



VJTUNV030LN9yyB22



DirectAC UNV Linear Retrofit Kit Engines

- Integrated AC Direct Drive (No DC Driver)
- Universal Voltage (120~277) AC Engine
- Suitable for open or fully enclosed luminaires
- Suitable for luminaires with plastic and glass lenses
- All 90CRI product meets CEC Title 24 requirement
- cULus Classified 1598C
- cULus Recognized 8750
- Energy Star Luminaire 2.0 Listed (for rebate programs)^①
- Energy Star Luminaire CSD^①

General Specifications

| | |
|--|---|
| Input Voltage ^② | 120~277VAC (+/- 10%) / 50-60 Hz |
| Input Current ^② | ~0.250A @120V ~0.130A @230V ~0.110A @277V |
| Input Power ^② | 30W (+/- 1W) |
| Input PF | >0.98 |
| THD | <20% |
| Operating Frequency | 50/60 Hz |
| Max Lumen Output @ Full Power ^② | 3235 lumens @ 4000K / 90 CRI |
| Dimming Type/Range @120V ONLY | Leading Edge (TRIAC) or Trailing Edge (ELV) /100% ~ 10% |
| Beam Angle | 120° |
| CRI / CCT | 90 / 2700K, 3000K, 3500K, 4000K; 5000K is made to order (MTO) |
| Operating Temperature Range (Ta) | -35°C to 50°C / -31°F to 122°F |
| Maximum Engine Case Temperature | L70: Tc max=85°C (185°F) / L90: Tc max=85°C (185°F) |
| Maximum Lens Temperature | Lens: 90°C (194°F) |
| Estimated Lumen Maintenance (at Max Tc) | L70= >54,000 hours / L90= 35,200 hours |
| Color Consistency | Binning per ANSI C78.377-2015 @85°C; 3 SDCM |
| Overall Size | 22.06" L x 2.21" W x 0.67" H (560.25mm L x 56.25mm W x 17mm H) |
| Connector Type / Quantity | Wago 873 or Ideal 102X / 1 |
| LED Quantity | 96 Pcs. |
| Weight | 213g / 0.47lbs. |
| Packaging: Master Carton | 25pcs |
| Maximum Screw Installation Torque | 60in-lb (960in-ozf) |
| Safety/Compliance | DirectAC Engines: cURus (File # E486778) VATUNV030LN9yyA22 DirectAC Retrofit Kits: cULus (File # E486779) VJTUNV030LN9yyB22 RoHS Compliant Dry and Damp Location IC Over Temperature Control Energy Star Luminaire 2.0 Listed ^① Energy Star Luminaire CSD ^① |
| RFI/EMI | FCC Part 15B Consumer, EN55015 |
| Input Surge Test | 2.5kV Common and Differential mode (Per ES Ring Wave Test) |
| Sound Rating / Noise | A / <24 dBA |
| Percent Flicker / Flicker Index | <25% / <0.0627 |
| Protective Lens/Enclosure | High Voltage Barrier / 2.5mm Clear Polycarbonate 5VA Flame rated |
| Lens Transmittance | >92% |
| PCB Material | MCPCB |
| Warranty | 5 years @ 85°C (185°F) Tc from the date of manufacture |
| Electrolytic Capacitor Rating | >60,000 hours |

① See page #4 "Certification Chart" for exact models.

② Measured electrical data per UL file



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Electrical and Optical Specifications

| Color Temperature | DirectAC Engine Part Number | Input Power | Nominal Luminous Flux @ 90 CRI | Engine Efficacy @ 90 CRI |
|-------------------|-----------------------------|-------------|--------------------------------|--------------------------|
| 2700K | VJTUNV030LN927B22 | 30W | 2500 lumens | 83 lm/W |
| 3000K | VJTUNV030LN930B22 | 30W | 3059 lumens | 102 lm/W |
| 3500K | VJTUNV030LN935B22 | 30W | 3147 lumens | 105 lm/W |
| 4000K | VJTUNV030LN940B22 | 30W | 3235 lumens | 108 lm/W |
| 5000K | VJTUNV030LN950B22 | 30W | 3235 lumens | 108 lm/W |

NOTES:

- 1) Nominal luminous flux includes a 7.5% loss due to lens. Use a 1.075 multiplier when lens is removed.
- 2) Electrical and optical specifications are based on Tc mod = 25°C. Reference Amb. Temp. vs Rel. Lum. Flux for other temperatures.
- 3) Specifications are subject to change without notice.
- 4) Meets CEC Title 24 requirement.
- 5) ~10% lumen depreciation @277V input.
- 6) Lumen data is based on calculated values.



