

# LLEDA Viamaster™ LED Series Luminaires

## For Hazardous and Adverse Locations

Zones 2 - 22 and 21  
Gas (G) and Dust (D)

### Applications

- For use in hazardous locations defined by ATEX/IECEX.
- For use in locations where a high degree of corrosion resistance is required.
- For indoor or outdoor use where protection against dirt, water and moisture is necessary
- Typical applications include:
  - Oil refineries
  - Petrochemical facilities
  - Pulp and paper mills
  - Food processing plants
  - Warehouses
  - Underground tunnels,
  - General manufacturing facilities

### Features

- 60,000+ hours 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.
- Field replaceable components are available.
- Industry-leading thermal management for safe, reliable operation over wide temperature range.
- Optional safety cables prevent luminaire from falling.
- Terminal blocks provided for field wiring (1 to 6mm<sup>2</sup> wire)
- Full range of lumen outputs, with light distribution equivalent to Appleton's FN Series.
- Full range of lumen outputs, with light distribution equivalent to Appleton's FN Series.
- Easy to retrofit in same mounting footprint as Appleton's FN / FE Series fluorescent fixtures.
- (1) M20 plug or (1) M25 plug provided.

### 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

### Standard Finishes

- Housing: gray RAL 7038 Epoxy

### Options

- For optional safety cables, add suffix **-C** to the end of the catalog number.



### Certifications and Compliances

#### ◆ ATEX/IECEX Certification

##### • 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: From T6 to T3 (See *Technical Data table*)
- 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: From +63 °C to +84 °C (See *Technical Data table*)
- EC Declaration of Conformity: 50309
- ATEX Certificate:
  - Zone 21: LCIE 15 ATEX 3006X
  - Zone 2, 22: LCIE 15 ATEX 1003X
- IECEX Certificate:
  - Zone 2, 21 and 22: IECEX LCIE 15.0010X
- Ambient Temperature: -40 °C up to +60 °C or + 65°C (See *Technical Data table*)
- Index of Protection according EN/IEC 60529: IP66
- Impact Resistance (shock): IK08

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

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

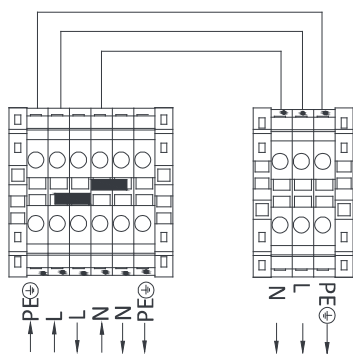
<p><b>LLEDA</b>   LLEDA - Linear LED Series Zones 2 - 21 -22 ATEX/IECEX Certified</p>	<p><b>A</b>   Housing: A - Aluminum</p>	<p><b>2</b>   Size of Cable Entries: 2 - M20 3 - M25</p>	<p><b>L</b>   Termination/Wiring: L - Dual Loop In/Out - Through Wiring (Single phase) (3 entries, 1 at one end and 2 at the other) S - Standard (2 entries on the same side) T - Through Wiring (3 phases) (2 entries, one at each end)</p>	<p><b>2</b>   Lumens [Length of Fixture]: 2 - 2,200 [0,61 m] 5 - 4,400 [0,61 m] 7 - 7,800 [1,22 m]</p>	<p><b>BU</b>   Voltage: BU - Universal Voltages 120-277 Vac, 50/60 Hz</p>	<p><b>Z2</b>   Hazardous Rating: Z1 - Zone 1 ① Z2 - Zone 2 and 21-22</p>	<p><b>C</b>   Options: C - Safety Cables D - Diffused Lens E - 3h Emergency ① H - 90 Minutes Emergency ①</p>
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### Termination/Wiring

#### Version : L

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

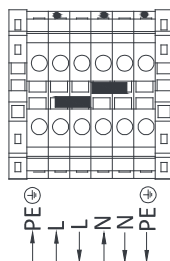
3 entries, 1 at one end and 2 at the other



