

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

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

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

### NEW CONSTRUCTION AND REMODEL

ORDERING EXAMPLE: 2DS - L20/835 - OPTIONS - CONTROL/DIM - UNV - LW - OF - WH - TRIM OPTIONS - N - F1

### HOUSING

SERIES	LUMENS <sup>(1)</sup>	CRI	CCT	OPTIONS	CONTROL	DRIVER <sup>(2)</sup>	VOLTAGE
2DS	L5 500lm	8 80	27 2700K	ATH Airtight construction	- None	DIM Dimming driver, 0-10V	UNV 120-277V
	L7 700lm	9 90 <sup>(3)</sup>	30 3000K	F Fuse kit	AVI-LVFA Avi-on wireless fixture control <sup>(10)</sup>	DIM1 1% Dimming driver, 0-10V <sup>(11)</sup>	347 347V <sup>(13)</sup>
	L9 900lm		35 3500K	SDT Stepdown transformer <sup>(4)</sup>		DA Driver with 12V auxiliary power <sup>(12)</sup>	
	L12 1,200lm		40 4000K	CP Chicago plenum (CCEA) <sup>(5)</sup>			
	L15 1,500lm		50 5000K	EM/5W 5-watt emergency battery <sup>(6)</sup>			
	L20 2,000lm			EM/7W 7-watt emergency battery <sup>(7)</sup>			
	L25 2,500lm			EM/10W 10-watt emergency battery <sup>(8)</sup>			
				EM/10W/RTS 10-watt emergency battery with regressed test switch <sup>(9)</sup>			

### TRIM<sup>(14)</sup>

TRIM TYPE	DISTRIBUTION <sup>(15)</sup>	FLANGE TYPE	REFLECTOR FINISH	TRIM OPTIONS
L Flush lens	W 50° Wide	OF 1/2" standard flange	<b>Open trim types</b>	MWT Textured white trim flange <sup>(22)</sup>
O Open reflector	M 30° Medium	ZF Zero-flange mud-in <sup>(20)</sup>	CS Clear semi-specular anodize	AD Diffuse acrylic lens <sup>(23)</sup>
R Regressed lens	N 20° Narrow <sup>(17)</sup>		SG Satin-glow anodize	PD Diffuse 1/8" polycarbonate lens <sup>(24)</sup>
A Angled lens <sup>(16)</sup>	S 14° Narrow spot <sup>(18)</sup>		GD Gold anodize	WET/CC Wet location, covered ceiling listed <sup>(25)</sup>
	WW Wall wash <sup>(19)</sup>		CG Champagne gold anodize	AM Anti-microbial <sup>(26)</sup>
			PW Pewter anodize	
			SPC Clear specular anodize	
			RG Rose gold anodize	
			<b>Lens trim types</b>	
			CS Clear semi-specular powder coat	
			WH White texture powder coat	
			BL Black texture powder coat	
			MB Black texture splay with white flange <sup>(21)</sup>	

### MOUNTING

MOUNTING TYPE <sup>(27)</sup>	MOUNTING HARDWARE <sup>(28)</sup>
N Open pan for new construction <sup>(29)</sup>	F1 Integral 2-position fixed pan bracket, universal bar hanger included <sup>(32)</sup>
I IC-rated enclosure for new construction <sup>(30)</sup>	BA1 Adjustable butterfly pan bracket, bar hanger not included <sup>(33)</sup>
R Remodel kit <sup>(31)</sup>	CA1 Adjustable caterpillar pan bracket, universal bar hanger included <sup>(34)</sup>

