HADCO by signify

Urban

Teardrop

TXF9 Pendant

Project:

Location:

Cat.No:

Type:

Lamps: Qty:

Notes:

Hadco's Teardrop LED pendant seamlessly replaces HID technology while maintaining that traditional "teardrop" look. The Teardrop uses latest LED technology which maximizes energy savings and lowered maintenance cost to reduce your total cost of ownership. By combining modern LED technology and traditional design, the Teardrop LED luminaires are perfectly suited for several applications including residential streets, city streets, campuses, parking lots and retail centers.

Ordering guide

example: TXF948G2NAGF2WA5DDASTNNSP1H

Series	LEDs	Gen.	Mountings	Finishes	Lenses	Optics
TXF9		G2				
TXF9 Teardrop LED pendant	**32** 32[3] **48** 48 **64** 64 **80** 80[1]	**G2** Gen 2	**N** Cast Neck **P** Threaded Pipe	**A** Black **B** White **G** Verde **H** Bronze **J** Green	**GF** Flat Glass **KL** Acrylic Long Globe	**2** Type II **3** Type III **4** Type IV **5** Type V

Ordering guide continued

				Optional programs				
Color Temps	Voltages	Currents	Optional dimming[2]	1st option[2]	2nd option[2]	3rd option[2]	Surge protection	Options
W 3000K **N** 4000K	**A** 120-277 VAC **B** 347-480 VAC[2,3]	**3** 350mA **5** 530 mA **7** 700mA[1]	**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** Compatible with DALI **N** No dimming	**AST** Adjustable Start Up **N** No 1st option	**CLO** Constant Light Output **N** No 2nd option	**OTL** Over The Life **N** No 3rd option	**SP1** 10kV/10kA (standard) **SP2** 20kV/20kA (optional)	**H** HSS **N** No options

1. Configurations with 80 (80) LED array board are not compatible with the 700mA (7) drive current (consult factory for this option as a custom solution).
2. Configurations with 347-480VAC (B) voltage are not compatible with optional dimming or optional programming.
3. Configurations with 32 (32) LEDs at 350mA (3) and 530mA (5) currents are not compatible with 347-480 VAC (B) voltage.

TXF9 Teardrop

Pendant

Lumen Charts

LED Module: N-4000K	LED qty	System current	Color Temp.	Avg. System Watts*	Type 2			Type 3			Type 4			Type 5		
					Lumen Output	BUG Rating	Efficacy	Lumen Output	BUG Rating	Efficacy	Lumen Output	BUG Rating	Efficacy	Lumen Output	BUG Rating	Efficacy
TXF932-G2-KLN3-16	32	350mA	4000K	35	5006	B1-U2-G1	141	4958	B1-U2-G1	140	4971	B1-U2-G2	140	4880	B3-U2-G1	138
TXF932-G2-KLN5-16	32	530mA	4000K	52	7095	B2-U3-G2	137	7028	B2-U3-G2	136	7046	B1-U2-G2	136	6917	B3-U2-G2	134
TXF932-G2-KLN7-16	32	700mA	4000K	71	9243	B2-U3-G2	130	9155	B2-U3-G2	129	9179	B2-U3-G2	129	9011	B4-U2-G2	127
TXF948-G2-KLN3-16	48	350mA	4000K	51	7439	B2-U3-G2	145	7368	B2-U3-G2	143	7387	B2-U3-G2	144	7252	B3-U2-G2	141
TXF948-G2-KLN5-16	48	530mA	4000K	76	10500	B2-U3-G2	139	10400	B2-U3-G2	138	10427	B2-U3-G2	138	10236	B4-U3-G2	136
TXF948-G2-KLN7-16	48	700mA	4000K	104	13646	B3-U3-G3	132	13516	B3-U3-G3	130	13551	B2-U3-G3	131	13303	B4-U3-G2	128
TXF964-G2-KLN3-16	64	350mA	4000K	70	9931	B2-U3-G2	142	9705	B2-U3-G2	139	9645	B2-U3-G2	138	9563	B4-U3-G2	137
TXF964-G2-KLN5-16	64	530mA	4000K	105	14635	B3-U3-G3	139	14302	B3-U3-G3	136	14214	B2-U3-G3	135	14093	B4-U3-G2	134
TXF964-G2-KLN7-16	64	700mA	4000K	137	18134	B3-U3-G3	132	17722	B3-U3-G3	129	17613	B3-U3-G3	128	17463	B5-U3-G3	127
TXF980-G2-KLN3-16	80	350mA	4000K	86	12211	B2-U3-G2	142	11933	B2-U3-G2	139	11860	B2-U3-G2	138	11759	B4-U3-G2	137
TXF980-G2-KLN5-16	80	530mA	4000K	130	17881	B3-U3-G3	138	17474	B3-U3-G3	134	17364	B3-U3-G3	134	17219	B5-U3-G3	132
LED Module: N-4000K - w_HSS					Type 2			Type 3			Type 4					
TXF932-G2-KLN3-16	32	350 mA	4000K	35	4179	B1-U2-G1	118	4155	B1-U2-G1	117	4093	B1-U2-G1	116			
TXF932-G2-KLN5-16	32	530 mA	4000K	52	5923	B1-U2-G1	114	5889	B1-U2-G1	114	5802	B1-U2-G2	112			
TXF932-G2-KLN7-16	32	700 mA	4000K	71	7716	B1-U3-G2	108	7672	B1-U3-G2	108	7558	B1-U3-G2	106			
TXF948-G2-KLN3-16	48	350 mA	4000K	51	6210	B1-U2-G1	121	6175	B1-U2-G2	120	6083	B1-U2-G2	118			
TXF948-G2-KLN5-16	48	530 mA	4000K	76	8765	B2-U3-G2	116	8716	B1-U3-G2	115	8586	B2-U3-G2	114			
TXF948-G2-KLN7-16	48	700 mA	4000K	104	11391	B2-U3-G2	110	11327	B2-U3-G2	109	11158	B2-U3-G2	108			
TXF964-G2-KLN3-16	64	350 mA	4000K	70	8189	B1-U3-G2	117	8142	B1-U3-G2	117	8021	B1-U3-G2	115			
TXF964-G2-KLN5-16	64	530 mA	4000K	105	12067	B2-U3-G2	115	11999	B2-U3-G2	114	11820	B2-U3-G2	112			
TXF964-G2-KLN7-16	64	700 mA	4000K	137	14953	B2-U3-G2	109	14869	B2-U3-G2	108	14647	B2-U3-G3	107			
TXF980-G2-KLN3-16	80	350 mA	4000K	86	10069	B2-U3-G2	117	10012	B2-U3-G2	117	9863	B2-U3-G2	115			
TXF980-G2-KLN5-16	80	530 mA	4000K	130	14744	B2-U3-G2	113	14661	B2-U3-G2	113	14442	B2-U3-G3	111			

