LLM
LED
Architectural Slimline

Williams

3-7/16″

2-5/8″

Shown with SQ

CATALOG #: _____

TYPE: _____

PROJECT: _____

BUY AMERICAN ACT COMPLIANT · bios ILLUMINATED

FEATURES

- Slim, low-profile suspended or surface mount fixture provides an architectural alternative to standard wrap-around fixtures
- Round or square profile provides design choices for a variety of applications
- Quality, frosted, extruded acrylic lens snaps securely in place to provide gentle diffused illumination
- Slim end plates are designed to conform to lens shape and prevent unsightly light leaks
- Internal, self-aligning joining method ensures straight rows
- 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** – 20-gauge die-formed C.R.S.
- **SHIELDING** – Frosted, matte acrylic, round or square profile.
- **FINISH** – Textured matte white polyester TGIC powder coat bonded to phosphate-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
- **ELECTRICAL** – High-quality mid-power LED boards. L70 >72,000 hours per IES TM-21. See fixture performance data for lumen maintenance.
- **MOUNTING** – Surface (ceiling or wall) or suspended (hanging hardware required)
- **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.
- **WARRANTY** – 5-year limited warranty, see hew.com/warranty.

ORDERING EXAMPLE: LLM - 4 - L6/835 - S - SQ - ACF/D48 - OPTIONS - CONTROL/DIM - UNV

ORDERING INFO

SERIES	NOMINAL LENGTH [1]	LUMENS [2]	CRI	CCT	MOUNTING TYPE
LLM	**Stand-alone:** 2′, 4′, 6′ & 8′ nominal lengths, fixture ships assembled. Example: **4** = 4′	**L6** 600lm	**8** 80	**27** 2700K	**S** Surface
		L10 1,000lm	**9** 90 [3]	**30** 3000K	**P** Suspended
	Row-mount: Lengths specified in 24″ increments Example: **12** = 12′	**L15** 1,500lm		**35** 3500K	
		L20 2,000lm		**40** 4000K	
	Product Builder Simplify ordering & layout design with the Williams Linear Product Builder at hew.com			**50** 5000K	

SHIELDING
RD Round frosted acrylic
SQ Square frosted acrylic

MOUNTING
AIRCRAFT CABLES (EXAMPLE: ACF/D48) [4]

Prefix	Type	Length
ACF/ Feeder	**D** 1″ grid & hardpan	**24** 24″
ACJ/ Joiner	**N** 9/16″ grid	**48** 48″
	S Slot grid	**96** 96″

OPTIONS
See page 3 for FINISH OPTIONS.

EM/10WLP	Low profile 10-watt emergency battery [6]	
EM/10WRM	Remote mount 10-watt emergency battery [7]	
EM/12WRM	Remote mount 12-watt emergency battery [8]	
PS/120	Pull switch, single circuit [9]	
WRS/120	White rocker switch [10]	
45AMB	(2) 45° adjustable mounting brackets [11]	
(L__)	Additional lower lumen packages available [12] Example: 800 lumens = LLM-4-L10/835-(L8)	

CONTROL [5]
See page 5 for ADDITIONAL CONTROL OPTIONS.

–	None
AVI-LVFA	Avi-on wireless fixture control [13]
AVI-LVFA-CS2-PIR	Avi-on wireless fixture control with PIR motion and daylight sensor [14]
AWNR	Lutron Athena wireless node integral fixture control, RF only [15]
AWNS	Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing [16]

DRIVER
See page 6 for ADDITIONAL DRIVER OPTIONS.

DIM	Driver with external dimming wires
DRV	Driver without external dimming wires
DA	Driver with 12V auxiliary power, without external dimming wires [17]
DSR	Sensor-ready driver without external dimming wires (D4i DALI-2) [18]

VOLTAGE
120	120V
277	277V
UNV	120-277V
347	347V [19]

NOTES

1. 8′ length ships with (2) 4′ lenses.
2. Lumens per foot output based on 80 CRI/3500K CCT. Actual performance may vary +/-5%, see page 2 for FIXTURE PERFORMANCE DATA. Additional lumen packages available, see Options.
3. Extended lead times may apply. Consult factory for availability.
4. Must specify P Mounting Type only. See page 3 for MOUNTING DETAILS.
5. See page 4 for AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS. See page 5 for SENSOR & NODE PLACEMENT DETAILS.
6. Available in 4′ and 8′ lengths only. Not available with L20 lumen package.
7. See page 3 for MOUNTING DETAILS.
8. Not available when CEC regulations are required. See page 3 for MOUNTING DETAILS.
9. 120V only. S Mounting Type only.
10. 120V only. S Mounting Type only.
11. Surface mount only. Cord recommended, ships separately. See page 3 for MOUNTING DETAILS. Field-adjustable up and down in 7-1/2° increments.
12. (L5) lumen package minimum. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
13. DA Driver only.
14. DA Driver only.
15. DA and DSR Drivers only.
16. DA and DSR Drivers only.
17. Avi-on and Lutron Athena Controls only.
18. Lutron Athena Controls only.
19. Not available with EM batteries, DA, or DSR drivers.

