

ATX™ FELED Series Nonmetallic LED Luminaires

Standard and Emergency Battery Back-Up, Increased Safety

Zone 1 and 2 - 21 and 22
Gas (G) and Dust (D)

Applications

- For use in locations where:
 - Hazardous areas are designated as Zone 1 and 2 – 21 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
 - Pharmaceuticals industry
 - Underground tunnels
 - General manufacturing facilities

Features

- Easy to retrofit in same mounting footprint as Appleton's FE series nonmetallic fluorescent luminaires.
- Full range of lumen outputs, with light distribution equivalent to Appleton's FE series fluorescent luminaires.
- Corrosion-resistant fiberglass reinforced polyester body and hinged polycarbonate lens.
- High impact resistance housing (20 Joules – IK10) from -30 °C to +50 °C/+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 4 mm² flexible / 6mm² rigid wire.
- Field replaceable LED driver and lens.
- Industry-leading thermal management for safe, reliable operation over wide temperature range.
- Universal, high efficiency, drivers cover voltage requirements for 100-240 Vac, 50/60 Hz +/- 10%.
- High power factor electronic ballast (>0.95).
- Standard 2KV 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.
- Positive safety switch disconnects power to LED's and driver to allow maintenance in hazardous locations.
- Available in 3 hour emergency version, including built-in monthly self- test. Test results through multi-colored LED
- Ex e battery with plug-in connector for quick and error-free maintenance.

Options

- 3 Hours Emergency/Battery Back-Up available ①;
 - Add suffix **-E** to the end of the catalog number.
 - Example: **FELED5BDSADE**
- Diffused lens is available;
 - Add suffix **-D** to the end of the catalog number.
 - Example: **FELED5BDSAD**

① Available for 5K lumen models only.



Standard Materials

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

Certifications and Compliances

◆ Certification ATEX/IECEx

- **Certification Type: FELED**
 - Gas: Zones 1 and 2
 - Conforming to ATEX 2014/34/EU: Ⓔ II 2 G
 - Type of Protection: Ex db eb mb IIC Gb
 - Temperature Class: T6 to T4
 - Dust: Zones 21 and 22
 - Conforming to ATEX 2014/34/EU: Ⓔ II 2 D
 - Type of Protection: Ex tb IIIC Db
 - Surface Temperature: +78 °C to 96 °C (172 °F to 205 °F)
- Ambient Temperature: -30 °C up to +50 °C/+55 °C (-22 °F up to 122 °F/ +131 °F)
- EU Declaration of Conformity: 50317
- ATEX Certificate: LCIE 16 ATEX 3048X
- IECEx Certificate: IECEx LCIE 16.0038X
- Index of Protection according EN/IEC 60529: IP66
- Impact Resistance (shock): IK10

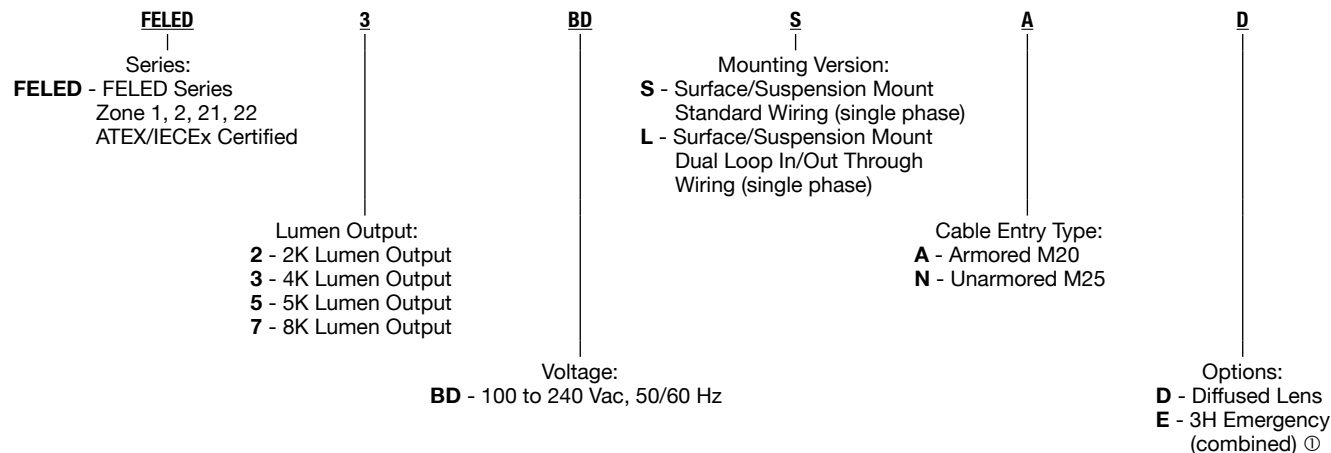
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Order using catalog numbering guide below or select catalog number from tables on following pages.

