2AR LED
2" Adjustable Downlight – Round

Williams

CATALOG #: _____

TYPE: _____

PROJECT: _____

NEW CONSTRUCTION AND REMODEL

5-13/16"

ø2-11/16"

13-1/8"

1/2" min
13/16" max

BUY AMERICAN ACT COMPLIANT · CCEA Approved · WET/CC
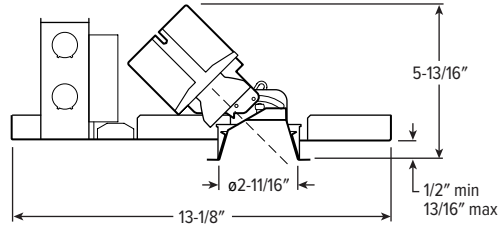
ORDERING EXAMPLE: 2AR - L15/835 - OPTIONS - CONTROL/DIM - UNV - OW - OF - CS - TRIM OPTIONS - N - F1

— HOUSING — · — TRIM — · MOUNT.

HOUSING

SERIES	LUMENS [1]	CRI	CCT	OPTIONS	CONTROL	DRIVER	VOLTAGE
2AR	L5 500lm	8 80	27 2700K	*See page 4 for EMERGENCY BATTERY OPTIONS.*	*See page 6 for ADDITIONAL CONTROL/DRIVER OPTIONS.*	*See page 6 for ADDITIONAL CONTROL/DRIVER OPTIONS.*	UNV 120-277V
	L7 700lm	9 90 [2]	30 3000K	**ATH** Airtight construction [3]	**–** None	**DIM** Dimming driver, 0-10V	347 347V [10]
	L9 900lm		35 3500K	**F** Fuse	**AVI-LVFA** Avi-on wireless fixture control [6]	**DIM1** 1% Dimming driver, 0-10V [8]	
	L12 1,200lm		40 4000K	**CP** Chicago plenum (CCEA) [4]	**AWNR** Lutron Athena wireless node integral fixture control, RF only [7]	**DA** Driver with 12V auxiliary power, without external dimming wires [9]	
	L15 1,500lm		50 5000K	**SDT** Stepdown transformer [5]			

TRIM [11]

TRIM TYPE	DISTRIBUTION [12]	FLANGE TYPE	REFLECTOR FINISH	TRIM OPTIONS
O Open reflector	**W** 35° Wide	**OF** 1/2" standard flange	**CS** Clear semi-specular anodize	**MWT** Textured white trim flange [14]
L Flush lens	**M** 20° Medium	**ZF** Zero-flange mud-in [13]	**WH** White texture powder coat	**AD** Diffuse acrylic lens [15]
R Regressed lens	**N** 15° Narrow		**BL** Black texture powder coat	**PD** Diffuse 1/8" polycarbonate lens [16]
A Angled lens				**WET/CC** Wet location, covered ceiling listed [17]
				AM Anti-microbial [18]

MOUNTING

MOUNTING TYPE [19]	MOUNTING HARDWARE [20]
N Open pan for new construction [21]	**F1** Integral 2-position fixed pan bracket, universal bar hanger included [24]
I IC-rated enclosure for new construction [22]	**BA1** Adjustable butterfly pan bracket, bar hanger not included [25]
R Remodel kit [23]	**CA1** Adjustable caterpillar pan bracket, universal bar hanger included [26]

