

# HAP

Project Name:	
Type:	



### APPLICATION

For all applications in site, area, and general lighting requiring high uniformity, excellent vertical light distribution, reduced offsite visibility, reduced on-site glare and effective security light levels. The HAP luminaire delivers exceptional performance in a low-profile design.

### FEATURES:

- Die-cast aluminium construction body on which electrical components.
- Die-cast integral heat sink to provide thermal management.

### MOUNTING:

- PMS: Pole mount arm available for 3", 4" and 5" square pole.
- PMR: Pole mount arm available for 3"(PMR3), 4" (PMR4) and 5" (PMR5) dia. round pole.
- SF: Adjustable slip fitter mount available for pipe installation (1-21/32"O.D to 2-3/8"O.D)
- Mounting arm bolts are 304 stainless steel and zinc-plated steel.

### LED:

- Color Temperature: 4000 / 5000K
- Color Rendering Index: 70+ CRI.
- CREE LED.
- Lifetime: over 50,000 hours.
- Reported L70: +69,600 hours.
- 5 steps LED chips.
- Optical lens is used to reduce glare.

### ELECTRICAL:

- Power Efficiency: > 90%
- Operating temperature: -40°C to 40°C
- Input Voltage: 100V-277V, 50/60Hz.
- THD < 20%
- Provided with integrated surge protection (6kV line-line, 10kV line-earth).
- Optional integrated 10kV/10kA surge protection available (SP10).
- Over Voltage Protect : Hiccup mode. The power supply shall return to normal operation only after the power is turn-on again.
- Short Circuit Protect : No damage shall occur when any output operating in a short circuit condition. The power supply shall be self-recovery when the fault condition is removed.
- Over Temperature Protect : 110°C
- Meets ANSI/IEEE C62.41 Category C (outdoors) High.

### OPTIC:

- UV stabilized polycarbonate lens.

### LISTING:

- UL / CUL listed.
- Listed to UL 1598 and UL 8750.
- DLC listed. <sup>3</sup>
- ARRA compliant. (optional)
- Suitable for wet location.
- Tested to IESNA LM80 standards.
- LM79, LM80.
- IP66 rated optical enclosure per ANSI C136.25-2009.
- Light engines are IP66 rated; luminaire is IP65 rated.
- 5 years limited warranty.

### CONFIGURATIONS

Model	LED	Input Watts	Distribution	Lumen Output	Lumen Efficiency	B.U.G. Rating	EPA Rating (w/o photocell)	EPA Rating (w/ photocell)	Weight
HAP	240LED	235	T2M	26542 lm	113 lm/W	B4-U0-G4	1.119	1.149	43.59 lbs (19.77 kg)
		234	T3M	26386 lm	112 lm/W	B4-U0-G4			
		233	T4M	25591 lm	109 lm/W	B4-U0-G5			
		234	T5S	26997 lm	115 lm/W	B5-U0-G3			
	320LED	300	T2M	33479 lm	112 lm/W	B4-U0-G4	1.225	1.26	49.77 lbs (22.57 kg)
		301	T3M	36459 lm	121 lm/W	B4-U0-G4			
		299	T4M	34811 lm	116 lm/W	B4-U0-G5			
		301	T5S	33964 lm	112 lm/W	B5-U0-G4			
	400LED	359	T2M	40106 lm	111 lm/W	B4-U0-G4	1.315	1.344	56.38 lbs (25.57 kg)
		367	T3M	43783 lm	119 lm/W	B4-U0-G4			
		369	T4M	43128 lm	116 lm/W	B4-U0-G5			
		358	T5S	40326 lm	112 lm/W	B5-U0-G4			
	480LED	465	T2M	51013 lm	109 lm/W	B5-U0-G5	1.4	1.428	62.97 lbs (28.56 kg)
		466	T3M	51054 lm	109 lm/W	B4-U0-G4			
		468	T4M	50562 lm	108 lm/W	B5-U0-G5			
		463	T5S	51794 lm	111 lm/W	B5-U0-G5			

### HAP-240LED

Polar Candela Distribution (TYPE 3 medium)

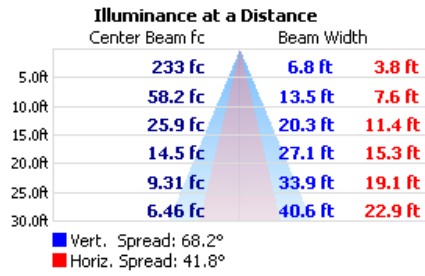
Downward Street Side	19,483.3	67.5%
Downward House Side	9,376.6	32.5%
Downward Total	28,860.0	100%

