

# ATX™ FNLED Series Nonmetallic LED Luminaires

## Standard and Emergency Battery Back-Up, Increased Safety

ATEX/IECEx:  
Zone 2 and 22  
II 3 GD  
IP66 – IK10

### Applications

- For use in locations where:
  - Hazardous areas are designated as Zone 2 and 22
  - A high degree of corrosion resistance is required
  - Protection against dirt, water and moisture is necessary
- Typical applications include:
  - Oil refineries
  - Petrochemical facilities
  - Food processing plants
  - Waste and water treatment plants
  - Underground tunnels
  - General manufacturing facilities

### Features

- Available in 5000K or 4000K Color Temperatures.
- Meets photobiological requirement for Risk Group 0 (RG0).
- Easy to retrofit in same mounting footprint as Appleton's FN series nonmetallic fluorescent luminaires.
- Full range of lumen outputs, with light distribution equivalent to Appleton's FN series fluorescent luminaires.
- Corrosion-resistant fiberglass reinforced polyester body and hinged polycarbonate lens.
- High impact resistance housing (20 Joules – IK10) from -30 °C to +55 °C (-22 °F to +131 °F) ambient temperature and wind profile for use in extreme offshore and onshore environments.
- 60,000+ hour LED life for years of maintenance free operation.
- Lightweight design, hinged cover with captive screws, and terminal block wiring for easy installation and maintenance.
- Contemporary, low profile design suitable for tight spaces.
- Standard screw-type terminal block can accept 1.5 to 6 mm<sup>2</sup> wire.
- Field replaceable LED driver.
- Industry-leading thermal management for safe, reliable operation over wide temperature range.
- Universal, high efficiency, drivers cover voltage requirements for 120-277 Vac, 125-300 Vdc, 50/60 Hz +/- 10%.
- High power factor electronic driver (>0.95).
- Standard 6KV surge suppression.
- M20 plug or M25 plug provided.
- Latch assembly and elastomer gasket seals against water and dust ingress, IP66.
- Easily accessed for maintenance using Allen key or straight blade screwdriver.
- Central opening with unique patented release system to prevent damage.
- Can be horizontally or vertically mounted.
- Available in 3 hour emergency version, including built-in monthly self- test. Test results through multi-colored LED.
- Positive safety switch disconnects power to LED's and driver to allow maintenance in hazardous locations (emergency version).
- Ex e battery with plug-in connector

### Options

- 3 Hours Emergency/Battery Back-Up available ①;
    - Add suffix -E to the end of the catalog number.
- Example: *FNLED5CBUSADE*, *FNLED3CBUSADE*



### Standard Materials

- Housing: fiberglass reinforced polyester
- Lens: polycarbonate
- Diffuser: polycarbonate
- Gasket: elastomer
- Internal reflector: highly reflective white polycarbonate
- Mounting accessories available in different materials such as gray painted aluminum, zinc plated steel, galvanized steel or 316 stainless steel

### ATEX/IECEx Certifications and Compliances

- **Certification Type: FNLED**
  - Gas: Zone 2
    - Conforming to ATEX 2014/34/EU: II 3 G
    - Type of Protection: Ex ec IIC Gc
    - Temperature Class: T5 to T3
  - Dust: Zone 22
    - Conforming to ATEX 2014/34/EU: II 3 D
    - Type of Protection: Ex tc IIIC Dc
    - Surface Temperature: +60 °C to +80 °C (+140 °F to +176 °F)
- Ambient Temperature:
  - Standard: -30 °C up to +55 °C (-22 °F up to +131 °F)
  - Emergency: -20 °C up to +50 °C (-4 °F up to +122 °F)
- EU Declaration of Conformity: 50319
- ATEX Certificate: INERIS 19 ATEX 3005X
- IECEx Certificate: IECEx INE 19.0006X
- Index of Protection according EN/IEC 60529: IP66
- Impact Resistance (shock): IK10
- Photobiological Safety, IEC 62778 and IEC 62471: RG0 at 0.25 m mounting height

① Available for 3K and 5K lumen models only.

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Order using catalog numbering guide below or select catalog number from tables on following pages.

