

Cleanroom TL-R Green Troffers

1x2, 1x4, 2x2 and 2x4 Green/White LED Recessed 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 540nm Green LEDs**
- **White / Green separately controlled circuits**
- **0-10v 1% Dimming Standard**
- **Recessed Housing suitable for Tbar Grid AND Hardlid Installations**
- **B.A.A. & B.A.B.A Compliant & Made in the USA by a Family Owned US Corporation**



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ORDERING GUIDE

Series	Material	Size	Row Qty.	Green LED Wavelength	Row Qty.	White LED	CCT/CRI	Voltage	Optics	Options											
TL-R				GLED540																	
Series	Material	Size	Light Source					Voltage	Optics												
			Row Qty.	Green LED Wavelength	Row Qty.	White LED	CCT/CRI														
TL-R	3 White 430 SS Hsg. & Polished 304 SS Door	1x2 1' x 2' Housing	1	GLED540	1	LEDR	83 CRI:	120V	P12ACR	0.135" P12 Prismatic Impact Resistant Acrylic (Inverted)											
		1x4 1' x 4' Housing	2		2	LEDH	830 3000K	277V	LEX	0.125" P12 Prismatic Polycarbonate (Inverted)											
		3 LED Rows Max				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)												
		OR	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	3		3								90+ CRI:	FROST	0.125" Flat Diffusing Frost Acrylic						
		7 White AL Hsg. & White CRS Door	5 LED Rows Max		4												935 3500K	2DBW	0.125" Flat Diffused Acrylic with Bi-Directional Batwing Distribution		
	940 4000K																			LBW	0.125" Flat Diffused Acrylic with Linear Batwing Distribution
	NOTE: P12ACR option is standard and will be provided when no other option is selected																				
	Options																				
	SW Wet Location Hub Supplied (not installed)																				

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/EDG	Two Circuits of Green Light
2/EDW	Two Circuits of White Light
GG	1/8" Thick Grid Gasket (Provided Loose)
Note*: Specify Value in Ordering Notes Below	

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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: 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. 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 Green only or Green & White LED's, each color will be supplied with its own driver for dual switching. Green LED's provide a narrow 540nm 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% 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)

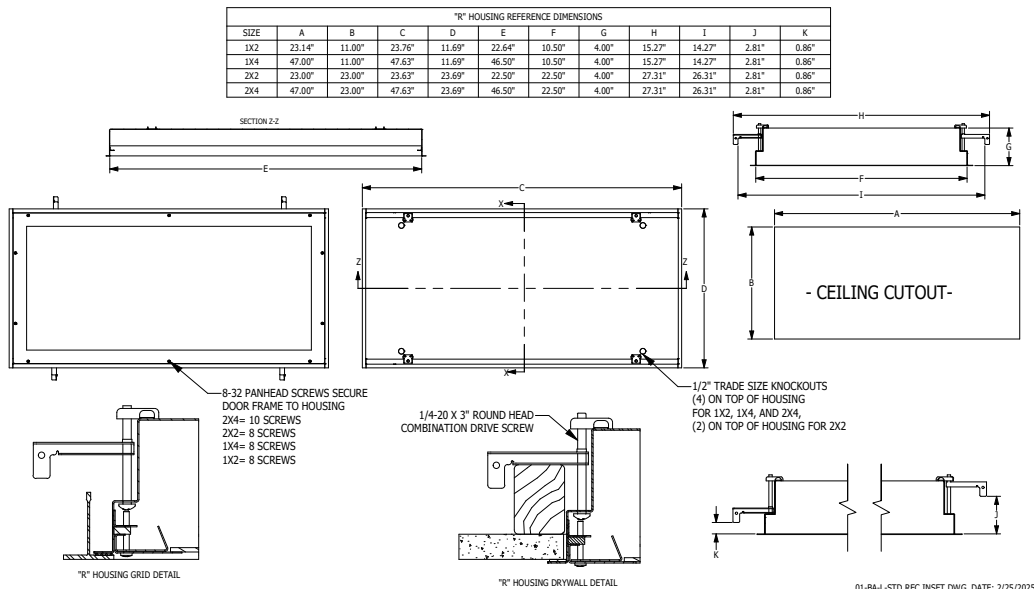
REFLECTOR: Die formed metal with high reflectance white polyester powder coat finish. Typical reflectivity 92%.

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: 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. 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



