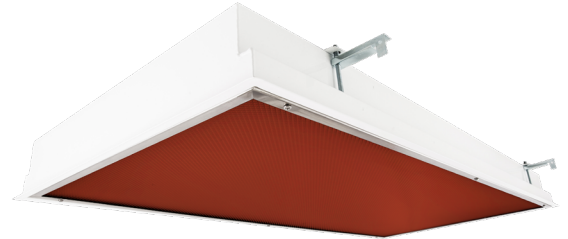


Cleanroom EL Vivarium Troffers

1x4, 2x2 and 2x4 Red/White LED 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
- 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 Red LED Wavelength (nm) White LED CCT (White LED) Voltage Options

EL

Series	Installation Type	Material	Size	Red LED	Wavelength (nm)	White LED	CCT (White LED)	Voltage	Options
EL	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	1x4: 1' x 4' Housing	1/RLED	630: 630nm	1/LEDR	83 CRI:	120V	FC: Fuse & Holder (One Supplied Per Circuit) 2/EDW: Two Circuits of White Light 2/EDR: Two Circuits of Red Light EDL: -40F Electronic Driver EM10: 10W Integral LED EM (Specify Input Voltage) EM20: 20W Remote LED EM (Specify Input Voltage) WHT: White Finished Door & HSG 935 = 3500K CCT 940 = 4000K CCT 950 = 5000K CCT 90+ CRI: 935 = 3500K CCT 940 = 4000K CCT 950 = 5000K CCT LEK: .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. 10KW: 10KV Parallel Surge Protection (One Supplied Per Circuit) GTD: Generator Transfer Device WHIP: Must Specify Length and Wire Qty .125 FROST: 1/8" Frost Acrylic Lens HF1: 1% Dimming for 2x2 with LEDHF OCCMW: Internal microwave OCC Sensor
			MAX 3 Arrays Total (2 Max Per Color)	2/RLED	660: 660nm	1/LEDH	835 = 3500K CCT	277V	
			2x2: 2' x 2' Housing	1/RLED	630: 630nm	1/LEDR	840 = 4000K CCT	347V*	
			MAX 4 Arrays Total	2/RLED	660: 660nm	1/LEDH	850 = 5000K CCT		
			OR	3/RLED	735: 735nm	1/LEDHF			
			2x4: 2' x 4' Housing	4/RLED		2/LEDR			
MAX 4 Arrays Total			2/LEDH						
			2/LEDHF						
			3/LEDR						
			3/LEDH						
			3/LEDHF						
EL	S: Surface	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	1x4: 1' x 4' Housing	1/RLED	630: 630nm	1/LEDR	83 CRI:	120V	FC: Fuse & Holder (One Supplied Per Circuit) 2/EDW: Two Circuits of White Light 2/EDR: Two Circuits of Red Light EDL: -40F Electronic Driver EM10: 10W Integral LED EM (Specify Input Voltage) EM20: 20W Remote LED EM (Specify Input Voltage) WHT: White Finished Door & HSG 935 = 3500K CCT 940 = 4000K CCT 950 = 5000K CCT 90+ CRI: 935 = 3500K CCT 940 = 4000K CCT 950 = 5000K CCT LEK: .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. 10KW: 10KV Parallel Surge Protection (One Supplied Per Circuit) GTD: Generator Transfer Device WHIP: Must Specify Length and Wire Qty .125 FROST: 1/8" Frost Acrylic Lens HF1: 1% Dimming for 2x2 with LEDHF OCCMW: Internal microwave OCC Sensor
			MAX 2 Arrays Total	2/RLED	660: 660nm	1/LEDH	835 = 3500K CCT	277V	
			2x2: 2' x 2' Housing	1/RLED	630: 630nm	1/LEDR	840 = 4000K CCT	347V*	
			MAX 4 Arrays Total	2/RLED	660: 660nm	1/LEDH	850 = 5000K CCT		
			OR	3/RLED	735: 735nm	1/LEDHF			
			2x4: 2' x 4' Housing	4/RLED		2/LEDR			
MAX 4 Arrays Total			2/LEDH						
			2/LEDHF						
			3/LEDR						
			3/LEDH						
			3/LEDHF						

Cleanroom EL Vivarium Troffers

1x4, 2x2 and 2x4 Red/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 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.

LENS: Impact resistant .135" thick virgin acrylic with P12 prismatic pattern inverted. See "Options" for other choices.

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 and 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%.

