

# Viamaster™ LED Series Luminaires

## For ATEX and IECEx Governed Hazardous Locations

ATEX/IECEX:  
Zones 2 and 22  
Ⓜ II 3 GD  
EPL Gc and Dc  
Ex nA IIC; Ex tc IIIC  
IP66/IK08

ATEX/IECEX:  
Zone 21  
Ⓜ II 2 D  
EPL Db  
Ex tb IIIC  
IP66/IK08

### Applications

- For use in locations where:
  - Flammable gases, vapors and dusts are present
  - A high degree of corrosion resistance is required
  - Protection against dirt, water and moisture is necessary
- Typical applications include:
  - Oil refineries
  - Petrochemical facilities
  - Pulp and paper mills
  - Food processing plants
  - Waste and sewer treatment
  - Underground tunnels
  - General manufacturing facilities



### Features

- 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.
- Standard screw-type terminal block can accept 1 to 6 mm<sup>2</sup> wire.
- Contemporary, low profile design suitable for tight spaces.
- Field replaceable LED driver and lens.
- Industry-leading thermal management for safe, reliable operation over wide temperature range.
- Full range of lumen outputs, with light distribution equivalent to Appleton's FN Series fluorescent fixtures
- Easy to retrofit in same mounting footprint as Appleton's FE/FN Series fluorescent fixtures.
- M20 plug or M25 plug provided.
- Universal, high efficiency, drivers cover voltage requirements for 120-277 Vac, 50/60 Hz +/- 10%.
- Standard 2KV surge suppression.

### Options

- Safety cable for fall safe retention; add suffix **-C** to the end of the catalog number.

### Standard Materials

- Housing: copperfree (4/10 of 1% max.) aluminum
- Lens: thermal shock- and impact-resistant polycarbonate lens
- Gasket: silicone rubber, mechanically secured
- Bolts: stainless steel
- Close up plugs: nickel plated brass
  - Mounting hardware: See ordering information

### Standard Finishes

- Housing: gray RAL 7038 epoxy

### Related Products

- For NEC/CEC certified products, refer to Viamaster LED Series Luminaires for NEC and CEC Governed Hazardous Locations

### ATEX/IECEX Certifications and Compliances

- Certification Type: LLEDA
  - Gas: Zone 2
    - Conforming to ATEX 94/9/EC: Ⓜ II 3 G
    - Protection Level: EPL Gc
    - Type of Protection: Ex nA IIC
    - Temperature Class: See *Technical Data table* (T6 to T3)
    - EC Declaration of Conformity: 50309
    - ATEX Certificate: LCIE 15 ATEX 1003X
    - IECEx Certificate: IECEx LCIE 15.0010X
  - Dust: Zones 21 and 22
    - Conforming to ATEX 94/9/EC: Ⓜ II 2 D and II 3 D
    - Protection Level: EPL Db and Dc
    - Type of Protection: Ex tb IIIC and Ex tc IIIC
    - Surface Temperature: See *Technical Data table* [+63 °C to +84 °C (+145 °F to +183 °F)]
    - EC Declaration of Conformity: 50309
    - ATEX Certificate, Zone 21: LCIE 15 ATEX 3006X
    - ATEX Certificate, Zone 22: LCIE 15 ATEX 1003X
    - IECEx Certificate, Zone 21 and 22: IECEx LCIE 15.0010X
- Ambient Temperature:
  - LLEDAA2: -40 °C up to +65 °C (-40 °F up to +149 °F)
  - LLEDAA5/7: -40 °C up to +60 °C (-40 °F up to +140 °F)
- Index of Protection according EN/IEC 60529: IP66
- Impact Resistance (shock): IK08
- Ex Standards: EN/IEC 60079-0; 60079-15; 60079-31
- Product Standards: EN/IEC 61347-1; EN/IEC 61347-2-13; 60598-1
- EMC Standards: EN/IEC 61000.4.2; 61000.4.3; 61000.4.4; 61000.4.5; 61000.4.6; 61000.4.8; 61000.4.11; EN/IEC 55015; 61547

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 Ⓢ II 2 D  
 EPL Db  
 Ex tb IIIC  
 IP66/IK08

