

CRUo - Plenum Access

LED - Recessed Plenum Access Cleanroom Luminaire with Overlapping Doorframe

Project:	Catalog:	Type:
Notes:		

Product Description

The CRUo series is a recessed luminaire with Plenum Access that provides access above the ceiling, through the fixture. It is certified IP65 and ready for ISO Class 3-8 cleanrooms. The overlapping door seals to the ceiling and housing, completely covering the fixture flange. It is triple gasketed and listed for wet locations. The mounting is universal for 1.0" to 1.5" t-bar grid and flanged installations. It is certified NSF2 food, splash and non-food zones.

Feature Options

- Tunable White
- BIOS® SkyBlue®

Housing

Precision formed, seam welded, one-piece, hole-free construction. 20 gauge cold rolled steel standard. Rigid 18 gauge flange with welded and rounded corners for safety. Stainless Steel and Aluminum are available options. 5 Stage pretreatment and gloss white polyester powder coated after fabrication. ASTM B117 1000hr Salt Spray tested.

Door Frame

Access Door - Sealed door provides access to the plenum space. Secured by internal fasteners, hinged by cables to housing.

Overlapping one-piece 18 gauge cold rolled steel standard, optional types 304 or 316 stainless steel or aluminum. welded corners blended smooth. Countersunk flat head, stainless steel, captive fasteners with integral silicone o-rings. Door frame is removable, reversible, and hinged by stainless steel aircraft cables. Highly resilient and chemical resistant CertaSeal microcellular closed-cell gasket seals door frame to the housing and/or ceiling.

Lens & Lens Retention

Standard lens; Impact resistant 0.125" thick diffuse symmetric acrylic lens (DSA). Smooth external surface for easy cleaning. Sealed to doorframe with RTV silicone sealant and retained by continuous perimeter brackets. See order code for other options.

Gasket Systems

Triple gasketed: Lens: RTV 100% pure silicone seals lens to door. Door: Highly resilient and chemical resistant CertaSeal microcellular closed-cell gasket seals door frame to the housing and/or ceiling. Housing: Closed cell neoprene gasket provided to seal flange to ceiling. Door screws: Silicone o-rings with special sealing flat-head screws.

LED

LED board modules are high efficiency and closely regulated to maintain CRI, color consistency, lumen performance, and efficacy. Select from 3000K, 3500K, 4000K, and 5000K color temperatures with a color consistency of 3 SDCM, standard 80 CRI, optional 90 CRI. Tunable White CCT range is 2700-6500K. Lifetime L90 is greater than 60,000 hrs. Modules are field replaceable and commercially available. Optional amber and red LEDs arrays available alone or in combination with white LEDs. Tunable White and Bios SkyBlue® options are also available. See specific CRUo-Red & Amber spec sheet [here](#).

Electrical

The standard electronic driver is constant current, programmable and dimmable to 1% using a 0-10V protocol. High efficiency (>85%) and low THD (<10%). Certified to FCC Part 15, Class A. 120-277Vac or 347Vac, 50/60hz. See "Options" for Lutron™ or DALI driver choices. Internal Emergency Drivers are serviceable from the room side unless otherwise noted. Each LED color is separately circuited.

Finish

5 Stage pretreatment and gloss white polyester powder coated after fabrication. ASTM B117 1000hr Salt Spray tested. Stainless Steel is available with a choice of brushed #4 polished finish or gloss white polyester powder coated.

Installation

Flange installation is supported by swing style mounting brackets. Bracket vertical range is 1.3-2.9 inches. Grid installation suitable for 1" and 1.5" T-Bar NEMA LE4 Type G ceilings. See ordering key for use with 2" T-Bar Grid systems. (option C57) Consult factory for compatibility with non-standard grid systems). Ambient operating temperature: -4°F (-20°C) to 104°F (40°C).

Listings, Certifications and Ratings

UL listed for wet locations under covered ceiling (CAN & USA, ANSI/UL1598 & UL8750). Recessed Type IC for insulated ceilings. NSF2 for Splash zone and non-food zones (See option X5 for Food Zone certification). IEC60529 IP65 (Certified dust-tight and resistant to jets of water). Cleanroom classified ISO3-8. EU GMP Grade A, Suitable for Biosafety BSL1-3. Compliant with CCEA requirements. Rated for 2500psi washdown conditions.

