KURTZON
SPECIFICATION GRADE LIGHTING
ILLUMINATING YOUR WORLD

PROJECT

DATE

TYPE

NOTES

REV: 11/26/2019

Cleanroom **KL Blue Troffers**

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

- **Rated IP66**
- **Suitable for ISO 3-9 Cleanspaces**
- **Suitable for 209E class 1-100,000 Cleanspaces**
- **ETL listed for Wet Locations**
- **One piece overlapping doorframe**
- **Robotically seam welded housing**
- **0-10v 1% Dimming Standard for most configurations.**
- **Narrow Spectrum 475nm or 450nm Blue LEDs**
- **White / Blue separately controlled circuits**
- **Recessed Housing suitable for Tbar Grid AND Hardlid Installations**
- **Made in the USA by a Family Owned US Corporation**

Badges: KL 5/10 YEAR WARRANTY | NSF | cETLus Intertek | CCEA APPROVED | ISO 3-9 (ISO 14644-1 CLASS 3) | IP66 (IEC 60529) | BSL 3&4 (BIO SAFETY LEVELS) | 209E 1 (FED STD 209E CLASS 1) | 1700 PSI (HOSEDOWN) | MADE IN THE USA

ORDERING GUIDE

Series	Installation Type	Material	Size	Blue LED	Wavelength (nm)	White LED	CCT (White LED)	Voltage	Options

KL

Series	Installation Type	Material	Size	Blue LED	Wavelength (nm)	White LED	CCT (White LED)	Voltage	Options
KL	**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 **7:** White AL Hsg. & White CRS Door	**1x4:** 1' x 4' Housing **MAX 3 Arrays Total** *(2 Max Per Color)*	**1/BLED** **2/BLED**	**475:** 475nm **450:** 450nm	**1/LEDR** **1/LEDH** **1/LEDHF**	**83 CRI:** **830** = 3000K CCT **835** = 3500K CCT **840** = 4000K CCT **850** = 5000K CCT	**120V** **277V** **UNV** **347V***	**FC:** Fuse & Holder (One Supplied Per Circuit) **2/EDW:** Two Circuits of White Light **2/EDB:** Two Circuits of Blue Light **EDL:** -40F Electronic Driver **EM10:** 10W Integral LED EM (Specify Input Voltage) **EM20:** 20W External LED EM (Specify Input Voltage) **WHT:** White Finished Door & HSG **LEX:** .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. **10KV:** 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
			2x2: 2' x 2' Housing **MAX 4 Arrays Total** OR **2x4:** 2' x 4' Housing **MAX 4 Arrays Total**	**1/BLED** **2/BLED** **3/BLED** **4/BLED**	**475:** 475nm **450:** 450nm	**1/LEDR** **1/LEDH** **1/LEDHF** **2/LEDR** **2/LEDH** **2/LEDHF** **3/LEDR** **3/LEDH** **3/LEDHF**	**90+ CRI:** **935** = 3500K CCT **940** = 4000K CCT **950** = 5000K CCT		
	S: Surface	**1:** White CRS Hsg. & White CRS Door **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 **7:** White AL Hsg. & White CRS Door	**1x4:** 1' x 4' Housing **MAX 2 Arrays Total**	**1/BLED** **2/BLED**	**475:** 475nm **450:** 450nm	**1/LEDR** **1/LEDH** **1/LEDHF**			
			2x2: 2' x 2' Housing **MAX 4 Arrays Total** OR **2x4:** 2' x 4' Housing **MAX 4 Arrays Total**	**1/BLED** **2/BLED** **3/BLED** **4/BLED**	**475:** 475nm **450:** 450nm	**1/LEDR** **1/LEDH** **1/LEDHF** **2/LEDR** **2/LEDH** **2/LEDHF** **3/LEDR** **3/LEDH** **3/LEDH**			

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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 Cold Rolled Steel.