Catalog Numbering Guide — FELED Series Nonmetallic LED Luminaires



Lamp Comparison Chart

Catalog Number	Line Current Amps	Input Power	Power Factor	Lumen Output (Lumens)		Color Rendering Index (CRI)	Correlated Color Temperature (CCT)	Length m (ft)
				Clear Polycarbonate Lens	Diffused Polycarbonate Lens			
FELED2BDSA	0.23A @ 100V	23W	>0.95	2400	2200	70	5650	0.785 (2.58)
FELED2BDSN								
FELED2BDLA	0.11A @ 240V							
FELED2BDLN								
FELED3BDSA	0.40A @ 100V	43W	>0.95	4300	4000	70	5650	0.785 (2.58)
FELED3BDSN								
FELED3BDLA	0.18A @ 240V							
FELED3BDLN								
FELED5BDSA	0.44A @ 100V	43W	>0.95	4600	4025	70	5650	1.39 (4.56)
FELED5BDSN								
FELED5BDLA	0.18A @ 240V							
FELED5BDLN								
FELED7BDSA	0.86A @ 100V	86W	>0.95	8500	7900	70	5650	1.39 (4.56)
FELED7BDSN								
FELED7BDLA	0.36A @ 240V							
FELED7BDLN								

① Available for 5K lumen models only.
All values displayed reflect typical values.

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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)
2K Lumens Standard		T6	T5	T5	80 °C (176 °F)	90 °C (194 °F)	95 °C (203 °F)
							
4K Lumens Standard		T5	T4	—	86 °C (187 °F)	96 °C (205 °F)	—
							
5K Lumens Standard		T6	T5	T5	78 °C (172 °F)	88 °C (190 °F)	93 °C (199 °F)
							
5K Lumens Emergency		T6	T5	—	79 °C (174 °F)	89 °C (192 °F)	—
							
8K Lumens Standard		T5	T4		86 °C (187 °F)	96 °C (205 °F)	—
							

"T" Numbers Represent the Maximum Temperature

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

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Conduit/Cable Entries ①	Voltage	Ambient Temperature	Weight kg (lb)	Catalog Numbers with Diffused Polycarbonate lens
Standard 2K Lumens — 0.786 m (2.58 ft)				
M20 Standard ②	100/240 Vac	-30 °C up to +55 °C (-22 °F up to +131 °F)	6.0 (13.2)	FELED2BDSAD
M25 Standard ②				FELED2BDSND
M20 Dual Loop In/Loop Out ③	100/240 Vac	-30 °C up to +55 °C (-22 °F up to +131 °F)	6.0 (13.2)	FELED2BDLAD
M25 Dual Loop In/Loop Out ③				FELED2BDLND
Standard 4K Lumens — 0.786 m (2.58 ft)				
M20 Standard ②	100/240 Vac	-30 °C up to +50 °C (-22 °F up to +122 °F)	6.0 (13.2)	FELED3BDSAD
M25 Standard ②				FELED3BDSND
M20 Dual Loop In/Loop Out ③	100/240 Vac	-30 °C up to +50 °C (-22 °F up to +122 °F)	6.0 (13.2)	FELED3BDLAD
M25 Dual Loop In/Loop Out ③				FELED3BDLND
Standard 5K Lumens — 1.390 m (4.56 ft)				
M20 Standard ②	100/240 Vac	-30 °C up to +55 °C (-22 °F up to +131 °F)	9.0 (19.8)	FELED5BDSAD
M25 Standard ②				FELED5BDSND
M20 Dual Loop In/Loop Out ③	100/240 Vac	-30 °C up to +55 °C (-22 °F up to +131 °F)	9.0 (19.8)	FELED5BDLAD
M25 Dual Loop In/Loop Out ③				FELED5BDLND
Standard 8K Lumens — 1.390 m (4.56 ft)				
M20 Standard ②	100/240 Vac	-30 °C up to +50 °C (-22 °F up to +122 °F)	11.0 (24.3)	FELED7BDSAD
M25 Standard ②				FELED7BDSND
M20 Dual Loop In/Loop Out ③	100/240 Vac	-30 °C up to +50 °C (-22 °F up to +122 °F)	11.0 (24.3)	FELED7BDLAD
M25 Dual Loop In/Loop Out ③				FELED7BDLND

① M20 entries are with brass earth continuity plate for armored cable. M25 entries are for non-armored cable.