FNLED	3	C	BU	S	A	D
Series: FNLED - Zone 2, 22 ATEX/IECEX Certified	Lumen Output ②: 3 - 3K 4 - 4K 5 - 5K 7 - 7K	Color Temperature: C - 5000K (Cool) N - 4000K (Neutral)	Voltage: BU - 120-277 Vac, 125-300 Vdc, 50/60 Hz	Mounting Version ③: S - Surface/Suspension Mount Standard Wiring (single phase) L - Surface/Suspension Mount Dual Loop In/Out Through Wiring(single phase) P - Mounting Cross	Cable Entry: A - Armored M20 ④ N - Unarmored M25 ④	Options: D - Diffused ⑥ E - 3H Emergency (combined) ⑦ F - Cutoff Switch ⑧ R - 90M Non-maintained Emergency ⑨ V - 0-10V Dimming
LED Position ①: Blank - Direct (with diffuser) I - Indirect (without diffuser)						

① Indirect position only available for Standard product, non-Emergency.

② All values displayed reflect typical values.

③ Standard and Loop In/Out cable entries provide 3 entries; 1 at one and 2 at the other end of the housing.

④ Must order armored cable glands separately. M20 entries are with brass earth continuity plate for armored cable.

⑤ Cable glands provided in luminaires with unarmored hub entries.

⑥ Diffuser required for direct, not included with indirect.

⑦ Available for 3K and 5K lumen models only.

⑧ Select to have cutoff switch with standard model. Cutoff Switch included with Emergency option

⑨ Non-maintained Emergency option includes 90 minutes of battery backup. To include cutoff switch, please order with -F option also. Ex: FNLED5CBUSAFR

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Lumen Comparison Chart

Line Current Amps	Input Power (W)	Power Factor	Lumen Output (Lumens)	Efficacy (lm/w)	Correlated Color Temperature (CCT)	Color Rendering Index (CRI)	Length	Weight	Catalog Number
Standard Models									
0.132 A at 230 Vac	30	> 0.9	3,300	110	5000K	80+	0,785 m (2,58 ft)	5 kg (11.0 lb)	FNLED3CBUxxD
			3,200	107	4000K				FNLED3NBUxxD
0.173 A at 230 Vac	40	> 0.9	4,300	108	5000K	80+	0,785 m (2,58 ft)	5 kg (11.0 lb)	FNLED4CBUxxD
			4,200	105	4000K				FNLED4NBUxxD
0.193 A at 230 Vac	43	> 0.9	5,100	119	5000K	80+	1,39 m (4,56 ft)	8 kg (17.5 lb)	FNLED5CBUxxD
			5,000	116	4000K				FNLED5NBUxxD
0.296 A at 230 Vac	66	> 0.9	7,000	106	5000K	80+	1,39 m (4,56 ft)	8.75 kg (19.0 lb)	FNLED7CBUxxD
			7,000	106	4000K				FNLED7NBUxxD
Emergency Models									
0.132 A at 230 Vac	30	> 0.9	3,300   650	110	5000K	80+	0,785 m (2,58 ft)	6 kg (13 lbs)	FNLED3CBUxxDE
			3,200   550	107	4000K				FNLED3NBUxxDE
0.193 A at 230 Vac	43		5,100   650	119	5000K		1,39 m (4,56 ft)	10 kg (22 lbs)	FNLED5CBUxxDE
			5,000   550	116	4000K				FNLED5NBUxxDE

LED/AREA: ATEX/IECEX ENCLOSED AND GASKETED/INCREASED SAFETY

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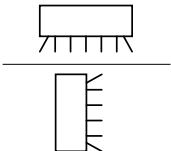
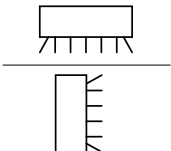
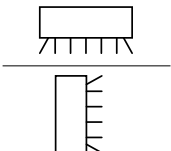
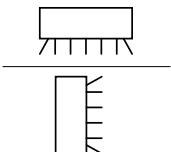
LED/AREA: ATEX/IECEX ENCLOSED AND GASKETED/INCREASED SAFETY

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### Technical Data

Model Type	Position Horizontal / Vertical	Gas			Dust		
		T Rating			Surface T°		
		Ta = +40°C (+104°F)	Ta = +50°C (+122°F)	Ta = +55°C (+131°F)	Ta = +40°C (+104°F)	Ta = +50°C (+122°F)	Ta = +55°C (+131°F)

### Standard Models

FNLED3		T4	T4	T4	60 °C (140 °F)	70 °C (158 °F)	75 °C (167 °F)
FNLED4		T4	T3		60 °C (140 °F)	70 °C (158 °F)	75 °C (167 °F)
FNLED5		T5	T4	T4	60 °C (140 °F)	70 °C (158 °F)	75 °C (167 °F)
					65 °C (149 °F)	75 °C (167 °F)	80 °C (176 °F)
FNLED7		T4	T4	T4	65 °C (149 °F)	75 °C (167 °F)	80 °C (176 °F)