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

### Catalog Numbering Guide – ATEX/IECEX Certified Linear LED

<b>LLEDA</b>	<b>A</b>	<b>2</b>	<b>L</b>	<b>2</b>	<b>BU</b>	<b>Z2</b>	<b>C</b>
LLEDA - ATEX/IECEX Certified Linear LED Series	Housing: A - Aluminum	Size of Cable Entries: 2 - M20 3 - M25	Termination/Wiring: L - Loop In/Out (3 entries, 1 at one end and 2 at the other) S - Standard (2 entries on the same side) T - Through Wired (2 entries, one at each end)	Lumens [Length of Fixture]: 2 - 2K Lumens, [0.61 m (2 ft)] 5 - 5K Lumens, [0.61 m (2 ft)] 7 - 7K Lumens, [1.22 m (4 ft)]	Voltage: BU - Universal Voltages 120-277 Vac, 50/60 Hz	Hazardous Rating: Z2 - Zone 2 and 21-22	Options: C - Safety Cables

### Lamp Comparison Chart

Catalog Number	Line Current Amps	Input Power	Power Factor	THD	Lumens		Color Temp CCT	Length m (ft)
					Clear Polycarbonate	CRI		
LLEDAA2S2BUZ2								
LLEDAA3S2BUZ2								
LLEDAA2T2BUZ2	.24 @120V	22 W	> 0.95 >0.87	< 20%	2,200	70	5650K	0.61 (2)
LLEDAA3T2BUZ2	.15 @ 277V							
LLEDAA2L2BUZ2								
LLEDAA3L2BUZ2								
LLEDAA2S5BUZ2								
LLEDAA3S5BUZ2								
LLEDAA2T5BUZ2	.51@120V	45 W	> 0.95	< 20%	4,400	70	5650K	0.61 (2)
LLEDAA3T5BUZ2	.30 @ 277V							
LLEDAA2L5BUZ2								
LLEDAA3L5BUZ2								
LLEDAA2S7BUZ2								
LLEDAA3S7BUZ2								
LLEDAA2T7BUZ2	.90 @120V	81 W	> 0.95	< 20%	7,800	70	5650K	1.22 (4)
LLEDAA3T7BUZ2	.53 @ 277V							
LLEDAA2L7BUZ2								
LLEDAA3L7BUZ2								

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### Technical Data

Lamp		Ambient Temperature °C (°F)	Supply Wire Temperature °C (°F)	Zone 2 – 22		Zone 21
Lumen Output	Type			Gas	Dust Surface Temperature °C (°F)	Dust Surface Temperature °C (°F)
				Class of Temperature °C (°F)		
2,200 lm	LED	40 (104)	75 (167)	T6 75 (167)	54 (129)	54 (129)
		55 (131)	75 (167)	T5 90 (203)	69 (156)	69 (156)
		60 (140)	75 (167)	T5 90 (203)	74 (165)	74 (165)
		65 (149)	75 (167)	T5 100 (212)	79 (174)	79 (174)
4,400 lm	LED	40 (104)	75 (167)	T4 129 (264)	64 (147)	64 (147)
		55 (131)	75 (167)	T3 144 (291)	79 (174)	79 (174)
		60 (140)	75 (167)	T3 148 (298)	84 (183)	84 (183)
7,800 lm	LED	40 (104)	75 (167)	T4 130 (266)	64 (147)	64 (147)
		55 (131)	75 (167)	T3 145 (293)	79 (174)	79 (174)
		60 (140)	75 (167)	T3 149 (300)	84 (183)	84 (183)

“T” Numbers Represent the Maximum External Surface 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)




① T codes provided in catalog pages are based on worst case data.  
② Zone 2 (Gas) and 22 (Dust) locations as designated by the IEC.

