door frame is hinged by aircraft cables and secures to housing with captive stainless steel pan head screws. Available in .040" 3003 Powder coated Alum. , 20Ga 304 Polished SS.

GASKETS: Closed cell 100% pure neoprene 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 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)
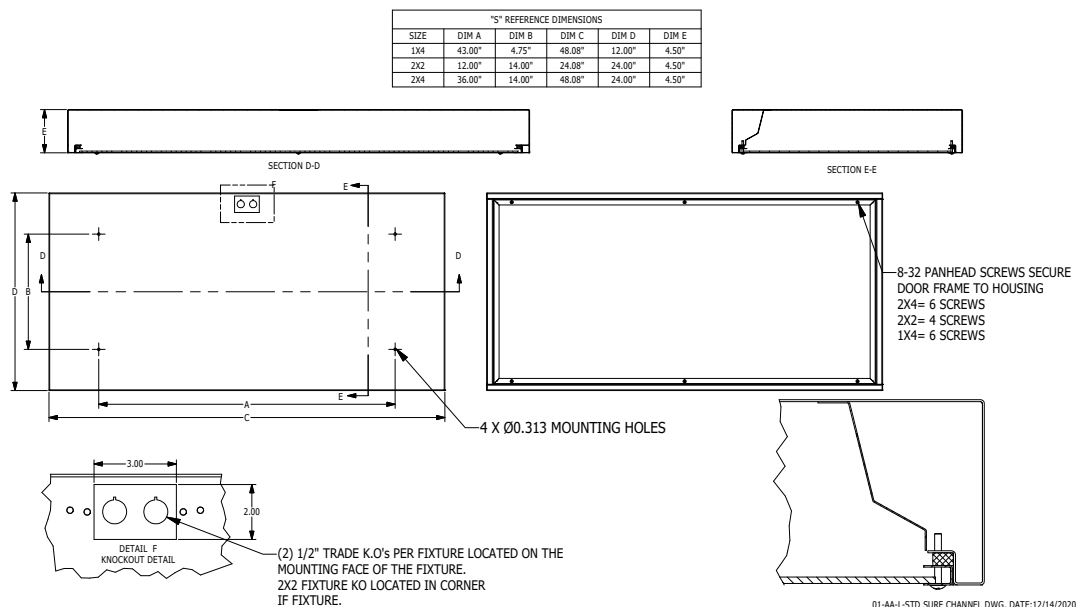
REFLECTOR: Die formed metal with high reflectance white polyester powder coat finish. Typical reflectivity 92%.

INSTALLATION: 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 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: IP55 rated for dust and water ingress. ETL listed per UL_1598 for wet locations. Certified ISO-14644-1 for class 5 through class 9 cleanspaces. Certified Fed Std 209E for Class 100 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"	4.50"
2X2	12.00"	14.00"	24.08"	24.00"	4.50"
2X4	36.00"	14.00"	48.08"	24.00"	4.50"

SECTION D-D

SECTION E-E

8-32 PANHEAD SCREWS SECURE DOOR FRAME TO HOUSING
2X4= 6 SCREWS
2X2= 4 SCREWS
1X4= 6 SCREWS

4 X Ø0.313 MOUNTING HOLES

3.00

2.00

DETAIL F
KNOCKOUT DETAIL

(2) 1/2" TRADE K.O's PER FIXTURE LOCATED ON THE MOUNTING FACE OF THE FIXTURE.
2X2 FIXTURE KO LOCATED IN CORNER IF FIXTURE.