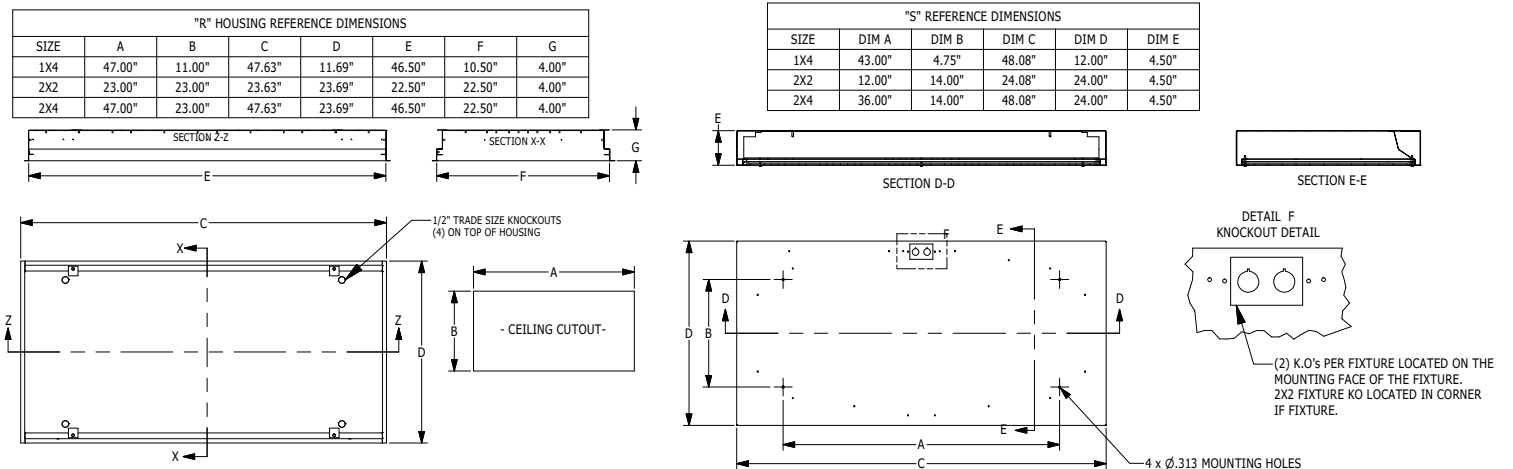
INSTALL RECESSED: One fixture suitable for Grid and Flanged installation. Accommodates 1" and 1.5" T-Bar Grid (Consult factory for 2" T-Bar Grid compatibility). Four adjustable toggle arms with holes for seismic support wire attachment. Supply entry via 1/2" trade size flattened knockouts. Non-IC installation

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 housings. Stainless steel doorframes are satin polished unless option WHT is chosen.

LISTINGS: IP55 rated for dust and water ingress. ETL listed per UL_1598 for wet locations. Chicago Plenum Rated. Certified ISO-14644-1 for class 5 through class 9 cleanspaces. Certified Fed Std 209E for Class 100 through Class 100,000 cleanspaces. Optionally NSF2 Listed for Non-Food Zones. Drivers and LEDs are covered by a 5 year warranty, the remaining fixture is covered by a 10 year warranty.

PRODUCT DRAWINGS



Cleanroom EL Vivarium Troffers

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

ENERGY DATA - WHITE LED

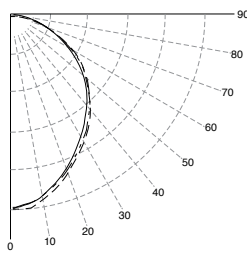
CHANNEL-FGRS-RED LED TROFFER										
ENCLOSURE SIZE	LED SELECTION	DIMMING	83 CRI			90+ CRI			AMBIENT TEMP RATING	
			LUMENS	WATTS	EFFICACY	LUMENS	WATTS	EFFICACY	MINIMUM	MAXIMUM ³
1x4	1LEDR	0-10V 1%	4,673	37	125	2,880	34	85	-20°C (-4°F)	40°C (104°F)
1x4	1LEDH	0-10V 1%	6,669	51	130	6,200	74	84	-20°C (-4°F)	40°C (104°F)
1x4	1LEDHF	0-10V 1%	7,900	83	95	8,030	91	88	-20°C (-4°F)	40°C (104°F)
2x2	1LEDR	0-10V 1%	2,300	19	121	1450	17	85	-20°C (-4°F)	40°C (104°F)
2x2	1LEDH	0-10V 1%	3,270	27	121	2800	37	76	-20°C (-4°F)	40°C (104°F)
2x2	1LEDHF	0-10V 5%	5,200	43	121	4,190	46	91	-20°C (-4°F)	40°C (104°F)
2x2	2LEDR	0-10V 1%	4,684	37.4	125	2953	32	92	-20°C (-4°F)	40°C (104°F)
2x2	2LEDH	0-10V 1%	6,551	51.2	128	5645	73	77	-20°C (-4°F)	40°C (104°F)
2x2	2LEDHF	0-10V 5%	10,400	86	121	8,380	92	91	-20°C (-4°F)	40°C (104°F)
2x2	3LEDR	0-10V 1%	6,985	55.2	127	4498	48	94	-20°C (-4°F)	40°C (104°F)
2x2	3LEDH	0-10V 1%	9,951	76.9	129	8972	110	82	-20°C (-4°F)	40°C (104°F)
2x2	3LEDHF	0-10V 5%	15,600	129	121	12,570	138	91	-20°C (-4°F)	40°C (104°F)
2x4	1LEDR	0-10V 1%	4,700	38	124	3200	32	100	-20°C (-4°F)	40°C (104°F)
2x4	1LEDH	0-10V 1%	7,000	51	137	6,500	75	87	-20°C (-4°F)	40°C (104°F)
2x4	1LEDHF	0-10V 1%	8,800	70	126	8,953	93	96	-20°C (-4°F)	40°C (104°F)
2x4	2LEDR	0-10V 1%	9,625	74	130	6,567	62	106	-20°C (-4°F)	40°C (104°F)
2x4	2LEDH	0-10V 1%	14,271	103	138	13,028	148	88	-20°C (-4°F)	40°C (104°F)
2x4	2LEDHF	0-10V 1%	17,600	140	126	17,905	187	96	-20°C (-4°F)	40°C (104°F)
2x4	3LEDR	0-10V 1%	14,380	111	129	9,856	94	105	-20°C (-4°F)	40°C (104°F)
2x4	3LEDH	0-10V 1%	20,949	153	137	19,667	221	89	-20°C (-4°F)	40°C (104°F)
2x4	3LEDHF	0-10V 1%	26,400	210	126	26,858	280	96	-20°C (-4°F)	40°C (104°F)