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Conduit/Cable Entries	Voltage	Ambient Temperature	Weight kg (lb)	Catalog Numbers Clear Polycarbonate	
<b>2,200 Lumens — 0.61 m (2 ft)</b>					
	M20 Standard ①	120-277 Vac, 50/60 Hz	-40 °C up to +65 °C (-40 °F up to +149 °F)	6.21 (13.7)	LLEDAA2S2BUZ2 ④
	M25 Standard ①	120-277 Vac, 50/60 Hz			LLEDAA3S2BUZ2 ④
	M20 Through Wired ②	120-277 Vac, 50/60 Hz	-40 °C up to +65 °C (-40 °F up to +149 °F)	6.21 (13.7)	LLEDAA2T2BUZ2 ④
	M25 Through Wired ②	120-277 Vac, 50/60 Hz			LLEDAA3T2BUZ2 ④
	M20 Loop In/Loop Out ③	120-277 Vac, 50/60 Hz	-40 °C up to +65 °C (-40 °F up to +149 °F)	6.21 (13.7)	LLEDAA2L2BUZ2 ④
	M25 Loop In/Loop Out ③	120-277 Vac, 50/60 Hz			LLEDAA3L2BUZ2 ④
<b>4,400 Lumens — 0.61 m (2 ft)</b>					
	M20 Standard ①	120-277 Vac, 50/60 Hz	-40 °C up to +60 °C (-40 °F up to +140 °F)	6.35 (14.0)	LLEDAA2S5BUZ2 ④
	M25 Standard ①	120-277 Vac, 50/60 Hz			LLEDAA3S5BUZ2 ④
	M20 Through Wired ②	120-277 Vac, 50/60 Hz	-40 °C up to +60 °C (-40 °F up to +140 °F)	6.35 (14.0)	LLEDAA2T5BUZ2 ④
	M25 Through Wired ②	120-277 Vac, 50/60 Hz			LLEDAA3T5BUZ2 ④
	M20 Loop In/Loop Out ③	120-277 Vac, 50/60 Hz	-40 °C up to +60 °C (-40 °F up to +140 °F)	6.35 (14.0)	LLEDAA2L5BUZ2 ④
	M25 Loop In/Loop Out ③	120-277 Vac, 50/60 Hz			LLEDAA3L5BUZ2 ④
<b>7,800 Lumens — 1.22 m (4 ft)</b>					
	M20 Standard ①	120-277 Vac, 50/60 Hz	-40 °C up to +60 °C (-40 °F up to +140 °F)	8.69 (19.15)	LLEDAA2S7BUZ2 ④
	M25 Standard ①	120-277 Vac, 50/60 Hz			LLEDAA3S7BUZ2 ④
	M20 Through Wired ②	120-277 Vac, 50/60 Hz	-40 °C up to +60 °C (-40 °F up to +140 °F)	8.69 (19.15)	LLEDAA2T7BUZ2 ④
	M25 Through Wired ②	120-277 Vac, 50/60 Hz			LLEDAA3T7BUZ2 ④
	M20 Loop In/Loop Out ③	120-277 Vac, 50/60 Hz	-40 °C up to +60 °C (-40 °F up to +140 °F)	8.69 (19.15)	LLEDAA2L7BUZ2 ④
	M25 Loop In/Loop Out ③	120-277 Vac, 50/60 Hz			LLEDAA3L7BUZ2 ④

- ① Standard cable entry provides 2 entries on the same side of the housing.  
 ② Through wired cable entry provides 2 entries, one at each end of the housing.  
 ③ Loop In/Loop Out cable entry provides 3 entries, 1 at one and 2 at the other end of the housing.  
 ④ For optional safety cables, add suffix **-C** to the end of the catalog number.

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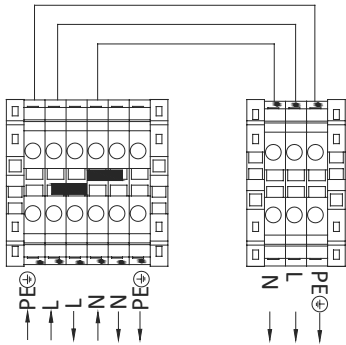
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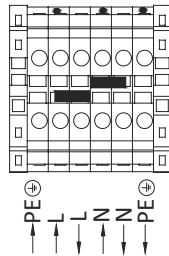
### Version : L

Dual Loop In/Out - Through Wiring (Single phase)  
 3 entries, 1 at one end and 2 at the other