DOOR FRAME: One piece door frame with welded corners overlaps the fixture allowing the NSF approved microcellular gasket to seal to the mounting surface. Door frame is hinged by aircraft cables and is supplied with captive stainless steel flush head screws to allow easy wiping of the surface. 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 450nm or 475nm spectrum. White high efficiency LEDs are commercially available & 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: 1 fixture suitable for Grid & Flanged installation. Accommodates 1" & 1.5" T-Bar Grid (Consult factory for 2" T-Bar Grid compatibility). 4 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.
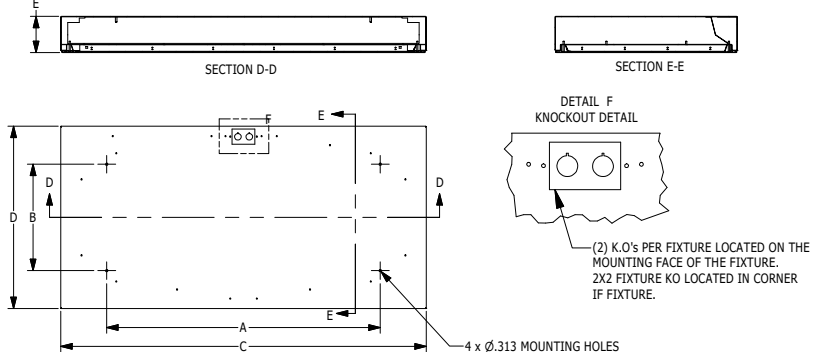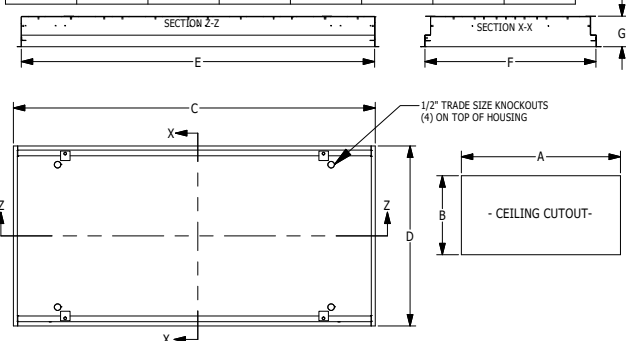
FINISH: Gloss white high reflectance 1000 hr. salt spray polyester powder coat finish standard for all recessed housings. Stainless steel doorframes & surface housings are satin polished unless option WHT is chosen.

LISTINGS: IP66 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 1 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

"R" HOUSING REFERENCE DIMENSIONS							
SIZE	A	B	C	D	E	F	G
1X4	47.00"	11.00"	47.63"	11.69"	46.50"	10.50"	4.00"
2X2	23.00"	23.00"	23.63"	23.69"	22.50"	22.50"	4.00"
2X4	47.00"	23.00"	47.63"	23.69"	46.50"	22.50"	4.00"

"S" REFERENCE DIMENSIONS					
SIZE	DIM A	DIM B	DIM C	DIM D	DIM E
1X4	43.00"	4.75"	48.08"	12.00"	4.75"
2X2	12.00"	14.00"	24.08"	24.00"	4.75"
2X4	36.00"	14.00"	48.08"	24.00"	4.75"

SECTION Z-Z

SECTION X-X

SECTION D-D

SECTION E-E

1/2" TRADE SIZE KNOCKOUTS (4) ON TOP OF HOUSING

- CEILING CUTOUT-

DETAIL F
KNOCKOUT DETAIL

(2) K.O's PER FIXTURE LOCATED ON THE MOUNTING FACE OF THE FIXTURE. 2X2 FIXTURE KO LOCATED IN CORNER IF FIXTURE.