NOTES

1. Lumen output based on O Trim Type, W Distribution, and CS Reflector Finish, 80 CRI/3500K CCT. Actual performance may vary +/-5%, see page 2 for FIXTURE PERFORMANCE DATA
2. Not available with 5000K CCT.
3. I Mounting Type required.
4. I Mounting Type required.
5. May be required for 347V, see product builder at hew.com/product-builder.
6. DA Driver only. See page 6 for AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS.
7. DA Driver only.
8. L9 minimum lumen package required.
9. Avi-on and Lutron Athena Controls only. Not available with R Mounting Type.
10. Not available with EM batteries, DA, or DMX drivers.
11. Trim ships separately.
12. Beam angle based on O Trim Type and CS Reflector Finish. Trim Type affects beam angle. See page 2 for FIXTURE PERFORMANCE DATA.
13. For use with mud-in plaster construction only, supplied with mud flange installation kit. See page 3 for TRIM TYPE DETAILS. Not available with O Trim Type, or ATH or WET/CC options.
14. Not available with L Trim Type, ZF Flange Type or WH Reflector Finish.
15. W distribution only. Not available with O Trim Type.
16. W distribution only. Not available with O Trim Type.
17. Not available with O Trim Type or ZF Flange Type. Not available with PD trim option.
18. WH and BL Reflector Finishes only.
19. Mounting hardware required (N and I only), ordered separately, see MOUNTING HARDWARE ordering info. See page 4 for MOUNTING TYPE DETAILS.
20. Additional mounting hardware options available. See page 5 for MOUNTING HARDWARE DETAILS.
21. Top access required.
22. L9 lumen package max. Top access required. Not available with EM batteries.
23. Also used in new construction sheetrock ceilings. Pan-less installation. Additional plenum space required for R mounting when specified with EM battery. See page 4 for REMODEL MOUNTING DETAILS.
24. N and I Mounting Types only. I Mounting requires external brackets.
25. N Mounting Type only.
26. N Mounting Type only.

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REV.02/20/24.LA
Downlights
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2AR LED
2" Adjustable Downlight – Round

FEATURES

- Beam angles ranging from 15º narrow to 35º wide for tailored performance
- Adjustable aim with 0° - 45° tilt and 360° rotation
- 2″ aperture is unobtrusive in small scale spaces
- Zero-flange trim options for modern ceiling
- New construction mounting pan, IC-rated, or pan-less remodel kit available
- Contemporary design provides glare-free illumination for a soft ceiling appearance
- Etched degree markers and directional indicator make it simple to fine-tune the illumination angle
- Die-cast trim choices include flush, regressed or angled lens
- Wireless in-fixture control solutions available

SPECIFICATIONS

- HOUSING – Die-cast aluminum spun and stamped articulating mechanism with forged aluminum heat sink. Galvanized steel splice compartment with driver mounting plate/enclosure. Mounting clips allow for ceiling thickness from 1/2″ – 13/16″.
- OPEN REFLECTOR – Low-iridescent anodized aluminum. Clear semi-specular finish standard.
- LENSED TRIM – Die-cast aluminum frame with micro-prismatic, acrylic lens. Diffuse acrylic lens standard with A Trim Type.
- ELECTRICAL – High-performance Class 2 C.O.B. LED array. Modular quick-connect plug for easy field-connection of LED light assembly to driver. Reported L70 > 44,000 hours. Reported L90 = 28,000 hours. Estimated L70 = 117,000 hours.
- MOUNTING – Recessed. 20 ga. galvanized steel mounting pan for new construction or IC-rated enclosure. N and R mounting types for use in non-fire rated installations only. Minimum 17″ O.C. marked spacing required for L12 and L15 lumen packages when specified with R Mounting Type.

- LISTINGS –
  - cCSAus conforms to UL STD 1598; Certified to CAN/CSA STD C22.2 No. 250.0 for dry and damp locations. LED light assembly conforms to UL 2108 for remote installation.
  - Suitable for wet location under covered ceiling when specified with WET/CC option.
  - IC-rated for direct contact with insulation when specified with I Mounting Type.
  - City of Chicago Environmental Air approved when specified with CP option.
  - Complies with ASTM-E283 when specified with ATH option.
  - RoHS compliant.
  - 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.

FIXTURE PERFORMANCE DATA

	DISTRIBUTION	WATTAGE	OPEN REFLECTOR TRIM TYPE		FLUSH LENS TRIM TYPE		REGRESSED LENS TRIM TYPE		ANGLED LENS TRIM TYPE	
			DELIVERED LUMENS	EFFICACY (lm/W)	DELIVERED LUMENS	EFFICACY (lm/W)	DELIVERED LUMENS	EFFICACY (lm/W)	DELIVERED LUMENS	EFFICACY (lm/W)
L5	W	8.2	543	66	454	55	441	54	360	44
L5	M	8.2	391	48	303	37	292	36	195	24
L5	N	8.2	466	57	407	50	400	49	298	36
L7	W	11.5	770	67	643	56	626	54	511	44
L7	M	11.5	554	48	430	37	415	36	276	24
L7	N	11.5	661	58	578	50	567	49	423	37
L9	W	14.5	955	66	798	55	776	54	634	44
L9	M	14.5	687	47	533	37	514	35	342	24
L9	N	14.5	820	57	716	49	703	49	525	36
L12	W	20.9	1272	61	1063	51	1034	50	844	40
L12	M	21.0	915	44	710	34	685	33	456	22
L12	N	20.9	1092	52	954	46	937	45	699	33
L15	W	27.9	1436	51	1200	43	1167	42	953	34
L15	M	27.9	1033	37	802	29	773	28	515	19
L15	N	27.9	1233	44	1077	39	1058	38	789	28

