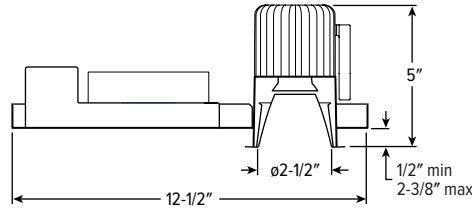
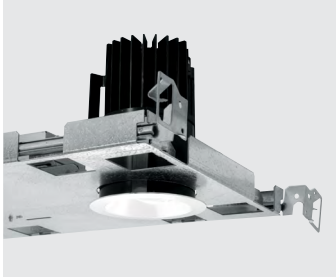


# 2DR LED 2" Downlight – Round



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

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

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

NEW CONSTRUCTION AND REMODEL



ORDERING EXAMPLE: **2DR - L20/835 - OPTIONS - CONTROL/DIM - UNV - OW - OF - CS - TRIM OPTIONS - N - F1**

HOUSING TRIM MOUNT.

## HOUSING

SERIES	LUMENS <sup>[1]</sup>	CRI	CCT	OPTIONS	CONTROL	DRIVER	VOLTAGE
2DR	L5 500lm	8 80	27 2700K	See page 3 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	30 3000K				347 347V <sup>[7]</sup>
	L9 900lm		35 3500K	ATH Airtight construction	– None	DIM Dimming driver, 0-10V	
	L12 1,200lm		40 4000K	F Fuse	AVI-LVFA Avi-on wireless fixture control <sup>[4]</sup>	DIM1 1% Dimming driver, 0-10V	
	L15 1,500lm		50 5000K	CP Chicago plenum (CCEA) <sup>[2]</sup>	AWNRLutron Athena wireless node integral fixture control, RF only <sup>[5]</sup>	DA Driver with 12V auxiliary power, without external dimming wires <sup>[6]</sup>	
	L20 2,000lm			SDT Stepdown transformer <sup>[3]</sup>			
	L25 2,500lm						

## TRIM<sup>[8]</sup>

TRIM TYPE	DISTRIBUTION	FLANGE TYPE	REFLECTOR FINISH	TRIM OPTIONS
O Open reflector	See page 2 for BEAM ANGLE.	OF 1/2" standard flange	Open trim types	MWT Smooth matte white trim flange <sup>[16]</sup>
F Open reflector with frosted top diffuser <sup>[9]</sup>		ZF Zero-flange mud-in <sup>[14]</sup>	CS Clear semi-specular anodize	AD Diffuse acrylic lens <sup>[17]</sup>
L Flush lens	W Wide		SG Satin glow anodize	PD Diffuse 1/8" polycarbonate lens <sup>[18]</sup>
R Regressed lens	M Medium		GD Gold anodize	WET/CC Wet location, covered ceiling listed
A Angled lens <sup>[10]</sup>	N Narrow <sup>[11]</sup>		CG Champagne gold anodize	AM Anti-microbial <sup>[19]</sup>
	S Narrow spot <sup>[12]</sup>		PW Pewter anodize	
	WW Wall wash <sup>[13]</sup>		SPC Clear specular anodize	
			RG Rose gold anodize	
			WH White texture powder coat	
			BL Black texture powder coat	
			Lens trim types	
			CS Clear semi-specular powder coat	
			WH White texture powder coat	
			BL Black texture powder coat	
			MB Black texture splay with white flange <sup>[15]</sup>	

## MOUNTING

MOUNTING TYPE <sup>[20]</sup>	MOUNTING HARDWARE <sup>[21]</sup>
N Open pan for new construction <sup>[22]</sup>	F1 Integral 2-position fixed pan bracket, universal bar hanger included <sup>[25]</sup>
I IC-rated enclosure for new construction <sup>[23]</sup>	BA1 Adjustable butterfly pan bracket, bar hanger not included <sup>[26]</sup>
R Remodel kit <sup>[24]</sup>	CA1 Adjustable caterpillar pan bracket, universal bar hanger included <sup>[27]</sup>