### NOTES

- Lumen output based on L trim type, W distribution and WH finish, 3500K/80CRI. Actual lumens may vary +/-5%, see page 2 for FIXTURE PERFORMANCE DATA.
- See page 6 for ADDITIONAL DRIVER OPTIONS.
- Extended lead times may apply. Consult factory for availability.
- May be required for 347V, see product builder at [hew.com/product-builder](http://hew.com/product-builder).
- I Mounting Type required.
- N and R Mounting Types only. Not available with ATH option.
- L9 minimum lumen package required. N and R Mounting Types only. Not available with ATH option.
- L12 minimum lumen package required. N and R Mounting Types only. Not available with ATH option.
- L12 minimum lumen package required. Not available with WET/CC or ATH options. N Mounting Type only. Top access required. See page 5 for EM BATTERY DETAILS.
- DA Driver only. See page 6 for AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS.
- L9 minimum lumen package required.
- Avi-on Controls only. Not available with R Mounting Type.
- Not available with EM batteries, DMX Driver, or Avi-on Controls.
- Trim ships separately.
- Beam angle based on L Trim Type and WH Reflector Finish. Trim Type affects beam angle. See page 2 for FIXTURE PERFORMANCE DATA.
- Available with WW Distribution only.
- L20 lumen package max for N and R Mounting. L12 lumen package max for I Mounting.
- 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 Trim Type or ATH Option.
- R Trim Type only. Not available with ZF Flange Type or MWT.
- Not available with ZF Flange Type or WH Reflector Finish.
- W distribution only. Not available with O Trim Type.
- W and WW distributions only. Not available with O Trim Type.
- Not available with O Trim Type. Not available with PD trim option.
- 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.
- Also used in new construction sheetrock ceilings. Pan-less installation. Additional plenum space required for R mounting when specified with EM battery. See page 5 for EM BATTERY DETAILS.
- N and I Mounting Types only. I Mounting requires external brackets.
- N Mounting Type only.
- N Mounting Type only.

# 2DS<sup>LED</sup> 2" Downlight – Square

## FEATURES

- Available with BIOS® SkyBlue® technology to support proper daytime circadian stimulus
- Beam angles ranging from 14° spot to 50° wide for tailored performance
- Square shape accentuates architectural styles