### Emergency Models

FNLED3		T4	T4	—	60 °C (140 °F)	70 °C (158 °F)	—
							
FNLED5		T4	T4	—	60 °C (140 °F)	70 °C (158 °F)	—
							

### “T” Numbers Represent the Maximum Temperature

“T” #	T1	T2	T3	T4	T5	T6
Temp. Range °C (°F)	301-450	201-300	136-200	101-135	86-100	85
	(547-842)	(394-572)	(277-392)	(214-275)	(187-212)	(185)

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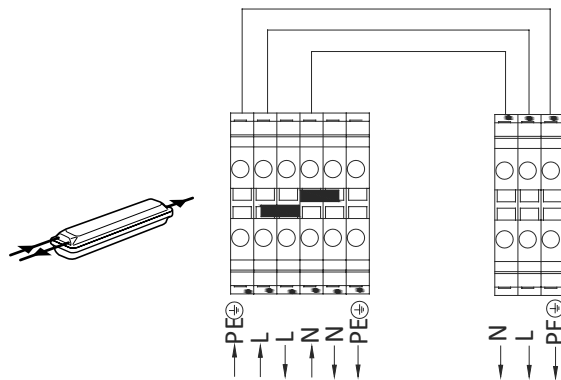
### Wiring Diagrams

#### Standard

##### Version : L

Dual Loop In/Out - Through Wiring (Single Phase)

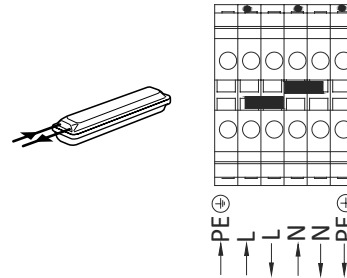
3 entries, 1 at one end and 2 at the other



##### Version : S

Standard (Single Phase)

3 entries, 1 at one end and 2 at the other

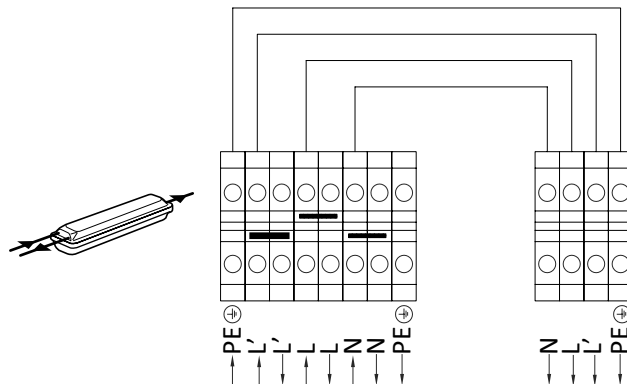


#### Emergency

##### Version : L

Dual Loop In/Out - Through Wiring (Single Phase)

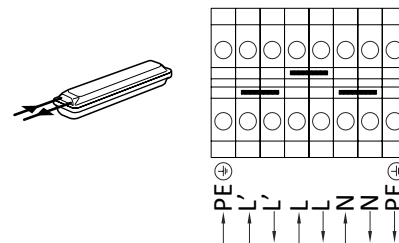
3 entries, 1 at one end and 2 at the other



##### Version : S

Standard (Single Phase)

3 entries, 1 at one end and 2 at the other



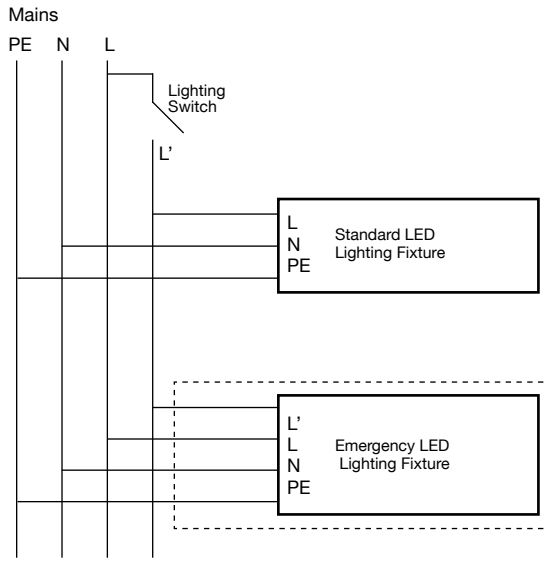
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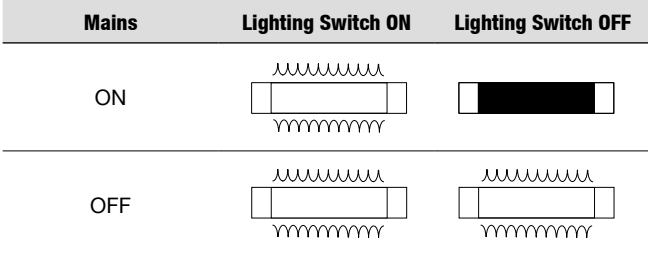
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LED/AREA: ATEX/IECEX ENCLOSED AND GASKETED/INCREASED SAFETY