② Standard cable entry provides 3 entries; 1 at one and 2 at the other end of the housing.

③ Loop In/Loop Out through cable entry provides 3 entries; 1 at one and 2 at the other end of the housing.

Shaded catalog numbers are normally stocked items. All other items are made to order.

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Conduit/Cable Entries ①	Voltage	Ambient Temperature	Weight kg (lb)	Catalog Numbers with Diffused Polycarbonate lens
Emergency 5K Lumens — 1.390 m (4.56 ft)				
M20 Standard ②	100/240 Vac	-30 °C up to +50 °C (-22 °F up to +122 °F)	11.5 (25.4)	FELED5BDSADE
M25 Standard ②				FELED5BDSNDE
M20 Dual Loop In/Loop Out ③	100/240 Vac	-30 °C up to +50 °C (-22 °F up to +122 °F)	11.5 (25.4)	FELED5BDLADE
M25 Dual Loop In/Loop Out ③				FELED5BDLNDE

- ① M20 entries are with brass earth continuity plate for armored cable. M25 entries are for non-armored cable.
 ② Standard cable entry provides 3 entries; 1 at one and 2 at the other end of the housing.
 ③ Loop In/Loop Out through wire cable entry provides 3 entries; 1 at one and 2 at the other end of the housing.

Shaded catalog numbers are normally stocked items. All other items are made to order.

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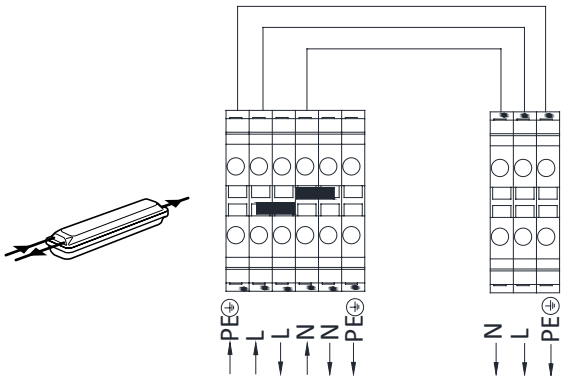
Wiring Diagrams

Standard

Version : L

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

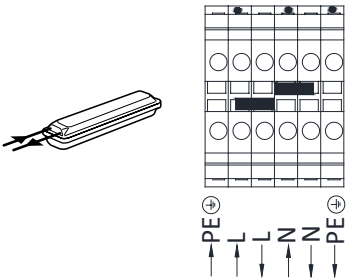
3 entries, 1 at one end and 2 at the other



Version : S

Standard (Single Phase)

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

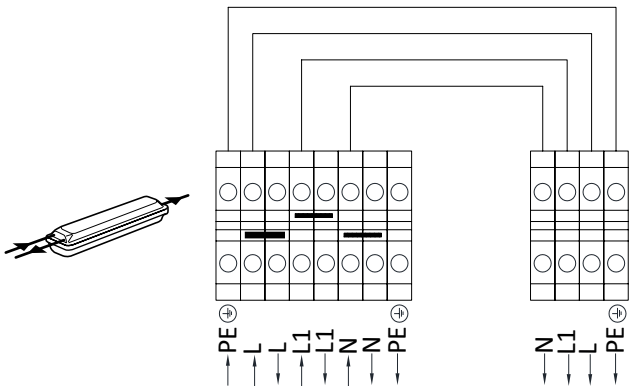


Emergency

Version : L

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

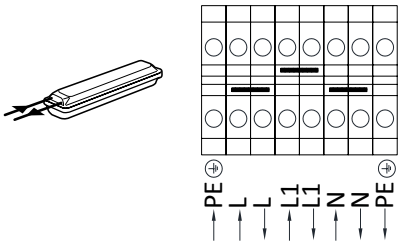
3 entries, 1 at one end and 2 at the other



Version : S

Standard (Single Phase)