4 x Ø.313 MOUNTING HOLES

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ENERGY DATA - WHITE LED

OVERLAP-FGRS-BLUE 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%	4,100	37	110	2,880	34	85	-20°C (-4°F)	40°C (104°F)
1X4	1LEDH	0-10V 1%	6,700	51	131	6,200	74	84	-20°C (-4°F)	40°C (104°F)
1X4	1LEDHF	0-10V 1%	7,800	83	94	7,773	91	85	-20°C (-4°F)	40°C (104°F)
2x2	1LEDR	0-10V 1%	2,220	19	117	1,370	17	81	-20°C (-4°F)	40°C (104°F)
2x2	1LEDH	0-10V 1%	3,240	27	120	2,600	37	70	-20°C (-4°F)	40°C (104°F)
2x2	1LEDHF	**0-10V 5%**	4,750	43	110	4,106	46	89	-20°C (-4°F)	40°C (104°F)
2x2	2LEDR	0-10V 1%	4,450	37.4	119	2,746	32	86	-20°C (-4°F)	40°C (104°F)
2x2	2LEDH	0-10V 1%	6,500	51	127	5,251	73	72	-20°C (-4°F)	40°C (104°F)
2x2	2LEDHF	**0-10V 5%**	9,500	86	110	8,212	92	89	-20°C (-4°F)	40°C (104°F)
2x2	3LEDR	0-10V 1%	6,670	55.2	121	4,182	48	87	-20°C (-4°F)	40°C (104°F)
2x2	3LEDH	0-10V 1%	9,880	76.9	129	8,343	110	76	-20°C (-4°F)	40°C (104°F)
2x2	3LEDHF	**0-10V 5%**	14,250	129	110	12,319	138	89	-20°C (-4°F)	40°C (104°F)
2X4	1LEDR	0-10V 1%	4,590	38	121	3,200	32	100	-20°C (-4°F)	40°C (104°F)
2X4	1LEDH	0-10V 1%	7,030	51	137	6,500	75	87	-20°C (-4°F)	40°C (104°F)
2X4	1LEDHF	0-10V 1%	9,000	70	129	8,872	93	95	-20°C (-4°F)	40°C (104°F)
2X4	2LEDR	0-10V 1%	9,180	74	124	6,528	62	105	-20°C (-4°F)	40°C (104°F)
2X4	2LEDH	0-10V 1%	14,340	103	139	12,949	148	87	-20°C (-4°F)	40°C (104°F)
2X4	2LEDHF	0-10V 1%	18,000	140	129	17,744	187	95	-20°C (-4°F)	40°C (104°F)
2X4	3LEDR	0-10V 1%	13,770	111	124	9,797	94	104	-20°C (-4°F)	40°C (104°F)
2X4	3LEDH	0-10V 1%	21,060	153	138	19,549	221	88	-20°C (-4°F)	40°C (104°F)
2X4	3LEDHF	0-10V 1%	27,000	210	129	26,616	280	95	-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

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ENERGY DATA - COLOR LED

OVERLAP-FGRS-BLUE LED TROFFER							
ENCLOSURE SIZE	LED SELECTION	DIMMING	475nm (BLUE)			AMBIENT TEMP RATING	
			LUMENS	WATTS	EFFICACY	MINIMUM	MAXIMUM[3]
1X4	1BLED	0-10V 1%	1,972	43	46	-20°C (-4°F)	40°C (104°F)
1X4	2BLED	0-10V 1%	3,945	86	46	-20°C (-4°F)	40°C (104°F)
2X2	1BLED	0-10V 1%	1,132	22	51	-20°C (-4°F)	40°C (104°F)
2X2	2BLED	0-10V 1%	2,264	43	53	-20°C (-4°F)	40°C (104°F)
2X2	3BLED	0-10V 1%	3,396	65	52	-20°C (-4°F)	40°C (104°F)
2X2	4BLED	0-10V 1%	4,528	86	53	-20°C (-4°F)	40°C (104°F)
2X4	1BLED	0-10V 1%	2,428	44	55	-20°C (-4°F)	40°C (104°F)
2X4	2BLED	0-10V 1%	4,856	87	56	-20°C (-4°F)	40°C (104°F)
2X4	3BLED	0-10V 1%	7,283	130	56	-20°C (-4°F)	40°C (104°F)
2X4	4BLED	0-10V 1%	9,711	173	56	-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.