



Project: _____
 Location: _____
 Cat.No: _____
 Type: _____
 Lamps: _____ Qty: _____
 Notes: _____

Hadco Westbrooke pendant luminaires offer a simple and modern look but still traditional, providing style and performance to work in several urban applications including residential streets, city streets, campuses, parking lots and retail centers. These pendants use the latest LED technology which maximizes energy savings and provides uniform and comfortable light.

Ordering guide:

Example: CXF15-32-G2-A-2-W-A-3-DA-AST-SP2-H-F

Series	LED's	Generation	Finish	Optics	CTT	Voltage	Drive current
CXF14 Westbrooke	32 ¹ 32 LEDs 48 48 LEDs	G2 <input type="checkbox"/>	A Black	2 Type II	W 3000K	A 120-277 VAC	3 350mA
CXF15 Westbrooke	64 64 LEDs 80 ² 80 LEDs		B White	3 Type III	N 4000K	B ^{1,3} 347-480 VAC	5 530 mA
			G Verde	4 Type IV			7 ² 700mA
			H Bronze	5 Type V			
			I Gray				
			J Green				

Ordering guide (continued)

Optional dimming	Optional programs			Surge protection	Luminaire options	Spinning
	1 st option	2 nd option	3 rd option			
DA 4 Hrs 25% Reduction	AST Adjustable start up	CLO Constant light output	OTL Over the life	SP1 10kV/10kA SP2 20kV/20kA	H House side shield N No options	F Fluted spinning N No options
DB 4 Hrs 50% Reduction						
DC 4 Hrs 75% Reduction	N No 1 st option	N No 2 nd option	N No 3 rd option			
DD 6 Hrs 25% Reduction						
DE 6 Hrs 50% Reduction						
DF 6 Hrs 75% Reduction						
DG 8 Hrs 25% Reduction						
DH 8 Hrs 50% Reduction						
DJ 8 Hrs 75% Reduction						
DALI Compatible with DALI						
N No dimming						

Footnotes

- 32 LED at 350mA and 530mA are not compatible with 347-480V.
- Can't use 700mA with 80LED's.
- 347-480V not compatible with optional dimming or optional programming.

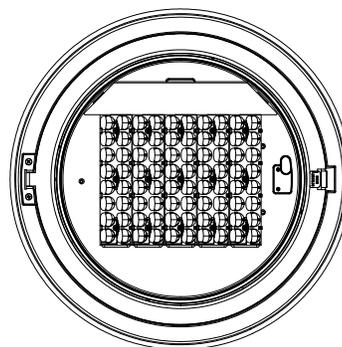
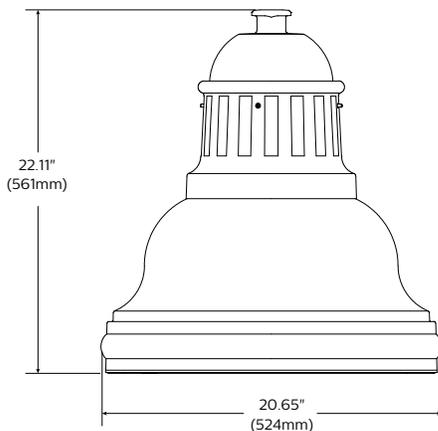
CXF14/CXF15 Westbrooke

