

FLEX Series Troffer

FLX22™ 2' x 2' Specification LED Troffer

Product Description

The FLEX Series LED troffer delivers up to 5,000 lumens with enhanced color quality. The variety of inner optic accessories provides greater design flexibility making it perfect for both new construction and renovation. The slim and lightweight FLEX Series LED troffer boasts an efficacy of 125-145 LPW performance along with standard 1% 0-10V dimming and optional 5% SmartCast® Technology dimming to meet local energy codes. The FLEX Series troffer's 1% dimming with 0-10V controls also delivers enhanced flicker control for improved visual comfort.

Performance Summary

| |
|---|
| Efficacy: 125-145 LPW |
| Initial Delivered Lumens: 3,200-5,000 lumens |
| Input Power: 25-43 watts |
| CRI: 80+ CRI |
| CCT: 3000K, 3500K, 4000K, 5000K |
| Input Voltage: 120-277 VAC or 347 VAC |
| Limited Warranty†: 10 years on luminaire |
| Limited Warranty Emergency Back Up (EB) Battery: 1 Year on Battery Back Up. Test regularly in accordance with local codes |
| Controls: 0-10V dimming to 1%, SmartCast® Technology dimming to 5% |
| Mounting: Recessed [Designed for use in most ceiling grids including standard 1 1/2", 9/16", 15/16", hard ceiling, and surface mounting] |
| Room-side accessible removable lens |
| Assembled in the U.S.A. of U.S. and imported parts |

†See <http://lighting.cree.com/warranty> for warranty terms

Inner Optic Overlay Diffuser Accessories

| Field-Installed | |
|---|--|
| Wavy Inner Optic Diffuser, 10-Pack FLX-WVD-2 - Only for luminaires with 10V controls FLX-CMA-WVD-2 - Only for luminaires with CMA controls | Brushed Metal Inner Optic Diffuser, 10-Pack FLX-BMD-2 - Only for luminaires with 10V controls FLX-CMA-BMD-2 - Only for luminaires with CMA controls |
| Perforated Inner Optic Diffuser, 10-Pack FLX-PFD-2 - Only for luminaires with 10V controls FLX-CMA-PFD-2 - Only for luminaires with CMA controls | Striped Inner Optic Diffuser, 10-Pack FLX-STRD-2 - Only for luminaires with 10V controls FLX-CMA-STRD-2 - Only for luminaires with CMA controls |
| Diffuse Inner Optic, 10-Pack FLX-STD-2 - Only for luminaires with 10V controls FLX-CMA-STD-2 - Only for luminaires with CMA controls | Sample Inner Optic Diffuser Kit FLX-SMPL-2 - Only for luminaires with 10V controls - Includes one of each inner optic overlay diffuser |

Ordering Information

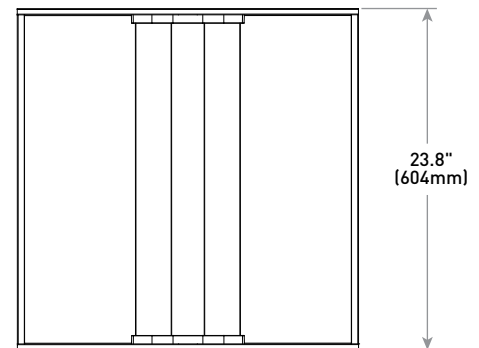
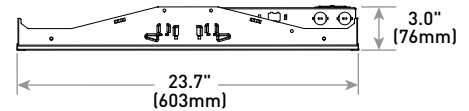
Example: FLX22-32L-35K-10V-EB14-FD

| FLX22 | Product | Lumen Package* | CCT | Voltage | Control | Options | FD |
|-------|---------|--|--|---|--|--|----------------------|
| FLX22 | | 32L 25-30W, 3,200 Lumens 50L 38-43W, 5,000 Lumens | 30K 3000K 35K 3500K 40K 4000K 50K 5000K | Blank 120-277 Volt 34 347 Volt | 10V 1% Dimming - 0-10V dimming to 1% CMA Cree SmartCast® Technology - Integral motion and ambient sensors and wireless communication - Dimming to 5% | EB14 Emergency Backup - 1,400 lumens - Provides 90 minutes of emergency operation - Available only with 120-277V | FD 80+ CRI |

* Lumen package codes identify approximate light output only. Actual lumen output levels vary depending on CCT. Refer to delivered lumens & electrical data table for specific lumen values.