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

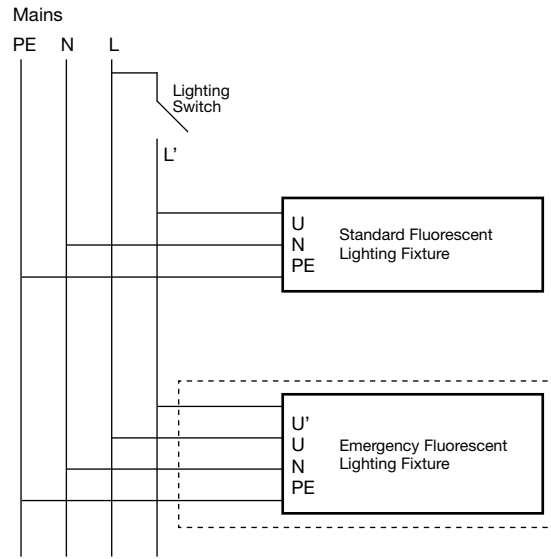


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Wiring Diagram



Emergency Function Diagram

Mains	Lighting Switch ON	Lighting Switch OFF
ON		
OFF		

LED Status

Color	Indication	Function
Green	LED Blinking	Mains voltage available – Battery charging
	LED Continuous	Mains voltage available – Battery connected and loaded
Green and Red	LED Blinking Alternately (2s)	Mains voltage available – Battery in repair mode
Red	LED Blinking	Mains voltage available – No battery connected OR defective
	LED Continuous	Mains voltage NOT available – Light unit powered by batteries (emergency mode)
	LED Flashing	Mains voltage NOT available – Battery low (emergency mode completed)
Yellow (Orange) and another color	LED Blinking Alternately	Mains voltage available – Last automatic or manual operational check has been unsuccessful
None (Off)	No Light Emitted	Mains voltage NOT available – Battery completely empty

Self-Test: In 3 month intervals batteries are automatically discharged and recharged once.

Emergency Light Duration

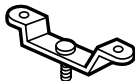
Version	Battery Capacity	Duration	Light Output
5K	7 Ah – 6V	3 hours	25%

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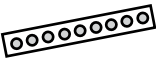
Accessories and Replacement Parts

	Description	Catalog Number
Fixing Brackets		
	Set of two brackets for surface installation Zinc plated steel	FEFBZ
Brackets for Surface Mounting		
	Set of two 316 stainless steel	FESBS
M8 Ring Bolts		
	Set of two Zinc plated steel	FERBM8Z
Half Clamps Brackets for Pole Mounting		
	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
Hinged Brackets		
	Set of two brackets for adjusting luminaire	
	Aluminum	FEHBA
	316 stainless steel	FEHBS
Fall Prevention Kit		
	Safety chain retains fixture temporarily to ease installation	
	For M25 cable entry	FESCM25
	For M20 cable entry	FESCM20

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Accessories and Replacement Parts		
	Description	Catalog Number
Replacement Drivers and Inverter		
	2K (qty:1) driver for standard version	Z00933
	4K, 5K (qty:1) driver for standard version (Z00928)	FELEDSDBD
	8K set of two drivers for standard version (Z00928 + Z00929)	FELED7SDBD
	5K driver for emergency version	Z00932
	5K Inverter for emergency version (Z00930)	FELED5EIBD
Replacement Lens		
	0.60 m (2.0 ft) clear polycarbonate external lens with gasket	Z00650
	1.20 m (4.0 ft) clear polycarbonate external lens with gasket	Z00651
Replacement Diffuser		
	0.60 m (2.0 ft) diffused internal lens for 2K and 4K versions	FELED2DPL
	1.20 m (4.0 ft) diffused internal lens for 5K and 8K versions	FELED4DPL
Replacement LED Arrays		
	LED array for 2K version	FELED2LA
	LED array for 5K version	FELED5LA
	LED array for 4K version (qty:1) and for 8K version (qty: 2)	FELED3LA

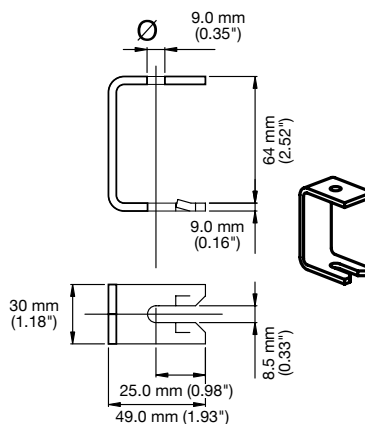
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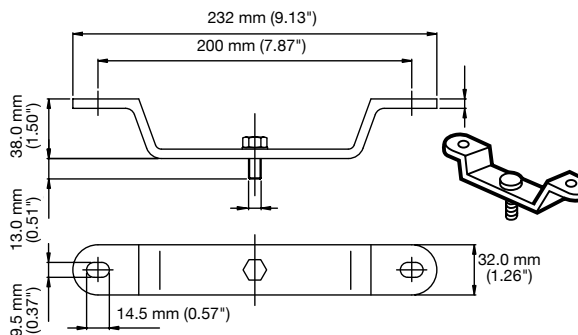
Zone 1 and 2 - 21 and 22
Gas (G) and Dust (D)

Mounting Options Dimensions in Millimeters (Inches)