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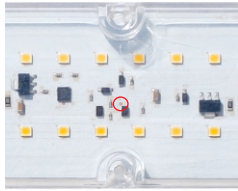
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Thermal Specifications

③ DirectAC Engine Retrofit Kit (B)

| | |
|--------------------------------------|--------------------------------|
| Storage Temperature Range | -35°C (-31°F) to 100°C (212°F) |
| Operating Ambient Temperature Range | -35°C (-31°F) to 50°C (122°F) |
| Maximum Engine Case Temperature (Tc) | Tc max=85°C (185°F) |
| Maximum Lens Temperature | 90°C (194°F) |



Tc located on module

Thermal De-Rating: Tc vs. Luminous Flux

| Module Case Temperature (Tc) | Luminous Flux Multiplier |
|------------------------------|--------------------------|
| 25°C | 1.000 |
| 30°C | 0.988 |
| 35°C | 0.975 |
| 40°C | 0.963 |
| 45°C | 0.951 |
| 50°C | 0.938 |
| 55°C | 0.926 |
| 60°C | 0.914 |
| 65°C | 0.901 |
| 70°C | 0.889 |
| 75°C | 0.877 |
| 80°C | 0.864 |
| 85°C | 0.852 |
| 90°C | 0.840 |
| 95°C | 0.827 |
| 100°C | 0.815 |

NOTES:

- 1) Refer to LED Engine Retrofit Kit Installation Instructions for further detail.
- 2) This LED Engine Kit can retrofit any luminaire with a dimension/volume greater or equal to the minimum dimensions shown below and on the Installation Instructions.
- 3) This LED Engine Kit can be used with luminaires similar to the one illustrated on the Installation Instructions.
- 4) Lumen data is based on calculated values.

③ Suitable for surface mounted luminaire with minimum dimensions or volume: L = 24-1/4", W = 4", H = 4" or 311.1 cubic inches



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Certification Chart

Energy Star™ TM-21 Calculator Data

| Model | VJTUNV030LN9yyB22 |
|-----------------------|-------------------|
| Classification | |
| | YES |
| | YES |
| | YES |
| | YES |
| | YES |
| CEC JA8-2019 | YES |

| Tc Module | Reported L70 | Reported L90 |
|-----------|----------------|----------------|
| 50°C | >54,000 Hrs | >54,000 Hrs |
| 100°C | >54,000 Hrs | 35,000 Hrs |
| 110°C | >54,000 Hrs | 30,000 Hrs |
| Tc Module | Calculated L70 | Calculated L90 |
| 50°C | 180,000 Hrs | 55,000 Hrs |
| 100°C | 116,000 Hrs | 35,000 Hrs |
| 110°C | 99,000 Hrs | 30,000 Hrs |

NOTES:

- Energy Star CSD:
https://www.energystar.gov/products/lighting_fans/certified_lighting_subcomponent_database_csd
- Energy Star Listed:
https://www.energystar.gov/productfinder/product/certified-light-fixtures/results?scrollTo=342&search_text=fulham&fixture_type_isopen=&markets_filter=United+States&zip_code_filter=&product_types=Select+a+Product+Category&sort_by=light_output_lumens&sort_direction=asc&page_number=0&lastpage=0
- Lutron DVELV-300P-WH dimmer was used to conduct Energy Star and CEC testing.



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Compatible Tested Dimmers

(Contact Fulham for other alternatives)