Polar Candela Distribution (TYPE 4 medium)

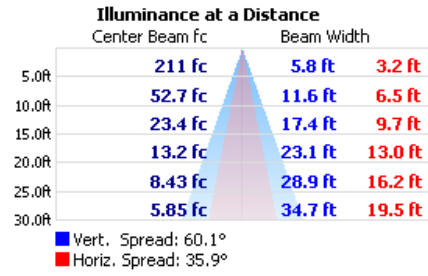
Downward Street Side	19,541.4	67.7%
Downward House Side	9,322.8	32.3%
Downward Total	28,864.2	100%

# HAP

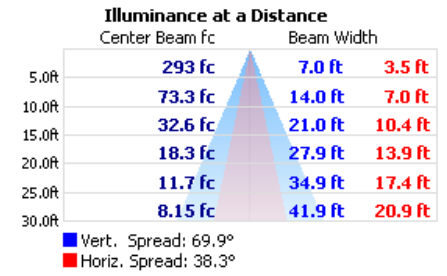
HAP-240LED-T3M



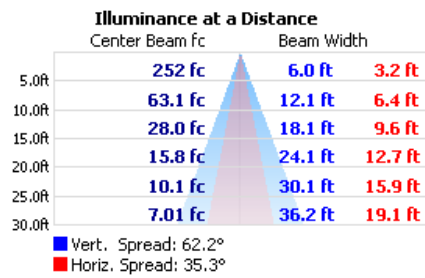
HAP-240LED-T4M



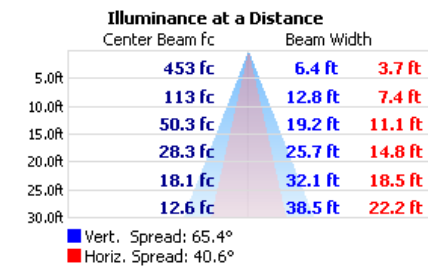
HAP-320LED-T3M



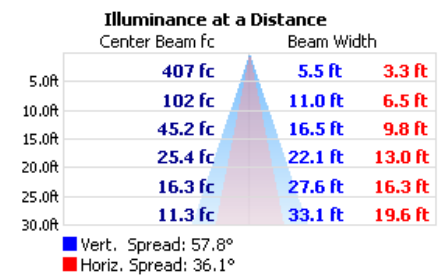
HAP-320LED-T4M



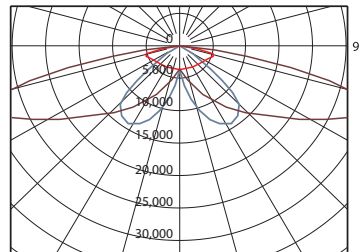
HAP-480LED-T3M



HAP-480LED-T4M

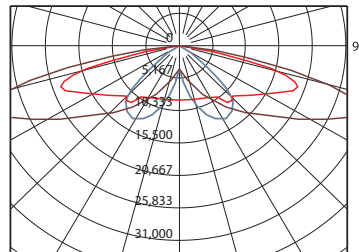


Polar Candela Distribution (TYPE 3 medium + House Shield)



Downward Street Side	26,468.9	92.4%
Downward House Side	2,169.5	7.6%
Downward Total	28,638.4	100%

Polar Candela Distribution (TYPE 3 medium)







Downward Street Side	29,617.1	67.6%
Downward House Side	14,168.2	32.4%
Downward Total	43,785.3	100%