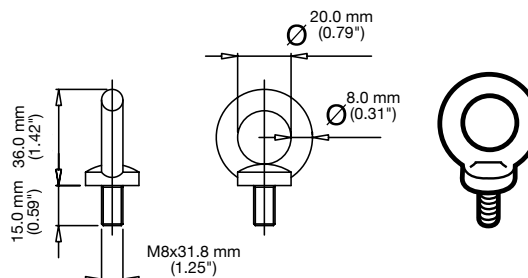
FEFBZ: zinc plated steel — Set of two quick fixing brackets for ease of surface mounting



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



FERBM8Z: zinc plated steel — Set of two ring bolts



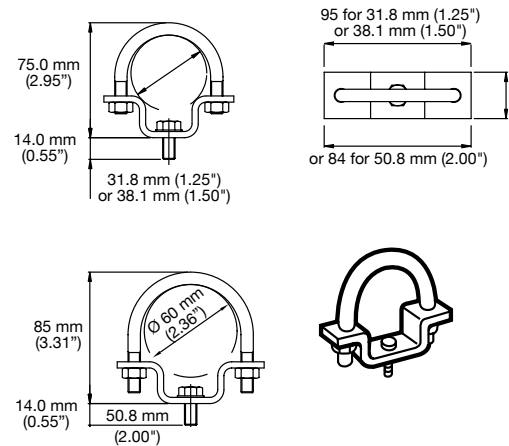
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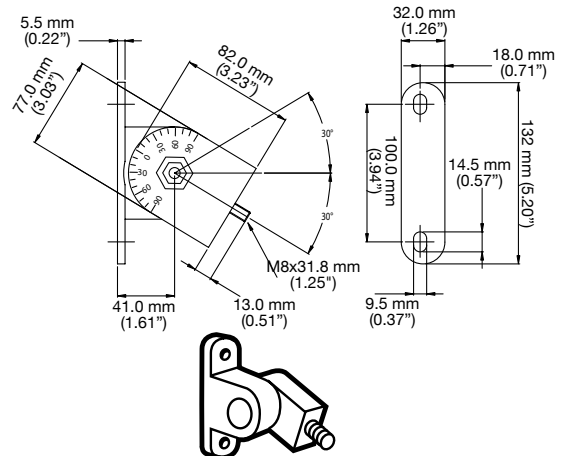
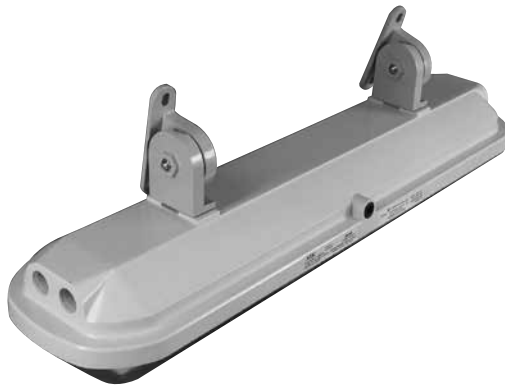
Zone 1 and 2 - 21 and 22
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Mounting Options Dimensions in Millimeters (Inches)

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.

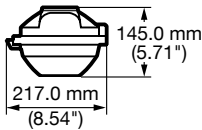


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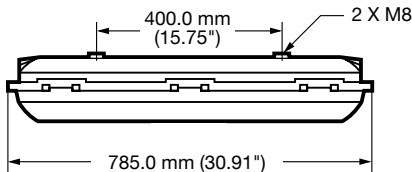
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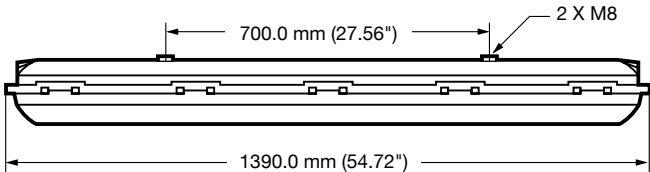
Luminaire Dimensions in Millimeters (Inches)



End View



Side View — 0.785 m (2.58 ft)



Side View — 1.39 m (4.56 ft) Version

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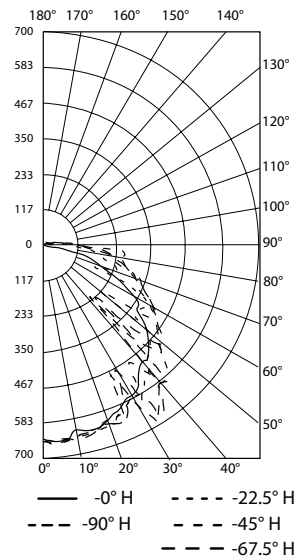
Photometric Data — DATA SHOWN IS ABSOLUTE