Warranty

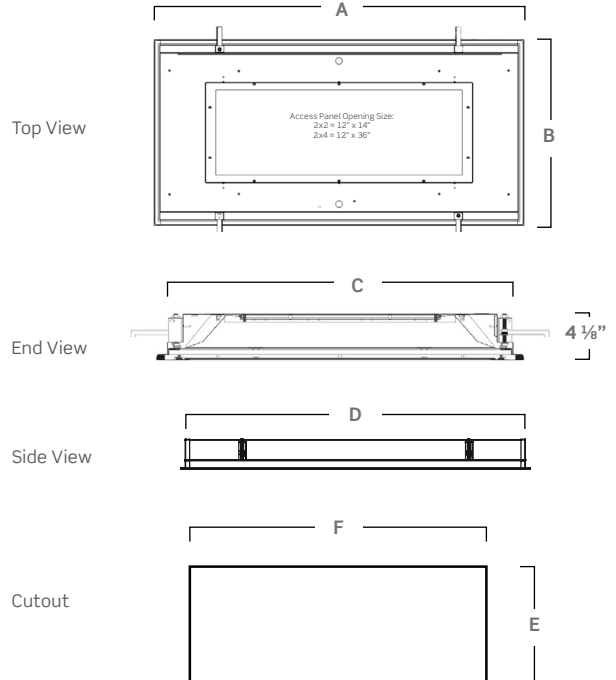
5 year limited warranty. For complete warranty,



Approvals



Dimensions



	Dimensions (inch) & Weights						Weight
	A	B	C	D	E	F	
2x2	23.75	23.75	22.69	22.88	22.88	22.88	29 lbs.
2x4	47.75	23.75	22.69	46.75	22.88	46.87	50 lbs.

Consult installation guide for exact dimensions.

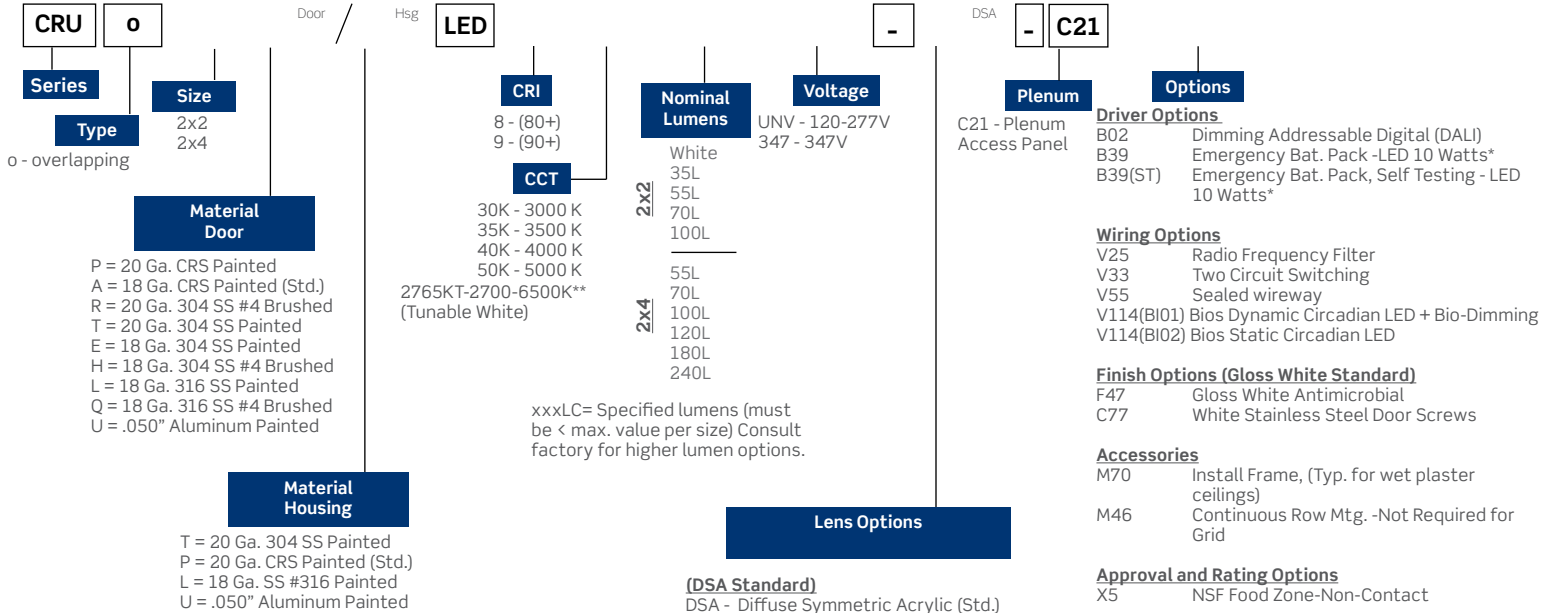
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Order Key

EXAMPLE: CRUo2x4A/PLED840K100LUNV-DSA-C21



* Standard emergency battery pack options are internal and serviced from the room side. The exception is for some 2x2 wattages may have remote battery packs. Consult factory for details regarding 2x2 with emergency pack options.

** When Selecting 2765KT, if a tunable white-compatible control is not selected the luminaire will come standards with two sets of 0-10V wires for dimming and color tuning. For compatible control options please consult factory.