Cleanroom TL-R Green Troffers

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

ENERGY DATA - WHITE LED

SURFACE & RECESSED INSET 2 CIRCUIT TROFFER (APPROX ¹ LUMENS DELIVERED)										
ENCLOSURE SIZE	LIGHT PACKAGE	80 CRI (3000K - 5000K)				90 CRI (3500K, 4000K)				STANDARD DIMMING
		LUMENS	WATTS ²	EFFICACY ³	MAX AMB TEMP	LUMENS	WATTS ²	EFFICACY ³	MAX AMB TEMP ⁴	
1X2	1LEDR	1,456	15	97	45°C (113°F)	1,404	15	94	45°C (113°F)	0-10V 1%
1X2	1LEDH	2,821	29	97	40°C (104°F)	2,695	29	93	40°C (104°F)	0-10V 1%
1X2	2LEDR	2,912	29	100	45°C (113°F)	2,807	29	97	45°C (113°F)	0-10V 1%
1X2	1LEDHF	4,163	39	107	40°C (104°F)	3,469	46	75	40°C (104°F)	0-10V 1%
1X2	2LEDH	5,642	55	103	35°C (95°F)	5,389	55	98	35°C (95°F)	0-10V 1%
1X2	EM10	970-1070	4	NA	40°C (104°F)	750-980	4	NA	40°C (104°F)	NA
1X4	1LEDR	3,034	29	105	45°C (113°F)	2,924	29	101	45°C (113°F)	0-10V 1%
1X4	1LEDH	5,877	57	103	40°C (104°F)	5,614	57	98	40°C (104°F)	0-10V 1%
1X4	2LEDR	6,067	55	110	45°C (113°F)	5,848	56	105	45°C (113°F)	0-10V 1%
1X4	1LEDHF	8,673	77	113	40°C (104°F)	7,227	92	79	40°C (104°F)	0-10V 1%
1X4	2LEDH	11,754	109	108	35°C (95°F)	11,228	109	103	35°C (95°F)	0-10V 1%
1X4	EM10	1030-1130	4	NA	40°C (104°F)	790-1050	4	NA	40°C (104°F)	NA
2X2	1LEDR	1,493	15	100	45°C (113°F)	1,440	15	96	45°C (113°F)	0-10V 1%
2X2	1LEDH	2,937	29	101	40°C (104°F)	2,800	29	97	40°C (104°F)	0-10V 1%
2X2	2LEDR	2,990	29	103	45°C (113°F)	2,881	29	99	45°C (113°F)	0-10V 1%
2X2	1LEDHF	4,460	39	114	40°C (104°F)	3,691	46	80	40°C (104°F)	0-10V 1%
2X2	3LEDR	4,479	42	107	45°C (113°F)	4,321	42	103	45°C (113°F)	0-10V 1%
2X2	2LEDH	5,880	55	107	40°C (104°F)	5,601	55	102	40°C (104°F)	0-10V 1%
2X2	2LEDHF	8,920	77	116	40°C (104°F)	7,383	92	80	35°C (95°F)	0-10V 1%
2X2	3LEDH	8,813	80	110	40°C (104°F)	8,402	81	104	35°C (95°F)	0-10V 1%
2X2	3LEDHF	13,380	115	116	35°C (95°F)	11074	138	80	35°C (95°F)	0-10V 1%
2X2	EM10	1000-1160	4	NA	40°C (104°F)	800-1040	4	NA	40°C (104°F)	NA
2X4	1LEDR	3,359	29	116	45°C (113°F)	3,214	29	111	45°C (113°F)	0-10V 1%
2X4	1LEDH	6,630	57	116	40°C (104°F)	6,300	57	111	40°C (104°F)	0-10V 1%
2X4	2LEDR	6,718	55	122	45°C (113°F)	6,428	56	115	45°C (113°F)	0-10V 1%
2X4	1LEDHF	10,185	77	132	40°C (104°F)	8,836	93	95	40°C (104°F)	0-10V 1%
2X4	3LEDR	10,077	83	122	45°C (113°F)	9,642	83	116	45°C (113°F)	0-10V 1%
2X4	2LEDH	13,261	109	122	40°C (104°F)	12,601	109	116	40°C (104°F)	0-10V 1%
2X4	2LEDHF	20,370	153	133	40°C (104°F)	17,672	187	95	40°C (104°F)	0-10V 1%
2X4	3LEDH	19,892	165	121	40°C (104°F)	18,902	165	115	40°C (104°F)	0-10V 1%
2X4	3LEDHF	30,555	229	133	35°C (95°F)	26,508	280	95	35°C (95°F)	0-10V 1%
2X4	EM10	1180-1330	4	NA	40°C (104°F)	950-1190	4	NA	40°C (104°F)	NA

¹ DELIVERED LUMEN DATA IS EXTRAPOLATED FROM MEASURED DATA @25C WITH NO EXTRA OPTIONS. VARIANCES WILL OCCUR WHEN OPTIONS ARE CHOSEN

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 INSTALLATION. TEMP RATING MAY VARY WITH SPECIFIED DRIVERS OR ANY NON-STANDARD SELECTION

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

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ENERGY DATA - COLOR LED

SURFACE & RECESSED INSET GREEN LED TROFFER							
ENCLOSURE SIZE	LED SELECTION	DIMMING	540nm (GREEN)			AMBIENT TEMP RATING	
			LUMENS	WATTS	EFFICACY	MINIMUM	MAXIMUM ³
1X2	1GLED	0-10V 1%	1,128	20.0	56.4	-20°C (-4°F)	40°C (104°F)
1X2	2GLED	0-10V 1%	2,280	38.0	60.0	-20°C (-4°F)	40°C (104°F)
1X4	1GLED	0-10V 1%	2,350	38.0	61.8	-20°C (-4°F)	40°C (104°F)
1X4	2GLED	0-10V 1%	4,750	73.0	65.1	-20°C (-4°F)	40°C (104°F)
2X2	1GLED	0-10V 1%	1,250	20.0	62.5	-20°C (-4°F)	40°C (104°F)
2X2	2GLED	0-10V 1%	2,500	38.0	65.8	-20°C (-4°F)	40°C (104°F)
2X2	3GLED	0-10V 1%	3,750	56.0	67.0	-20°C (-4°F)	40°C (104°F)
2X2	4GLED	0-10V 1%	5,000	73.0	68.5	-20°C (-4°F)	40°C (104°F)
2X4	1GLED	0-10V 1%	2,700	38.0	71.1	-20°C (-4°F)	40°C (104°F)
2X4	2GLED	0-10V 1%	5,400	73.0	74.0	-20°C (-4°F)	40°C (104°F)
2X4	3GLED	0-10V 1%	8,100	111.0	73.0	-20°C (-4°F)	40°C (104°F)
2X4	4GLED	0-10V 1%	9,550	145.0	65.9	-20°C (-4°F)	40°C (104°F)

* View previous page for energy data notes.