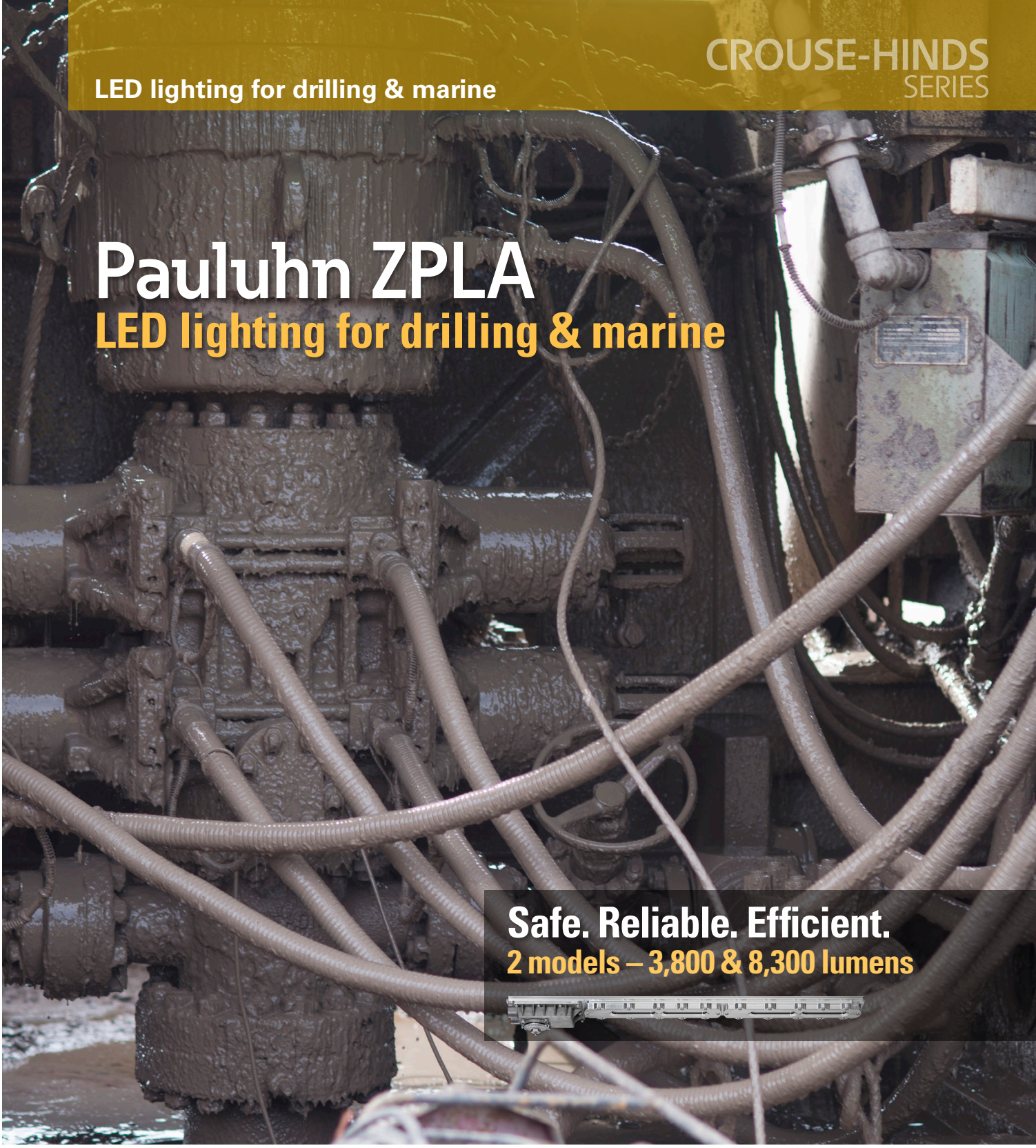
CROUSE-HINDS SERIES

Pauluhn ZPLA

LED lighting for drilling & marine



Safe. Reliable. Efficient.

2 models – 3,800 & 8,300 lumens

EATON

Powering Business Worldwide

Pauluhn ZPLA explosionproof LEDs

Safe. Reliable. Efficient.

Featuring a broad range of LED luminaires for harsh and hazardous environments, Eaton's Crouse-Hinds delivers lighting solutions that perform reliably in even the worst operating conditions. This reduces your energy, maintenance and manpower costs.

Why LED?

Useful life
Rated life is up to 60,000 hours of maintenance-free and safe operation

Energy efficiency
LED average energy consumption is 61% less than T12, T8 and T5HO fluorescent fixtures

Start/restart time
Instant illumination vs. 10 minute restrike time for fluorescent

Light quality
Higher color rendering and color temperature compared to fluorescent

Environmental benefits
Mercury-free LED eliminates disposal costs and lower energy consumption for a smaller carbon footprint

Why Crouse-Hinds?