Performance Data				
White LED Performance*				
Size	Nominal Lumens Order Code	Lumens (4000K)	Watts	Efficacy
2x2	35L	3564	31	115
	55L	5571	50	111
	70L	7035	65	108
	100L	10121	93	109
2x4	55L	5517	45	123
	70L	7085	59	120
	100L	10093	80	126
	120L	12096	99	122
	180L	18103	143	127
	240L	24102	198	122

* Lumen values are based on 4000K, 80 CRI performance. See Lumen Multipliers below for other CCT or CRI performance data.

Standard White										
CCT	Lumen Factor	80 CRI				90 CRI				
		CRI	R9	Rf	Rg	Lumen Factor	CRI	R9	Rf	Rg
3000	0.95	80	-	-	-	0.77	90	-	-	-
3500	0.97		12	85	97	0.80		62	91	100
4000	1.00		10	84	97	0.82		68	91	101
5000	1.01		10	84	97	0.84		65	91	98

Tunable White										
CCT	Lumen Factor	80 CRI				90 CRI				
		CRI	R9	Rf	Rg	Lumen Factor	CRI	R9	Rf	Rg
2700K	1.00	82	7	82	98	1.00	90	60	92	100
4000K		86	29	84	100			87	93	104
6500K		82	15	81	97			76	92	101

CRUo - Plenum Access

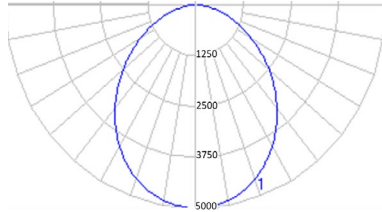
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Photometric Performance

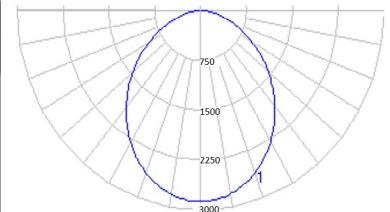
CRUo-2X4-LED840K120LUNV-DSA-C21

Characteristics	
Luminaire Lumens	12096
Efficacy Rating	122
Total Luminaire Watts	99
Spacing Criterion (0-180)	1.2
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.3



CRUo-2X2-LED840K070LUNV-DSA-C21

Characteristics	
Luminaire Lumens	7035
Efficacy Rating	108
Total Luminaire Watts	65
Spacing Criterion (0-180)	1.2
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.3



Luminance Data (cd/sq.m)				
Degrees	0-Deg	45-Deg	90-Deg	
45	5674	5695	5291	
55	5043	4729	4612	
65	4212	3863	3743	
75	2972	2572	2543	
85	896	1142	1458	

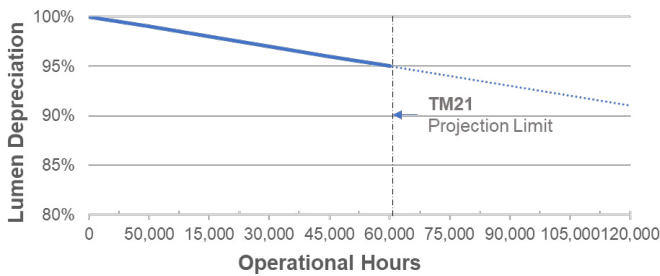
Zonal Lumens	
Zone	Lumens
0-30	3747.51
0-40	6011.17
0-60	10073
0-90	12096
90-180	0

Luminance Data (cd/sq.m)				
Degrees	0-Deg	45-Deg	90-Deg	
45	6551	6397	6399	
55	5884	5702	5685	
65	4956	4722	4700	
75	3437	3148	3269	
85	1130	1443	1988	

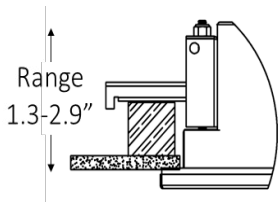
Zonal Lumens	
Zone	Lumens
0-30	2161
0-40	3468
0-60	5845
0-90	7035
90-180	0

Lumen Maintenance

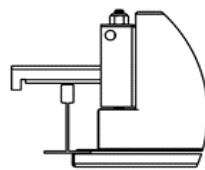
White LED Performance



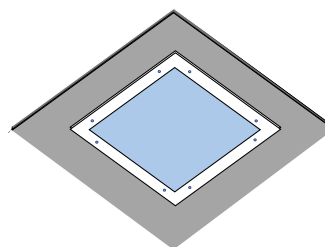
Installation Details



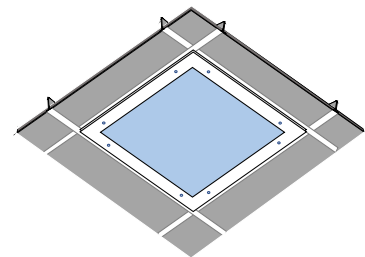
Overlapping Door Flanged
(Framing by others)



Overlapping Door in Grid Ceiling



Overlapping Door Flanged



Overlapping Door in Grid Ceiling