

# Pauluhn DLLA LED luminaires

For land-based drilling

Cl. I, Div. 2, Groups A, B, C, D  
Cl. I, Zone 2  
Cl. II, Div. 1, Groups F, G  
Cl. III

UL Listed  
CSA Certified  
Marine & Wet Locations  
NEMA 4X; IP66

2L

The Pauluhn™ DLLA linear LED is specifically designed to replace fluorescent T12, T8 and T5HO lighting on land-based and offshore drilling platforms. The rugged and durable design features the industry's most versatile and flexible mounting options. The Pauluhn DLLA is the ideal solution for high vibration, impact and hose down in drilling applications.

Model	Typical lumens	Watts	Lumens per watt	Equivalent HID luminaire	Typical energy savings / lifetime
DLLA2	3,700	28.4	130	T12HO	Up to 63%
				T8HO	Up to 59%
				T5HO	Up to 47%
				T12	Up to 36%
				T8	Up to 25%
				T5	Up to 9%
DLLA4	7,900	59.8	132	T12HO	Up to 58%
				T8HO	Up to 54%
				T5HO	Up to 43%
				T12	Up to 37%
				T8	Up to 22%
				T5	Up to 10%

## Applications:

- Land-based and offshore rigs; areas include: derrick, mast, SCR house, top drive, operator's house, power and pump stations

## Features:

- High efficacy: up to 152 LPW (DLLA4 with UNV34 driver)
- 40°C to +65°C ambient operating temperature (standard model)
- Low profile (<3" height)
- Versatile ceiling/swivel, wall, flush, pole and pendant mounting options
- Wide and narrow optics for uniform illumination in control room and drill mast
- Four points of secondary retention
- 2,000 PSI high pressure hose rated
- High vibration resistance
- Surge protection: 4kV line to line, 6kV line to earth
- Emergency battery back-up (90 minutes) and surge protection options (up to 10 kV) <sup>A</sup> on DLLA models
- DesignLights Consortium® Qualified (some models are not DLC qualified or pending) <sup>B</sup>
- 5 year fixture warranty

## Standard materials:

- Housing – copper-free aluminum; Corro-free epoxy powder coat (optional)
- Lens – glass; polycarbonate, diffused glass, diffused polycarbonate (optional)

## Photometrics:

- Complete photometrics can be found at [www.crouse-hinds.com/photometrics](http://www.crouse-hinds.com/photometrics)



## Certifications and compliances:

### NEC:

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2
- Class II, Division 1, Groups F, G
- Class III
- NEMA 4X, IP66
- Marine and wet locations

### UL standards:

- UL844 – Electrical Fixture Hangers for Hazardous Locations
- UL1598 – Luminaire
- UL1598A – Luminaire for Installation on Marine Vessels
- UL8750 – Standard for Light Emitting Diode (LED) Equipment for use in Lighting Products
- UL50E – Enclosures for Electrical Equipment, Environmental Considerations
- UL924 – Emergency Lighting

### CSA standard:

- C22.2 Nos. 137, 250

### Additional certifications:

- ABS design assessed

## Mounting (ordered separately):

### Versatile mounting options:

- Flush back mount
- Swivel/ceiling back mount
- Offset ceiling mount
- Offset wall mount
- Pole mount
- Pendant mount

### Easily retrofit to:

- Existing Pauluhn DuraPro and MagnaPro fluorescent light fixtures
- Rig-A-Lite and Snelson C1D2 fluorescent lighting fixtures

<sup>A</sup>One year warranty on 'EM' models.

<sup>B</sup>Refer to [www.designlights.org](http://www.designlights.org) Qualified Products List under Family Models for full listing details. Not all models are approved for all application categories.

# Pauluhn DLLA LED luminaires

For land-based drilling

Cl. I, Div. 2, Groups A, B, C, D  
Cl. I, Zone 2  
Cl. II, Div. 1, Groups F, G  
Cl. III

UL Listed  
CSA Certified  
Marine & Wet Locations  
NEMA 4X; IP66

2L

2L

## Electrical ratings:

UNV1	Input power (watts)	Input amps at 120-277 VAC
DLLA2	28.4	0.23 - 0.11
DLLA4	62.0	0.51 - 0.23

UNV1	
Voltage range, VAC	120-277V at 50/60 Hz
Voltage range, VDC	127-300V

All models	
Power factor	≥0.90
THD	≤15%

UNV34	Input power (watts)	Input amps at 347-480 VAC
DLLA4	42.2	0.09 - 0.13

UNV34	
Voltage range, VAC	347-480V at 50/60 Hz

## Temperature performance data:

Ambient temp. °C	Min. temp. supply wire °C	Simultaneous rating		
		Class I, Division 2	Class II, Division 2	Class I, Division 2; Class II, Division 2
40	60	T6	T6	T6
55	75	T5	T5	T5
65	90	T5	T5	T5