### Wiring Diagram



### Emergency Function Diagram



### LED Indicator Signals

Color	Timing	Function
Green	Blinking: 1 sec ON, 1 sec OFF	Charging OK, Battery not yet fully charged Testing OK, No fault detected
Green	Fast Blinking: 0.25 sec ON, 0.25 sec OFF	Functional/ duration self-test on-going
Green	Steady ON	Battery fully charged Testing OK, No fault detected
Red	Blinking: 1 sec ON, 1 sec OFF	Fault condition: Battery is reversed, not connected, or shorted Functional test failure, full duration test failure
Green and Red	LED Indicators OFF	Main supply OFF, Emergency mode ON

### Emergency Battery Backup Automatic Testing System (ATS)

At the completion of functional & full duration tests, and when AC power is present, LED indicators will display status of the emergency luminaire.

Functional Test	Full Duration Test
Starts within 24-48 hours after the initial power up of the luminaire	Starts within 30 days after the initial power up of the module
Occurs every 14 days after the initial functional test	Occurs once every 365 days after the initial duration test
Lasts for 30 seconds	Lasts for 180 minutes

### Emergency Light Duration


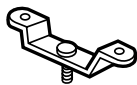



Lumen Level	Battery Capacity	Duration	Light Output
3K (FNLED3)	6 Ah – 6V	180 minutes	5000K CCT: 650 lumens
5K (FNLED5)			4000K CCT: 550 lumens

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### Accessories and Replacement Parts

	Description	Catalog Number
<b>Fixing Brackets</b>		
	Set of two brackets for surface installation	
	Zinc plated steel	FEFBZ
<b>Brackets for Surface Mounting</b>		
	Set of two	
	316 stainless steel	FESBS
<b>M8 Ring Bolts</b>		
	Set of two	
	Zinc plated steel	FERBM8Z
<b>Half Clamps Brackets for Pole Mounting</b>		
	Set of two	
	Diameter for 1-1/4 to 1-1/2" pole: 42 mm (1.65 in) to 49 mm (1.93 in)	
	Zinc plated steel	FEHC49Z
	316 stainless steel	FEHC49S
	Diameter for 2" pole: 60 mm (2.36 in)	
	Zinc plated steel	FEHC60Z
	316 stainless steel	FEHC60S
<b>Hinged Brackets</b>		
	Set of two brackets for adjusting luminaire	
	Aluminum	FEHBA
	316 stainless steel	FEHBS
<b>Fall Prevention Kit</b>		
	Safety chain retains fixture temporarily to ease installation	
	For M25 cable entry	FESCM25
	For M20 cable entry	FESCM20

LED/AREA: ATEX/IECEX ENCLOSED AND GASKETED/INCREASED SAFETY

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### Accessories and Replacement Parts

	Description	Catalog Number
<b>Replacement Drivers and Inverter</b>		
	FNLED3 Replacement Driver (1 each)	APMS050C135UD52
	FNLED4 Replacement Driver (1 each)	APMS050C135UD70
	FNLED5 Replacement Driver (1 each)	APMS050C135UD84
	FNLED7 Replacement Driver (1 each)	APMS050C135UD60
	FNLED3 and FNLED5 Emergency Model Inverter (BMM) (1 each)	BMMLED
<b>Replacement Lens</b>		
	0.79 m (2.6 ft) clear polycarbonate external lens with gasket	Z00650
	1.39 m (4.6 ft) clear polycarbonate external lens with gasket	Z00651
	0.79 m (2.6 ft) diffused polycarbonate external lens with gasket	Z00962
	1.39 m (4.6 ft) diffused polycarbonate external lens with gasket	Z00965
<b>Battery Pack</b>		
	Battery Pack 6V 6Ah for FELED5 Emergency version	BPLLED