FELED 2K without Diffuser

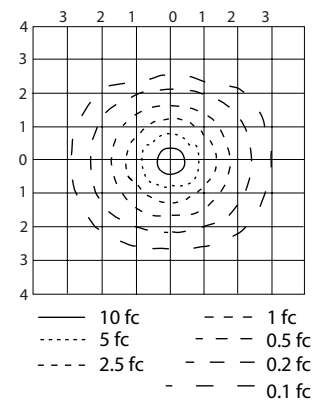
Zonal Lumens and Percentages at 25°C

Zone	Lumens	Zone	Lumens	% Luminaire
0-10	61.3	0-30	517.8	21.4
10-20	179.4	0-40	876.9	36.2
20-30	277.0	0-60	1621	67.0
30-40	359.1	60-90	751.4	31.1
40-50	378.2	0-90	2373	98.1
50-60	366.2	90-180	47.1	1.9
60-70	330.7	0-180	2420	100.0
70-80	256.7			
80-90	164.1			
90-100	32.3			
100-110	8.8			
110-120	3.2			
120-130	1.7			
130-140	0.8			
140-150	0.3			

Polar Candela Distribution



Isoillumination Plot



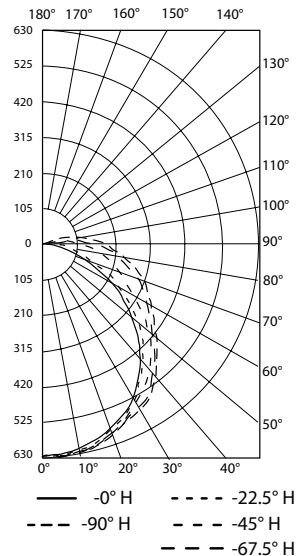
Distance in units of mount height (10 ft)

FELED 2K with Diffuser

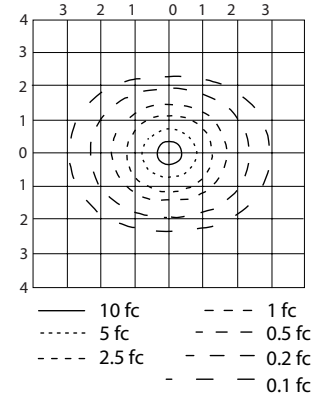
Zonal Lumens and Percentages at 25°C

Zone	Lumens	Zone	Lumens	% Luminaire
0-10	59.5	0-30	491.8	22.4
10-20	171.1	0-40	811.1	36.9
20-30	261.2	0-60	1453	66.2
30-40	319.3	60-90	604.3	27.5
40-50	334.3	0-90	2057	93.7
50-60	307.8	90-180	138.8	6.3
60-70	258.3	0-180	2196	100.0
70-80	201.8			
80-90	144.1			
90-100	84.4			
100-110	35.9			
110-120	13.8			
120-130	3.9			
130-140	0.8			
140-150	0.1			

Polar Candela Distribution



Isoillumination Plot



Distance in units of mount height (10 ft)

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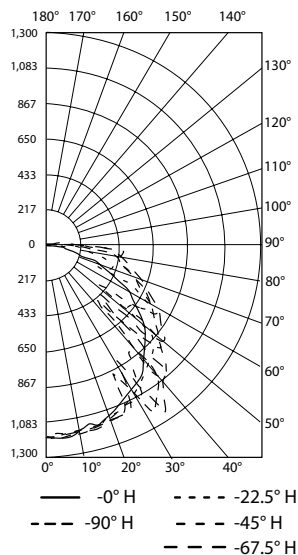
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Photometric Data — DATA SHOWN IS ABSOLUTE

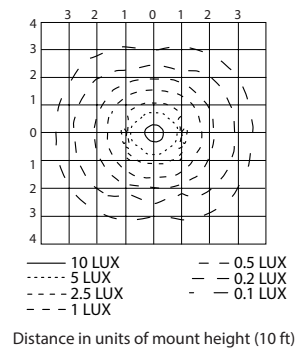
FELED 4K without Diffuser

Lumens Per Zone		Zonal Lumen Summary		
Zone	Lumens	Zone	Lumens	% Luminaire
0 -10	112.6	0 -30	947.9	21.8
10 -20	328.5	0 -40	1598.8	36.8
20 -30	506.9	0 -60	2941.0	67.6
30 -40	650.9	60 -90	1328.6	30.6
40 -50	683.3	0 -90	4269.7	98.2
50 -60	658.9	90 -180	78.6	1.8
60 -70	589.0	0 -180	4348.2	100
70 -80	453.2			
80 -90	286.5			
90 -100	57.2			
100 -110	13.5			
110 -120	6.1			
120 -130	1.7			
130 -140	0.1			
140 -150	0.0			