## Weights:

Model	Lbs.	Kg.
DLLA2	12.50	5.70
DLLA4	22.50	10.20

# Pauluhn DLLA LED luminaires

For land-based drilling

Cl. I, Div. 2, Groups A, B, C, D  
Cl. I, Zone 2  
Cl. II, Div. 1, Groups F, G  
Cl. III

UL Listed  
CSA Certified  
Marine & Wet Locations  
NEMA 4X; IP66

2L

2L

**Designed for drilling.** Pauluhn DLLA linear LED luminaires are engineered to stand up to the demanding conditions faced on land-based drilling rigs. The DLLA stands up to high vibration, hose down, shock and impact, while delivering long life and high lumen performance for up to 20 years.

## Custom optics:

- Standard wide (120°) beam spread for control room and indoor application maximizes illumination on wall panels
- Narrow (80°) beam spread option for high mast/derrick application avoids spillage and light loss

## Comprehensive certification:

- Single model certified for use in Class I, Division 2 and Class II, Division 2 harsh and hazardous applications

## Quick & easy installation:

- Easy access to drivers and wiring
- No custom brackets or hardware needed
- Seven mounting options available
- Easily retrofit to Pauluhn DuraPro and MagnaPro, Rig-A-Lite and Snelson

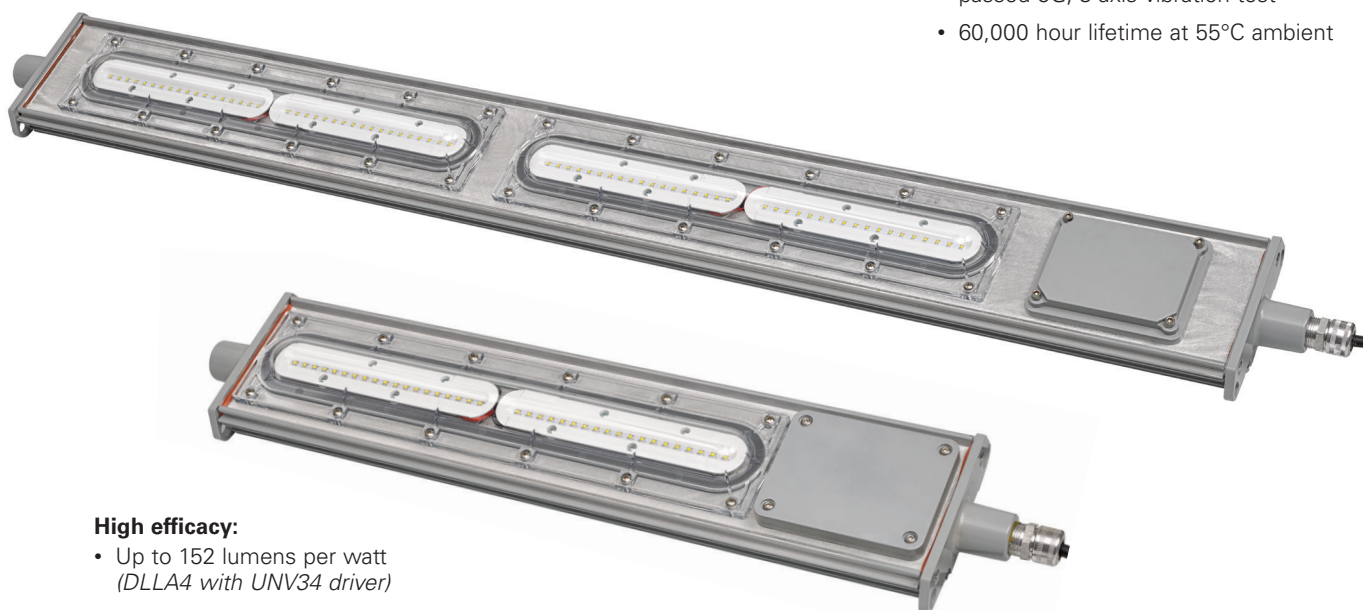


## Slim profile:

- 2.7" fixture height (excluding mounting brackets)
- Perfect for mounting in confined or low height areas

## Built to last:

- Ingress protection from hose down water or diesel fuel in harsh operational conditions – passed 2,000 PSI high pressure test
- Vibration-, impact- and shock-resistant – passed 5G, 3-axis vibration test
- 60,000 hour lifetime at 55°C ambient