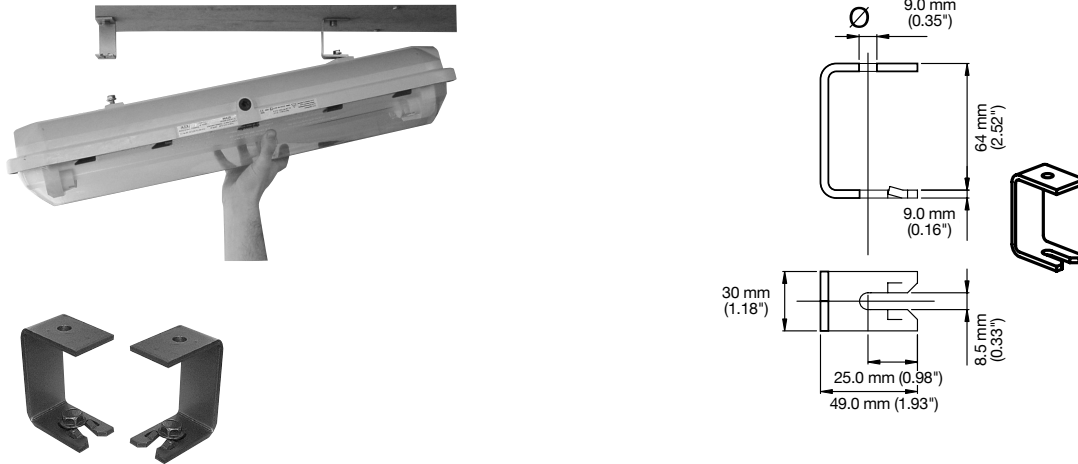
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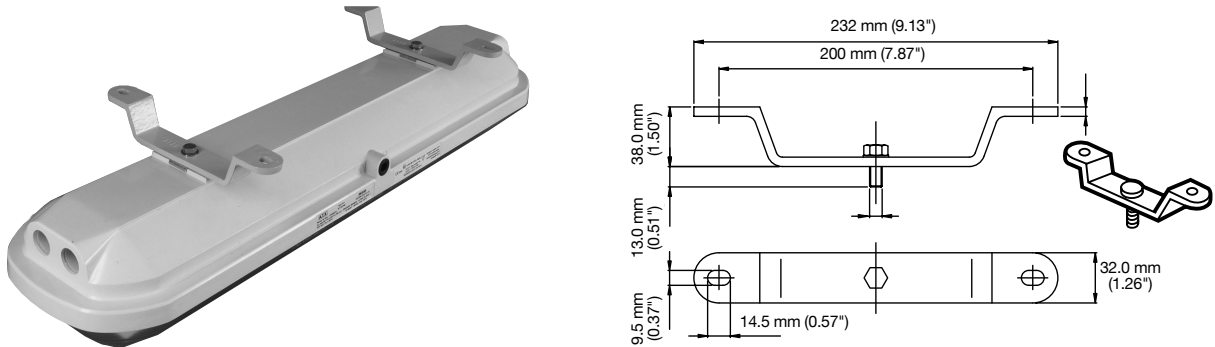
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### Mounting Options Dimensions in Millimeters (Inches)

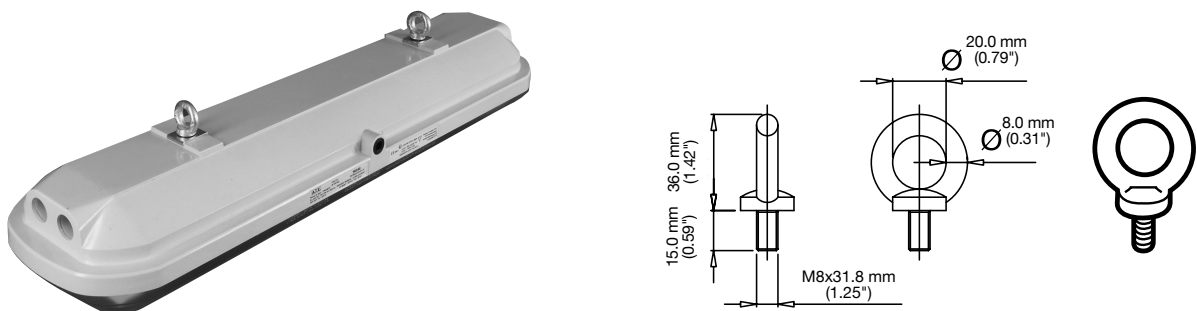
**FEFBZ:** zinc plated steel — Set of two quick fixing brackets for ease of surface mounting