# HAP

ORDERING INFORMATION

EXAMPLE: HAP-240LED-50K-T3M-UNV-DM-SF

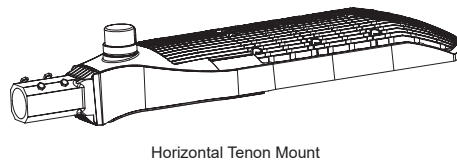
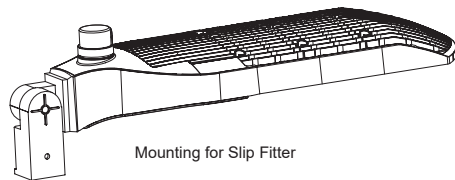
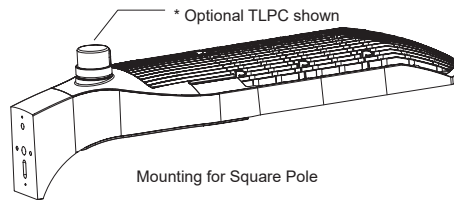
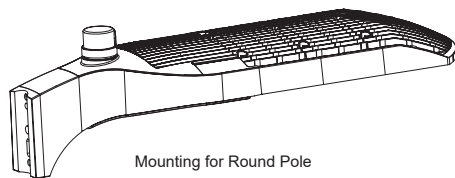
MODEL	LED		COLOR TEMP.		DISTRIBUTION			VOLTAGE		DIMMING		FINISH				
HAP	240LED	234W	-40K -50K	4000K	T2	Type II Medium		UNV	120-277V (Std.)	DM	0-10V Dimming. (Std.)	BZ	Dark Bronze RAL#8019 (Std.)			
	320LED	301W		5000K (Std.)					347V							
	400LED	367W				T3M			Type III Medium						480	480V
	480LED	466W				T4M			Type IV Medium							
					T5S	Type V Short										

\* Available custom color (RAL)  
Please provide us with the RAL number.  
\* Non-standard finish with extra charge.

MOUNTING		OPTIONS			
SF	Slip Fitter	HS	House Shield	FSP-211	0-10V Dimming Control Occupancy Sensor <sup>1,2</sup>
PMS	Square Pole Mount Arm	RC	NEMA twist-lock receptacle only (no controls)	(L2)	FSP-L2 Lens @ 8' height (up to 44' diameter)
PMR3	3" Round Pole Mount Arm	RC7	NEMA 7-wire receptacle only (no controls)	(L3)	FSP-L3 Lens @ 20' height (up to 40' diameter)
PMR4	4" Round Pole Mount Arm	TLPC3	3-Pin Receptacle and Twist Lock Photocell Installed 120V-277V	(L4)	FSP-L4 Lens @ 40' height (up to 60' diameter)
PMR5	5" Round Pole Mount Arm	TLPC4	3-Pin Receptacle and Twist Lock Photocell Installed 480V	(L7)	FSP-L7 Lens @ 40' height (up to 100' diameter)
MA	Horizontal Tenon Mount (Mounts to 2" IP, 2.375" O.D)	TLPC-SC	Shorting Cap (Black)	ARRA	Assembled in USA for Buy American act
		RS	Remote handheld configuration tool for FSP-211 <small>* Contact Factory for more options</small>	BR	Bird Guard, Stainless Steel Spikes
		SP10	Integrated 10kV/10kA surge protection	LRD-309S-x	0-10V Dimming Control Occupancy Sensor (*IR remote programmable), (See note 6 to select lens for "x") <sup>5,7</sup>
		SP20	Integrated 20kV/20kA surge protection	LRD-509S-x	IP-66 rated integrated 0-1-V SmartDIM or multi-level high/low dim control occupancy sensor (*IR remote programmable), (See note 6 to select lens for "x") <sup>5,7</sup>
				RS-LRD	Remote programmer for LRD-509S and LRD-309S

NOTES:

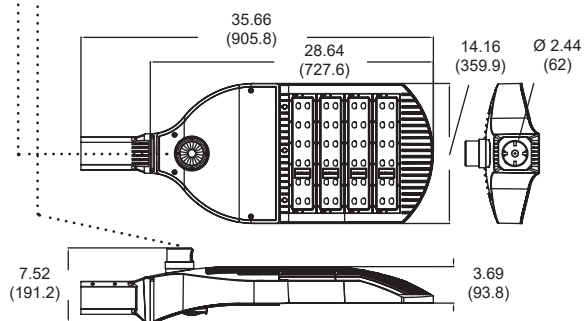
- Must specify lens. (L2, L3, L4, L7)
- Default settings are Title 24 compliant for all spaces that do not require daylighting.  
For spaces that do require it, adjustments will be necessary for the Hold Off Setpoint and the Photocell functions.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified.  
Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified.
- Standard dimming 0-10V, ANSI C136.41, Photocell and shorting cap by others.
- Its default setting can be found on the IR-TEC installation instructions.
- A: Standard cone shape Lens @ 15' height (up to 30' coverage)
- B: Extra wide cone shape Lens @ 10' height (up to 60' coverage)
- C: High bay cone shape Lens @ 30' height (up to 90' coverage)
- D: Standard round shape Lens @ 20' height (up to 40' coverage)
- F: Extra wide dome shape Lens @ 20' height (up to 80' coverage)
- G: Aisle way arch shape Lens @ 40' height (up to 120' coverage)
- H: High bay dome shape Lens @ 50' height (up to 50' coverage)
- Order "RS-LRD" to adjust sensor setting.