## NOTES

- 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.
- I Mounting Type required.
- Not available with R Mounting. May be required for 347V, see product builder at [hew.com/product-builder](http://hew.com/product-builder)
- DA Driver only. See page 6 for AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS.
- DA Driver only.
- Avi-on and Lutron Athena Controls only. Not available with R Mounting Type.
- Not available with EM batteries, DA, or DMX drivers.
- Trim ships separately.
- WET/CC standard unless ordered with EM/RTS.
- Available with WW Distribution only.
- When specified with L or R Trim Type: L20 lumen package max for N and R Mounting Type and L12 lumen package max for I Mounting Type.
- L15 lumen package max for N and R Mounting. L12 lumen package max for I Mounting. Not available with 950 CRI/CCT.
- A Trim Type only.
- For use with mud-in plaster construction only, supplied with mud flange installation kit. See page 4 for TRIM TYPE DETAILS. Not available with O or F Trim Types or ATH Option.
- R Trim Type only. Not available with ZF Flange Type or MWT.
- Not available with L Trim Type, ZF Flange Type or WH Reflector Finish.
- W Distribution only. Not available with O or F Trim Types.
- W and WW Distributions only. Not available with O or F Trim Types.
- WH and BL Reflector Finishes only.
- Mounting hardware required (N and I only), ordered separately, see MOUNTING HARDWARE ordering info. See page 4 for MOUNTING TYPE DETAILS.
- Additional mounting hardware options available. See page 5 for MOUNTING HARDWARE DETAILS.
- Top access required when specified with EM battery or controls other than DIM, DIM1, DIM LINE.
- L15 lumen package max. Not available with EM batteries.
- Also used in new construction sheetrock ceilings. Pan-less installation. Additional plenum space required for R mounting when specified with EM battery. See page 3 for REMODEL MOUNTING PLENUM RESTRICTIONS.
- N and I Mounting Types only. I Mounting requires external brackets.
- N Mounting Type only.
- N Mounting Type only.

# 2DR LED 2" Downlight – Round

## FEATURES

- Beam angles ranging from 8° spot to 70° wide for tailored performance
- 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
- Die-cast trim includes flush, regressed or angled lens
- Open reflector with nine finishes complements any interior style
- Easily adjust mounting arms below ceiling to adapt to a range of ceiling thicknesses
- Contemporary design provides glare-free illumination for a soft ceiling appearance
- Low UGR meets LEED and WELL requirements
- Wireless in-fixture control solutions available
- Made Right Here® in the USA

## SPECIFICATIONS

- HOUSING** – Die-cast aluminum trim housing with forged aluminum heat sink. Galvanized steel splice compartment with driver mounting plate/enclosure. Swing-out mounting arms field adjust for ceiling thickness from 1/2" – 2-3/8".
- 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 > 55,000 hours. Reported L90=49,000 hours. Estimated L70=179,000 hours.
- MOUNTING** – Recessed. 20 ga. galvanized steel mounting pan for new construction or IC-rated enclosure. Minimum 12-1/2" O.C. marked spacing required for L20 and L25 lumen packages when specified with R Mounting Type and L15 lumen package when specified with S Distribution.

- 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 or F trim type.
  - 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.
  - Title 24 (JA8) compliant in select configurations, see [energy.ca.gov](http://energy.ca.gov)
  - Complies with the Buy American Act and other federal regulations. Request certification at [hew.com/buy-american](http://hew.com/buy-american)
- WARRANTY** – 5-year limited warranty, see [hew.com/warranty](http://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	6.7	516	77	540	81	535	80	–	–
	M	6.7	499	75	532	79	509	76	–	–
	N	6.7	407	61	528	79	515	77	–	–
	S	7.8	451	58	624	80	602	77	–	–
	WW	6.5	–	–	–	–	–	–	366	56
L7	W	8.7	725	83	759	87	751	86	–	–
	M	8.7	700	81	748	86	715	82	–	–
	N	8.7	572	66	742	85	723	83	–	–
	S	11.2	630	56	871	78	840	75	–	–
	WW	8.5	–	–	–	–	–	–	514	61
L9	W	10.7	929	87	973	91	963	90	–	–
	M	10.7	898	84	958	90	917	86	–	–
	N	10.7	799	75	950	89	927	87	–	–
	S	14.1	807	57	1115	79	1075	76	–	–
	WW	10.5	–	–	–	–	–	–	659	63
L12	W	14.3	1267	89	1327	93	1313	92	–	–
	M	14.3	1224	86	1307	91	1250	87	–	–
	N	14.3	1000	70	1296	91	1264	88	–	–
	S	20.4	1071	53	1480	73	1427	70	–	–
	WW	14.0	–	–	–	–	–	–	898	64
L15	W	17.7	1571	89	1645	93	1628	92	–	–
	M	17.7	1518	86	1620	92	1550	88	–	–
	N	17.7	1240	70	1607	91	1567	89	–	–
	S	26.7	1326	50	1832	69	1767	66	–	–
	WW	17.3	–	–	–	–	–	–	1114	64
L20	W	23.9	2063	86	2160	90	2138	89	–	–
	M	23.9	1993	83	2127	89	2035	85	–	–
	N	23.9	1629	68	2110	88	2058	86	–	–
	S	–	–	–	–	–	–	–	–	–
	WW	23.3	–	–	–	–	–	–	1463	63
L25	W	30.1	2479	82	2596	86	2569	85	–	–
	M	30.1	2395	80	2556	85	2446	81	–	–
	N	30.1	1957	65	–	–	–	–	–	–
	S	–	–	–	–	–	–	–	–	–
	WW	29.4	–	–	–	–	–	–	1758	60

