

# Cleanroom TL Blue Troffers

1x4, 2x2 and 2x4 Blue/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**
- **Narrow Spectrum 475nm or 450nm Blue LEDs**
- **White / Blue separately controlled circuits**
- **0-10v 1% Dimming Standard for most configurations**
- **Recessed Housing suitable for Tbar Grid AND Hardlid Installations**
- **Made in the USA by a Family Owned US Corporation**



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.

## ORDERING GUIDE

Series	Installation Type	Material	Size	Blue LED	Wavelength (nm)	White LED	CCT (White LED)	Voltage	Options
<b>TL</b>									
Series	R: Recessed (Suitable for Flange & Grid Installations)	3: White 430 SS Hsg. & Polished 304 SS Door	1x4: 1' x 4' Housing	1/BLED	475: 475nm	1/LEDR	83 CRI:	120V	FC: Fuse & Holder (One Supplied Per Circuit)
		4: White AL Hsg. & Polished 304 SS Door	MAX 3 Arrays Total	2/BLED	450: 450nm	1/LEDH	830 = 3000K CCT	277V	2/EDW: Two Circuits of White Light
		5: White AL Hsg. & White AL Door	(2 Max Per Color)			1/LEDHF	835 = 3500K CCT	UNV	2/EDB: Two Circuits of Blue Light
	7: White AL Hsg. & White CRS Door					840 = 4000K CCT	347V*	EDL: -40F Electronic Driver	
	2x2: 2' x 2' Housing	1/BLED	475: 475nm	1/LEDR	850 = 5000K CCT			EM10: 10W Integral LED EM (Specify Input Voltage)	
	2x4: 2' x 4' Housing	2/BLED	450: 450nm	1/LEDH				EM20: 20W Remote LED EM (Specify Input Voltage)	
			OR				90+ CRI:	WHT: White Finished Door & HSG	
			2x4: 2' x 4' Housing	3/BLED		2/LEDHF	935 = 3500K CCT	LEX: .125" Prismatic Polycarbonate	
			MAX 4 Arrays Total	4/BLED		2/LEDH	940 = 4000K CCT	A19: .156" Prismatic P19 Pattern Clear Acrylic	
						2/LEDHF	950 = 5000K CCT	HIA: .140" High Impact P12 Pattern Clear Acrylic	
						3/LEDR		TG: .156" Prismatic Tempered Glass	
						3/LEDH		SW: Wet Location Hub Supplied (not installed)	
						3/LEDHF		PxL: Programmed to User Specified Lumen Value.	
S: Surface	1: White CRS Hsg. & White CRS Door	2: White CRS Hsg. & Polished 304 SS Door	1x4: 1' x 4' Housing	1/BLED	475: 475nm	1/LEDR			PxW: Programmed to User Specified Wattage Value.
		3: Polished 304 SS Hsg. & Polished 304 SS Door	MAX 2 Arrays Total	2/BLED	450: 450nm	1/LEDH			10KV: 10KV Parallel Surge Protection (One Supplied Per Circuit)
		4: White AL Hsg. & Polished 304 SS Door				1/LEDHF			GTD: Generator Transfer Device
	5: White AL Hsg. & White AL Door	2x2: 2' x 2' Housing	1/BLED	475: 475nm	1/LEDR			WHIP: Must Specify Length and Wire Qty	
	6: White CRS Hsg. & White AL Door	MAX 4 Arrays Total	2/BLED	450: 450nm	1/LEDH			.125 FROST: 1/8" Frost Acrylic Lens	
	7: White AL Hsg. & White CRS Door	OR	3/BLED		1/LEDHF			HF1: 1% Dimming for 2x2 with LEDHF	
	2x4: 2' x 4' Housing	4/BLED		2/LEDH			OCCMW: Internal microwave OCC Sensor		
	MAX 4 Arrays Total			2/LEDHF					
				3/LEDR					
				3/LEDH					
				3/LEDHF					

# Cleanroom TL Blue Troffers

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

## 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.

**LENS:** Impact resistant .135" thick virgin acrylic with P12 prismatic pattern inverted. Sealed to door with NSF listed RTV silicone. See "Options" for other choices.

**LEDS:** Fixture available with Blue only or Blue & White LED's, each color will be supplied with its own driver for dual switching. Blue LED's provide a narrow 475nm or 450nm spectrum. White high efficiency LEDs are commercially available & in a wide variety of CRI and CCT. 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% for most LED configurations. 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%.