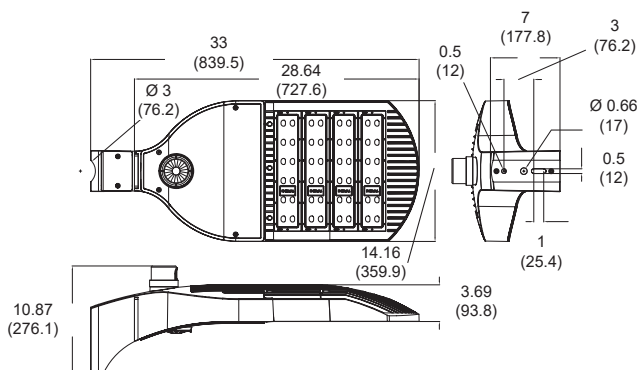
# HAP

## 240W

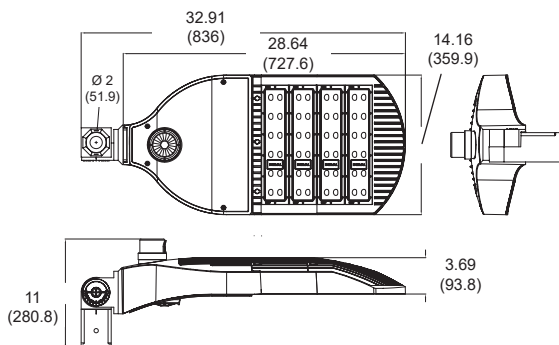
\* Optional FSP-211 shown  
 \* Optional TLPC shown



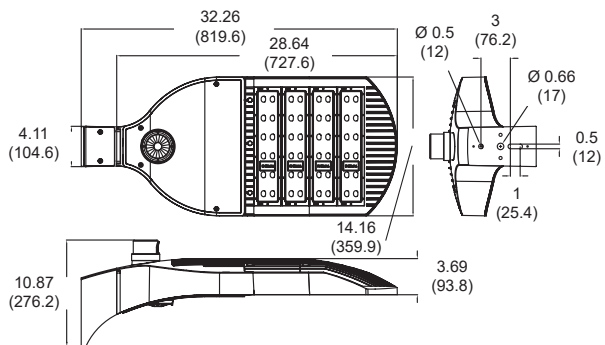
Horizontal Tenon Mount



Mounting for Round Pole



Mounting for Slip Fitter

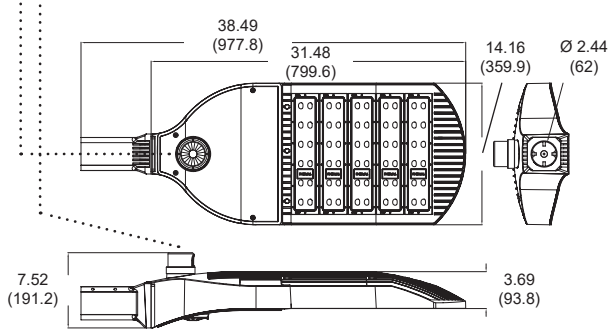


Mounting for Square Pole

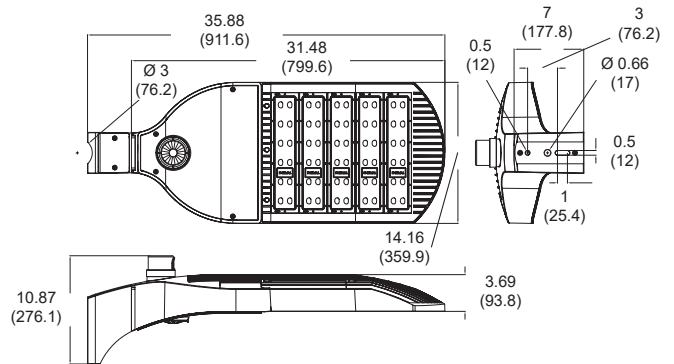
# HAP

## 320W

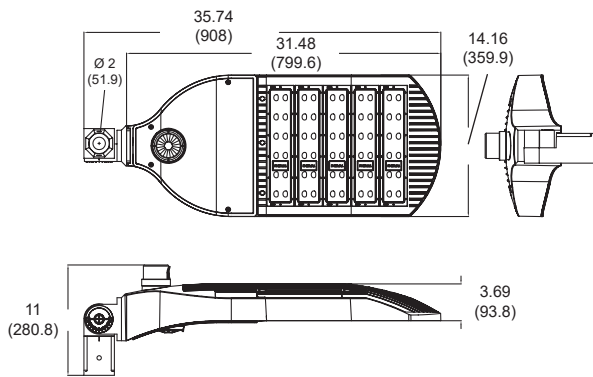
\* Optional FSP-211 shown  
 \* Optional TLPC shown



