

# VKMUNV012RD930A



## VividHorse UNV CCT Selectable DC Engine Retrofit Kit with 0-10V Dimming

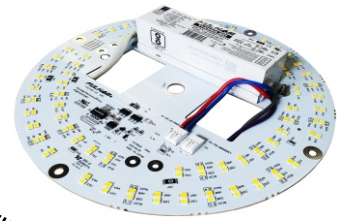
- Universal Voltage (120~277) DC Engine
- CCT Selectable: 2700K, 3000K, 3500K, 4000K, 4500K, 5000K
- CRI90 standard
- Potassium Fluorosilicate (PFS) phosphor LEDs to achieve as high efficacy as today's CRI80 LEDs
- Suitable for open or fully enclosed luminaires
- Suitable for luminaires with plastic and glass lenses
- cULus Classified 1598C
- cULus Recognized 8750
- Energy Star Luminaire 2.2 Listed and CSD<sup>①</sup>

### General Specifications

|   |  |
|---|--|
| Input Voltage <sup>②</sup>  | 120~277VAC (+/- 10%)   |
| Input Current <sup>②</sup>  | ~0.122A @120V      ~0.055A @277V   |
| Input Power <sup>②</sup>  | 14.5W  |
| Input PF  | >0.98  |
| THD   | <20%   |
| Input Frequency   | 50/60Hz  |
| Module Operating Voltage  | 33.4VDC  |
| Max Lumen Output @ Full Power <sup>②</sup>                          | 2160 lumens @ 4000K/90CRI  |
| Dimming Type/Range  | 0-10V / 100% ~ 10%   |
| Beam Angle  | 120°   |
| Color Rendering Index   | CRI (Ra) >=90 / R9 >=50 / TM-30 R <sub>a</sub> >=85 / TM-30 R <sub>g</sub> >=100   |
| Storage Temperature Range   | -35°C to 100°C / -31°F to 212°F  |
| Operating Ambient Temperature Range (Ta)                            | -35°C to 60°C / -31°F to 140°F   |
| Maximum Driver Case Temperature: per UL/ 5 year warranty            | 90°C (194°F) / 80°C (176°F)  |
| Maximum Module Case Temperature                                     | Safety: 105°C(221°F)/ L70(>60Khrs): 105°C(221°F)/ L90(36Khrs): 96°C(204.8°F)   |
| Estimated Lumen Maintenance   | L70= >60,000 hours @ Tc max 105°C / L90= 36,000 hours @ Tc max 96°C  |
| Color Consistency   | Binning per ANSI C78.377-2015 @25°C; Typ. 3 SDCM, Max. 5 SDCM  |
| Inrush Current / Duration   | 5A @ 277V / 100us  |
| Line Regulation / Load Regulation                                   | <1% @100% Load / <3% @100% Load  |
| Total Overall Ripple LF (<300Hz)/ HF(<40kHz) peak to peak           | <5% @100% Load   |
| Low Frequency Ripple (120Hz ripple peak to peak)                    | <5% @100% Load   |
| Flicker Percentage  | <7% @100% - 20% Dimming Range<br><5% @<20% Dimming Range   |
| Flicker P <sub>st</sub> / SVM @ Min. Dimming Level per NEMA 77-2017 | P <sub>st</sub> : 3.789    SVM: 0.620  |
| Start-up Time / Standby Power                                       | <500ms / <1W No Load   |
| Overall Size  | 7.83"Dia. x 0.92"H (199mm Dia. x 23.35mm H)  |
| Wire Type/ Length   | 18AWG / 12" Black and White wires (Input 120~277VAC)<br>18AWG / 12" Purple and Pink wires (Dimming 0-10VDC)  |
| LED Quantity  | 72pcs. CW + 72pcs. WW  |
| Driver Part Number  | T1M1UNV0350-15L  |
| Module Part Number  | VMU095034RD9TWA  |
| Weight  | 320g / 0.71lbs.  |
| Packaging: Master Carton  | 20pcs  |
| Maximum Screw Installation Torque                                   | 35in-lb (560in-ozf)  |
| Safety/Compliance   | Component: cURus Module File #E351548; Driver File #E342838<br>DC Engines Retrofit Kits: cULus Classified 1598C File # E365124<br>RoHS Compliant<br>Dry and Damp Location<br>Energy Star Luminaire 2.2 Listed and CSD <sup>①</sup> |
| 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  |
| Output Type   | Class 2 (approved for luminaires glass or plastic lenses)  |
| PCB Material / Connector Qty / Em. Connection                       | CEM1 / 2 / Yes   |
| Warranty  | 5 years @ Max. Tc 105°C (module) and 80°C (Driver) from the date of manufacture  |

① See page #5 "Certification Chart" for exact models.

② Measured electrical data per UL file



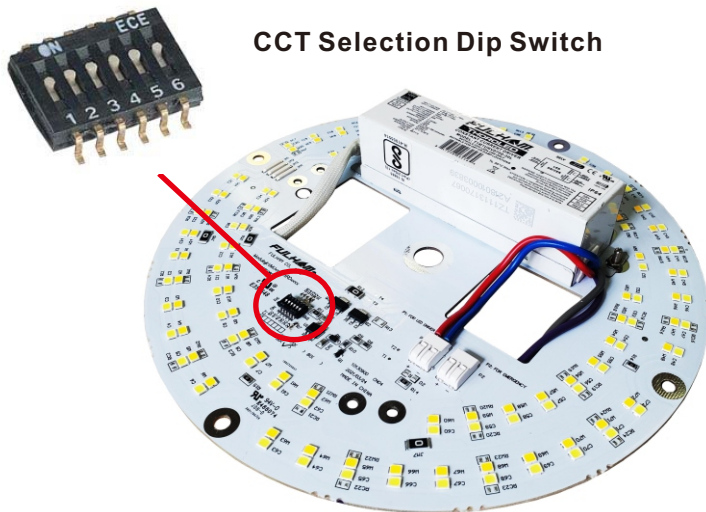
# VKMUNV012RD930A



## CCT Selection Indication

1. The VividHorse DC Engine Retrofit Kit is a dual-channel LED product, that allows for CCT selection via the dip switch on the PCB. Available CCTs include 2700K, 3000K, 3500K, 4000K, 4500K and 5000K.
2. A pre-set CCT will come from the factory. Check the product label or packaging to see the pre-set CCT level.
3. Change the dip switch position to “ON” (1~6) to set the desired CCT level.

