D4 Post Top Retrofit Kit

INSTALLATION GUIDE

The D4 Post Top Retrofit Kits from Vega Light Control Systems

- **Designed as an easy and reliable way to convert existing fixtures**
- **Alternative to HID lamps, up to 300W MH and 200W HPS**
- **Use for pole heights up to 30 feet**
- **Eliminates mercury & lead**
- **Reduce carbon footprint & light pollution.**
- **Tested to the most demanding industry standards:**
  - **LM-79, LM-80, In-Situ, TM-21, and DLC**
  - **surge testing to UL 1449 3rd edition**
  - **UL 1598C 1st Ed. and CSA TIL B-79A**

PLEASE READ ALL INSTRUCTIONS BEFORE ATTEMPTING INSTALLATION

⚠ WARNING

- **RISK OF FIRE OR ELECTRIC SHOCK. INSTALLATION OF THIS RETROFIT ASSEMBLY REQUIRES A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE LUMINAIRE'S ELECTRICAL SYSTEM. IF NOT QUALIFIED, DO NOT ATTEMPT INSTALLATION. CONTACT A QUALIFIED ELECTRICIAN.**
- **RISK OF FIRE OR ELECTRIC SHOCK. INSTALL THIS KIT ONLY IN THE LUMINAIRES THAT HAS THE CONSTRUCTION FEATURES AND DIMENSIONS SHOWN IN THE PHOTOGRAPHS AND/OR DRAWINGS AND WHERE THE INPUT RATING OF THE RETROFIT KIT DOES NOT EXCEED THE INPUT RATING OF THE LUMINAIRE.**
- **RISK OF FIRE OR ELECTRIC SHOCK. LUMINAIRE WIRING AND ELECTRICAL PARTS MAY BE DAMAGED WHEN DRILLING FOR INSTALLATION OF LED RETROFIT KIT. CHAECK FOR ENCLOSED WIRING AND PARTS.**
- **ONLY THOSE OPEN HOLES INDICATED IN THE PHOTOGRAPS AND/OR DRAWINGS MAY BE MADE OR ALTERED AS A RESULT OF KIT INSTALLATION. DO NOT LEAVE ANY OTHER OPEN HOLES IN AN ENCLOSURE OF WIRING OR ELECTRICAL COMPONENTS.**
- **DO NOT MAKE OR ALTER ANY OPEN HOLES IN AN ENCLOSURE OF WIRING OR ELECTRICAL COMPONENTS DURING KIT INSTALLATION.**
- **TO PREVENT WIRING DAMAGE OR ABRASION, DO NOT EXPOSE WIRING TO EDGES OF SHEET METAL OR OTHER SHARP OBJECTS.**
- **THIS RETROFIT KIT IS ACCEPTED AS A COMPONENT OF A LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY AUTHORITIES HAVING JURISDICTION.**

AVERTISSEMENT

- **RISQUE D'INCENDIE OU DE CHOC ÉLECTRIQUE. L'INSTALLATION DE CE NÉCESSAIRE DE MODERNISATION EXIGE UNE PERSONNE FAMILIÈRE AVEC LA CONSTRUCTION ET LE FONCTIONNEMENT DU SYSTÈME ÉLECTRIQUE DU LUMINAIRE ET DES RISQUES ASSOCIÉS. TOUTE PERSONNE QUI N'EST PAS QUALIFIÉE NE DOIT FAIRE AUCUNE TENTATIVE D'INSTALLATION ET DOIT CONTACTER UNE PERSONNE QUALIFIÉE.**
- **RISQUE D'INCENDIE OU DE CHOC ÉLECTRIQUE. N'INSTALLER CE NÉCESSAIRE QUE DANS LES LUMINAIRES DONT LES CARACTÉRISTIQUES DE CONSTRUCTION ET LES DIMENSIONS SONT CONFORME À CELLES ILLUSTRÉES DANS LES PHOTOS ET/OU LES DESSINS ET DONT LA PUISSANCE D'ENTRÉE NOMINALE DU NÉCESSAIRE DE MODERNISATION NE DÉPASSE PAS CELLE DU LUMINAIRE.**
- **IL EST INTERDIT DE FAIRE OU DE MODIFIER UNE OUVERTURE DANS UN BOÎTIER DE CÂBLAGE OU DE COMPOSANTS ÉLECTRIQUES AU COURS DE L'INSTALLATION DU NÉCESSAIRE.**
- **AFIN DE PRÉVENIR L'ENDOMMAGEMENT OU L'ABRASION DES CÂBLES, ÉVITER TOUT CONTACT ENTRE CES DERNIERS ET LE BORD D'UN OBJET TRANCHANT TEL QU'UNE TÔLE.**
- **LE NÉCESSAIRE DE MODERNISATION EST ACCEPTÉ À TITRE DE COMPOSANT D'UN LUMINAIRE LORSQUE LA PERTINENCE DE LA COMBINAISON DOIT ËTRE DÉTERMINÉE PAR PAR LES AUTORITÉS COMPÉTENTES**