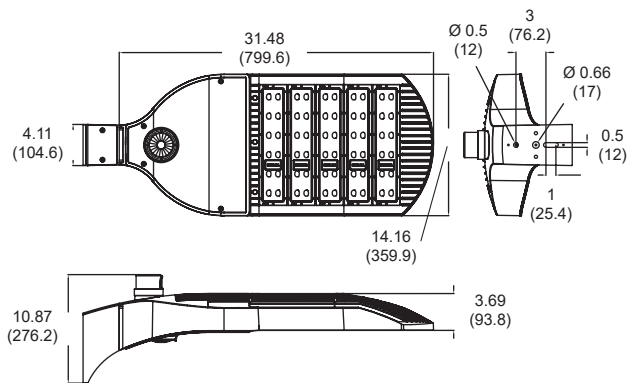
Horizontal Tenon Mount



Mounting for Round Pole



Mounting for Slip Fitter

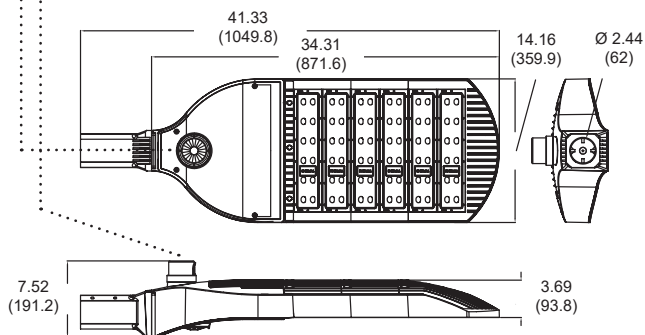


Mounting for Square Pole

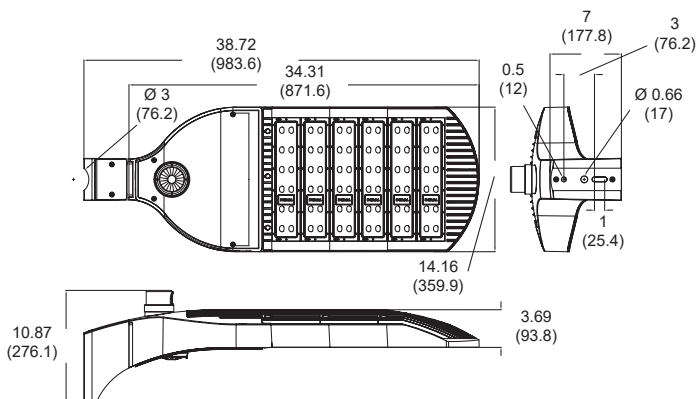
# HAP

**400W**

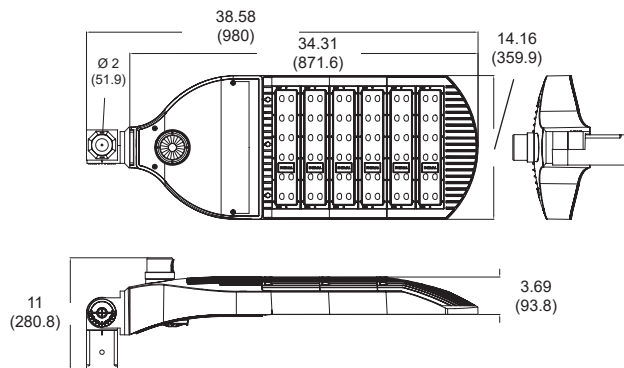
..... \* Optional FSP-211 shown  
 ..... \* Optional TLPC shown