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FIXTURE PERFORMANCE DATA

	PER FOOT					LUMEN MAINTENANCE [1]			
	DELIVERED LUMENS		EFFICACY (lm/W)		WATTAGE	L70	L80	L85	L90
	RD LENS	SQ LENS	RD LENS	SQ LENS					
L6	597	609	153	156	3.9	>72000	>72000	>72000	50000
L10	990	1010	148	151	6.7	>72000	>72000	>72000	50000
L15	1505	1536	145	148	10.4	>72000	>72000	58000	36000
L20	1986	2027	144	147	13.8	>72000	>72000	58000	36000

1 Predicted lumen maintenance calculated in accordance with IES TM-21 per Energy Star (R) TM-21 Calculator rev. 02.08.16.
- Photometrics tested in accordance with IESNA LM-79. Results based on 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.

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	0.80
	3000K	0.82
	3500K	0.83
	4000K	0.86
	5000K	0.89

PHOTOMETRY

**LLM-4-L10/835-S-SQ** Total Luminaire Output: 3920 lumens; 24.7 Watts | Efficacy: 159 lm/W | 80 CRI; 3500K CCT

CANDLEPOWER DISTRIBUTION
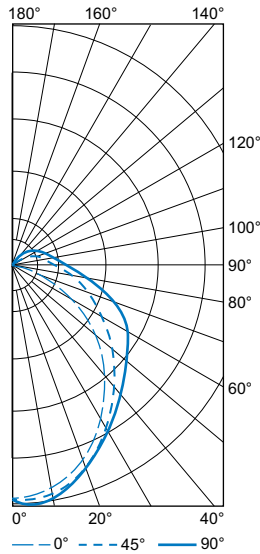
VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	1196	1196	1196	
5	1201	1206	1209	114
15	1107	1126	1131	318
25	956	991	1005	457
35	772	838	884	520
45	553	676	779	520
55	363	538	683	479
65	219	428	584	413
75	105	314	443	319
85	31	229	330	224
90	5	173	250	
95	0	165	232	154
105	0	134	180	122
115	0	110	148	94
125	0	90	126	72
135	0	73	103	51
145	0	64	90	35
155	0	48	63	20
165	0	36	41	8
175	0	12	24	1
180	0	0	0	

LUMEN SUMMARY

ZONE	LUMENS	% FIXTURE
0 - 30	889	23
0 - 40	1408	36
0 - 60	2407	61
0 - 90	3363	86
90 - 180	557	14
0 - 180	3920	100

CROSS SECTIONS

SQ SHIELDING

3-7/16″

2-5/8″

RD SHIELDING

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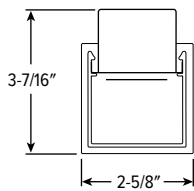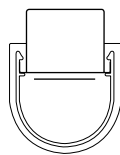
FIXTURE DETAILS

BACKVIEW

- (2) Aircraft cable mounting holes
- (2) ø7/8" KO
- (2) ø1/4" Holes
- 1-7/8"

A
B
C
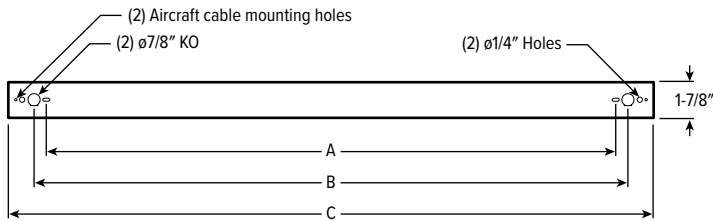
	SURFACE MOUNT (A)	7/8" KOs (B)	ACTUAL LENGTH (C)
2'	19-1/16"	20-1/2"	24-1/4"
4'	41-3/16"	42-5/8"	46-3/8"
6'	63-7/8"	65-3/8"	69-1/16"
8'	87-5/16"	89-1/16"	92-13/16"

PS/120 OPTION
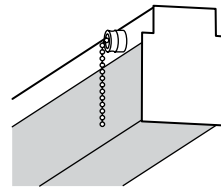
WRS/120 OPTION
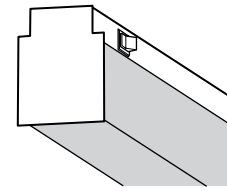
MOUNTING DETAILS

