

# Cleanroom EL-R Vivarium Troffers

1x4, 2x2 and 2x4 Red/White LED Recessed 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
- BAA Compliant & Made in the USA by a Family Owned US Corporation



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## ORDERING GUIDE

Series	Material	Size	Row Qty.	Red LED Wavelength	Row Qty.	White LED	CCT/CRI	Voltage	Optics	Options
<b>EL-R</b>										
Series	Material	Size	Light Source				Voltage	Optics		
			Row Qty.	Red LED Wavelength	Row Qty.	White LED	CCT/CRI			
<b>EL-R</b>	3 White 430 SS Hsg. & Polished 304 SS Door	1x4 1' x 4' Housing 3 LED Rows Max	1	RLED630	1	LEDR	83 CRI:	120V	P12ACR	0.135" P12 Prismatic Impact Resistant Acrylic (Inverted)
			2	RLED660	2	LEDH	830 3000K	277V	LEX	0.125" P12 Prismatic Polycarbonate (Inverted)
				RLED735		LEDHF	835 3500K	UNV	A19	0.156" A19 Prismatic Impact Resistant Acrylic (Inverted)
	4 White AL Hsg. & Polished 304 SS Door	2x2 2' x 2' Housing	1		1		840 4000K	347V*	TG	0.156" Prismatic Tempered Glass (Inverted)
			2		2		850 5000K		HIA	0.140" P12 Prismatic High Impact Resistant Acrylic (Inverted)
	5 White AL Hsg. & White AL Door	2x4 2' x 4' Housing 5 LED Rows Max	3		3				FROST	0.125" Flat Diffusing Frost Acrylic
			4				90+ CRI:		2DBW	0.125" Flat Diffused Acrylic with Bi-Directional Batwing Distribution
							935 3500K		LBW	0.125" Flat Diffused Acrylic with Linear Batwing Distribution
							940 4000K		GH85	0.125" Flat Diffused Acrylic with Glare Suppression Distribution
							950 5000K		NOTE: P12ACR option is standard and will be provided when no other option is selected	

Ordering Notes, If Applicable

NOTE: Additionally available in 95+ CRI with Seoul Sun-Like LEDs. Consult factory for more information.

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
GG	1/8" Thick Grid Gasket (Provided Loose)

Note\*: Specify Value in Ordering Notes

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1x4, 2x2 and 2x4 Red/White LED Recessed 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 or 20Ga 430 Stainless 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. GG option provides a loose 1/8" thick adhesive backed gasket intended to adhere to the top face of a suspended grid ceiling for grid profiles that do not already have gasket on them.

**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 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% 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)

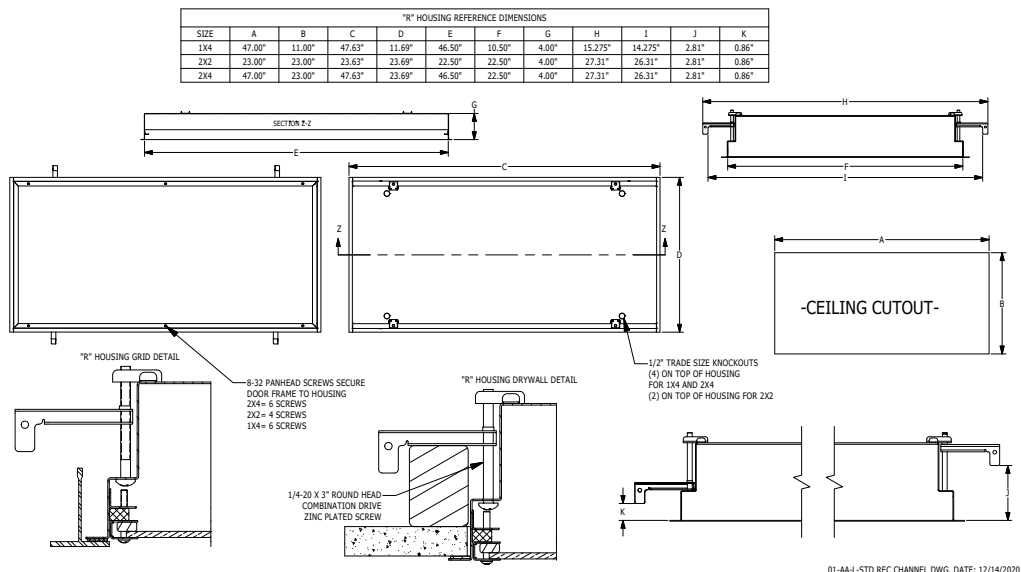
**REFLECTOR:** Die formed metal with high reflectance white polyester powder coat finish. Typical reflectivity 92%.