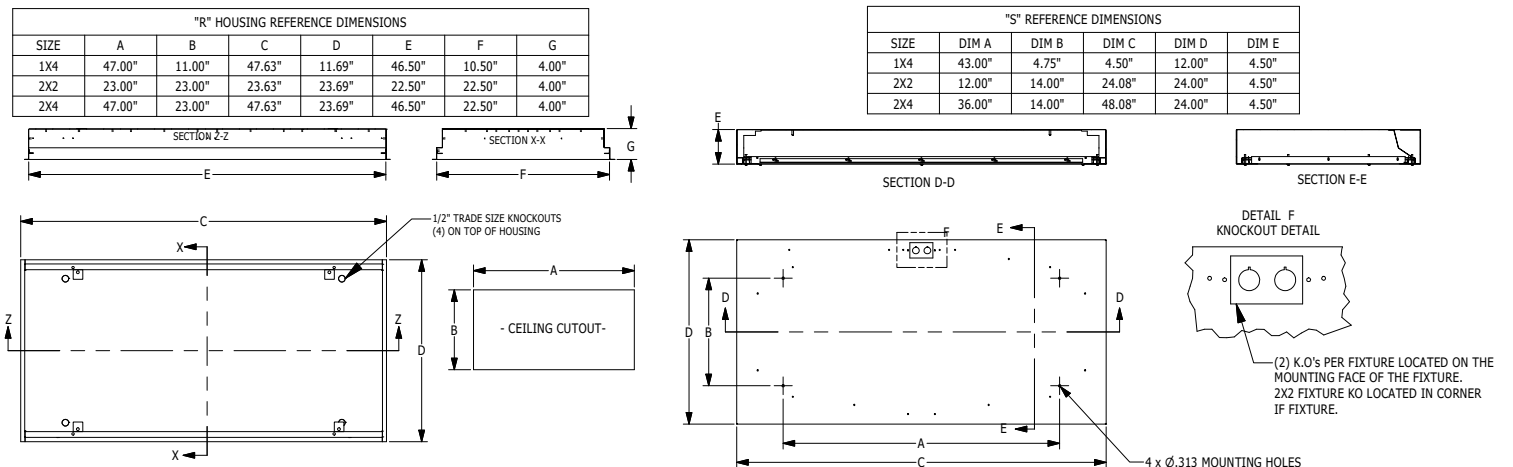
**INSTALL RECESSED:** One fixture suitable for Grid and Flanged installation. Accommodates 1" and 1.5" T-Bar Grid (Consult factory for 2" T-Bar Grid compatibility). Four adjustable toggle arms with holes for seismic support wire attachment. Supply entry via 1/2" trade size flattened knockouts.