Polar Candela Distribution



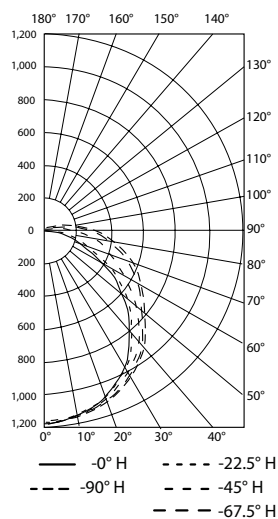
Isoillumination Plot



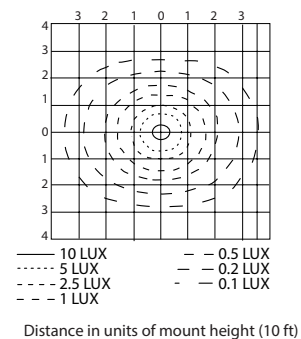
FELED 4K with Diffuser

Lumens Per Zone		Zonal Lumen Summary		
Zone	Lumens	Zone	Lumens	% Luminaire
0 -10	110.9	0 -30	915.2	22.6
10 -20	318.6	0 -40	1506.6	37.1
20 -30	485.8	0 -60	2693.6	66.4
30 -40	591.4	60 -90	1114.9	27.5
40 -50	616.6	0 -90	3808.5	93.9
50 -60	570.4	90 -180	249.3	6.1
60 -70	480.5	0 -180	4057.8	100.0
70 -80	372.8			
80 -90	261.6			
90 -100	149.0			
100 -110	69.4			
110 -120	23.4			
120 -130	6.3			
130 -140	1.2			
140 -150	0.0			

Polar Candela Distribution



Isoillumination Plot



ATX™ FELED Series Nonmetallic LED Luminaires

Standard and Emergency Battery Back-Up, Increased Safety

Zone 1 and 2 - 21 and 22
Gas (G) and Dust (D)

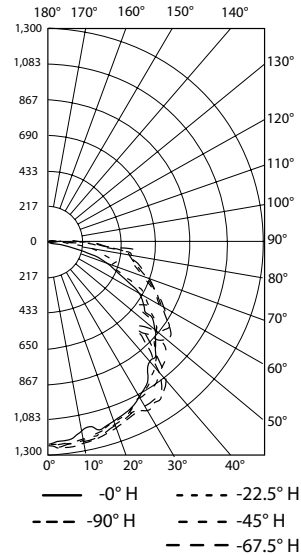
Photometric Data — DATA SHOWN IS ABSOLUTE

FELED 5K without Diffuser

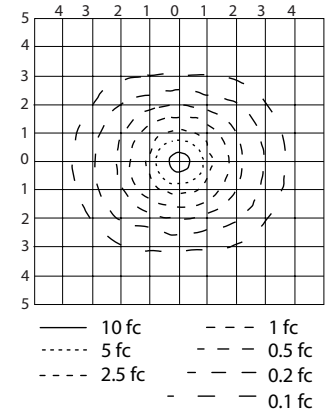
Zonal Lumens and Percentages at 25°C

Zone	Lumens	Zone	Lumens	% Luminaire
0-10	117.2	0-30	986.7	21.4
10-20	339.9	0-40	1668	36.2
20-30	529.7	0-60	3085	66.9
30-40	681.2	60-90	1444	31.3
40-50	711.2	0-90	4529	98.2
50-60	706.2	90-180	82.5	1.8
60-70	623.0	0-180	4612	100.0
70-80	488.5			
80-90	332.5			
90-100	68.8			
100-110	9.2			
110-120	3.1			
120-130	1.3			
130-140	0.1			

Polar Candela Distribution



Isoillumination Plot



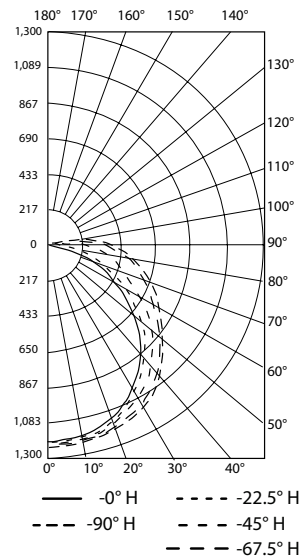
Distance in units of mount height (10 ft)

