

Scale: 1 inch = 50 Ft.



Prepared For:  
 Holbrook Associated  
 P.O. Box 401  
 Rockland, MA 02370

Job Name:  
 Team Ventures Car Wash  
 Lighting Layout  
 Version B

Scale: as noted  
 Date: 1/11/2022  
 PROJECT #: 187157  
 CASE #: 00788026  
 Filename: Team Ventures Car Wash Lighting Layout 00788026B.AGI  
 Drawn By: S Elliott

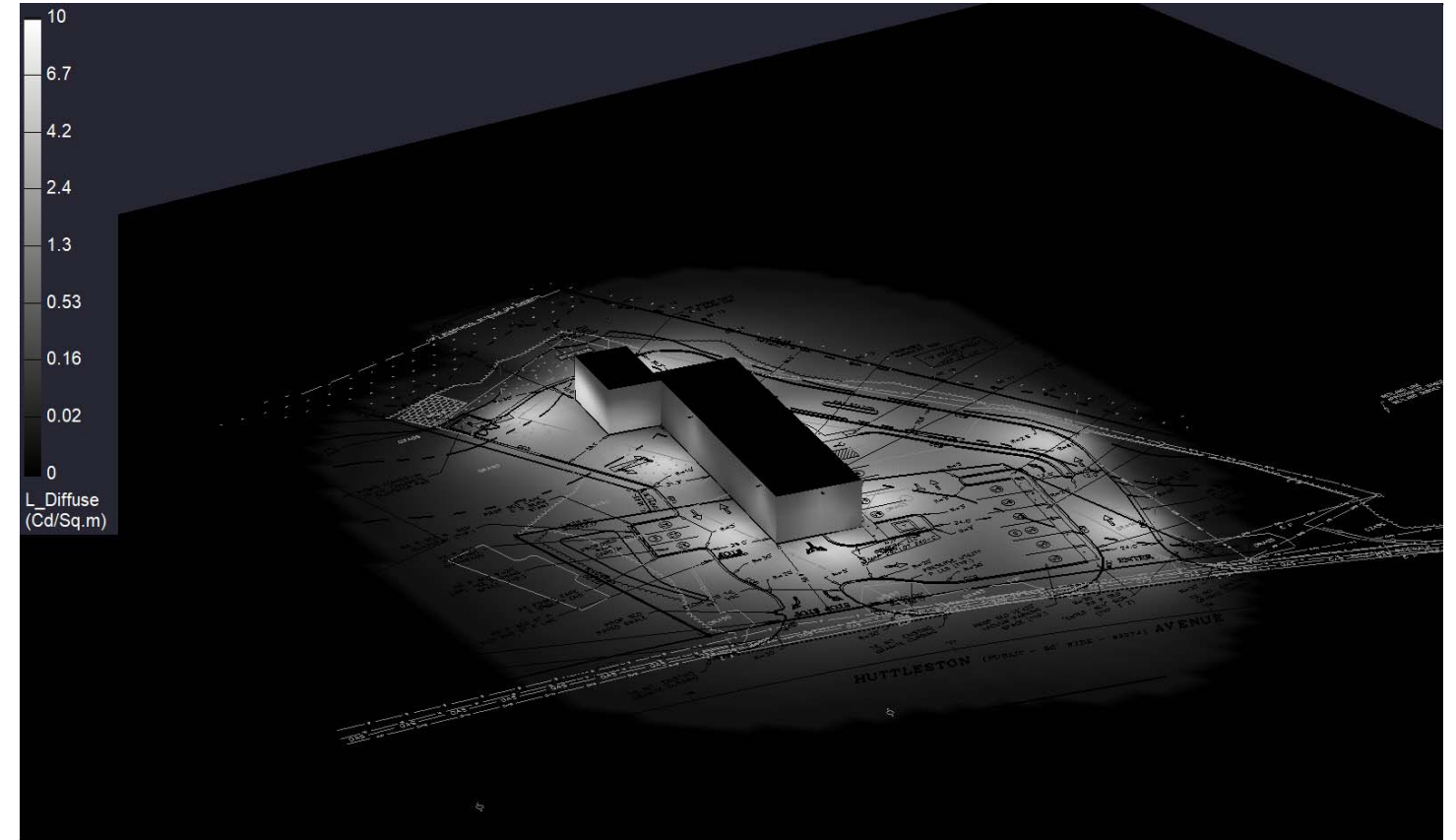
The Lighting Analysis, ezLayout, Energy Analysis and/or Visual Simulation ("Lighting Design") provided by the RAB Lighting Inc. ("RAB") represent an anticipated prediction of lighting system performance based upon design parameters and information supplied by others. These design parameters and information provided by others have not been field verified by RAB and therefore actual measured results may vary from the actual field conditions. RAB recommends that design parameters and other information be field verified to reduce variation.