## High efficacy:

- Up to 152 lumens per watt (DLLA4 with UNV34 driver)

# Pauluhn DLLA LED luminaires

For land-based drilling

Cl. I, Div. 2, Groups A, B, C, D  
Cl. I, Zone 2  
Cl. II, Div. 1, Groups F, G  
Cl. III

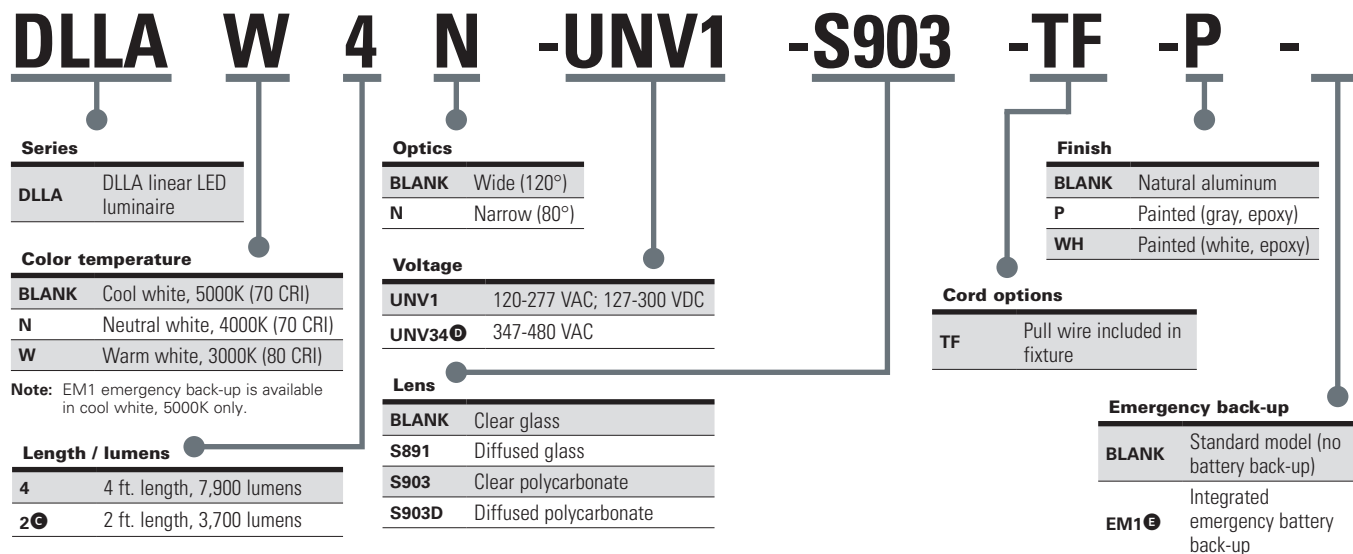
UL Listed  
CSA Certified  
Marine & Wet Locations  
NEMA 4X; IP66

2L

## Ordering information:

Part number example

DLLAW4N-UNV1-S903-TF-P



## Options:

Description	Suffix	Description	Suffix
• Diffused glass lens	<b>S891</b>	• Gray epoxy powder coat	<b>P</b>
• Clear polycarbonate lens	<b>S903</b>	• White epoxy powder coat	<b>WH</b>
• Diffused polycarbonate lens	<b>S903D</b>	• Integrated emergency battery back-up	<b>EM1</b>
• Pull wire included in fixture	<b>TF</b>		

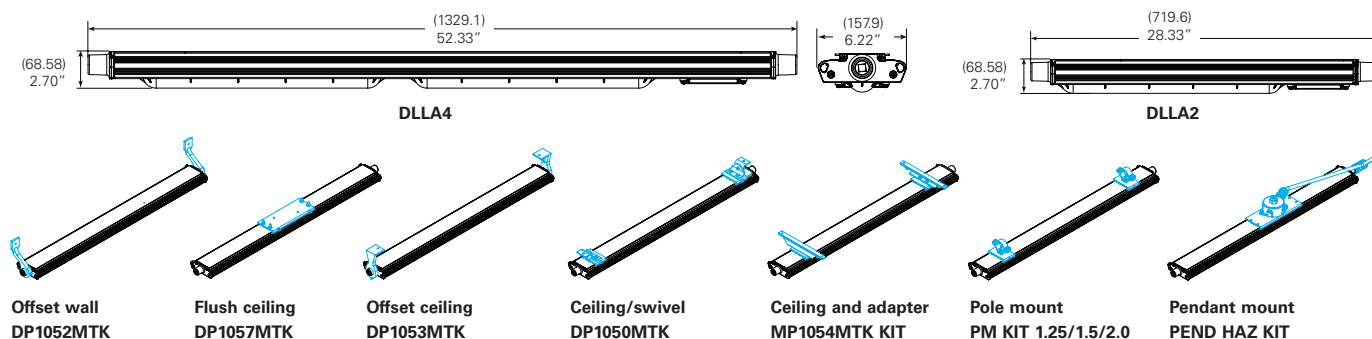
## Accessories (ordered separately):