Pendant

Dimensions

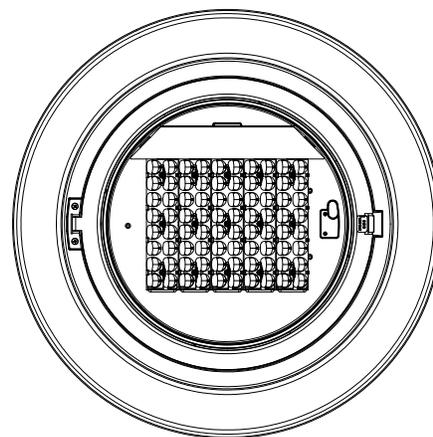
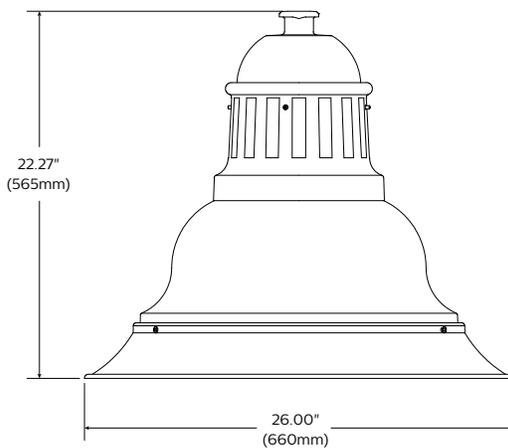
CXF14

- Width:** 21" diameter
- Height:** 22-5/16"
- EPA:** 1.6 sq. ft
- Weight:** 38 lbs (17.24 kg)
(maximum)



CXF15

- Width:** 26" diameter
- Height:** 22-5/16"
- EPA:** 1.6 sq. ft
- Weight:** 38 lbs (17.24 kg)
(maximum)



Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L₇₀ hours limited to 6 times actual LED test hours.

Ambient Temperature °C	Driver mA	Calculated L ₇₀ Hours	L ₇₀ per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	700 mA	>100,000 hours	>60,000 hours	>87%

CXF14/CXF15 Westbrooke

Pendant

LED Wattage and Lumen Values: Westbrooke CXF14 / CXF15

4000K

Ordering Code	Total LEDs	LED Current (mA)	Average System Watts ¹	Color Temp.	Type 2			Type 3			Type 4			Type 5		
					Delivered Lumens ²	Efficacy (LPW)	BUG Rating	Delivered Lumens ²	Efficacy (LPW)	BUG Rating	Delivered Lumens ²	Efficacy (LPW)	BUG Rating	Delivered Lumens ²	Efficacy (LPW)	BUG Rating
CXFxx32-G2-N3-16	32	350	35	4000K	4,134	117	B1-U0-G1	4,012	114	B1-U0-G1	3,913	111	B1-U0-G1	3,803	108	B3-U0-G1
CXFxx32-G2-N5-16	32	530	51	4000K	5,850	114	B1-U0-G1	5,678	111	B1-U0-G1	5,537	108	B1-U0-G1	5,381	105	B3-U0-G1
CXFxx32-G2-N7-16	32	700	71	4000K	7,671	109	B2-U0-G1	7,445	106	B1-U0-G2	7,260	103	B1-U0-G2	7,055	100	B3-U0-G2
CXFxx48-G2-N3-16	48	350	52	4000K	5,994	116	B1-U0-G1	5,818	113	B1-U0-G1	5,673	110	B1-U0-G2	5,514	107	B3-U0-G1
CXFxx48-G2-N5-16	48	530	75	4000K	8,483	113	B2-U0-G2	8,232	110	B2-U0-G2	8,028	107	B2-U0-G2	7,802	104	B3-U0-G2
CXFxx48-G2-N7-16	48	700	103	4000K	11,122	108	B2-U0-G2	10,794	104	B2-U0-G2	10,526	102	B2-U0-G2	10,230	99	B4-U0-G2
CXFxx64-G2-N3-16	64	350	68	4000K	7,602	112	B2-U0-G1	7,378	108	B1-U0-G2	7,195	106	B1-U0-G2	6,993	103	B3-U0-G2
CXFxx64-G2-N5-16	64	530	99	4000K	10,758	109	B2-U0-G2	10,441	105	B2-U0-G2	10,182	103	B2-U0-G2	9,895	100	B4-U0-G2
CXFxx64-G2-N7-16	64	700	137	4000K	14,106	103	B3-U0-G2	13,690	100	B2-U0-G2	13,350	98	B2-U0-G2	12,974	95	B4-U0-G2
CXFxx80-G2-N3-16	80	350	87	4000K	10,214	117	B2-U0-G2	9,913	114	B2-U0-G2	9,667	111	B2-U0-G2	9,394	108	B4-U0-G2
CXFxx80-G2-N5-16	80	530	127	4000K	14,453	114	B3-U0-G2	14,027	111	B2-U0-G2	13,679	108	B2-U0-G2	13,294	105	B4-U0-G2