01-AA-L-STD SURF CHANNEL DWG. DATE:12/14/2020

Cleanroom **EL-S Vivarium Troffers: EL-S-LED-VIVARIUM-TW**

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

ENERGY DATA - WHITE LED

CHANNEL-FGRS-RED LED TROFFER						
ENCLOSURE SIZE	LED SELECTION	80 CRI TUNABLE WHITE (4000k)			MAX AMBIENT TEMP³	CCT RANGE
		LUMENS	WATTS	EFFICACY		
1x4	1LEDTW	3,950	34	116	40°C (104°F)	2700k - 6500k
1X4	2LEDTW	7,550	68	111	40°C (104°F)	2700k - 6500k
2x2	1LEDTW	1,950	17	115	40°C (104°F)	2700k - 6500k
2x2	2LEDTW	3,950	35	113	40°C (104°F)	2700k - 6500k
2x2	3LEDTW	5,900	53	111	40°C (104°F)	2700k - 6500k
2x2	4LEDTW	7,800	68	115	40°C (104°F)	2700k - 6500k
2X4	1LEDTW	4,000	35	114	40°C (104°F)	2700k - 6500k
2X4	2LEDTW	8,150	68	120	40°C (104°F)	2700k - 6500k
2X4	3LEDTW	12,200	103	118	40°C (104°F)	2700k - 6500k
2X4	4LEDTW	15,950	135	118	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
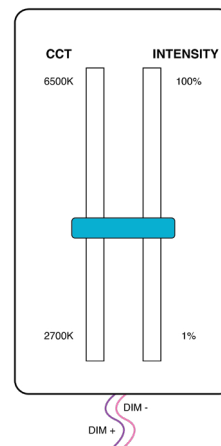
PHOTOMETRICS

P12 PRISMATIC
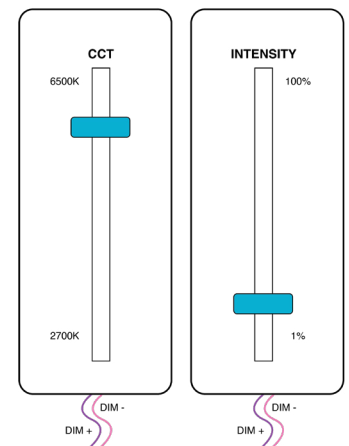
Key:

- - - - 0
-·-·- 45
——— 90
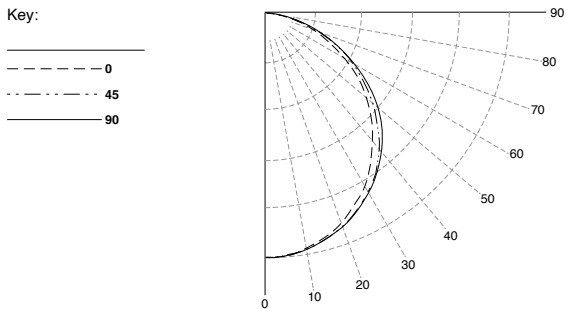
CONTROL OPTIONS

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.

Cleanroom **EL-S Vivarium Troffers: EL-S-LED-VIVARIUM-TW**

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

ENERGY DATA - COLOR LED

CHANNEL-FGRS-RED LED TROFFER								
ENCLOSURE SIZE	LED SELECTION	630nm (RED)			660nm (RED)			MAX AMBIENT TEMP³
		LUMENS	WATTS	EFFICACY	LUMENS	WATTS	EFFICACY	
1X4	1RLED	1,122	27	42	1,167	44.5	26.2	40°C (104°F)
1X4	2RLED	2,068	53	39	2,320	88.9	26.1	40°C (104°F)
2X2	1RLED	549	14	39	567	22.2	25.5	40°C (104°F)
2X2	2RLED	1,011	27	37	1,127	44.5	25.4	40°C (104°F)
2X2	3RLED	1,560	41	38	1,695	66.7	25.4	40°C (104°F)
2X2	4RLED	2,022	53	38	2,254	88.9	25.4	40°C (104°F)
2X4	1RLED	1,247	27	46	1,281	44.5	28.8	40°C (104°F)
2X4	2RLED	2,298	53	43	2,547	89	28.6	40°C (104°F)
2X4	3RLED	3,545	80	44	3,828	133.5	28.7	40°C (104°F)
2X4	4RLED	4,596	106	43	5,095	178	28.6	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

Relative Distribution | **Red 630 LEDs**

Relative Distribution | **Red 660 LEDs**