<sup>1</sup> Distribution will also be affected, consult factory.

<sup>2</sup> Beam angle based on CS Reflector Finish.

- Photometrics tested in accordance with IESNA LM-79. Results based on CS (O and F trim types), or WH (L, R and A trim types) reflector finish, W distribution, 80 CRI/3500K CCT, wattage for 120V 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 tables to calculate additional options.

## BEAM ANGLE

		TRIM TYPE <sup>(2)</sup>			
		O	F	L	R
W	70°	Consult Factory		50°	55°
M	40°			30°	30°
N	15°			20°	20°
S	8°			14°	14°

## 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
	5000K	0.88

	REFLECTOR FINISH	
	CATALOG NUMBER	CONVERSION FACTOR
O TRIM	CS	1.00
	SG <sup>(1)</sup>	0.92
	GD	0.93
	CG	0.96
	PW	0.86
	SPC	1.02
	RG	0.88
	WH <sup>(1)</sup>	0.89
R TRIM	BL <sup>(1)</sup>	0.47
	WH	1.00
	CS	0.98
	BL	0.79

	WH	1.00
	CS	0.98
	BL	0.79

TRIM OPTIONS	
CATALOG NUMBER	CONVERSION FACTOR
F	0.67
AD	0.85
PD	0.85
WET/CC	0.85

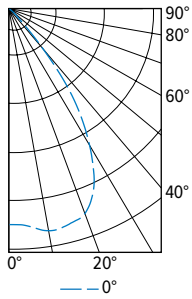
PHOTOMETRY CONTINUED ON NEXT PAGE



# 2DR LED 2" Downlight – Round

## PHOTOMETRY

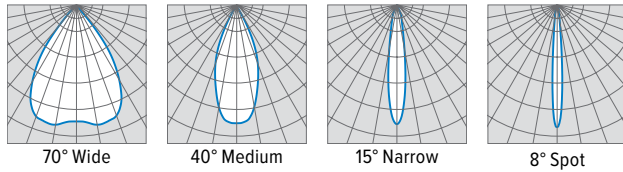
2DR-L25/835-DIM-UNV-OW-OF-CS Report #: 13131414; 11/22/19 | Total Luminaire Output: 2479 lumens; 30.1 Watts | Efficacy: 82.3 lm/W | 80 CRI; 3500K CCT



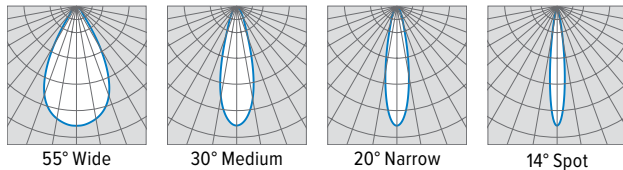
CANDLEPOWER DISTRIBUTION	VERTICAL ANGLE	HORIZONTAL ANGLE	ZONAL LUMENS
		0°	
	0	2011	
	5	2033	148
	15	2087	341
	25	1859	429
	35	1089	271
	45	150	39
	55	35	12
	65	12	4
	75	2	1
	85	0	0
	90	0	0

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 40	2281	92
	0 - 60	2464	99
	0 - 90	2479	100
	0-180	2479	100

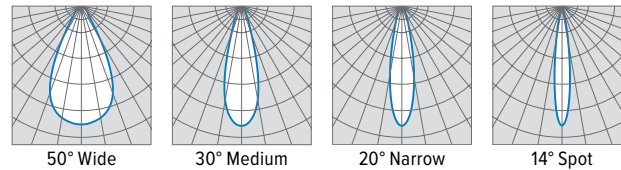
### OPEN (O)