**FESBS:** 316 stainless steel — Set of two brackets for surface mounting



**FERBM8Z:** zinc plated steel — Set of two ring bolts



# ATX™ FNLED Series Nonmetallic LED Luminaires

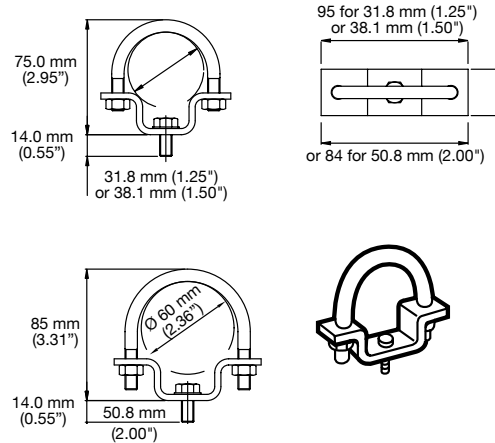
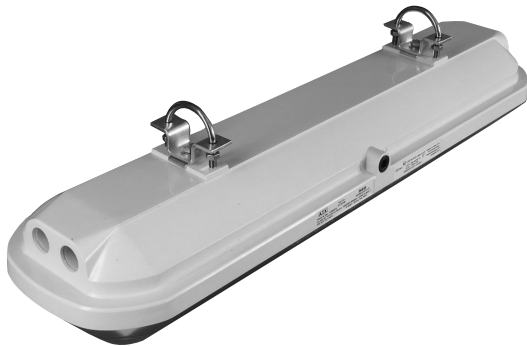
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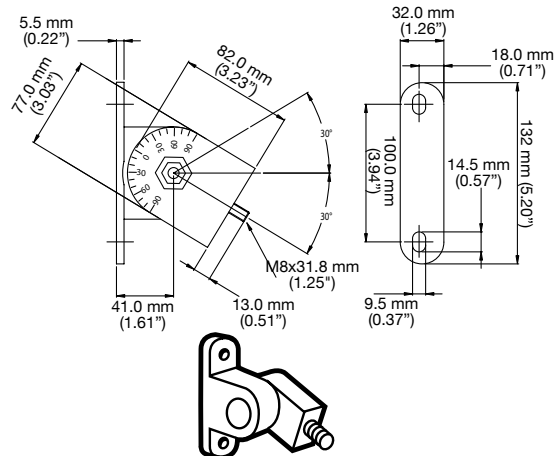
LED/AREA: ATEX/IECEX ENCLOSED AND GASKETED/INCREASED SAFETY

### Mounting Options Dimensions in Millimeters (Inches)

FEHC49Z: zinc plated steel or FEHC49S: 316 stainless steel — Set of two clamps for pole diameter 42 mm to 49 mm (for 1-1/4" to 1-1/2" pole).  
FEHC60Z: zinc plated steel or FEHC60S: 316 stainless steel — Set of two clamps for pole diameter 60 mm (for 2" pole).



FEHBA: aluminum or FEHBS: 316 stainless steel — Set of two hinged brackets for adjusting luminaire.

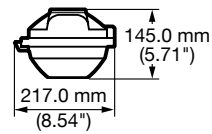


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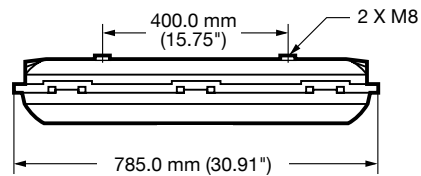
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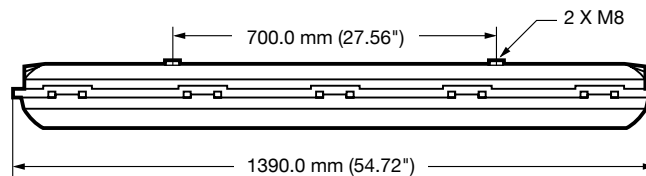
### Luminaire Dimensions in Millimeters (Inches)



End View



Side View — 0.785 m (2.58 ft)



Side View — 1.39 m (4.56 ft) Version

LED/AREA: ATEX/IECEX ENCLOSED AND GASKETED/INCREASED SAFETY

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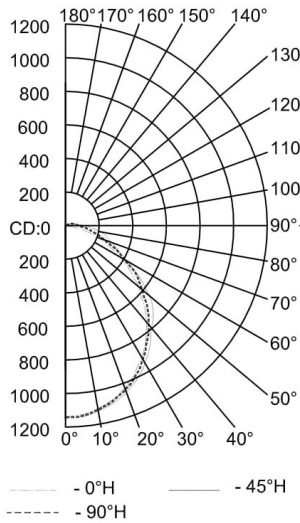
### Photometric Data — DATA SHOWN IS ABSOLUTE