Industry-best reliability
Built to withstand extreme temperatures, vibration, water and dust

Thermal management
Effective heat sinking ensures longer life

Quality of light
Custom optics designed to maximize light distribution and intensity

Field servicable drivers
Easy access to drivers for service or replacement

Design features

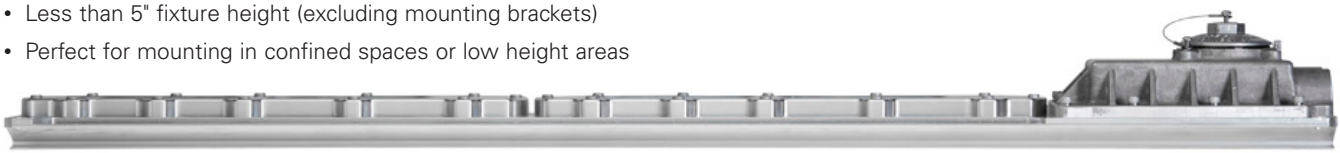
Designed for drilling. Pauluhn ZPLA linear LED luminaires are engineered to stand up to the demanding conditions faced on land-based drilling rigs. The ZPLA stands up to high vibration, hose down, shock and impact, while delivering long life and high lumen performance for up to 10 years.

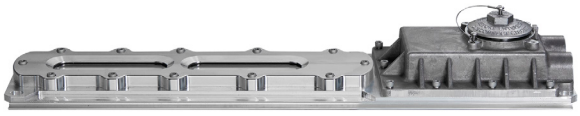
Custom optics:
- 120° beam spread maximizes illumination on wall panels

Comprehensive certification:
- Single model certified for use in Class I, Division 1 and Class II, Division 1 harsh and hazardous applications

Quick & easy installation:
- Easy access to drivers and wiring
- No custom brackets or hardware needed
- Two mounting options available

Slim profile:
- Less than 5" fixture height (excluding mounting brackets)
- Perfect for mounting in confined spaces 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
- 100,000+ hour lifetime at 40°C and below

Why choose Pauluhn ZPLA LEDs?

Reliable lighting. ZPLA LED luminaires are engineered to deliver high lumen output and maintenance-free long life in the toughest conditions.

ZPL4A-UNV1 vs. T12HO fluorescent

58% ENERGY EFFICIENCY

61% TOTAL COST OF OWNERSHIP

100% MAINTENANCE REDUCTION

Assumptions: Calculations based on overall life of the LED system. Energy cost of $.09 per kilowatt; 24 hour per day operation; labor rate of $75 each for 2 workers; average time for fixture maintenance of 1 hour.

Pauluhn ZPLA LED luminaires

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

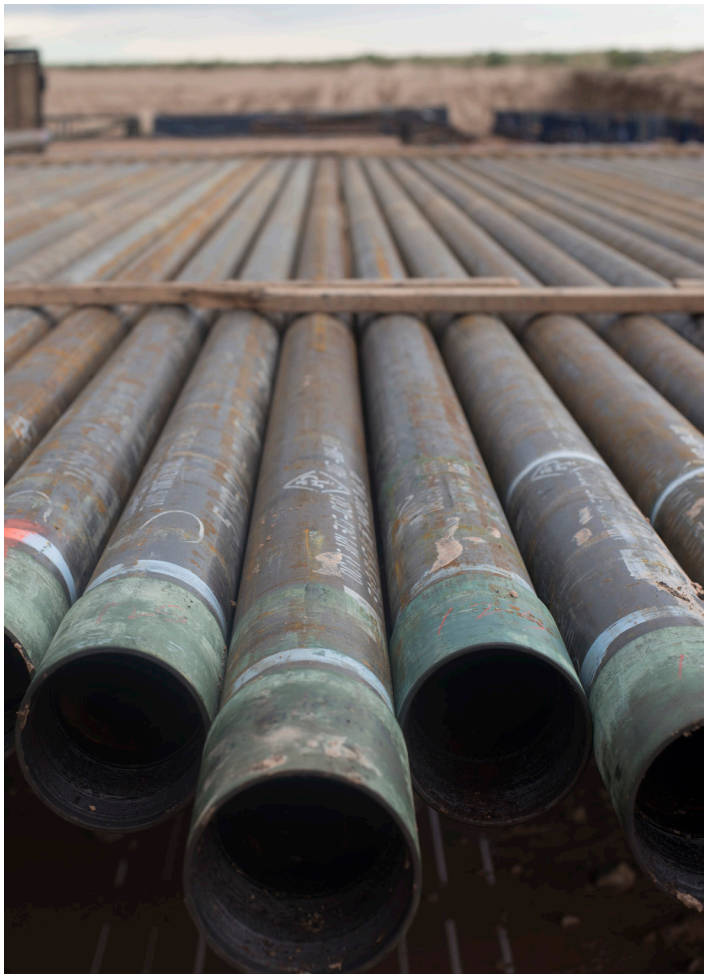
Applications:

Marine vessels, land-based and offshore rigs; areas include: mud room, derrick, mast, SCR house, top drive, operator's house, power and pump stations.