MULTIPLIER TABLES

COLOR TEMPERATURE

	CCT	CONVERSION FACTOR
80 CRI	2700K	0.92
	3000K	0.98
	3500K	1.00
	4000K	1.01
	5000K	1.02
90 CRI	2700K	0.76
	3000K	0.79
	3500K	0.82
	4000K	0.84

REFLECTOR FINISH

CATALOG NUMBER	CONVERSION FACTOR
CS	1.00
WH	0.89
BL	0.47

TRIM OPTIONS

CATALOG NUMBER	CONVERSION FACTOR
AD	0.85
PD	0.85

BEAM ANGLE

	TRIM TYPE			
	OPEN	FLUSH	REGRESSED	ANGLED
W	35°	35°	35°	30°
M	20°	20°	20°	20°
N	15°	15°	15°	20°

- Photometrics tested in accordance with IESNA LM-79. Results based on O trim type, W distribution, CS finish, 80 CRI/3500K CCT, average wattage for 120V input, and 25°C ambient temperature. Actual performance may vary +/-5%
- Beam angle based on O Trim Type and CS Reflector Finish.
- To calculate lumen output in emergency mode, multiply the battery wattage by the efficacy.
- Use multiplier tables to calculate additional options.
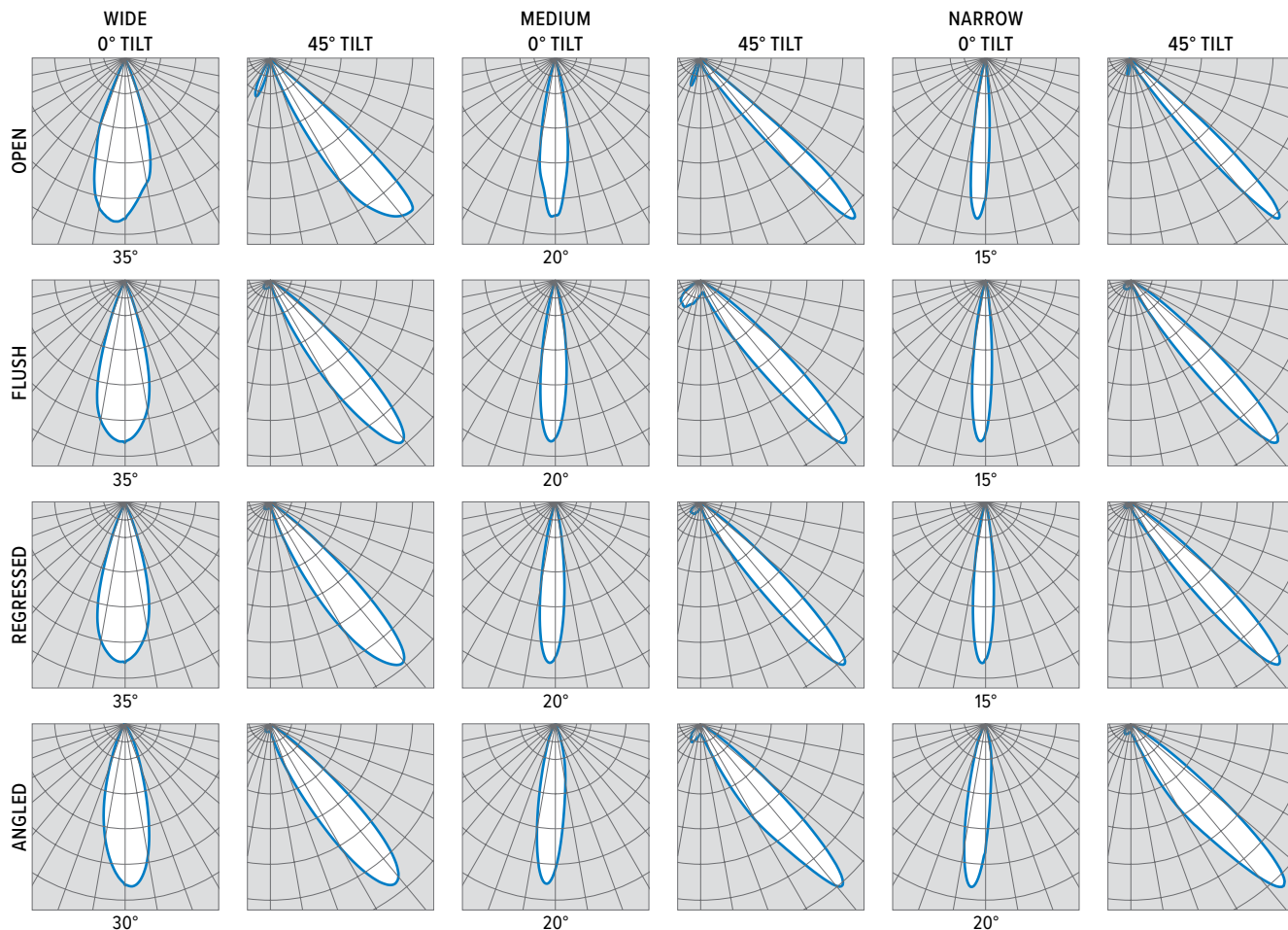
PHOTOMETRY