NOTICE

- TO AVOID ELECTRIC SHOCK, DISCONNECT POWER BEFORE ATTEMPTING INSTALLATION OR SERVICING.
- TO PREVENT ELECTRIC SHOCK THIS PRODUCT MUST BE PROPERLY GROUNDED.
- INSTALLATION MUST BE STRUCTURALLY SOUND TO PREVENT PERSONAL INJURY DUE TO FIXTURE COLLAPSE.
- USE CAUTION WHEN HANDLING DURING OR AFTER OPERATION AS IT MAY BECOME HOT AND CAUSE BURNS.
- FAILURE TO INSTALL THIS PRODUCT IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC), OR THE CANADIAN ELECTRICAL CODE (CSA 22.1), ALL APPLICABLE FEDERAL, STATE AND LOCAL ELECTRIC CODES AS WELL AS THE SPECIFIC UNDERWRITERS LABORATORIES (UL) SAFETY STANDARDS FOR THE INSTALLATION, LOCATION AND APPLICATION MAY CAUSE UNSAFE SITUATIONS LEADING TO SERIOUS PERSONAL INJURY, DEATH, PROPERTY DAMAGE AND/OR PRODUCT MALFUNCTION.
- THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.
- FAILURE OF FIXTURE TO PROVIDE SUFFICIENT WEATHER PROTECTION VOIDS WARRANTY.
- TO PREVENT EARLY PRODUCT FAILURE, THIS PRODUCT SHOULD BE INSTALLED IN OPERATING ENVIRONMENTS WITH MAXIMUM MEAN FIXTURE AMBIENT OPERATING TEMPERATURE FOR LED RETROFIT MODULE: 104°F (40°C); MAXIMUM AMBIENT OPERATING TEMPERATURE CANNOT EXCEED 140°F (60°C).
- INSTALLATION REQUIREMENTS MAY VARY DEPENDING ON THE LUMINAIRE RETROFITTED.
- IF UNCERTAIN, CONTACT VEGA LIGHT CONTROL SYSTEMS CUSTOMER SERVICE TO EVALUATE APPLICABILITY TO FIXTURE. SUPPORT@VEGALIGHTCONTROL.COM, PHONE: 616-259-0700

1. PRODUCT OVERVIEW

1.1. D4 Post Top Retrofit Specifications

LED Light Engine
- 30W, 40W, 60W, and 80W Versions
- 2200K, 3000K, 4000K and 5000K CCT Available
- Type 3 and Type 5 Available
- True photometric performance through silicone optics
- Dimming Options:
    - 0-10vdc dimming available
    - Timer based overnight schedules

Mechanical Details
- 4.73” & 5.91” Diameter Light Engines fit ALL globes
- Telescoping center post for height adjustment, field settable
- Universal Mounting plates available in 4 sizes; 6.25”, 6.5”, 7” or 8” diameter
- Brand specific quick change mounting plates also available
- Power supply housing and bracket designs to mount above, midway, or below globe/fixture base
- Downlight light option for suspended LED engine in shoeboxes, pendants, and colonials.

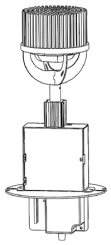
Performance Details
- 5 Year replacement warranty, extended warranties available
- 18kA series surge suppression designed to UL1449 3rd edition
- Drivers qualified to:
    - Life > 50,000 hours
    - power factor of ≥0.9
    - THD of ≤20%
- LEDs qualified to:
    - DLC Premium models – L70 of 100,000 hours minimum, L90 of 36,000 hours min.
    - DLC Standard models – L70 better than 50,000 hours

1.2. Products Covered

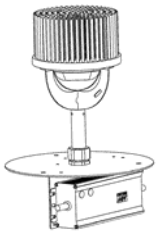
P/N Format: D4 - (style)(watts) - (cct)K - T(type)M - (mounting) - (dimming)

Full Enclosure Kit	Style	Watts	-	CCT	-	Type	-	Mounting	-	Dimming	*Mounting Code Details*
	D4-F	30	-	22K	-	T5M	-	625	-	STD	*Universal 6.25" plate*
	D4-F	40	-	30K	-	T3M	-	6S	-	DIM	*Universal 6.5" plate*
	D4-F	60	-	40K			-	7S	-	PXYZ#	*Universal 7" plate*
		(80 NA)	-	50K			-	8N			*Universal 8" plate*
							-	C###			*Other custom configurations*
							-	H###			*"H" prefix is high output version*

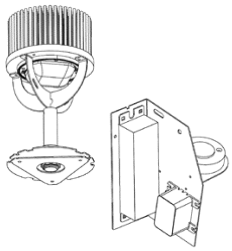
Typical Application: Generic shallow fitter where ballast was mounted under cover above fitter

Mid Mount Kit	Style	Watts	-	CCT	-	Type	-	Mounting	-	Dimming	*Mounting Code Details*
	D4-M	30	-	22K	-	T5M	-	CHBTL	-	STD	*Hadco B Twistlock*
	D4-M	40	-	30K	-	T3M	-	CHBSP	-	DIM	*Hadco B Pin & Screw*
	D4-M	60	-	40K			-	CSBSC	-	PXYZ#	*Sternburg Spring Clips*
	D4-M	80	-	50K			-	CSBTL			*Sternburg Twistlock*
							-	H###			*"H" prefix is high output version*
							-	#XX			*Universal Plates above also applicable*

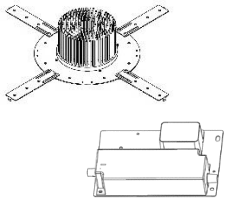
Typical Application: Deeper fitters such as petal style where ballast was mounted into fitter by top plate/cover.