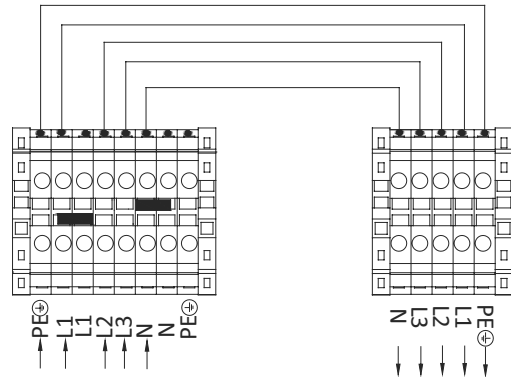
### Version : S

Standard  
 2 entries on the same side



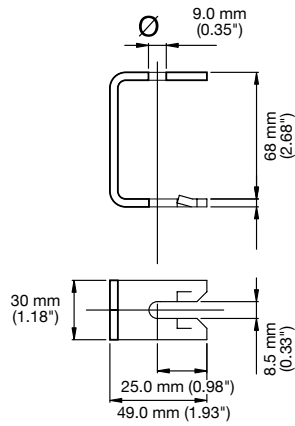
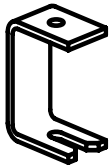
### Version : T

Through Wiring (3 phases)  
 2 entries, one at each end



### Accessories and Replacement Parts

#### Mounting Brackets – Set of Two

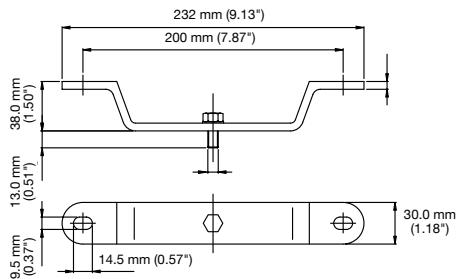
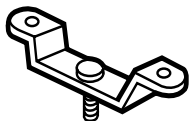


#### Fixing Brackets for Surface Installation

Zinc plated steel  
 316 stainless steel

FEFBZ  
 FEFBS

#### Surface Mounting



Aluminum (gray painted)  
 316 stainless steel

FESBA  
 FESBS

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### Accessories and Replacement Parts

	Description	Catalog Numbers
<p><b>Mounting Brackets — Set of Two</b></p>	<p><b>Surface Mounting</b></p> <p>14-gauge stainless steel ①</p>	<p><b>FVSM</b></p>
	<p><b>Hinged Brackets for Adjusting Luminaire</b></p> <p>Aluminum</p>	<p><b>FEHBA</b></p>
	<p><b>Half Clamp Brackets for Pole Mounting</b></p> <p>For 42 mm to 49 mm pole (1-1/4 to 1-1/2" tube)</p> <p>Zinc plated steel</p> <p>316 stainless steel</p> <p>For 60 mm pole (2" tube)</p> <p>Zinc plated steel</p> <p>316 stainless steel</p>	<p><b>FEHC49Z</b></p> <p><b>FEHC49S</b></p> <p><b>FEHC60Z</b></p> <p><b>FEHC60S</b></p>

① FVSM does not retrofit in same mounting footprint as Appleton's FN/FE series.

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### Accessories and Replacement Parts

	Description	Catalog Numbers
<p><b>Mounting Brackets — Set of Two</b></p>	<p><b>Fixed 45° Wall Mount</b></p> <p>11-gauge (1/8") stainless steel ①</p>	<p><b>FWWFM</b></p>
	<p><b>M8 Ring Bolts</b></p> <p>Zinc plated steel — For use with optional safety chain (not provided)</p>	<p><b>FERBM8Z</b></p>
<p><b>Retrofit Brackets — Set of Two</b></p>	<p>Adapts mounting holes for 4 foot fixture to 700 mm mounting centers</p>	<p><b>LLEDRB</b></p>
<p><b>Fall Prevention Kit</b></p>	<p>Safety Cables — Attached to fixtures to guard against them falling when the primary method of attachment fails.</p>	<p><b>LLEDSC</b></p>
<p><b>Replacement Drivers</b></p>	<p>120-277 Vac driver</p>	<p><b>LLEDBU2</b></p>
<p><b>Replacement Lenses</b></p>	<p>Clear Polycarbonate lens with an integral gasket</p>	<p><b>LLEDGPL</b></p>

① FWWFM does not retrofit in same mounting footprint as Appleton's FNIFE series.