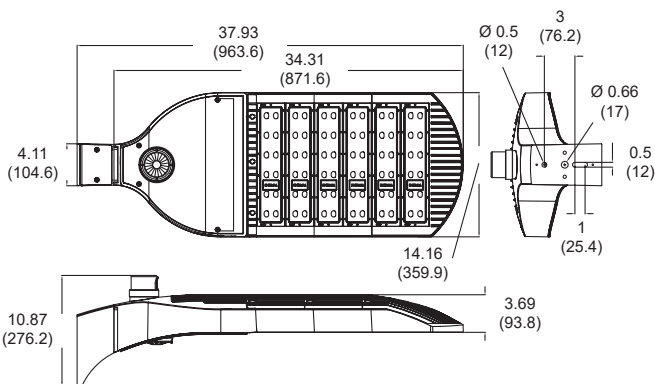
**Horizontal Tenon Mount**



**Mounting for Round Pole**



**Mounting for Slip Fitter**

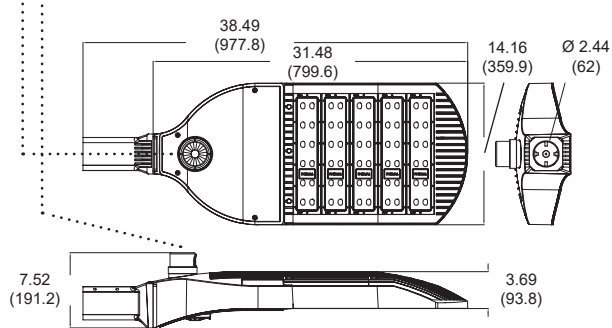


**Mounting for Square Pole**

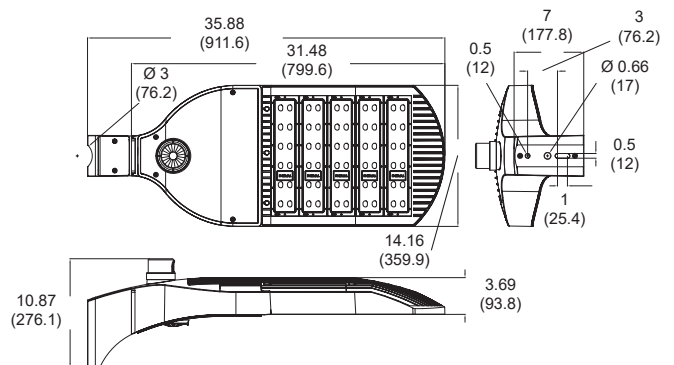
# HAP

## 320W

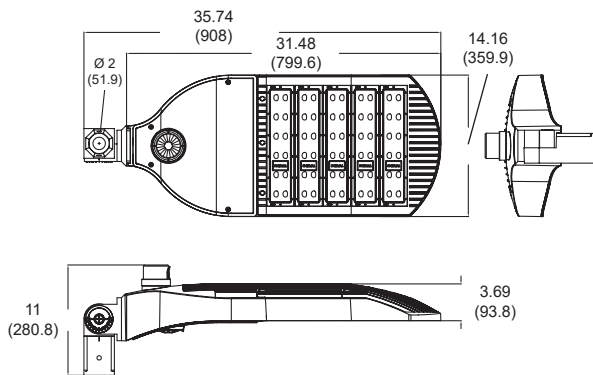
\* Optional FSP-211 shown  
 \* Optional TLPC shown