RAB neither warrants, either implied or stated with regard to actual measured light levels or energy consumption levels as compared to those illustrated by the Lighting Design. RAB neither warrants, either implied or stated, nor represents the appropriateness, completeness or suitability of the Lighting Design intent as compliant with any applicable regulatory code requirements with the exception of those specifically stated on drawings created and submitted by RAB. The Lighting design is issued, in whole or in part, as advisory documents for informational purposes and is not intended for construction nor as being part of a project's construction documentation package.

Filename: Z:\Job Files\Holbrook Associated\Holbrook Associated 101064\Team Ventures Car Wash\Working Files\AGI\Team Ventures Car Wash Lighting Layout 00788026B.AGI



Plan View



Iso View

**RAB**<sup>®</sup>  
 170 Ludlow Avenue, Northvale, NJ 07647  
 888 722-1000 • rablighting.com

Prepared For:  
 Holbrook Associated  
 P.O. Box 401  
 Rockland, MA 02370

Job Name:  
 Team Ventures Car Wash  
 Lighting Layout  
 Version B

Scale: as noted

PROJECT #: 187157

Date: 1/11/2022

CASE #: 00788026

Filename: Team Ventures Car Wash Lighting Layout 00788026B.AGI



Drawn By: S Elliott

The Lighting Analysis, ezLayout, Energy Analysis and/or Visual Simulation ("Lighting Design") provided by the RAB Lighting Inc. ("RAB") represent an anticipated prediction of lighting system performance based upon design parameters and information supplied by others. These design parameters and information provided by others have not been field verified by RAB and therefore actual measured results may vary from the actual field conditions. RAB recommends that design parameters and other information be field verified to reduce variation.

RAB neither warrants, either implied or stated with regard to actual measured light levels or energy consumption levels as compared to those illustrated by the Lighting Design. RAB neither warrants, either implied or stated, nor represents the appropriateness, completeness or suitability of the Lighting Design intent as compliant with any applicable regulatory code requirements with the exception of those specifically stated on drawings created and submitted by RAB. The Lighting design is issued, in whole or in part, as advisory documents for informational purposes and is not intended for construction nor as being part of a project's construction documentation package.

Filename: Z:\Job Files\Holbrook Associated\Holbrook Associated 101064\Team Ventures Car Wash\Working Files\AGI\Team Ventures Car Wash Lighting Layout 00788026B.AGI

Calculation Summary											
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Description	PtSpcLr	PtSpcTb	Meter Type
CalcPts Ground	Illuminance	Fc	1.29	10.8	0.0	N.A.	N.A.	Readings Taken at 0'-0"AFG	10	10	Horizontal
StatArea Parking and Drive	Illuminance	Fc	2.83	10.8	0.4	7.08	27.00	Readings Taken at 0'-0"AFG			

Luminaire Schedule								All quotes/orders generated from this layout must be forwarded to the Local Rep Agency			
Symbol	Qty	Tag	Label	Arrangement	LLF	Description	BUG Rating				
	4	A	ALED4T78N	SINGLE	1.000	Pole Mount	B1-U0-G2				
	6	B	WPLED4T78N	SINGLE	1.000	Wall Mount	B1-U0-G2				

Expanded Luminaire Location Summary						
LumNo	Tag	X	Y	MTG HT	Orient	Tilt
1	B	245.186	175.118	18	348.231	0
2	A	332.404	96.06	20	158.199	0
3	A	355.339	170.013	20	166.131	0
4	B	205.585	179.552	18	170.771	0
5	B	222.815	159.573	18	257.791	0
6	B	217.624	243.427	18	170.771	0
7	B	257.809	238.849	18	348.231	0
8	B	246.284	281.127	18	80.301	0
9	A	180.07	322.425	20	299.97	0
10	A	241.328	336.875	20	277.72	0
Total Quantity: 10						