5000K CCT, With Diffuser

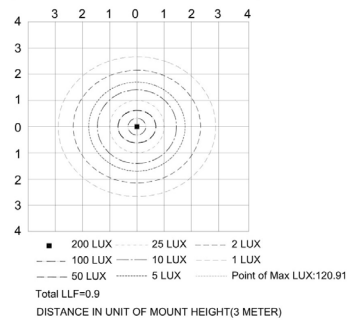
REPORT NUMBER: FNLED3CBUxxD

Luminaire Lumens: 3,333

#### POLAR CANDELA DISTRIBUTION



#### ISOLUX PLOT



#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Luminaire
0-30	921.2	27.6%	27.6%
0-40	1,485.3	44.6%	44.6%
0-60	2,529.8	75.9%	75.9%
60-90	654.9	19.6%	19.6%
70-100	377.6	11.3%	11.3%
90-120	131.3	3.9%	3.9%
0-90	3,184.7	95.5%	95.5%
90-180	148.4	4.5%	4.5%
0-180	3,333.0	100%	100%

#### LUMENS PER ZONE

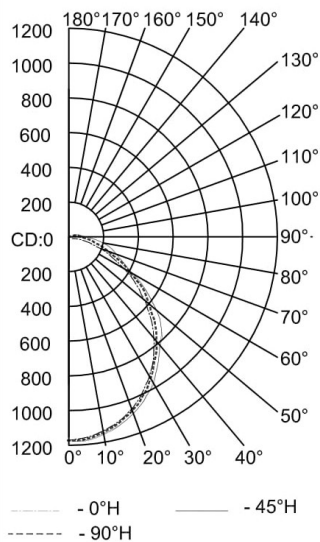
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	114.4	3.4%	90-100	57.2	1.7%
10-20	324.4	9.7%	100-110	43.2	1.3%
20-30	482.3	14.5%	110-120	30.9	0.9%
30-40	564.1	16.9%	120-130	10.6	0.3%
40-50	565.8	17.0%	130-140	2.3	0.1%
50-60	478.8	14.4%	140-150	1.6	0%
60-70	334.5	10.0%	150-160	1.3	0%
70-80	206.9	6.2%	160-170	0.9	0%
80-90	113.4	3.4%	170-180	0.3	0%

5000K CCT, With Diffuser

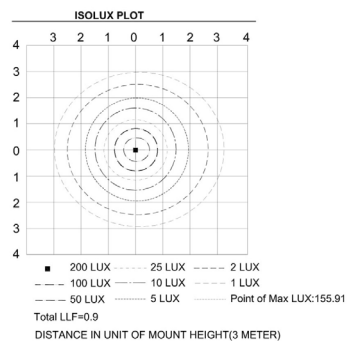
REPORT NUMBER: FNLED4CBUxxD

Luminaire Lumens: 4,294

#### POLAR CANDELA DISTRIBUTION



#### ISOLUX PLOT



#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Luminaire
0-30	1,186.7	27.6%	27.6%
0-40	1,913.0	44.6%	44.6%
0-60	3,258.4	75.9%	75.9%
60-90	844.0	19.7%	19.7%
70-100	486.8	11.3%	11.3%
90-120	168.3	3.9%	3.9%
0-90	4,102.4	95.5%	95.6%
90-180	190.8	4.4%	4.4%
0-180	4,293.2	100%	100%

#### LUMENS PER ZONE

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	147.4	3.4%	90-100	73.8	1.7%
10-20	418.0	9.7%	100-110	55.1	1.3%
20-30	621.3	14.5%	110-120	39.5	0.9%
30-40	726.3	16.9%	120-130	13.9	0.3%
40-50	729.5	17.0%	130-140	3.0	0.1%
50-60	616.0	14.3%	140-150	2.1	0%
60-70	431.0	10.0%	150-160	1.7	0%
70-80	267.0	6.2%	160-170	1.3	0%
80-90	146.0	3.4%	170-180	0.5	0%