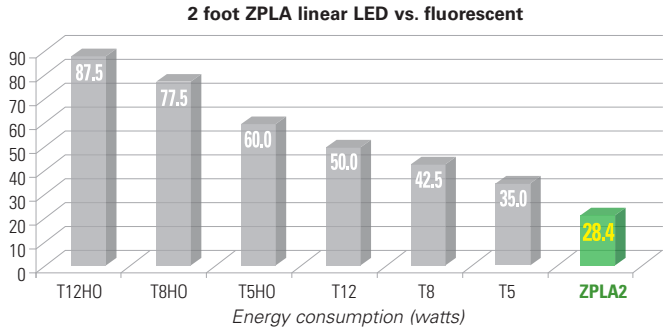
Key features & benefits:

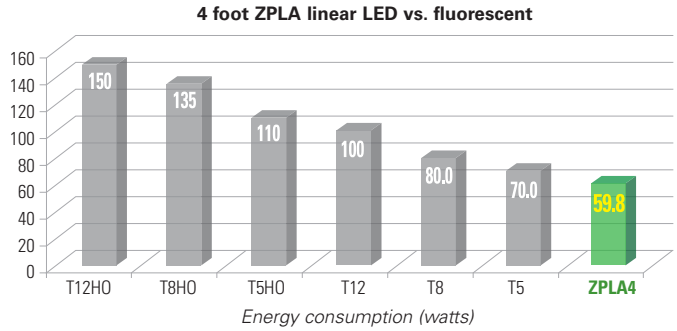
- High efficacy: up to 139 LPW (ZPLA4 UNV34)
- 5000K CCT, 72 CRI
- -25°C to +55°C ambient operating temperature (standard fixture only)
- Low profile fixture (<5" height)
- Flush and swivel mount options
- Wide optics for uniform illumination
- Four points of secondary retention and loop feed wiring
- 2,000 psi high pressure hose rated
- 5G 3-axis vibration
- 4kV line to line, 6kV line to earth surge protection
- 5 year fixture warranty - standard models*
- 1 year fixture warranty - emergency model

* Refer to the authorized distributor price book for Crouse-Hinds standard Terms and Conditions.



Energy consumption comparison



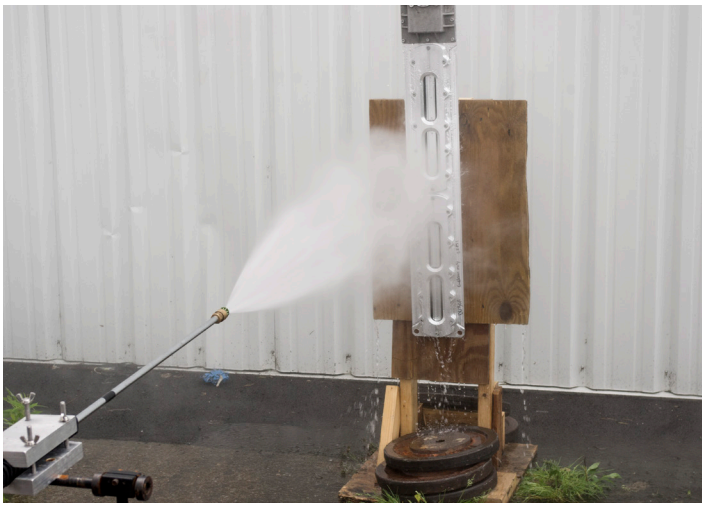


Model	Typical lumens	Wattage	Lumens per watt	Equivalent HID luminaire	Typical energy savings / lifetime
ZPLA2	3,800	28.4	135	T12HO	Up to 62%
				T8HO	Up to 57%
				T5HO	Up to 45%
				T12	Up to 34%
				T8	Up to 22%
				T5	Up to 6%

Typical lumens +/- 10%, all luminaires in the comparison are 2 ft., 2 lamp

Model	Typical lumens	Wattage	Lumens per watt	Equivalent HID luminaire	Typical energy savings / lifetime
ZPLA4	8,300	59.8	139	T12HO	Up to 58%
				T8HO	Up to 43%
				T5HO	Up to 53%
				T12	Up to 37%
				T8	Up to 21%
				T5	Up to 10%

Typical lumens +/- 10%, all luminaires in the comparison are 4 ft., 2 lamp



Pauluhn ZPLA tested to withstand 2,000 psi hose test at 5 ft. distance

Electrical ratings:

UNV1	Input power (watts)	Input amps at 120-277 VAC
ZPLA2	28.3	0.23-0.11
ZPLA4	59.8	0.24-0.11

UNV34	Input power (watts)	Input amps at 347-480 VAC
ZPLA4	45.1	0.096-0.127

*ZPLA2 model not available with UNV34

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

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

All models	
Power factor	≥0.90
THD	≤15%

Certifications:

NEC/CEC standards:

- Class I, Division 1, Groups C, D
- Class II, Division 1, Groups E, F, G
- Class III
- NEMA 4X; IP66
- Marine and wet locations
- Paint spray rated

UL standards:

- UL 50E Enclosures for Electrical Equipment, Environmental Considerations
- UL844 Electrical Fixture Hangers for Hazardous Locations
- UL924 Emergency Lighting and Power Equipment
- UL1598 Luminaire
- UL1598A Luminaire for Installation on Marine Vessels
- UL 8750 Standard for Light Emitting Diode (LED) Equipment for Use in Lighting Products

CSA standard:

- C22.2 No. 137 and 250

Materials:

Housing:

- Copper-free aluminum
- Corro-free™ epoxy powder coat (optional)

Lens:

- Glass
- Diffused glass (optional)

Mounting (ordered separately):

Versatile mounting options:

- Flush mount
- Swivel/surface mount
- Pole mount

Temperature codes:

Ambient temp.	Supply wire	Class I, Div. 1	Class II, Div. 1	Simultaneous presence	Paint spray
40°C*	75°C	T6	T5	T6	T5
55°C	75°C	T6	T5	T5	T5
65°C	90°C	T5	T4A	T4A	T5

* EM rated to +40°C only.