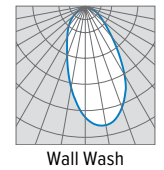
### REGRESSED (R)



### FLUSH (L)



### ANGLED (A)



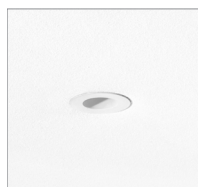
## EMERGENCY BATTERY OPTIONS

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 <sup>[1]</sup>
EM/7W/RTS	7-watt emergency battery with regressed test switch <sup>[2]</sup>
EM/7W/IPRTS	7-watt emergency battery with IP65 rated regressed test switch <sup>[3]</sup>
EM/10W	10-watt emergency battery <sup>[4]</sup>
EM/10W/RTS	10-watt emergency battery with regressed test switch <sup>[5]</sup>
EM/10W/IPRTS	10-watt emergency battery with IP65 rated regressed test switch <sup>[6]</sup>

- L9 minimum lumen package required.
- L9 minimum lumen package required. Not available with WET/CC Trim Option. N Mounting Type only. Top access required.
- Must specify IP Trim Option. L9 minimum lumen package required. N Mounting Type only. Top access required.
- L12 minimum lumen package required.
- L12 minimum lumen package required. Not available with WET/CC Trim Option. N Mounting Type only. Top access required.
- Must specify IP Trim Option. L12 minimum lumen package required. N Mounting Type only. Top access required.

## MOUNTING DETAILS

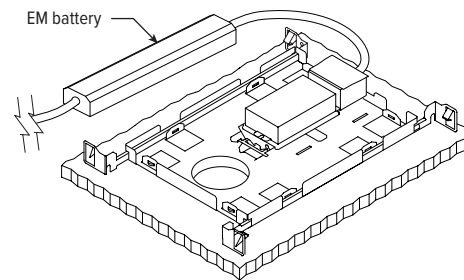
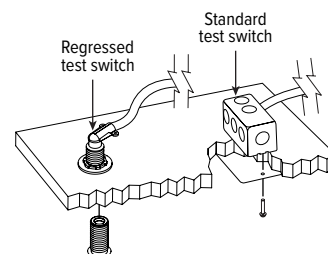


Regressed test switch  
ø1-3/4"



Standard test switch  
2-3/4" x 4-1/2"

Max remote distance is 50',  
connection by others.



## REMODEL MOUNTING PLENUM RESTRICTIONS

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

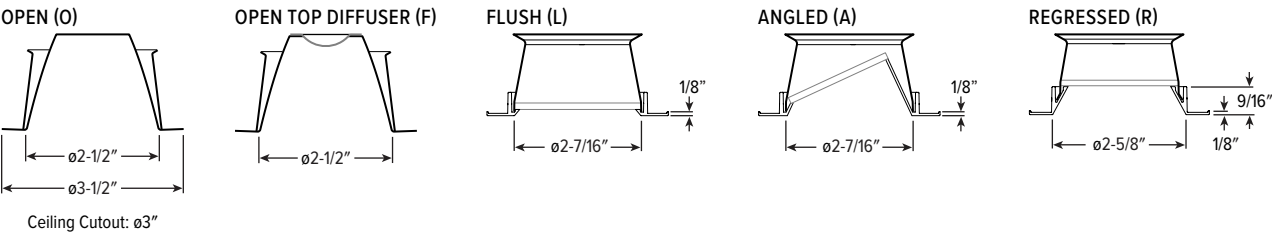
CATALOG NUMBER	MINIMUM HEIGHT
EM/5W	9"
EM/7W	11"
EM/10W	12"