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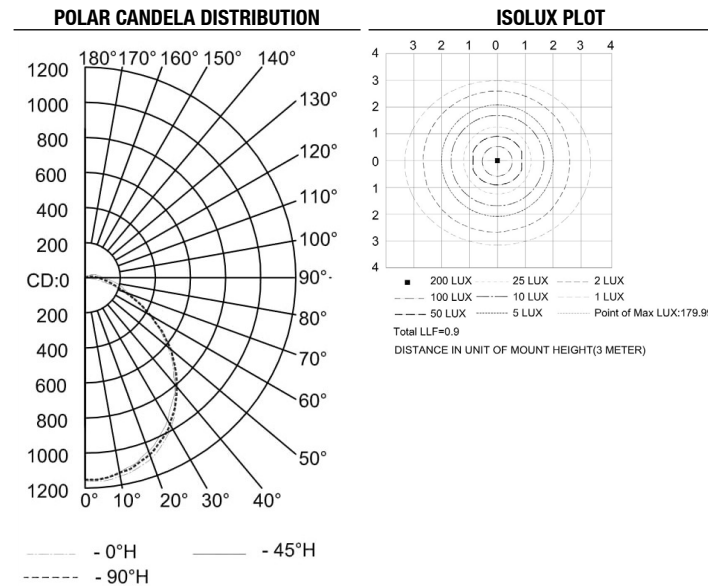
ATEX/IECEX:  
Zone 2 and 22  
II 3 GD  
IP66 – IK10

### Photometric Data — DATA SHOWN IS ABSOLUTE

5000K CCT, With Diffuser

REPORT NUMBER: FNLED5CBUxxD

Luminaire Lumens: 5,094



#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Luminaire
0-30	1,393.3	27.4%	27.4%
0-40	2,263.1	44.4%	44.4%
0-60	3,874.4	76.1%	76.1%
60-90	999.6	19.6%	19.6%
70-100	566.8	11.1%	11.1%
90-120	196.1	3.8%	3.8%
0-90	4,874.0	95.7%	95.7%
90-180	219.2	4.3%	4.3%
0-180	5,093.2	100%	100%

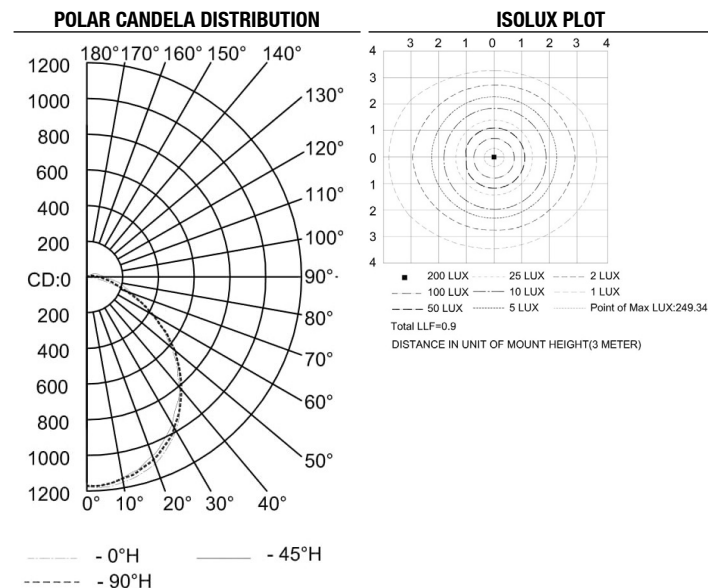
#### LUMENS PER ZONE

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	170.6	3.4%	90-100	83.6	1.6%
10-20	488.2	9.6%	100-110	63.7	1.3%
20-30	734.5	14.4%	110-120	48.7	1%
30-40	869.8	17.1%	120-130	15.8	0.3%
40-50	874.4	17.2%	130-140	2.7	0.1%
50-60	736.9	14.5%	140-150	1.8	0%
60-70	516.4	10.1%	150-160	1.4	0%
70-80	314.7	6.2%	160-170	1.0	0%
80-90	168.5	3.3%	170-180	0.4	0%

TCC 5000 K sin difusor

REPORT NUMBER: FNLED7CBUxxD

Luminaire Lumens: 7,038



#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Luminaire
0-30	1,927.1	27.4%	27.4%
0-40	3,129.4	44.5%	44.5%
0-60	5,354.9	76.1%	76.1%
60-90	1,378.2	19.6%	19.6%
70-100	781.8	11.1%	11.1%
90-120	271.9	3.9%	3.9%
0-90	6,733.2	95.7%	95.7%
90-180	304.2	4.3%	4.3%
0-180	7,037.4	100%	100%

#### LUMENS PER ZONE

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	236.0	3.4%	90-100	115.6	1.6%
10-20	675.4	9.6%	100-110	88.6	1.3%
20-30	1,015.7	14.4%	110-120	67.7	1%
30-40	1,202.3	17.1%	120-130	22.0	0.3%
40-50	1,208.0	17.2%	130-140	3.8	0.1%
50-60	1,017.5	14.5%	140-150	2.5	0%
60-70	712.0	10.1%	150-160	2.0	0%
70-80	433.6	6.2%	160-170	1.4	0%
80-90	232.7	3.3%	170-180	0.5	0%