¹ DELIVERED LUMEN DATA IS EXTRAPOLATED FROM MEASURED DATA @25C WITH NO EXTRA OPTIONS. VARIANCES WILL OCCUR WHEN OTHER SELECTIONS ARE MADE
² WATTAGE IS MEASURED WITH LED 840 SELECTION @ 120vAC And Tambient = 25C. WATTAGES WILL VARY AND INCREASE WHEN ALTERNATE OPTIONS ARE SELECTED
³ MAX AMBIENT TEMP RATING, NON-IC INSTALLATON. TEMP RATING IS WITH NO OTHER OPTIONS SELECTED. WHITE LEDS ONLY SUITABLE FOR 40C AMBIENT

PHOTOMETRICS

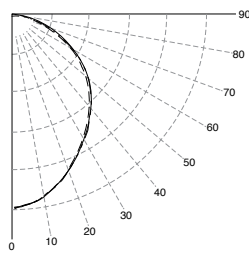
EL-R-5-1X4-1/LEDH-840-UNV

Report No: 20895
 Total Lumens: 6,669
 Wattage: 51.12
 Efficacy: 130.5 (Lumens Per Watt)
 Fixture Size: 1'x4'
 Key:
 --- 0
 - - - 45
 ——— 90



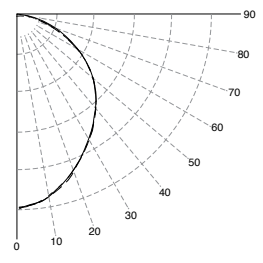
EL-R-5-2X2-3/LEDH-840-UNV

Report No: 20900
 Total Lumens: 9,951
 Wattage: 76.83
 Efficacy: 129.5 (Lumens Per Watt)
 Fixture Size: 2'x2'
 Key:
 --- 0
 - - - 45
 ——— 90



EL-R-5-2X4-3/LEDH-840-UNV

Report No: 20905
 Total Lumens: 20,949
 Wattage: 153.11
 Efficacy: 136.8 (Lumens Per Watt)
 Fixture Size: 2'x4'
 Key:
 --- 0
 - - - 45
 ——— 90



Cleanroom EL Vivarium Troffers

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

ENERGY DATA - COLOR LED

CHANNEL-FGRS-RED LED TROFFER										
ENCLOSURE SIZE	LED SELECTION	DIMMING	630nm (RED)			660nm (RED)			AMBIENT TEMP RATING	
			LUMENS	WATTS	EFFICACY	LUMENS	WATTS	EFFICACY	MINIMUM	MAXIMUM ³
1X4	1RLED	0-10V 1%	1,122	27	42	1,167	44.5	26.2	-20°C (-4°F)	40°C (104°F)
1X4	2RLED	0-10V 1%	2,068	53	39	2,320	88.9	26.1	-20°C (-4°F)	40°C (104°F)
2X2	1RLED	0-10V 1%	549	14	39	567	22.2	25.5	-20°C (-4°F)	40°C (104°F)
2X2	2RLED	0-10V 1%	1011	27	37	1,127	44.5	25.4	-20°C (-4°F)	40°C (104°F)
2X2	3RLED	0-10V 1%	1560	41	38	1,695	66.7	25.4	-20°C (-4°F)	40°C (104°F)
2X2	4RLED	0-10V 1%	2022	53	38	2,254	88.9	25.4	-20°C (-4°F)	40°C (104°F)
2X4	1RLED	0-10V 1%	1247	27	46	1,281	44.5	28.8	-20°C (-4°F)	40°C (104°F)
2X4	2RLED	0-10V 1%	2298	53	43	2,547	89	28.6	-20°C (-4°F)	40°C (104°F)
2X4	3RLED	0-10V 1%	3545	80	44	3,828	133.5	28.7	-20°C (-4°F)	40°C (104°F)
2X4	4RLED	0-10V 1%	4596	106	43	5,095	178	28.6	-20°C (-4°F)	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