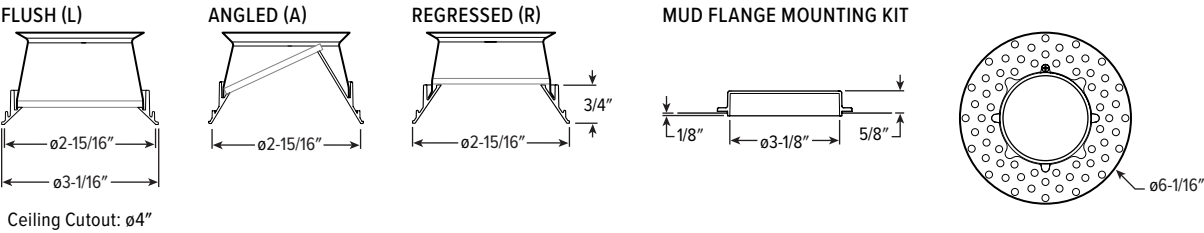
# 2DR LED 2" Downlight – Round

## TRIM TYPE DETAILS

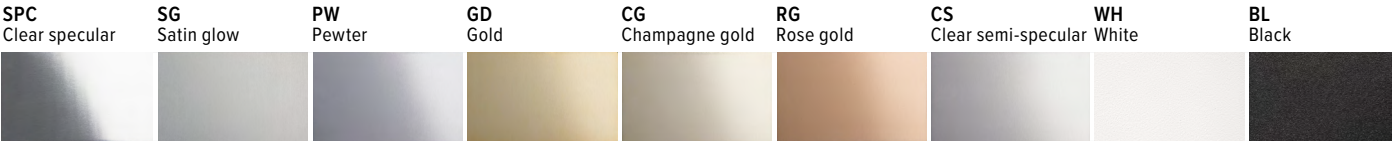
### 1/2" STANDARD FLANGE TYPE



### ZERO-FLANGE MUD-IN

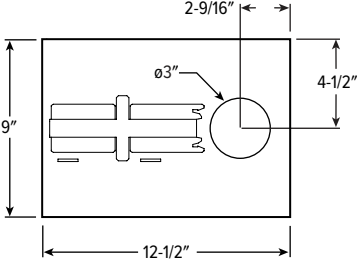


## REFLECTOR FINISH DETAILS

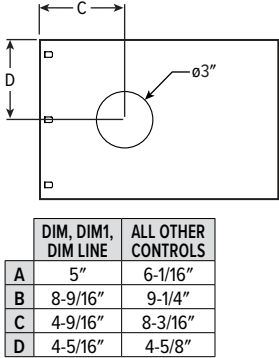
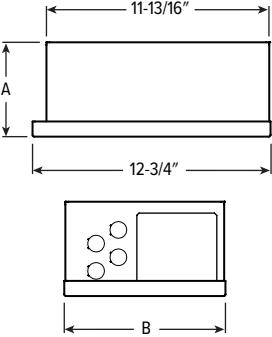


## MOUNTING TYPE DETAILS

### NEW CONSTRUCTION

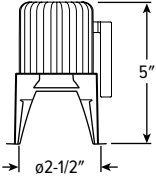


### IC-RATED

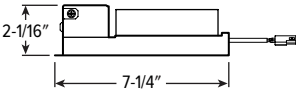


### REMODEL

#### CROSS SECTION



#### DRIVER & JUNCTION BOX

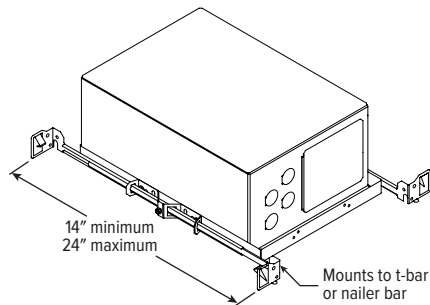
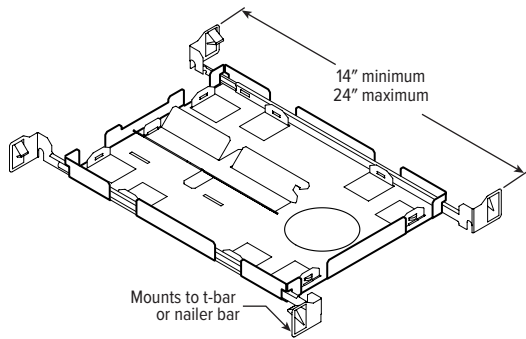


MOUNTING DETAILS CONTINUED ON NEXT PAGE

# 2DR LED 2" Downlight – Round

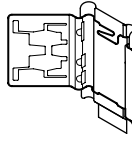
## MOUNTING HARDWARE DETAILS

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

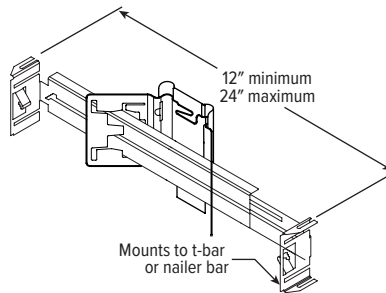


F1 with I Mounting Type

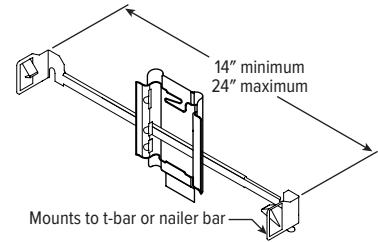
**BA1** Adjustable butterfly pan bracket, bar hanger not included (N Mounting Type only)



