



LED EA21-17W5050cec

Bulb Class: A21

5000K
CCT

100W
REPLACEMENT

90+
CRI

True
COLOR

Product Description

LED EA21-17W5050cec delivers superior brightness, valuable energy savings, long lasting performance, and true color perception. These Omni-directional A21 LED bulbs are ideal for ambient lighting or general purpose applications due to its uniform *Cool White light (5000K) and replace conventional 100 Watt incandescent light bulbs. Enjoy features such as: Instant on, dimming options, energy efficient, 90+CRI, damp rated, and enclosed fixture suitable.



Estimated Energy Cost: \$2.05 per year

*Note: Design, features and specifications subject to change without notice. Some features may not be available on all models. For more information regarding dimmer compatibility please visit: www.eurilighting.com or call 1-888-743-5766



Specifications

Input Power	Input Voltage	Lumen Output	Beam Angle	Center Beam	CCT
17 W	120V/60Hz	1600 lm	210°	N/A	5000 K
CRI	Luminous Efficacy	Power Factor	Input Current	Base/Cap	Lamp Lifespan
90	94 lm/W	0.9	0.15 A	E26	25,000 Hrs.

Product Features



Dimmable



Enclosed Fixture Suitable

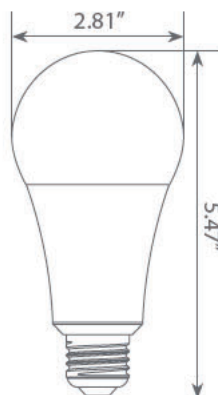


Energy Efficient



Damp Rated

Product Dimensions



Product Photometric Data

CURRENTLY
NOT AVAILABLE

Euri Lighting | A Division of IRTRONIX Inc.

20900 Normandie Avenue Bldg. B, Torrance, CA 90502 | Tel: 310.787.1100 | Fax: 310.787.1166 | www.eurilighting.com

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LED EA21-17W5050cec

Recommended Dimmers by Brand

LEVITON: 6631-LA, 603-6631-A, 6631-A

LUTRON: DV-603P, S-600, D-600PH-DK, TGCL-153PLH-WH, DV-603PR, DVW-600PH-WH, DV-603PH-WH, DV-600PH-WH, TG-600PH-IV, S-600-AL, D-600R-IV, DV-603PH-WH, S-603PH-WH

GE: 18024

CTL: DM600-12-3

AH: SDM3/1000/WHTE, SDM/600/WHTE

UniFlex (Type A and B) Field Selectable CCT Linear T8

Commercial Grade LED T8 Lamp

L24T8/8T/9G-AB
L36T8/8T/11G-AB
L48T8/8T/12G-AB



Description:

The ProLED Select T8 Linear Hybrid (Type A+B) lamps offer the most versatile installation solution for your linear fluorescent T8 or T12 retrofit needs. Fully certified as a UL 1598C retrofit kit in single end or double end ballast bypass scenarios (UL Type B) and UL listed for use with electronic T8 fluorescent ballasts (UL Type A), these lamps provide the perfect, hassle-free solution for whatever the project requires. When being used with an instant start, programmed start, or emergency backup ballast, no fixture re-wiring is needed. If the ballast fails in the future, simply re-wire the fixture with 120-277V line voltage using either single end or double end wiring. This CCT selectable hybrid comes in 2-foot, 3-foot, and 4-foot lengths, and offers users the ability to select between 3500K, 4000K, and 5000K kelvin temperatures by simply sliding the selector on the tube to the desired color.

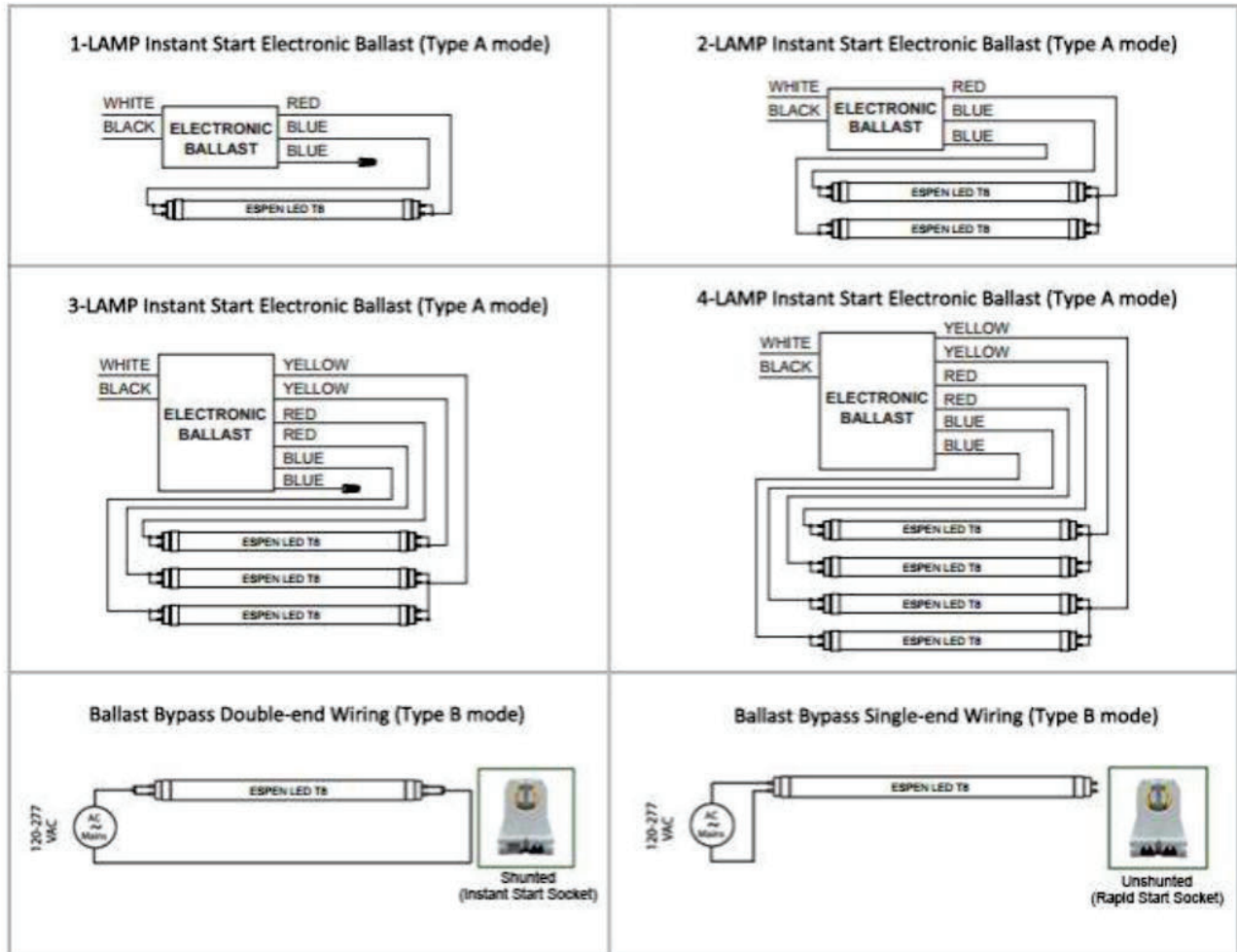
Features & Benefits:

- Long life
- High CRI
- Instant on, no delay or warm up time
- Convenient and quick installation
- Works in cold temperature applications
- Compatible with controls and sensors
- Glass tube for superior optical performance
- Continuous Dimming to 10%
- 5 Year Warranty

Specifications:

Ordering Code	Length (in)	Input Voltage	Power Direct AC	Power w/ Ballast	Field Adjustable CCT (K)	Initial Lumens	Lamp Efficacy Direct AC	System Efficacy w/ Ballast
L24T8/8T/9G-AB	24	120-277	9	12	3500K/4000K/5000K	1425/1450/1450	158/161/161	119/121/121
L36T8/8T/11G-AB	36	120-277	11	14	3500K/4000K/5000K	1675/1700/1700	152/154/154	120/121/121
L48T8/8T/12G-AB	48	120-277	12	14.5	3500K/4000K/5000K	1775/1800/1800	148/150/150	122/124/124

Wiring:



DLC Listing:

Order Code	DLC Product ID	DLC Product Model	DLC Version
L24T8/8T/9G-AB	S-HYVL1Z	L24T8/8T/9G-AB	5.1
L36T8/8T/11G-AB	S-G89AZU	L36T8/8T/11G-AB	5.1
L48T8/8T/12G-AB	S-HA8NF6	L48T8/8T/12G-AB	5.1

Specification is based on tests performed in a controlled environment and represents relative performance. Actual performance can vary depending on operating conditions. Application and performance data subject to change without notice. All specifications are nominal unless noted otherwise.

Type A+B Hybrid Linear T8

L24T8/8XX/9G-AB

Commercial Grade LED T8 Lamp



Descriptions:

The ProLED Select T8 Linear Hybrid (Type A+B) lamps offer the most versatile installation solution for your linear fluorescent T8 or T12 retrofit needs. Fully certified as a UL 1598C retrofit kit in single end or double end ballast bypass scenarios (UL Type B) and UL listed for use with electronic T8 fluorescent ballasts (UL Type A), these lamps provide the perfect, hassle-free solution for whatever the project requires. When being used with an instant start, programmed start, or emergency backup ballast, no fixture re-wiring is needed. If the ballast fails in the future, simply re-wire the fixture with 120-277V line voltage using either single end or double end wiring. This CCT selectable hybrid comes in 2-foot, 3-foot, and 4-foot lengths, and offers users the ability to select between 3500K, 4000K, and 5000K kelvin temperatures by simply sliding the selector on the tube to the desired color.

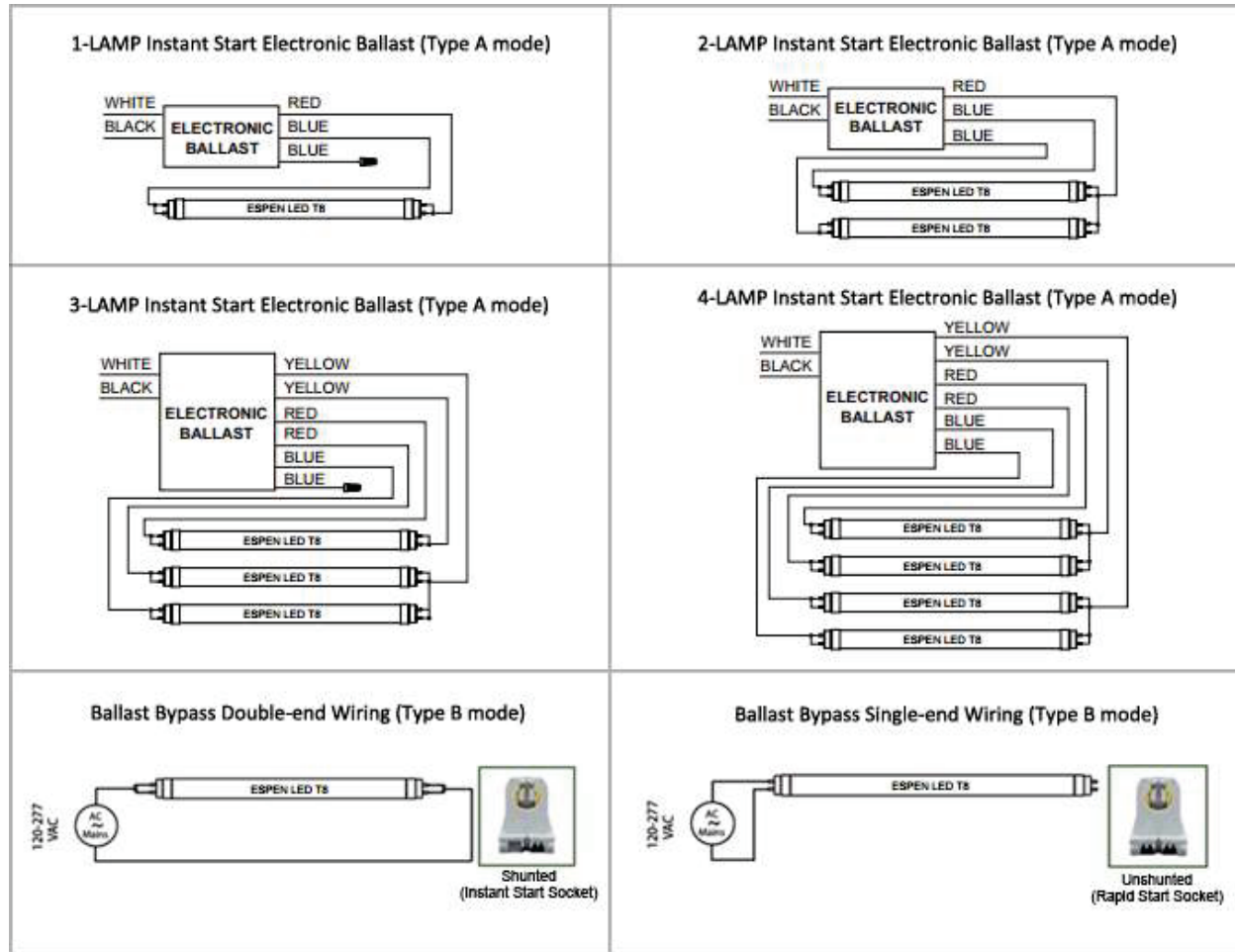
Features & Benefits:

- Type A mode: Works on existing compatible Instant Start, Programmed Start, Dimming electronic ballast
- Type B mode: Internal Driver (Direct 120-277VAC input)
- Utilizes existing instant start or rapid start G13 sockets
- Glass tube for superior optical performance
- Long life
- High CRI
- Instant on, no delay or warm up time
- Convenient and quick installation
- Works in cold temperature applications
- Compatible with controls and sensors
- Glass tube for superior optical performance
- Continuous Dimming to 10%
- 5 Year Warranty

Specifications:

Ordering Code	Length (in)	Wattage Direct AC	Wattage With Ballast	Input Voltage	CCT (K)	Initial Lumens	CRI	Beam Angle	System Efficacy Direct AC	System Efficacy with Ballast
L24T8/830/9G-AB	24	9	12	120-277V	3000K	1350	83	325	150	112
L24T8/835/9G-AB	24	9	12	120-277V	3500K	1350	83	325	150	112
L24T8/840/9G-AB	24	9	12	120-277V	4000K	1350	83	325	150	112
L24T8/850/9G-AB	24	9	12	120-277V	5000K	1350	83	325	150	112

Wiring Diagram:



DLC Listing:

Ordering Code	DLC Product ID	DLC Product Model	DLC Version
L24T8/830/9G-AB	N/A	N/A	N/A
L24T8/835/9G-AB	N/A	N/A	N/A
L24T8/840/9G-AB	N/A	N/A	N/A
L24T8/850/9G-AB	PL4H4Y1HDRQJ	L24T8/850/9G-AB	5

Specification data is based on tests performed in a controlled environment and represents relative performance. Actual performance can vary depending on operating conditions. Application and performance data subject to change without notice. All specifications are nominal unless noted otherwise.



Single End Flex Linear L36T8/8XX/11G-AB T8

Commercial Grade LED T8 Lamp



Descriptions:

The ProLED Select T8 Linear Hybrid (Type A+B) lamps offer the most versatile installation solution for your linear fluorescent T8 or T12 retrofit needs. Fully certified as a UL 1598C retrofit kit in single end or double end ballast bypass scenarios (UL Type B) and UL listed for use with electronic T8 fluorescent ballasts (UL Type A), these lamps provide the perfect, hassle-free solution for whatever the project requires. When being used with an instant start, programmed start, or emergency backup ballast, no fixture re-wiring is needed. If the ballast fails in the future, simply re-wire the fixture with 120-277V line voltage using either single end or double end wiring. This CCT selectable hybrid comes in 2-foot, 3-foot, and 4-foot lengths, and offers users the ability to select between 3500K, 4000K, and 5000K kelvin temperatures by simply sliding the selector on the tube to the desired color.