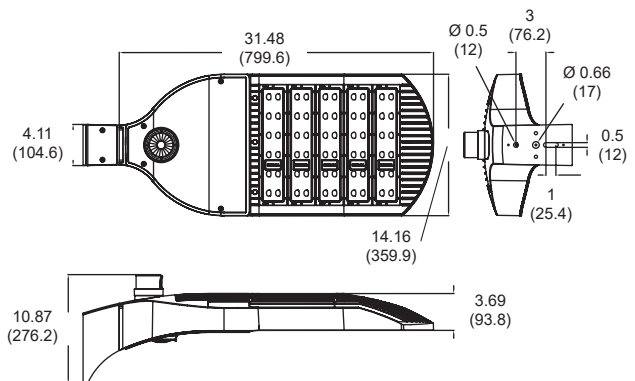
Horizontal Tenon Mount



Mounting for Round Pole



Mounting for Slip Fitter

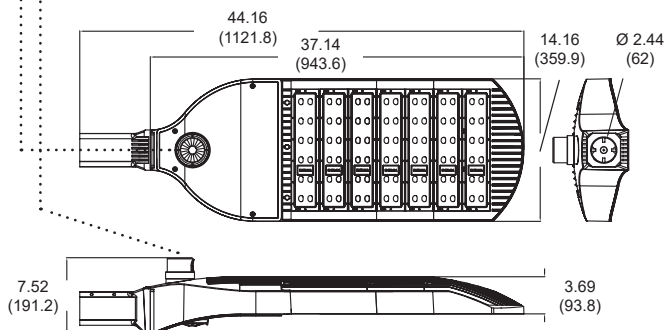


Mounting for Square Pole

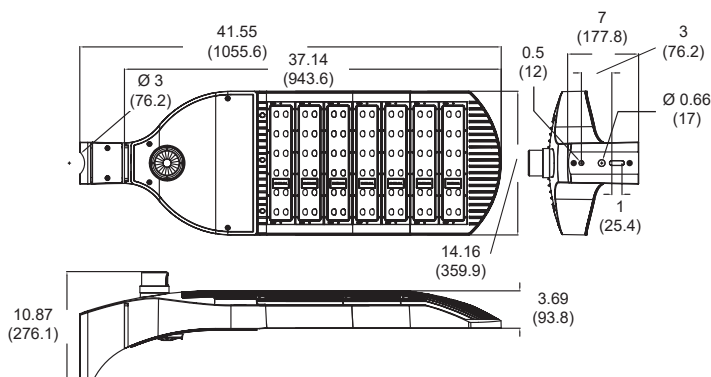
# HAP

## 480W

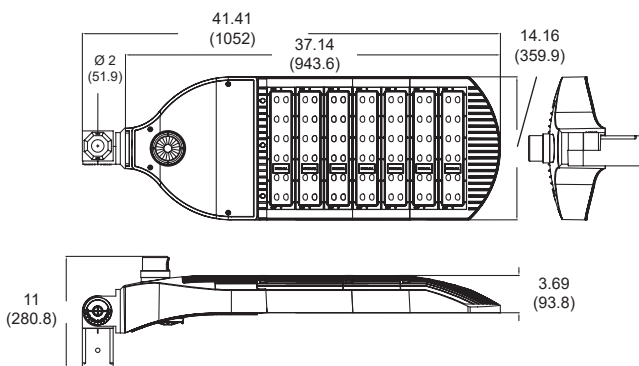
\* Optional FSP-211 shown  
 \* Optional TLPC shown



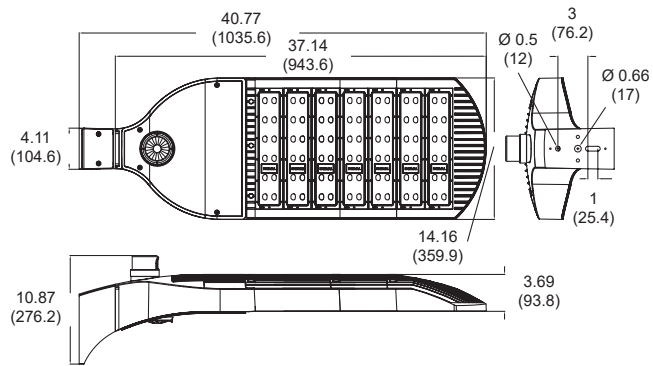
Horizontal Tenon Mount



Mounting for Round Pole



Mounting for Slip Fitter



Mounting for Square Pole



## HAP

## FSP-211

Digital High/Low Passive Infrared Fixture Integrated Outdoor Sensor by Wattstopper



- Fully adjustable high and low dimmed light levels
- Designed for LED fixtures; rated for extreme temperatures and up to 200,000 on/off cycles
- Hold off setpoint with automatic calibration option for convenience and added energy savings
- Adjustable via handheld wireless configuration tool
- IP66 rated with choice of lenses for wet and outdoor locations, and mounting heights from 8' to 40'
- Adjustable time delay and cut off delay

## Product Overview

## Description:

- The FSP-211 mounts in an outdoor lighting fixture and provides multi-level control based on motion. The sensor also includes a photocell to measure the ambient light level. It controls 0-10 VDC LED drivers or dimming ballasts, as well as non-dimming ballasts and, with an FSP-Lx Lens, is rated for wet and cold locations. All control parameters are adjustable via a wireless configuration tool capable of storing and transmitting sensor profiles.

