

The Cross-Fire Series LED Recessed Luminaire family has been designed to dramatically improve energy efficiency and the quality of light delivered into a space using Solid State Lighting (SSL) technologies. The Cross-Fire Series Luminaire produces both direct and indirect lighting that when combined, provides maximum energy efficient illumination and presents an architectural "roll-formed barrel vault" style element not found in LED products on the market today. This family of luminaires has been designed to replace existing fluorescent lighting or for use in new construction. Comfortable, low glare, uniform lighting is attributed to this style of luminaire. Typical applications for this type of lighting product are interior spaces where finished ceilings and walls exist. Applications include:

- Commercial/Corporate Office Spaces
- Retail Spaces, Public Spaces and Airports
- Schools, Colleges and Universities
- Hospitals, Government Facilities and Military Bases



project:

fixture type:

catalog #:

quantity:

ORDERING GUIDE

CRF	22	-	-	-	-	-	-	-	-
PREFIX/SERIES	SIZE	OPTICS (DISTRIBUTION)	LUMEN OUTPUT	DRIVER VOLTAGE	DRIVER TYPE	COLOR TEMP.	DIFFUSER TYPE	TRIM COLOR AND FINISH	FIXTURE OPTIONS
CRF - Cross-Fire Series Recessed Troffer	22 - 2x2	N - Normal C - Custom (Specify)	L015 - 1500 L020 - 2000 L030 - 3000 L040 - 4000 L050 - 5000 L060 - 6000 LC - Custom (Specify)	UNV - Universal Voltage (120v - 277v) (60 Hz) 120 - 120v 277 - 277v 347 - 347v* *Special order only	DM - 0-10v Low Voltage Dimming (10% - 100%) (Standard) DM1 - 0-10v Low Voltage Dimming (1% - 100%) SD - Step Dimming (50% - 100%) LV1 - Line Voltage Dimming (120v) LV2 - Line Voltage Dimming (277v)	C27 - 2700 K* C30 - 3000 K* C35 - 3500 K C40 - 4000 K C50 - 5000 K* *Special Order Only	AF - Frosted Linear Prism Acrylic Lens (Standard) CS - Custom (Specify)	TW - Fine Textured White Powder Coat CS - Custom (Specify)	AR - Air Return Slots EMPK - Emergency Battery Pack* SNS200 - Occupancy/Vacancy/Daylight Harvesting Wireless Sensor (PHILIPS EasySense) *5w/90min. duration is standard. Other options are available

* "EMPK" option to be IOTA ILB CP05-B @ 5 watts/90 min. duration (standard). Consult factory for all available options.

** CRF Series luminaires have a lumen output range from 1,500 lumens through 6,000 lumens depending on length of fixture and driver/board configuration. Consult factory for correct catalog number on all custom configured lighting products.