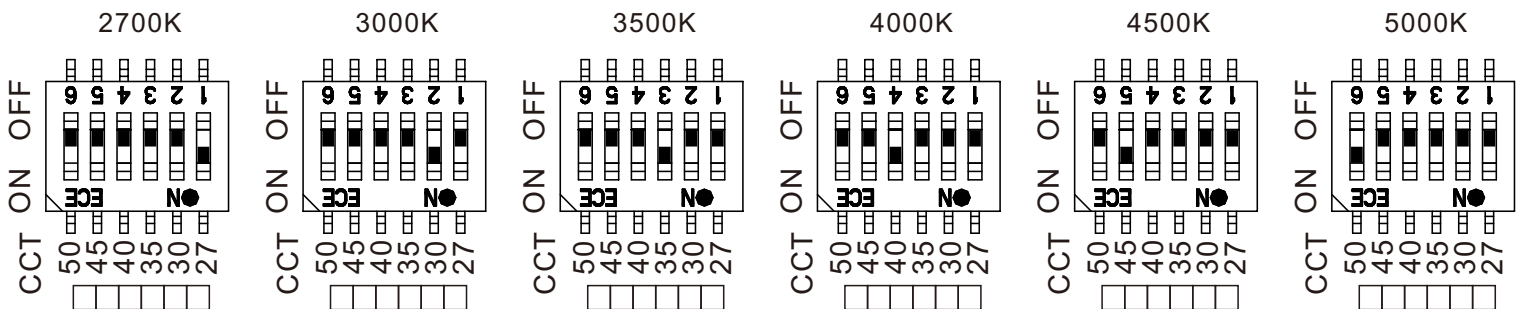
**NOTE: ONLY keep one dip switch in the “ON” position, not doing so may result in an undesired CCT.**

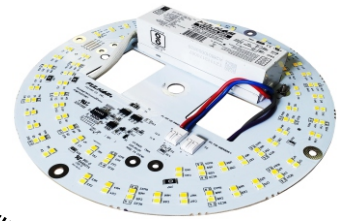


CCT Selection Dip Switch

CCT Indication Table

|       | 1   | 2   | 3   | 4   | 5   | 6   |
|-------|-----|-----|-----|-----|-----|-----|
| 2700K | ON  | OFF | OFF | OFF | OFF | OFF |
| 3000K | OFF | ON  | OFF | OFF | OFF | OFF |
| 3500K | OFF | OFF | ON  | OFF | OFF | OFF |
| 4000K | OFF | OFF | OFF | ON  | OFF | OFF |
| 4500K | OFF | OFF | OFF | OFF | ON  | OFF |
| 5000K | OFF | OFF | OFF | OFF | OFF | ON  |





# VKMUNV012RD930A

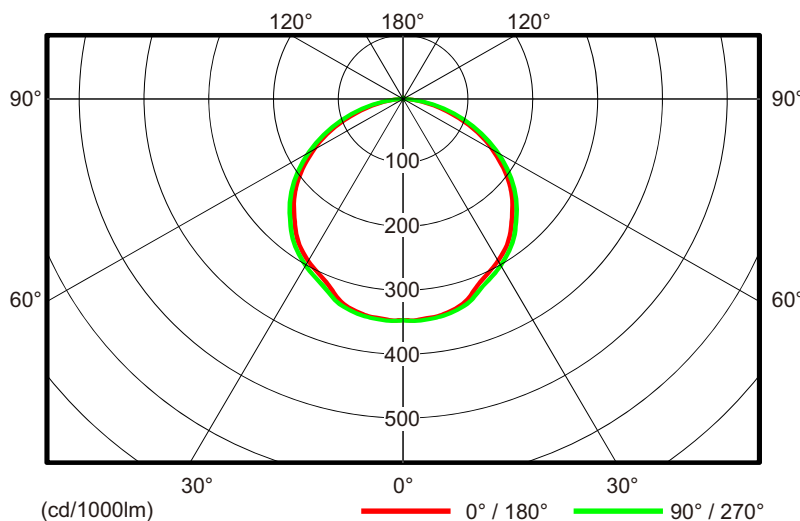


## Electrical and Optical Specifications

| CRI | DC Engine Retrofit Kit Part Number | Selected CCT | Input Power | Nominal Luminous Flux @ 90 CRI | Engine Efficacy @ 90 CRI |
|-----|------------------------------------|--------------|-------------|--------------------------------|--------------------------|
| 90  | VKMUNV012RD930A                    | 2700K        | 14.5W       | 2070 lumens                    | 142 lm/W                 |
|     |                                    | 3000K        | 14.5W       | 2100 lumens                    | 144 lm/W                 |
|     |                                    | 3500K        | 14.5W       | 2130 lumens                    | 146 lm/W                 |
|     |                                    | 4000K        | 14.5W       | 2160 lumens                    | 148 lm/W                 |
|     |                                    | 4500K        | 14.5W       | 2160 lumens                    | 148 lm/W                 |
|     |                                    | 5000K        | 14.5W       | 2160 lumens                    | 148 lm/W                 |

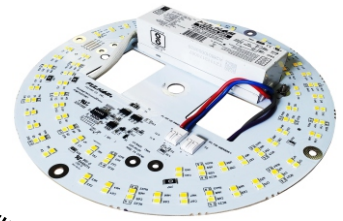
## Light Distribution

| Zone     | Zone Flux | Zone Flux% | Sum Zone Flux | Sum Zone Flux% |
|----------|-----------|------------|---------------|----------------|
| 0 ~ 10   | 67.6      | 3.3%       | 67.6          | 3.3%           |
| 10 ~ 20  | 195.1     | 9.4%       | 262.7         | 12.7%          |
| 20 ~ 30  | 295.4     | 14.3%      | 558.1         | 26.9%          |
| 30 ~ 40  | 364.6     | 17.6%      | 922.7         | 44.5%          |
| 40 ~ 50  | 379.8     | 18.3%      | 1302.5        | 62.8%          |
| 50 ~ 60  | 340.3     | 16.4%      | 1642.8        | 79.3%          |
| 60 ~ 70  | 245.7     | 11.9%      | 1888.5        | 91.1%          |
| 70 ~ 80  | 132.2     | 6.4%       | 2020.7        | 97.5%          |
| 80 ~ 90  | 37.4      | 1.8%       | 2058.1        | 99.3%          |
| 90 ~ 180 | 14.3      | 0.7%       | 2072.4        | 100.0%         |



### NOTES:

- 1) Electrical and optical specifications are based on Tc mod = 25°C. Reference Amb. Temp. vs Rel. Lum. Flux for other temperatures.
- 2) Performance for these components have been tested in accordance with Energy Star.
- 3) Refer to Energy Star CSD or Luminaires 2.2 for actual measurements on specific part numbers. Energy Star testing is done at elevated case temperature.
- 4) Specifications are subject to change without notice.
- 5) 70CRI & 80CRI are NOT available.



