

FLEX Series with Cree SmartCast® Technology

FLX24™ 2' x 4' Specification LED Troffer

Product Description

The FLEX Series LED troffer delivers up to 6,000 lumens with enhanced color quality and is 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 boasts design flexibility with various inner optic accessories and also delivers enhanced flicker control for improved visual comfort.

Performance Summary

Efficacy: 125-145 LPW
Initial Delivered Lumens: 3,200-6,000 lumens
Input Power: 25-51 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

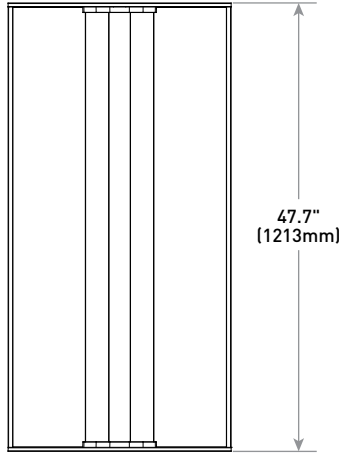
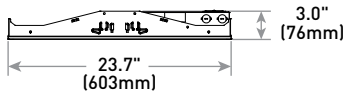
*See <http://lighting.cree.com/warranty> for warranty terms

Inner Optic Overlay Diffuser Accessories

Field-Installed	
Wavy Inner Optic Diffuser, 10-Pack FLX-WVD-4 - Only for luminaires with 10V controls FLX-CMA-WVD-4 - Only for luminaires with CMA controls	Brushed Metal Inner Optic Diffuser, 10-Pack FLX-BMD-4 - Only for luminaires with 10V controls FLX-CMA-BMD-4 - Only for luminaires with CMA controls
Perforated Inner Optic Diffuser, 10-Pack FLX-PFD-4 - Only for luminaires with 10V controls FLX-CMA-PFD-4 - Only for luminaires with CMA controls	Striped Inner Optic Diffuser, 10-Pack FLX-STRD-4 - Only for luminaires with 10V controls FLX-CMA-STRD-4 - Only for luminaires with CMA controls
Diffuse Inner Optic, 10-Pack FLX-STD-4 - Only for luminaires with 10V controls FLX-CMA-STD-4 - Only for luminaires with CMA controls	Sample Inner Optic Diffuser Kit FLX-SMPL-4 - Only for luminaires with 10V controls - Includes one of each inner optic overlay diffuser

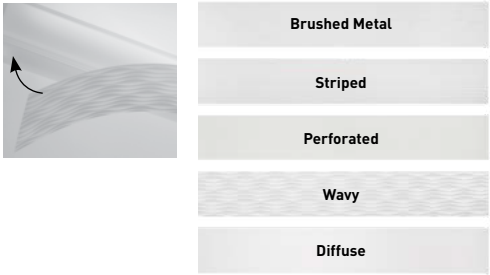


STANDARD OPTION



Type	Weight
Standard	16.9 lbs. [7.7kg]
347V	17.5 lbs. [7.9kg]
w/EB14 Option	21.5 lbs. [9.8kg]

Inner Optic Overlay Diffuser Accessories



Ordering Information

Example: FLX24-40L-35K-10V-FD

FLX24	Product	Lumen Package*	CCT	Voltage	Control	Options	FD	CRI
FLX24	32L 25-30W, 3,200 Lumens 40L 31-36W, 4,000 Lumens 50L 37-42W, 5,000 Lumens 60L 44-51W, 6,000 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 - Available with all lumen packages except 60L (Available Jan 2019) - 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.



Rev. Date: V1 11/15/2018



US: lighting.cree.com

T (800) 236-6800 F (262) 504-5415

Canada: www.cree.com/canada

T (800) 473-1234 F (800) 890-7507

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 - 16.9 lbs. (7.7kg); 347V - 17.5 lbs. (7.9kg); EB14 - 21.5 lbs. (9.8kg)

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
- **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

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).

FLX24™ 2' x 4' 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	26	26	0.24	0.14	0.12	0.10	0.08
	CMA			25	26	0.23	0.13	0.12	0.10	0.08
32L w/EB14 Option	10V			30	N/A	0.27	0.16	0.14	0.12	N/A
	CMA			27	N/A	0.25	0.14	0.13	0.11	N/A
40L	10V	3,950	4,200	32	32	0.30	0.17	0.15	0.13	0.10
	CMA			31	33	0.29	0.17	0.14	0.12	0.11
40L w/EB14 Option	10V			36	N/A	0.33	0.19	0.17	0.14	N/A
	CMA			34	N/A	0.31	0.18	0.16	0.14	N/A
50L	10V	4,850	5,150	39	37	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			42	N/A	0.39	0.22	0.19	0.17	N/A
	CMA			40	N/A	0.37	0.21	0.19	0.16	N/A
60L	10V	5,970	6,350	47	46	0.44	0.25	0.22	0.19	0.15
	CMA			N/A	N/A	N/A	N/A	N/A	N/A	N/A
60L w/EB14 Option	10V			51	N/A	0.47	0.27	0.24	0.20	N/A
	CMA			N/A	N/A	N/A	N/A	N/A	N/A	N/A

