

CATALOG #: \_\_\_\_\_

TYPE: \_\_\_\_\_

PROJECT: \_\_\_\_\_



## FEATURES

- Upgrade existing fixtures to energy-efficient LED source
- Installs in less than 3 minutes without disrupting the ceiling plenum
- Uniform ambient illumination
- Designed to fit into most 1x4, 2x2, and 2x4 fixture housings with a minimum fixture depth of 3-3/8"
- Maximize energy savings with efficacies up to 142 lm/W
- Reduces energy consumption up to 40%
- Wireless in-fixture control solutions available
- Available with BIOS® SkyBlue® technology to support proper daytime circadian stimulus
- Made Right Here® in the USA

## SPECIFICATIONS

- HOUSING** – Provided by others, must fit within approved minimum dimensions.
- REFLECTOR/WIREWAY COVER** – 25-gauge C.R.S.
- SHIELDING** – Diffuse ribbed acrylic.
- FINISH** – 92% minimum average reflective white powder coat. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
- ELECTRICAL** – High-quality mid-power LED boards. See fixture performance data for lumen maintenance.
- MOUNTING** – Designed to retrofit existing troffers and parabolics in 1" nominal grid ceiling applications.
- LISTINGS** –
  - cCSAus certified as luminaire suitable for dry or damp locations.
  - Complies with the Buy American Act and other federal regulations. Request certification at [hew.com/baa](http://hew.com/baa).
- WARRANTY** – 5-year limited warranty, see [hew.com/warranty](http://hew.com/warranty).

**Note:** H.E. Williams, Inc. recommends installing a trial fixture prior to ordering full project quantities.

## ORDERING EXAMPLE: PTR - 2 4 - L90/835 - RA - OPTIONS - CONTROL/DIM - UNV

### ORDERING INFO

SERIES	WIDTH	LENGTH	LUMENS <sup>[1]</sup>	CRI	CCT	SHIELDING
PTR	1 1' <sup>[2]</sup>	2 2' <sup>[3]</sup>	1x4	8 80	27 2700K	RA Diffuse ribbed acrylic, round
		2 2'	4 4'	L27 2,700lm	9 90 <sup>[4]</sup>	30 3000K
	2 2'		L45 4,500lm		35 3500K	
			L61 6,100lm		40 4000K	
			L80 8,000lm		50 5000K	
			2x2			
			L26 2,600lm			
			L38 3,800lm			
			L47 4,700lm			
			L61 6,100lm			
			2x4			
			L38 3,800lm			
			L49 4,900lm			
			L61 6,100lm			
			L90 9,000lm			
			L110 11,000lm			

### OPTIONS <sup>[6]</sup>

<b>EM/10W</b>	10-watt emergency battery
<b>EM/12W</b>	12-watt emergency battery <sup>[8]</sup>
<b>(L___)</b>	Additional lower lumen packages available. Example: 8,000 lumens = PTR-24-L90/835-(L80) <sup>[9]</sup>

### CONTROL <sup>[7]</sup>

See page 5 for <b>ADDITIONAL CONTROL OPTIONS</b> .	
–	None
<b>AVI-LVFA</b>	Avi-on wireless fixture control <sup>[10]</sup>
<b>AVI-LVFA-CS2-PIR</b>	Avi-on wireless fixture control with PIR motion and daylight sensor <sup>[11]</sup>
<b>AWNRR</b>	Lutron Athena wireless node integral fixture control, RF only <sup>[12]</sup>
<b>AWNS</b>	Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing <sup>[13]</sup>

### DRIVER

See page 5 for **ADDITIONAL DRIVER OPTIONS**.