#### Version : S

Standard

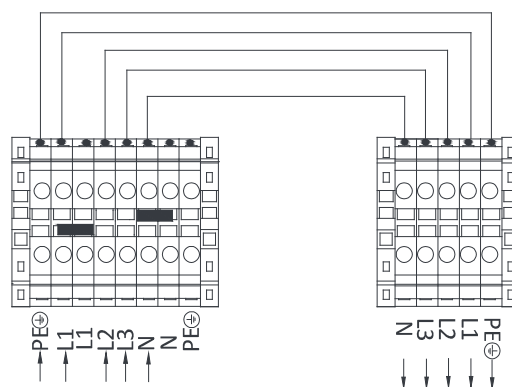
2 entries on the same side



#### Version : T

Through Wiring (3 phases)

2 entries, one at each end



① Certification in progress

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### Technical Data

Lamp		Zone 2 - 22					Zone 21
Lumen Output	Type	Ambient Temperature °C	Supply Wire Temperature °C	Gas Class of Temperature	Dust Surface Temperature	Dust Surface Temperature	
2,200 lm	LED	40 °C	75 °C	T6 (75 °C)	54 °C	54 °C	
		55 °C	75 °C	T5 (90 °C)	69 °C	69 °C	
		60 °C	75 °C	T5 (95 °C)	74 °C	74 °C	
		65 °C	75 °C	T5 (100 °C)	79 °C	79 °C	
4,400 lm	LED	40 °C	75 °C	T4 (129 °C)	64 °C	64 °C	
		55 °C	75 °C	T3 (144 °C)	79 °C	79 °C	
		60 °C	75 °C	T3 (148 °C)	84 °C	84 °C	
7,800 lm	LED	40 °C	75 °C	T4 (130 °C)	64 °C	64 °C	
		55 °C	75 °C	T3 (145 °C)	79 °C	79 °C	
		60 °C	75 °C	T3 (149 °C)	84 °C	84 °C	




### Lamp Comparison Chart

Catalog Number (Lamp Data)	Lumens Clear lens	Line Current Amps	Input Power	Power Factor	THD	CRI	Color Temp CCT	Length
LLEDAA2S2BUZ2								
LLEDAA3S2BUZ2								
LLEDAA2T2BUZ2	2,200 lm	0.24 A @ 120 V	22 W	> 0.95	< 20%	70	5650K	0.61 m
LLEDAA3T2BUZ2		0.15 A @ 277 V		> 0.87				
LLEDAA2L2BUZ2								
LLEDAA3L2BUZ2								
LLEDAA2S5BUZ2								
LLEDAA3S5BUZ2								
LLEDAA2T5BUZ2	4,400 lm	0.51 A @ 120 V	45 W	> 0.95	< 20%	70	5650K	0.61 m
LLEDAA3T5BUZ2		0.30 A @ 277 V		> 0.95				
LLEDAA2L5BUZ2								
LLEDAA3L5BUZ2								
LLEDAA2S7BUZ2								
LLEDAA3S7BUZ2								
LLEDAA2T7BUZ2	7,800 lm	0.90 A @ 120 V	81 W	> 0.95	< 20%	70	5650K	1.22 m
LLEDAA3T7BUZ2		0.53 A @ 277 V		> 0.95				
LLEDAA2L7BUZ2								
LLEDAA3L7BUZ2								