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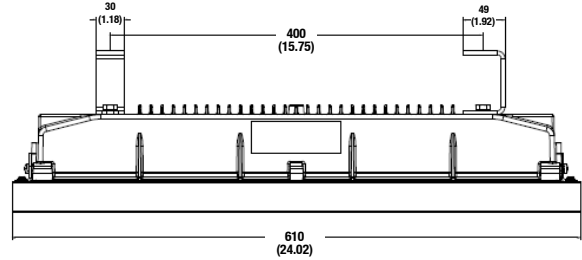
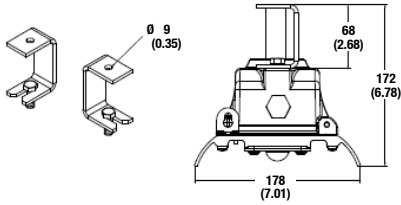
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### Mounting Options Dimensions in Millimeters (Inches)

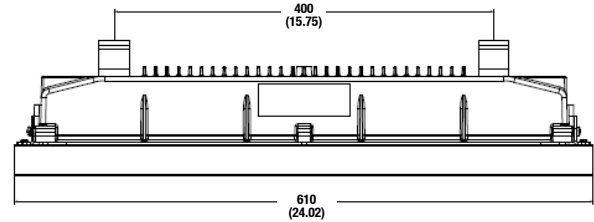
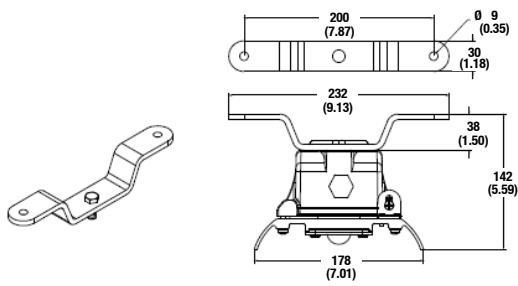
#### FEBBS

#### Ceiling/Surface Mount



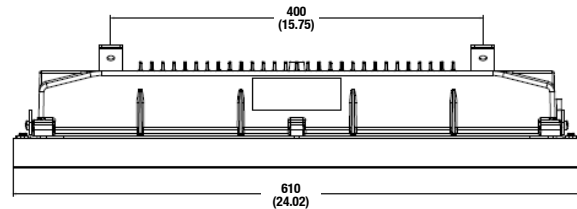
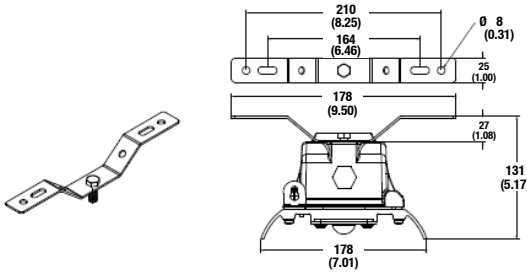
FESBA Aluminum (gray painted)  
 FESBS 316 stainless steel

#### Ceiling/Surface Mount



#### FVSM

#### Ceiling/Surface Mount



Appleton

LED/AREA: NEC/CEC, ATEX/IECEX ENCLOSED AND GASKETED

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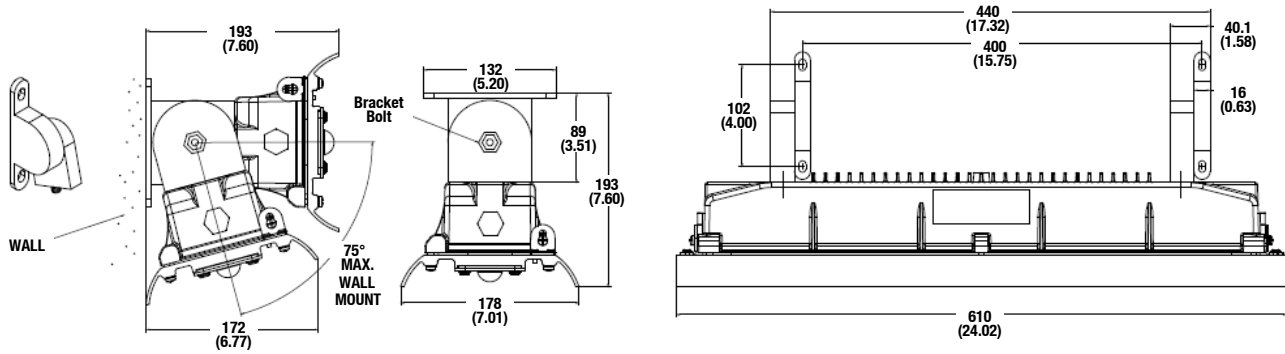
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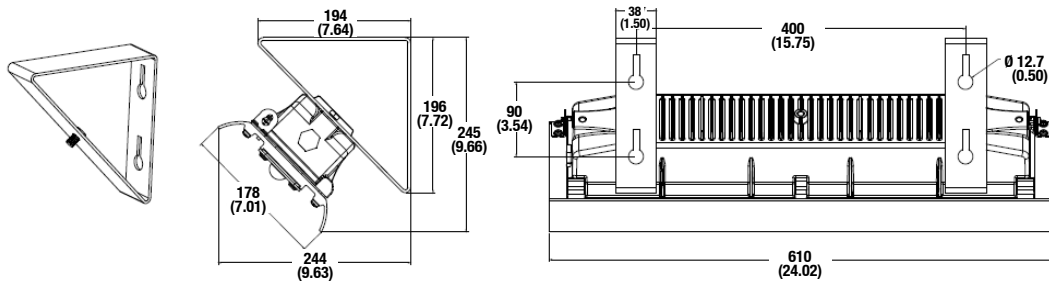
#### FEHBA

