KURTZON
SPECIFICATION GRADE LIGHTING
ILLUMINATING YOUR WORLD

PROJECT

DATE   TYPE

NOTES

REV: 11/26/2019

Cleanroom **TL Amber Troffers - Tunable White**

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

- **Rated IP65**

- **Suitable for ISO 3-9 Cleanspaces**

- **Suitable for 209E class 100-100,000 Cleanspaces**

- **ETL listed for Wet Locations**

- **One piece Inset Doorframe**

- **Robotically seam welded housing**

- **Tunable White 2700k - 6500k CCT**

- **Available With DALI Or 0-10V Controls**

- **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**

2700K TW 6500K

ORDERING GUIDE

Series	Installation Type	Material	Size	Amber LED	White LED	CCT (White LED)	Control	Voltage	Options
TL									

Series	Installation Type	Material	Size	Amber LED	White LED	CCT (White LED)	Control:	Voltage	Options
TL	**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 **MAX 3 Arrays Total** *(2 Max Per Color)*	1/YLED590 2/YLED590	1/LEDTW 2/LEDTW	**827/865:** 80 CRI; 2700k-6500k CCT	**0-10v Analog Dimming** **10V-CON:** Continuous CCT 0-10v dimming **10V-WD:** Warm Dim 0-10V dimming	**UNV**	**FC:** Fuse & Holder (One Supplied Per Circuit) **2/EDY:** Two Circuits of Yellow Light **EM10:** 10W Integral LED EM (Specify Input Voltage) **EM20:** 20W External LED EM (Specify Input Voltage) **WHT:** White Finished Door & HSG **LEX:** .125" Prismatic Polycarbonate **A19:** .156" Prismatic P19 Pattern Clear Acrylic **HIA:** .140" High Impact P12 Pattern Clear Acrylic **TG:** .156" Prismatic Tempered Glass **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 (1 Per Circuit) **WHIP:** Must Specify Length and Wire Qty **.125 FROST:** 1/8" Frost Acrylic Lens **OCCMW:** Internal microwave OCC Sensor
			2x2: 2' x 2' Housing **MAX 4 Arrays Total** OR **2x4:** 2' x 4' Housing **MAX 4 Arrays Total**	1/YLED590 2/YLED590 3/YLED590 4/YLED590	1/LEDTW 2/LEDTW 3/LEDTW				
	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 **MAX 2 Arrays Total**	1/YLED590 2/YLED590	1/LEDTW 2/LEDTW				
			2x2: 2' x 2' Housing **MAX 4 Arrays Total** OR **2x4:** 2' x 4' Housing **MAX 4 Arrays Total**	1/YLED590 2/YLED590 3/YLED590 4/YLED590	1/LEDTW 2/LEDTW 3/LEDTW				

Cleanroom **TL Amber Troffers - Tunable White**

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 1008 Cold Rolled Steel.

DOOR FRAME: One piece inset door frame with seam welds regressing into housing to allowing the NSF approved microcellular 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, 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.

TUNABLE WHITE LEDS: Commercially available minimum 80 CRI 2 channel LED modules 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 . See LED options to specify a custom range of Color temperatures. Consult factory for lumen output configurations not listed on spec sheets.

AMBER LEDS: Amber LED's provide a "True amber" 590nm narrow spectrum for wavelength sensitive applications. Amber chips are not phosphor converted LEDs so there is no risk of white light leaking through deteriorated phosphor over time. Amber LEDs are switched independent of white LEDs.

TUNABLE WHITE DRIVERS: Dual Channel Programmable Drivers make color tuning simple. Available in 0-10v Analog Dimming or DALI digital dimming. The 0-10v continuous dimming method uses two sets of dimming wires. 1 set of dimming wires controls the luminous flux while maintaining consistent color and the other set controls the color in a linear dimming curve. 0-10v is also available as warm dimming that uses 1 set of dimming wires that adjust both intensity and color simultaneously. Alternately control is available with DALI Digital Dimming as well.