<b>DP1057MTK</b>	Flush/back mount back plate (compatible with DuraPro)
<b>DP1050MTK</b>	Ceiling/swivel mount (compatible with DuraPro)
<b>DP1053MTK</b>	Ceiling/wall mount offset (compatible with DuraPro)
<b>MP1054MTK KIT</b>	Ceiling mount bracket and adapter kit (compatible with MagnaPro)
<b>DP1052MTK</b>	Offset wall mount (compatible with DuraPro)
<b>PEND HAZ KIT</b>	Pendant mount kit
<b>SS KIT</b>	Safety chain kit
<b>PM KIT 1.25</b>	Pole mount kit, 1.25" conduit
<b>PM KIT 1.5</b>	Pole mount kit, 1.50" conduit
<b>PM KIT 2.0</b>	Pole mount kit, 2.00" conduit

## Replacement driver kits (ordered separately)

<b>MLLA2-UNV1-DRIVER KIT</b>	120-277 VAC driver for 2 ft. linear (30W driver: EUC030S050DTM)
<b>MLLA4-UNV1-DRIVER KIT</b>	120-277 VAC driver for 4 ft. linear (60W driver: EUC060S105DTM)
<b>MLLA4-UNV34-DRIVER KIT</b>	347-480 VAC driver for 4 ft. linear (60W driver: PS2569R-Y-751)
<b>MLL EM1 DRIVER KIT</b>	120-277 VAC driver replacement kit for integral emergency battery back-up option

## Dimensions and mounting options:



Ⓒ Not available with UNV34 voltage option or EM1 emergency back-up option.

Ⓓ Not available in 2 ft. length or EM1 emergency back-up option.

Ⓔ One year warranty. Remote EM kit also available, 120-277 VAC only. Contact factory for more information. All EM1 models are painted; gray epoxy is standard.

# Pauluhn DLLA LED luminaires

For land-based drilling

Cl. I, Div. 2, Groups A, B, C, D  
Cl. I, Zone 2  
Cl. II, Div. 1, Groups F, G  
Cl. III

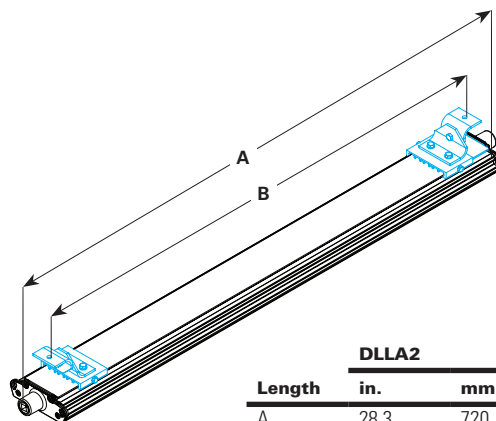
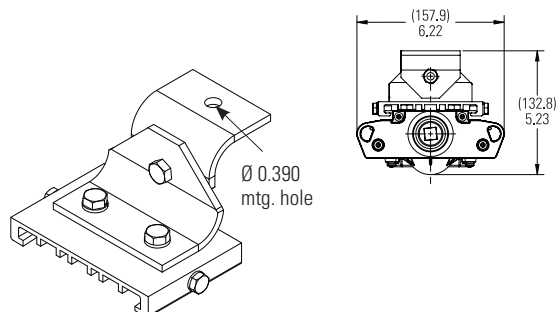
UL Listed  
CSA Certified  
Marine & Wet Locations  
NEMA 4X; IP66