**INSTALLATION RECESSED:** Suitable for recessed Non-IC installation into covered ceilings. Fixtures are supplied with .875" flattened knockouts for supply entry. Recessed housings have (4) swing out toggle arms that are used to draw the fixture in to the ceiling for hard lid installation without the need for a yoke hanger. The toggle arm adjuster bolts are accessible from the room side of the luminaire and the actual toggles can be used as means of establishing a seismic support for lay in ceiling installations. Confirm ceiling compatibility with dimension drawings below.

**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 powdercoat 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. 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. 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 is Buy American Act (B.A.A.) compliant.

## PRODUCT DRAWINGS



# Cleanroom EL-R Vivarium Troffers

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

## ENERGY DATA - WHITE LED

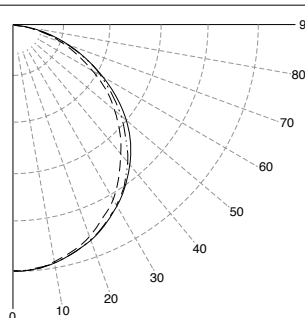
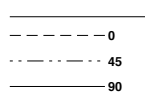
SURFACE & RECESSED CHANNEL 2 CIRCUIT TROFFER (APPROX* LUMENS DELIVERED)										
ENCLOSURE SIZE	LIGHT PACKAGE	80 CRI (3000K - 5000K)				90 CRI (3500K, 4000K)				STANDARD DIMMING
		LUMENS	WATTS <sup>2</sup>	EFFICACY <sup>3</sup>	MAX AMB TEMP	LUMENS	WATTS <sup>2</sup>	EFFICACY <sup>3</sup>	MAX AMB TEMP <sup>4</sup>	
1X4	1LEDR	3,215	29	111	45°C (113°F)	3,100	29	107	45°C (113°F)	0-10V 1%
1X4	1LEDH	6,220	55	113	40°C (104°F)	5,950	57	104	40°C (104°F)	0-10V 1%
1X4	2LEDR	<b>6,430</b>	<b>55</b>	<b>117</b>	45°C (113°F)	<b>6,199</b>	<b>56</b>	<b>111</b>	45°C (113°F)	0-10V 1%
1X4	1LEDHF	9,380	78	120	35°C (95°F)	8,050	92	87	35°C (95°F)	0-10V 1%
1X4	2LEDH	<b>12,446</b>	<b>109</b>	<b>114</b>	35°C (95°F)	<b>11,915</b>	<b>109</b>	<b>109</b>	35°C (95°F)	0-10V 1%
1X4	EM10	1110-1200	4	NA	40°C (104°F)	870-1110	4	NA	40°C (104°F)	NA
2X2	1LEDR	1,650	15	109	45°C (113°F)	1,650	15	109	45°C (113°F)	0-10V 1%
2X2	1LEDH	3,200	29	110	40°C (104°F)	3,060	29	106	40°C (104°F)	0-10V 1%
2X2	2LEDR	3,260	29	112	45°C (113°F)	3,270	29	113	45°C (113°F)	0-10V 1%
2X2	1LEDHF	4,690	39	120	40°C (104°F)	4,190	46	91	40°C (104°F)	0-10V 1%