(TRIAC or ELV Dimmers)

| Manufacture | Model | Type |
|-------------|--------------|---|
| Core | SI061BR-PTA | TRIAC (Leading Edge) Incandescent Analog |
| Legrand | RH703PTC | TRIAC (Leading Edge) Incandescent Analog |
| Leviton | 002-6633-PLW | TRIAC (Leading Edge) Incandescent Analog |
| Leviton | DDE06-BLZ | ELV (Trailing Edge) |
| Leviton | IPL06-10Z | TRIAC (Leading Edge) |
| Leviton | R62-6674-P0W | CFL / LED |
| Leviton | R70-6631-1LW | TRIAC (Leading Edge) Incandescent Analog |
| Leviton | RDL06-10Z | TRIAC (Leading Edge) |
| Lutron | CT-600P | TRIAC (Leading Edge) |
| Lutron | DV-600P | TRIAC (Leading Edge) |
| Lutron | LG-600P | TRIAC (Leading Edge) |
| Lutron | NTLV-600 | TRIAC (Leading Edge) |
| Lutron | D-600R | TRIAC (Leading Edge) Incandescent Analog |
| Lutron | SELV-303P | ELV (Trailing Edge) |
| Lutron | S-600 | TRIAC (Leading Edge) |
| Lutron | S-603P | TRIAC (Leading Edge) Incandescent Analog |



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DirectAC Engine Equivalency Chart

| DirectAC UNV Linear Retrofit Kit Engines | | | | CFL | | | | | |
|--|----------------|--------------------|----------|-----------|--------------|------------|---------------|--------------|----------|
| Retrofit Kit Engine Part Number | System Wattage | Lumen Output | Efficacy | CFL Style | Lamp Wattage | # of Lamps | Total Wattage | Lumen Output | Efficacy |
| VJTUNV030LN940B22 | 30W | 3235 lm (4K/90CRI) | 108lm/W | Quad | 32W | 1 | 32W | 2002 lm | 63 lm/W |
| | | | | Triple | 42W | 1 | 42W | 2670 lm | 64 lm/W |

NOTES:

1) For reference only, several factors apply.



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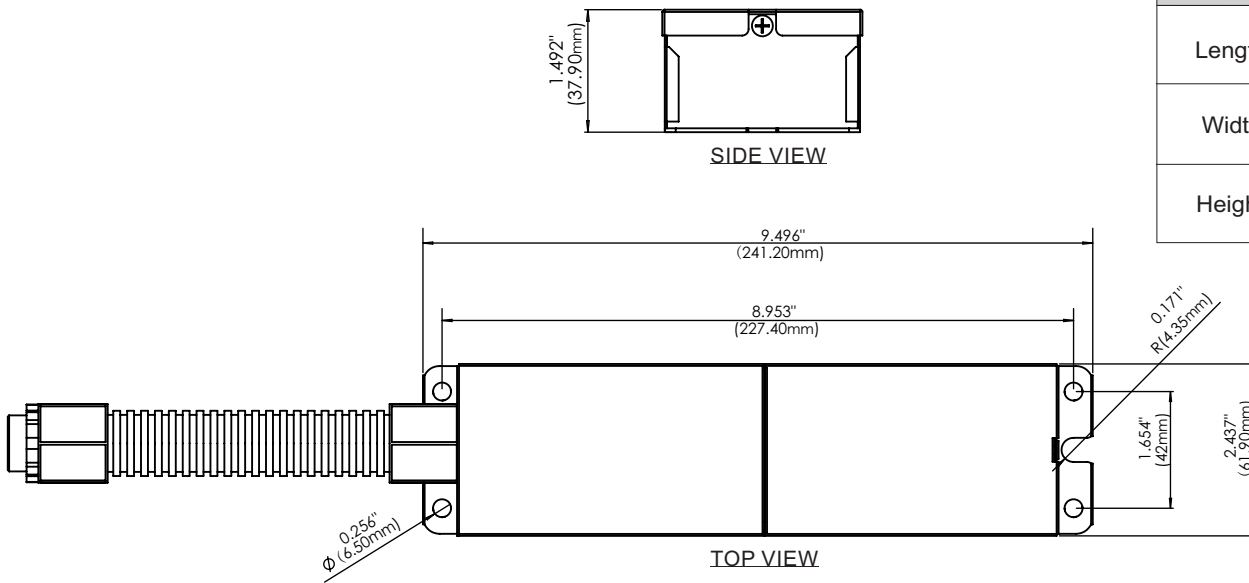