Granville Classic Kit	Style	Watts	-	CCT	-	Type	-	Mounting	-	Dimming	*Mounting Code Details*
	D4-H	30	-	22K	-	T5M	-	CGVC7	-	STD	*Granville Classic 7" Fitter or 4" Fitter*
	D4-H	40	-	30K		(T3M - NA)	-	HGVC7	-	DIM	*"H" prefix is high output version*
	D4-H	60	-	40K					-	PXYZ#	
		(80 NA)	-	50K							

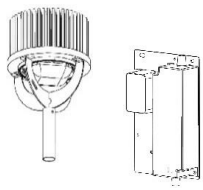
Typical Application: Specific configuration for mounting in Granville Classic 7" and 4" fitters with 19" glass globes. One piece assembly

Granville Premier Kit	Style	Watts	-	CCT	-	Type	-	Mounting	-	Dimming	*Mounting Code Details*
	D4-H	30	-	22K	-	T5M	-	CGPCS	-	STD	*Granville Premier w/ Photo Control Socket*
	D4-H	40	-	30K		(T3M - NA)	-	CGPNS	-	DIM	*Granville Premier w/o Photo Control Socket*
	D4-H	60	-	40K			-	H###	-	PXYZ#	*"H" prefix is high output version*
		(80 NA)	-	50K							

Typical Application: Specific configuration for mounting in Granville Premier fitters with 19" glass globes. Two piece assembly.

Downlight Kit	Style	Watts	-	CCT	-	Type	-	Mounting	-	Dimming	*Mounting Code Details*
	D4-S	30	-	22K	-	T5M	-	DNLT	-	STD	*120mm Light Engine flexible Downlight Kit*
	D4-S	40	-	30K	-	T3M	-	DNLT2	-	DIM	*150mm Light Engine flexible Downlight Kit*
	D4-S	60	-	40K			-	CADJ1	-	PXYZ#	*14" to 23" span, Larger fixture Downlight Kit*
	D4-S	80	-	50K			-	C###			*Other custom configurations*
							-	H###			*"H" prefix is high output version*

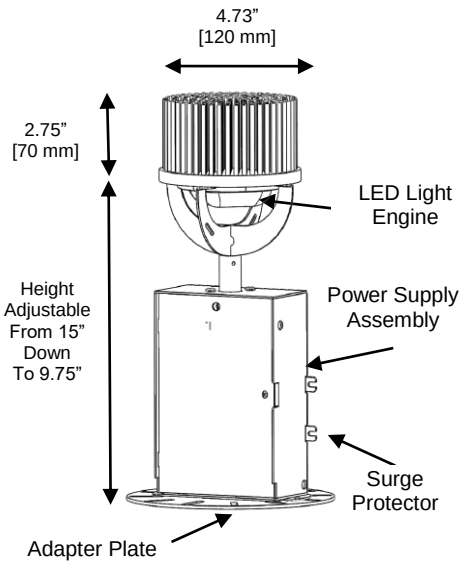
Typical Application: Shoebox, Pendant, and Colonial fixtures. Light Engine mounts separately on adjustable arms.

OEM Components Kit	Style	Watts	-	CCT	-	Type	-	Mounting	-	Dimming	*Mounting Code Details*
	D4-C	30	-	22K	-	T5M	-	COEM1	-	STD	*OEM Customer, configuration 1*
	D4-C	40	-	30K	-	T3M	-	CCC01	-	DIM	*OEM Customer CC, configuration 1*
	D4-C	60	-	40K			-	CCC02	-	PXYZ#	*OEM Customer CC, configuration 2*
	D4-C	80	-	50K			-	C###			*Other custom configurations*
							-	H###			*"H" prefix is high output version*

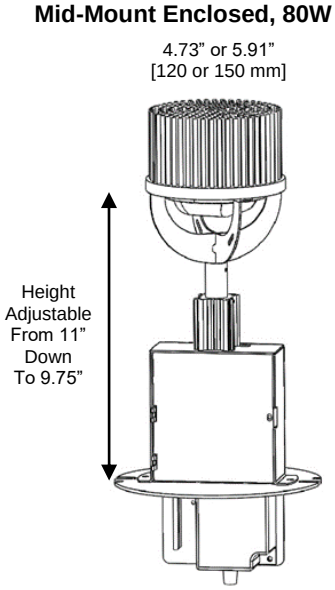
Typical Application: LED Light Engine and Power supply only. OEM provides light engine mount.