<b>DIM</b>	Driver with external 0-10V dimming wires
<b>DRV</b>	Driver without external dimming wires
<b>DA</b>	Driver with 12V auxiliary power, without external dimming wires <sup>[14]</sup>
<b>DSR</b>	Sensor-ready driver without external dimming wires (D4i DALI-2) <sup>[15]</sup>
<b>L3DA</b>	Lutron Hi-lume 1% 3-wire driver <sup>[16]</sup>

### VOLTAGE

<b>120</b>	120V
<b>277</b>	277V
<b>UNV</b>	120-277V
<b>347</b>	347V <sup>[17]</sup>

## NOTES

- Lumen output based on 80 CRI/3500K CCT, RA shielding. Actual performance may vary +/-5%, see page 2 for **FIXTURE PERFORMANCE DATA**.
- 4' length only.
- 2' width only.
- Extended lead times may apply. Consult factory for availability.
- Increases lumen output by 3%.
- See **Technical Info** for Drywall Kit details.
- See page 4 for **AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS**. See page 3 for **SENSOR & NODE PLACEMENT DETAILS**.
- Not available when CEC regulations are required.

- Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
- DA Driver only.
- DA Driver only.
- DA and DSR Drivers only.
- DA and DSR Drivers only.
- Avi-on and Lutron Athena Controls only.
- Lutron Vive and Athena Controls only.
- Not available with 1x4: L80, 2x2: L61, 2x4: L90 and L110 lumen packages.
- Not available with EM batteries, DA, or DSR drivers.



## FIXTURE PERFORMANCE DATA

	LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)	LUMEN MAINTENANCE <sup>1</sup>			
					L70	L80	L85	L90
1x4	L27	2626	18.8	140	>72,000	>72,000	63,000	42,000
	L45	4316	30.4	142	>72,000	>72,000	63,000	42,000
	L61	6181	45.5	136	>72,000	>72,000	63,000	42,000
	L80	7978	61.9	129	>72,000	62,000	45,000	29,000
2x2	L26	2924	21.5	136	>72,000	>72,000	63,000	42,000
	L38	3804	32.6	117	>72,000	>72,000	63,000	42,000
	L47	4708	38.1	124	>72,000	>72,000	63,000	42,000
	L61	6073	50.2	121	>72,000	62,000	45,000	29,000
2x4	L38	3782	28.5	133	>72,000	>72,000	63,000	42,000
	L49	5078	36.7	138	>72,000	>72,000	63,000	42,000
	L61	6181	45.5	136	>72,000	>72,000	63,000	42,000
	L90	9060	66.6	136	>72,000	>72,000	63,000	42,000
	L110	11086	83.7	132	>72,000	>72,000	63,000	42,000

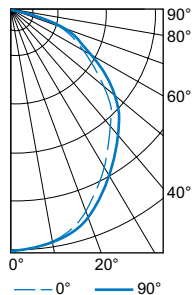
## MULTIPLIER TABLE

	COLOR TEMPERATURE	
	CCT	CONVERSION FACTOR
80 CRI	2700K	0.97
	3000K	0.99
	3500K	1.00
	4000K	1.03
	5000K	1.06
90 CRI	2700K	0.82
	3000K	0.83
	3500K	0.84
	4000K	0.86
	5000K	0.90

- Photometrics tested in accordance with IESNA LM-79. Results based on RA Shielding, 80 CRI/3500K CCT, average wattage for 120V through 277V input, and 25°C ambient temperature. Actual performance may vary +/-5%
  - To calculate lumen output in emergency mode, multiply the battery wattage by the efficacy.
  - Use multiplier table to calculate additional options.
- <sup>1</sup> Predicted lumen maintenance calculated in accordance with IES TM-21 per Energy Star (R) TM-21 Calculator rev. 02.08.16.