AMBER DRIVERS: Standard Universal Voltage Class 2 drivers are 0-10v Dimmable to 1% . 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. Amber LED's come with their own driver so they can be switched separately from the white LEDs.

REFLECTOR: Die formed metal with high reflectance white polyester powder coat finish. Typical reflectivity 92%.
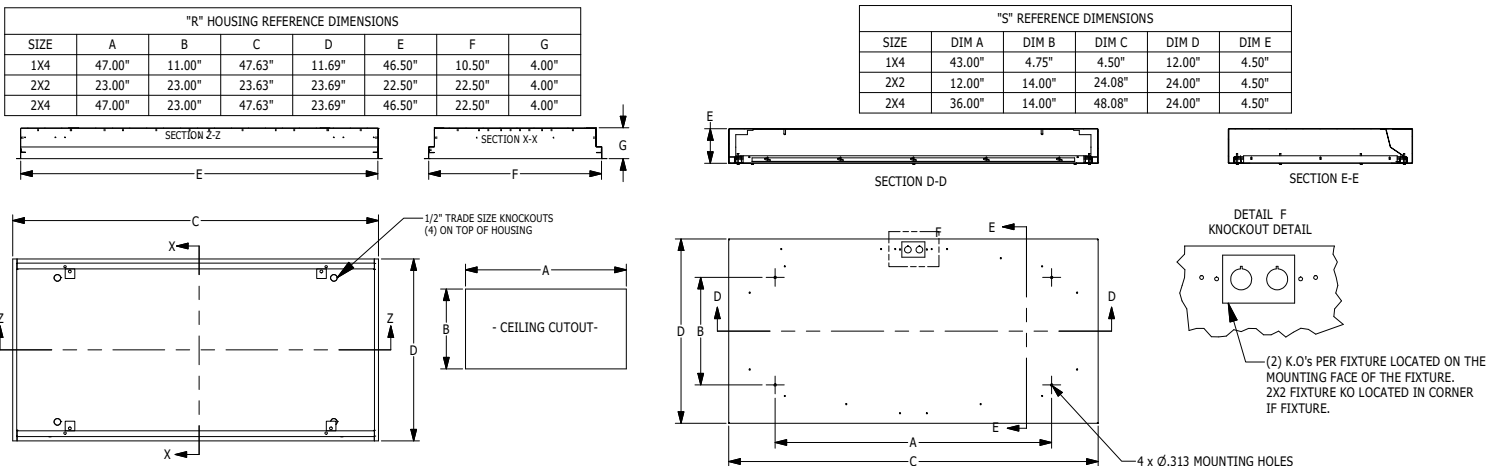
INSTALL RECESSED: One fixture suitable for Grid and Flanged installation. Accommodates 1" and 1.5" T-Bar Grid (Consult factory for 2" T-Bar Grid compatibility). Four adjustable toggle arms with holes for seismic support wire attachment. Supply entry via 1/2" trade size flattened knockouts.

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 and surface housings are satin polished unless option WHT is chosen.

LISTINGS: IP65 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 100 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

"R" HOUSING REFERENCE DIMENSIONS						
SIZE	A	B	C	D	E	F	G
1X4	47.00"	11.00"	47.63"	11.69"	46.50"	10.50"	4.00"
2X2	23.00"	23.00"	23.63"	23.69"	22.50"	22.50"	4.00"
2X4	47.00"	23.00"	47.63"	23.69"	46.50"	22.50"	4.00"

"S" REFERENCE DIMENSIONS				
SIZE	DIM A	DIM B	DIM C	DIM D	DIM E
1X4	43.00"	4.75"	4.50"	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 Z-Z

SECTION X-X

1/2" TRADE SIZE KNOCKOUTS (4) ON TOP OF HOUSING

- CEILING CUTOUT-

SECTION D-D

SECTION E-E

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.