1.3. D6 LED Retrofit Kit Product Description

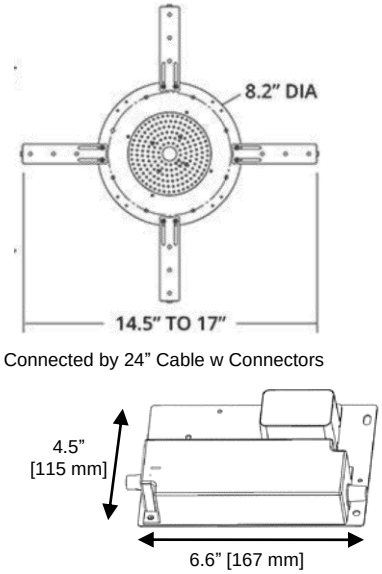
D4-F Model
Fully Enclosed, 60W Max



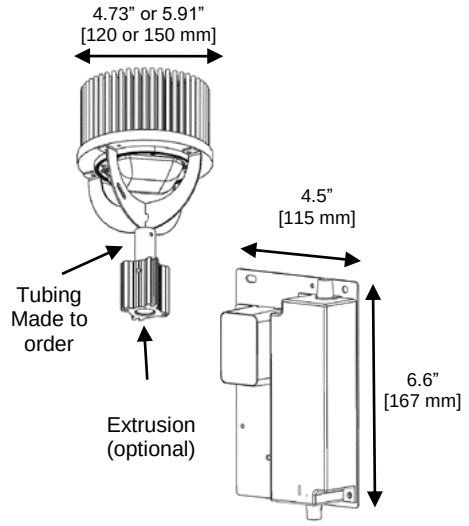
D4-M Model
Mid-Mount Enclosed, 80W Max



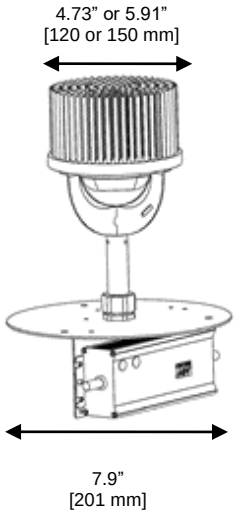
D4-S Down Light Model
with Side Brackets*



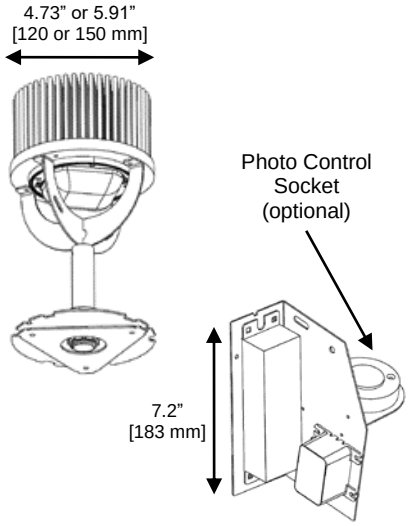
D4-C Model
Socket Replacement



D4-H CGVC Model
Granville Classic, 60W Max



D4-H CGVP Model
Granville Premier, 60W Max



Part included in kit as needed:

Required Tools and Hardware (Not provided)
- Flat and Phillips Head Screwdriver, Pliers, Wire strippers, Screws retained from fixture

Notes:
- Product has been properly packed to the protect during transit. Inspect and notify the distributor or shipping agent of any damage found.
- For additional information visit www.vegalightcontrolsystems.com, email support@vegalightcontrol.com or call 616-259-0700

* Side Brackets may be used to the span the width of a fixture or used to screw mount LED light engine to the hood of a light.

1.4. Fixture Considerations

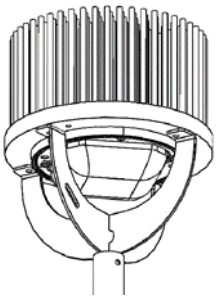
1. **Do not use a Type 3 LED Light Engine in a Refracted Globe.** Type 3 Refracted globes will effectively convert the T5M retrofit kit into a Type 3 distribution in globes such as the Lindy Type 3 and the Granville Type 3.

2. **Do not mount LED Light Engine too high in the globe.** The LED Light Engine needs adequate air space above it to dissipate heat. Additional air space may be needed for Tc limits as shown below.

3. The arc tube height of the previous HID system is typically the proper height for the LED mounting. This is especially true for refracted globes to maintain the proper pattern of light to the ground and avoid excessive up light.

4. Example Globes vs LED height settings:
   - ✓ LexaLite Lindy 424 globe arc tube height is designed at 11.3” from the base of the globe.
   - ✓ LexaLite Lindy 408 globe performs best at LED height set 8” from the base of the globe.
   - ✓ Crown 88266-CL has an optimum output when set 13” from the base of the globe.