- 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
- Die-cast trim includes flush, regressed or angled lens
- Spring clip retention system eliminates trim sag
- Available with Avi-on wireless fixture controls



Available with BIOS®  
consult factory

## 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 with top diffuser.
- 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.
  - ENERGY STAR® certified in select configurations, see [www.energystar.gov](http://www.energystar.gov)
  - 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 (JAB) compliant in select configurations, see [energy.ca.gov](http://energy.ca.gov)
- WARRANTY** – 5-year limited warranty, see [hew.com/warranty](http://hew.com/warranty).

## FIXTURE PERFORMANCE DATA

	DISTRIBUTION	FLUSH LENS TRIM TYPE			OPEN REFLECTOR TRIM TYPE			REGRESSED LENS TRIM TYPE			ANGLED LENS TRIM TYPE		
		DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
L5	W	526	6.6	80	381	7.2	53	530	6.5	81	–	–	–
	M	528	6.6	81	361	7.2	50	520	6.6	79	–	–	–
	N	511	6.5	78	372	7.2	52	511	6.5	78	–	–	–
	S	607	7.8	78	435	7.8	56	609	7.8	78	–	–	–
	WW	–	–	–	–	–	–	–	–	–	407	6.7	60
L7	W	739	8.5	87	535	9.3	58	745	8.5	88	–	–	–
	M	742	8.5	87	507	9.3	55	731	8.5	86	–	–	–
	N	718	8.5	84	523	9.3	56	718	8.5	84	–	–	–
	S	848	11.2	76	607	11.2	54	850	11.2	76	–	–	–
	WW	–	–	–	–	–	–	–	–	–	572	8.7	65
L9	W	947	10.5	90	686	11.4	60	954	10.5	91	–	–	–
	M	950	10.5	91	650	11.4	57	936	10.5	89	–	–	–
	N	920	10.5	88	670	11.4	59	920	10.5	88	–	–	–
	S	1085	14.1	77	777	14.1	55	1089	14.1	77	–	–	–
	WW	–	–	–	–	–	–	–	–	–	733	10.8	68
L12	W	1292	14.0	92	936	15.3	61	1302	14.0	93	–	–	–
	M	1296	14.0	93	886	15.3	58	1277	14.0	91	–	–	–
	N	1254	14.0	90	914	15.3	60	1255	14.0	90	–	–	–
	S	1440	20.4	71	1031	20.4	51	1445	20.4	71	–	–	–
	WW	–	–	–	–	–	–	–	–	–	1000	14.4	70
L15	W	1602	17.3	92	1160	17.3	67	1614	17.3	93	–	–	–
	M	1607	17.3	93	1099	17.3	64	1583	17.3	91	–	–	–
	N	1555	17.3	90	1133	17.3	65	1556	17.3	90	–	–	–
	S	1783	26.7	67	1276	26.7	48	1789	26.6	67	–	–	–
	WW	–	–	–	–	–	–	–	–	–	1240	17.8	70
L20	W	2104	23.4	90	1523	25.6	60	2119	23.4	91	–	–	–
	M	2110	23.4	90	1443	25.6	56	2079	23.4	89	–	–	–
	N	2042	23.4	87	1488	25.6	58	2043	23.4	87	–	–	–
	S	–	–	–	–	–	–	–	–	–	–	–	–
	WW	–	–	–	–	–	–	–	–	–	1628	24.0	68
L25	W	2528	29.5	86	2155	32.2	67	2547	29.4	87	–	–	–
	M	2536	29.5	86	1734	32.2	54	2498	29.5	85	–	–	–
	N	–	–	–	–	–	–	–	–	–	–	–	–
	S	–	–	–	–	–	–	–	–	–	–	–	–
	WW	–	–	–	–	–	–	–	–	–	1957	30.3	65