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	Conduit/Cable Entries	Voltage	Weight kg	Catalog Numbers
<b>2,200 Lumens — 0.61 m (2 ft)</b>				
	Standard cable entry provides 2 entries on the same side of the housing.			
	M20 Standard	120-277 Vac, 50/60 Hz	6.21	<b>LLEDAA2S2BUZ2</b> ④
	M25 Standard	120-277 Vac, 50/60 Hz		<b>LLEDAA3S2BUZ2</b> ④
	Through Wiring (3 phases) cable entry provides 2 entries, one at each end of the housing.			
	M20 Through Wiring (3 phases)	120-277 Vac, 50/60 Hz	6.21	<b>LLEDAA2T2BUZ2</b> ④
	M25 Through Wiring (3 phases)	120-277 Vac, 50/60 Hz		<b>LLEDAA3T2BUZ2</b> ④
	Dual Loop In/Out - T/W (1 phase) cable entry provides 3 entries, 1 at one and 2 at the other end.			
	M20 Loop In/Out - T/W (1 phase)	120-277 Vac, 50/60 Hz	6.21	<b>LLEDAA2L2BUZ2</b> ④
	M25 Loop In/Out - T/W (1 phase)	120-277 Vac, 50/60 Hz		<b>LLEDAA3L2BUZ2</b> ④
<b>4,400 Lumens — 0.61 m (2 ft)</b>				
	Standard cable entry provides 2 entries on the same side of the housing.			
	M20 Standard	120-277 Vac, 50/60 Hz	6.35	<b>LLEDAA2S5BUZ2</b> ④
	M25 Standard	120-277 Vac, 50/60 Hz		<b>LLEDAA3S5BUZ2</b> ④
	Through Wiring (3 phases) cable entry provides 2 entries, one at each end of the housing.			
	M20 Through Wiring (3 phases)	120-277 Vac, 50/60 Hz	6.35	<b>LLEDAA2T5BUZ2</b> ④
	M25 Through Wiring (3 phases)	120-277 Vac, 50/60 Hz		<b>LLEDAA3T5BUZ2</b> ④
	Dual Loop In/Out - T/W (1 phase) cable entry provides 3 entries, 1 at one and 2 at the other end.			
	M20 Loop In/Out - T/W (1 phase)	120-277 Vac, 50/60 Hz	6.35	<b>LLEDAA2L5BUZ2</b> ④
	M25 Loop In/Out - T/W (1 phase)	120-277 Vac, 50/60 Hz		<b>LLEDAA3L5BUZ2</b> ④
<b>7,800 Lumens — 1.22 m (4 ft)</b>				
	Standard cable entry provides 2 entries on the same side of the housing.			
	M20 Standard	120-277 Vac, 50/60 Hz	8.69	<b>LLEDAA2S7BUZ2</b> ④
	M25 Standard	120-277 Vac, 50/60 Hz		<b>LLEDAA3S7BUZ2</b> ④
	Through Wiring (3 phases) cable entry provides 2 entries, one at each end of the housing.			
	M20 Through Wiring (3 phases)	120-277 Vac, 50/60 Hz	8.69	<b>LLEDAA2T7BUZ2</b> ④
	M25 Through Wiring (3 phases)	120-277 Vac, 50/60 Hz		<b>LLEDAA3T7BUZ2</b> ④
	Dual Loop In/Out - T/W (1 phase) cable entry provides 3 entries, 1 at one and 2 at the other end.			
	M20 Loop In/Out - T/W (1 phase)	120-277 Vac, 50/60 Hz	8.69	<b>LLEDAA2L7BUZ2</b> ④
	M25 Loop In/Out - T/W (1 phase)	120-277 Vac, 50/60 Hz		<b>LLEDAA3L7BUZ2</b> ④