Features & Benefits:

- Long life
- High CRI
- Instant on, no delay or warm up time
- Convenient and quick installation
- Works in cold temperature applications
- Compatible with controls and sensors
- Glass tube for superior optical performance
- Continuous Dimming to 10%
- 5 Year Warranty

Specifications:

Ordering Code	Length (in)	Wattage Direct AC	Wattage With Ballast	Input Voltage	CCT (K)	Initial Lumens	CRI	Beam Angle	System Efficacy Direct AC	System Efficacy with Ballast
L36T8/830/11G-AB	36	11	14	120-277V	3000K	1650	83	325	150	118
L36T8/835/11G-AB	36	11	14	120-277V	3500K	1675	83	325	152	120
L36T8/840/11G-AB	36	11	14	120-277V	4000K	1700	83	325	154	121
L36T8/850/11G-AB	36	11	14	120-277V	5000K	1700	83	325	154	121

Wiring Diagram:

DLC Listing:

Ordering Code	DLC Product ID	DLC Product Model	DLC Version
L36T8/830/11G-AB	PPU3DGUD	L36T8/830/11G-AB (-aa)	5.1
L36T8/835/11G-AB	PNYDW3I8	L36T8/835/11G-AB (-aa)	5.1
L36T8/840/11G-AB	POFZG3UZ	L36T8/840/11G-AB (-aa)	5.1
L36T8/850/11G-AB	PVFXKAV	L36T8/850/11G-AB (-aa)	5.1

Specification data is based on tests performed in a controlled environment and represents relative performance. Actual performance can vary depending on operating conditions. Application and performance data subject to change without notice. All specifications are nominal unless noted otherwise.



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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%) / 50-60Hz
Input Current ^②	~0.084A @120V ~0.044A @230V ~0.036A @277V
Input Power ^②	10W (+/- 1W)
Input PF	>0.98
THD	<20%
Operating Frequency	50/60 Hz
Max Lumen Output @ Full Power ^②	1087 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	5.52" L x 2.21" W x 0.67" H (140.25mm L x 56.25mm W x 17mm H)
Connector Type / Quantity	Wago 873 or Ideal 102X / 1
LED Quantity	40 Pcs.
Weight	68g / 0.13lbs.
Packaging: Carton / Master Carton	25pcs / 150pcs
Maximum Screw Installation Torque	60in-lb (960in-ozf)
Safety/Compliance	DirectAC Engines: cURus (File # E486778) VATUNV010LN9yyA05 DirectAC Retrofit Kits: cULus (File # E486779) VJTUNV010LN9yyB05 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	<20% / <0.0416
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	VJTUNV010LN927B05	10W	840 lumens	84 lm/W
3000K	VJTUNV010LN930B05	10W	1028 lumens	103 lm/W
3500K	VJTUNV010LN935B05	10W	1057 lumens	106 lm/W
4000K	VJTUNV010LN940B05	10W	1087 lumens	109 lm/W
5000K	VJTUNV010LN950B05	10W	1087 lumens	109 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 @120V. 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.



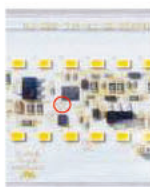
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Thermal Specifications

	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 (Ts)	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 = 7-5/8", W = 5-1/4", H = 3-7/8" or 109.8 cubic inches



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Certification Chart

Energy Star™ TM-21 Calculator Data

Model	VJTUNV010LN9yyB05
Classification	
RoHS COMPLIANT	YES
cULUS	YES
CLASSIFIED	YES
ENERGY STAR Listed	YES
ENERGY STAR CSD	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:

- 1) Energy Star CSD:
https://www.energystar.gov/products/lighting_fans/certified_lighting_subcomponent_database_csd
- 2) 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
- 3) 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
VJTUNV010LN940B05	10W	1087 lm (4K/90CRI)	109 lm/W	Quad	13W	1	13W	775 lm	59 lm/W
				Triple	13W	1	13W	825 lm	63 lm/W
				Quad	18W	1	18W	989 lm	55 lm/W
				Triple	18W	1	18W	1001 lm	56 lm/W

NOTES:

1) For reference only, several factors apply.



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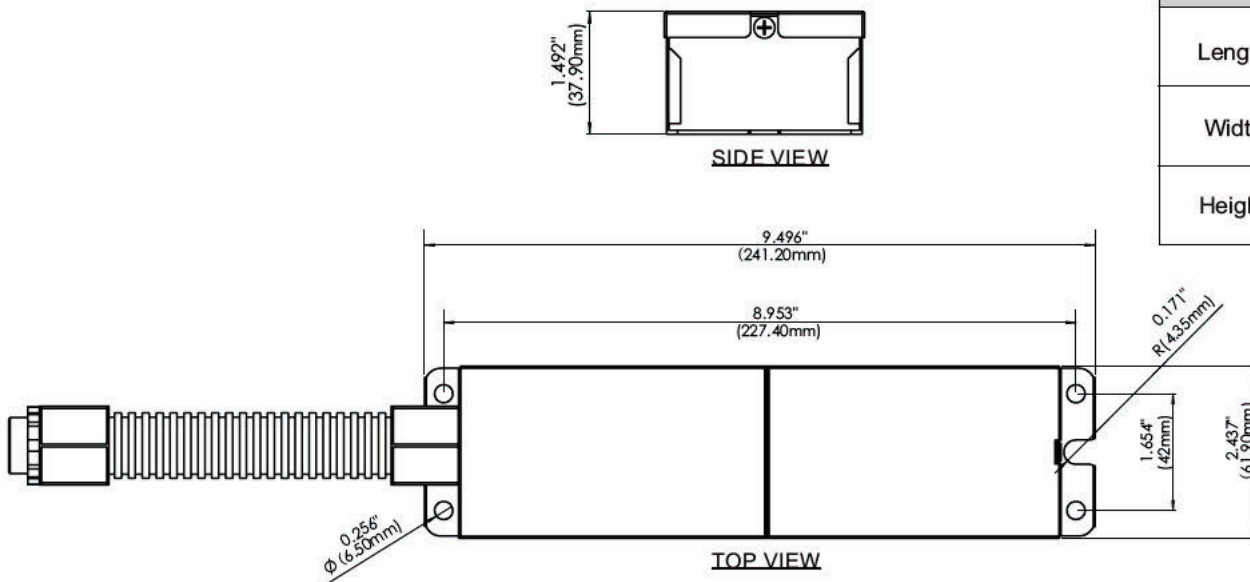


Battery Backup Option

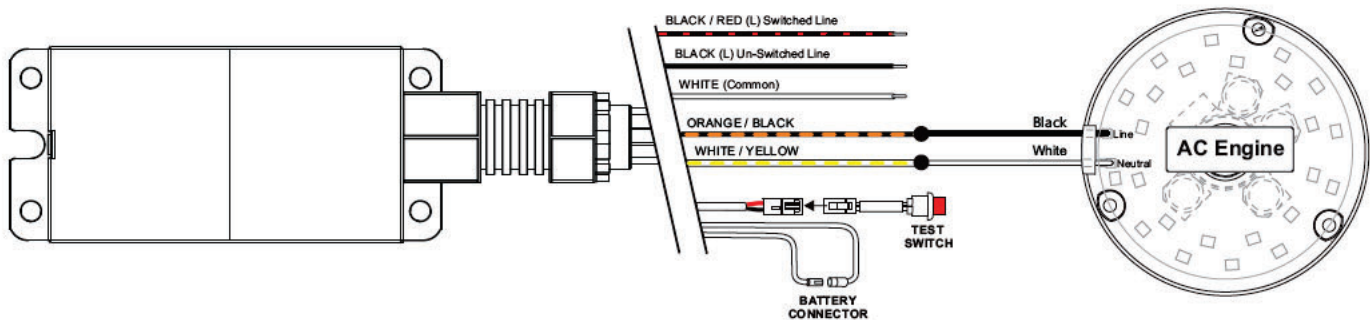
- FHSCP-UNV-6W-L-SD: Emergency LED Driver for Direct AC Engines



Mechanical Drawing



Wiring Diagram



Specification Sheet:

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



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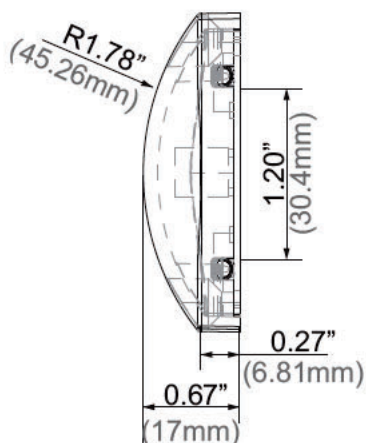
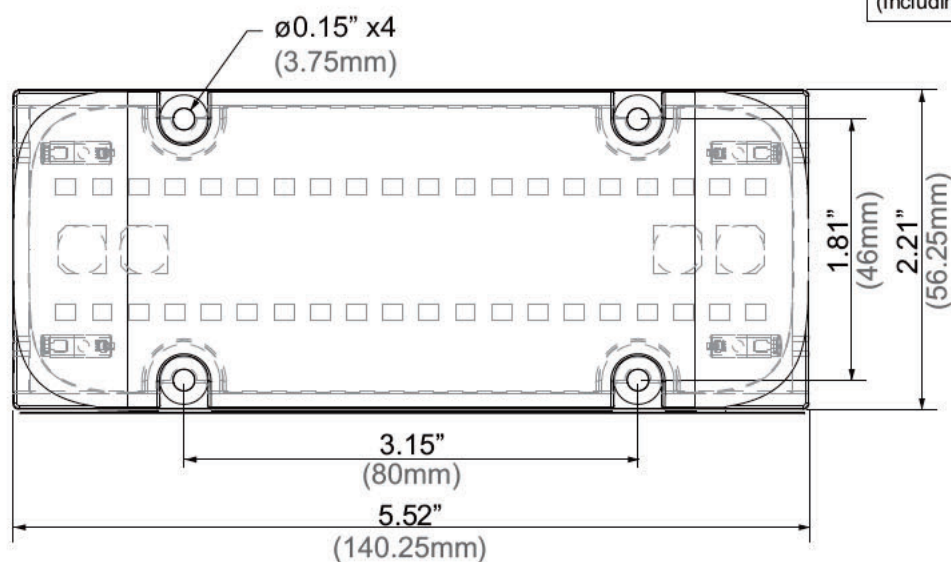
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Mechanical Drawings

(Scale 3 : 4)

Overall Dimensions	
Length	5.52" [140.25mm]
Width	2.21" [56.25mm]
Height (Including Lens)	0.67" [17mm]



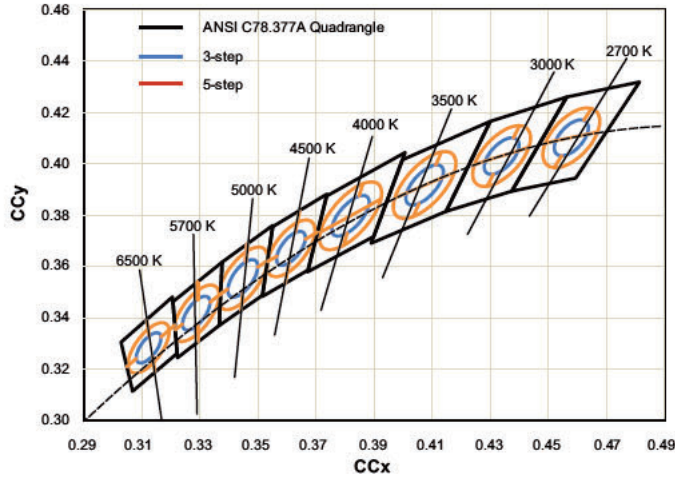


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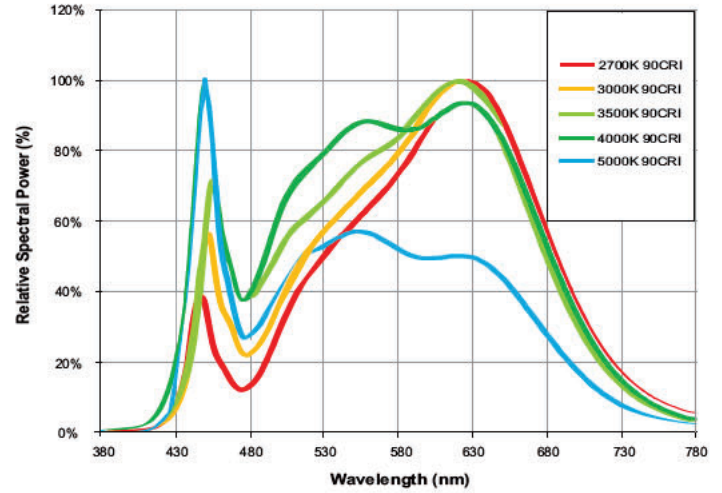
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Color and Binning



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/flipviewerexpress.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 010 LN 9 yy B 05

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	010 = 10W	LN=Linear	ⓐ9 = 90	ⓐ27 = 2700K ⓐ30 = 3000K ⓐ35 = 3500K ⓐ40 = 4000K 50 = 5000K	ⓐB = DirectAC Engine+Lens (Retrofit Kit)	05 = 5.51"


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.
- ⓐ Standard Product offering, (90CRI / 5000K option is made to order with MOQ and lead time).
- ⓑ LED Engine Retrofit Kit includes mounting hardware, retrofit labels, and installation instructions.

Product Image: 10W DirectAC UNV Linear Engine Kit

VJTUNV010LN9yyB05



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



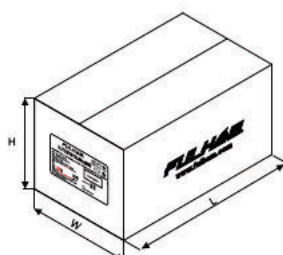
or



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

Packaging

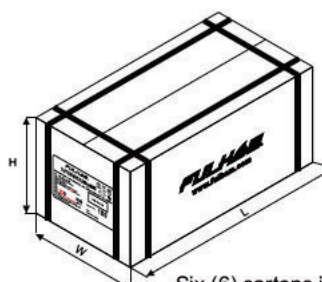
Carton



OUTER DIMENSION		
L	W	H
15.75"(400mm)	7.87"(200mm)	7.09"(180mm)
Net Weight	Gross Weight	QUANTITY
3.25lbs. (1.47kg)	10.18 lbs. (4.62kg)	25pc.