Battery Backup Option

- FHSCP-UNV-6W-L-SD: Emergency LED Driver for Direct AC Engines

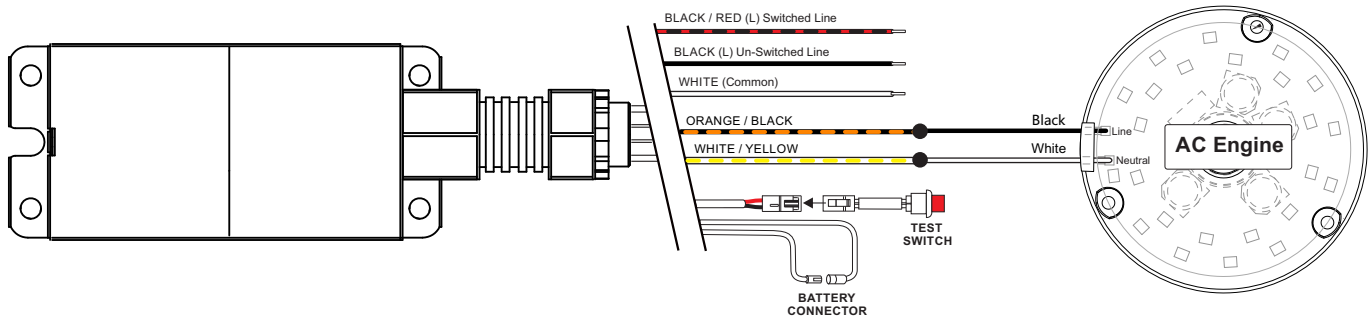


Mechanical Drawing



| Overall Dimensions | |
|--------------------|--------------------|
| Length | 9.49" (241.2mm) |
| Width | 2.43" (61.9mm) |
| Height | 1.49" (37.9mm) |

Wiring Diagram



Specification Sheet:

- <https://www.fulham.com/PDFs/SpecSheets/FHSCP-UNV-6W-L-SD-2020-857-spec.pdf>



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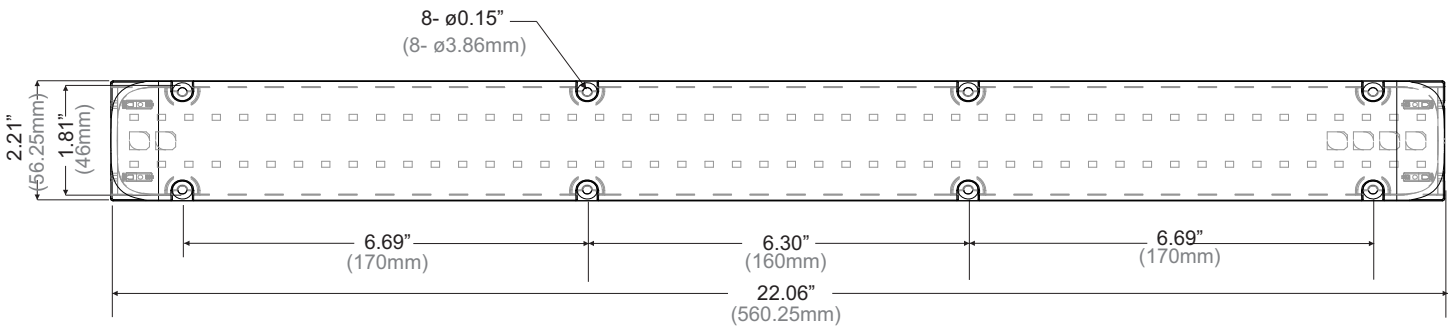
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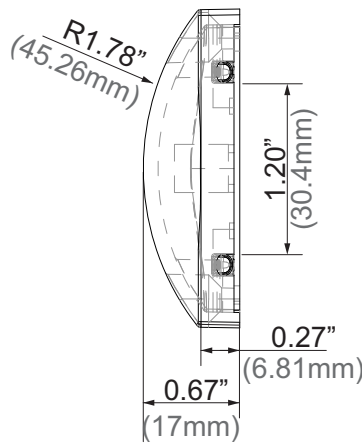
Mechanical Drawings

(Scale: 1 : 4)

| Overall Dimensions | |
|----------------------------|----------------------|
| Length | 22.06" [560.25mm] |
| Width | 2.21" [56.25mm] |
| Height (Including Lens) | 0.67" [17mm] |