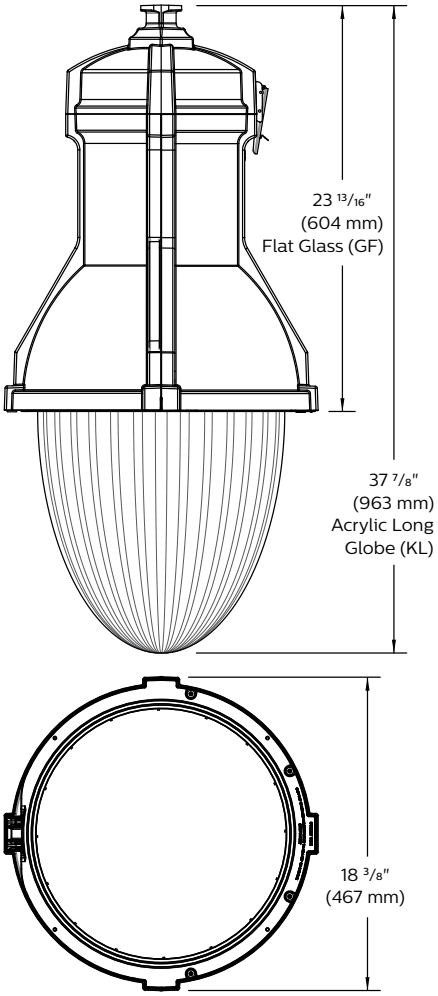
LED Module: N-3000K	LED qty	System current	Color Temp.	Avg. System Watts*	Type 2			Type 3			Type 4			Type 5		
					Lumen Output	BUG Rating	Efficacy	Lumen Output	BUG Rating	Efficacy	Lumen Output	BUG Rating	Efficacy	Lumen Output	BUG Rating	Efficacy
TXF932-G2-KLW3-16	32	350 mA	3000K	35	4390	B1-U2-G1	124	4348	B1-U2-G1	123	4359	B1-U2-G1	123	4380	B3-U2-G1	124
TXF932-G2-KLW5-16	32	530 mA	3000K	52	6222	B2-U2-G2	120	6163	B1-U2-G2	119	6179	B1-U2-G2	119	6066	B3-U2-G2	117
TXF932-G2-KLW7-16	32	700 mA	3000K	71	8106	B2-U3-G2	114	8028	B2-U3-G2	113	8049	B2-U3-G2	113	7902	B4-U2-G2	111
TXF948-G2-KLW3-16	48	350 mA	3000K	51	6523	B2-U2-G2	127	6461	B2-U2-G2	126	6478	B1-U2-G2	126	6360	B3-U2-G2	124
TXF948-G2-KLW5-16	48	530 mA	3000K	76	9208	B2-U3-G2	122	9120	B2-U3-G2	121	9143	B2-U3-G2	121	8976	B4-U2-G2	119
TXF948-G2-KLW7-16	48	700 mA	3000K	104	11967	B2-U3-G2	115	11852	B2-U3-G2	114	11883	B2-U3-G2	115	11665	B4-U3-G2	112
TXF964-G2-KLW3-16	64	350 mA	3000K	70	8708	B2-U3-G2	125	8510	B2-U3-G2	122	8458	B2-U3-G2	121	8386	B4-U2-G2	120
TXF964-G2-KLW5-16	64	530 mA	3000K	105	12833	B3-U3-G3	122	12541	B2-U3-G2	119	12464	B2-U3-G2	118	12359	B4-U3-G2	117
TXF964-G2-KLW7-16	64	700 mA	3000K	137	15902	B3-U3-G3	116	15541	B3-U3-G3	113	15445	B3-U3-G3	113	15314	B4-U3-G2	112
TXF980-G2-KLW3-16	80	350 mA	3000K	86	10708	B2-U3-G2	125	10465	B2-U3-G2	122	10400	B2-U3-G2	121	10311	B4-U3-G2	120
TXF980-G2-KLW5-16	80	530 mA	3000K	130	15680	B3-U3-G3	121	15323	B3-U3-G3	118	15227	B3-U3-G3	117	15100	B4-U3-G2	116
LED Module: N-3000K - w_HSS					Type 2			Type 3			Type 4					
TXF932-G2-KLW3-16	32	350 mA	3000K	35	3664	B1-U2-G1	104	3644	B1-U2-G1	103	3589	B1-U2-G1	101			
TXF932-G2-KLW5-16	32	530 mA	3000K	52	5194	B1-U2-G1	100	5165	B1-U2-G1	100	5088	B1-U2-G2	98			
TXF932-G2-KLW7-16	32	700 mA	3000K	71	6766	B1-U3-G1	95	6728	B1-U3-G2	94	6628	B1-U2-G2	93			
TXF948-G2-KLW3-16	48	350 mA	3000K	51	5445	B1-U2-G1	106	5415	B1-U2-G1	105	5334	B1-U2-G2	104			
TXF948-G2-KLW5-16	48	530 mA	3000K	76	7686	B1-U3-G2	102	7643	B1-U3-G2	101	7529	B1-U3-G2	100			
TXF948-G2-KLW7-16	48	700 mA	3000K	104	9989	B2-U3-G2	96	9933	B2-U3-G2	96	9785	B2-U3-G2	94			
TXF964-G2-KLW3-16	64	350 mA	3000K	70	7181	B1-U3-G1	103	7140	B1-U3-G2	102	7034	B1-U3-G2	101			
TXF964-G2-KLW5-16	64	530 mA	3000K	105	10582	B2-U3-G2	101	10523	B2-U3-G2	100	10366	B2-U3-G2	99			
TXF964-G2-KLW7-16	64	700 mA	3000K	137	13113	B2-U3-G2	96	13039	B2-U3-G2	95	12844	B2-U3-G2	94			
TXF980-G2-KLW3-16	80	350 mA	3000K	86	8830	B2-U3-G2	103	8780	B1-U3-G2	102	8649	B2-U3-G2	101			
TXF980-G2-KLW5-16	80	530 mA	3000K	130	12930	B2-U3-G2	99	12857	B2-U3-G2	99	12665	B2-U3-G2	97			