2L

2L

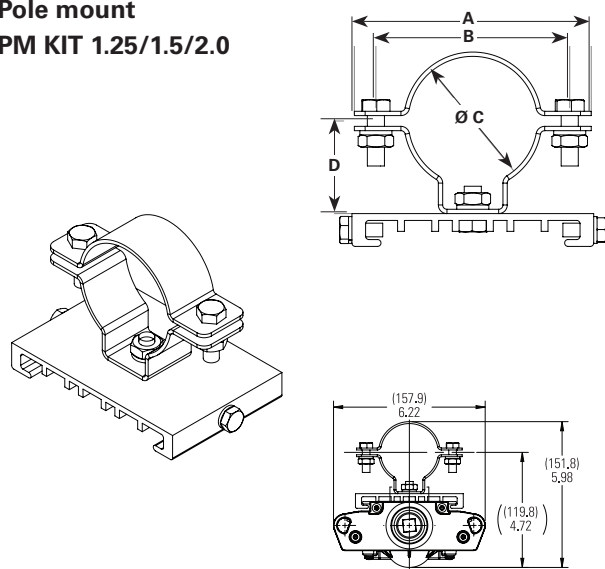
## Mounting options:

### Ceiling/swivel mount DP1050MTK

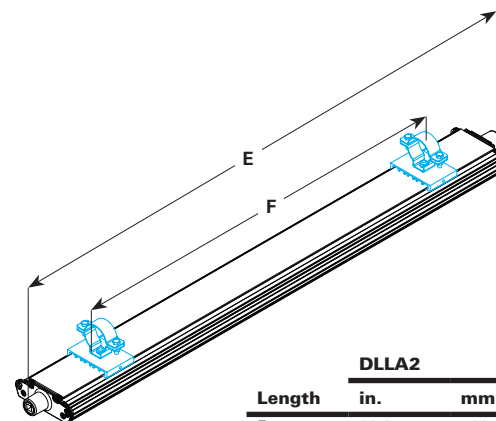


Length	DLLA2		DLLA4	
	in.	mm.	in.	mm.
A	28.3	720	52.3	1329
B	9-27	222-681	9-51	222-1289

### Pole mount PM KIT 1.25/1.5/2.0

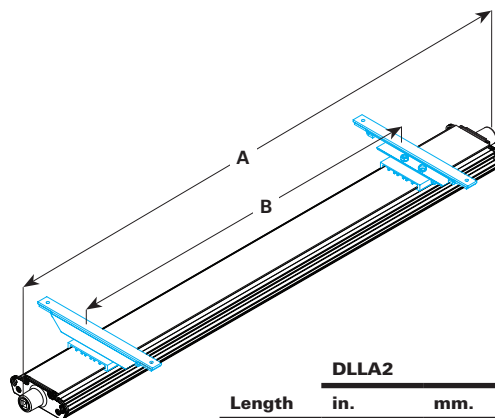
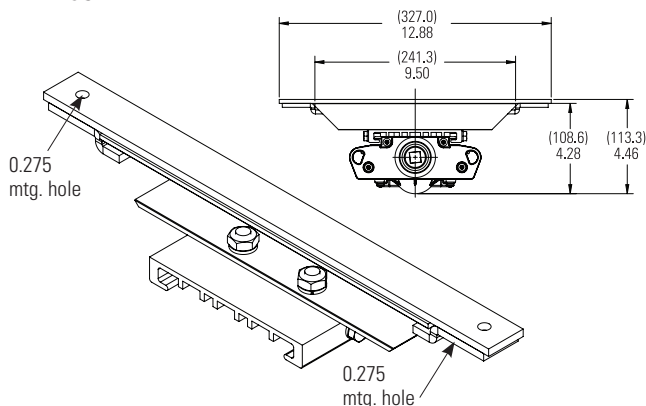


Configuration	ALL MEASUREMENTS IN INCHES			
	A	B	C	D
PM KIT 1.25	4.331	3.543	1.680	1.693
PM KIT 1.5	3.740	2.953	2.000	1.535
PM KIT 2.0	3.386	2.598	2.360	1.378



Length	DLLA2		DLLA4	
	in.	mm.	in.	mm.
E	28.3	720	52.3	1329
F	12-21	305-533	24-45	610-1143

### MagnaPro mount MP1054MTK KIT



Length	DLLA2		DLLA4	
	in.	mm.	in.	mm.
A	28.3	720	52.3	1329
B	12-22	305-559	24-46	610-1168