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

Master Carton

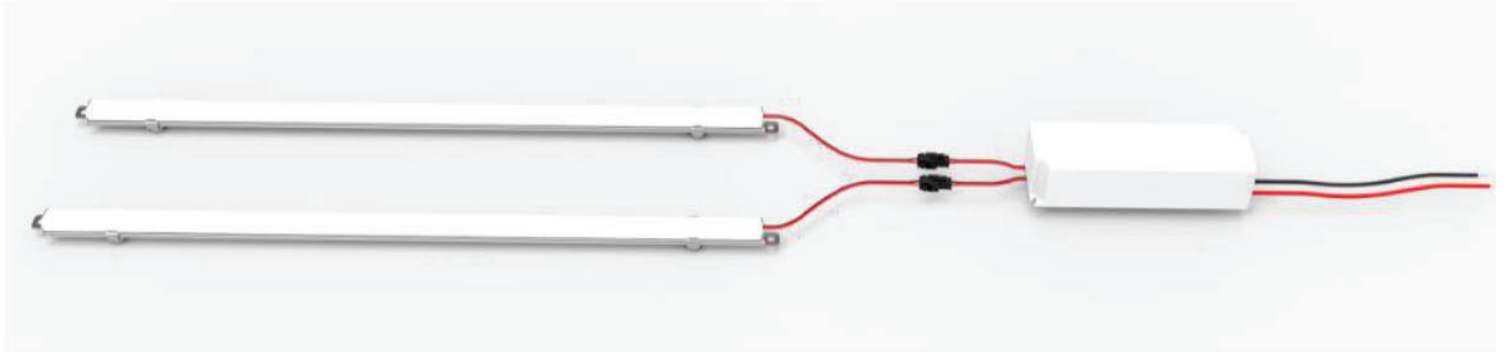


OUTER DIMENSION		
L	W	H
25.20"(640mm)	15.94"(405mm)	14.96"(380mm)
Net Weight	Gross Weight	QUANTITY
22.51lbs. (10.21 kg)	29.00lbs. (13.15 kg)	150pcs.

Six (6) cartons inside each Master Carton.

Magnetic Retrofit Kit

One Driver for Two Strip Kits



FEATURES

- **RETROFIT KIT**-Super bright, efficient LED light. Lower energy consumption for an ideal fluorescent replacement.
- **EASY INSTALLATION**-Install in minutes with almost no tools! Strong magnetic backing adheres components to existing fixture.
- **STRONG ADHERENCE**-Kit component have strong magnetic backing. Adhere directly to most metal fixtures.
- **HIGH EFFICIENCY**-Only 36 watts total system, 4500 lumens.

SPECIFICATIONS

Input Voltage	AC 100-277V
Operating Frequency	50/60Hz
Power Factor	>0.9
Wattage	36W
CCT	35/40/50K
CRI	80Ra
Power Efficiency	>87%
Rated Life	50,000Hrs
Warranty	5 Years

PARAMETERS

Model Name	Length	Wattage*2pcs	CCT	Lumens*2pcs	Efficiency
EW-01-V1-2-TPSL-10W-E-K	2FT	20W	35/40/50K	4500lm±5%	125lm/w±5%

*Where " E " can be any number, represents light efficiency, can be "S" "P";
 "K" can be "4000K", "5000K", represents color temperature .

IMPORTANT

READ CAREFULLY BEFORE INSTALLING THE RETROFIT KIT. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.

THOROUGHLY INSPECT THE FIXTURE FOR ANY FREIGHT DAMAGE; FREIGHT DAMAGE SHOULD BE REPORTED TO THE DELIVERY CARRIER.

Ever Watt Magnetic Retrofit Kit **MUST** be wired in accordance with the National Electrical Code and all applicable local codes. Proper groundings is required safety.

This product **MUST** be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product.

User should prepare necessary accessories and spare parts (not provided) including mounting plates, screw driver.

INSTALLATIONS

* Ever Watt Magnetic Retrofit Kit is designed to replace fluorescent lamps within conventional recessed mount fluorescent troffers or surface mount strip fixtures in dry and damp locations.



INSTALLATION INSTRUCTION FOR RECESSED MOUNT TROFFERS

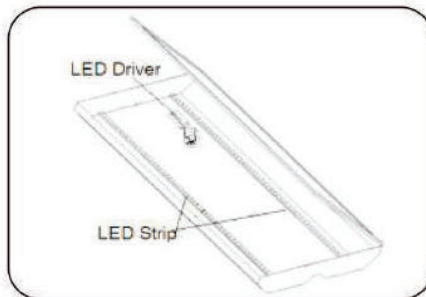
1. Open fixture, remove fluorescent tubes and all other internal components. Disconnect fluorescent ballast from power wires.
2. Align LED strips inside the fixture and locate the points where "U" bracket will be installed. Drill one hole (4mm diameter) for each "U" bracket. Install "U" bracket using the screws into fixture. Once secure, click LED strips into "U" brackets.
3. Align LED driver inside the fixture and locate the area where LED driver will be installed. Drill two holes (4mm diameter) and install LED driver using the screws into fixture.
4. Connect LED strips to LED driver's output end according to wiring selection. Connect RED lead to driver's POSITIVE (RED) supply lead; connect BLACK lead to driver's NEGATIVE (BLACK) supply lead.
5. Connect LED driver's input end to AC source according to wiring selection. Connect BLACK lead to LINE (+) supply lead; connect WHITE lead to NEUTRAL supply lead.
6. Close fixture and place provided replacement marking label on retrofitted fixture, where visible during re-lamping.
7. Turn on power and enjoy your LED lighting.



WARNINGS

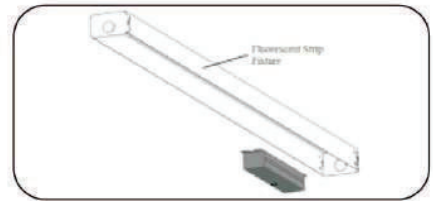
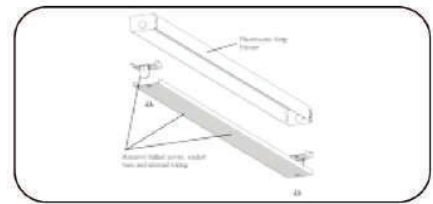


**BEFORE INSTALLATION,
TURN POWER OFF**



INSTALLATION INSTRUCTION FOR SURFACE MOUNT STRIP FIXTURES

1. Open fixture, remove fluorescent tubes and all other internal components. Disconnect fluorescent ballast from power wires.
2. Align LED driver inside the fixture and locate the area where LED driver will be installed. Drill two holes (4mm diameter) and install LED driver using the screws into fixture.
3. Align LED strips on the belly pan and locate the points where “U” bracket and install “U” brackets using the screws into fixture. Once secure, click LED strips into “U” brackets.
4. Connect LED strips to LED driver’s output end according to wiring selection. Connect RED lead to driver’s POSITIVE (RED) supply lead; connect BLACK lead to driver’s NEGATIVE (BLACK) supply lead.
5. Connect LED driver’s input end to AC source according to wiring selection. Connect BLACK lead to LINE (+) supply lead; connect WHITE lead to NEUTRAL supply lead.
6. Close fixture and place provided replacement marking label on retrofitted fixture, where visible during re-lamping.
7. Turn on power and enjoy your LED lighting.



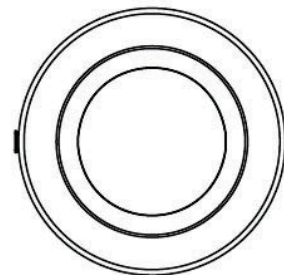
Contact us

Everwatt Lights

Tel: 510 730 0062 Mail: info@everwattlights.com | Web: www.everwattlights.com
Add: 25057 Viking Street, Hayward CA 94545

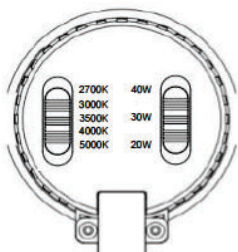
Introduction

- For retrofit or new construction installation
- Universal housing compatibility
- Adjustable lumen output and Color – 3 defined light levels, Power(40W/30W/20W), Color(2700K/3000K/3500K/4000K/5000K CCT)
- Easy fit installation – Spring-action housing clips Universal voltage 100-277V
- 0-10V DIMMABLE

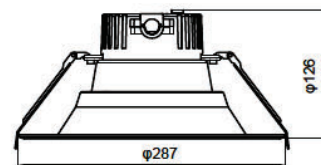


ORDERING INFORMATION

Adjustable Lumen Output and Color



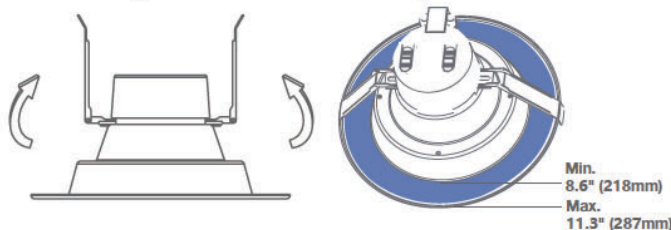
Model	PRODUCT FEATURES		
D810	Power	Lumens	Color
	LOW-20W	1700	2700
	MED-30W	2300	3000
	HIGH-40W	3000	3500



This commercial downlight features adjustable lumen output for three distinct lumen levels equivalent to various CFL lamp combinations. Simply adjust the lamp power or color to the desired lumen output by sliding the selector switch on top of the fixture.

Easy-Fit Installation

The adjustable housing clips allow for installation in a large range of commercial and architectural housings ranging from 8.97"-9.68" (228-246mm). These spring-action clips push up easily and fit securely for both retrofit and new construction installations.

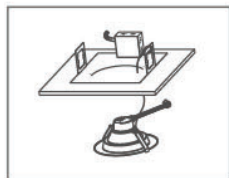


Electrical Data

MODEL	INPUT (VAC)	CURRENT	POWER (W)	LEDS	LED CURRENT
D810	100-277	0.22	20	144	0.06
		0.33	30		0.09
		0.45	40		0.14

SIMPLE RETROFIT OR ECONOMICAL NEW CONSTRUCTION INSTALLATION

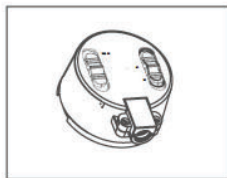
Retrofit Installation



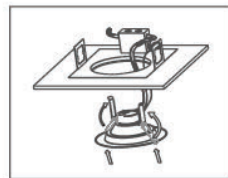
Attach safety clip



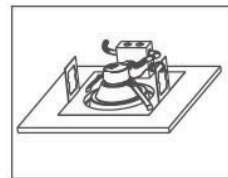
Bypass ballast & wire to j-box



Adjust lumens or color to desired output

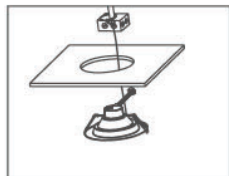


Push clips up & install into fixture

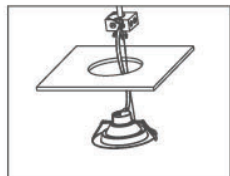


Ensure fixture is flush. Installation is complete

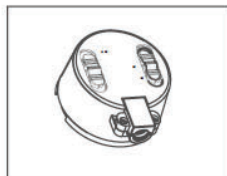
New Construction Installation



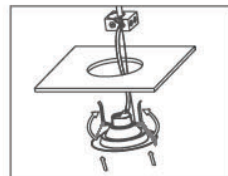
Attach safety clip



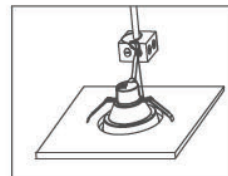
Wire to j-box



Adjust lumens or color to desired output



Push clips up & install into opening



Ensure fixture is flush. Installation is complete

WARRANTY

- Five year limited warranty is standard on luminaire and components.

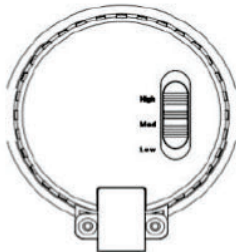
Introduction

- For retrofit or new construction installation
- Universal housing compatibility
- Adjustable lumen output – 3 defined light levels
- Easy fit installation – Spring-action housing clips
- Universal voltage 120-277V
- Available in 2700K, 3000K, 4000K & 5000K CCT

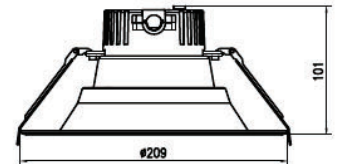


ORDERING INFORMATION

Adjustable Lumen Output



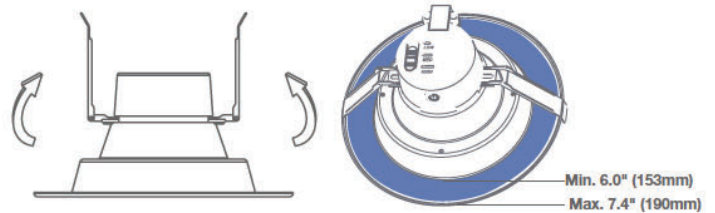
Model	PRODUCT FEATURES		
D816	Power	Lumens	Color
	LOW-10W	900	2700
	MED-15W	1350	3000
	HIGH-22W	2000	4000



This commercial downlight features adjustable lumen output for three distinct lumen levels equivalent to various CFL lamp combinations. Simply adjust the lamp power to the desired lumen output by sliding the selector switch on top of the fixture.

Easy-Fit Installation

The adjustable housing clips allow for installation in a large range of commercial and architectural housings ranging from 6.0"-7.4" (153-190mm). These spring-action clips push up easily and fit securely for both retrofit and new construction installations.



Electrical Data

MODEL	INPUT (VAC)	CURRENT	POWER (W)	LEDS	LED CURRENT	CRI	CCT	LUMENS
D816	110-277	0.08	10	60	0.05	90	2700	900
		0.12	15		0.07		3000	1350
		0.18	22		0.11		4000	2000
							5000	

SIMPLE RETROFIT OR ECONOMICAL NEW CONSTRUCTION INSTALLATION

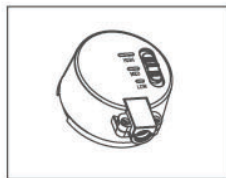
Retrofit Installation



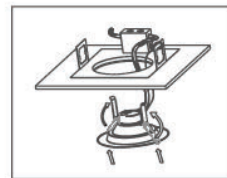
Attach safety clip



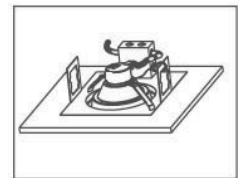
Bypass ballast & wire to j-box



Adjust lumens to desired output

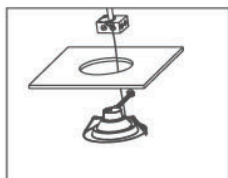


Push clips up & install into fixture

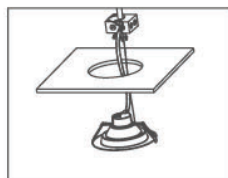


Ensure fixture is flush. Installation is complete

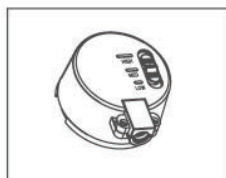
New Construction Installation



Attach safety clip



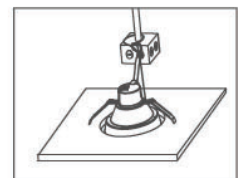
Wire to j-box



Adjust lumens to desired output



Push clips up & install into opening



Ensure fixture is flush. Installation is complete

WARRANTY

- Five year limited warranty is standard on luminaire and components .

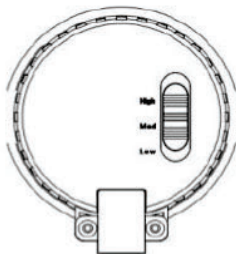
Introduction

- For retrofit or new construction installation
- Universal housing compatibility
- Adjustable lumen output – 3 defined light levels
- Easy fit installation – Spring-action housing clips
- Universal voltage 110-277V
- Available in 2700K, 3000K, 4000K & 5000K CCT

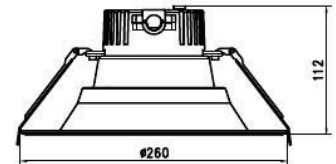


ORDERING INFORMATION

Adjustable Lumen Output



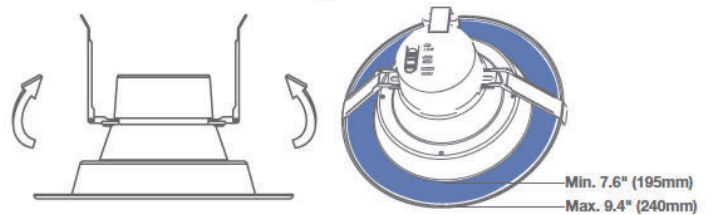
Model	PRODUCT FEATURES		
D818	Power	Lumens	Color
	LOW-12W	1000	2700
	MED-20W	1700	3000
	HIGH-30W	2500	4000



This commercial downlight features adjustable lumen output for three distinct lumen levels equivalent to various CFL lamp combinations. Simply adjust the lamp power to the desired lumen output by sliding the selector switch on top of the fixture.