FELED 5K with Diffuser

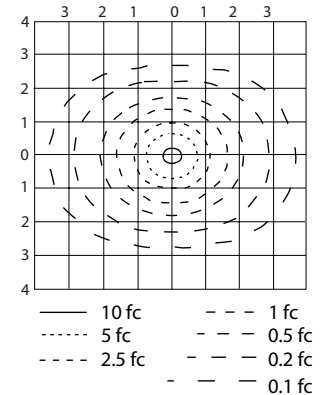
Zonal Lumens and Percentages at 25°C

Zone	Lumens	Zone	Lumens	% Luminaire
0-10	106.1	0-30	884.0	21.8
10-20	306.3	0-40	1466	36.2
20-30	471.5	0-60	2654	65.5
30-40	582.1	60-90	1134	28.0
40-50	614.6	0-90	3788	93.6
50-60	572.9	90-180	260.8	6.4
60-70	485.1	0-180	4049	100.0
70-80	380.2			
80-90	269.0			
90-100	156.6			
100-110	69.4			
110-120	26.6			
120-130	7.0			
130-140	1.2			

Polar Candela Distribution



Isoillumination Plot



Distance in units of mount height (10 ft)

ATX™ FELED Series Nonmetallic LED Luminaires

Standard and Emergency Battery Back-Up, Increased Safety

Zone 1 and 2 - 21 and 22
Gas (G) and Dust (D)

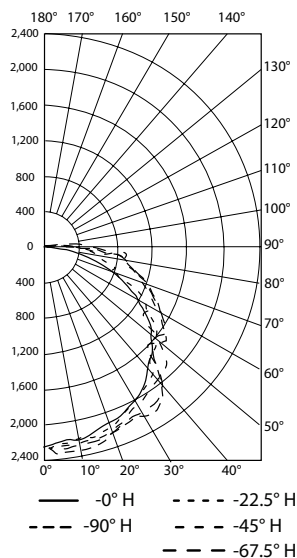
Photometric Data — DATA SHOWN IS ABSOLUTE

FELED 8K without Diffuser

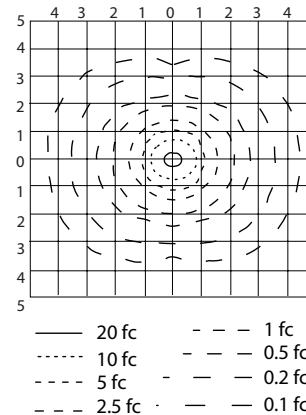
Zonal Lumens and Percentages at 25°C

Zone	Lumens	Zone	Lumens	% Luminaire
0-10	216.6	0-30	1830	21.4
10-20	630.6	0-40	3096	36.3
20-30	982.7	0-60	5746	67.3
30-40	1267	60-90	2638	30.9
40-50	1336	0-90	8384	98.2
50-60	1313	90-180	150.3	1.8
60-70	1161	0-180	8534	100.0
70-80	897.0			
80-90	579.8			
90-100	118.1			
100-110	19.5			
110-120	8.3			
120-130	3.6			
130-140	0.7			

Polar Candela Distribution



Isoillumination Plot



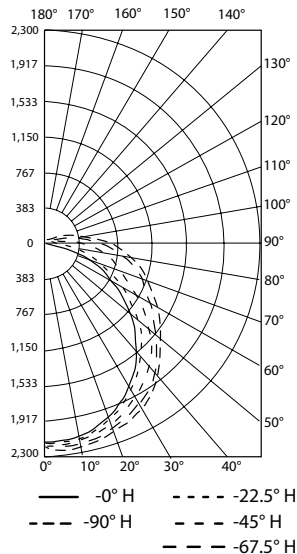
Distance in units of mount height (10 ft)

FELED 8K with Diffuser

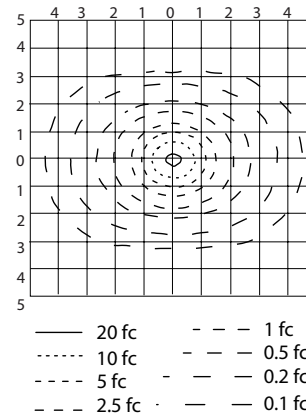
Zonal Lumens and Percentages at 25°C

Zone	Lumens	Zone	Lumens	% Luminaire
0-10	209.3	0-30	1741	21.9
10-20	603.7	0-40	2886	36.3
20-30	927.9	0-60	5226	65.7
30-40	1145	60-90	2220	27.9
40-50	1211	0-90	7446	93.6
50-60	1129	90-180	508.4	6.4
60-70	953.4	0-180	7954	100.0
70-80	742.8			
80-90	523.5			
90-100	307.7			
100-110	136.9			
110-120	51.4			
120-130	11.5			
130-140	0.9			

Polar Candela Distribution



Isoillumination Plot



Distance in units of mount height (10 ft)