# Pauluhn DLLA LED luminaires

For land-based drilling

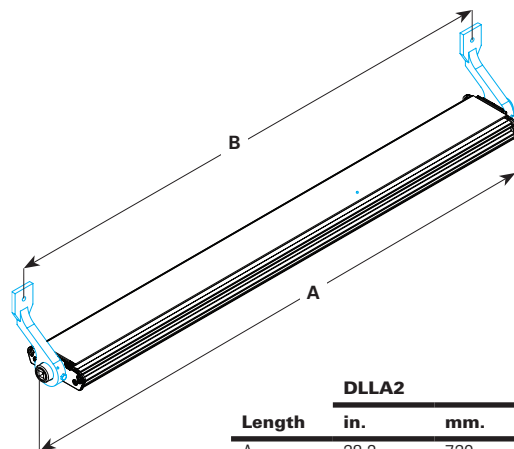
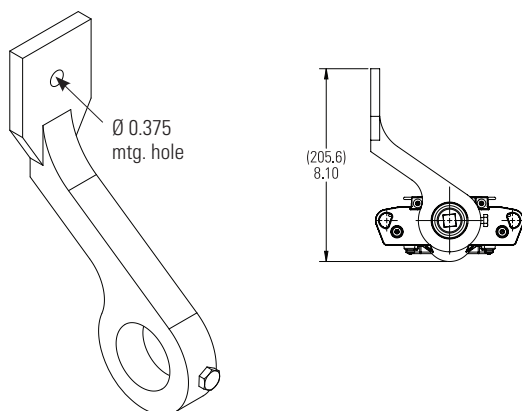
Cl. I, Div. 2, Groups A, B, C, D  
Cl. I, Zone 2  
Cl. II, Div. 1, Groups F, G  
Cl. III

UL Listed  
CSA Certified  
Marine & Wet Locations  
NEMA 4X; IP66

2L

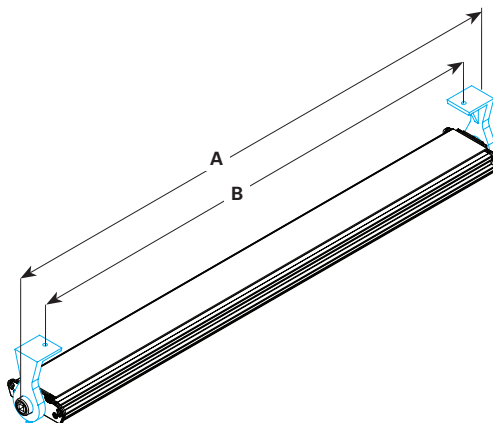
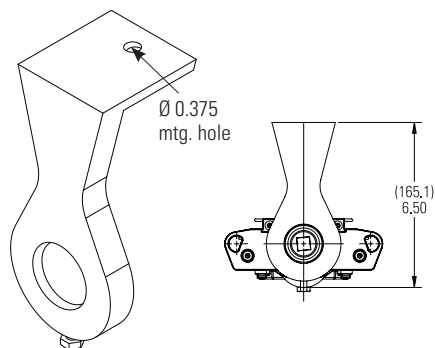
## Mounting options (continued):

### Offset wall DP1052MTK



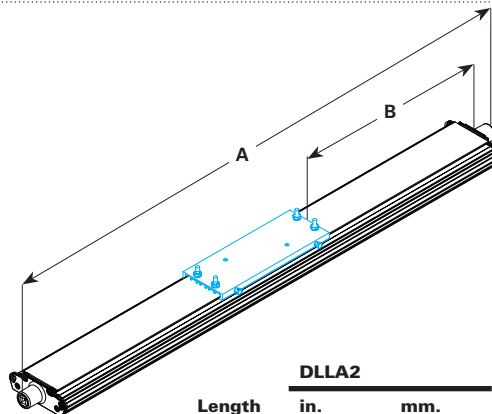
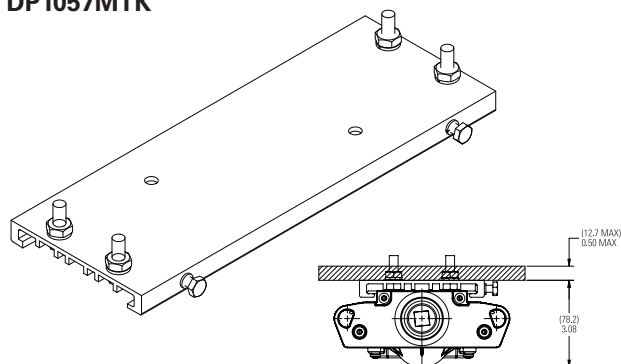
Length	DLLA2		DLLA4	
	in.	mm.	in.	mm.
A	28.3	720	52.3	1329
B	26.3	669	50.3	1278

### Offset ceiling/wall mount DP1053MTK



Length	DLLA2		DLLA4	
	in.	mm.	in.	mm.
A	28.3	720	52.3	1329
B	26.3	584	47.0	1194

### Flush ceiling DP1057MTK



Length	DLLA2		DLLA4	
	in.	mm.	in.	mm.
A	28.3	720.0	52.3	1329.0
B	6.2	157.5	18.2	462.0

# Pauluhn DLLA LED luminaires

For land-based drilling

Cl. I, Div. 2, Groups A, B, C, D  
Cl. I, Zone 2  
Cl. II, Div. 1, Groups F, G  
Cl. III