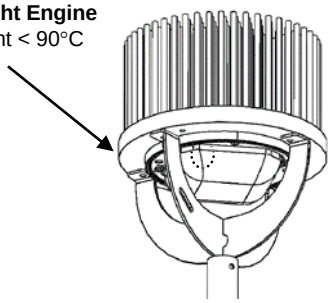
This LED surface is should be installed at the previous arc tube height.



When the arc tube height is unknown, place the LED height at the center of the globe.

5. Measure the maximum temperature achieved at the locations shown below after at least 2 hours under power inside fixture. Take that temperature and add the difference between room temperature and 40C to calculate the maximum Tc.
   - ✓ For example: Room is 22C, Tc measured is 62C, the compensated maximum Tc is 80C

LED Light Engine
Tc Point < 90°C



Meanwell Power Supply
Tc Point < 85°C
Measured at center of label

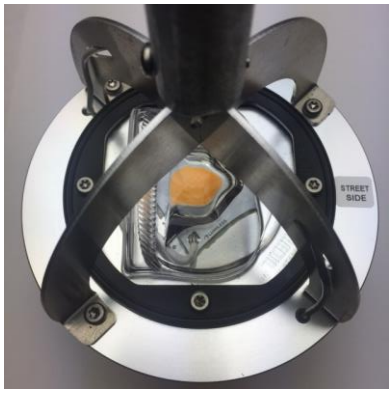
Osram Power Supply
Measured at marked Tc Point < 85°C

Remove power supply cover as needed to reach Tc point on power supply

6. When using Type 3 LED Retrofit Kits orient the LED Light Engine as shown below

120mm 30-60W LED Light Engine

House Side

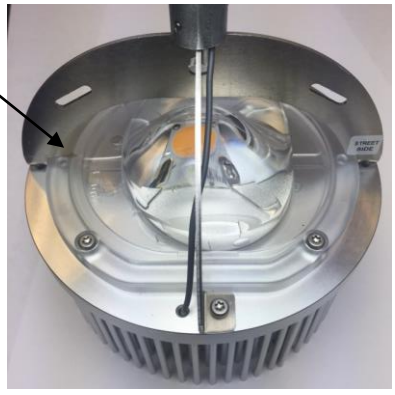


Street Side

150mm 80W LED Light Engine

Street Side Arrow

House Side



Street Side

2. INSTALLATION INSTRUCTIONS

- Refer to fixture installation manual for fixture mounting procedures
- Please refer to www.vegalightcontrolsystems.com for additional install instructions

WARNING
Risk of electric shock
Disconnect power before servicing

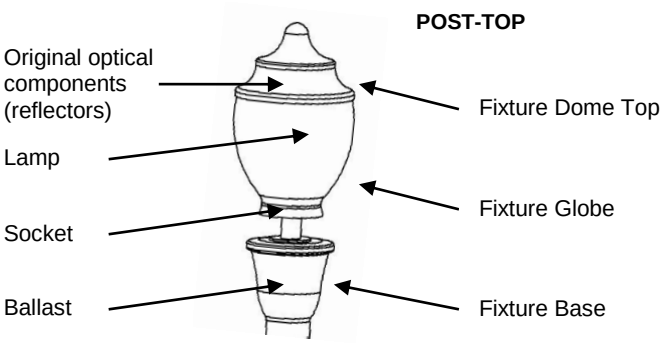
WARNING
Risk of burn
Allow unit to cool fully before servicing

2.1. STEP 1: Prepare fixture for installation

- Turn power off before attempting installation
- Remove lamp, original optical components, socket, and ballast
- Remove internal reflectors or Lite Lid
- If photocell-controlled, connect unit after external control

Note: Failure to remove original components including ballast will void product warranty.

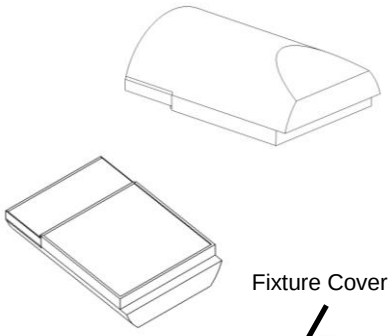
POST-TOP



Note: Kits are available for specific targeted luminaries

Holophane:
Granville Premier cat. No. GVP
Granville Classic cat. No. GV

SHOEBOX

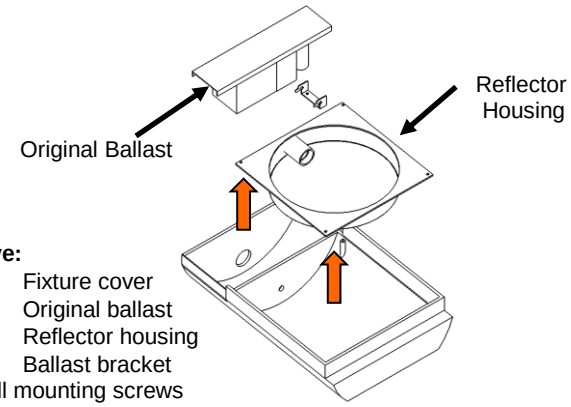


Note: Minimum Total Fixture Dimensions

- ✓ Width – 12”
- ✓ Depth – 17”
- ✓ Height – 6”