Luminaire Tag Summary	
Tag	Qty
A	4
B	6

NOTES:

- \* The light loss factor (LLF) is a product of many variables, only lamp lumen depreciation (LLD) has been applied to the calculated results unless otherwise noted. The LLD is the result (quotient) of mean lumens / initial lumens per lamp manufacturers' specifications.
- \* Illumination values shown (in footcandles) are the predicted results for planes of calculation either horizontal, vertical or inclined as designated in the calculation summary. Meter orientation is normal to the plane of calculation.
- \* The calculated results of this lighting simulation represent an anticipated prediction of system performance. Actual measured results may vary from the anticipated performance and are subject to means and methods which are beyond the control of RAB Lighting Inc.
- \* Mounting height determination is job site specific, our lighting simulations assume a mounting height (insertion point of the luminaire symbol) to be taken at the top of the symbol for ceiling mounted luminaires and at the bottom of the symbol for all other luminaire mounting configurations.
- \* It is the Owner's responsibility to confirm the suitability of the existing or proposed poles and bases to support the proposed fixtures, based on the weight and EPA of the proposed fixtures and the owner's site soil conditions and wind zone. It is recommended that a professional engineer licensed to practice in the state the site is located be engaged to assist in this determination.
- \* The landscape material shown hereon is conceptual, and is not intended to be an accurate representation of any particular plant, shrub, bush, or tree, as these materials are living objects, and subject to constant change. The conceptual objects shown are for illustrative purposes only. The actual illumination values measured in the field will vary.
- \* Photometric model elements such as buildings, rooms, plants, furnishings or any architectural details which impact the dispersion of light must be detailed by the customer documents for inclusion in the RAB lighting design model. RAB is not responsible for any inaccuracies caused by incomplete information on the part of the customer, and reserves the right to use best judgement when translating customer requests into photometric studies.
- \* RAB Lighting Inc. luminaire and product designs are protected under U.S. and International intellectual property laws. Patents issued or pending apply.



Prepared For:  
Holbrook Associated  
P.O. Box 401  
Rockland, MA 02370

Job Name:  
Team Ventures Car Wash  
Lighting Layout  
Version B

Scale: as noted PROJECT #: 187157

Date: 1/11/2022 CASE #: 00788026

Filename: Team Ventures Car Wash Lighting Layout 00788026B.AGI

Drawn By: S Elliott

Filename: Z:\Job Files\Holbrook Associated\Holbrook Associated 101064\Team Ventures Car Wash\Working Files\AGI\Team Ventures Car Wash Lighting Layout 00788026B.AGI

The Lighting Analysis, ezLayout, Energy Analysis and/or Visual Simulation ("Lighting Design") provided by the RAB Lighting Inc. ("RAB") represent an anticipated prediction of lighting system performance based upon design parameters and information supplied by others. These design parameters and information provided by others have not been field verified by RAB and therefore actual measured results may vary from the actual field conditions. RAB recommends that design parameters and other information be field verified to reduce variation.

RAB neither warranties, either implied or stated with regard to actual measured light levels or energy consumption levels as compared to those illustrated by the Lighting Design. RAB neither warranties, either implied or stated, nor represents the appropriateness, completeness or suitability of the Lighting Design intent as compliant with any applicable regulatory code requirements with the exception of those specifically stated on drawings created and submitted by RAB. The Lighting design is issued, in whole or in part, as advisory documents for informational purposes and is not intended for construction nor as being part of a project's construction documentation package.



Color: Bronze

Weight: 36.1 lbs

Project:

Type:

Prepared By:

Date:

### Driver Info

Type	Constant Current
120V	0.66A
208V	0.41A
240V	0.35A
277V	0.30A
Input Watts	76.2W

### LED Info

Watts	78W
Color Temp	4000K (Neutral)
Color Accuracy	72 CRI
L70 Lifespan	100,000 Hours
Lumens	9,804
Efficacy	128.7 lm/W

## Technical Specifications

### Compliance

#### UL Listed:

Suitable for wet locations as a downlight

#### DLC Listed:

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.