Easy-Fit Installation

The adjustable housing clips allow for installation in a large range of commercial and architectural housings ranging from 7.6"-9.4" (195-240mm). These spring-action clips push up easily and fit securely for both retrofit and new construction installations.



Electrical Data

MODEL	INPUT (VAC)	CURRENT	POWER (W)	LEDS	LED CURRENT	CRI	CCT	LUMENS
D818	110-277	0.10	12	91	0.04	90	2700	1000
		0.17	20		0.06		3000	1700
		0.25	30		0.09		4000	2500

SIMPLE RETROFIT OR ECONOMICAL NEW CONSTRUCTION INSTALLATION

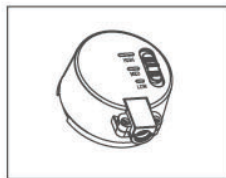
Retrofit Installation



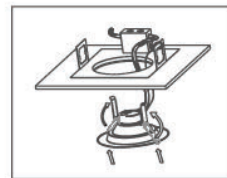
Attach safety clip



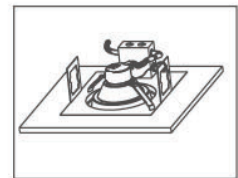
Bypass ballast & wire to j-box



Adjust lumens to desired output

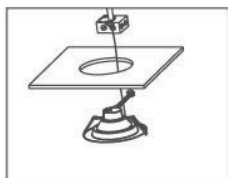


Push clips up & install into fixture

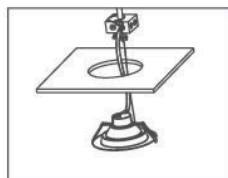


Ensure fixture is flush. Installation is complete

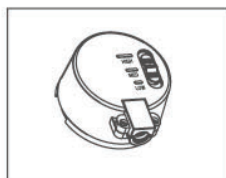
New Construction Installation



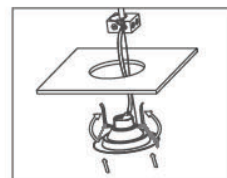
Attach safety clip



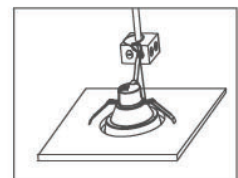
Wire to j-box



Adjust lumens to desired output



Push clips up & install into opening



Ensure fixture is flush. Installation is complete

WARRANTY

- Five year limited warranty is standard on luminaire and components .

EverWatt PG-5 Series Canopy Light





OVERVIEW	
The 5th gen multi-watt canopy light offers a lightweight high powered design that allows for the most bang for your buck when it comes to LED lighting.	
CONSTRUCTION	
UL listed for wet locations	Easy to install with various mounting capabilities
DLC premium	High lm/W design
Dimmable 0-10V with surge protection	Heavy-duty aluminum alloy body
Auto-sensing input voltage 100-277VAC 50/60Hz	Weather resistant coating
APPLICATION	
Our 5th gen multi-watt canopy light has the highest quality components making it a trusted exterior light fixture for parking lots, government facilities, military bases, airports, prisons, schools, medical facilities across the United States.	
ELECTRICAL	
0-10V Dimming driver	Long-life LED system
Integral driver surge protection.	PF>0.9. THD<20%.
Various auto-sensing drivers that can operate on 100-277VAC, 100-347VAC, 277-480VAC depending on the model and driver ordered. (See driver for more information).	Surge protection shuts down the luminaire when system voltage or current exceeds designed operating conditions. Short circuit protection is also available.
OPTICAL	
Polycarbonate diffuser shields LED's from the elements.	
Optics are designed to distribute light evenly along both the vertical and horizontal work planes.	
No-flicker light distribution provides superior lens brightness, uniformity, and visual comfort.	
Available in lens Type I, II, III, IV V and available in color temperatures 3000K, 4000K, 5000K.	
MOUNTING	
Mounts seamlessly on ceiling and walls.	
LIFE RATING	
>100,000	
AVAILABLE ACCESSORIES	
NEMA-7 receptacle	0-10V dimming
High voltage surge protector	Motion sensor with step down dimming



EW	CPL	02	V2	W	P	H	D	B	S	O	K
EW	Brand: EverWatt										
CPL	Product type										
02	Generation of product										
V3	Version of generation										
W	Wattage: 15W, 25W, 40W										
P	Power: "S"=Standard										
H	Housing color: "WH"=White										
D	Diffuser type: "CP"=Clear "FP"=Frosted										
B	Bracket										
S	Surge protection										
O	Sensors: "M"=Motion "N" No Sensor.										
K	Kelvin: 4000K 5000K 6000K										

Wattage	Lumens	Efficacy Lm/W	Amount of LEDs	Voltage options
15 25 40	555-5,318	138-140	48	110-277VA, 277-408VAC

Wattage	Kelvin	MODEL	DLC ID
15	4000K 5000K 5700K	EW-CPL-02-V3-15W-S-H-CP-B-[S;N]-[M;N]-F-K	PLB2XPKJGJEA PL6N44SH4UKM PLBLH97S9GCW
25	4000K 5000K 5700K	EW-CPL-02-V3-25W-S-H-CP-B-[S;N]-[M;N]-F-K	PLXZA1PCH7GT PLLI3CMT8NN3 PLVJ7ZJM1J6M
40	4000K 5000K 5700K	EW-CPL-02-V3-40W-S-H-CP-B-[S;N]-[M;N]-F-K	PLB2XPKJGJEA PLJGW9A04X5D PLBMK4PPBLEU



SPECIFICATIONS	
Product Name	PG-5 Series Canopy Light
Part No	EW-CPL-02-V2-W-P-H-D-B-S-O-K
Light Type	LED 5th Canopy Light
Color temperatures	3500K/4000K/5000K
CRI	>80
Lumen range	The lumen output can range depending on the Kelvin temperature used.
lm/W (lumens per Watt)	130-145
Input Power	15W, 25W, 40W, 55W, 75W, 100W
Power Factor	0.92
Beam Angle	Type III
Input Voltage	100V-277V AC 50Hz/60Hz
Driver	Internal driver 100-277V SS-150VA-56B
PFC	>0.9
Waterproof Rating	IP65
LED Type	Seoul 3030 MJT
Housing	Aluminum
Housing Color	White
Diffuser	Frosted
Operating Temperature	-4°F TO 113°F
Operating Humidity	20%-90% RH
Storage Temperature	-22° F TO 176° F
Storage Humidity	10%-95% RH
Application	Exterior poles & walls
Safety Certification	UL listed
Efficiency certification	DLC Premium
Rated LED Life Hours	>100,000
Warranty	5 Years

**PARTS**

- Light engine (1-piece)
- Internal 0-10V dimmable driver with surge protection (1-piece)
- Bracket (1-piece)
- Fasteners & Hardware (1-pack)

TO AVOID RISK OF FIRE, EXPLOSION, OR ELECTRIC SHOCK

- Power must be off before and during installation and/or maintenance.
- Supply voltage must be the same as the voltage rating for the luminaire.
- The fixture must be grounded.
- The fixture must be operated in ambient temperatures indicated above.
- All guidelines and steps in included instructions must be followed.
- Must be installed, inspected, and maintained by a certified and licensed electrical contractor only, and in accordance with all applicable laws and electrical codes.
- After installing the fixture please make sure the wiring and the fixture are properly insulated.
- Not suitable for damp locations or outdoor use.
- Do not use with a ballast.

TROUBLESHOOTING

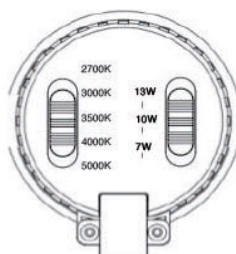
Fixture not Lighting?	Check the connection points, make sure they are properly connected and the power is on.
	If your fixture has a photocell receptacle, make sure the photocell or shorting cap is installed.
	Check the dimming wires and make sure they are capped off separately.
Flickering or Flashing?	Check the connections and make sure they are properly connected. Make sure the supply voltage is the same as the rated fixture voltage. Turn off the power for 3 minutes and try again.
Still not working?	Please contact us at: support@everwattlights.com or call us at (510)730-0062

Introduction

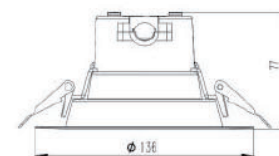
- For retrofit or new construction installation
- Universal housing compatibility
- Adjustable lumen output and Color – 5 defined light levels, Power(13W/10W/7W),Color(2700K/3000K/3500K/4000K/5000K CC
- Easy fit installation – Spring-action housing clips Universal
- voltage 100-277V
- 0-10V DIMMABLE

ORDERING INFORMATION

Adjustable Lumen Output and Color



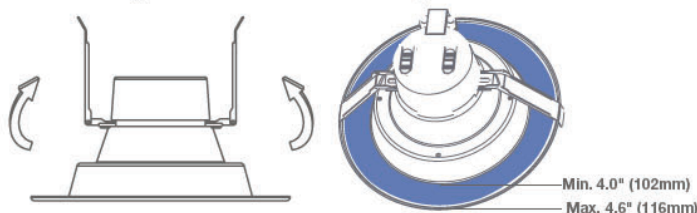
Model	PRODUCT FEATURES		
D844	Power	Lumens	Color
	LOW-7W	600	2700K 3000K 3500K 4000K 5000K
	MED-10W	850	
	HIGH-13W	1050	



This commercial downlight features adjustable lumen output for three distinct lumen levels equivalent to various CFL lamp combinations. Simply adjust the lamp power or color to the desired lumen output by sliding the selector switch on top of the fixture.

Easy-Fit Installation

The adjustable housing clips allow for installation in a large range of commercial and architectural housings ranging from 4.0"-4.6" (102-116mm). These spring-action clips push up easily and fit securely for both retrofit and new construction installations.

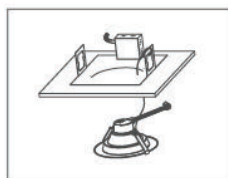


Electrical Data

MODEL	INPUT (VAC)	CURRENT	POWER (W)	LEDS	LED CURRENT	CRI	CCT	LUMENS
D844	100-277	0.07	7	48	0.04	90	2700	600
		0.10	10		0.06		3000	850
		0.13	13		0.08		3500	1050

SIMPLE RETROFIT OR ECONOMICAL NEW CONSTRUCTION INSTALLATION

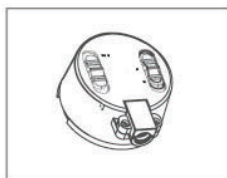
Retrofit Installation



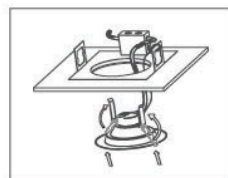
Attach safety clip



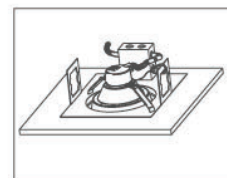
Bypass ballast & wire to j-box



Adjust lumens or color to desired output

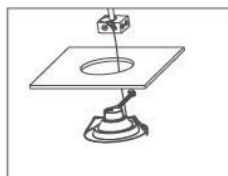


Push clips up & install into fixture

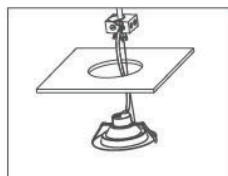


Ensure fixture is flush. Installation is complete

New Construction Installation



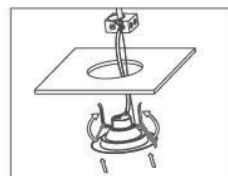
Attach safety clip



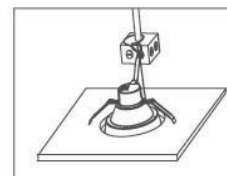
Wire to j-box



Adjust lumens or color to desired output



Push clips up & install into opening



Ensure fixture is flush. Installation is complete

WARRANTY

- Five year limited warranty is standard on luminaire and components .



EverWatt 5th Gen Wattage Adjustable Semi-cutoff LED Wall Pack





OVERVIEW	
The 5th gen wattage adjustable semi-cutoff wall pack offers a lightweight, high powered design that allows for the most bang for your buck when it comes to LED lighting.	
CONSTRUCTION	
UL listed for wet locations	Easy to install with various mounting capabilities
DLC premium	High lm/W design
Dimmable 0-10V with surge protection	Heavy-duty aluminum alloy body
Auto-sensing input voltage 100-277VAC 50/60Hz	Weather resistant coating
APPLICATION	
Our wall pack light features the highest quality components making it a trusted exterior light fixture for parking lots, government facilities, military bases, airports, prisons, schools, medical facilities and even streets, freeways and roads across the United States.	
ELECTRICAL	
0-10V dimming driver	Long-life LED system
Integral driver surge protection.	PF>0.9. THD<20%.
Field adjustable wattage	IP65 housing, IP67 driver
Depending on the model and driver ordered, various auto-sensing drivers can operate on 100-277VAC, 100-347VAC, and 277-480VAC. (See driver for more information).	Surge protection shuts down the luminaire when system voltage or current exceeds designed operating conditions. Short circuit protection is also available.
OPTICAL	
Polycarbonate diffuser shields LEDs from the elements.	
Optics are designed to distribute light evenly along both the vertical and horizontal work planes.	
No-flicker light distribution provides superior lens brightness uniformity and visual comfort.	
Available in color temperatures 4000K, 5000K, and 5700K	
MOUNTING	
Mounts seamlessly with the 3-bracket system or through direct drilling and can mount almost anywhere.	
LIFE RATING	
L70 rated for over 54,000 hours	L90 rated for over 51,000 hours
IN THE BOX	
0-10V Dimming driver	Built-in surge protector
Built-in bubble level	Mounting bracket
Available Accessories	
Shield	Photocell
High voltage surge protector	Motion sensor with step down dimming
NEMA-7 receptacle	0-10V dimming



EW	SCWP	05	L1/M1	W	P	H	D	S	SP	O1	O2	O3	Y	K
EW	Brand: EverWatt													
SCWP	Product type													
05	Generation of product													
L1/M1	Version (L= large), (M= medium)													
W	Wattage: 40W, 60W, 80W													
P	Power (S= standard 110-277V, H=240-480V)													
H	Housing color: Two letters that represent the color of the fixture. BR for brown, BL for black, WH for white.													
D	Diffuser:													
C	Kelvin													

MEDIUM WALL PACK						
Wattage	Lumens	Efficacy Lm/W	Amount of LEDs	Voltage options	Dimension	Weight
40W (40W/60W/80W)	5,200-6,400	130-160	300	110-277V, 277-408V (optional)	17.8" * 9.4" * 8.9"	9.92lbs
60W (40W/60W/80W)	7,800-9,600	130-160	300	110-277V, 277-408V (optional)	17.8" * 9.4" * 8.9"	9.92lbs
80W (40W/60W/80W)	10,400-12,800	130-160	300	110-277V, 277-408V (optional)	17.8" * 9.4" * 8.9"	9.92lbs
LARGE WALL PACK						
100W (100W/120W/150W)	13,000-16,000	130-160	480	110-277V, 277-408V (optional)	17.8" * 9.4" * *8.9"	14.1lbs
120W (100W/120W/150W)	15,600-19,200	130-160	480	110-277V, 277-408V (optional)	17.8" * 9.4" * *8.9"	14.1lbs
150W (100W/120W/150W)	19,500-24,000	130-160	480	110-277V, 277-408V (optional)	17.8" * 9.4" * *8.9"	14.1lbs