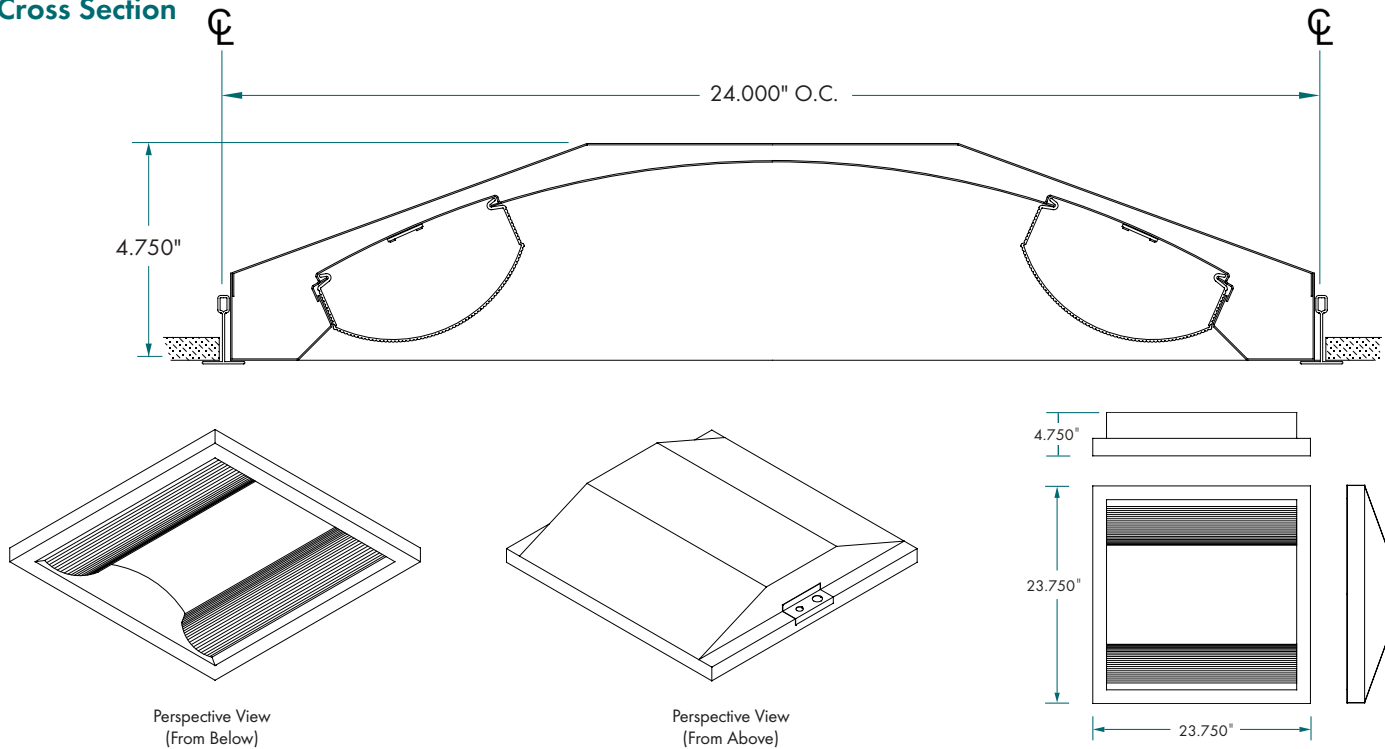


PRIOR TO REPLACING AN EXISTING FLUORESCENT FIXTURE, PLEASE NOTE THE FOLLOWING:

Fluorescent lamps contain small amounts of mercury. Such lamps are labeled "Contains Mercury" and / or with the symbol "Hg." Lamps that contain mercury must be disposed of in accordance with local requirements. Information regarding lamp recycling and disposal can be found at www.lamprecycle.org.

CRF 2x2 Cross Section

Prefix: CRF22



CONSTRUCTION

- Precision die-formed from code-gauge cold rolled steel.
- Resistance (spot) welded and mechanically fastened.
- Consult factory for all options or any modifications needed.

FINISH

Housing

- Gloss White polyester powder coat baked enamel.

Trim

- Fine textured white polyester powder coat baked enamel as standard. Consult factory for all other finish/color options

Reflector / Optics

- High Reflectance Matte White polyester powder coat baked enamel for extreme durability and superior optical efficiency and diffusion (95% T.R.).

LEDs / OPTICS

- High performance LED boards manufactured specifically for interior lighting. LED boards feature the latest mid-power LEDs for maximum performance, efficiency and longevity.
- Standard color temperatures offered are 3500K and 4000K. Consult factory for all other color temperature options. 80 CRI (Minimum). RoHS Compliant.

- Always consult factory for the latest developments and improvements concerning LEDs and Optics.

DRIVERS

- Electronic, high efficiency, programmable, linear, constant current type. Universal voltage 120v-277v (Standard).
- Features include constant lumen maintenance, end of life indication and LED thermal protection.
- 0-10v dimmable. 10%-100% dimming (Standard) / 1%-100% dimming (Optional).
- Factory programmed drive current, Dim to Off function and Soft Start function.
- Step-Dim and Line Voltage Dimming Drivers are optional.
- Auxiliary output (Optional) used to power various sensors / wireless modules.
- Suitable for dry and damp locations.
- UL / CUL Class 2 Recognized, RoHS Compliant.

LENS (DIFFUSER)

- Extruded, clear, 100% virgin acrylic and high light transmission / LED diffusing polymer featuring linear ribbed pattern, which provides a clean, aesthetic architectural look.

MOUNTING

- Recessed fixtures are designed to be mounted into a standard NEMA "G" T-grid ceiling. Consult factory for all other special mounting conditions.

ELECTRICAL

- Recessed fixtures are UL/CUL Listed and labeled for dry / damp locations.
- LM80 performance for 50,000+ hours
- Bi-level dimming option allows 50% power for compliance with common energy codes.
- Driver disconnect provided where required to comply with US & Canadian codes.

QUALITY CONTROL

- All fixtures are designed, fabricated, assembled, tested, packaged and shipped from RENOVA's manufacturing facility in Warwick, RI (USA).

WARRANTY

- 5-Year limited warranty. Please refer to RENOVA's website at www.renova.com/warranties for the latest warranty terms and conditions.

NOTES:

LED Dimming Drivers have adjustable output capability. A wide range of input watts/lumen output can be adjusted up or down on all models to suit a particular application. Always consult factory for the latest information.