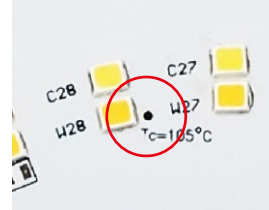
# VKMUNV012RD930A



## Thermal Specifications

### ③ DC Engine Retrofit Kit

|                                     |                                 |
|-------------------------------------|---------------------------------|
| Storage Temperature Range           | -35°C to 100°C / -31°F to 212°F |
| Operating Ambient Temperature Range | -35°C to 60°C / -31°F to 140°F  |
| Maximum Driver Case Temperature     | 90°C / 194°F                    |
| Maximum Module Case Temperature     | 105°C / 221°F                   |

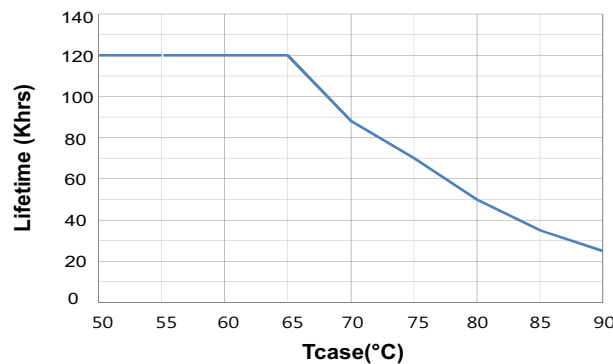


Tc located on module



Tc located on driver

## LED Driver Lifetime vs. Tcase



Failure Rate Info based upon MTBF modeling:  
90% survivals at end of life @ ≤Tc lifetime rating

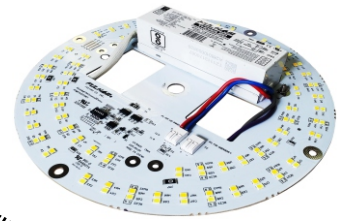
## Thermal De-Rating: Tc vs. Luminous Flux

| Module Case Temperature (Tc) | Total Vf Multiplier | Luminous Flux Multiplier |
|------------------------------|---------------------|--------------------------|
| 25°C                         | 1.000               | 1.000                    |
| 30°C                         | 0.998               | 0.992                    |
| 35°C                         | 0.995               | 0.984                    |
| 40°C                         | 0.993               | 0.976                    |
| 45°C                         | 0.990               | 0.967                    |
| 50°C                         | 0.988               | 0.958                    |
| 55°C                         | 0.986               | 0.949                    |
| 60°C                         | 0.984               | 0.940                    |
| 65°C                         | 0.982               | 0.931                    |
| 70°C                         | 0.980               | 0.922                    |
| 75°C                         | 0.978               | 0.913                    |
| 80°C                         | 0.977               | 0.904                    |
| 85°C                         | 0.976               | 0.895                    |
| 90°C                         | 0.974               | 0.886                    |
| 95°C                         | 0.973               | 0.877                    |
| 100°C                        | 0.971               | 0.867                    |
| 105°C                        | 0.969               | 0.858                    |

### NOTES:

- 1) Refer to DC Engine Retrofit Kit Installation Instructions for further detail.
- 2) This DC Engine Retrofit 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 DC Engine Retrofit 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: 10" diameter with a height of 3" or 30 cubic inches



# VKMUNV012RD930A



## Certification Chart

| Classification | Model | VKMUNV012RD930A          |
|----------------|-------|--------------------------|
|                |       | YES                      |
|                |       | YES<br>(Driver & Module) |
|                |       | YES                      |
|                |       | YES<br>(Exclude 4500K)   |
|                |       | YES<br>(Exclude 4500K)   |

## Energy Star™ TM-21 Calculator Data

| Tc Module | Reported L70 | Reported L90 |
|-----------|--------------|--------------|
| 85°C      | >60,000 Hrs  | 40,000 Hrs   |
| 96°C      | >60,000 Hrs  | 36,000 Hrs   |
| 105°C     | >60,000 Hrs  | 33,000 Hrs   |

| Tc Module | Calculated L70 | Calculated L90 |
|-----------|----------------|----------------|
| 85°C      | 131,000 Hrs    | 40,000 Hrs     |
| 96°C      | 117,000 Hrs    | 36,000 Hrs     |
| 105°C     | 106,000 Hrs    | 33,000 Hrs     |

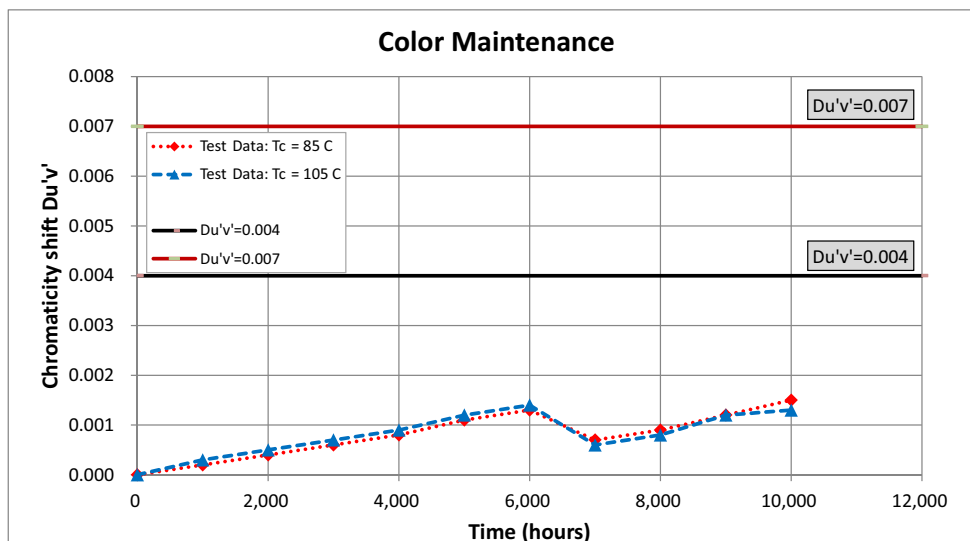
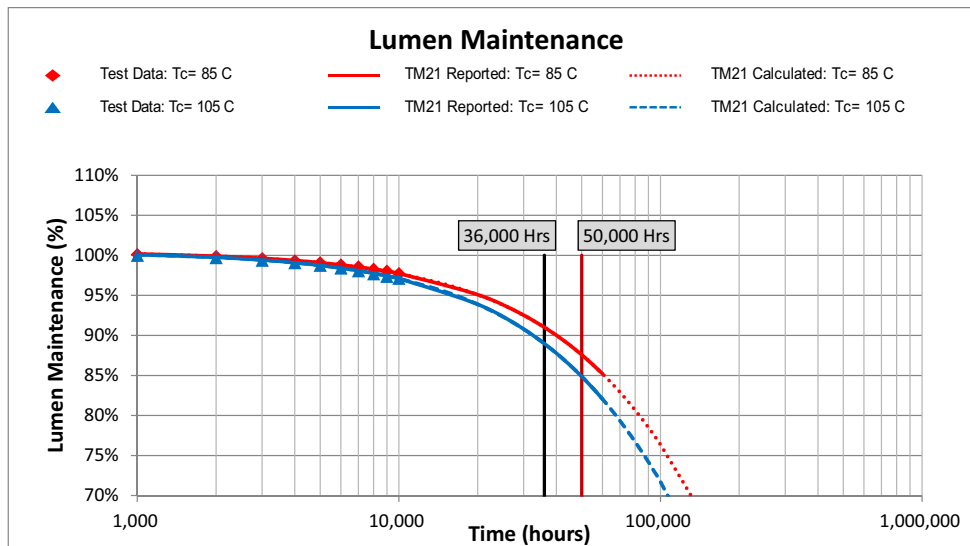
1) Energy Star CSD:

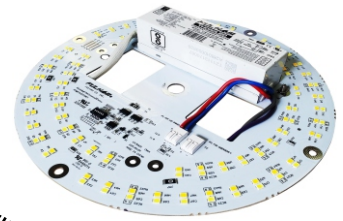
[https://www.energystar.gov/products/lighting\\_fans/certified\\_lighting\\_subcomponent\\_database\\_csd](https://www.energystar.gov/products/lighting_fans/certified_lighting_subcomponent_database_csd)