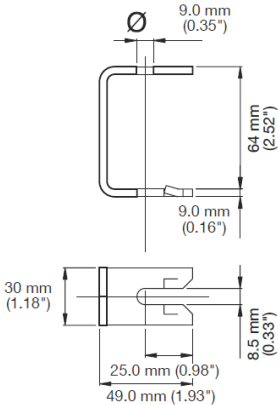

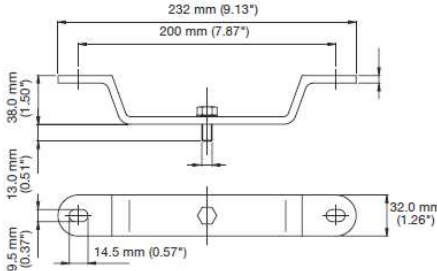
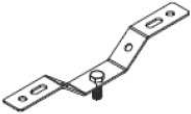
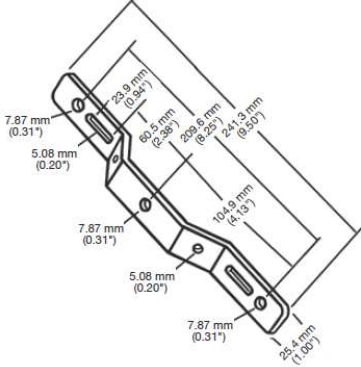
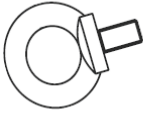
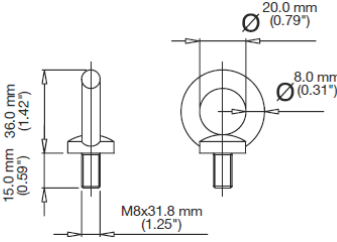
④ For optional safety cables, add suffix -C to the end of the catalog number.

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

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Accessories and Replacement Parts		Description	Catalog Number
<b>Mounting Brackets – Set of Two</b>			
		<b>Fixing Brackets for Surface Installation</b>	
		Zinc plated steel 316 stainless steel	<b>FEFBZ</b> <b>FEFBS</b>
		<b>Surface Mounting</b>	
		Aluminium (gray painted) 316 stainless steel	<b>FESBA</b> <b>FESBS</b>
		<b>Surface Mounting</b>	
		Stainless steel <i>(Do not retrofit in same mounting footprint as Appleton's FN / FE Series)</i>	<b>FVSM</b>
		<b>M8 Ring Bolts</b>	
		Zinc plated steel — For use with optional safety chain (not provided)	<b>FERBM8Z</b>

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### Accessories and Replacement Parts

	Description	Catalog Number
<b>Mounting Brackets — Set of Two</b>		
	<b>Hinged Brackets for Adjusting Luminaire</b>	
	Aluminium	<b>FEHBA</b>
<b>Fixed 45° Wall Mount</b>		
	1/8" stainless steel (Do not retrofit in same mounting footprint as Appleton's FN / FE Series)	<b>FWWFM</b>
<b>Half Clamp Brackets for Pole Mounting</b>		
	For 42 mm to 49 mm pole (1-1/4 to 1-1/2" tube)	
	Zinc plated steel	<b>FEHC49Z</b>
	316 stainless steel	<b>FEHC49S</b>
	For 60 mm pole (2" tube)	
Zinc plated steel	<b>FEHC60Z</b>	
316 stainless steel	<b>FEHC60S</b>	
<b>Retrofit Brackets — Set of Two</b>		
	Adapts mounting holes for 4 foot fixture to 700 mm mounting centers	<b>LLEDRB</b>
<b>Fall Prevention Kit</b>		
	Safety Cables — Attached to fixtures to guard against them falling when the primary method of attachment fails.	<b>LLEDSC</b>
<b>Replacement Lens</b>		
	Clear polycarbonate lens with an integral gasket	<b>LLEDGPL</b>
	Diffused lens with an integral gasket	<b>LLEDPL</b>
<b>Replacement Driver</b>		
	120-277 Vac driver	<b>LLEDBU2</b>

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# LLEDA Viamaster™ LED Series Luminaires

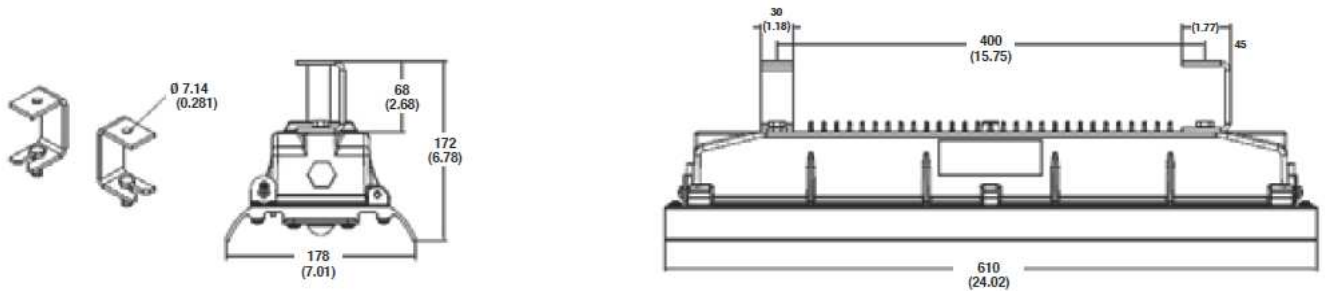
## For Hazardous and Adverse Locations

Zones 2 - 22 and 21  
Gas (G) and Dust (D)