LED Wattage and Lumen Values: Westbrooke CXF14 / CXF15 (continued)

3000K

Ordering Code	Total LEDs	LED Current (mA)	Average System Watts ¹	Color Temp.	Type 2			Type 3			Type 4			Type 5		
					Delivered Lumens ²	Efficacy (LPW)	BUG Rating	Delivered Lumens ²	Efficacy (LPW)	BUG Rating	Delivered Lumens ²	Efficacy (LPW)	BUG Rating	Delivered Lumens ²	Efficacy (LPW)	BUG Rating
CXFxx32-G2-W3-16	32	350	35	3000K	3,618	103	B1-U0-G1	3,511	100	B1-U0-G1	3,424	97	B1-U0-G1	3,395	96	B2-U0-G1
CXFxx32-G2-W5-16	32	530	51	3000K	5,119	100	B1-U0-G1	4,968	97	B1-U0-G1	4,845	95	B1-U0-G1	4,708	92	B3-U0-G1
CXFxx32-G2-W7-16	32	700	71	3000K	6,712	95	B2-U0-G1	6,514	92	B1-U0-G1	6,352	90	B1-U0-G2	6,176	88	B3-U0-G1
CXFxx48-G2-W3-16	48	350	52	3000K	5,245	102	B1-U0-G1	5,090	99	B1-U0-G1	4,964	96	B1-U0-G1	4,824	94	B3-U0-G1
CXFxx48-G2-W5-16	48	530	75	3000K	7,422	99	B2-U0-G1	7,203	96	B1-U0-G2	7,025	94	B1-U0-G2	6,827	91	B3-U0-G2
CXFxx48-G2-W7-16	48	700	103	3000K	9,732	94	B2-U0-G2	9,445	91	B2-U0-G2	9,210	89	B2-U0-G2	8,951	87	B3-U0-G2
CXFxx64-G2-W3-16	64	350	68	3000K	6,652	98	B2-U0-G1	6,456	95	B1-U0-G1	6,296	92	B1-U0-G2	6,118	90	B3-U0-G1
CXFxx64-G2-W5-16	64	530	99	3000K	9,413	95	B2-U0-G2	9,136	92	B2-U0-G2	8,909	90	B2-U0-G2	8,658	87	B3-U0-G2
CXFxx64-G2-W7-16	64	700	137	3000K	12,342	90	B2-U0-G2	11,978	88	B2-U0-G2	11,681	86	B2-U0-G2	11,352	83	B4-U0-G2
CXFxx80-G2-W3-16	80	350	87	3000K	8,937	103	B2-U0-G2	8,673	100	B2-U0-G2	8,458	97	B2-U0-G2	8,220	94	B3-U0-G2
CXFxx80-G2-W5-16	80	530	127	3000K	12,647	100	B2-U0-G2	12,274	97	B2-U0-G2	11,969	94	B2-U0-G2	11,632	92	B4-U0-G2

1. System input wattage may vary based on input voltage, by up to +/- 10%, and based on manufacturer forward voltage, by up to +/- 8%.

2. Lumen values based on photometric tests performed in compliance with IESNA LM-79.

Note: Some data may be scaled based on tests of similar, but not identical, luminaires.

CXF14/CXF15 Westbrooke

Pendant

Specifications:

Housing

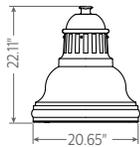
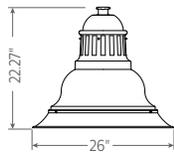
In a round shape, this housing is constructed of low copper die-cast aluminum and 0.090" thick spun aluminum. All non-ferrous fasteners prevent corrosion and ensure longer life.