#### Wall/Hinged Mount



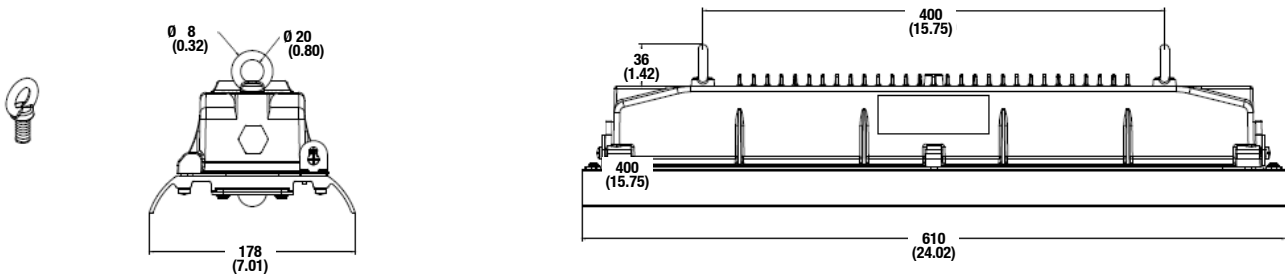
#### FWWM

#### Wall/Fixed 45° Mount



#### FERBM8Z

#### Ceiling/Chain Mount



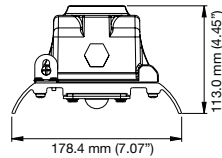
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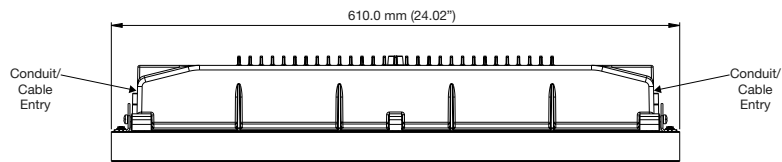
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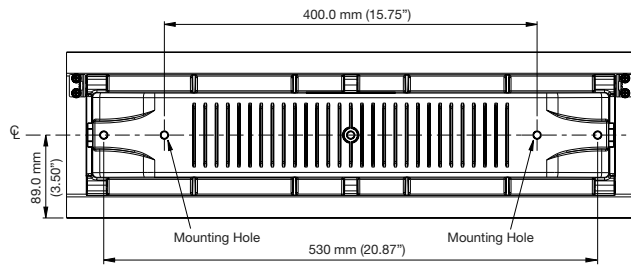
### Luminaire Dimensions in Millimeters (Inches)



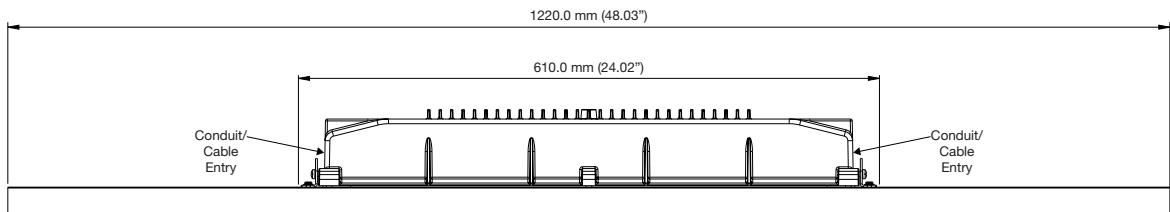
End View — 0.61 m (2 ft) and 1.22 m (4 ft) Versions