TOP VIEW



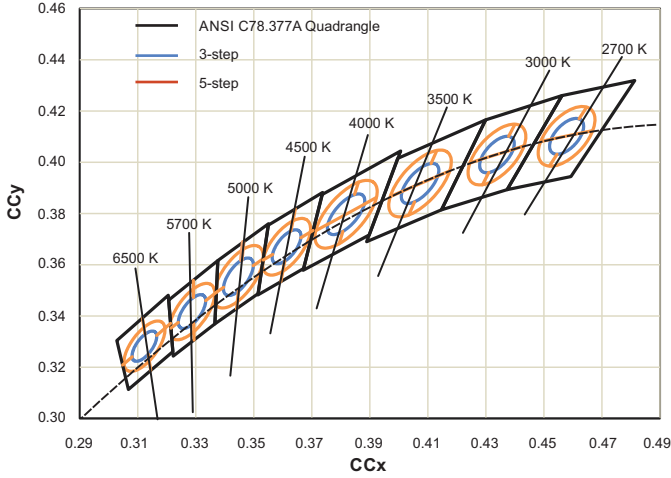
SIDE VIEW



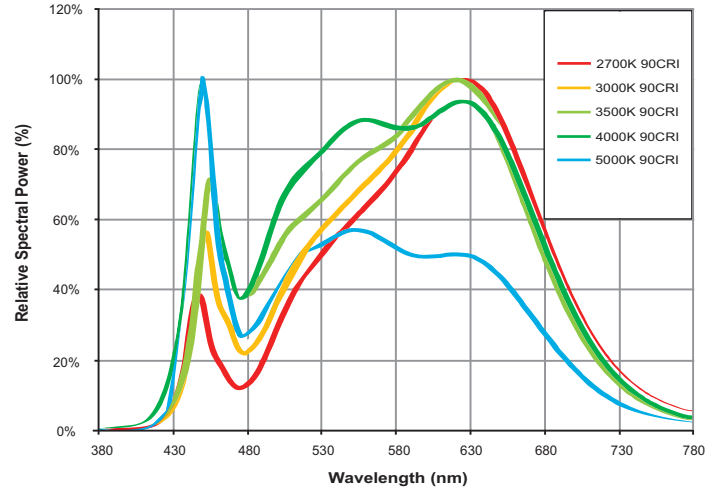
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Color and Binning



Optical Spectrum



NOTES:

- 1) The Color and Binning and Optical Spectrum charts are for reference only. For more detailed info, contact factory.
- 2) Binning per ANSI C78.377-2015 @ 85°C; 3 SDCM.
- 3) The Optical Spectrum values vary depending on product type and color rank.



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Guidelines

Reduced Flicker Operation Feature

- DirectAC Engine models have added circuitry to help reduce the Flicker when operated on the 50/60Hz power lines. The Flicker percentage on these models is below 30% when operated at line voltage, per CEC requirement. Dimming by line voltage devices may increase the Flicker percentage as the power levels are reduced.

Hi-Pot Testing (Caution)

- All DirectAC Engine models are Hi-Pot tested on the Fulham production line. We advise NOT to apply AC high voltage Dielectric test to LED products as this may damage the sensitive electronic components as well as the LEDs. Please inspect the connection wires for any nicks or cuts in the insulation during and after installation.

Termination Notes

- A luminaire disconnect UL listed connector is included, as part of Fulham's retrofit kit only, to meet Energy Star requirements.
- Use solid wire size 18AWG/12" per pole, rated at max 600V load and 105°C operating temperature.
- Strip wires to 11-13mm (0.47in.).
- Connector not for multiple use.
- For additional information on Wago's 873 Series Lumi-Nuts® and IDEAL's 102X connector, please visit:
http://www.wago.com/infomaterial/wago_ebook/51261593/flipviewerxpress.html
<https://idealind.com/shop/30-102x.html>



Environmental Rating

- DirectAC Engines are rated for dry and damp locations.

IC Over Temperature Control

- DirectAC Engine models have built in Thermal management, if the unit experiences higher than normal ambient temperatures the circuit by design will reduce the drive current to the LED there by reducing the thermal impact on the LED's.

Fastening to Luminaire

- When installing this LED Engine use screws with a diameter less than 0.13in. [3.4mm]. The LED Engine must be mounted on a flat surface and all mounting holes must be used to ensure good contact between the back side of the LED Engine and the mounting surface. Refer to max specified torque for installation. Suggested screw sizes: #5 or M3 Pan Head screw.
- During installation process do not remove plastic film backing.

Electrostatic Sensitive Product (ESD)

- Fulham LED products should be handled with proper measures to protect against any potential ESD damage.
- When servicing, personnel should be ground and direct contact with LED should be avoided.