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](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)

## LED Lumen & Color Maintenance Data per LM-80 report and TM-21 Calculator





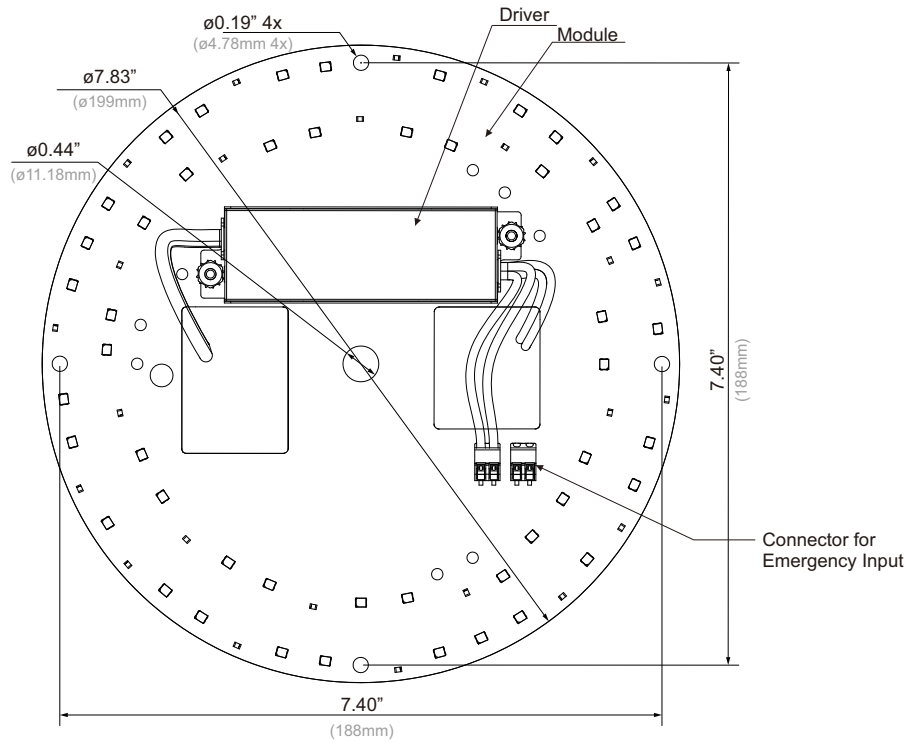
# VKMUNV012RD930A



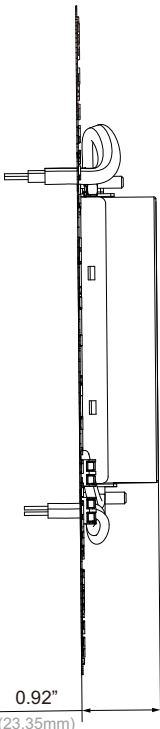
## Mechanical Drawings

(Scale 3 : 5)

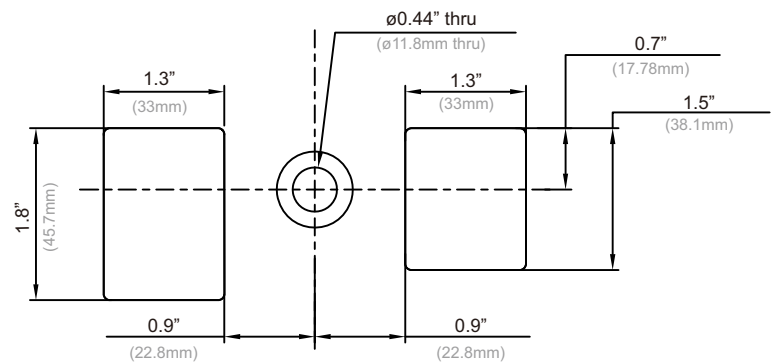
**TOP VIEW**



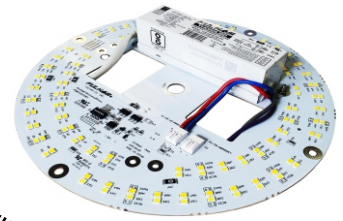
| Overall Dimensions                        |                    |
|---|--------------------|
| Diameter                                  | 7.83"<br>[199mm]   |
| Height                                    | 0.92"<br>[23.35mm] |
| Wire Length                               |                    |
| AC Input (Black / White)                  | 12"<br>[304.8mm]   |
| 0-10V Dimming (Purple (10v+) Pink (10V-)) | 12"<br>[304.8mm]   |



**SIDE VIEW**



**PARTIAL VIEW**



# VKMUNV012RD930A

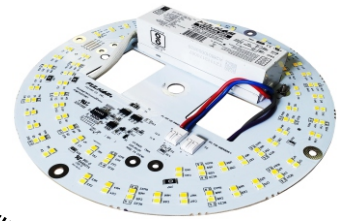


## DC Engine Retrofit Kit Equivalency Chart: FLUO to LED

| DC Engine Retrofit Kit (7.8" Round) |                |                    |          | CFL         |              |            |               |              |          |
|-------------------------------------|----------------|--------------------|----------|-------------|--------------|------------|---------------|--------------|----------|
| DC Engine Retrofit Kit Part Number  | System Wattage | Lumen Output       | Efficacy | CFL Style   | Lamp Wattage | # of Lamps | Total Wattage | Lumen Output | Efficacy |
| VKMUNV012RD930A                     | 14.5W          | 2160 lm (4K/90CRI) | 148 lm/W | Quad        | 13W          | 1          | 13W           | 775 lm       | 59 lm/W  |
|                                     |                |                    |          |             | 18W          | 1          | 18W           | 1075 lm      |          |
|                                     |                |                    |          | Triple      | 13W          | 1          | 13W           | 825 lm       | 63 lm/W  |
|                                     |                |                    |          |             | 18W          | 1          | 18W           | 1020 lm      |          |
|                                     |                |                    |          | Quad        | 13W          | 2          | 26W           | 1550 lm      | 59 lm/W  |
|                                     |                |                    |          |             | 26W          | 1          | 26W           |              |          |
|                                     |                |                    |          | Triple      | 13W          | 2          | 26W           | 1650 lm      | 63 lm/W  |
|                                     |                |                    |          |             | 26W          | 1          | 26W           | 1536 lm      |          |
|                                     |                |                    |          | Circline T5 | 22W          | 1          | 22W           | 1530 lm      | 69 lm/W  |
|                                     |                |                    |          | Circline T9 | 22W          | 1          | 22W           | 775 lm       | 35 lm/W  |

### NOTES:

- 1) LED is a point source and FLUO is 360, there is more light lost with FLUO especially during the reflection. Therefore it is recommended to use a 65 percent of the original light source total lumens when converting FLUO to LED. For example original FLUO lumens of 2000 x .65% = 1300 LED lumens. This is only a recommendation, and the installer should consider other factors for the application.
- 2) For reference only, several factors apply.