### Mounting Options Dimensions in Millimeters (Inches)

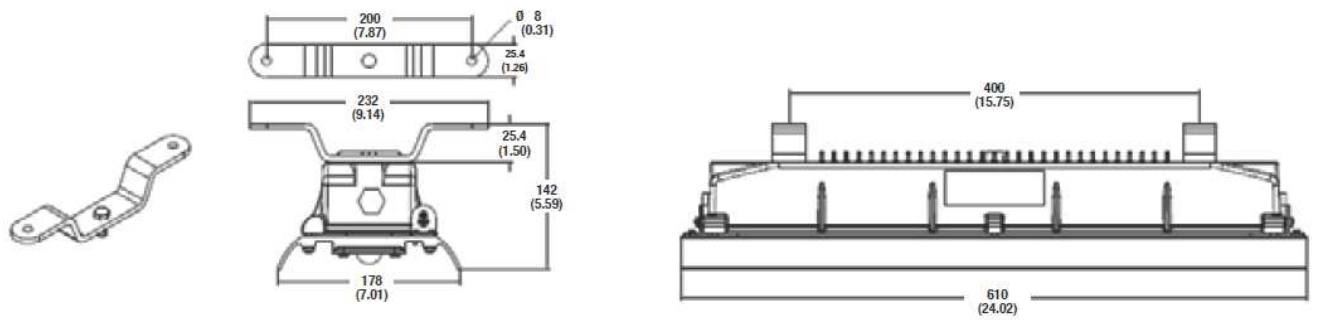
#### FEFBS

#### Ceiling/Surface Mount



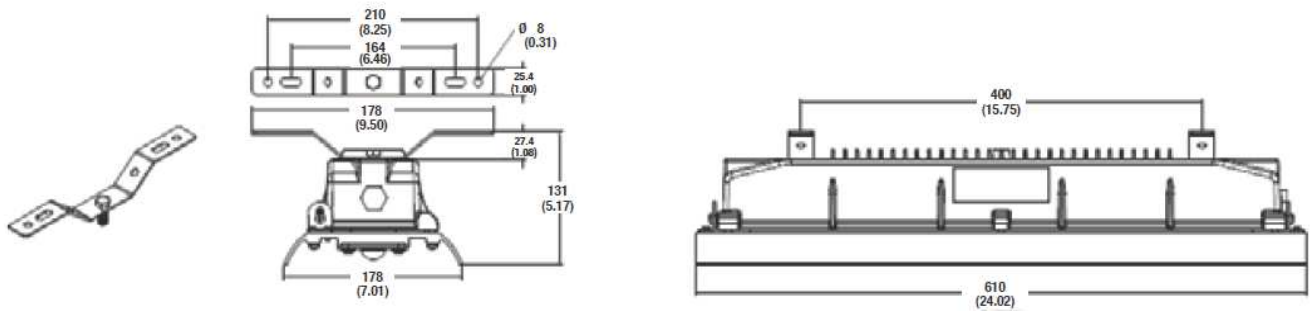
#### FESBA / FESBS

#### Ceiling/Surface Mount



#### FVSM

#### Ceiling/Surface Mount



# LLEDA Viamaster™ LED Series Luminaires

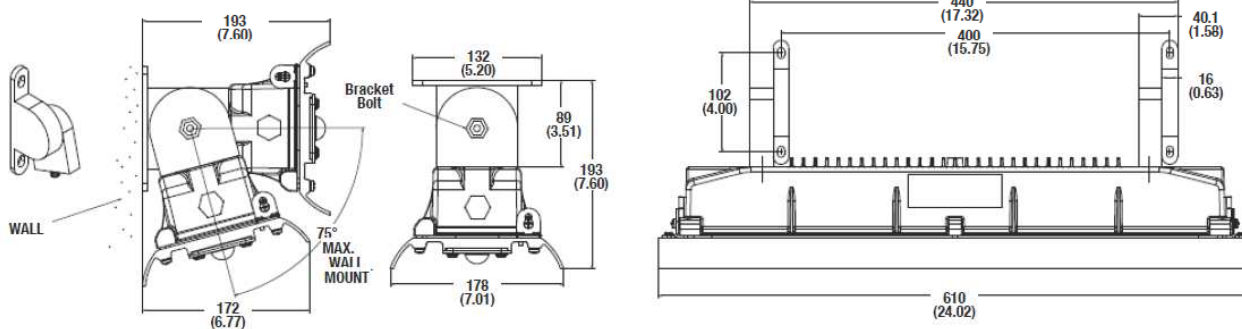
For Hazardous and Adverse Locations

Zones 2 - 22 and 21  
Gas (G) and Dust (D)