2X2	3LEDR	<b>4,887</b>	<b>42</b>	<b>116</b>	45°C (113°F)	<b>4,902</b>	<b>42</b>	<b>117</b>	45°C (113°F)	0-10V 1%
2X2	2LEDH	6,410	55	117	40°C (104°F)	6,130	55	111	40°C (104°F)	0-10V 1%
2X2	2LEDHF	9,390	77	122	40°C (104°F)	8,380	92	91	35°C (95°F)	0-10V 1%
2X2	3LEDH	<b>9,608</b>	<b>80</b>	<b>120</b>	40°C (104°F)	<b>9,186</b>	<b>81</b>	<b>113</b>	35°C (95°F)	0-10V 1%
2X2	3LEDHF	14,080	115	122	35°C (95°F)	12,570	138	91	35°C (95°F)	0-10V 1%
2X2	EM10	1090-1220	4	NA	40°C (104°F)	910-1170	4	NA	40°C (104°F)	NA
2X4	1LEDR	3,470	29	120	45°C (113°F)	3,320	29	114	45°C (113°F)	0-10V 1%
2X4	1LEDH	6,820	57	120	40°C (104°F)	6,490	57	114	40°C (104°F)	0-10V 1%
2X4	2LEDR	6,942	55	126	45°C (113°F)	6,640	56	119	45°C (113°F)	0-10V 1%
2X4	1LEDHF	10,150	77	132	40°C (104°F)	8,950	93	96	40°C (104°F)	0-10V 1%
2X4	3LEDR	<b>10,412</b>	<b>83</b>	<b>125</b>	45°C (113°F)	<b>9,954</b>	<b>83</b>	<b>120</b>	45°C (113°F)	0-10V 1%
2X4	2LEDH	13,650	109	125	40°C (104°F)	12,990	109	119	40°C (104°F)	0-10V 1%
2X4	2LEDHF	20,300	153	133	40°C (104°F)	17,900	187	96	40°C (104°F)	0-10V 1%
2X4	3LEDH	<b>20,464</b>	<b>164</b>	<b>125</b>	40°C (104°F)	<b>19,482</b>	<b>164</b>	<b>119</b>	40°C (104°F)	0-10V 1%
2X4	3LEDHF	30,450	229	133	35°C (95°F)	26,850	280	96	35°C (95°F)	0-10V 1%
2X4	EM10	1200-1330	4	NA	40°C (104°F)	960-1200	4	NA	40°C (104°F)	NA

<sup>1</sup> DELIVERED LUMEN DATA IS EXTRAPOLATED FROM MEASURED DATA @ 25C WITH NO EXTRA OPTIONS. VARIANCES WILL OCCUR WHEN OPTIONS ARE CHOSEN  
<sup>2</sup> WATTAGE IS MEASURED WITH 4000K SELECTION @ 120vAC AND Tambient = 25C. WATTAGES MAY VARY WITH ALTERNATE CONFIGURATIONS  
<sup>3</sup> EFFICACY CALCULATED USING 4000K CCT DATA.  
<sup>4</sup> MAX AMBIENT TEMP RATING, NON-IC INSTALLATION. TEMP RATING MAY VARY WITH SPECIFIED DRIVERS OR ANY NON-STANDARD SELECTION

## PHOTOMETRICS

### P12 PRISMATIC

Key:



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

## ENERGY DATA - COLOR LED

SURFACE & RECESSED CHANNEL - RED LED TROFFER										
ENCLOSURE SIZE	LED SELECTION	DIMMING	630nm (RED)			660nm (RED)			AMBIENT TEMP RATING	
			LUMENS	WATTS	EFFICACY	LUMENS	WATTS	EFFICACY	MINIMUM	MAXIMUM <sup>2</sup>
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