Weights:

Luminaire	lbs.	kg.
ZPLA2	18.0	8.2
ZPLA4	27.0	12.2
Emergency	37.8	17.1

Emergency solutions

Applications:

- Explosionproof rated indoor and outdoor egress and emergency lighting for areas requiring uninterrupted lighting during power failure

Key features:

- Operating ambient: -20°C to +40°C
- 90-minute minimum run time in emergency mode
- 7,513 lumen output (784 in emergency mode)
- 60,000 hours rated life at 40°C
- IP66 rated enclosure with NiCad batteries
- Provision of LED indicator and manual test switch to check battery operation
- Epoxy painted powder coated housing
- 1 year warranty

Certifications and compliances:

NEC/CEC:

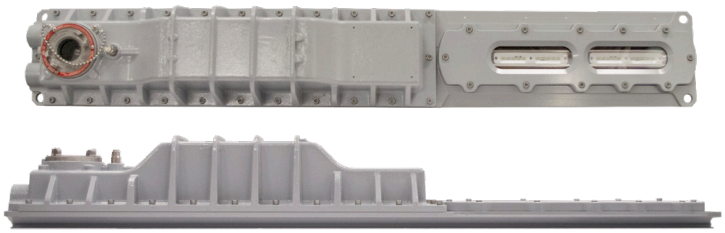
- Class I, Division 1, Groups C, D
- Class II, Division 1, Groups E, F, G
- Class III
- Wet locations, IP66, Type 4X

CSA standard:

- CSA C22.2 Nos. 137, 141

UL standards:

- UL 50E Enclosures for Electrical Equipment, Environmental Considerations
- UL844 Electrical Fixture Hangers for Hazardous Locations
- UL924 Emergency Lighting and Power Equipment
- UL1598 Luminaire
- UL1598A Luminaire for Installation on Marine Vessels
- UL 8750 Standard for Light Emitting Diode (LED) Equipment for Use in Lighting Products

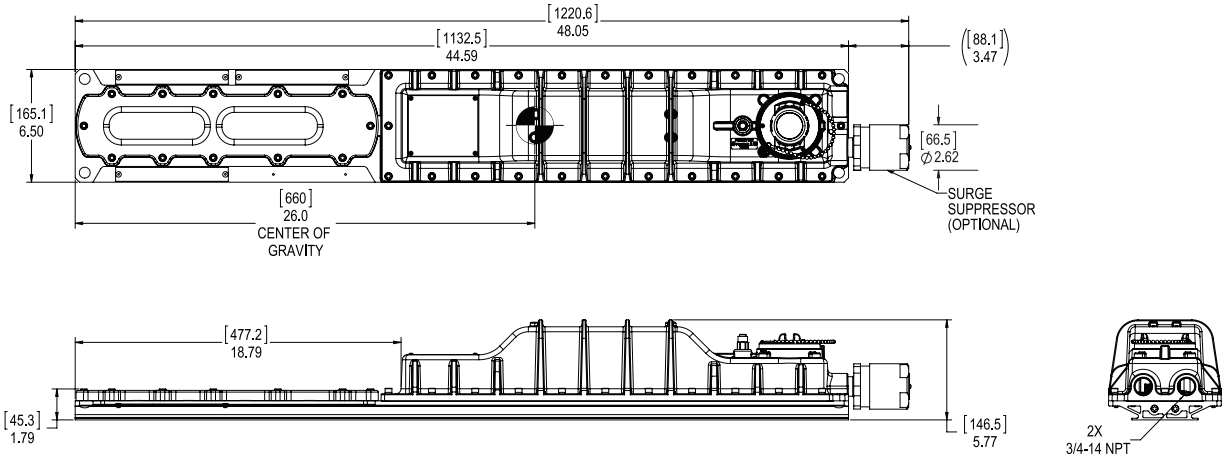


Model	EM output	Normal output	Weight (lbs.)
ZPLA4-UNV1-EM-P	784 lumens	7,513 (100-277V)	37.8

Electrical ratings:

UNV1	Input power (watts)	Input amps at 120-277 VAC
ZPLA4 EM P	73.2	0.61-0.73

Voltage range, VAC	120-277V at 50/60 Hz
Power factor	≥0.90
THD	≤15%



Ordering information

Part number example

ZPLAW4-UNV1-S891-S917

ZPLA linear LED, warm white, 4 foot, ¾" hubs, 120-277 VAC driver, diffused glass lens, natural aluminum finish, low temperature suitability

ZPLA W 4 – UNV1 – S891 – S917 –

Series

ZPLA	Pauluhn ZPLA linear LED luminaire

Color temperature

BLANK	Cool white, 5000K
N	Neutral white, 4000K
W	Warm white, 3000K

Length/lumens

4	4 ft. length, 8,300 lumens
2	2 ft. length, 3,800 lumens

Voltage

UNV1	120-277 VAC; 127-300 VDC
UNV34†	347-480 VAC

†Contact factory for lead time.