Wattage	Kelvin	MODEL	DLC ID
40W	4000K / 5000K / 5700k	EW-SCWP-05-M1-40W-S-H-SG-S-[SV;N] N-N-N-[Y;Blank]-K	S-CJ0YV4 / S-KX5091
60W	4000K / 5000K / 5700k	EW-SCWP-05-M1-60W-S-H-SG-S-[SV;N] N-N-N-[Y;Blank]-k	S-RP2KWI / S-1Z7I5A
80W	4000K / 5000K / 5700k	EW-SCWP-05-M1-80W-S-H-SG-S-[SV;N]-O1-N-N-[Y;Blank]-K	S-27V4HL / S-QEDFMY / S-HCIPJN
100W	4000K / 5000K / 5700k	EW-SCWP-05-L1-100W-S-H-SG-S-[SV;N]-O1-N-N-[Y;Blank]-K	S-PUF8XS / S-ZYN41J / S-53X26E
120W	4000K / 5000K / 5700k	EW-SCWP-05-L1-120W-S-H-SG-S-[SV;N]-O1-N-N-[Y;Blank]-K	S-BT38KH / S-U8MRZW / S-1ADPUV
150W	4000K / 5000K / 5700k	EW-SCWP-05-L1-150W-S-H-SG-S-[SV;N]-O1-N-N-[Y;Blank]-K	S-3AZEYF / S-U8FCEQ / S-3K5MUI



SPECIFICATIONS	
Product Name	EverWatt 5th Gen Wattage Adjustable Semi-cutoff LED Wall Pack
Part No	EW-SCWP-05-L1-150W-S-H-SG-S-[SV;N]-O1-N-N-[Y;Blank]-K
Light Type	LED wall pack & security light
Color temperatures	4000K/5000K/5700K
CRI	>80
Lumen range	The lumen output can range depending on the Kelvin temperature used.
lm/W (lumens per Watt)	130-160
Input Power	40W, 60W 100W (25%-100% Wattage adjustable)
Power Factor	0.92
Beam Angle	110°
Input Voltage	100V-277V AC 50Hz/60Hz
Driver	Internal driver 100-277V SS-150VA-56B
PFC	>0.9
Waterproof Rating	IP65
LED Type	2835
Housing	Aluminum
Housing Color	Brown
Diffuser	Clear
Operating Temperature	-4°F TO 113°F
Operating Humidity	20%-90% RH
Storage Temperature	-22° F TO 176° F
Storage Humidity	10%-95% RH
Application	Walls
Safety Certification	UL listed
Efficiency certification	DLC Premium
Rated LED Life Hours	>50,000
Warranty	5 Years

**Parts**

- Light engine (1-piece)
- Internal 0-10V dimmable driver with surge protection (1-piece)
- Fasteners & Hardware (1-pack)

TO AVOID RISK OF FIRE, EXPLOSION, OR ELECTRIC SHOCK

- Power must be off before and during installation and/or maintenance.
- Supply voltage must be the same as the voltage rating for the luminaire.
- The fixture must be grounded.
- The fixture must be operated in ambient temperatures indicated above.
- All guidelines and steps in included instructions must be followed.
- Must be installed, inspected, and maintained by a certified and licensed electrical contractor only, and in accordance with all applicable laws and electrical codes.
- After installing the fixture please make sure the wiring and the fixture are properly insulated.
- Not suitable for damp locations or outdoor use.
- Do not use with a ballast.

TROUBLESHOOTING

Fixture not Lighting?	Check the connection points, make sure they are properly connected and the power is on.
	If your fixture has a photocell receptacle, make sure the photocell or shorting cap is installed.
	Check the dimming wires and make sure they are capped off separately.
Flickering or Flashing?	Check the connections and make sure they are properly connected. Make sure the supply voltage is the same as the rated fixture voltage. Turn off the power for 3 minutes and try again.
Still not working?	Please contact us at: support@everwattlights.com or call us at (510)730-0062

EverWatt MJT-11 Outdoor Street & Area Light



AM



DM



A&D



YM



FM



OVERVIEW	
The MJT-11 pole light offers a lightweight high powered design that allows for the most bang for your buck when it comes to LED lighting.	
CONSTRUCTION	
UL listed for wet locations	Easy to install with various mounting capabilities
DLC premium	High lm/W design
Dimmable 0-10V with surge protection	Heavy-duty aluminum alloy body
Auto-sensing input voltage 100-277VAC 50/60Hz	Weather resistant coating
APPLICATION	
Our MJT-11 pole light features the highest quality components making it a trusted exterior light fixture for parking lots, government facilities, military bases, airports, prisons, schools, medical facilities and even streets, freeways and roads across the United States.	
ELECTRICAL	
0-10V Dimming driver	Long-life LED system
Integral driver surge protection.	PF>0.9. THD<20%.
Various auto-sensing drivers that can operate on 100-277VAC, 100-347VAC, 277-480VAC depending on the model and driver ordered. (See driver for more information).	Surge protection shuts down the luminaire when system voltage or current exceeds designed operating conditions. Short circuit protection is also available.
OPTICAL	
Polycarbonate diffuser shields LED's from the elements.	
Optics are designed to distribute light evenly along both the vertical and horizontal work planes.	
No-flicker light distribution provides superior lens brightness uniformity and visual comfort.	
Available in lens Type I, II, III, IV V and available in color temperatures 3000K, 4000K, 5000K.	
MOUNTING	
Mounts seamlessly with one of 5 brackets and can be mounted almost anywhere.	
LIFE RATING	
>100,000	
IN THE BOX	
0-10V Dimming driver	Built-in surge protector
Photocell	Mounting bracket
AVAILABLE ACCESSORIES	
Shield	Five bracket variations
High voltage surge protector	Motion sensor with step down dimming
NEMA-7 receptacle	0-10V dimming



EW	SB	11	V1	W	L	D	H	P	S	M	B	K
EW	Brand: EverWatt											
SB	Product type											
11	Generation of product											
V1	Version											
W	Wattage of fixture: 100W, 150W, 200W, 240W, 300W											
L	LED type: Can be B or E											
D	Diffuser type: This can range from T1 (type 1) through T9 (type 9)											
H	Housing color: This fixture is available in white, black, gray and bronze, it is also available in custom colors upon request.											
P	Photo controls: 3RP, 3NP, 5RP, 5NP, 7RP, 7NP or blank for no controls.											
S	External surge protector: Can be 10SP, 20SP or blank for driver-internal surge protection.											
M	Sensors: Can be M for motion sensor or blank for no sensor.											
B	Bracket type: AM (slip-fit adjustable mount), DM (direct mount, YM (yoke mount), A&D (adjustable/direct-mount), FM(flood mount)											
K	Kelvin temperature: Available in 3000K, 4000K, 5000K											

Wattage	Lumens	Efficacy Lm/W	Amount of LEDs	Voltage options
100	13,000-14,500	130-140	126	110-277VA, 277-480VAC
150	19,500-21,000	130-140	189	110-277VA, 277-480VAC
200	26,000-28,000	130-140	252	110-277VA, 277-480VAC
240	31,200-33,600	130-140	308	110-277VA, 277-480VAC
300	39,000-42,000	130-140	278	110-277VA, 277-480VAC

Wattage	Dimensions (may vary depending on bracket) Dimensions below based on AM bracket	Weight (may vary depending on bracket) Weight below is based on the AM bracket
100	19.09" x 12.83" x 3.14"	12.12lb
150	19.09" x 12.83" x 3.14"	12.78lb
200	26.85" x 12.91" x 3.22"	18.02lb
240	26.85" x 12.91" x 3.22"	18.29lb
300	26.85" x 12.91" x 3.22"	19.84lb



Wattage	Kelvin	MODEL	DLC ID
100	5000K	EW-SB-11-V1-100W-C-T3-H-P-S-M-B-50	PLHLP8SEBEM6
150	5000K	EW-SB-11-V1-150W-C-T3-H-P-S-M-B-50	PLM2YNERS7B9
200	5000K	EW-SB-11-V1-200W-C-T3-H-P-S-M-B-50	PLYAALDRS7RC
240	5000K	EW-SB-11-V1-240W-C-T3-H-P-S-M-B-50	PLZSNC09AN9Z
300	5000K	EW-SB-11-V1-300W-C-T3-H-P-S-M-B-50	PLYADI48Y0VP



SPECIFICATIONS	
Product Name	EverWatt MJT-11 Series Outdoor Street & Area Light
Part No	EW-SB-11-V1-W-L-D-H-P-S-M-B-K
Light Type	LED Outdoor Street & Area Light
Color temperatures	3500K/4000K/5000K
CRI	>80
Lumen range	The lumen output can range depending on the Kelvin temperature used.
lm/W (lumens per Watt)	130-145
Input Power	100W, 150W, 200W, 240W, 300W
Power Factor	0.92
Beam Angle	Type III
Input Voltage	100V-277V AC 50Hz/60Hz
Driver	Internal driver 100-277V SS-150VA-56B
PFC	>0.9
Waterproof Rating	IP65
LED Type	Seoul 3030 MJT
Housing	Aluminum
Housing Color	Black
Diffuser	Frosted
Operating Temperature	-4°F TO 113°F
Operating Humidity	20%-90% RH
Storage Temperature	-22° F TO 176° F
Storage Humidity	10%-95% RH
Application	Exterior poles & walls
Safety Certification	UL listed
Efficiency certification	DLC Premium
Rated LED Life Hours	>50,000
Warranty	5 Years

**Parts**

- Light engine (1-piece)
- Internal 0-10V dimmable driver with surge protection (1-piece)
- Bracket (1-piece)
- Photocell (1-piece)
- Fasteners & Hardware (1-pack)

TO AVOID RISK OF FIRE, EXPLOSION, OR ELECTRIC SHOCK

- Power must be off before and during installation and/or maintenance.
- Supply voltage must be the same as the voltage rating for the luminaire.
- The fixture must be grounded.
- The fixture must be operated in ambient temperatures indicated above.
- All guidelines and steps in included instructions must be followed.
- Must be installed, inspected, and maintained by a certified and licensed electrical contractor only, and in accordance with all applicable laws and electrical codes.
- After installing the fixture please make sure the wiring and the fixture are properly insulated.
- Not suitable for damp locations or outdoor use.
- Do not use with a ballast.


TROUBLESHOOTING

Fixture not Lighting?	Check the connection points, make sure they are properly connected and the power is on.
	If your fixture has a photocell receptacle, make sure the photocell or shorting cap is installed.
	Check the dimming wires and make sure they are capped off separately.
Flickering or Flashing?	Check the connections and make sure they are properly connected. Make sure the supply voltage is the same as the rated fixture voltage. Turn off the power for 3 minutes and try again.
Still not working?	Please contact us at: support@everwattlights.com or call us at (510)730-0062



Description

Retrofits existing 1'x4', 2'x2', 2'x4' fluorescent troffers or louversto LED in approximately one minute. Industry's firstLED troffer retrofit completely assembled within the frame.



Top features

Deliver soft, dispersed illumination with an unprecedented level of uniformity.

Exhibit seamless and smooth finishes.

Field-adjustable Power and CCT available.

Sensor and EM solution available.

Flicker free($\leq 10\%$).



Performance Summary

Efficacy: ≥ 130 LPW

Chip: SEOUL 3528

CRI: Ra > 80

CCT Options: 3500K 4000K 5000K

Driver: Dimmable LED power supplies

THD: < 20%

PF: > 0.9

Flicker free $\leq 10\%$

Driver efficiency > 85%

Standard Lifetime: Designed minimum 50,000h

Mounting: Recessed Troffer Retrofit Kit

Standard Warranty: 5 Years

The Dimming type is continuous, The product can dim to 10%

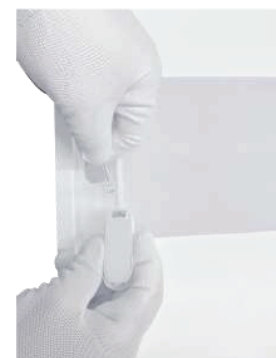
Suitable for Damp Location, Type IC

Wired Communication Protocol: 0-10V

Sensor solution ready

Plug and play sensor available.

Easy in-field installation.

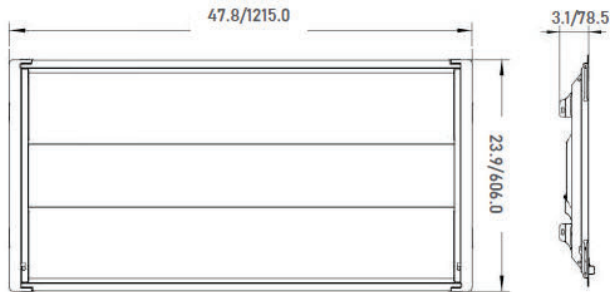


Integrated occupancy sensing and daylight sensing with Bluetooth control

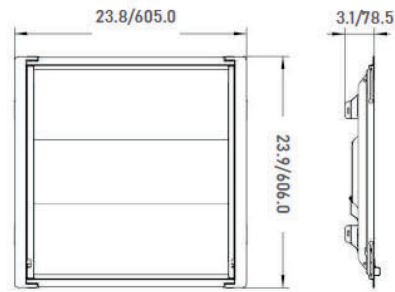
Dimensions

Unit: inch/mm

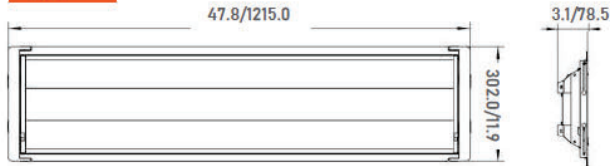
2x4



2x2



1x4



Performance

Product series	Size	Catalog No.	Input Wattage	Lumens Rated	Efficacy Rated	CCT
Field-adjustable Power & CCT	1X4	EW-TRK-1A-14-30/25/20-DM-CCT 8XX	30/25/20	3,900/3,250/2,600	130	3500K/ 4000K/ 5000K Selectable
	1X4	EW-TRK-1A-14-35/30/25-DM-CCT 8XX	35/30/25	4,550/3,900/3,250	130	
	1X4	EW-TRK-1A-14-40/35/30-DM-CCT 8XX	40/35/30	5,200/4,550/3,900	130	
	2X2	EW-TRK-1A-22-30/25/20-DM-CCT 8XX	30/25/20	3,900/3,250/2,600	130	
	2X2	EW-TRK-1A-22-35/30/25-DM-CCT 8XX	35/30/25	4,550/3,900/3,250	130	
	2X2	EW-TRK-1A-22-40/35/30-DM-CCT 8XX	40/35/30	5,200/4,550/3,900	130	
	2X4	EW-TRK-1A-24-35/30/25-DM-CCT 8XX	35/30/25	4,550/3,900/3,250	130	
	2X4	EW-TRK-1A-24-45/38/34-DM-CCT 8XX	45/38/34	5,850/4,940/4,420	130	
	2X4	EW-TRK-1A-24-50/42/34-DM-CCT 8XX	50/42/34	6,500/5,460/4,420	130	
	2X4	EW-TRK-1A-24-56/52/46-DM-CCT 8XX	56/52/46	7,280/5,460/5,980	130	

Ordering Information

ORDERING EXAMPLE:

Example: EW-TRK-1A-22-30/25/20-DM-CCT 835/840/850 (MS, EM , Blank , Both)

EW	TRK1A	SIZE	30/25/20	DM	CCT	8	35/40/50	MS	EM
Company	Series	22	Wattage	Dimming	White Tunable	Ra	CCT	Sensor	Emergency
	LED Troffer Retrofit Kit 1A	610*608	30/25/20W	0-10V		>80	3500K/4000K/5000K	Multifunction Sensor	Emergency Power

Note: Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.