SUSPENDED MOUNT STANDARD HARDWARE (Grid and Hardpan)
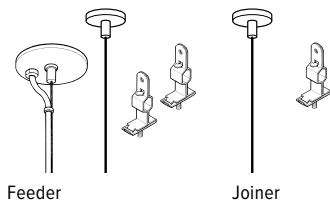
Feeder   Joiner

- Fixtures are provided with adjustable length aircraft cables and mounting hardware, must specify.
- Electrical supply is brought into the feeder fixture, either as part of a row or as a stand-alone unit. Joiner fixtures complete the row.
- The feeder kits are standard with a 5" canopy to cover the junction box and a 2" canopy at the non-feed point. No J-box is required at non-feed points.
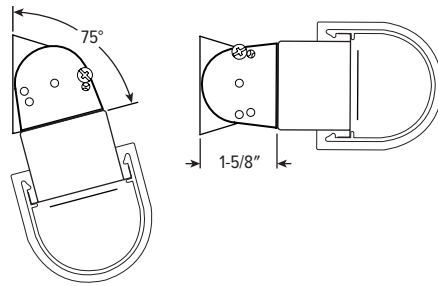
CENTER-TO-CENTER SUSPENDED MOUNTING CABLE

Stand-alone Unit   Row-Mounted Units

A   A   B
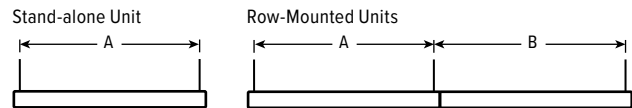
	CABLE MOUNT	
	A	B
2'	22-1/4"	24-1/4"
4'	44-3/8"	46-3/8"
6'	67-1/16"	69-1/16"
8'	90-13/16"	92-3/4"

ROW ALIGNER

Row aligner

45AMB

75°

1-5/8"
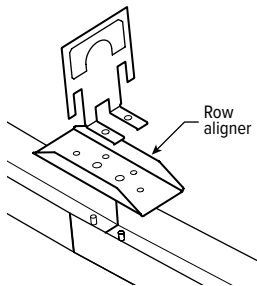
REMOTE MOUNT BATTERY

Max remote distance 50'.

Remote driver box

Test light

Hex box (By others)

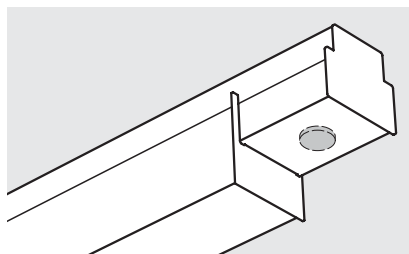Power to fixture
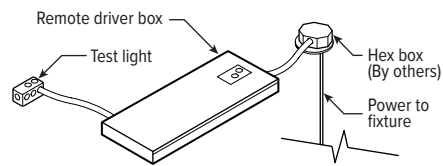
FINISH OPTIONS

WHITE   BLACK   BRONZE   NICKEL   SILVER   ALUM

For custom color, please specify RAL code or a manufacturer code with description. All custom colors other than RAL require two sample swatches, minimum 1" square.

SENSOR & NODE PLACEMENT DETAILS

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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.
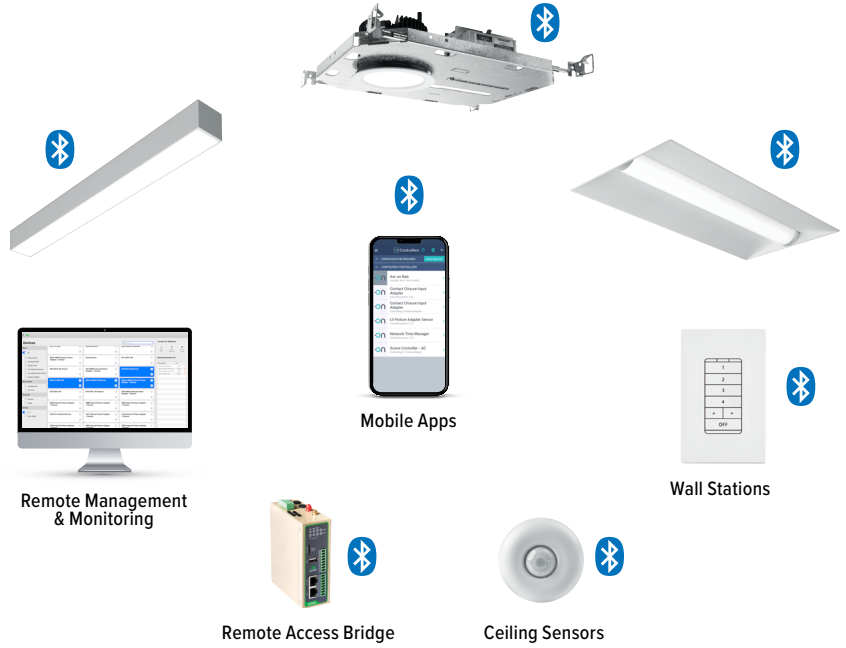