# VKMUNV012RD930A



## DC Engine Retrofit Kit with Emergency Options

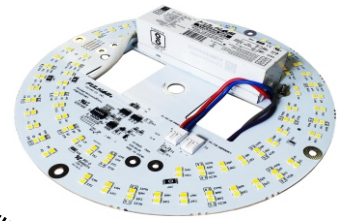
NOTE: Emergency systems are not UL classified for field installation.

| Engine/Kit Part Number | Emer. Driver Part Number      | Battery Wattage | Battery Part Number                            | Harness (mA)    | LED Vf (V) | LED If (mA) | Total Power (W) | Total Lum. Output (lm) | Eff. (lm/W) |
|------------------------|-------------------------------|-----------------|--|-----------------|------------|-------------|-----------------|------------------------|-------------|
| VKMUNV012RD930A        | FHS2-UNV-36L/<br>FHS2-UNV-56S | 4W              | FHSBATT8-AA9<br>FHSBATL3-1                     | FHS-HARNESS-125 | 32.0       | 125         | 4.0             | 775 <sup>Ⓢ</sup>       | 194         |
|                        | FHSCP-UNV-5WL                 | 5W              | N/A  | N/A             | 32.2       | 156         | 5.0             | 965                    | 193         |
|                        | FHSCP-UNV-10P-L-SD            | 5W              | FHSBATL3-1.5-SD                                | N/A             | 32.2       | 156         | 5.0             | 965                    | 193         |
|                        | FHS2-UNV-36L                  | 6W              | FHSBATL6-.6                                    | FHS-HARNESS-175 | 32.3       | 175         | 5.6             | 1080 <sup>Ⓢ</sup>      | 191         |
|                        | FHSCP-UNV-10P-L-SD            | 6W              | FHSBATL9-.6-SD                                 | N/A             | 32.4       | 186         | 6.0             | 1147                   | 191         |
|                        | FHSCP-UNV-7.8WL               | 7.8W            | N/A  | N/A             | 32.6       | 240         | 7.8             | 1472                   | 189         |
|                        | FHS2-UNV-36L/<br>FHS2-UNV-56S | 8W              | FHSBATL3-1.5<br>FHSBATL3-1.5S                  | FHS-HARNESS-225 | 32.6       | 225         | 7.3             | 1382 <sup>Ⓢ</sup>      | 188         |
|                        | FHS2-UNV-36L                  | 10W             | FHSBATL9-.6                                    | FHS-HARNESS-300 | 33.0       | 300         | 9.9             | 1828 <sup>Ⓢ</sup>      | 185         |
|                        | FHSCP-UNV-10P-L-SD            | 10W             | FHSBATL3-3-SD<br>FHSBATL6-1.5L-SD <sup>Ⓢ</sup> | N/A             | 33.0       | 303         | 10.0            | 1846                   | 185         |
|                        | FHSCP-UNV-10.7WL              | 10.7W           | N/A  | N/A             | 33.1       | 324         | 10.7            | 1986                   | 184         |
|                        | FHSCP-UNV-13.7WL              | 13.7W           | N/A  | N/A             | 33.5       | 408         | 13.7            | 2451                   | 179         |
|                        | FHS2-UNV-36L/<br>FHS2-UNV-56S | 16W             | FHSBATL3-3                                     | FHS-HARNESS-450 | 33.6       | 450         | 15.1            | 2687 <sup>Ⓢ</sup>      | 178         |
|                        | FHSCP-UNV-17WL                | 17W             | N/A  | N/A             | 33.8       | 501         | 17.0            | 2967                   | 175         |
|                        | FHS2-UNV-36L/<br>FHS2-UNV-56S | 20W             | FHSBATL6-3                                     | FHS-HARNESS-550 | 34.1       | 550         | 18.7            | 3230 <sup>Ⓢ</sup>      | 172         |

### NOTES:

- 1) For reference only, several factors apply.
  - 2) Emergency systems are not UL classified for field installation.
- Ⓢ These batteries do not include mounting means, separate mounting brackets are available
- Ⓢ Initial lumen output. Will reduce to no less than ~65% of total lumen output.