XSY

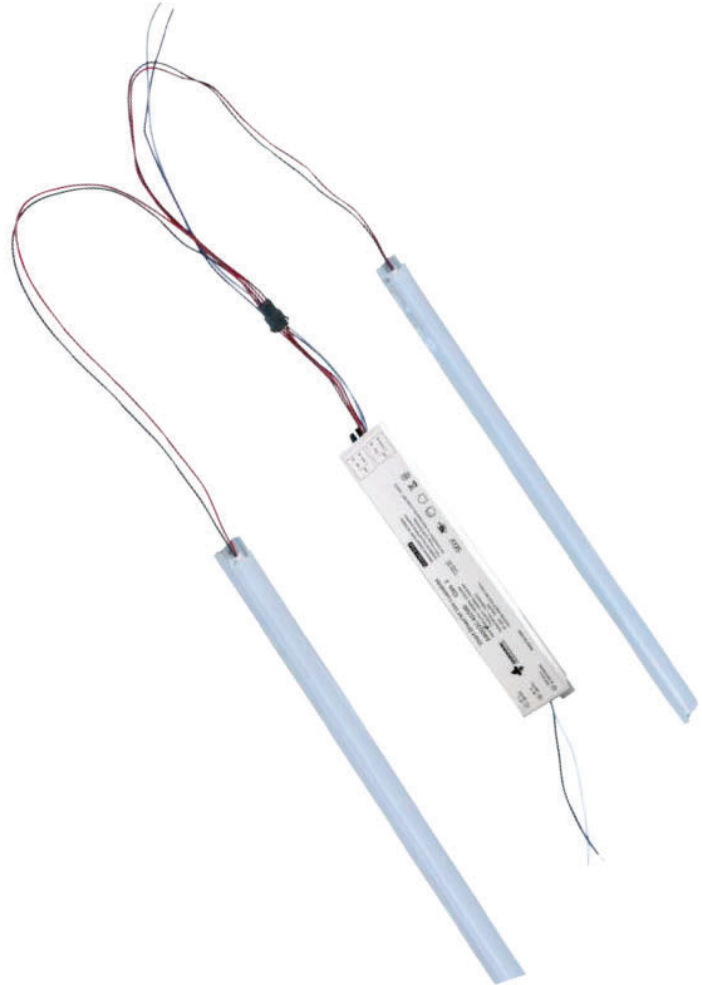
Lighting Shenzhen XSY Lighting Co.,Ltd

LED

Troffer Retrofit Kit

Features

- ◆ 120LM/W, RA>80
- ◆ External driver, male and female connection
- ◆ Very easy to fix by magnet and screws
- ◆ Eco-friendly without mercury
- ◆ ETL/DLC 5.1
- ◆ 5 year warranty

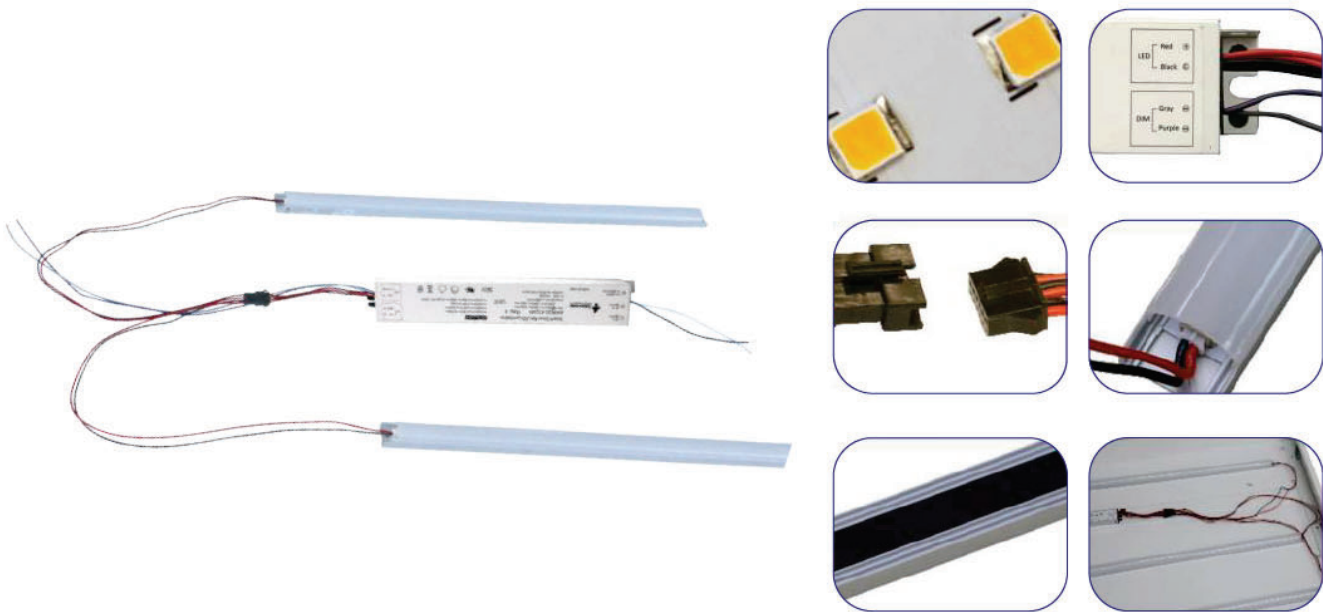


Application

- ◆ Apply to the workshop
- ◆ factory
- ◆ office
- ◆ shopping mall
- ◆ large supermarket
- ◆ the exhibition hall
- ◆ the warehouse
- ◆ the home
- ◆ the hotel
- ◆ school facility
- ◆ and other places of need illumine



Speciflcation Features



Product Series

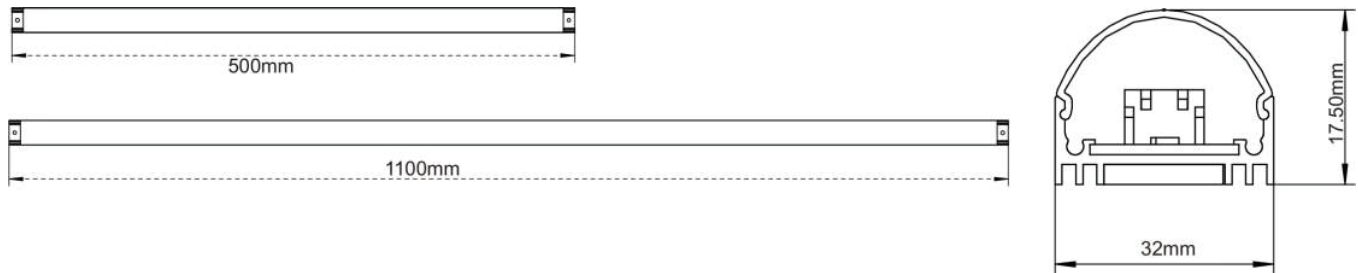
Model	XSX-T8RTP25W2FTA*2	XSX-T8RTP36W4FTA*2	XSX-T8RTP50W4FTA*2	XSX-T8RTP60W4FTA*3	XSX-T8RTP60W4FTA*4
Power	25W	36W	50W	60W	60W
Lumens	120lm/W	120lm/W	120lm/W	120lm/W	120lm/W
Size	500mm	1100mm	1100mm	1100mm	1100mm
CCT	4000K, 5000K				
Input Voltage	AC100-277V				
CRI	>80				
Life span	50000H				
Power Efficiency	>0.88				
PF	>0.92				
Input Frequency	50/60Hz				
Standard Warranty	5Years				

Ordering Guide

For example: XSX - T8RTPXXXFTA*X

Brand	Product name	Power	Size	LED drivers	Number
XSX	T8RT	P60	4ft	A	*4
XSX	T8 Ttoffer Retrofit Kit	25W	2ft	AI40D1B-421000	2
		36W	4ft	AI40D1B-421000	3
		50W		AI60D2C-421500	4
		60W		AI60D2C-421500	

Product Dimensions



Safety Precaution

To reduce the risk of death, personal injury or property damage from fire, electric shock, falling parts, cuts/abrasions, and other hazards read all warnings and instructions included with and on the fixture box and all fixture labels.

Before installing, servicing, or performing routine maintenance upon this equipment, follow these general precautions.

Commercial installation, service and maintenance of luminaires should be performed by a qualified licensed electrician.

For The installati on: If you are unsure about the installation or maintenance of the luminaires, consult a qualified licensed electrician and check your local electrical code.

To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.

Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.

WARNING: RISK OF FIRE OR ELECTRICAL SHOCK

Turn off electrical power at fuse or circuit breaker box before wiring fixture to the power supply.

Turn off the power when you perform any maintenance.

Verify that supply voltage is correct by comparing it with the luminaire label information.

Make all electrical and grounded connections in accordance with the National Electrical Code and any applicable local code requirements.

All wiring connecti ons should be capped with UL approved wire connectors.

CAUTION: RISK OF INJURY

Avoid direct eye exposure to the light source while it is on.

Account for small parts and destroy packing material, as these may be hazardous to children.



TJTUNV010AC9xxB

JA8-2016


DirectAC UNV 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 2.1 Listed (for rebate programs)^①
- Energy Star Luminaire CSD^①

General Specifications

Input Voltage / Frequency ^②	120~277VAC (+/- 10%) / 50-60Hertz		
Input Current ^②	~0.084A @120V	~0.044A @230V	~0.036A @277V
Input Power ^②	10W (+/- 1W)		
Input PF	>0.97		
THD	<20%		
Operating Frequency per Energy Star @120V/60Hz	120 Hz		
Max Lumen Output @ Full Power ^②	905 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 to 50°C / -31°F to 122°F		
Maximum Engine Case Temperature (Tc)	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= 35,000 hours		
Color Consistency	Binning per ANSI C78.377-2015 @85°C; 3 SDCM		
Overall Size	3.11" Dia. x 0.71" H (79mm Dia. x 18.03mm H)		
Wire Type/ Length	18AWG / 12" Black and White wires		
LED Quantity	40 Pcs.		
Weight	62.6g / 0.13lbs.		
Packaging: Carton / Master Carton	20pcs / 160pcs		
Maximum Screw Installation Torque	60in-lb (960in-ozf)		
Safety/Compliance	DirectAC Engines: cURus (File # E486778) TATUNV010AxxxxA DirectAC Retrofit Kits: cULus (File # E486779) TJTUNV010AxxxxB RoHS Compliant Dry and Damp Location IC Over Temperature Control Energy Star Luminaire 2.1 Listed ^① Energy Star Luminaire CSD ^① CEC JA8-2016		
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	<20% / <0.0416		
Protective Lens/Enclosure	High Voltage Barrier / 3mm 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	TJTUNV010AC927B	10W	831 lumens	83 lm/W
3000K	TJTUNV010AC930B	10W	863 lumens	86 lm/W
3500K	TJTUNV010AC935B	10W	873 lumens	87 lm/W
4000K	TJTUNV010AC940B	10W	905 lumens	91 lm/W
5000K	TJTUNV010AC950B	10W	927 lumens	93 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 @120V. 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.



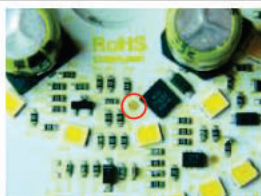
TJTUNV010AC9xxB

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Thermal Specifications

	③ DirectAC Engine Retrofit Kit (B)
Storage Temperature Range	-40°C (-40°F) to 80°C(176°F)
Operating Ambient Temperature Range	-35°C (-31°F) to 50°C(122°F)
Maximum Engine Case Temperature (Tc)	L70: Tc max=85°C (185°F) / L90: 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.

③ Suitable for surface mounted luminaire with minimum dimensions or volume: 7.69" L x 7.69" W x 1.25" H or 73.87 cubic inches








TJTUNV010AC9xxB

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Certification Chart

Energy Star™ TM-21 Calculator Data

Model	TJTUNV010AC9xxB
Classification	
	YES
	YES
	YES
	YES ^①
	YES ^①

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:

1) Energy Star CSD:

https://www.energystar.gov/products/lighting_fans/certified_lighting_subcomponent_database_csd

2) 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

^① 10W 927 only listed for wall mount. All others are ceiling mount.



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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 Engine/Kit (10W)				CFL					
Engine/Kit Part Number	System Wattage	Lumen Output	Efficacy	CFL Style	Lamp Wattage	# of Lamps	Total Wattage	Lumen Output	Efficacy
TJTUNV010AC940B	10W	905 lm (4K/90CRI)	90 lm/W	Quad	13W	1	13W	775 lm	59 lm/W
				Triple	13W	1	13W	825 lm	63 lm/W

NOTES:

1) For reference only, several factors apply.



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Flicker Test Data Summary

(Test performed by third party lab using, Lutron S-600P dimmer)

With Dimmer at 100%

100% Light Output Percent Amplitude Modulation					
No Filter	40 Hz	90 Hz	200 Hz	400 Hz	1000 Hz
13.82%	0.32%	1.16%	12.31%	13.54%	13.39%
Measurement Period:			2.000 sec		Noise: 19.2 dBA
Recording Interval:		4.00E-05 sec		Fraction of rated light output: 100%	
Flicker Index:		0.0395			

With Dimmer at 20%

20% Light Output Percent Amplitude Modulation					
No Filter	40 Hz	90 Hz	200 Hz	400 Hz	1000 Hz
19.55%	0.67%	1.84%	13.05%	16.16%	17.14%
Measurement Period:			2.000 sec	Noise:	19.2 dBA
Recording Interval:		4.00E-05 sec	Fraction of rated light output:		21%
Flicker Index:		0.0416			

With Dimmer at Minimum Light Output

Minimum Light Output Percent Amplitude Modulation					
No Filter	40 Hz	90 Hz	200 Hz	400 Hz	1000 Hz
18.00%	0.48%	0.81%	9.90%	12.56%	12.88%
Measurement Period:			2.000 sec	Noise:	19.3 dBA
Recording Interval:		4.00E-05 sec		Fraction of rated light output: 10%	
Flicker Index:		0.0312			