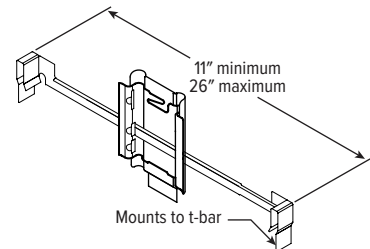
**BA2** Adjustable butterfly pan bracket, heavy-duty universal bar hanger included (N Mounting Type only)



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



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



SEE NEXT PAGE FOR CONTROL DETAILS.



# 2DR LED 2" Downlight – Round

## AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS

### FEATURES

#### Simple

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

#### Scalable

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

#### Secure

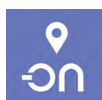
- Optional cloud connectivity
- UL IoT platinum security rating
- DLC 5.0 compliant

### 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

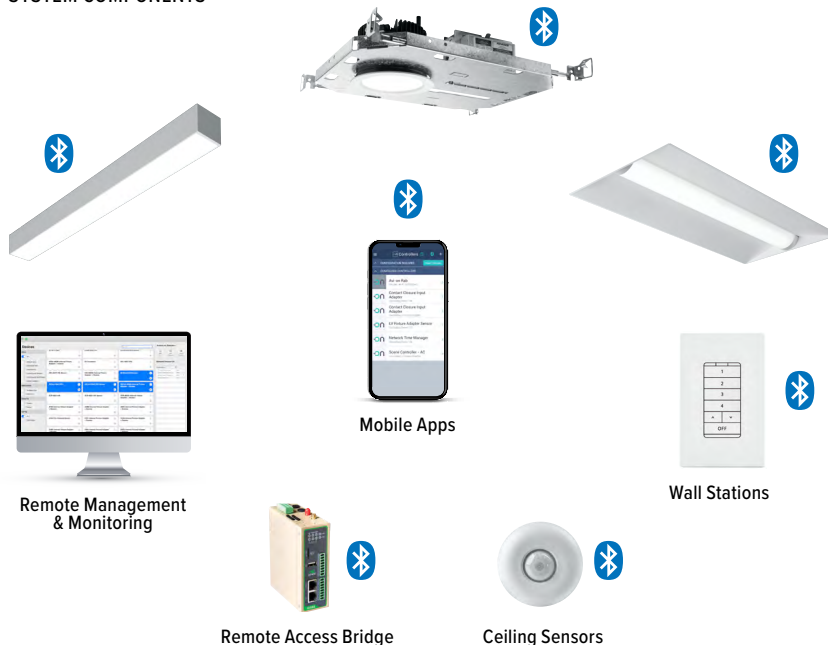


Zone Scanner Web App



Commissioning Pro App

### SYSTEM COMPONENTS



The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Avi-on is under license. Other trademarks and trade names are those of their respective owners.

### ACCESSORIES

WALL STATIONS	
AVI-B-2401AC-1	Scene controller - buttons numbered 1-4 and up/down/off, 120-277VAC
AVI-B-2402BAT-1	Scene controller - buttons numbered 1-4 and up/down/off, battery powered
AVI-B-2401AC-2	Dimmer with presets - buttons with percentages and up/down/off, 120-277VAC
AVI-B-2402BAT-2	Dimmer with presets - buttons with percentages and up/down/off, battery powered
AVI-B-2401AC-3	Two button control on/off or hold to dim up/down, 120-277VAC
AVI-B-2402BAT-3	Two button control on/off or hold to dim up/down, battery powered

NETWORK	
AVI-RAB-LTE	Remote access bridge
AVI-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)

### ADDITIONAL CONTROL/DRIVER OPTIONS

Lumen restrictions apply: L9 minimum for DIM LINE driver when specified with W, M, or N distributions; L7 minimum when specified with S distribution.

R Mounting Type only available with DIM, DIM1, and DIM LINE controls. Top access required with N mounting except using DIM, DIM1, DIM LINE controls. Lutron controls available with N Mounting Type only. 347V may require stepdown transformer, see product builder at [hew.com/product-builder](http://hew.com/product-builder)

CATALOG NUMBER	DESCRIPTION
AVI-LVFA/DA	Avi-on wireless fixture control for use with driver with 12V auxiliary power
AWNRR/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