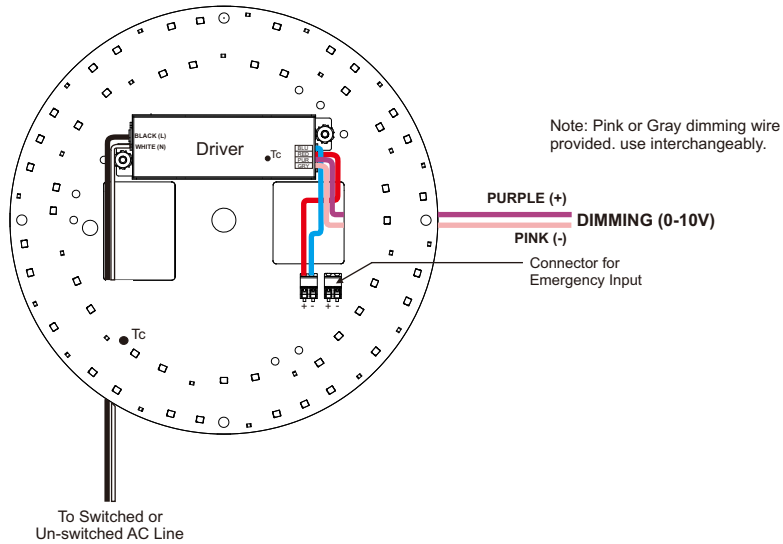




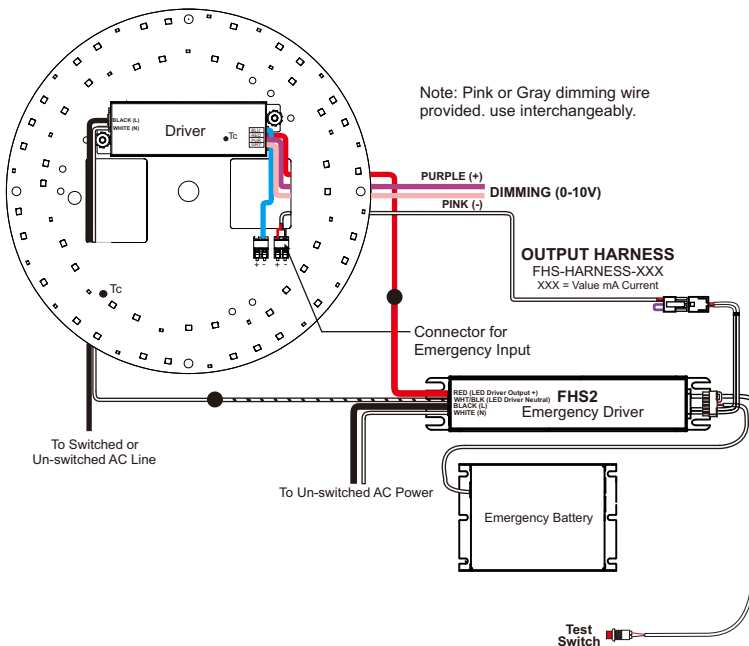
# VKMUNV012RD930A



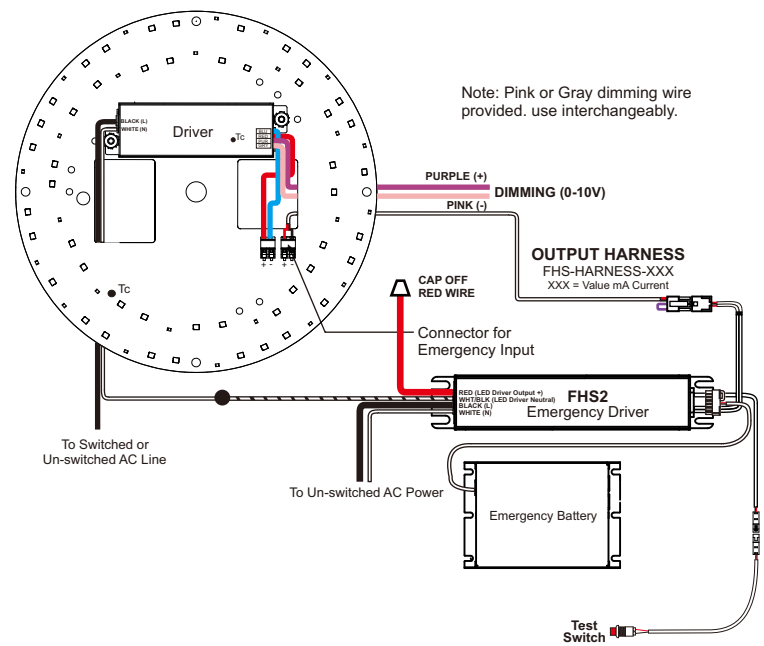
## Wiring Diagram: Standard Option



## Wiring Diagram: HotSpot2 (FHS2) EM- Pass Through (Recommended for non-Fulham LED EM)

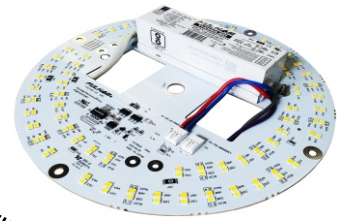


## Wiring Diagram: HotSpot2 (FHS2) EM- In Parallel (Recommended for Fulham LED EM)



### NOTES:

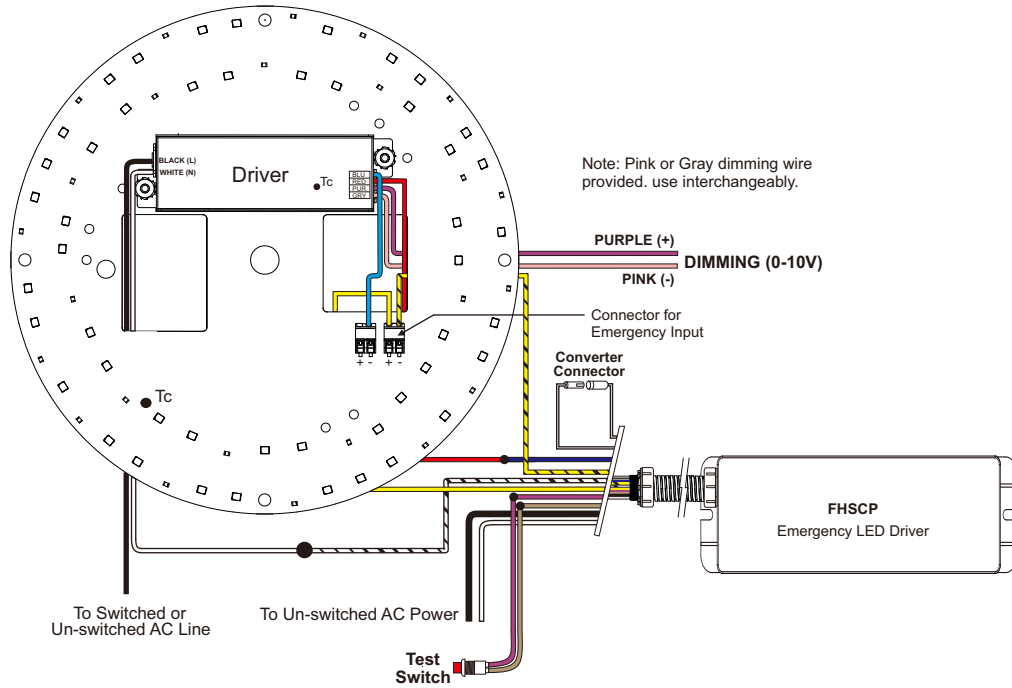
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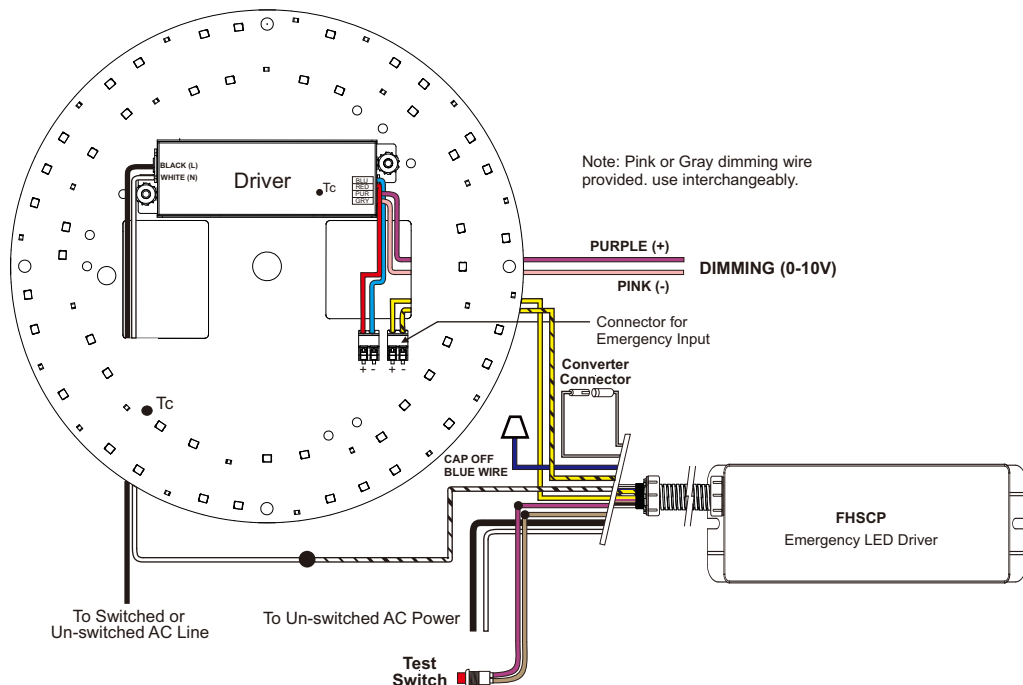
# VKMUNV012RD930A