4 x Ø.313 MOUNTING HOLES

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Cleanroom **TL Amber Troffers - Tunable White**

ENERGY DATA - WHITE LED

INSET-FGRS-AMBER LED TROFFER						
ENCLOSURE SIZE	LED SELECTION	Tunable White 80 CRI (4000K)			MAX AMBIENT TEMP³	CCT RANGE
		LUMENS	WATTS	EFFICACY		
1x4	1LEDTW	3,350	34	99	40°C (104°F)	2700k - 6500k
1X4	2LEDTW	6,750	68	99	40°C (104°F)	2700k - 6500k
2x2	1LEDTW	1,750	17	103	40°C (104°F)	2700k - 6500k
2x2	2LEDTW	3,550	35	101	40°C (104°F)	2700k - 6500k
2x2	3LEDTW	5,300	53	100	40°C (104°F)	2700k - 6500k
2x2	4LEDTW	7,100	68	104	40°C (104°F)	2700k - 6500k
2X4	1LEDTW	3800	35	109	40°C (104°F)	2700k - 6500k
2X4	2LEDTW	7,650	68	113	40°C (104°F)	2700k - 6500k
2X4	3LEDTW	11,500	103	112	40°C (104°F)	2700k - 6500k
2X4	4LEDTW	15,350	135	114	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 CONFIGU

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 SE

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

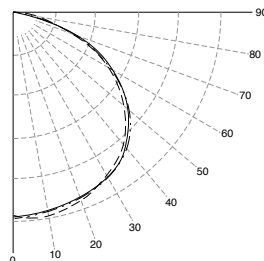6 EM10 DELIVERED LUMENS = (DELIVERED LUMENS/LUMINAIRE WATTS)*10

PHOTOMETRICS

TL-R-2X2-4/YLED-590-UNV

Report No: 20613
Total Lumens: 4,263
Wattage: 85.53
Efficacy: 49.8 (Lumens Per Watt)
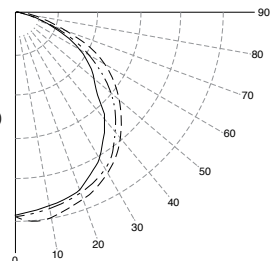Fixture Size: 2'x2'
Key:

- - - - 0
- - - 45
——— 90
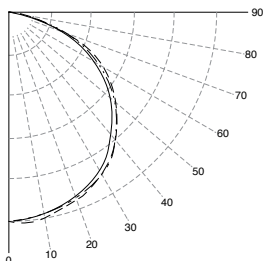
TL-R-2X4-4/YLED-590-UNV

Report No: 20614
Total Lumens: 9,558
Wattage: 172.63
Efficacy: 55.4 (Lumens Per Watt)
Fixture Size: 2'x4'
Key:

- - - - 0
- - - 45
——— 90

TL-R-1X4-2/YLED-590-UNV

Report No: 20615
Total Lumens: 3,770
Wattage: 85.94
Efficacy: 43.9 (Lumens Per Watt)
Fixture Size: 1'x4'
Key:

- - - - 0
- - - 45
——— 90

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ENERGY DATA - COLOR LED

INSET-FGRS-AMBER LED TROFFER					
ENCLOSURE SIZE	LED SELECTION	590nm (Amber)			MAX AMBIENT TEMP³
		LUMENS	WATTS	EFFICACY	
1X4	1YLED	1,885	43	44	40°C (104°F)
1X4	2YLED	**3,770**	86	44	40°C (104°F)
2X2	1YLED	1,066	22	48	40°C (104°F)
2X2	2YLED	2,132	43	50	40°C (104°F)
2X2	3YLED	3,197	65	49	40°C (104°F)
2X2	4YLED	**4,263**	86	50	40°C (104°F)
2X4	1YLED	2,390	44	54	40°C (104°F)
2X4	2YLED	4,779	87	55	40°C (104°F)
2X4	3YLED	7,169	130	55	40°C (104°F)
2X4	4YLED	**9,558**	173	55	40°C (104°F)

* View previous page for energy data notes.

COLOR LED RELATIVE DISTRIBUTION

Relative Distribution | **Amber LEDs**

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