## Mounting Options (continued) Dimensions in Millimeters (Inches)

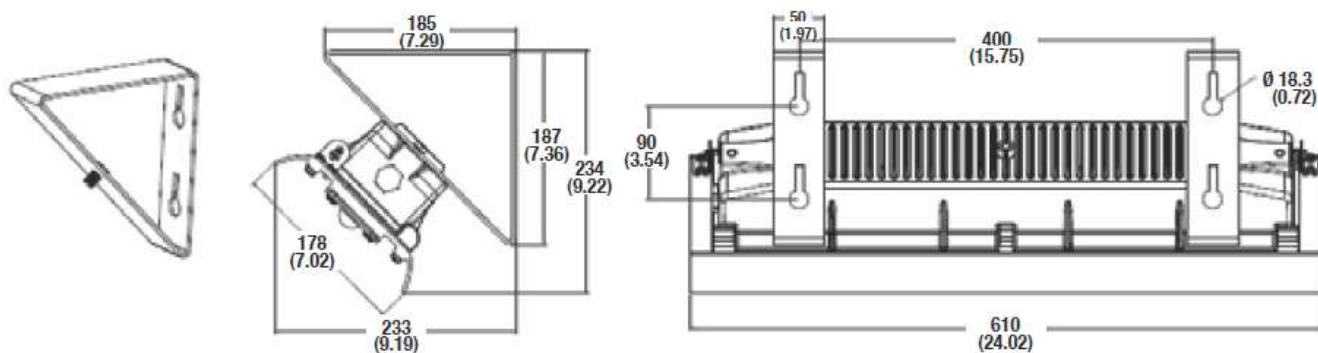
### FEHBA

### Wall/Hinged Mount



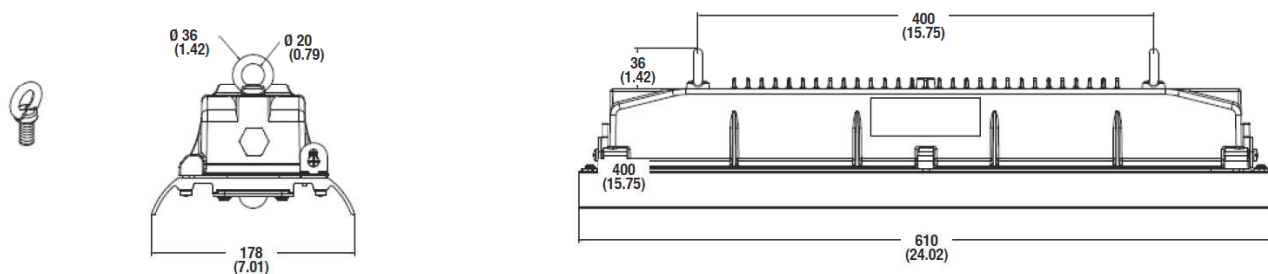
### FVWFM

### Wall/Fixed 45° Mount



### FERBM8Z

### Ceiling/Chain Mount



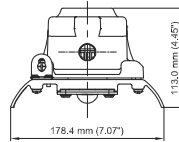


# LLEDA Viamaster™ LED Series Luminaires

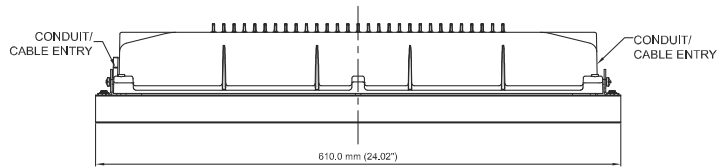
## For Hazardous and Adverse Locations

Zones 2 - 22 and 21  
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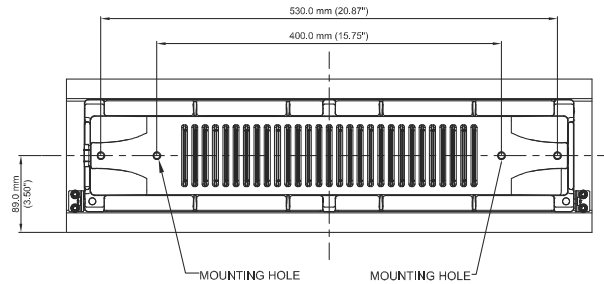
Dimensions in Millimeters (Inches)



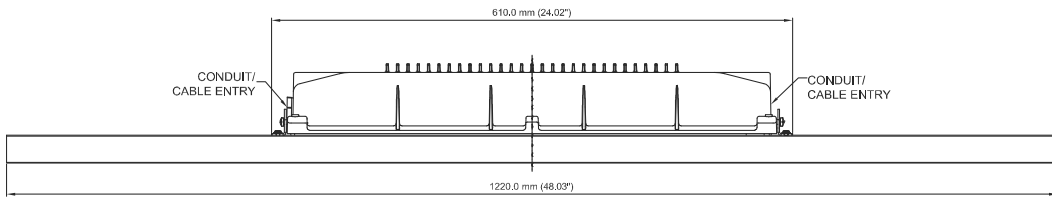