Lens

BLANK	Glass
S891	Diffused glass

Options

S917*	-40°C to +65°C suitability
P	Gray epoxy powder coat

* One year warranty.

Battery back-up

EM-P	Emergency battery back-up

Note: Available in 4 ft. length and UNV1 voltage only.

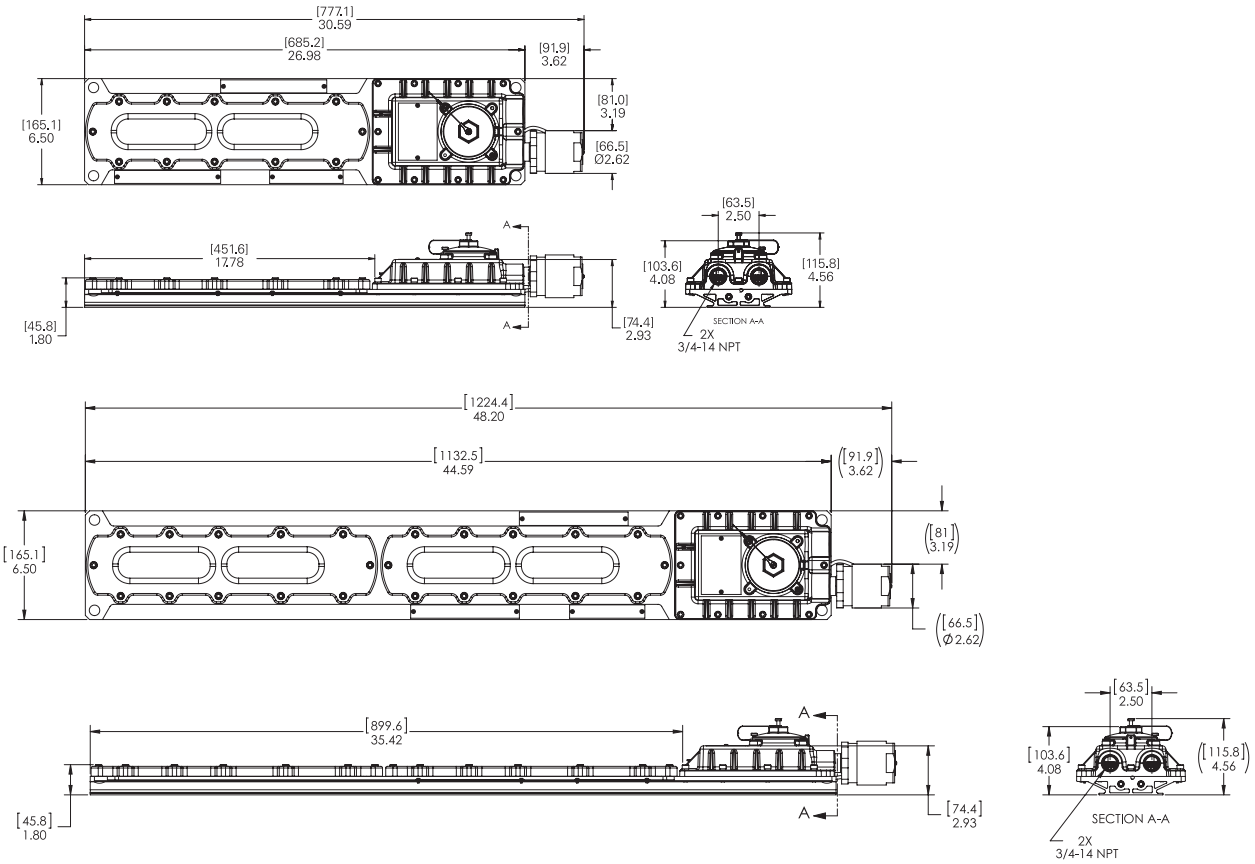
Accessories (ordered separately)

ZP1057MTK	Flush/back mount back plate
ZP1050MTK	Ceiling/swivel mount
PM KIT 1.25	1¼" pole mount kit
PM KIT 1.5	1½" pole mount kit
PM KIT 2.0	2" pole mount kit
SS KIT	Safety chain kit (2 cables)
XPL PS2	Polycarbonate paint spray lens shield kit for 2 ft. fixture
XPL PS4	Polycarbonate paint spray lens shield kit for 4 ft. fixture

Replacement driver kits (ordered separately)

ZPLA2-UNV1-DRIVER KIT	120-277 VAC driver replacement for 2 ft. linear
ZPLA4-UNV1-DRIVER KIT	120-277 VAC driver replacement for 4 ft. linear
ZPLA4-UNV34-DRIVER KIT	347-480 VAC driver replacement for 4 ft. linear
XPLA EM BATTERY KIT	Replacement battery pack for emergency back-up model