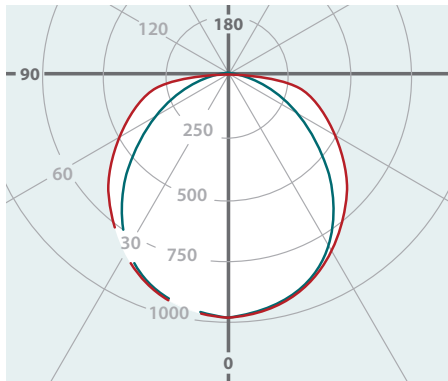
Photometric data, IES files and all other information is available on request.

RENOVA products are constantly being improved; therefore the information shown is subject to change without notice. Always consult your lighting representative or RENOVA Lighting Systems, Inc. for the latest information.



Catalog #: CRF22-N-L030-UNV-DM-C35-AF-XX-XX
Photometric Test Report #: 12162057.02
Delivered Lumens: 3103
Efficacy (Lumens/Watt): 142.4
Power: 21.80w @ 120 VAC
Power Factor: 0.998
Current THD: 4.09%
CRI (Ra): 83.5
CRI (R9): 15.3
CCT: 3469 K
LED Life: L70 (>60,000hrs)/L90 (>56,000hrs)

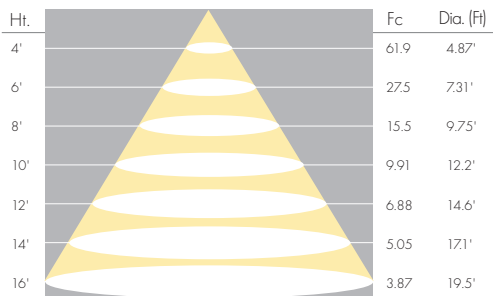
Candela Distribution Polar Plot



Along **Across**
180 Deg. Plane 270 Deg. Plane
0 Deg. Plane 90 Deg. Plane

Spacing/Mounting Height: 1.22
SC (Along): 1.19 SC (Across): 1.24

Cone of Light Tabulation



Coefficients of Utilizations (%)											
Effective Floor Cavity Reflectance 20 Per (pfc=0.20)											
pcc		80			70			50		30	
pw		70	50	30	70	50	30	50	30	50	30
RCR	0	3301	3301	3301	3225	3225	3225	3081	3081	2950	2950
	1	3000	2861	2736	2924	2797	2684	2679	2585	2569	2493
	2	2722	2485	2289	2648	2432	2251	2332	2180	2241	2113
	3	2479	2178	1946	2409	2134	1918	2050	1865	1973	1815
	4	2269	1929	1680	2204	1892	1659	1821	1619	1756	1581
	5	2087	1724	1471	2028	1693	1455	1633	1423	1578	1393
	6	1928	1553	1302	1874	1527	1289	1476	1264	1429	1240
	7	1788	1409	1164	1740	1387	1153	1343	1133	1303	1114
	8	1666	1287	1049	1622	1268	1041	1231	1024	1196	1008
	9	1557	1182	953	1517	1166	946	1134	932	1103	919
	10	1461	1092	871	1425	1077	865	1049	854	1023	843

Average Luminance Summary (cd/m²)

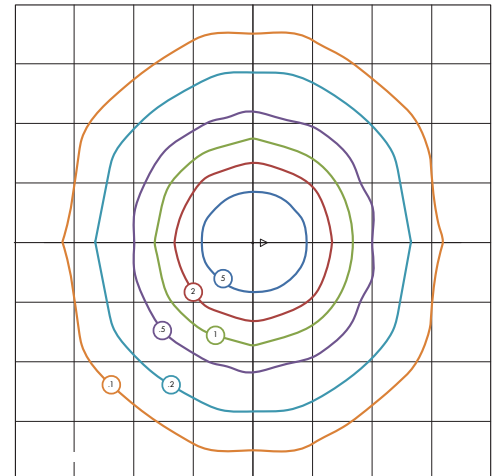
Horizontal Angle (Degrees)

Angle	Along (0°)	45°	Across (90°)
0	3654	3654	3654
45	2869	3242	3462
55	2467	3117	3500
65	2095	3018	3758
75	1768	3098	4642
85	1348	2837	3588

Vertical Angle (Degrees)

Horizontal Footcandles

Mounting Height = 8'-0" A.F.F.
Maximum Calculated Value = 15.5 Fc @ Nadir



Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-40	1228	44.3%
0-60	2127	76.7%
0-90	3103	100.0%
90-180	0	0.0%

Grid Lines in Units of Mounting Height

5fc 2fc 1fc .5fc .2fc .1fc