## Wireless Handheld Configuration Tool:

- Initial setup and subsequent sensor adjustments are made using a handheld configuration tool (FSIR-100). This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cut off and more. The FSIR-100 is also used to initiate automatic calibration of the FSP-211 ambient light level setpoint. The setpoint is used to hold the controlled lighting off or at low level when there is sufficient daylight. The wireless tool stores up to five sensor parameter profiles to speed configuration of multiple sensors.

## Operation:

- The sensor ramps lighting On to the selected High mode level when motion is first detected and the ambient light level is below the hold off setpoint. After the sensor stops detecting movement and the time delay elapses, lights fade to the Low mode level. If there is no motion during the subsequent cut off time delay, the lights will turn Off. If the sensor detects motion before the lights turn Off, it ramps the light level back to High, unless the daylight contribution is sufficient to hold lighting at Low.

## Applications:

- The slim, low-profile FSP-211 is designed for installation inside the bottom of a light fixture body. When fully assembled and installed in an IP66-rated fixture, the sensor and FSP-Lx lenses are IP66 outdoor rated. The sensor is ideal for areas such as parking facilities, gas stations, pedestrian pathways and warehouses. A choice of four lenses ensures complete coverage for mounting heights up to 40'.

## Features

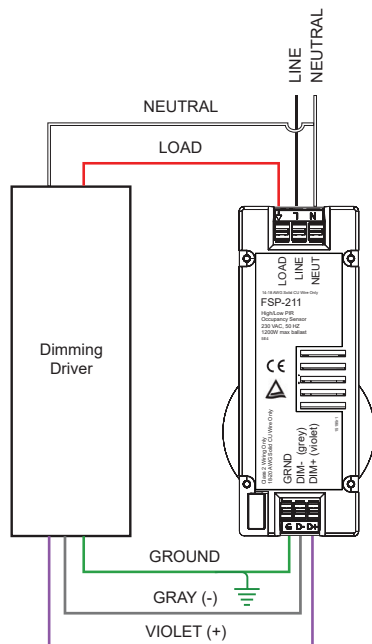
- Provides line voltage On/Off switching and 0-10 VDC dimming control
- Works with ballasts or LED drivers
- High and low modes fully adjustable from 0 to 10V
- Time delay from 5 to 30 minutes
- Optional cut off delay
- Adjustable ramp up and fade down times
- Optional daylighting setpoint features automatic calibration, or permits manual adjustment
- Configuration tool stores five sensor profiles for quick setup and adjustment of multiple sensors
- Polycarbonate construction; flame retardant, UV resistant, impact resistant, recyclable
- UL244A and UL508; IP66 rated (when fully assembled and installed) for use in wet locations

## Specifications

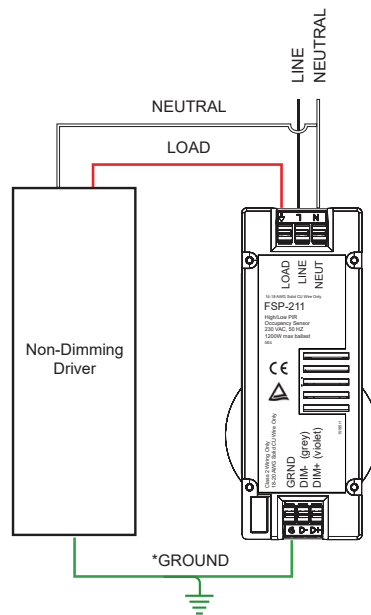
- 120/277 VAC, 50/60Hz
  - Load @120 VAC 0-800W ballast or incandescent
  - Load @277 VAC 0-1200W ballast
- 230 VAC, 50Hz; Load 0-300W ballast
- Relay life rating: 200,000 cycles (120/277 VAC); 50,000 cycles (230 VAC)
- High mode: 0-10 V; default 10 V
- Low mode: Off, 0-9.8 V; default 1 V
- Time delay: 30 sec., 5-30 min.; default 5 min.
- Cut off delay: none, 1-60 min. 1-5 hrs.; default 1 hr.
- Sensitivity: none, low, med, max; default max
- Setpoint: none, 1-250 fc, auto; default 4 fc
- Ramp up time: none, 1-60 sec.; default none
- Fade down time: none, 1-60 sec.; default none
- Operating temperature: -40-167°F (-40-75°C)
- Operating Humidity: 20-90%
- Weight: 2.8 oz (80 grams)
- IP66, CE compliant
- TUV, UL and cUL listed
- Five year warranty

# HAP

Dimming Wiring Diagram



Non-Dimming Wiring Diagram



\* The FSP-211 must be properly grounded.