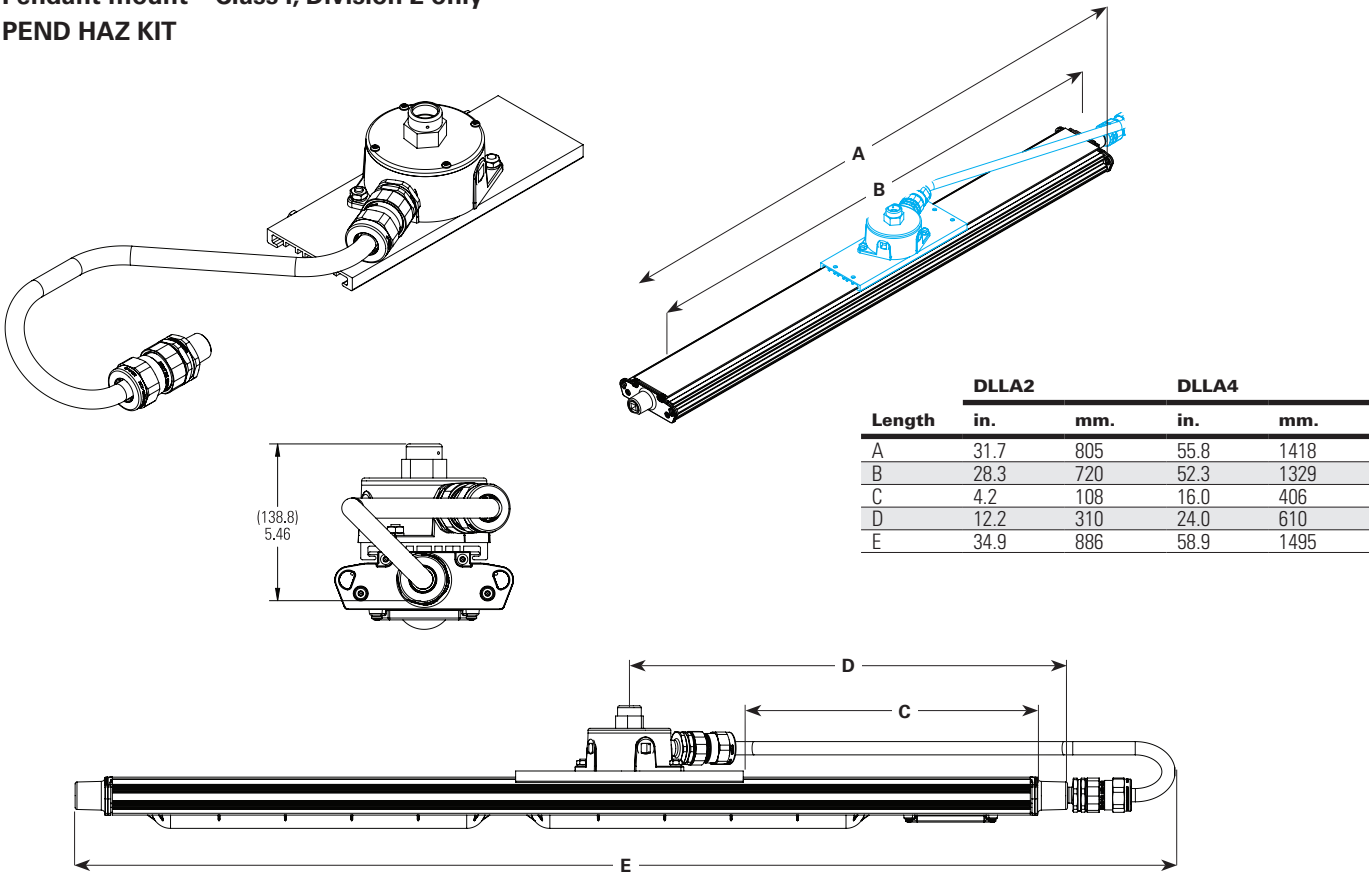
UL Listed  
CSA Certified  
Marine & Wet Locations  
NEMA 4X; IP66

2L

2L

## Mounting options (continued):

Pendant mount – Class I, Division 2 only  
PEND HAZ KIT





# Pauluhn DLLA LED luminaires

Integral battery back-up

Cl. I, Div. 2, Groups A, B, C, D  
Cl. II, Div. 2, Groups F, G

UL Listed  
CSA Certified  
Wet Locations  
Type 4X; IP66

2L

Pauluhn DLLA linear LED luminaires are available with an integral battery back-up module. Virtually the same size as the standard 4 foot model and 90 minutes of emergency lighting to keep your facility and personnel safe.