FIXTURE PERFORMANCE DATA CONTINUED ON NEXT PAGE.



# 2DS LED 2" Downlight – Square

## 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

R TRIM	WH	1.00
	CS	0.98
	BL	0.79

TRIM OPTIONS		
	CATALOG NUMBER	CONVERSION FACTOR
O TRIM	AD	0.85
	PD	0.85

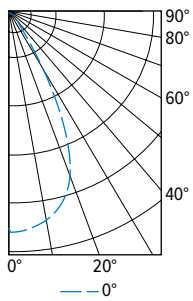
## BEAM ANGLE

	TRIM TYPE		
	FLUSH	OPEN	REGRESSED
W	50°	50°	55°
M	30°	47°	30°
N	20°	47°	20°
S	14°	43°	14°

- Distribution will also be affected, consult factory.
- Photometrics tested in accordance with IESNA LM-79. Results shown are based on 25°C ambient temperature.
- Wattage shown is based on 120V input.
- Results based on 3500K/80CRI and CS (O Trim Type) or WH (L, R and A Trim Types) Reflector Finish. Actual lumens may vary +/-5%.
- Beam angle based on L Trim Type and WH Reflector Finish.
- Use multiplier tables to calculate additional options.

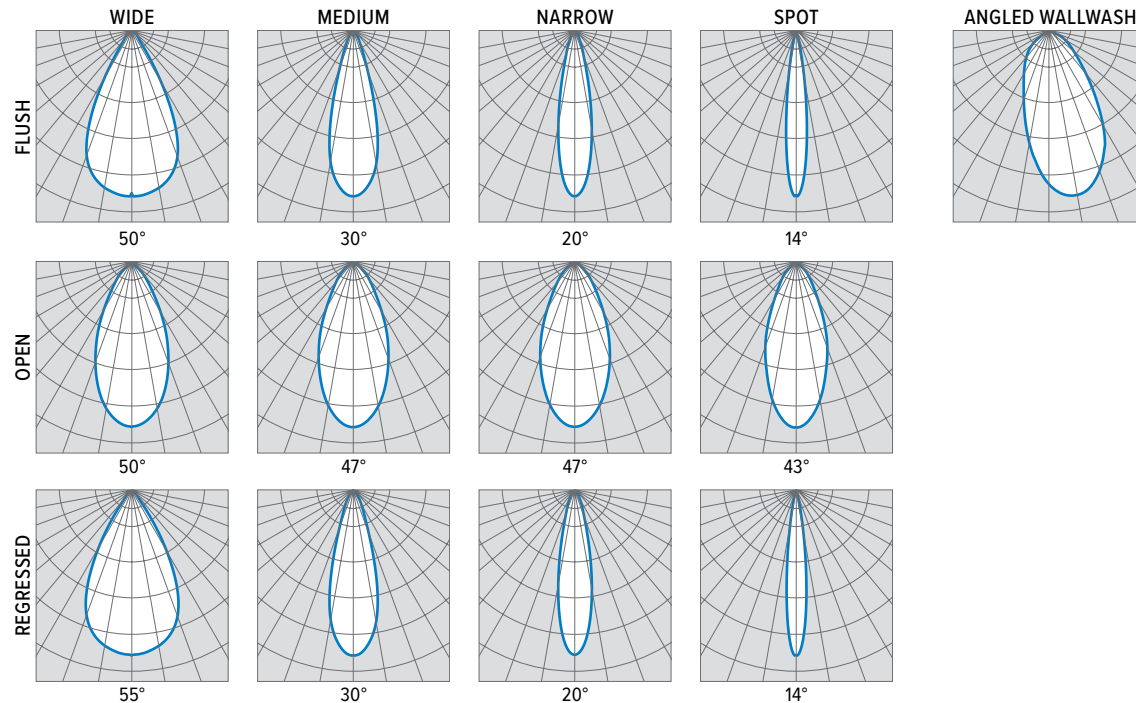
## PHOTOMETRY

2DS-L15/835-DIM-UNV-LW-OF-WH Report #: 13257153; 03/11/20 | Total Luminaire Output: 1602 lumens; 17.3 Watts | Efficacy: 92.5 lm/W | 80 CRI; 3500K CCT



CANDLEPOWER DISTRIBUTION	VERTICAL ANGLE	HORIZONTAL ANGLE	ZONAL LUMENS
		0°	
	0	1852	
	5	1869	
	15	1690	
	25	1065	
	35	269	
	45	109	
	55	72	
	65	46	
	75	22	
	85	5	
	90	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 40	1361	85
	0 - 60	1526	95
	0 - 90	1601	100
	0-180	1602	100