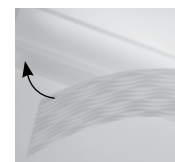


STANDARD OPTION



| Type | Weight |
|---------------|-------------------|
| Standard | 11.3 lbs. [5.1kg] |
| 347V | 12.0 lbs. [5.4kg] |
| w/EB14 Option | 15.8 lbs. [7.2kg] |

Inner Optic Overlay Diffuser Accessories



| |
|---------------|
| Brushed Metal |
| Striped |
| Perforated |
| Wavy |
| Diffuse |



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Rev. Date: V3 03/06/2019

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Product Specifications

CREE SMARTCAST® TECHNOLOGY

Cree SmartCast® Technology is the most intuitive and easiest to install intelligent light solution on the market. SmartCast® Technology delivers up to 70% energy savings at up to half the cost of other solutions. Luminaires combine best-in-class light with onboard sensors and intelligence to deliver a better light experience. Extreme energy productivity, code compliance and a better light experience without any extra design, installation or setup work.

CONSTRUCTION & MATERIALS

- Durable 22 ga. cold rolled steel housing provides strength and uniformity
- Ultra-thin 3.0" (76mm) 0-10V or 4.3" (109mm) SmartCast® Technology luminaire height and lightweight design effectively target a broad range of plenum spaces and allow for easy installations
- Luminaire is pre-painted for enhanced matte finish
- Includes integrated hooks for mounting to t-bar, and cable slots for suspended mounting
- Luminaire sides and ends are hemmed in for safe, easy handling
- Room-side accessible/removable lens snaps and locks into end caps for tool-less entry
- Not for installation within 3" (76mm) of insulation
- **Weight:** Standard - 11.3 lbs. (5.1kg); 347V - 12.0 lbs. (5.4kg); EB14 - 15.8 lbs. (7.2kg)

OPTICAL SYSTEM

- Unique luminaire design creates perfect balance of both horizontal and vertical illumination
- Optimized smooth acrylic lens eliminates pixelation and delivers a low-glare, diffused light distribution
- Additional diffuser options available. Refer to Inner Optic Overlay Diffuser Accessories table on page 1 for additional details

ELECTRICAL SYSTEM

- **Power Factor:** = 0.9 nominal
- **Input Power:** Stays constant over life
- **Input Voltage:** 120-277V, 50/60Hz or 347V, 60Hz
- **Operating Temperature Range:** 0°C - + 35°C (32°F - + 95°F)
- **Total Harmonic Distortion:** < 20% for standard fixtures; < 25% for EB option

CONTROLS

- 10V option provides continuous dimming to 1% with 0-10V DC control protocol
- **10V Source Current:** 0.15mA
- For use with Class 2 dimming systems only
- Use only lighting controls with neutral connection or controls intended for use with LED fixtures
- Reference www.creelink.com/exLink.asp?70982140Z58R34I26620963 for recommended dimming controls and wiring diagrams
- **SmartCast® Technology Dimming:** 5-100%

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for damp locations
- Designed for indoor use
- Requires minimum 90°C supply conductors
- UL924 (EB option). Maximum mounting height: 14.0' (4.3m)
- RoHS compliant. Consult factory for additional details
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- Meets Buy American requirements within ARRA
- DLC Premium qualified. Please refer to www.designlights.org/GPL for most current information

Cree SmartCast® Technology

INTEGRAL MOTION SENSOR

- Passive infrared (PIR)
- **Coverage area:** 100 sq. ft. (30.5m²) at 10 ft. (3.0m) mounting height
- Not intended to be mounted higher than 12 ft. (3.7m)
- **Operation:**
 - Grouped with a wall control: Luminaire will operate in vacancy mode (manual-on/auto-off)
 - Not grouped with a wall control: Luminaire will operate in occupancy mode (auto-on/auto-off)
- Luminaires operate at full intensity until OneButton™ Setup is initiated by the Cree® Configuration Tool

AMBIENT LIGHT SENSOR

- Sensor response matches response of human eye
- Not intended to be mounted higher than 12 ft. (3.7m)
- Luminaires operate at full intensity until OneButton™ Setup is initiated by the Cree® Configuration Tool
- Daylight harvesting calibration performed automatically during OneButton™ Setup

INTEGRAL WIRELESS COMMUNICATION

- 2.4GHz wireless mesh technology with AES 128-bit encryption
- Self assigns to quietest channel during OneButton™ Setup
- **Range:**
 - 30 ft. (9.1m) in typical commercial applications
 - 300 ft. (91.4m) open air without obstructions
- **Network:** 250 devices max.
- **Space:** 100 devices max. per group
- FCC certified
- IC certified