2AR-L12/835-DIM-UNV-OW-OF-CS (0° tilt) Report #: 13257190; 03/16/20 | Total Luminaire Output: 1272 lumens; 20.9 Watts | Efficacy: 60.8 lm/W | 80 CRI; 3500K CCT
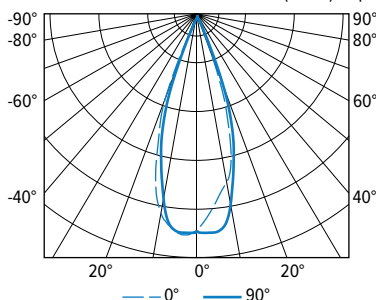
VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0º	45º	90º	135º	180º	
0	4289	4289	4289	4289	4289	
5	3774	3951	4315	4457	4336	101
15	2373	2461	2698	2969	3068	382
25	65	79	145	260	278	133
35	7	9	12	13	14	5
45	2	3	5	5	5	2
55	1	2	2	2	2	1
65	1	1	1	1	0	0
75	0	0	0	0	0	0
85	0	0	0	0	0	0
90	0	0	0	0	0	

ZONE	LUMENS	% FIXTURE
0 - 40	1266	100
0 - 60	1271	100
0 - 90	1272	100
0 - 180	1272	100

LUMEN SUMMARY

CANDLEPOWER DISTRIBUTION

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	WIDE 0° TILT	45° TILT	MEDIUM 0° TILT	45° TILT	NARROW 0° TILT	45° TILT
OPEN	35°		20°		15°	
FLUSH	35°		20°		15°	
REGRESSED	35°		20°		15°	
ANGLED	30°		20°		20°	