Access-mechanism

The hinged lens frame is cast aluminum with a stainless steel spring latch for tool-less access

Mounting

T: Top arm mount



Light engine

LEDgine is composed of five main components: Heat Sink, Lens, LED lamp, Optical System, and Driver. Electrical components are RoHS compliant.

LED module

LED type Philips Lumileds LUXEON T. Composed of high-performance white LEDs. Color temperature as per ANSI/NEMA bin Neutral White, 4000 Kelvin nominal (3985K +/- 275K or 3710K to 4260K) or Warm White, 3000 Kelvin nominal (3045K +/- 175K or 2870K to 3220K), CRI 70 Min. 75 Typical.

Heat sink

Made of cast aluminum optimizing the LEDs efficiency and life. Product does not use any cooling device with moving parts (only passive cooling device).

Finish

Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils / 24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard. The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

Optical system

(2) Type II, (3) Type III, (4) Type IV and (5) Type V are composed of high performance optical grade PMMA acrylic refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. Optical system is rated IP66. Performance shall be tested per LM 63, LM 79 and TM 15 (IESNA) certifying its photometric performance. Street side indicated.

Driver

Driver comes standard with dimming compatible 0-10V. High power factor of 95%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. Maximum ambient operating temperature from 40°F (4°C) to 130°F (55°C). Certified in compliance to UL1310 cULus requirement (dry and damp location).

Assembled on a unitized removable tray with Tyco quick disconnect plug resisting to 221°F (105°C). The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

Driver options

Optional programming 1
AST: Pre-set driver for progressive start-up of the LED module(s) to optimize energy management and enhance visual comfort at start-up.

Optional programming 2
CLO: Pre-set driver to manage the lumen depreciation by adjusting the power given to the LEDs offering the same lighting intensity during the entire lifespan of the LED module.

Optional programming 3
OTL: Pre-set driver to signal end of life of the LED module(s) for better fixture management.

Dimming options

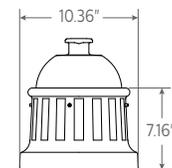
DA: 4 Hrs 25% Reduction
DB: 4 Hrs 50% Reduction
DC: 4 Hrs 75% Reduction
DD: 6 Hrs 25% Reduction
DE: 6 Hrs 50% Reduction
DF: 6 Hrs 75% Reduction
DG: 8 Hrs 25% Reduction
DH: 8 Hrs 50% Reduction
DJ: 8 Hrs 75% Reduction
DALI: Pre-set driver compatible with the DALI logarithmic control system.

Surge protection

Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line Ground, Line Neutral and Neutral Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Luminaire options

F: Fluted spinning



N: None

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Pendant

Specifications (continued)

Wiring

Gauge 18 wires. Top mount option come with quick disconnects. Arm mount options provide a 6" Minimum exceeding from luminaire.

Hardware

All non-ferrous fasteners prevent corrosion and ensure longer life.

Luminaire useful life

Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, using LM-80 data from LED manufacturers and engineering prediction methods, the luminaire useful life is expected to reach 100,000+ hours with >L70 lumen maintenance @ 25°C. (48 LED and 64 LED@700mA is 82,000) Luminaire useful life accounts for LED lumen maintenance and additional factors, including LED life, driver life, PCB substrate, solder joints on/off cycles and burning hours for nominal applications.

LED products manufacturing standard

The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340 5 1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product

Quality control

The manufacturer must provide a written confirmation of its ISO 9001 2008 and ISO 14001 2004 International Quality Standards Certification.

Vibration resistance

Meets the ANSI C136.31 2001, American National Standard for Roadway Luminaire Vibration specifications for normal Applications.

Certifications and Compliance

cETL listed to Canadian safety standards for wet locations. Manufactured to ISO 9001:2008 Standards. UL8750 and UL1598 compliant. ETL listed to U.S. safety standards for wet locations. cETL listed to Canadian safety standards for wet locations. LM80 & LM79 tested. IP Rating: The LED optics chamber is IP66 rated. The LED driver is IP66 rated. Westbrooke LED luminaires are DesignLights Consortium qualified.

Warranty

5 year extended warranty.