End View — 0.61 m (2 ft) and 1.22 m (4 ft) Versions



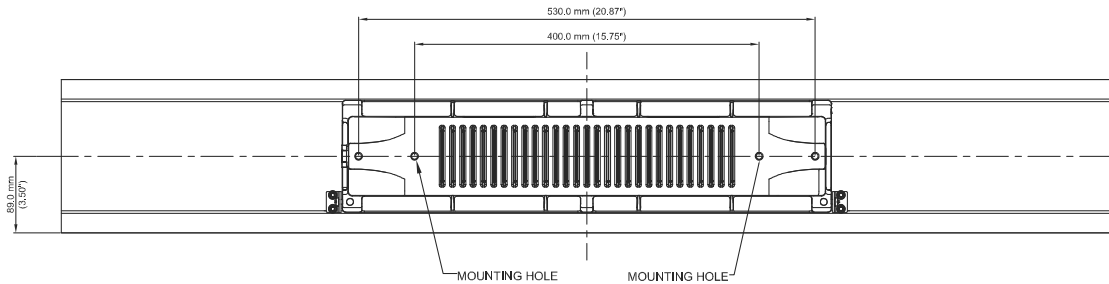
Side View — 0.61 m (2 ft) Versions



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

# LLEDA Viamaster™ LED Series Luminaires

## For Hazardous and Adverse Locations

Zones 2 - 22 and 21  
Gas (G) and Dust (D)

### Photometric Data — DATA SHOWN IS ABSOLUTE

REPORT NUMBER: ID140031A

Catalog Number: LLEDA12BU2

Lamps: linear LED fixture, one LED board for a total of 10 LEDs, aluminum LED reflector is curved painted gray, 609.6 millimeters (24 inches) long x 177.8 millimeters (7 inches) wide, with lexan 163R polycarbonate lens.