Model	EM output	Normal output
DLLA4-UNV1 EM1	1,850 lumens (120-277V)	7,327 lumens (120-277V)

## Applications:

- Egress and emergency lighting for areas requiring uninterrupted lighting during power failure
- Hazardous rated indoor and outdoor emergency lighting in manufacturing plants, heavy industrial, chemical and petrochemical facilities, platforms, loading docks and parking areas

## Features:

- Operating ambient: 0°C to +40°C
- 90-minute run time in emergency mode
- 7,327 lumen output for normal operation; 1,850 lumen output in emergency mode
- 50,000 hours rated life at 40°C
- IP66 rated enclosure
- LED indicator to check battery operation
- Nickel cadmium battery
- 1 year warranty

## Certifications and compliances:

### NEC/CEC:

- Class I, Division 2, Groups A, B, C, D
- Class II, Division 2, Groups F, G
- Wet locations, Type 4X, IP66

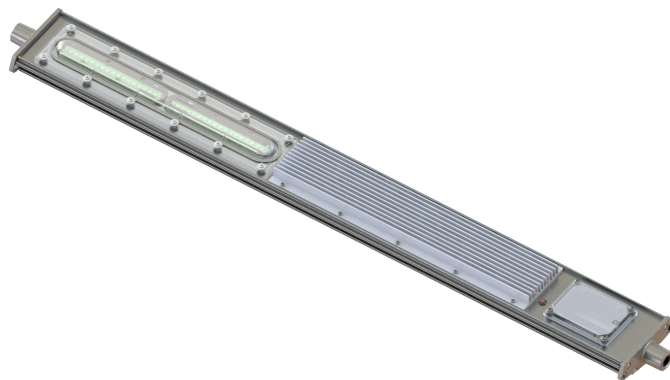
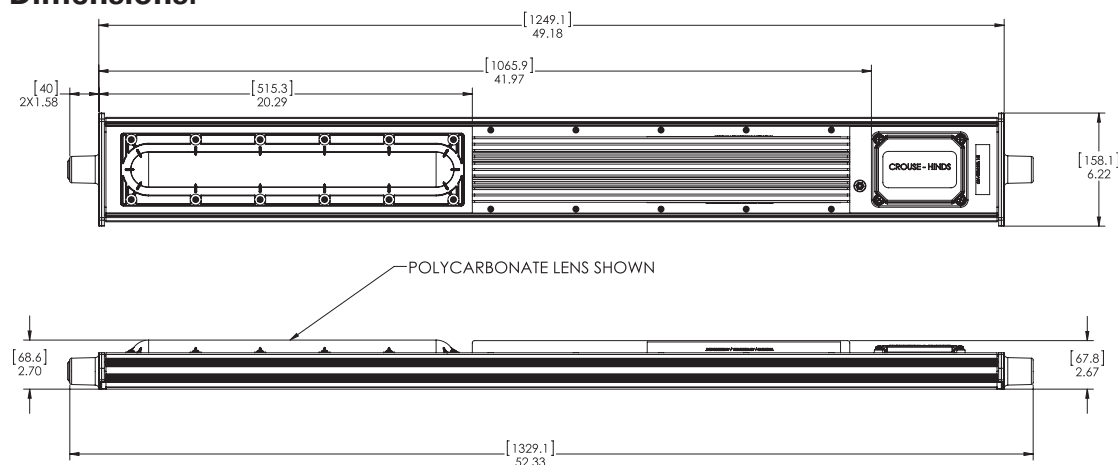
### UL standards:

- UL844 – Electrical Fixture Hangers for Hazardous Locations
- UL1598 – Luminaires
- UL1598A – Luminaire for Installation on Marine Vessels
- UL8750 – Standard for Light Emitting Diode (LED) Equipment for use in Lighting Products
- UL50E – Enclosures for Electrical Equipment, Environmental Considerations

### CSA standard:

- CSA C22.2 Nos. 137, 141

## Dimensions:



## Electrical ratings:

UNV1	Input power (watts)	Input amps at 120-277 VAC
DLLA4-EM	55.9	0.21 - 0.47

Voltage range, VAC	120-277V at 50/60 Hz
Voltage range, VDC	127-300V
Power factor	≥0.90
THD	≤10%

## Temperature performance data:

Ambient temp. °C	Min. temp. supply wire °C	Class I, Div. 2	Class II, Div. 1	Simultaneous rating Class I, Div. 2; Class II, Div. 1
40	60	T5	T6	T5