Commissioning Mobile App

Zone Scanner Web App

Commissioning Pro App

SYSTEM COMPONENTS

Mobile Apps

Remote Management & Monitoring

Wall Stations

Remote Access Bridge

Ceiling Sensors

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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

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

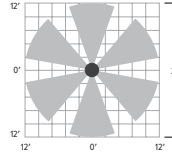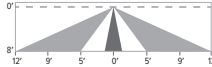| SPECIFICATIONS	
TYPE	PIR Motion + Daylight
MOUNTING HEIGHT	8' – 10'
DETECTION ANGLE	360°
TEMPERATURE RANGE	-30° to 50℃
RELATIVE HUMIDITY	10 to 80% non-condensing
IP RATING	IP20
MANUFACTURER	Avi-On

Bluetooth® Lighting Controls

SENSOR COVERAGE PATTERNS

Side View

8' height: ø24' coverage

SENSOR DETAIL

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

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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

⚡LUTRON

SENSOR COVERAGE PATTERNS

9′ height: ø12′ coverage
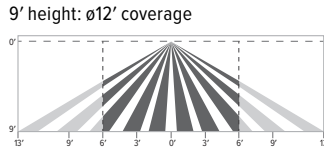
Motion Sensor Coverage

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
AWNR	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
AWNR-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

OCCWS-FSP-311-L_-120/277 Wattstopper PIR motion and daylight sensor, 120/277. Must specify lens: L2, L3, or L7. Factory installed.
**OCCWS-FSP-211-L_-120/277** Wattstopper PIR motion and daylight sensor, 120/277. Must specify lens: L2, L3, or L7. Factory installed.
FSIR-100 Remote controller for 211 sensor. Please specify quantity required per project. Ordered and shipped separately.
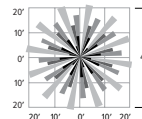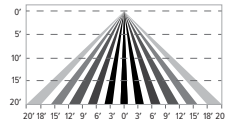
SPECIFICATIONS

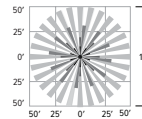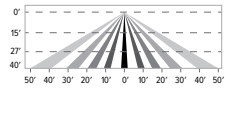|	
TYPE	PIR Motion + Daylight
MOUNTING HEIGHT	8′ – 40′
DETECTION ANGLE	360°
TEMPERATURE RANGE	-40° to 75°C
COMMISSIONING	311 Sensor: App (iOS or Android) 211 Sensor: FSIR-100 Remote

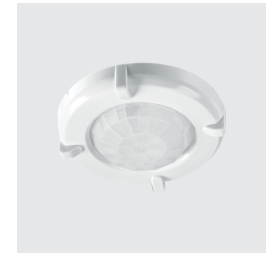### SENSOR COVERAGE PATTERNS

L2 8′ height: ø48′ coverage
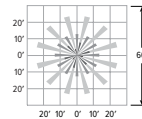
L3 20′ height: ø40′ coverage
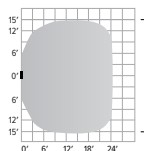
L7 40′ height: ø100′ coverage

SENSOR DETAIL

Dimensions
L2/L3: ø2-3/8″ | L7: ø3-1/4″

OCCWS-FS-505-PP-___ Wattstopper low voltage ultrasonic motion sensor with power pack. Must specify voltage: 120, 277, or 347V.
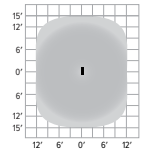
SPECIFICATIONS

TYPE	Ultrasonic Motion
MOUNTING HEIGHT	8′ – 10′
DETECTION ANGLE	360°
TEMPERATURE RANGE	0° to 55°C
RELATIVE HUMIDITY	5 to 95%, non-condensing

SENSOR COVERAGE PATTERNS

8′ height: ø27′ coverage
20° from vertical

Parallel to floor

SENSOR DETAIL

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ADDITIONAL DRIVER OPTIONS

Note: Lumen restrictions apply, consult product builder at 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

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