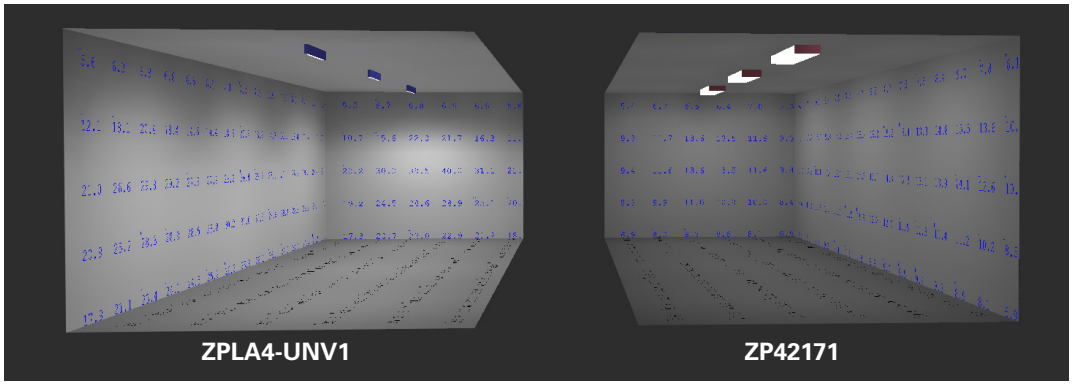
Dimensions



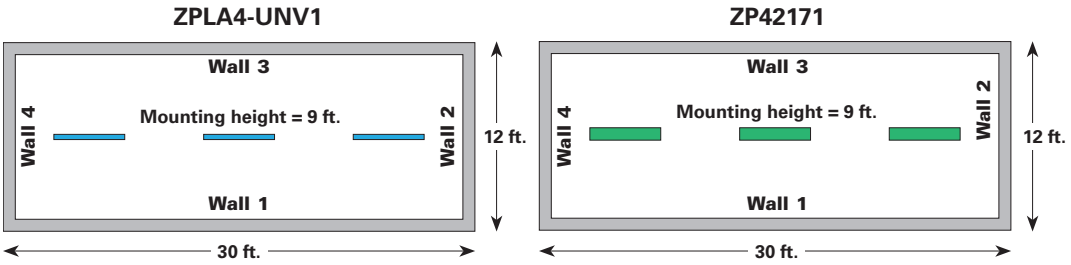
Photometrics

4 ft. ZPLA LED with 120° optics vs. 4 ft. 2 lamp T8 ZonePro

21% lower energy consumption and double the average illumination on floor and walls

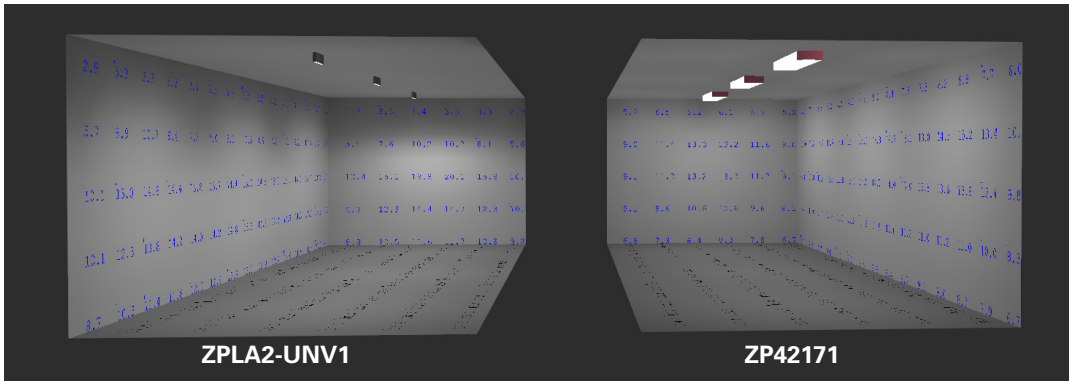


	Average footcandles	
Model	**ZPLA4-UNV1**	**ZP42171**
Wall 1	21.69	10.98
Wall 2	19.57	9.38
Wall 3	20.35	10.97
Wall 4	19.78	9.38
Floor	40.22	14.91

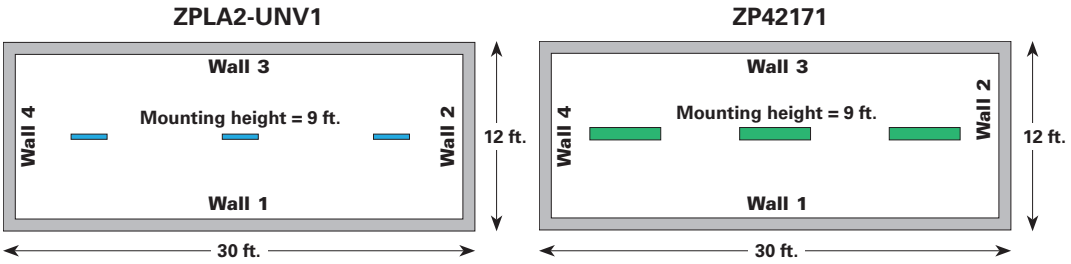


2 ft. ZPLA LED with 120° optics vs. 4 ft. 2 lamp T8 ZonePro

58% lower energy consumption and 37% better average illumination on floor

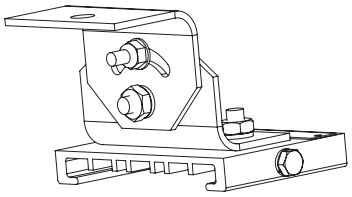


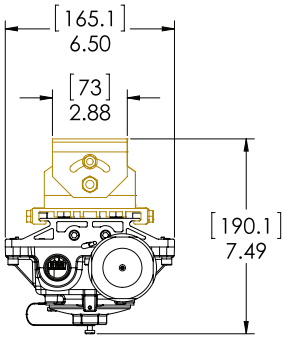
	Average footcandles	
Model	**ZPLA2-UNV1**	**ZP42171**
Wall 1	10.70	10.72
Wall 2	9.83	9.09
Wall 3	10.07	10.72
Wall 4	9.51	9.09
Floor	19.88	14.52