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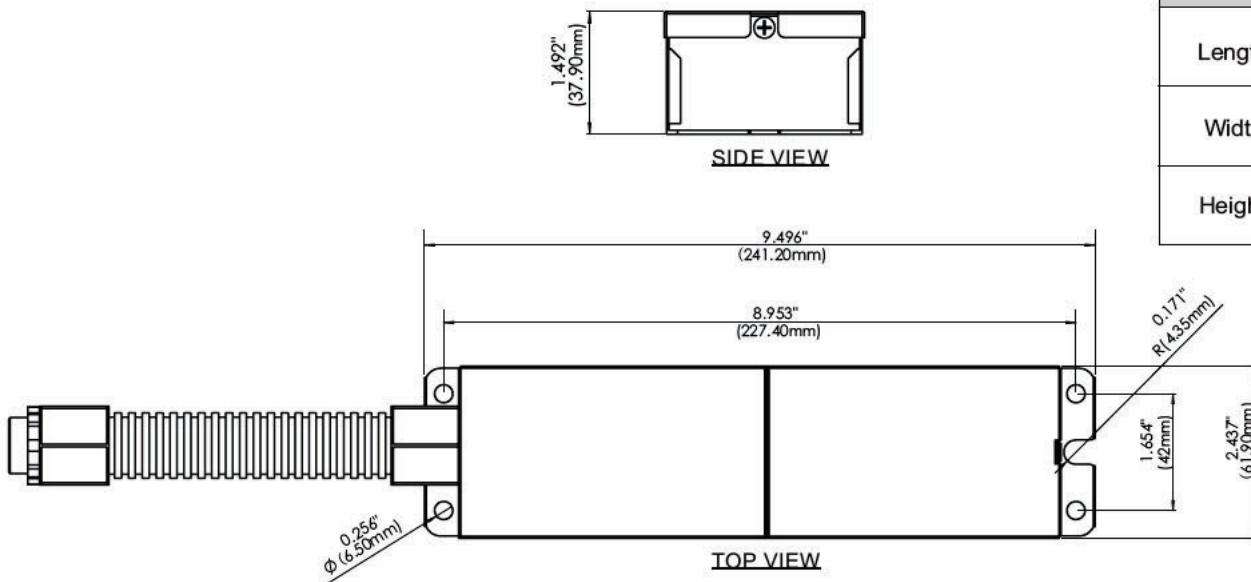


Battery Backup Option

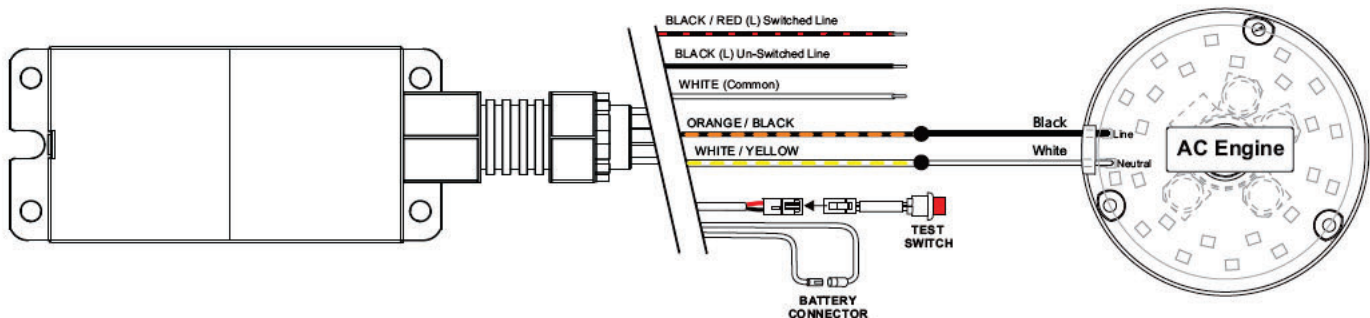
- FHSCP-UNV-6W-L-SD: Emergency LED Driver for Direct AC Engines



Mechanical Drawing



Wiring Diagram



Specification Sheet:

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



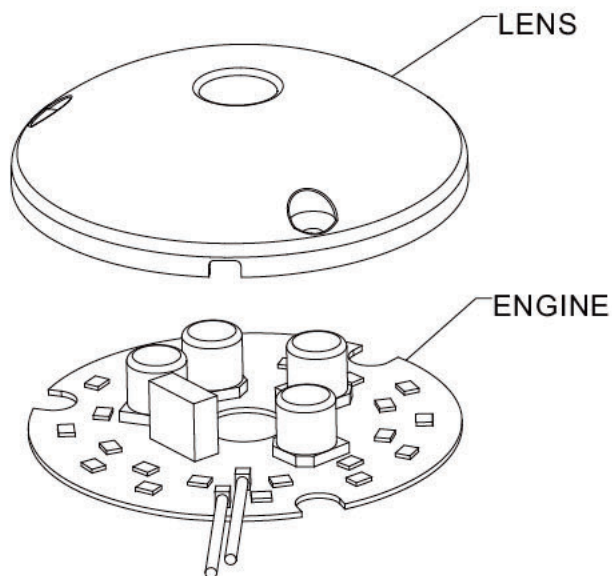
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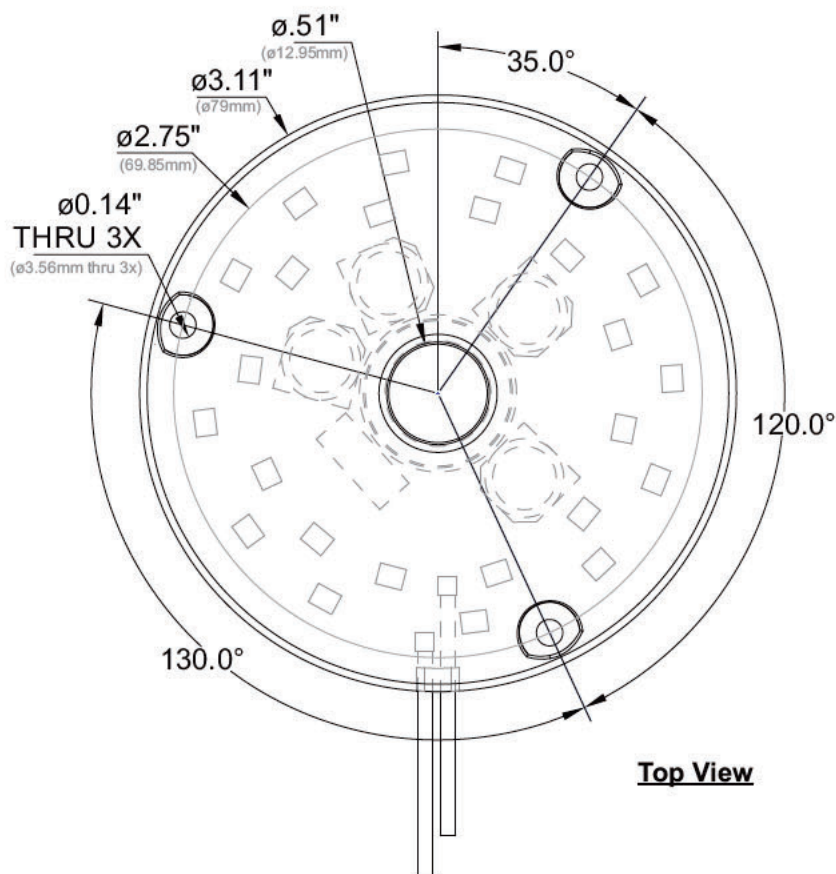
Mechanical Drawings

(Scale 1 : 1)

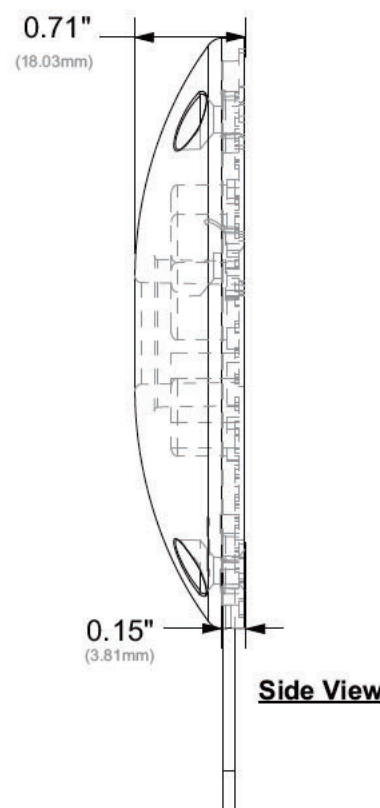


Overall Dimensions	
Diameter	3.11" [79mm]
Height	0.71" [18.03mm]
Wire Length AC Input (Black / White)	12" [304.8mm]

Exploded View



Top View



Side View

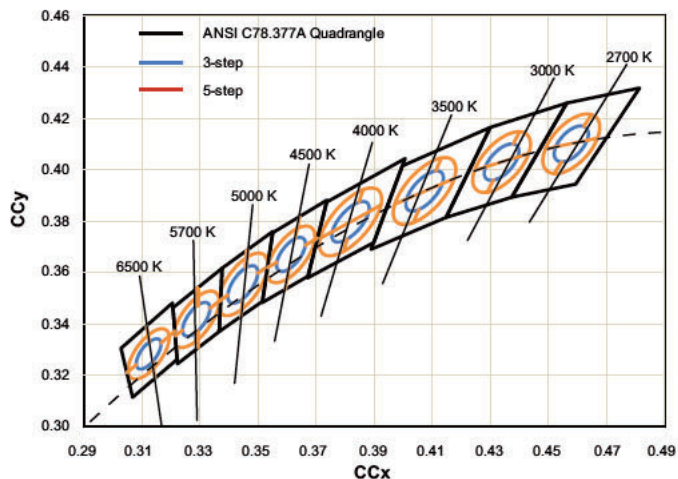


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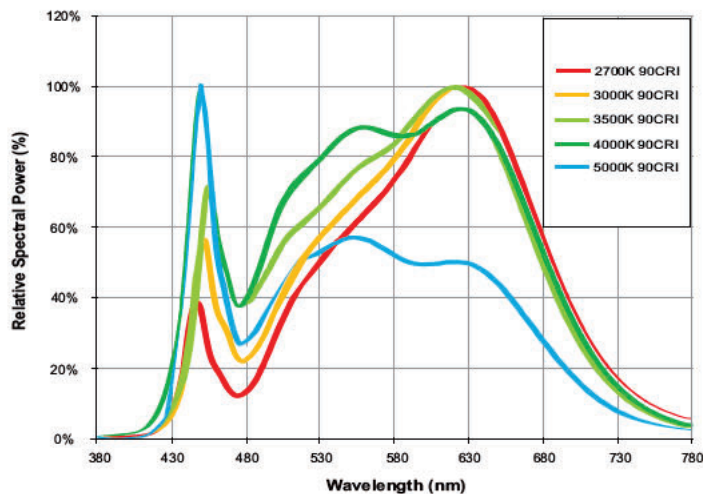
JA8-2016



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.

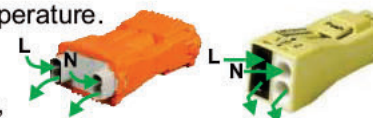
Termination Notes

- 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>



Daisy Chain

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. Fulham provides four 6-20 X 5/8" Flat Head Self Drilling Screws, see instruction sheets for further details
- 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 dedicated lighting branch circuit.
- Do not wire on same branch circuit as motors, 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.



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Part Number Matrix

T J I UNV 010 AC 9 40 B

Engine Type
 ⓐ J = DirectAC Engine Retrofit Kit (Classified)
Dimming
 T = TRIAC/ELV @120V Only

Input Voltage
 UNV = 120V~277V

Input Power
 010 = 10W

Material & Shape
 AC = MCPCB+wire Circular

CRI
 ⓐ 9 = 90

Color Temperature
 ⓐ 27 = 2700K
 ⓐ 30 = 3000K
 ⓐ 35 = 3500K
 ⓐ 40 = 4000K
 50 = 5000K

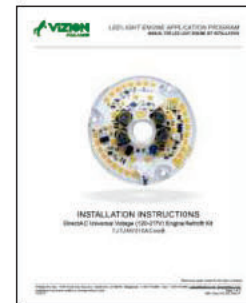
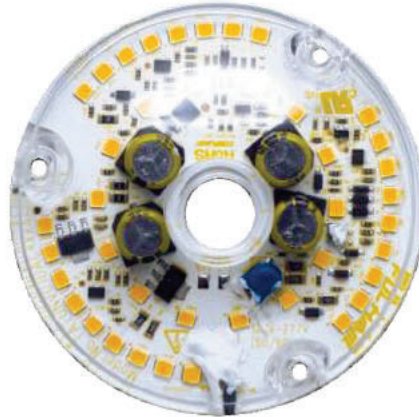
Option
 ⓐ B = DirectAC Engine+Lens (Retrofit Kit)

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.
- ⓐ Standard Product offering. (90CRI / 5000K option is made to order with MOQ and lead time.)
- ⓐ LED Engine Retrofit Kit includes mounting hardware, retrofit labels, and installation instructions.

Product Image: 10W DirectAC UNV Round Engine Kit

TJTUNV010AC9xxB



Avvertimento: Rischio d'incendio e d'elettrocuzione. cablaggio dei luminari e pezzi elettrici possono essere danneggiati lors du forage pour l'installation du kit de conversion à DEL. Vérifier le cablage 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



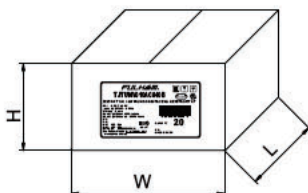
or



DirectAC UNV Retrofit Kit Engines:
 Hardware, Quick disconnect, Labels & Installation Instructions

Packaging

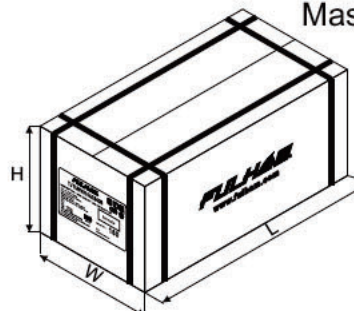
Carton



OUTER DIMENSION		
L	W	H
10.63"(270mm)	8.07"(205mm)	5.12"(130mm)
Net Weight	Gross Weight	QUANTITY
2.64 lbs. (1.20kg)	3.75 lbs. (1.70kg)	20pc.

Twenty (20) LED AC Engine retrofit kits inside each carton.

Master Carton



OUTER DIMENSION		
L	W	H
22.05"(560mm)	11.57"(435mm)	11.42"(290mm)
Net Weight	Gross Weight	QUANTITY
21.16 lbs. (9.60kg)	32.19 lbs. (14.6 kg)	160pcs.

Eight (8) cartons inside each Master Carton.



TJTUNV023AC9xxB

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DirectAC UNV 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 2.1 Listed (for rebate programs)^①
- Energy Star Luminaire CSD^①

General Specifications

Input Voltage / Frequency ^②	120~277VAC (+/- 10%) / 50-60Hertz
Input Current ^②	~0.192A @120V ~0.100A @230V ~0.083A @277V
Input Power ^②	23W (+/- 1W)
Input PF	>0.98
THD	<20%
Operating Frequency per Energy Star @120V/60Hz	120Hz
Max Lumen Output @ Full Power ^②	2159 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 to 50°C / -31°F to 122°F
Maximum Engine Case Temperature (Tc)	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= >21,000 hours
Color Consistency	Binning per ANSI C78.377-2015 @85°C; 3 SDCM
Overall Size	6.97" diameter x 0.71" H (177.04mm Dia. x 18.03mm H)
Wire Type/ Length	18AWG / 12" Black and White wires
LED Quantity	64 Pcs.
Weight	195.5g / 0.43lbs.
Packaging: Master Carton	24pcs
Maximum Screw Installation Torque	60in-lb (960in-ozf)
Safety/Compliance	DirectAC Engines: cURus (File # E486778) TATUNV023AxxxxA DirectAC Retrofit Kits: cULus (File # E486779) TJTUNV023AxxxxB RoHS Compliant Dry and Damp Location IC Over Temperature Control Energy Star Luminaire 2.1 Listed ^① Energy Star Luminaire CSD ^① CEC JA8-2016
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% / <0.0706
Protective Lens/Enclosure	High Voltage Barrier / 2.5mm Clear Polycarbonate 5VA Flame rated
Lens Transmittance	>92.5%
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



TJTUNV023AC9xxB

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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	TJTUNV023AC927B	23W	1981 lumens	86 lm/W
3000K	TJTUNV023AC930B	23W	2057 lumens	89 lm/W
3500K	TJTUNV023AC935B	23W	2083 lumens	91 lm/W
4000K	TJTUNV023AC940B	23W	2159 lumens	94 lm/W
5000K	TJTUNV023AC950B	23W	2210 lumens	96 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 @120V. 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.