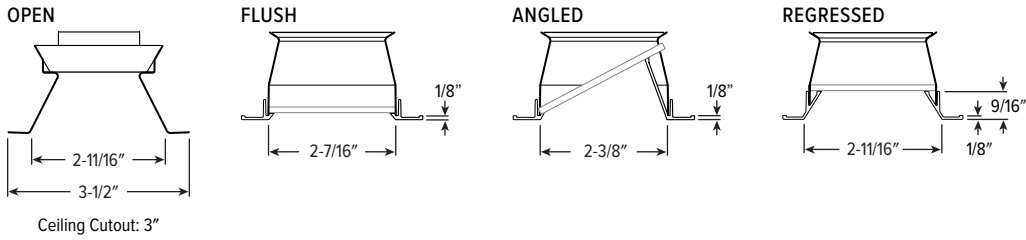


# 2DS LED

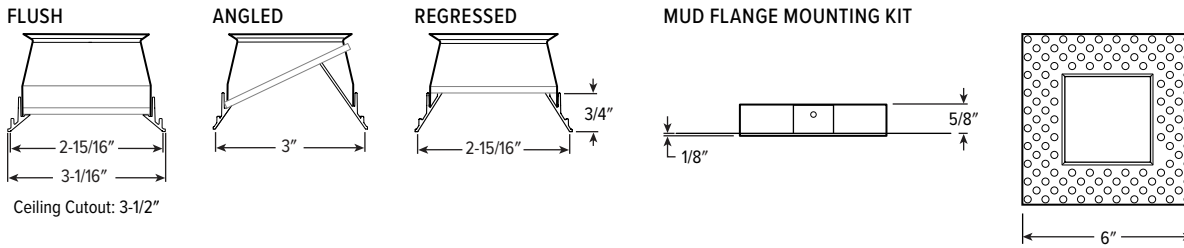
## 2" Downlight – Square

### TRIM TYPE DETAILS

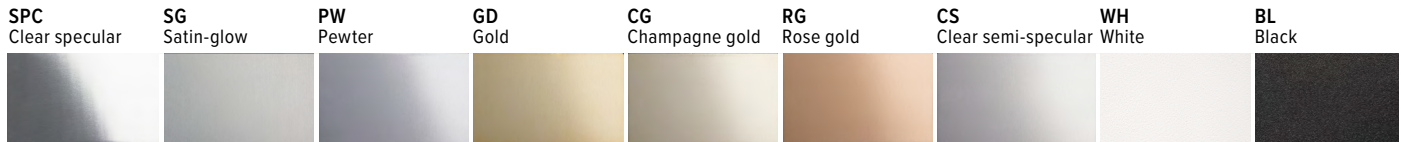
#### 1/2" STANDARD FLANGE TYPE



#### ZERO-FLANGE MUD-IN

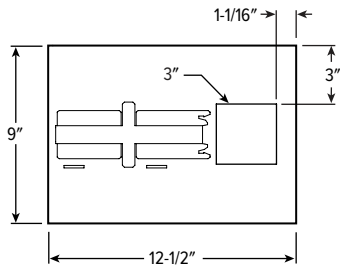


### REFLECTOR FINISH DETAILS

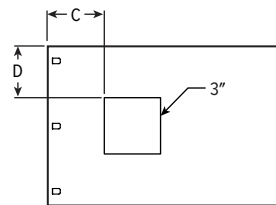
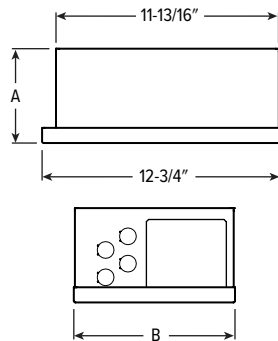


### MOUNTING TYPE DETAILS

#### NEW CONSTRUCTION

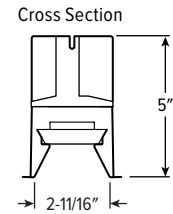


#### IC-RATED

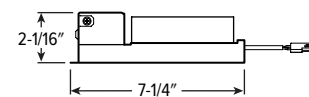


	DIM, DIM1, DIM LINE	ALL OTHER CONTROLS
A	5"	6-1/16"
B	8-9/16"	9-1/4"
C	3-1/16"	6-11/16"
D	2-3/4"	3-1/8"

#### REMODEL



#### Driver and Junction Box



# 2DS<sup>LED</sup> 2" Downlight – Square

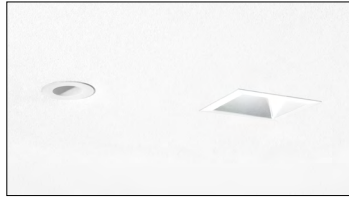
## EM BATTERY DETAILS

### REMODEL MOUNTING

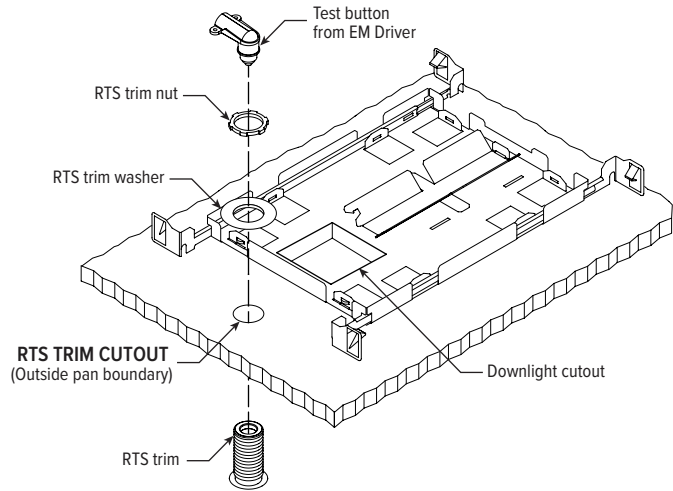
Additional plenum space required for R mounting when specified with EM battery.