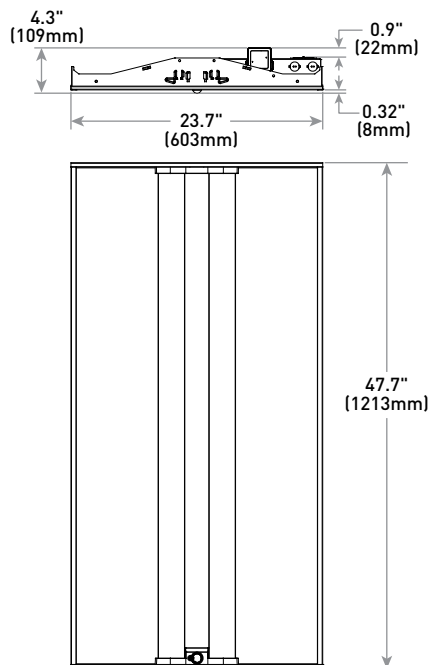
* Electrical data at 25°C (77°F). Actual wattage and lumens may differ by +/- 10% when operating between 120-277V or 347V +/- 10%.

Accessories

Field-Installed			
Drywall Grid Adapter DGA22-WHT - Available December 2018 Surface Mount Kit SMK-FLX24 - Not for use with EB14 or SmartCast® Technology 6' Flexible Power Whip PW-18/4-06-9T/SS - For use in non-dimming applications only	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 Cree SmartCast® Technology Configuration Tool CCT-CWC-1 - One required per project when CMA control or CIF-10V-CWC-SNSR accessory is selected	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	Cree SmartCast® Technology Wireless Dimmer† CWD-CWC-WH Cree SmartCast® Technology Wireless Switch† CWS-CWC-WH

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

SMARTCAST® TECHNOLOGY OPTION

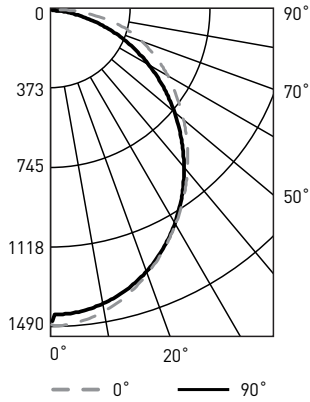


FLX24™ 2' x 4' Specification LED Troffer

Photometry

FLX24-40L-30K-10V-FD BASED ON CESTL REPORT TEST #: PL13280-001B

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory 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	103	99	95
2	98	90	83	77
3	90	79	71	64
4	82	70	61	54
5	75	63	53	47
6	70	56	47	41
7	65	51	42	36
8	60	47	38	32
9	56	43	35	29
10	53	40	32	26

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m²)			
Vertical Angle	Horizontal Angle		
	0°	45°	90°
45°	1,785	1,807	1,845
55°	1,653	1,713	1,818
65°	1,488	1,653	1,874
75°	1,226	1,669	2,066
85°	792	1,799	2,279

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

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	1,107	N/A	27.8%
0-40	1,782	N/A	44.8%
0-60	3,075	N/A	77.3%
0-90	3,978	N/A	100%
0-180	3,978	N/A	100%

Application Reference

Open Space						
Spacing	Lumen Package	Lumens	Wattage	LPW	w/ft²	Average fc
8 x 8	32L	3,200	26	123	0.39	46
	40L	4,000	32	125	0.48	56
	50L	5,000	39	128	0.59	68
	60L	6,000	47	128	0.71	82
8 x 10	32L	3,200	26	123	0.33	38
	40L	4,000	32	125	0.40	47
	50L	5,000	39	128	0.49	57
	60L	6,000	47	128	0.59	69
10 x 10	32L	3,200	26	123	0.26	30
	40L	4,000	32	125	0.32	37
	50L	5,000	39	128	0.39	45
	60L	6,000	47	128	0.47	54
10 x 12	32L	3,200	26	123	0.20	24
	40L	4,000	32	125	0.25	30
	50L	5,000	39	128	0.30	37
	60L	6,000	47	128	0.37	44

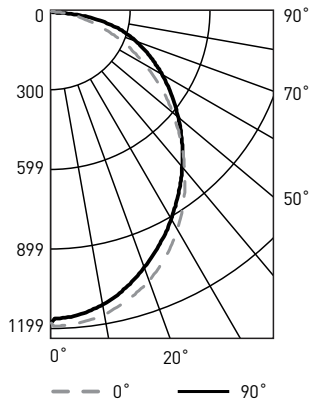
10' ceiling; 80/50/20 reflectances; 2.5' workplane, open room. LLF: 1.0 Initial. Open Space: 50' x 40' x 10'.

FLX22™ 2' x 2' Specification LED Troffer

Photometry

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

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory 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/m ²)			
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 <http://lighting.cree.com/products/indoor/troffers/FLX-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/ft ²	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'.