LUMINAIRE

- Luminaires operate at full intensity until OneButton™ Setup is initiated by the Cree® Configuration Tool
- 10 year power fail memory of settings

DEPLOYMENT

- Please refer to the SmartCast® Technology Deployment Guide at <https://www.creelink.com/exLink.asp?236135640H88E44I39771048>

| FLEX Series Ambient Adjusted Lumen Maintenance ¹ | | | | | |
|---|-------------|-----------------------------------|-----------------------------------|------------------------------------|-------------------------------------|
| Ambient | Initial LMF | 25K hr Projected ² LMF | 50K hr Projected ² LMF | 75K hr Calculated ³ LMF | 100K hr Calculated ³ LMF |
| 0°C (32°F) | 1.04 | 0.97 | 0.92 | 0.87 | 0.82 |
| 5°C (41°F) | 1.03 | 0.96 | 0.91 | 0.86 | 0.81 |
| 10°C (50°F) | 1.02 | 0.95 | 0.90 | 0.85 | 0.80 |
| 15°C (59°F) | 1.01 | 0.94 | 0.89 | 0.84 | 0.79 |
| 20°C (68°F) | 1.01 | 0.94 | 0.89 | 0.84 | 0.79 |
| 25°C (77°F) | 1.00 | 0.93 | 0.88 | 0.83 | 0.78 |
| 30°C (86°F) | 0.99 | 0.92 | 0.87 | 0.82 | 0.77 |
| 35°C (95°F) | 0.99 | 0.92 | 0.87 | 0.82 | 0.77 |

¹ Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors.

² In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip).

³ In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip).

FLX22™ 2' x 2' Specification LED Troffer

| Delivered Lumens & Electrical Data* | | | | | | | | | | |
|-------------------------------------|----------|------------------|-------------|--------------|------|-------------------|------|------|------|------|
| Lumen Package | Controls | Delivered Lumens | | System Watts | | Total Current (A) | | | | |
| | | 3000K/3500K | 4000K/5000K | 120-277V | 347V | 120V | 208V | 240V | 277V | 347V |
| 32L | 10V | 3,170 | 3,370 | 27 | 26 | 0.25 | 0.14 | 0.13 | 0.11 | 0.08 |
| | CMA | | | 25 | 26 | 0.23 | 0.13 | 0.12 | 0.10 | 0.08 |
| 32L w/EB14 Option | 10V | | | 30 | N/A | 0.28 | 0.16 | 0.14 | 0.12 | N/A |
| | CMA | | | 27 | N/A | 0.25 | 0.14 | 0.13 | 0.11 | N/A |
| 50L | 10V | 4,850 | 5,150 | 39 | 38 | 0.36 | 0.21 | 0.18 | 0.15 | 0.12 |
| | CMA | | | 38 | 41 | 0.35 | 0.20 | 0.18 | 0.15 | 0.13 |
| 50L w/EB14 Option | 10V | | | 43 | N/A | 0.40 | 0.23 | 0.20 | 0.17 | N/A |
| | CMA | | | 40 | N/A | 0.37 | 0.21 | 0.19 | 0.16 | N/A |

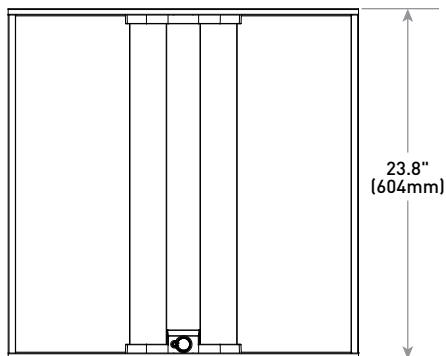
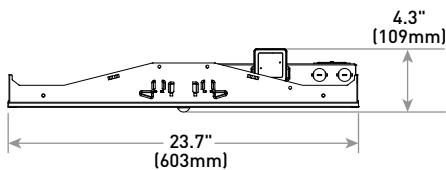
* Electrical data at 25°C (77°F). Actual wattage and lumens may differ by +/- 10% when operating between 120-277V or 347V +/- 10%.