TJTUNV023AC9xxB

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Thermal Specifications

⑤ DirectAC Engine Retrofit Kit (B)

Storage Temperature Range	-40°C (-40°F) to 80°C (176°F)
Operating Ambient Temperature Range (ta)	-35°C (-31°F) to 50°C (122°F)
Maximum Engine Case Temperature (Tc)	L70: Tc max=85°C (185°F) / L90: 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.

⑤ Suitable for surface mounted luminaire with minimum dimensions or volume: 8.5" Dia. x 4.75" H or 173.92 cubic inches








TJTUNV023AC9xxB

JA8-2016



Certification Chart

Energy Star™ TM-21 Calculator Data

Model	TJTUNV023AC9xxB
Classification	
	YES
	YES
	YES
	YES ^①
	YES ^①

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:

1) Energy Star CSD:

https://www.energystar.gov/products/lighting_fans/certified_lighting_subcomponent_database_csd

2) 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



TJTUNV023AC9xxB

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Compatible Tested Dimmers

(Contact Fulham for other alternatives)

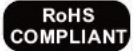
(TRIAC or ELV Dimmers)

Manufacture	Model	Type
Core	SI061BR-PTA	TRIAC (Leading Edge) Incandescent Analog
Legrand	ADTP703TUM4	Universal
Legrand	RH703PTC	TRIAC (Leading Edge) Incandescent Analog
Legrand	RH703PTUTC	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 Engine/Kit (23W)				CFL					
Engine/Kit Part Number	System Wattage	Lumen Output	Efficacy	CFL Style	Lamp Wattage	# of Lamps	Total Wattage	Lumen Output	Efficacy
TJTUNV023AC9xxB	23W	2159 lm (4K/90CRI)	94 lm/W	Quad	13W	3	39W	2475 lm	59 lm/W
					18W	2	36W	2150 lm	
				Triple	13W	3	39W	2535 lm	59 lm/W
					18W	2	36W	2040 lm	56 lm/W
					32W	1	32W	2040 lm	63 lm/W
					42W	1	42W	2720 lm	64 lm/W
				Circline T9	32W	1	32W	1500 lm	46 lm/W
					40W	1	40W	1975 lm	49 lm/W

NOTES:

- 1) For reference only, several factors apply.
- 2) Emergency systems are not UL classified for field installation.



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Flicker Test Data Summary

(Test performed by third party lab using, Lutron S-600P dimmer)

With Dimmer at 100%

100% Light Output Percent Amplitude Modulation					
No Filter	40 Hz	90 Hz	200 Hz	400 Hz	1000 Hz
24.65%	0.29%	1.78%	23.07%	23.76%	23.92%
Measurement Period:			Noise:		20.4 dBA
Recording Interval:			Fraction of rated light output:		100%
Flicker Index:			0.0706		

With Dimmer at 20%

20% Light Output Percent Amplitude Modulation					
No Filter	40 Hz	90 Hz	200 Hz	400 Hz	1000 Hz
24.17%	0.92%	2.65%	17.35%	21.53%	23.08%
Measurement Period:			Noise:		19.9 dBA
Recording Interval:			Fraction of rated light output:		19%
Flicker Index:			0.0571		

With Dimmer at Minimum Light Output

Minimum Light Output Percent Amplitude Modulation					
No Filter	40 Hz	90 Hz	200 Hz	400 Hz	1000 Hz
20.18%	0.80%	1.65%	13.20%	16.88%	17.58%
Measurement Period:			Noise:		20.5 dBA
Recording Interval:			Fraction of rated light output:		9%
Flicker Index:			0.0411		



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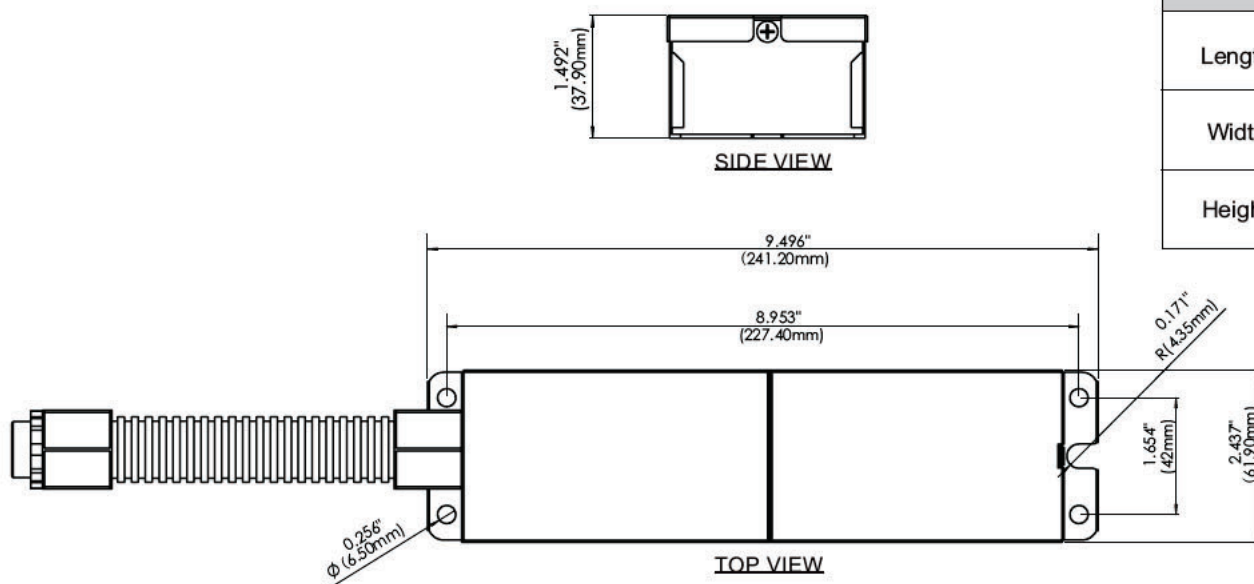


Battery Backup Option

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

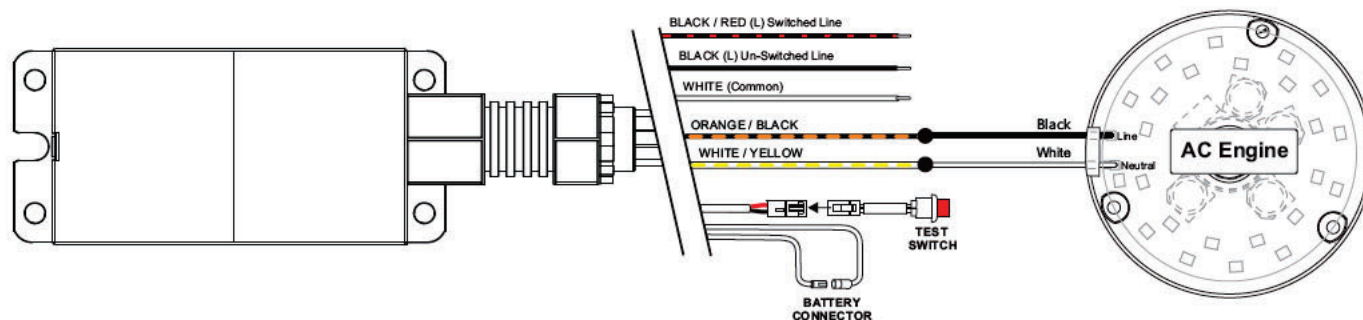


Mechanical Drawing



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>



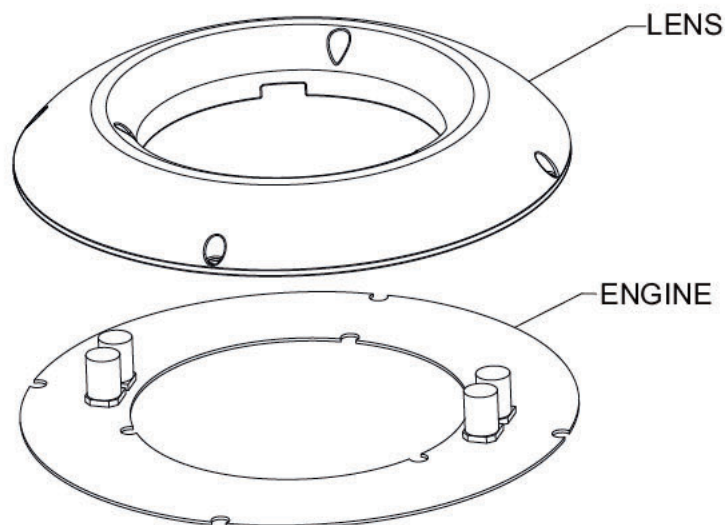
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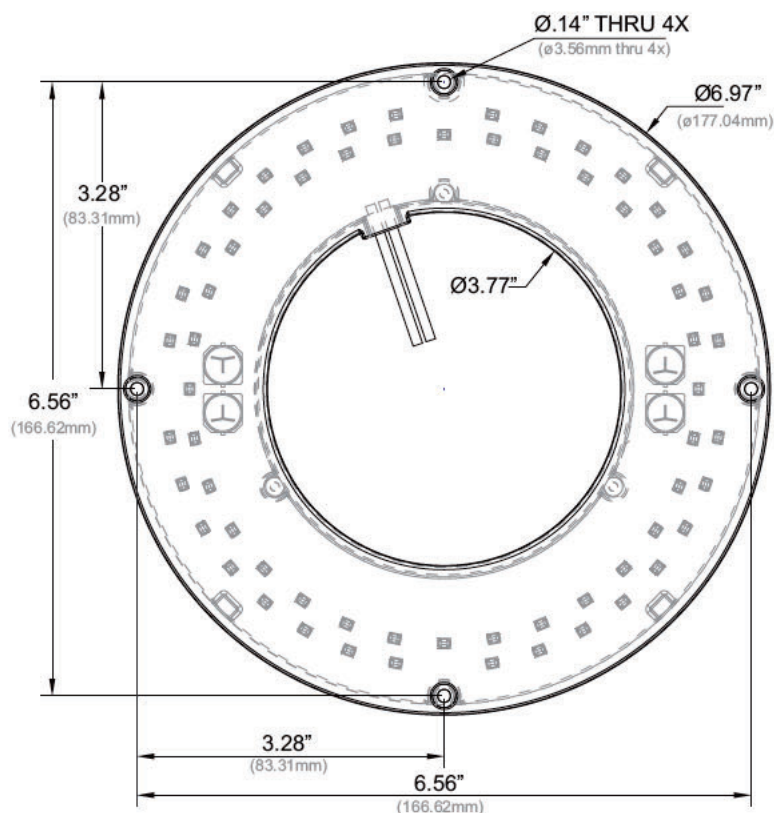
Mechanical Drawings

(Scale 13 : 20)



Overall Dimensions	
Diameter	6.97" [177.04mm]
Height	0.71" [18.03mm]
Wire Length AC Input (Black / White)	12" [304.8mm]

Exploded View



Top View



Side View

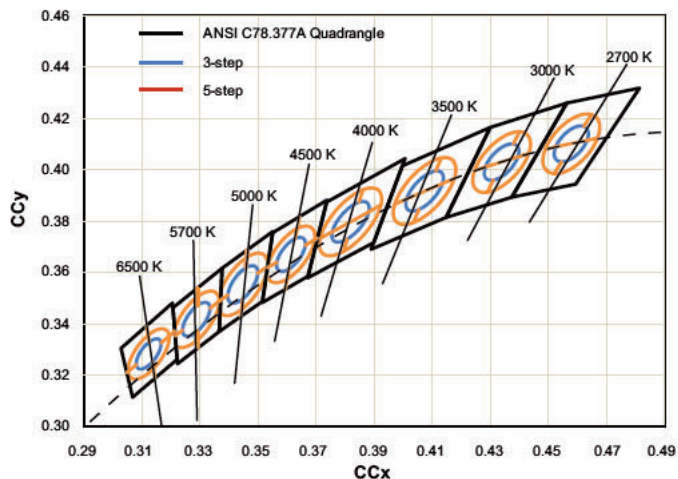


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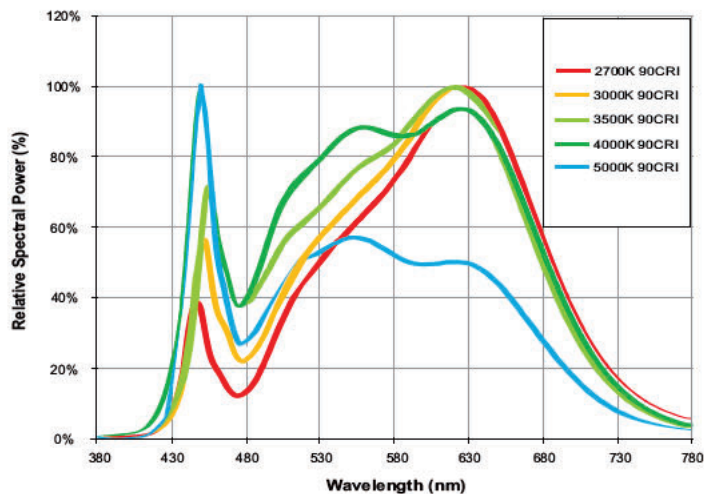
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Color and Binning



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.

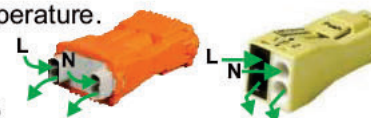
Termination Notes

- 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>



Daisy Chain

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. Fulham provides four 6-20 X 5/8" Flat Head Self Drilling Screws, see instruction sheets for further details
- 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 dedicated lighting branch circuit.
- Do not wire on same branch circuit as motors, 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.



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Part Number Matrix

T J I UNV 023 AC 9 40 B

Engine Type	Dimming	Input Voltage	Input Power	Material & Shape	CRI	Color Temperature	Option
② J = DirectAC Engine Retrofit Kit (Classified)	T = TRIAC/ELV @ 120V Only	UNV = 120V~277V	023 = 23W	AC = MCPCB+wire Circular	② 9 = 90	② 27 = 2700K ② 30 = 3000K ② 35 = 3500K ② 40 = 4000K 50 = 5000K	② B = DirectAC Engine+Lens (Retrofit Kit)

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.
- ② 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: 23W DirectAC UNV Round Engine Kit

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Installation Instructions

Avvertimento: Rischio d'incendio e d'elettrocuzione. cablaggio dei luminari e parti elettriche possono essere danneggiati durante il foraggio per l'installazione del kit di conversione a DEL. Verificare il cablaggio e le componenti in-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



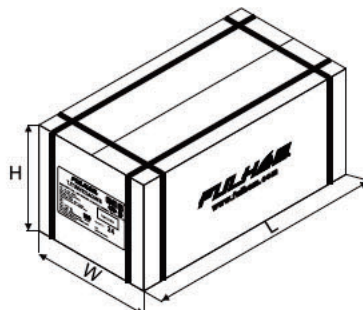
or



DirectAC UNV Retrofit Kit Engines:
Hardware, Quick disconnect, Labels & Installation Instructions

Packaging

Master Carton



OUTER DIMENSION		
L	W	H
16.92"(430mm)	16.92"(430mm)	8.07"(205mm)
Net Weight	Gross Weight	QUANTITY
11.02 lbs. (5.00kg)	13.22 lbs. (6.00kg)	24pcs.

Twenty-Four (24) Individual DirectAC LED Engine bags inside each Master Carton.