TRIM TYPE DETAILS

1/2″ STANDARD FLANGE TYPE

OPEN

ø2-11/16″
ø3-1/2″

Ceiling Cutout: ø3″

FLUSH

ø2-7/16″   1/8″

ANGLED

ø2-7/16″   1/8″

REGRESSED

ø2-5/8″   1/8″

ZERO-FLANGE MUD-IN

FLUSH

ø2-15/16″
ø3-1/16″

Ceiling Cutout: ø4″

ANGLED

ø2-15/16″

REGRESSED

ø2-15/16″

MUD FLANGE MOUNTING KIT

1/8″   ø3-1/8″   5/8″

ø6-1/16″

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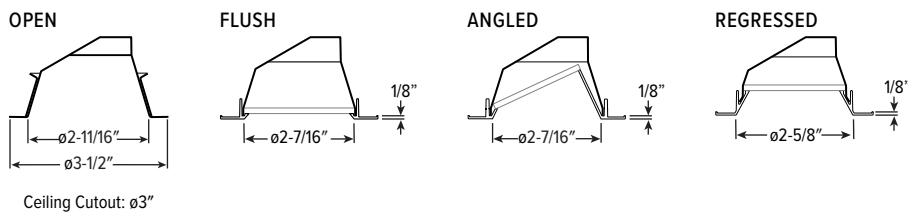
Downlights
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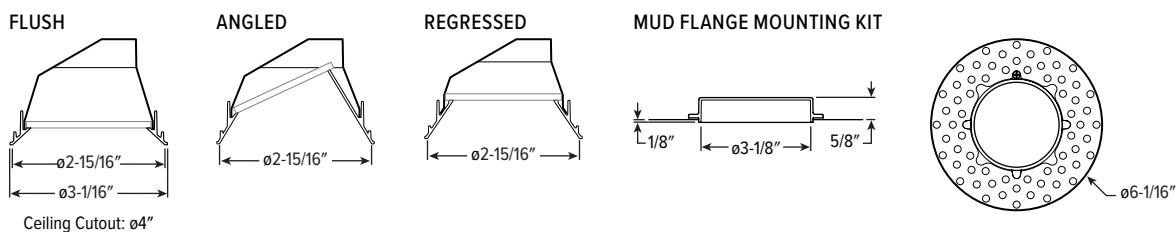
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EMERGENCY BATTERY OPTIONS

Additional limitations apply, see page 1. Specify CEC in the option code when California Energy Commission regulations are required.

CATALOG NUMBER	DESCRIPTION
EM/5W	5-watt emergency battery
EM/7W	7-watt emergency battery
EM/7W/RTS	7-watt emergency battery with regressed test switch [1]
EM/7W/IPRTS	7-watt emergency battery with IP65 rated regressed test switch [2]
EM/10W	10-watt emergency battery [3]
EM/10W/RTS	10-watt emergency battery with regressed test switch [4]
EM/10W/IPRTS	10-watt emergency battery with IP65 rated regressed test switch [5]

[1] Not available with WET/CC Option. N Mounting Type only. Top access required.
[2] N Mounting Type only. Top access required.
[3] Not available with L5 lumen package.
[4] Not available with L5 lumen package or WET/CC Option. N Mounting Type only. Top access required.
[5] Not available with L5 lumen package. N Mounting Type only. Top access required.
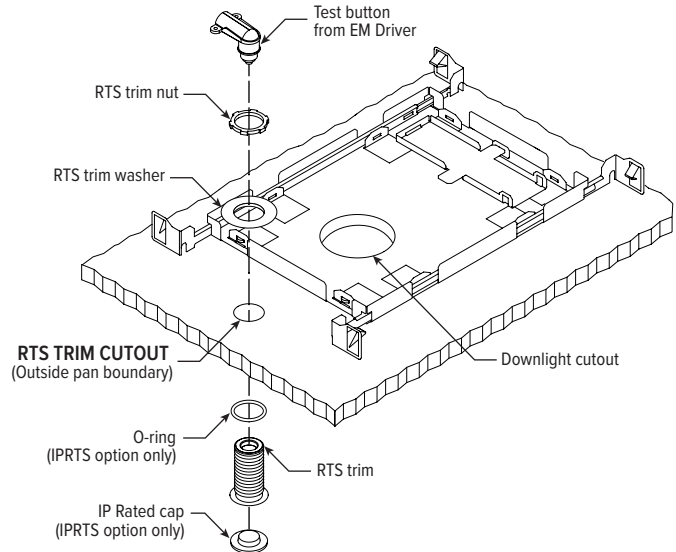
REMODEL MOUNTING DETAILS

Additional plenum space required for R mounting when specified with EM battery.

PLENUM RESTRICTIONS	
CATALOG NUMBER	MINIMUM HEIGHT
EM/5W	9"
EM/7W	11"
EM/10W	12"

REGRESSED TEST SWITCH DETAILS

Shown Installed

Test button from EM Driver
RTS trim nut
RTS trim washer
RTS TRIM CUTOUT (Outside pan boundary)
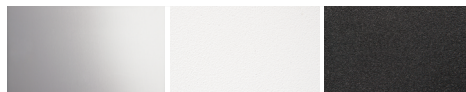Downlight cutout
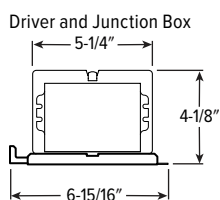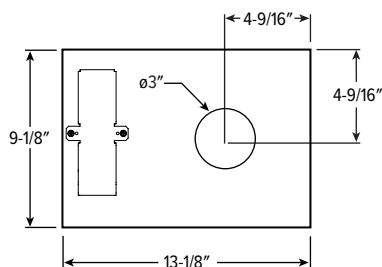O-ring (IPRTS option only)
RTS trim
IP Rated cap (IPRTS option only)