DLC Product Code: P0000179W

#### IESNA LM-79 & IESNA LM-80 Testing:

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

### Performance

#### Lifespan:

100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

### Construction

#### IES Classification:

The Type IV distribution (also known as a Forward Throw) is especially suited for mounting on the sides of buildings and walls, and for illuminating the perimeter of parking areas. It produces a semicircular distribution with essentially the same candlepower at lateral angles from 90° to 270°.

#### Ambient Temperature:

Suitable for use in up to 40°C (104°F)

#### Cold Weather Starting:

Minimum starting temperature is -40°C (-40°F)

#### Thermal Management:

Superior heat sinking with external Air-Flow fins

#### Lens:

Tempered glass lens

#### Housing:

Die-cast aluminum housing, lens frame and mounting arm

#### IP Rating:

Ingress protection rating of IP66 for dust and water

#### Mounting:

Universal mounting arm compatible for hole spacing patterns from 1" to 5 1/2" center to center. Round Pole Adaptor plate included as a standard. Easy slide and lock to mount fixture with ease. Round pole diameter must be >4" to mount fixtures at 90° orientation.

#### Reflector:

Specular vacuum-metallized polycarbonate

#### Gaskets:

High-temperature silicone gaskets

## Technical Specifications (continued)

### Construction

#### EPA:

- 1 Fixture: 0.75
- 2 Fixtures at 90°: 1.2
- 2 Fixtures at 180°: 2.4
- 3 Fixtures at 90°: 2.4
- 4 Fixtures at 90°: 1.8

#### Finish:

Formulated for high durability and long-lasting color

#### Green Technology:

Mercury and UV free. RoHS-compliant components.

### LED Characteristics

#### LEDs:

Six (6) multi-chip, 13W, high-output, long-life LEDs

#### Color Consistency:

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

#### Color Stability:

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

#### Color Uniformity:

RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

### Electrical

#### Driver:

Constant Current, Class 2, 2000mA, 100-277V, 50-60Hz, 1.1A, Power Factor 99%

#### THD:

4.4% at 120V, 12.8% at 277V

#### Power Factor:

99.5% at 120V, 93.6% at 277V

#### Surge Protection:

4kV

### Other

#### Patents:

The ALED design is protected by patents in the U.S. Pat. 668,370, Canada Pat. 144956, China ZL201230100154.X, and Mexico Pat. 38423. Pending patents in Taiwan.

#### BAA Compliance:

Click [here](#) for BAA compliance.

#### Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at [rablighting.com/warranty](http://rablighting.com/warranty).

#### Equivalency:

Replaces 250W Metal Halide

#### Buy American Act Compliance:

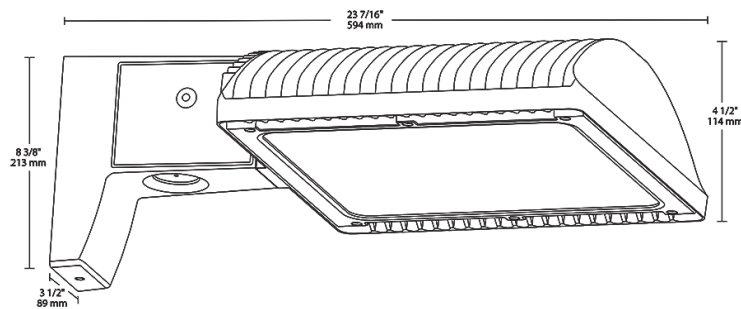
RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

### Optical

#### BUG Rating:

B1 U0 G2

### Dimensions



### Features

- 66% energy cost savings vs. HID
- 100,000-hour LED lifespan
- 5-Year, No-Compromise Warranty