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

### EM/10W/RTS MOUNTING

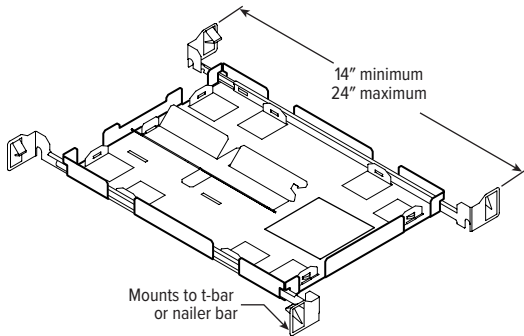


Shown Installed

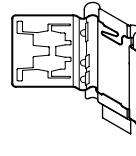


## MOUNTING HARDWARE DETAILS

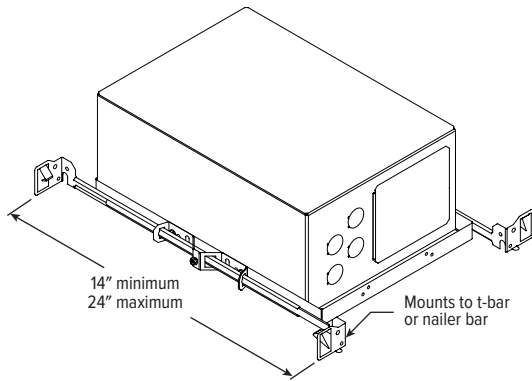
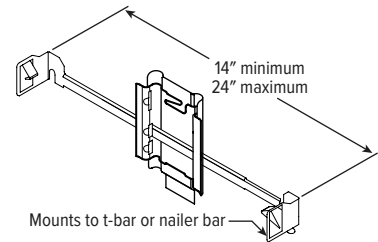
**F1** Integral 2-position fixed pan bracket, universal bar hanger included



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

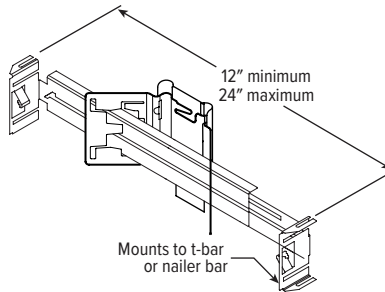


**CA1** Adjustable caterpillar pan bracket, universal bar hanger included (N Mounting Type only)

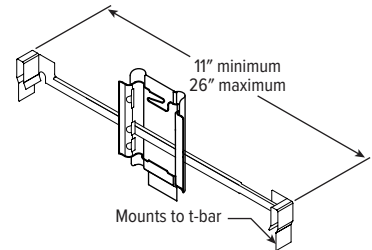


F1 with I Mounting Type

**BA2** Adjustable butterfly pan bracket, heavy-duty 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.



# 2DS LED 2" Downlight – Square

## AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS

### AVI-ON NETWORK FEATURES

#### Simple

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

#### Scalable

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

#### Secure

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

### DIGITAL INSTALLATION TOOLS

Avi-On mobile apps provide intuitive, quick installation and commissioning. Pro tools are available to qualified installers.



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-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-SWITCH	AC paddle wall switch
AVI-DIMMER	Circuit dimmer switch
CONNECTIVITY	
AVI-2001RAB-01-P	Remote access bridge for projects 100 or greater
AVI-2001RAB-01-C	Remote access bridge for projects less than 100
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)

### ADDITIONAL 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.

347V may require stepdown transformer, see product builder at [hew.com/product-builder](http://hew.com/product-builder). 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.

CATALOG NUMBER	DESCRIPTION
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)
DA	Dimming driver with 12V auxiliary
DMX	0.1% dimming driver for DMX controls
LDE1	Lutron Hi-lume 1% EcoSystem dimming LED driver
VRF/DBI/LDE1	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
FCJS/DIM	Lutron Vive PowPak wireless fixture control with dimming driver
FCJS/DIM1	Lutron Vive PowPak wireless fixture control with 1% dimming driver