Thermal Management

- Proper thermal management should be employed to ensure life and reliability of product.

Wiring

- Intended for 120~277V application ONLY.
- Connect the Black wire from the DirectAC Engine to the building/source Line by using the proper connectors or wire nuts.
- Connect the White wire from the DirectAC Engine to the building/source Neutral by using the proper connectors or wire nuts.
- DirectAC Engine does not need grounding, but the luminaire must be grounded.
- Intended to be wired on a dedicated lighting branch circuit.
- Do not wire on same branch circuit as motors, heating elements, inductive type loads or heavy machinery which may introduce spikes, noise and other abnormalities onto the Line. Doing so may result in damage to the unit or abnormal lighting conditions.
- Do not interconnect more than three engines when using the end to end connectors.



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Part Number Matrix

V J T UNV 030 LN 9 yy B 22

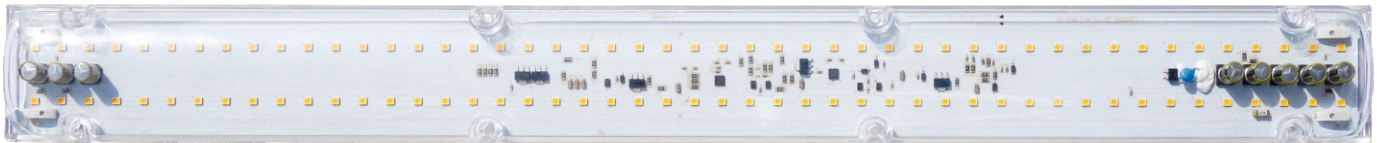
| Product Line | Engine Type | Dimming | Input Voltage | Input Power | Shape | CRI | Color Temperature | Option | Length |
|--------------|--|--------------------------|-----------------|-------------|-----------|--------|--|---|----------|
| V = Vizion | J= DirectAC Engine Retrofit Kit (Classified) | T = TRIAC/ELV @120V Only | UNV = 120V~277V | 030 = 30W | LN=Linear | 9 = 90 | 27 = 2700K 30 = 3000K 35 = 3500K 40 = 4000K 50 = 5000K | B = DirectAC Engine+Lens (Retrofit Kit) | 22 = 22" |

NOTES:

- 1) DirectAC Engines standard model "B" comes with engine and lens.
 - 2) Specifications are subject to change without notice.
 - 3) All 90CRI product meets CEC Title 24 requirement.
- ① Standard Product offering, (90CRI / 5000K option is made to order with MOQ and lead time).
- ② LED Engine Retrofit Kit includes mounting hardware, retrofit labels, and installation instructions.

Product Image: 30W DirectAC UNV Linear Engine Kit

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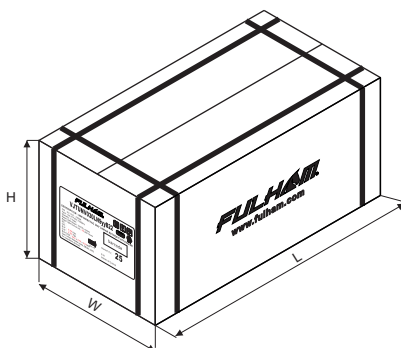
| | |
|--|---|
| Avertissement: Risque d' incendie et d'électrocution. câblage des luminaires et pièces électriques peuvent être endommagés lors du forage pour l'installation du kit de conversion à DEL. Vérifier le câblage et les composants ci-joint. | WARNING: Risk of fire and electrical shock. Luminaire wiring and electrical parts may be damaged when drilling for installation of LED retrofit kit. Check for enclosed wiring and components. |
| WARNING: Cancer and Reproductive Harm | www.P65Warnings.ca.gov |



UNV DirectAC Linear Retrofit Kit Engines:
Hardware, 18AWG wires, Quick disconnect, Labels & Installation Instructions

Packaging

Master Carton



| OUTER DIMENSION | | |
|----------------------|----------------------|--------------|
| L | W | H |
| 24.80"(630mm) | 15.35"(390mm) | 7.08"(180mm) |
| Net Weight | Gross Weight | QUANTITY |
| 12.41 lbs. (5.63 kg) | 14.93 lbs. (6.77 kg) | 25pcs. |

Twenty-Five (25) DIRECTAC LN Retrofit kit Engines inside each carton.