#### Candela Distribution

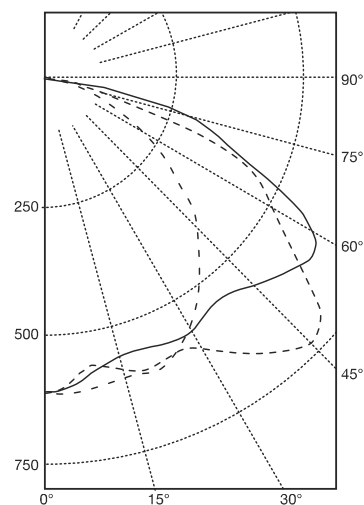
	0.0	22.5	45.0	67.5	90.0	Flux
0	613	613	613	613	613	
5	596	594	599	613	616	57
15	588	578	560	585	603	164
25	594	591	567	520	589	263
35	657	624	548	475	513	351
45	727	698	570	438	408	437
55	592	634	620	355	291	456
65	447	450	485	288	171	378
75	122	145	278	315	67	223
85	4	5	29	104	8	49
90	0	0	1	6	3	

#### Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	484	20.3
0-40	835	35.1
0-60	1728	72.6
0-90	2379	100.0

#### CIE Type – Direct

Plane	Spacing Criteria
0-Deg	90-Deg
1.7	1.3



REPORT NUMBER: ID140011A

Catalog Number: LLEDA15BU2

Lamps: linear LED fixture, two LED boards for a total of 20 LEDs, aluminum LED reflector is curved painted gray, 609.6 millimeters (24 inches) long x 177.8 millimeters (7 inches) wide, with lexan 163R polycarbonate lens.

#### Candela Distribution

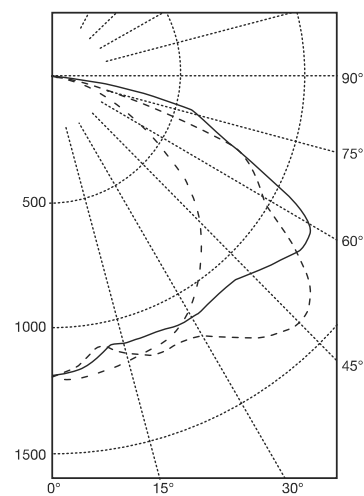
	0.0	22.5	45.0	67.5	90.0	Flux
0	1190	1190	1190	1190	1190	
5	1152	1162	1169	1178	1204	110
15	1145	1127	1096	1120	1171	319
25	1173	1163	1111	1018	1129	514
35	1266	1210	1190	916	1007	685
45	1392	1348	1115	851	827	853
55	1174	1246	1209	706	576	897
65	875	868	965	560	343	745
75	300	391	601	594	145	480
85	12	15	69	257	32	115
90	0	1	14	35	16	

#### Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	943	19.9
0-40	1628	34.4
0-60	3378	71.5
0-90	4718	99.8

#### CIE Type – Direct

Plane	Spacing Criteria
0-Deg	90-Deg
1.7	1.3



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### Photometric Data — DATA SHOWN IS ABSOLUTE

REPORT NUMBER: ID140021A

Catalog Number: LLEDA17BU2

Lamps: linear LED fixture, four LEDs board for a total of 36 LEDs, aluminum LED reflector is curved painted gray, 1219.2 millimeters (48 inches) long x 177.8 millimeters (7 Inches) wide, with lexan 163R polycarbonate lens.

#### Candela Distribution

	0.0	22.5	45.0	67.5	90.0	Flux
0	1966	1966	1966	1966	1966	
5	1884	1904	1914	1941	1979	182
15	1874	1864	1812	1876	1942	529
25	1810	1904	1813	1677	1906	845
35	2076	1997	1770	1525	1681	1128
45	2309	2252	1827	1409	1366	1411
55	1952	2100	2032	1162	971	1501
65	1474	1512	967	944	579	1270
75	427	507	91	1064	225	768
85	13	15	8	390	32	173
90	0	1	6	28	13	

#### Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	1555	19.9
0-40	2683	34.3
0-60	5596	71.6
0-90	7806	99.9

#### CIE Type – Direct

Plane	Spacing Criteria
0-Deg	90-Deg
1.7	1.3