* System wattage or total luminaire wattage includes the LED module and the LED driver.
Note: Equivalence should always be confirmed by a photometric layout.
Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Hadco.

TXF9 Teardrop

Pendant

Dimensions



Flat glass

Height: 23 13/16" (60cm)
Width: 18 3/8" (47cm)
Max. EPA: 2.00 sq. ft.
Max. Weight: 25 lbs

Acrylic long globe

Height: 37 7/8" (96cm)
Width: 18 3/8" (46cm)
Max. EPA: 2.60 sq. ft.
Max. Weight: 32 lbs

Housing

The housing is constructed of low copper die-cast aluminum. All non-ferrous fasteners prevent corrosion and ensure longer life. The Cast neck or Pipe Threading mounting options and Flat Glass or Long Acrylic Lens options provide versatility in your designs.

Mounting

Cast Neck option (N) for use with clamp collar, or Threaded Pipe option (P) 1-1/2-11.5 NPT pipe nipple for mounting to arm.

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).

Optical System

Type II, Type III, Type IV and 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

AST: Pre-set driver for progressive start-up of the LED module(s) to optimize energy management and enhance visual comfort at start-up.
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.
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. Option for SP2 20kV/20kA

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.

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Pendant

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

Threaded Pipe option - 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.
Warranty: 5 year extended warranty.

LED Performance

Predicted lumen depreciation data[1]				
Ambient Temperature (°C)	Driver mA	Calculated L_{70} hours[1,2]	L_{70} per TM-21[2,3]	Lumen Maintenance % @ 60,000 hours
25°C	up to 700 mA	>100,000	>60,000	87%

1. 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.
2. L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output.
3. Calculated per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours.

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