## Ordering Matrix

Family	Optics	Wattage	Mounting	Color Temp	Finish	Driver Options	Options	Other Options
ALED	4T	78		N				
	4T = Type IV 3T = Type III 2T = Type II	50 = 50W 78 = 78W 105 = 105W 125 = 125W 150 = 150W	Blank = Pole mount SF = Slipfitter	Blank = 5000K Cool N = 4000K Neutral Y = 3000K Warm	Blank = Bronze RG = Roadway Gray W = White K = Black	Blank = 120-277V /480 = 480V /BL = Bi-Level /D10 = 0-10V Dimming /480/D10 = 480V, 0-10V Dimming	Blank = No Option /LC = Lightcloud® Controller /PCS = 120V Swivel Photocell /PCS2 = 277V Swivel Photocell /PCT = 120-277V Twistlock Photocell /PCS4 = 480V Swivel Photocell /PCT4 = 480V Twistlock Photocell /WS2 = Multi-Level Motion Sensor 20 ft. /WS4 = Multi-Level Motion Sensor 40 ft.	Blank = Standard USA = BAA Compliant



Square steel poles drilled for 2 Area Lights at 180°. Designed for ground mounting. Poles are stocked nationwide for quick shipment. Protective packaging ensures poles arrive at the job site good as new.

Color: Bronze

Weight: 195.0 lbs

<b>Project:</b>	<b>Type:</b>
<b>Prepared By:</b>	<b>Date:</b>

**Technical Specifications**

**Compliance**

**CSA Listed:**

Suitable for wet locations

**Construction**

**Shaft:**

46,000 p.s.i. minimum yield.

**Hand Holes:**

Reinforced with grounding lug and removable cover

**Base Plates:**

36,000 p.s.i. minimum yield.

**Shipping Protection:**

All poles are shipped in individual corrugated cartons to prevent finish damage

**Color:**

Bronze powder coating

**Height:**

20 FT

**Weight:**

195 lbs

**Gauge:**

7

**Wall Thickness:**

3/16"

**Shaft Size:**

4"

**Hand Hole Dimensions:**

3" x 5"

**Bolt Circle:**

8 1/2"

**Base Dimension:**

8"

**Technical Specifications (continued)**

**Construction**

**Anchor Bolt:**

Galvanized anchor bolts and galvanized hardware and anchor bolt template. All bolts have a 3" hook.

**Anchor Bolt Templates:**

WARNING Template must be printed on 11" x 17" sheet for actual size. CHECK SCALE BEFORE USING. Templates shipped with anchor bolts and available [online](#).

**Pre-Shipped Anchor Bolts:**

Bolts can be pre-shipped upon request for additional freight charge

**Max EPA's/Max Weights:**

- 70MPH 15.7 ft./430 lb.
- 80MPH 10.7 ft./425 lb.
- 90MPH 7.3 ft./420 lb.
- 100MPH 4.9 ft./400 lb.
- 110MPH 3.1 ft./395 lb.
- 120MPH 1.7 ft./395 lb.
- 130MPH 0.7 ft./360 lb.

**Other**

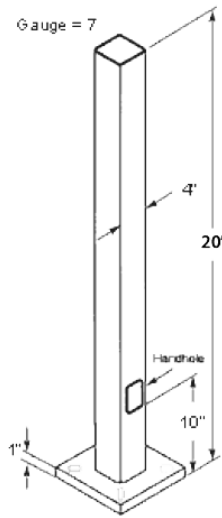
**Terms of Sale:**

Pole Terms of Sale is available [online](#).

**Buy American Act Compliance:**

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

**Dimensions**



**Features**

- Designed for ground mounting
- Heavy duty TGIC polyester coating
- Reinforced hand holes with grounding lug and removable cover for easy wiring access
- Pole caps, base covers & bolts are sold separately
- Custom manufactured for each application





Color: Bronze

Weight: 33.4 lbs

<b>Project:</b>	<b>Type:</b>
<b>Prepared By:</b>	<b>Date:</b>

Driver Info		LED Info	
Type	Constant Current	Watts	78W
120V	0.66A	Color Temp	4000K (Neutral)
208V	0.41A	Color Accuracy	72 CRI
240V	0.35A	L70 Lifespan	100,000 Hours
277V	0.30A	Lumens	9,804
Input Watts	76.2W	Efficacy	128.7 lm/W

**Technical Specifications**

**Compliance**

**UL Listed:**

Suitable for wet locations as a downlight

**DLC Listed:**

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.

DLC Product Code: P000017AN

**IESNA LM-79 & IESNA LM-80 Testing:**

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

**Dark Sky Conformance:**

Conforms to (allows for conformance to) the requirements for the IDA's "Fixture Seal of Approval" as of March 1, 2016.