Note: Kits are available for specific targeted luminaries

RUUD model PR series



Remove:

- Fixture cover
- Original ballast
- Reflector housing
- Ballast bracket

Save all mounting screws

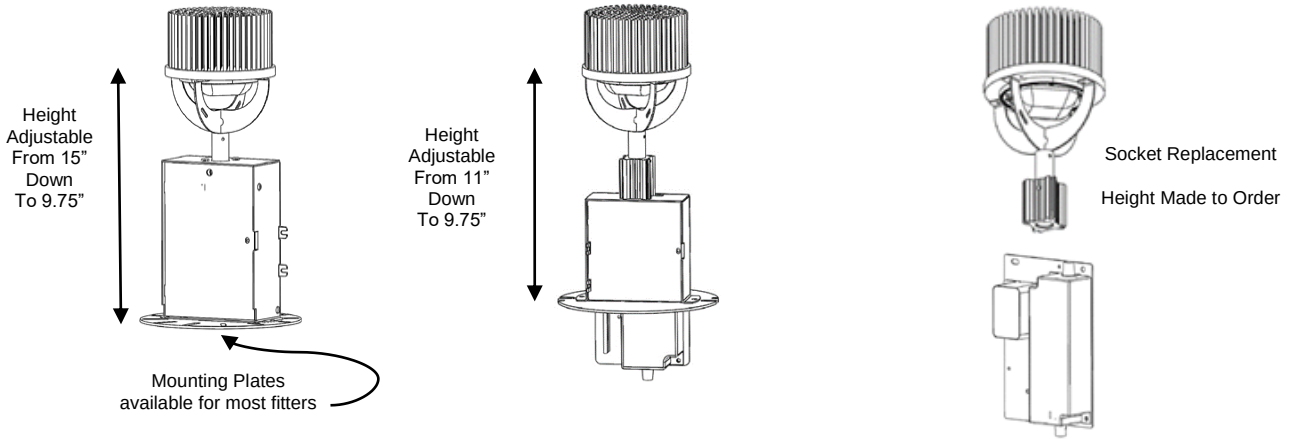
2.2. STEP 2: Fitting of LED Retrofit Kit into Fixture

- Review the various mounting configurations on the following pages and select the most applicable model
- Select and install appropriate mounting accessories if needed
- Based on the fixture type, configure power supply assembly, brackets, and height (see 1.4.2-5)

CENTER POLE MOUNTING

Recommended Fixtures:

- Post Top



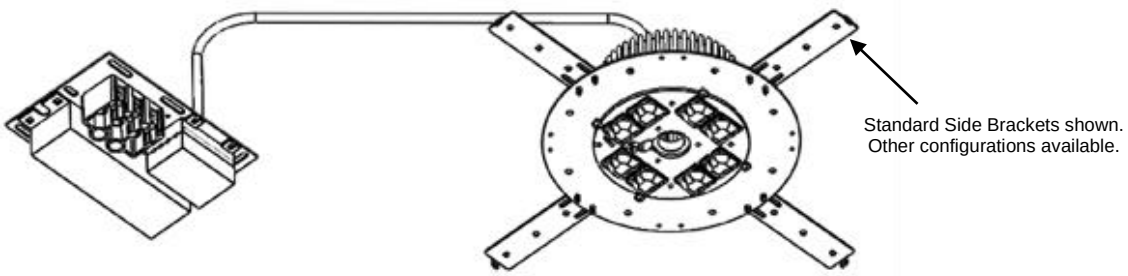
Notes:

- Center Pole Mounting height can be adjusted using the included hex key to loosen set screw and slide LED to needed position. Be sure to also pull or push LED cable into position while adjusting height. After adjusting height, tighten set screw enough to hold tube, then tighten another ½ turn with hex key. (see 1.4.2-4)
- Side brackets can be adjusted, bent, trimmed, or special ordered to span or offset LED mounting height.
- Allow adequate space around all sides of LED Light Engine from fixture or globe. (see 1.4.5)
- Order a lower wattage of kit if install is still exceeding Tc limits with LED kit properly positioned.
- Assembled Retrofit Kit may be special ordered configured ready to drop into light fixture. These options include:
  - Size and position of mounting plate and or custom mounting plates
  - Height of Light Engine set to specified height

SIDE BRACKET MOUNTING

Recommended Fixtures:

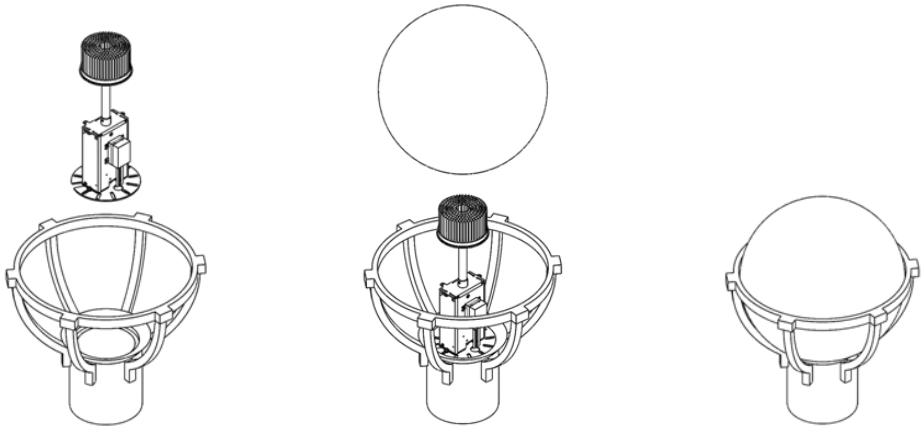
- Shoebox
- Pendant
- Colonial



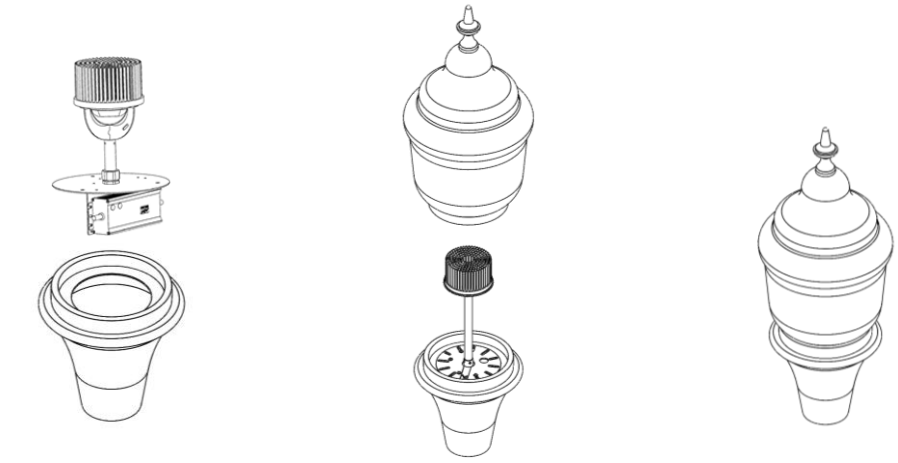
2.3. STEP 3: Install retrofit kit in fixture

CENTER POLE MOUNTING

Power Supply Above or Mid Mount



Power Supply Down below Mounting Plate

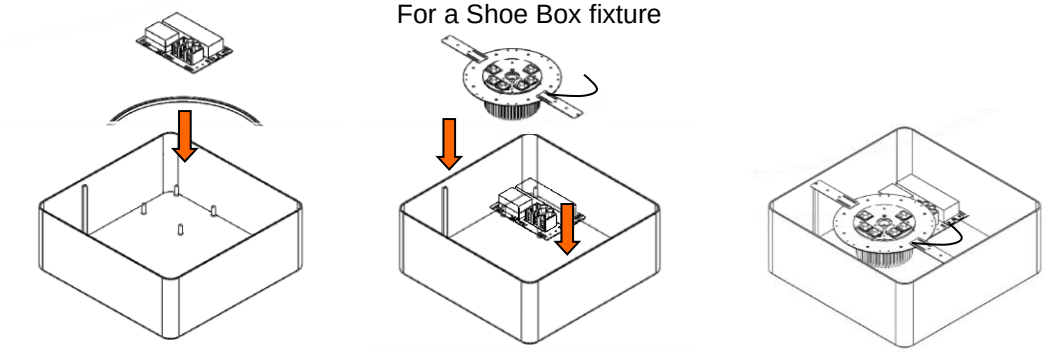


Notes:

- For Type 3, ensure LED head is rotated with “Street Side” of light engine facing the street (see 1.4.6)
- Re-use screws previously holding HID ballast to fixture to attach Retrofit Kit when possible. Additional hardware maybe required.
- For Post Top fixtures, LED Light should be installed to maintain cooling clearance above heatsink and at arc tube height of replaced HID. (see 1.4.5)
- Restore the original light fixture sealing for water and insect control. Rain water must not enter the wiring compartment.

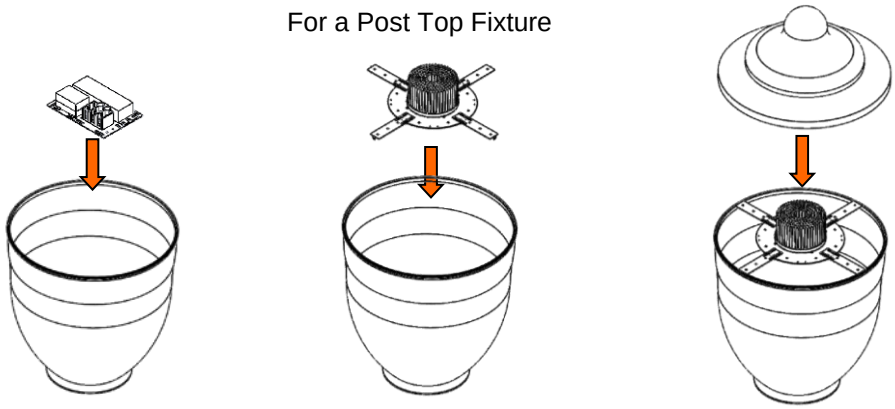
SIDE BRACKET MOUNTING

For a Shoe Box fixture



Note: Screws used to mount LED module and power supply in fixture are existing screws from previous HID system.