Accessories

| Field-Installed | |
|--|--|
| <p>Drywall Grid Adapter DGA22-WHT</p> <p>Surface Mount Kit SMK-FLX22 - Not for use with EB14 or SmartCast® Technology</p> <p>6' Flexible Power Whip PW-18/4-06-9T/SS - For use in non-dimming applications only</p> <p>Wireless 0-10V Dimming/Switching Interface with Cree SmartCast® Technology CIF-10V-CWC-SNSR - For use with luminaires with 10V controls when integral SmartCast® Technology isn't available</p> | <p>Cree SmartCast® Technology Configuration Tool CCT-CWC-1 - One required per project CMA control or CIF-10V-CWC-SNSR accessory is selected</p> <p>Cree SmartCast® Technology Face Plates† CFP-1-WH - Matching Cree face plate, 1-gang, white CFP-2-WH - Matching Cree face plate, 2-gang, white CFP-3-WH - Matching Cree face plate, 3-gang, white</p> <p>Cree SmartCast® Technology Wireless Dimmer† CWD-CWC-WH</p> <p>Cree SmartCast® Technology Wireless Switch† CWS-CWC-WH</p> <p>Cree SmartCast® Technology Wireless Plug Load Controller CPLC-JB-CWC</p> |

† Refer to the [Wireless Dimmer SmartCast Technology Control](#) spec sheet for more details.

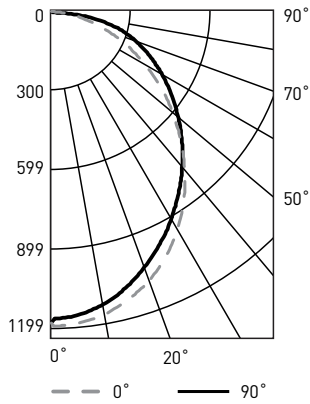
SMARTCAST® TECHNOLOGY OPTION



Photometry

FLX22-32L-30K-10V-FD BASED ON CESTL REPORT TEST #: PL13283-001A

Luminaire photometry has been conducted in accordance with IESNA LM-79-08. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a luminaire efficiency of 100%.



| Coefficients Of Utilization – Zonal Cavity Method | | | | |
|---|-----|-----|-----|-----|
| RC %: | 80 | | | |
| RW %: | 70 | 50 | 30 | 10 |
| RCR: 0 | 119 | 119 | 119 | 119 |
| 1 | 108 | 104 | 99 | 95 |
| 2 | 99 | 90 | 83 | 78 |
| 3 | 90 | 79 | 71 | 65 |
| 4 | 82 | 70 | 62 | 55 |
| 5 | 76 | 63 | 54 | 47 |
| 6 | 70 | 57 | 48 | 41 |
| 7 | 65 | 52 | 43 | 37 |
| 8 | 61 | 47 | 39 | 33 |
| 9 | 57 | 43 | 35 | 30 |
| 10 | 53 | 40 | 32 | 27 |

Effective Floor Cavity Reflectance: 20%

| Average Luminance Table (cd/m²) | | | |
|---------------------------------|------------------|-------|-------|
| Vertical Angle | Horizontal Angle | | |
| | 0° | 45° | 90° |
| 45° | 2,966 | 2,930 | 2,992 |
| 55° | 2,687 | 2,747 | 2,934 |
| 65° | 2,365 | 2,621 | 3,010 |
| 75° | 1,911 | 2,580 | 3,281 |
| 85° | 1,222 | 2,534 | 3,309 |

Reference <https://lighting.cree.com/products/indoor/troffers/flex-series> for detailed photometric data.

| Zonal Lumen Summary | | | |
|---------------------|--------|--------|-----------|
| Zone | Lumens | % Lamp | Luminaire |
| 0-30 | 888 | N/A | 28.4% |
| 0-40 | 1,426 | N/A | 45.6% |
| 0-60 | 2,441 | N/A | 78.1% |
| 0-90 | 3,126 | N/A | 100% |
| 0-180 | 3,126 | N/A | 100% |

Application Reference

| Open Space | | | | | | |
|------------|---------------|--------|---------|-----|-------|------------|
| Spacing | Lumen Package | Lumens | Wattage | LPW | w/ft² | Average fc |
| 8 x 8 | 32L | 3,200 | 27 | 119 | 0.40 | 45 |
| | 50L | 5,000 | 39 | 128 | 0.58 | 65 |
| 8 x 10 | 32L | 3,200 | 27 | 119 | 0.33 | 37 |
| | 50L | 5,000 | 39 | 128 | 0.48 | 53 |
| 10 x 10 | 32L | 3,200 | 27 | 119 | 0.27 | 30 |
| | 50L | 5,000 | 39 | 128 | 0.39 | 43 |
| 10 x 12 | 32L | 3,200 | 27 | 119 | 0.21 | 24 |
| | 50L | 5,000 | 39 | 128 | 0.30 | 35 |

10' ceiling; 80/50/20 reflectances; 2.5' workplane, open room. LLF: 1.0 Initial. Open Space: 50' x 40' x 10'.