## PHOTOMETRY

PTR-24-L110/835-RA-DIM-UNV Total Luminaire Output: 11086 lumens; 83.7 Watts | Efficacy: 132 lm/W | 80 CRI; 3500K CCT



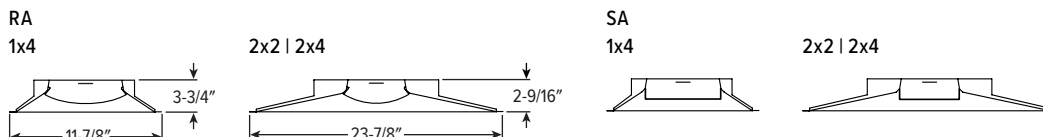
VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	4241	4241	4241	
5	4177	4171	4149	399
15	4054	4067	4084	1139
25	3572	3620	3664	1649
35	2887	2979	3055	1859
45	2347	2477	2603	1896
55	1707	1868	2018	1675
65	1105	1310	1488	1293
75	524	805	996	846
85	106	355	407	332
90	0	0	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	3186	29
	0 - 40	5045	46
	0 - 60	8616	78
	0 - 90	11086	100
	0 - 180	11086	100

## RETROFIT GUIDE

FLUORESCENT	WATTAGE	LED	WATTAGE	SAVINGS
1 - 32W T8	31	PTR-14-L27/	21	32%
2 - 32W T8	58	PTR-14-L45/	34	41%
3 - 17W T8	48	PTR-22-L47/	38	20%
2 - 32W T8	58	PTR-24-L49/	37	36%
3 - 32W T8	88	PTR-24-L61/	49	45%
4 - 32W T8	112	PTR-24-L90/	71	37%

## CROSS SECTIONS

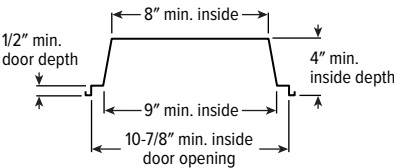


FIXTURE DETAILS

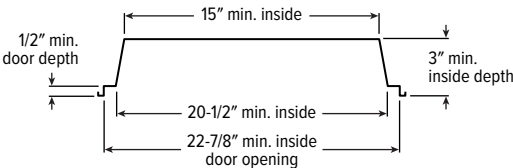
The PTR retrofit kit is designed to fit the following fixture housing dimensions. H.E. Williams, Inc. recommends a trial installation prior to purchasing full quantities.

WIDTH

1x4

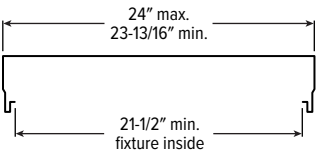


2x2 | 2x4

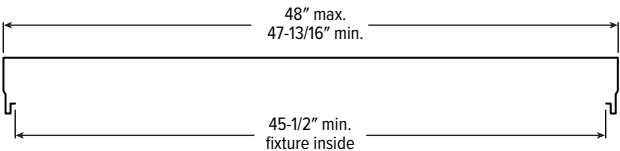


LENGTH

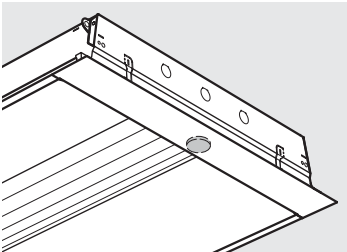
2x2



1x4 | 2x4



SENSOR & NODE PLACEMENT DETAILS



SEE NEXT PAGE FOR CONTROL DETAILS.



AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS

FEATURES

Simple

- Gateway-free distributed control
- Factory pre-commissioning
- Contractor friendly installation
- Occupancy/vacancy/daylight sensing

Scalable

- Virtually unlimited network size
- Spans small offices to large warehouses
- Flexible control strategies

Secure

- Optional cloud connectivity
- UL IoT platinum security rating
- DLC 5.0 compliant

COMMISSIONING & INSTALLATION TOOLS

Avi-on mobile apps provide intuitive, quick installation and commissioning. Pro tools are available to qualified installers. Live commissioning training and on-site or remote support by Avi-on must be ordered separately through Avi-on.