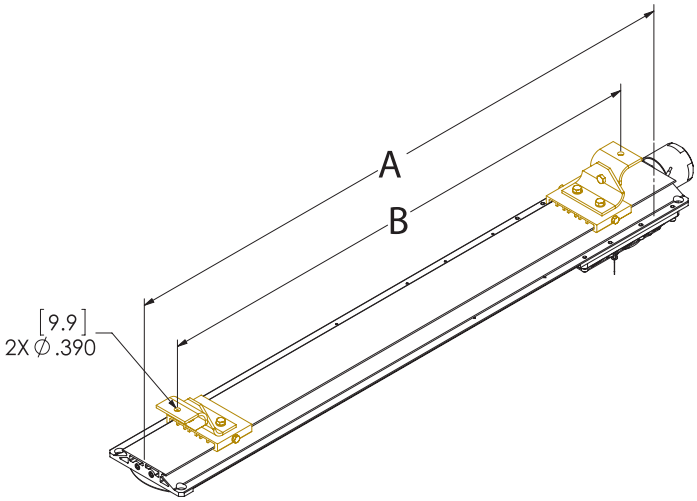
Mounting options

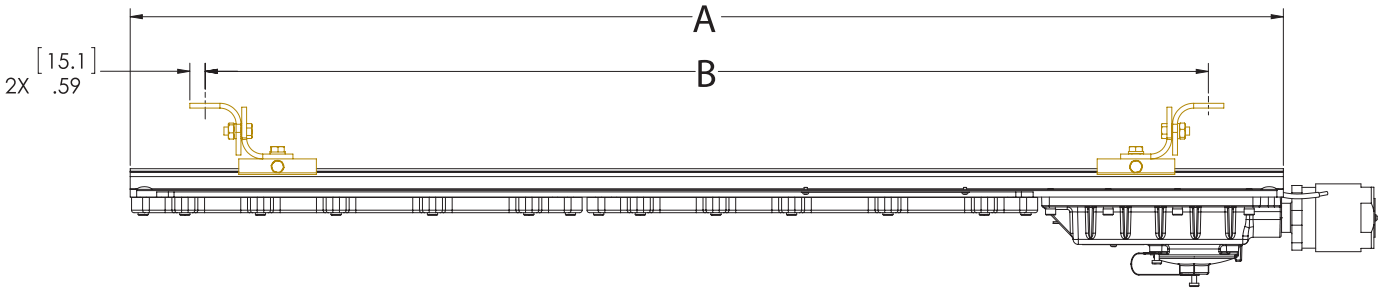
Ceiling/swivel mount
ZP1050MTK





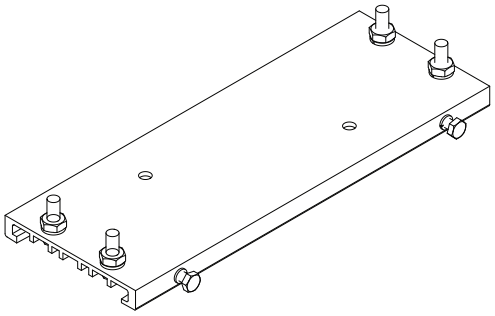
	ZPLA2		ZPLA4	
Length	**in.**	**mm.**	**in.**	**mm.**
A	27.0	685	44.6	1133
B	12.0-29.0	222-750	18.0-47.0	222-1194