**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



# Cleanroom TL Blue Troffers

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

## ENERGY DATA - WHITE LED

INSET-FGRS-BLUE LED TROFFER											
ENCLOSURE SIZE	LED SELECTION	DIMMING	83 CRI			90+ CRI			AMBIENT TEMP RATING		
			LUMENS	WATTS	EFFICACY	LUMENS	WATTS	EFFICACY	MINIMUM	MAXIMUM <sup>3</sup>	
1x4	1LEDR	0-10V 1%	3,970	37	106	2,800	34	82	-20°C (-4°F)	40°C (104°F)	
1x4	1LEDH	0-10V 1%	6,070	51	119	6,100	74	82	-20°C (-4°F)	40°C (104°F)	
1x4	1LEDHF	0-10V 1%	7,700	83	93	7,227	91	79	-20°C (-4°F)	40°C (104°F)	
2x2	1LEDR	0-10V 1%	2,090	19	110	1,450	17	85	-20°C (-4°F)	40°C (104°F)	
2x2	1LEDH	0-10V 1%	2,770	27	103	2,750	37	74	-20°C (-4°F)	40°C (104°F)	
2x2	1LEDHF	<b>0-10V 5%</b>	4,500	43	105	3,691	46	80	-20°C (-4°F)	40°C (104°F)	
2x2	2LEDR	0-10V 1%	4,190	37.4	112	2,832	32	89	-20°C (-4°F)	40°C (104°F)	
2x2	2LEDH	0-10V 1%	5,560	51.2	109	5,414	73	74	-20°C (-4°F)	40°C (104°F)	
2x2	2LEDHF	<b>0-10V 5%</b>	9,000	83	108	7,383	92	80	-20°C (-4°F)	40°C (104°F)	
2x2	3LEDR	0-10V 1%	6,290	55.2	114	4,313	48	90	-20°C (-4°F)	40°C (104°F)	
2x2	3LEDH	0-10V 1%	8,450	76.9	110	8,604	110	78	-20°C (-4°F)	40°C (104°F)	
2x2	3LEDHF	<b>0-10V 5%</b>	13,500	129	105	11,074	138	80	-20°C (-4°F)	40°C (104°F)	
2x4	1LEDR	0-10V 1%	4,520	38	119	3,200	32	100	-20°C (-4°F)	40°C (104°F)	
2x4	1LEDH	0-10V 1%	7,080	51	138	6,400	75	85	-20°C (-4°F)	40°C (104°F)	
2x4	1LEDHF	0-10V 1%	8,500	75	113	8,836	93	95	-20°C (-4°F)	40°C (104°F)	
2x4	2LEDR	0-10V 1%	9,040	74	122	6,429	62	104	-20°C (-4°F)	40°C (104°F)	
2x4	2LEDH	0-10V 1%	14,450	103	140	12,835	148	87	-20°C (-4°F)	40°C (104°F)	
2x4	2LEDHF	0-10V 1%	17,000	140	121	17,672	187	95	-20°C (-4°F)	40°C (104°F)	
2x4	3LEDR	0-10V 1%	13,560	111	122	9,646	94	103	-20°C (-4°F)	40°C (104°F)	
2x4	3LEDH	0-10V 1%	21,220	153	139	19,254	221	87	-20°C (-4°F)	40°C (104°F)	
2x4	3LEDHF	0-10V 1%	25,500	210	121	26,508	280	95	-20°C (-4°F)	40°C (104°F)	

<sup>1</sup> DELIVERED LUMEN DATA IS EXTRAPOLATED FROM MEASURED DATA @25C WITH NO EXTRA OPTIONS. VARIANCES WILL OCCUR WHEN OTHER SELECTIONS ARE MADE

<sup>2</sup> WATTAGE IS MEASURED WITH LED 840 SELECTION @ 120vAC AND Tambient = 25C. WATTAGES WILL VARY AND INCREASE WHEN ALTERNATE OPTIONS ARE SELECTED

<sup>3</sup> MAX AMBIENT TEMP RATING, NON-IC INSTALLATION. TEMP RATING IS WITH NO OTHER OPTIONS SELECTED. WHITE LEDS ONLY SUITABLE FOR 40C AMBIENT

# Cleanroom TL Blue Troffers

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

## ENERGY DATA - COLOR LED

INSET-FGRS-BLUE LED TROFFER							
ENCLOSURE SIZE	LED SELECTION	DIMMING	475nm (BLUE)			AMBIENT TEMP RATING	
			LUMENS	WATTS	EFFICACY	MINIMUM	MAXIMUM <sup>3</sup>
1X4	1BLED	0-10V 1%	1,885	43	44	-20°C (-4°F)	40°C (104°F)
1X4	2BLED	0-10V 1%	3,770	86	44	-20°C (-4°F)	40°C (104°F)
2X2	1BLED	0-10V 1%	1,066	22	48	-20°C (-4°F)	40°C (104°F)
2X2	2BLED	0-10V 1%	2,132	43	50	-20°C (-4°F)	40°C (104°F)
2X2	3BLED	0-10V 1%	3,197	65	49	-20°C (-4°F)	40°C (104°F)
2X2	4BLED	0-10V 1%	4,263	86	50	-20°C (-4°F)	40°C (104°F)
2X4	1BLED	0-10V 1%	2,390	44	54	-20°C (-4°F)	40°C (104°F)
2X4	2BLED	0-10V 1%	4,779	87	55	-20°C (-4°F)	40°C (104°F)
2X4	3BLED	0-10V 1%	7,169	130	55	-20°C (-4°F)	40°C (104°F)
2X4	4BLED	0-10V 1%	9,558	173	55	-20°C (-4°F)	40°C (104°F)

\* View previous page for energy data notes.

**NOTE:** 450nm Royal Blue light is measured in radiometric power since the wavelengths are so close to the human non-visible light spectrums. Each module of 450nm LEDs generates ≈ 10,000 mW of radiometric power.