REFLECTOR FINISH DETAILS
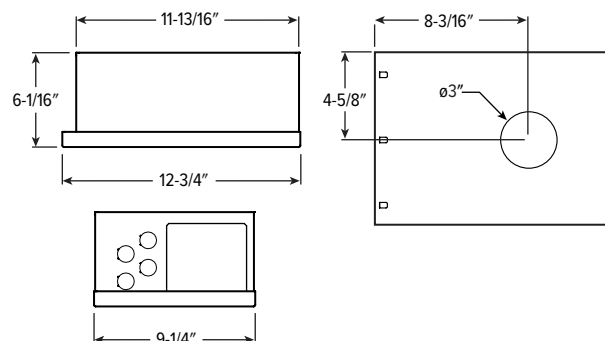
CS Clear semi-specular
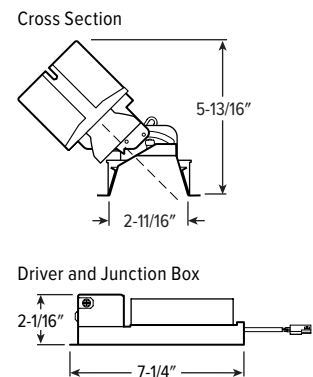**WH** White
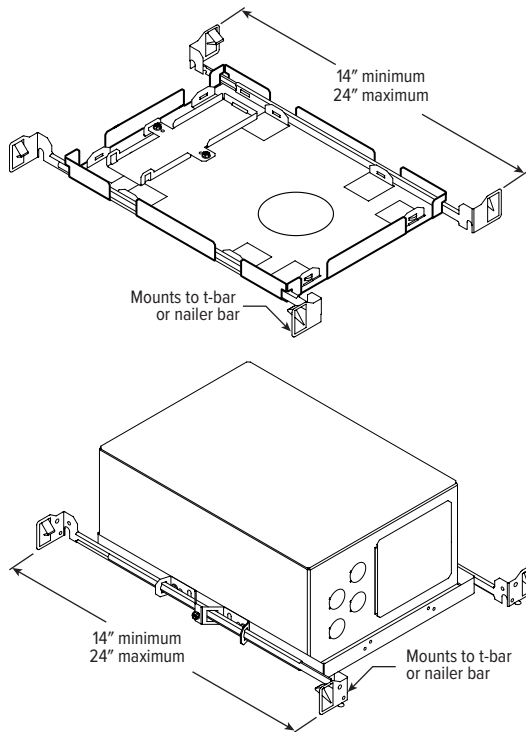**BL** Black

MOUNTING TYPE DETAILS

NEW CONSTRUCTION
4-9/16"
ø3"
4-9/16"
9-1/8"
13-1/8"

Driver and Junction Box
5-1/4"
4-1/8"
6-15/16"

IC-RATED
11-13/16"
6-1/16"
12-3/4"
8-3/16"
4-5/8"
ø3"
9-1/4"

REMODEL
Cross Section
5-13/16"
2-11/16"

Driver and Junction Box
2-1/16"
7-1/4"

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F1 Integral 2-position fixed pan bracket, universal bar hanger included

14″ minimum
24″ maximum

Mounts to t-bar
or nailer bar

14″ minimum
24″ maximum
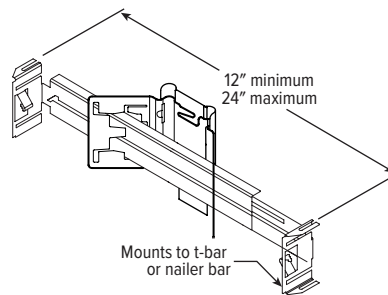
Mounts to t-bar
or nailer bar
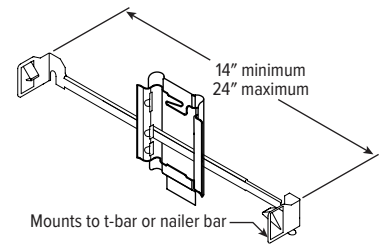
F1 with I Mounting Type