Commissioning  
Mobile App

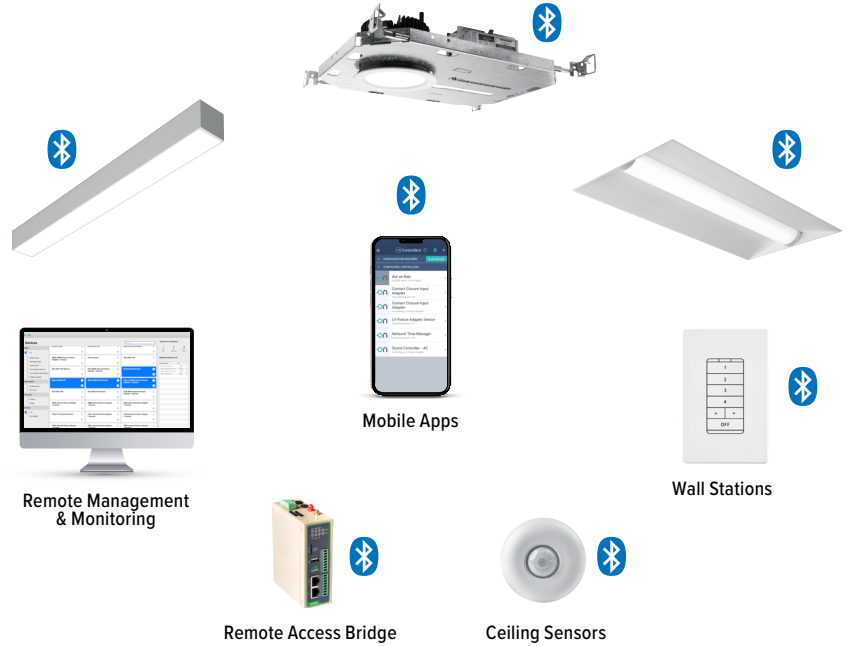


Zone Scanner  
Web App



Commissioning  
Pro App

SYSTEM COMPONENTS



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ACCESSORIES

WALL STATIONS	
AVI-2401AC	Scene controller - numbered 1-4, 120-277VAC
AVI-2402BAT	Scene controller - numbered 1-4, battery powered
AVI-2401AC-2	Dimmer with presets - percentages, 120-277VAC
AVI-2402BAT-2	Dimmer with presets - percentages, battery powered
AVI-2401AC-3	On/off/dimming, 120-277VAC
AVI-2402BAT-3	On/off/dimming, battery powered

NETWORK	
AVI-RAB-LTE	Remote access bridge
AVI-KIT-NTM	Network time manager with battery backup
CEILING MOUNT SENSORS	
AVI-KIT-SEN-DUCM	PIR motion and ultrasonic sensor kit
AVI-KIT-SEN-ICM	PIR motion and photocell sensor kit

For load controllers and additional accessory info, see [hew.com/avi-on](http://hew.com/avi-on)

AVI-LVFA-CS2-PIR Avi-on wireless fixture control with PIR motion and daylight sensor. DA Driver only.

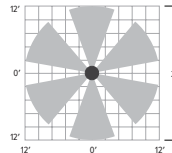
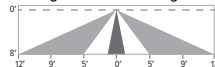
SPECIFICATIONS	
TYPE	PIR Motion + Daylight
MOUNTING HEIGHT	8' – 10'
DETECTION ANGLE	360°
TEMPERATURE RANGE	-30° to 50°C
RELATIVE HUMIDITY	10 to 80% non-condensing
IP RATING	IP20
MANUFACTURER	Avi-On

Bluetooth® Lighting Controls

SENSOR COVERAGE PATTERNS

Side View

8' height: ø24' coverage



SENSOR DETAIL



Dimensions: 13/16" x 2-1/4"



## ADDITIONAL CONTROL OPTIONS

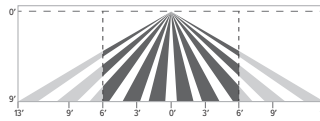
**AWNS** Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing. DA and DSR Drivers only.