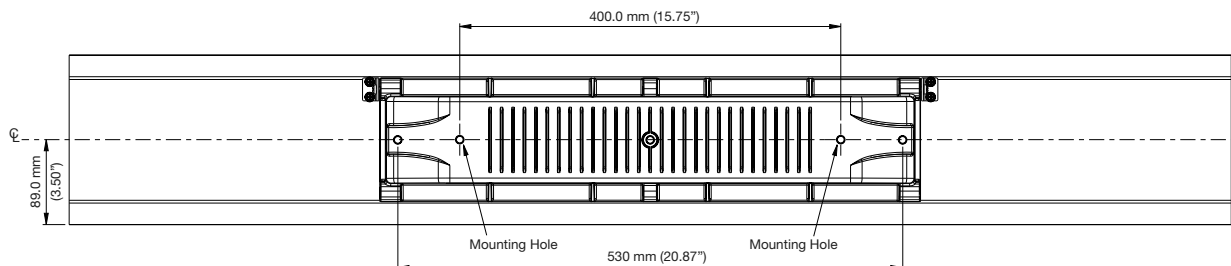
Side View — 0.61 m (2 ft) Versions



Top (Mounting) View — 0.61 m (2 ft) Versions



Side View — 1.22 m (4 ft) Version



Top (Mounting) View — 1.22 m (4 ft) Version

Appleton®

LED/AREA: NEC/CEC, ATEX/IECEX ENCLOSED AND GASKETED

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### Photometric Data – DATA SHOWN IS ABSOLUTE

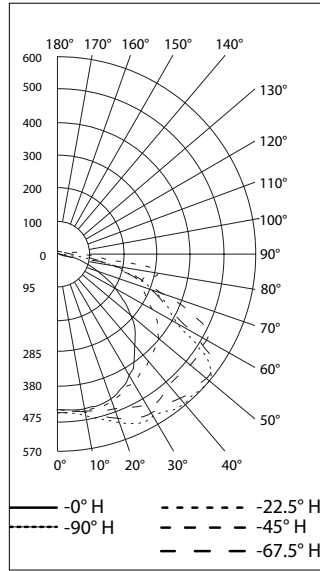
#### LLEDAA(XY)2BUZ2 with Clear Polycarbonate Lens

X = cable entry size, Y = style of termination

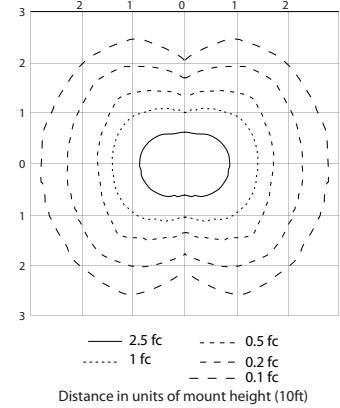
#### Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire	Zone	Lumens	% Luminaire
0-30	424.1	20.2	0-10	46.7	2.2
0-40	741.2	35.4	10-20	140.9	6.7
0-60	1521	72.6	20-30	236.4	11.3
60-90	573.3	27.4	30-40	317.2	15.1
0-90	2094	100.0	40-50	378.4	18.1
90-180	0.3	0.0	50-60	401.5	19.2
0-180	2095	100.0	60-70	324.6	15.5
			70-80	209.6	10.0
			80-90	39.1	1.9
			90-100	0.3	0.0

#### Polar Candela Distribution



#### Isoillumination Plot



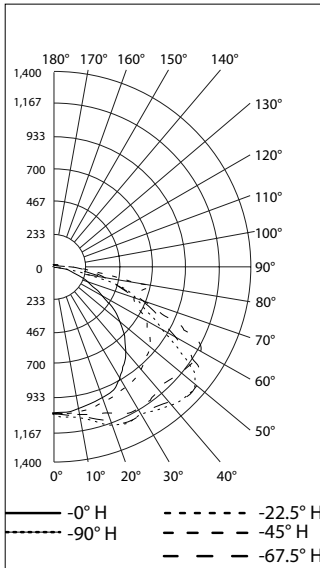
#### LLEDAA(XY)5BUZ2 with Clear Polycarbonate Lens