## Wiring Diagram: Constant Power with conduit (FHSCP) EM- Pass Through (Recommended for non-Fulham LED EM)

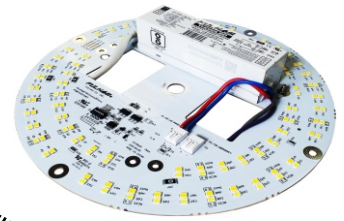


## Wiring Diagram: Constant Power with conduit (FHSCP) EM- In Parallel (Recommended for Fulham LED EM)



**NOTES:**

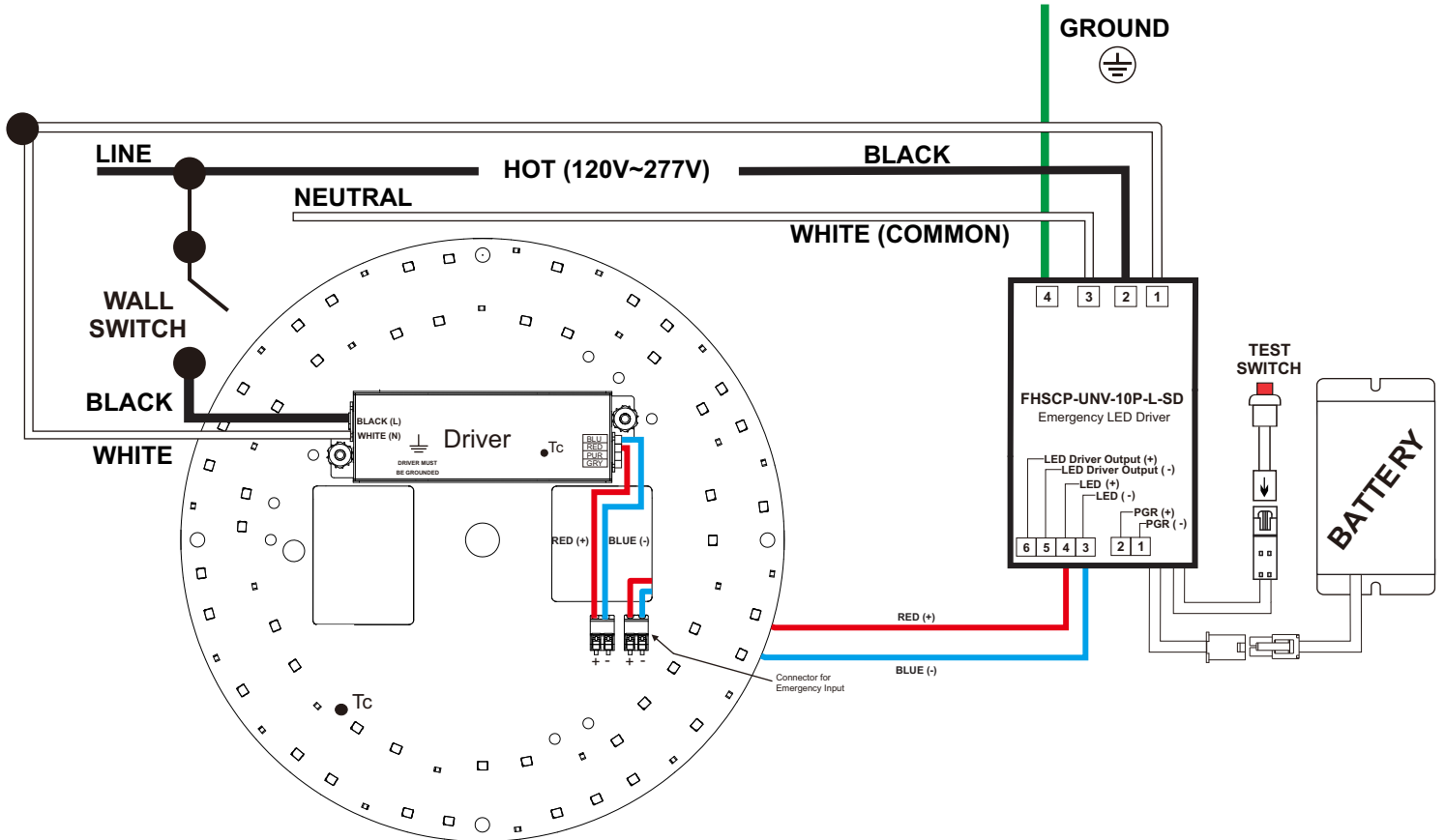
- 1) For reference only, several factors apply.
- 2) Emergency systems are not UL classified for field installation.



# VKMUNV012RD930A

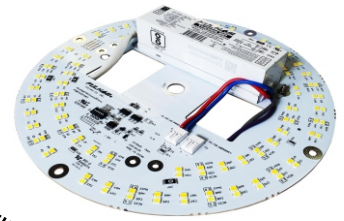


## Wiring Diagram: Parallel Wiring (FHSCP-UNV-10P-L-SD)



### NOTES:

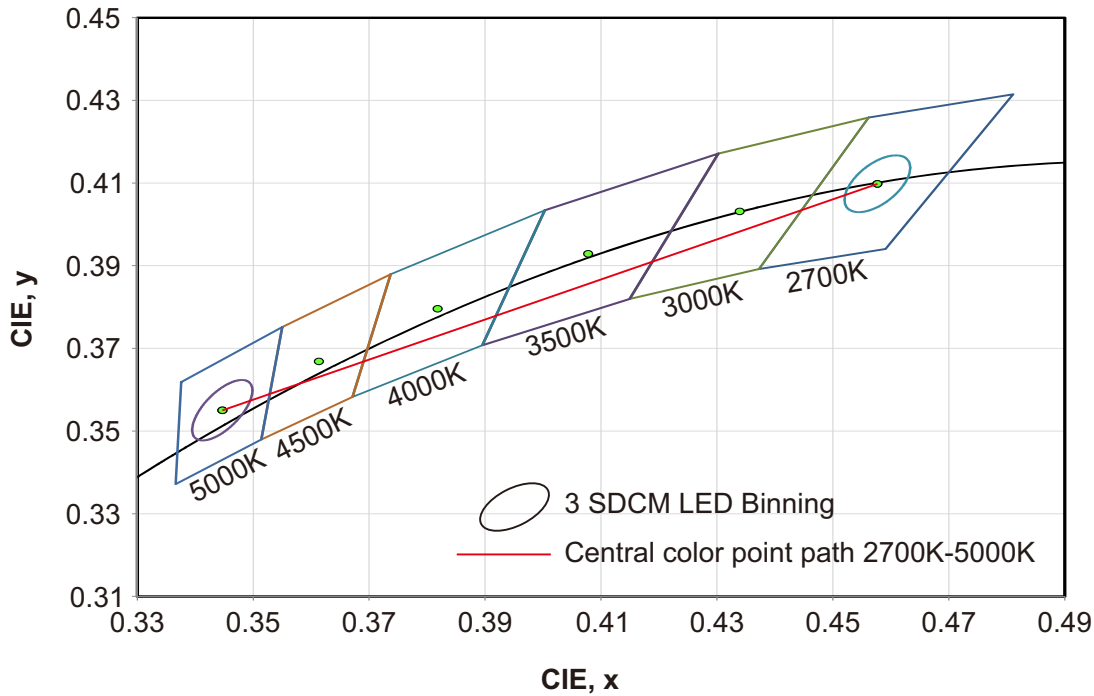
- 1) For reference only, several factors apply.
- 2) Emergency systems are not UL classified for field installation.