SPECIFICATIONS	
TYPE	Radio Frequency
MOUNTING HEIGHT	8' – 12'
DETECTION ANGLE	360°
TEMPERATURE RANGE	0° to 55°C
RELATIVE HUMIDITY	0 to 90%, non-condensing
COMMISSIONING	Clear Connect gateway – Type X with app (iOS or Android)
MANUFACTURER	Lutron



### SENSOR COVERAGE PATTERNS

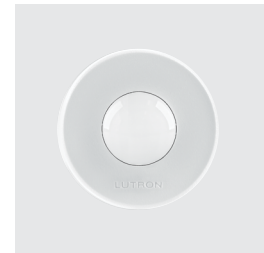
9' height: ø12' coverage



Motion Sensor Coverage

CEILING HEIGHT	COVERAGE AREA (SQ FT)
8'	114
9'	144
10'	178
12'	256

### SENSOR DETAIL



Dimensions: ø1-1/8"

## ATHENA CONTROL OPTIONS

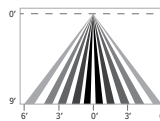
CATALOG NUMBER	DESCRIPTION
AWNDR	Lutron Athena wireless node integral fixture control, RF only, for use with D4i DALI-2 or driver with 12V auxiliary power
AWNS	Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing, for use with D4i DALI-2 or driver with 12V auxiliary power
AWNDR-BL	Lutron Athena wireless node integral fixture control, RF only, for use with D4i DALI-2 or driver with 12V auxiliary power, black finish
AWNS-BL	Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing, for use with D4i DALI-2 or driver with 12V auxiliary power, black finish

**VDO** Lutron Vive integral fixture control, RF with daylight and occupancy sensor (DFCSJ-OEM-OCC). DSR or LDE Drivers only. LDE drivers require driver interface

SPECIFICATIONS	
TYPE	PIR Motion + Daylight
MOUNTING HEIGHT	8' – 12'
DETECTION ANGLE	360°
TEMPERATURE RANGE	0° to 55°C
RELATIVE HUMIDITY	0 to 90%, non-condensing
COMMISSIONING	App (iOS or Android)
MANUFACTURER	Lutron

### SENSOR COVERAGE PATTERNS

9' height: ø12' coverage



Motion Sensor Coverage

CEILING HEIGHT	COVERAGE AREA (SQ FT)
8'	114
9'	144
10'	178
12'	256

### SENSOR DETAIL



Dimensions: 2-11/16" x 1"

## VIVE CONTROL OPTIONS

CATALOG NUMBER	DESCRIPTION
VRF	Lutron Vive integral fixture control, RF only (DFCSJ-OEM-RF), for use with sensor-ready driver
VDO	Lutron Vive integral fixture control, RF with daylight and occupancy sensor (DFCSJ-OEM-OCC), for use with sensor-ready driver
VRF/DBI	Lutron Vive integral fixture control, RF only (DFCSJ-OEM-RF) and digital link interface, for use with Lutron Hi-lume 1% EcoSystem dimming LED driver
VDO/DBI	Lutron Vive integral fixture control, RF with daylight and occupancy sensor (DFCSJ-OEM-OCC) and digital link interface, for use with Lutron Hi-lume 1% EcoSystem dimming LED driver

## ADDITIONAL DRIVER OPTIONS

Note: Lumen restrictions apply, consult product builder at [hew.com/product-builder](http://hew.com/product-builder).

CATALOG NUMBER	DESCRIPTION
DRV	Driver prewired for non-dimming applications
DIM	Dimming driver prewired for 0-10V low voltage applications
DIM1	1% dimming driver prewired for 0-10V low voltage applications
DIM LINE	Line voltage dimming driver (TRIAC and ELV compatible, 120V only)
DIM TRC	Line voltage dimming driver (TRIAC compatible, 120V only)
DA	Driver with 12V auxiliary power
DSR	Sensor-ready driver (D4i DALI-2)
SD40	40% step-dimming driver
SD50	50% step-dimming driver
DALI	DALI dimming driver
LDE1	Lutron Hi-lume 1% EcoSystem dimming driver
L3DA	Lutron Hi-lume 1% 3-wire driver