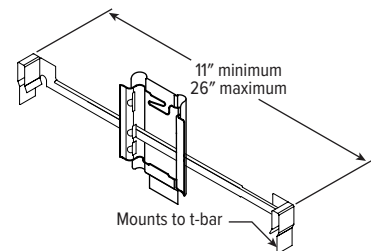**BA1** Adjustable butterfly pan bracket, bar hanger not included (N Mounting Type only)
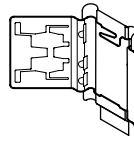
BA2 Adjustable butterfly pan bracket, heavy-duty universal bar hanger included (N Mounting Type only)

12″ minimum
24″ maximum

Mounts to t-bar
or nailer bar

CA1 Adjustable caterpillar pan bracket, universal bar hanger included (N Mounting Type only)

14″ minimum
24″ maximum

Mounts to t-bar or nailer bar

CA2 Adjustable caterpillar pan bracket, t-bar hanger included (N Mounting Type only)

11″ minimum
26″ maximum

Mounts to t-bar

SEE NEXT PAGE FOR CONTROL 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.
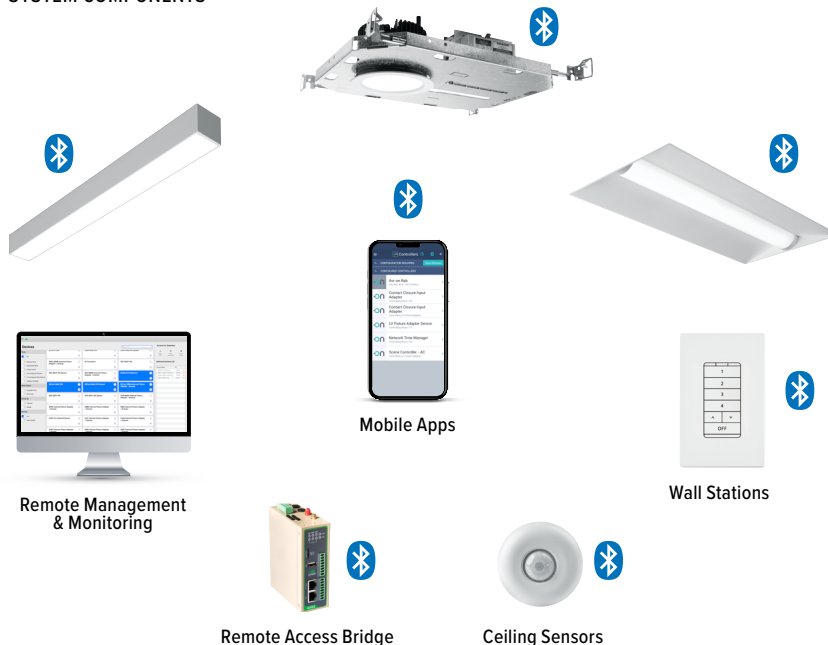

Commissioning Mobile App

Zone Scanner Web App

Commissioning Pro App

SYSTEM COMPONENTS

Mobile Apps

Wall Stations

Remote Management & Monitoring

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

ADDITIONAL CONTROL/DRIVER OPTIONS

Lumen restrictions apply: L7 minimum for DIM LINE driver. 347V may require stepdown transformer, see product builder at hew.com/product-builder. R Mounting Type only available with DIM, DIM1, and DIM LINE controls. Lutron controls available with N Mounting Type only, top access required.

CATALOG NUMBER	DESCRIPTION
AVI-LVFA/DA	Avi-on wireless fixture control for use with driver with 12V auxiliary power
AWNR/DA	Lutron Athena wireless node integral fixture control, RF only, for use with driver with 12V auxiliary power
VRF/DBI/LDE1	Lutron Vive integral fixture control, RF only (DFCSJ-OEM-RF) and digital link interface, with Lutron Hi-lume 1% EcoSystem dimming LED driver
FCJS/DIM	Lutron Vive PowPak wireless fixture control with dimming driver
FCJS/DIM1	Lutron Vive PowPak wireless fixture control with 1% dimming driver
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 at 120V only)
DALI	DALI dimming driver
DMX	0.1% dimming driver for DMX controls
LDE1	Lutron Hi-lume 1% EcoSystem dimming LED driver

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