For a Post Top Fixture



Note: Screws used to mount LED module and power supply in fixture are existing screws from previous HID system.

Notes:

- Additional hardware maybe required to mount LED Retrofit Kit in fixture
- Re-use screws previously holding HID ballast to fixture to attach Retrofit Kit when possible.
- LED Light should be installed to maintain cooling clearance above heatsink (see 1.4.5)
- For Type 3, ensure “Street Side” of light engine faces the street

2.4. STEP 4: Make electrical connections

- Connect line voltage wires using wire nuts as shown in the wiring diagram in Section 3
  - Strip wires appropriately for the wire nuts utilized, 3/8” for those included in the kit.
  - The surge protector and power supply are universal voltage.
  - The white wire may be either Neutral or Line.
  - Green/Yellow wire is tied to grounding conductor.
- Connect low voltage wires if they are separated during install.
  - Plug connectors together when supplied with 2 pin Molex connectors between LED and driver.
  - If loose wires connect White LED wire to positive driver lead (Red) and Gray LED wire to negative driver lead (Black or Blue) using pre-installed Lever Nuts.
- If photocell-controlled or remote controlled, connect Retrofit Kit to output of the control

2.5. STEP 5: Secure fixture components

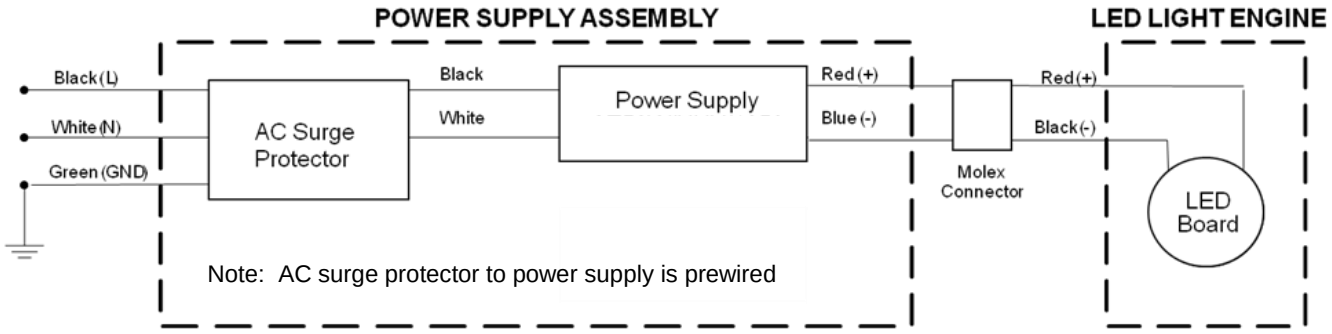
- Secure fixture components and restore original light fixture sealing for water and insect control.

3. ELECTRICAL INSTRUCTIONS

3.1. Wiring diagram after installation

AC POWER SIDE
120-277 VAC

LED SIDE 36 VDC.
18AWG Wires



4. RELATED INFORMATION

4.1. Maintenance and Cleaning

- Periodic cleaning of fixture will ensure operation at maximum optical efficiency
- Refer to fixture installation instructions for maintenance and cleaning guidelines
- Even though LED Retrofit Kit may continue to light after the specified lifetime has passed, it must be replaced in order to maintain appropriate light levels

4.2. List of applicable and related Documents

- D4 LED Retrofit Kit Product Information Brochure

5. Troubleshooting

Condition	Possible Reason(s)	Recommended Action
AC surge protector damaged	Surge protector unable to protect unit	1. Verify AC voltage at both input and output of surge protector. 2. If within warranty period, contact VEGA sales representative for RMA. 3. If out of warranty period, contact VEGA sales representative for information to replace surge protector.
LEDs are dim or not lit	1. DC Cable is unplugged. 2. Power supply has failed 3. LED board is damaged	1. Connect the DC Cable by plugging together the two Molex connectors 2. To identify failed power supply, use clamp meter (tongs) to measure output current. Replace if below rated current. Before replacing power supply, verify AC voltage through surge protector. 3. If within warranty period, contact VEGA sales representative for RMA. If not within warranty period, LED Light Engine should be replaced as it is not user serviceable.
Difficulty experienced during mounting	---	Contact VEGA representative for recommended action support@vegalightcontrol.com 616-259-0700 OR visit www.vegalightcontrolsystems.com for additional reference designs.