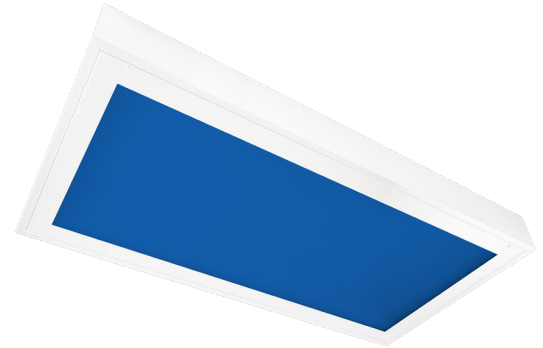


Cleanroom TL-S Blue Troffers

1x4, 2x2 and 2x4 Blue/White LED Surface 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**
- **BAA Compliant & 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 | Material | Size | Row Qty. | Blue LED Wavelength | Row Qty. | White LED | CCT/CRI | Voltage | Optics | Options |
|--|--|---|--------------|---------------------|-----------|---|-----------|--|--|---|
| TL-S | | | | | | | | | | |
| Series | Material | Size | Light Source | | | | Voltage | Optics | | |
| TL-S | 1 White CRS Hsg. & White CRS Door | 1x4 1' x 4' Housing 3 LED Rows Max | 1 | BLED450 | 1 | LEDR | 83 CRI: | 120V | P12ACR | 0.135" P12 Prismatic Impact Resistant Acrylic (Inverted) |
| | | | 2 | BLED475 | 2 | LEDH | 830 3000K | 277V | LEX | 0.125" P12 Prismatic Polycarbonate (Inverted) |
| | 2 White CRS Hsg. & Polished 304 SS Door | 2x2 2' x 2' Housing | 1 | | 1 | LEDHF | 835 3500K | UNV | A19 | 0.156" A19 Prismatic Impact Resistant Acrylic (Inverted) |
| | | | 2 | | 2 | | 840 4000K | 347V* | TG | 0.156" Prismatic Tempered Glass (Inverted) |
| | 3 Poshied 304 SS Hsg. & Polished 304 SS Door | OR 2x4 2' x 4' Housing | 2 | | 2 | | 850 5000K | | HIA | 0.140" P12 Prismatic High Impact Resistant Acrylic (Inverted) |
| | | | 3 | | 3 | | | | FROST | 0.125" Flat Diffusing Frost Acrylic |
| | 4 White AL Hsg. & Polished 304 SS Door | 5 LED Rows Max | 4 | | | | 90+ CRI: | | 2DBW | 0.125" Flat Diffused Acrylic with Bi-Directional Batwing Distribution |
| 5 White AL Hsg. & White AL Door | | | | | 935 3500K | | LBW | 0.125" Flat Diffused Acrylic with Linear Batwing Distribution | | |
| 6 White CRS Hsg. & White AL Door | | | | | | 940 4000K | | GH85 | 0.125" Flat Diffused Acrylic with Glare Suppression Distribution | |
| 7 White AL Hsg. & White CRS Door | | | | | | 950 5000K | | NOTE: P12ACR option is standard and will be provided when no other option is selected. | | |
| | | | | | | 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/EDB | | Two Circuits of Blue Light | | | | | | | | |
| 2/EDW | | Two Circuits of White Light | | | | | | | | |
| Note*: Specify Value in Ordering Notes | | | | | | | | | | |

Ordering Notes, If Applicable

Cleanroom TL-S Blue Troffers

1x4, 2x2 and 2x4 Blue/White LED Surface 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, 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.

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 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% 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)

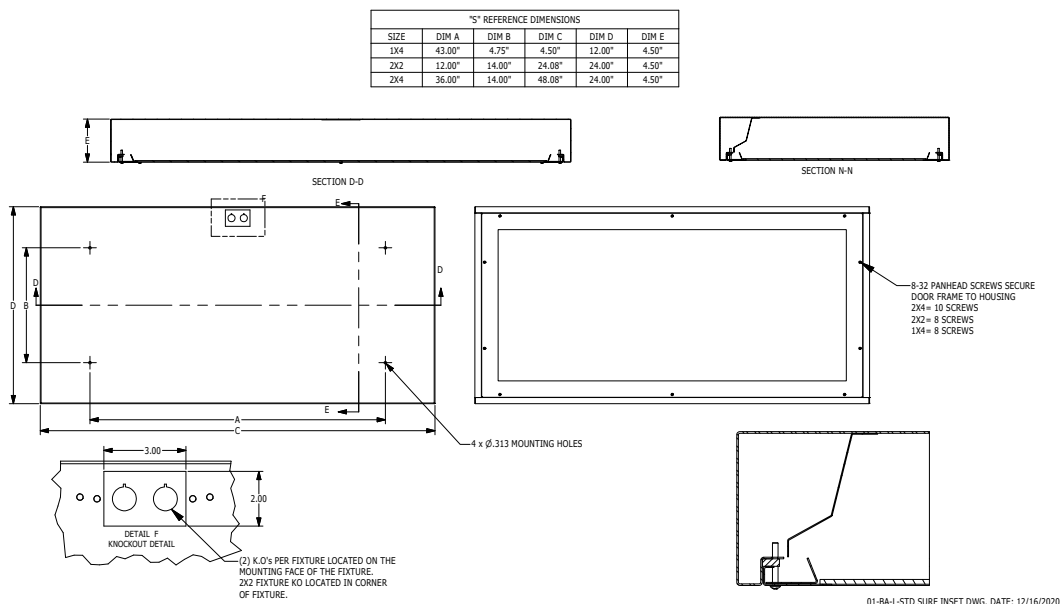
REFLECTOR: Die formed metal with high reflectance white polyester powder coat finish. Typical reflectivity 92%.

INSTALL SURFACE: Four .312" dia. mounting holes and a removable gasketed wiring access plate with Supply entry via 1/2" trade size flattened knockouts. Suitable for surface installation onto covered and housings.

FINISH: Stainless steel door frames & housings are satin polished unless WHT or AMW options are selected. All other materials are provided with gloss high reflectance white polyester powder coat 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. 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 is Buy American Act (B.A.A.)

PRODUCT DRAWINGS



Cleanroom TL-S Blue Troffers

1x4, 2x2 and 2x4 Blue/White LED Surface 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 | |
| 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) | 11,074 | 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.

Cleanroom TL-S Blue Troffers

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

ENERGY DATA - COLOR LED

| SURFACE & RECESSED INSET BLUE LED TROFFER | | | | | | | |
|---|---------------|----------|--------------|-------|----------|---------------------|----------------------|
| ENCLOSURE SIZE | LED SELECTION | DIMMING | 475nm (BLUE) | | | AMBIENT TEMP RATING | |
| | | | LUMENS | WATTS | EFFICACY | MINIMUM | MAXIMUM ³ |
| 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.