**Performance**

**Lifespan:**

100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

**Construction**

**IP Rating:**

Ingress protection rating of IP66 for dust and water

**Ambient Temperature:**

Suitable for use in up to 40°C (104°F)

**Cold Weather Starting:**

Minimum starting temperature is -40°C (-40°F)

**Housing:**

Die-cast aluminum housing, lens frame and mounting arm

**Reflector:**

Specular vacuum-metallized polycarbonate

**Gaskets:**

High-temperature silicone gaskets

**Finish:**

Formulated for high durability and long-lasting color

**Green Technology:**

Mercury and UV free. RoHS-compliant components.

**Optical**

**Specification Grade Optics:**

The Type IV distribution (also known as a Forward Throw) is especially suited for mounting on the sides of buildings and walls, and for illuminating the perimeter of parking areas. It produces a semiCircular distribution with essentially the same candlepower at lateral angles from 90° to 270°.

**Technical Specifications (continued)**

**Optical**

**BUG Rating:**

B1 U0 G2

**LED Characteristics**

**LEDs:**

Six (6) multi-chip, 13W, high-output, long-life LEDs

**Color Consistency:**

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

**Color Stability:**

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

**Color Temperature:**

4100K

**Color Uniformity:**

RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

**Electrical**

**Driver:**

Constant Current, Class 2, 2000mA, 100-277V, 50-60Hz, 1.1A, Power Factor 99%

**THD:**

4.4% at 120V, 12.8% at 277V

**Surge Protection:**

6kV

**Other**

**Equivalency:**

Equivalent to 400W Metal Halide

**Warranty:**

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at [rablighting.com/warranty](http://rablighting.com/warranty).

**Patents:**

The WPLED design is protected by patents pending in the U.S., Canada, China, Taiwan and Mexico.

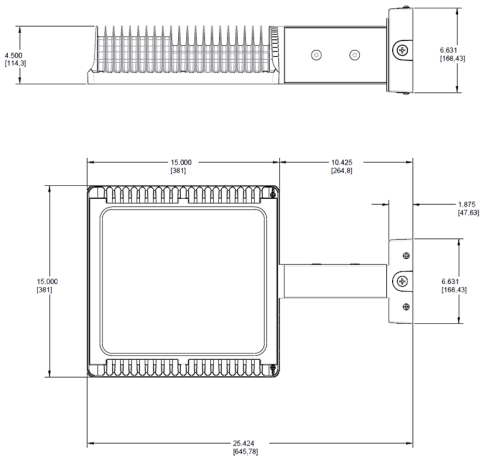
**Replacement:**

Replaces 400W Metal Halide

**Buy American Act Compliance:**

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

**Dimensions**



**Features**

- High performance LED light engine
- Maintains 70% of initial lumens at 100,000-hours
- Weatherproof high temperature silicone gaskets
- Superior heat sinking with die cast aluminum housing and external fins
- Replaces 400W MH
- 100 up to 277 Volts
- 5-Year, No-Compromise Warranty

Ordering Matrix

Family	Optics	Wattage	Color Temp	Mounting	Finish	Driver Options	Other Options
WPLED	4T	78	N				
	4T = Type IV 3T = Type III 2T = Type II	50 = 50W 78 = 78W 105 = 105W 125 = 125W 150 = 150W	Blank = 5000K Cool N = 4000K Neutral Y = 3000K Warm	Blank = Arm FX = Flat Mount	Blank = Bronze W = White	Blank = Standard /480 = 480V /BL = Bi-Level /D10 = 0-10V Dimming /480/D10 = 480V 0-10V Dimming	Blank = Standard /PC = 120V Photocell /PC2 = 277V Photocell /PCT = 120-277V Twistlock Photocell /PCT4 = 480V Twistlock Photocell /PCS = 120V Swivel Photocell /PCS2 = 277V Swivel Photocell /PCS4 = 480V Swivel Photocell /WS = Multi-Level Motion Sensor /WS2 = Multi-Level Motion Sensor (20 ft. mt. ht.) /WS4 = Multi-Level Motion Sensor (40 ft. mt. ht.) /LC = Lightcloud® Controller