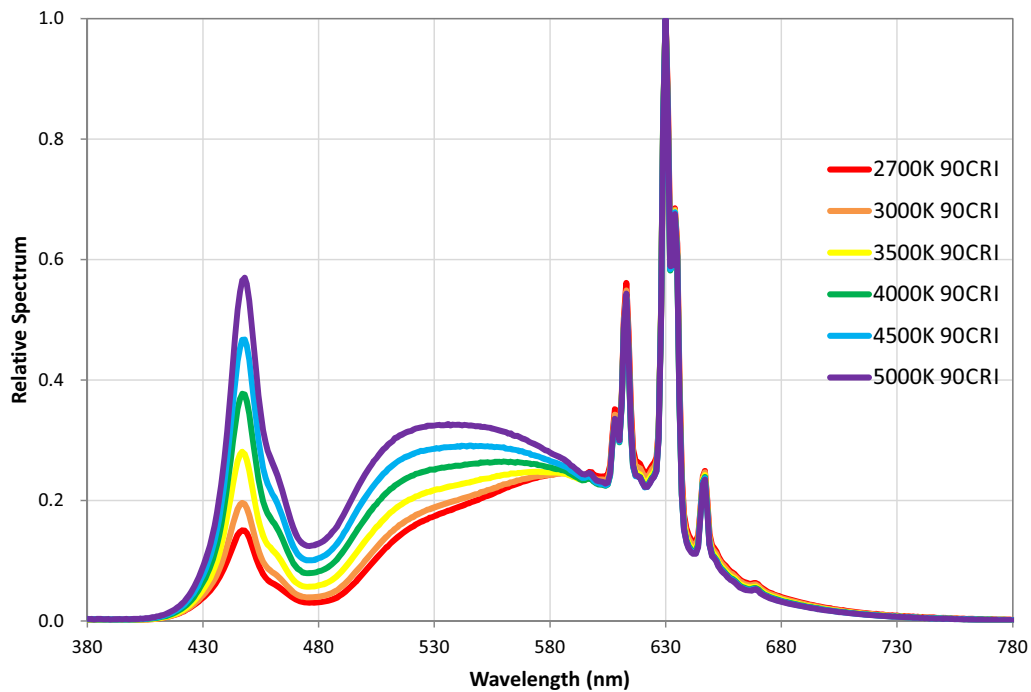
# VKMUNV012RD930A



## Color and Binning

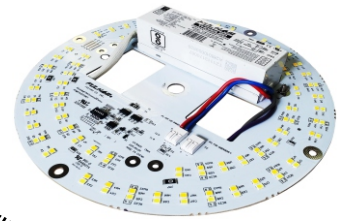


## Optical Spectrum



### NOTES:

- 1) The Color and Binning and Optical Spectrum charts are for reference only. For more detailed info, contact factory.
- 2) Reference Samsung Chromaticity Diagram for Color and Binning. Binning per ANSI C78.377-2015 @ 25°C; 3 SDCM.
- 3) The Optical Spectrum values vary depending on product type and color rank.



# VKMUNV012RD930A



## Guidelines

### Reduced Flicker Operation Feature

- DC 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.

### Termination Notes

- A luminaire disconnect UL listed connector is included, as part of DC Engine Retrofit Kit 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® connector, please visit:



### Environmental Rating

- DC Engine Retrofit Kit are rated for dry and damp locations.

### Fastening to Luminaire

- When installing by "mounting thru holes" (recommended), use any screw with diameter less than 0.13in. [3.4mm]. Mount on a flat surface and use all 4 mounting holes to ensure good contact between back side of DC Engine Retrofit Kit and mounting surface. Refer to max specified torque for installation. Suggested screw sizes: #5 or M3 Pan Head screw.

### Electrostatic Sensitive Product (ESD)

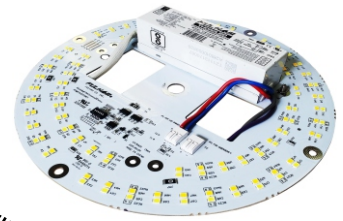
- Fulham LED products should be handled with proper measures to protect against any potential ESD damage.
- When servicing, personnel should be ground and direct contact with LED should be avoided.

### Thermal Management

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

### Wiring

- Intended for UNV (120-277V) application ONLY.
- Connect the Black wire from the DC Engine Retrofit Kit to the building Line by using the proper connectors or wire nuts.
- Connect the White wire from the DC Engine Retrofit Kit to the building/source Neutral by using the proper connectors or wire nuts.
- DC Engine Retrofit Kit and luminaire must be grounded.



# VKMUNV012RD930A



## Part Number Matrix

**V K M UNV 012 RD 9 30 A**

**Product Line**  
 V = VividHorse<sup>®</sup>
**Compliance**  
 K = DC Engine Retrofit Kit (cULus Classified)

**Dimming**  
 M = 0-10V

**Input Voltage**  
 UNV = 120V~277V

**Estimated Power**  
 012 = 12W (Typ. 14.5W)

**Shape**  
 RD=Round

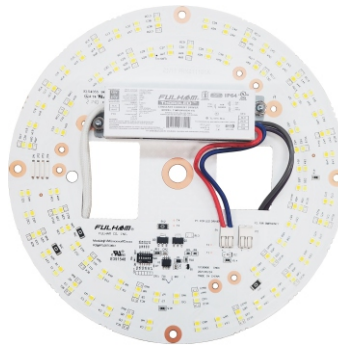
**CRI**  
 9 = 90

**Color Temperature**  
 30 = CCT Selectable, Factory Default 3000K

- Ⓢ Standard Product offering. Default CCT setting is 3000K.
- Ⓢ DC Engine Retrofit Kit includes mounting hardware, retrofit labels, and installation instructions.

## Product Image: 14.5W Round DC Engine Kit

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This luminaire has been modified and can no longer operate the originally intended lamp. REPLACE ONLY WITH FULHAM ELECTRONIC CO. : VKMUNV012RD930A

Ce luminaire a été modifié et ne peut plus utiliser la lampe prévue à l'origine. REMPLACER UNIQUEMENT AVEC FULHAM ELECTRONIC CO. : VKMUNV012RD930A

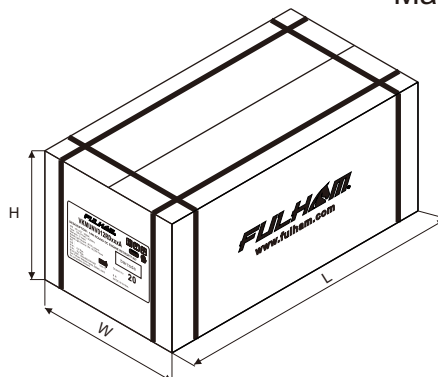


### Hardware Kit: TLC-HW08

UNV DC Engines Retrofit Kits with 0-10V Dimming : Hardware, Quick disconnect, Labels & Installation Instructions

## Packaging

### Master Carton



| OUTER DIMENSION     |                     |              |
|---------------------|---------------------|--------------|
| L                   | W                   | H            |
| 21.65"(550mm)       | 15.75"(400mm)       | 9.45"(240mm) |
| Net Weight          | Gross Weight        | QUANTITY     |
| 14.52 lbs. (6.6 kg) | 20.24 lbs. (9.2 kg) | 20pcs.       |