X = cable entry size, Y = style of termination

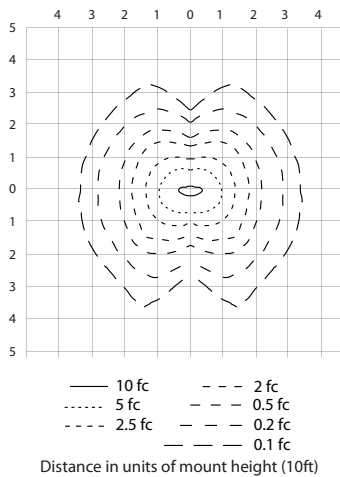
#### Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire	Zone	Lumens	% Luminaire
0-30	912.8	20.3	0-10	100.4	2.2
0-40	1593	35.5	10-20	303.6	6.8
0-60	3282	73.0	20-30	508.8	11.3
60-90	1206	26.8	30-40	680.0	15.1
0-90	4488	99.9	40-50	822.5	18.3
90-180	4.5	0.1	50-60	866.3	19.3
0-180	4492	100.0	60-70	682.0	15.2
			70-80	438.3	9.8
			80-90	85.9	1.9
			90-100	4.2	0.1
			100-110	0.3	0.0

#### Polar Candela Distribution



#### Isoillumination Plot



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LED/AREA: NEC/CEC, ATEX/IECEX ENCLOSED AND GASKETED

# Viamaster™ LED Series Luminaires

## For ATEX and IECEx Governed Hazardous Locations

ATEX/IECEX:  
Zones 2 and 22  
II 3 GD  
EPL Gc and Dc  
Ex nA IIC; Ex tc IIIC  
IP66/IK08

ATEX/IECEX:  
Zone 21  
II 2 D  
EPL Db  
Ex tb IIIC  
IP66/IK08

### Photometric Data – DATA SHOWN IS ABSOLUTE

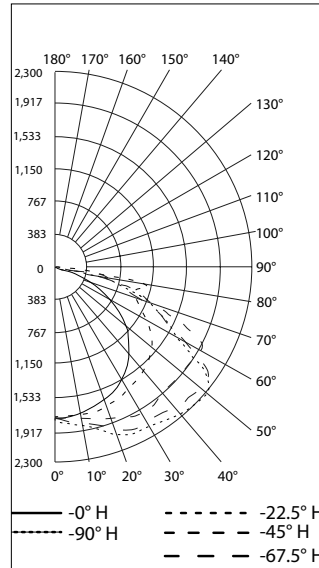
LLEDAA(XY)7BUZ2 with Clear Polycarbonate Lens

X = cable entry size, Y = style of termination

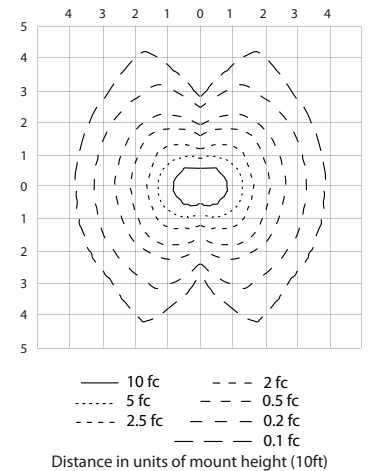
#### Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire	Zone	Lumens	% Luminaire
0-30	1560	20.0	0-10	170.7	2.2
0-40	2728	34.9	10-20	518.4	6.6
0-60	5631	72.1	20-30	870.5	11.2
60-90	2171	27.8	30-40	1168	15.0
0-90	7802	100.0	40-50	1406	18.0
90-180	2.8	0.0	50-60	1497	19.2
0-180	7805	100.0	60-70	1229	15.7
			70-80	785.7	10.1
			80-90	156.6	2.0
			90-100	2.7	0.0

#### Polar Candela Distribution



#### Isoillumination Plot



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LED/AREA: NEC/CEC, ATEX/IECEX ENCLOSED AND GASKETED