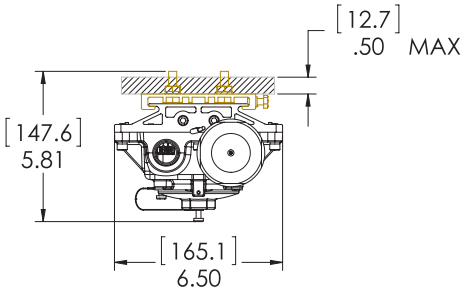




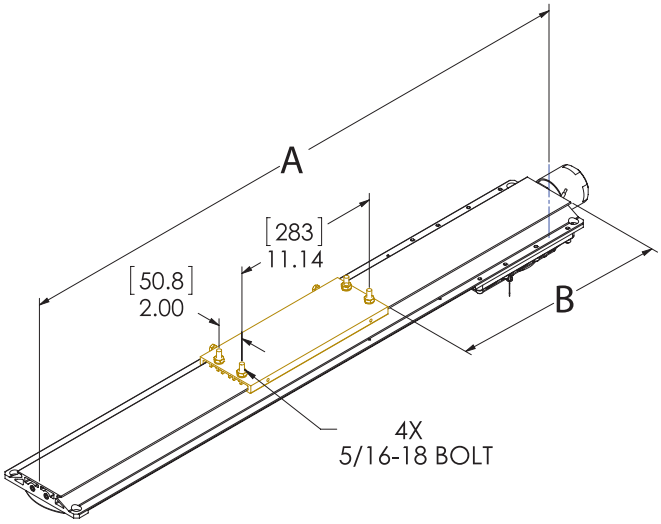
Mounting options

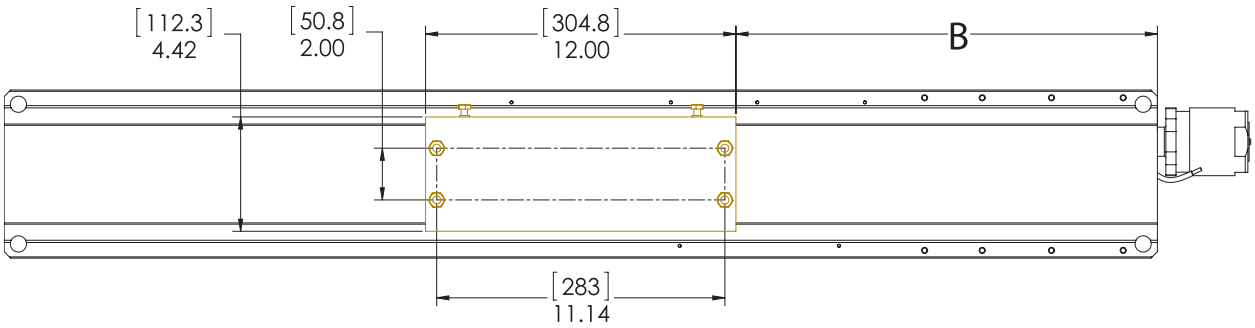
Flush ceiling
ZP1057MTK

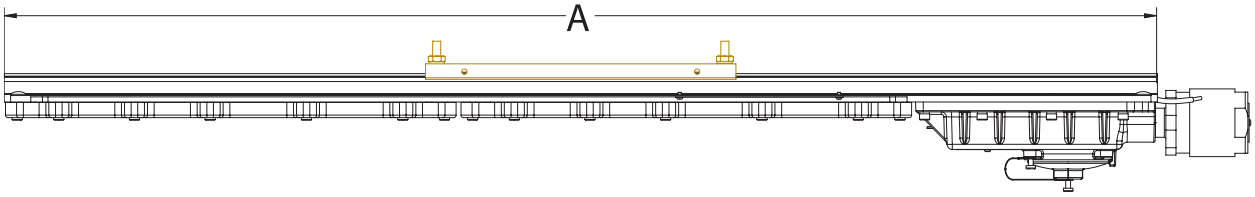




Length	ZPLA2		ZPLA4	
	in.	mm.	in.	mm.
A	27.0	685	44.6	1133
B	7.5	190	16.3	414

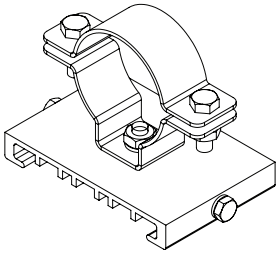


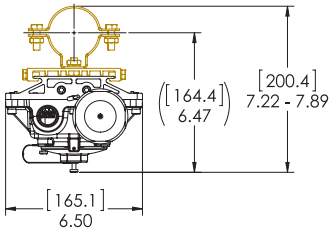


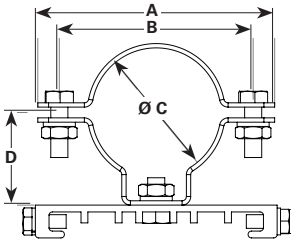


Mounting options

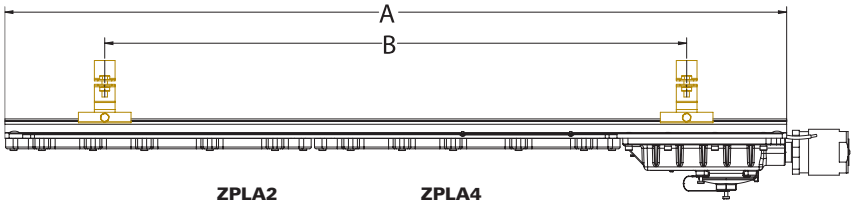
Pole mount
PM KIT 1.25/1.5/2.0



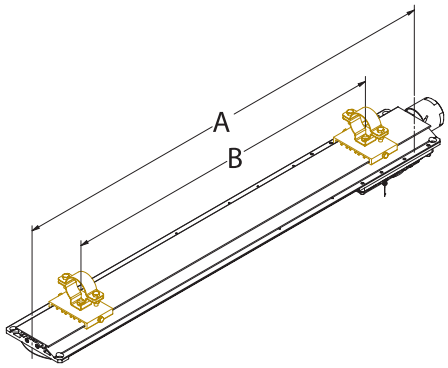




Configuration	ALL MEASUREMENTS IN INCHES A	B	C	D
PM KIT 1.25	4.331	3.543	1.680	1.693
PM KIT 1.5	3.740	2.953	2.000	1.535
PM KIT 2.0	3.386	2.598	2.360	1.378



Length	ZPLA2 in.	ZPLA2 mm.	ZPLA4 in.	ZPLA4 mm.
A	27.0	685	44.6	1133
B	12.0-24.0	305-610	18.0-41.6	610-1056



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