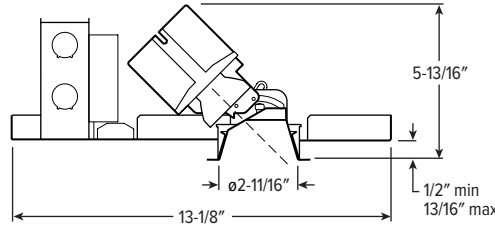
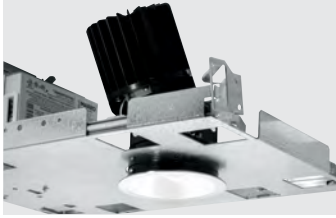


# 2AR LED 2" Adjustable Downlight – Round



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

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

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

## NEW CONSTRUCTION AND REMODEL

### FEATURES

- 2" aperture is unobtrusive in small space
- Adjustable aim with 0° - 45° tilt and 360° rotation
- Zero-flange trim options for modern ceiling
- Die cast trim choices include flush, regressed or angled lens

### 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, tempered glass 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>55,000 hours. Estimated L70 = 200,000 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 13-1/4" 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 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.
- WARRANTY** – 5-year limited warranty, see [hew.com/warranty](http://hew.com/warranty).

ORDERING EXAMPLE: 2AR - L15/835 - OPTIONS - DIM - UNV - OW - OF - CS - TRIM OPTIONS - N - F1

### HOUSING

SERIES	LUMENS <sup>[1]</sup>	CRI	CCT	OPTIONS	CONTROL <sup>[2]</sup>	VOLTAGE
2AR	L5 500lm	8 80	27 2700K	EM/5W 5-watt emergency battery <sup>[4]</sup>	DIM Dimming driver, 0-10V	UNV 120-277V 347 347V <sup>[12]</sup>
	L7 700lm	9 90 <sup>[3]</sup>	30 3000K	EM/7W 7-watt emergency battery <sup>[5]</sup>		
	L9 900lm		35 3500K	EM/10W 10-watt emergency battery <sup>[6]</sup>	DIM1 1% Dimming driver, 0-10V <sup>[11]</sup>	
	L12 1,200lm		40 4000K	EM/10W/RTS 10-watt emergency battery with regressed test switch <sup>[7]</sup>		
	L15 1,500lm		50 5000K	ATH Airtight construction <sup>[8]</sup>		
			F Fuse			
			CP Chicago plenum (CCEA) <sup>[9]</sup>			
			SDT Stepdown transformer <sup>[10]</sup>			

### TRIM<sup>[13]</sup>

TRIM TYPE	DISTRIBUTION <sup>[14]</sup>	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 <sup>[16]</sup>
L Flush lens	M 20° Medium	ZF Zero-flange mud-in <sup>[15]</sup>	WH White texture powder coat	AD Diffuse acrylic lens <sup>[17]</sup>
R Regressed lens	N 15° Narrow		BL Black texture powder coat	PD Diffuse 1/8" polycarbonate lens <sup>[18]</sup>
A Angled lens				WET/CC Wet location, covered ceiling listed <sup>[19]</sup>
				AM Anti-microbial <sup>[20]</sup>

### MOUNTING

#### MOUNTING TYPE<sup>[21]</sup>

- N Open pan for new construction<sup>[23]</sup>
- I IC-rated enclosure for new construction<sup>[24]</sup>
- R Remodel kit<sup>[25]</sup>

#### MOUNTING HARDWARE<sup>[22]</sup>

- F1 Integral 2-position fixed pan bracket, universal bar hanger included<sup>[26]</sup>
- BA1 Adjustable butterfly pan bracket, bar hanger not included<sup>[27]</sup>
- CA1 Adjustable caterpillar pan bracket, universal bar hanger included<sup>[28]</sup>

### NOTES

- Lumen output based on O trim type, W distribution and CS finish, 3500K/80CRI. Actual lumens may vary +/-5%, see page 2 for FIXTURE PERFORMANCE DATA
- See page 3 for ADDITIONAL CONTROL OPTIONS.
- Not available with 5000K CCT. Extended lead times may apply. Consult factory for availability.
- N and R Mounting Types only.
- N and R Mounting Types only.
- Not available with L5 lumen package. N and R Mounting Types only.
- Not available with L5 lumen package, WET/CC or ATH options. N Mounting Types only. Top access required. See page 5 for EM BATTERY DETAILS.
- I Mounting Type required.
- I Mounting Type required.
- May be required for 347V, see product builder at [hew.com/product-builder](http://hew.com/product-builder)
- L9 minimum lumen package required

- Not available with EM batteries or DMX controls.
- Trim ships separately.
- Beam angle based on O Trim Type and CS Reflector Finish. Trim Type affects beam angle. See page 2 for FIXTURE PERFORMANCE DATA.
- 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 or WET/CC options.
- Not available with ZF Flange Type or WH Reflector Finish.
- W distribution only. Not available with O Trim Type.
- W distribution only. Not available with O Trim Type.
- Not available with O Trim Type or ZF Flange Type.
- 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 for driver maintenance.
- L9 lumen package max. Top access required for driver maintenance.
- Also used in new construction sheetrock ceilings. 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

# 2AR LED 2" Adjustable Downlight – Round

## 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
	M	8.2	391	48	303	37	292	36	195	24
	N	8.2	466	57	407	50	400	49	298	36
L7	W	11.5	770	67	643	56	626	54	511	44
	M	11.5	554	48	430	37	415	36	276	24
	N	11.5	661	57	578	50	567	49	423	37
L9	W	14.5	955	66	798	55	776	54	634	44
	M	14.5	687	47	533	37	514	35	342	24
	N	14.5	820	57	716	49	703	49	525	36
L12	W	20.9	1272	61	1063	51	1034	49	844	40
	M	21.0	915	44	710	34	685	33	456	22
	N	20.9	1092	52	954	46	937	45	699	33
L15	W	27.9	1436	51	1200	43	1167	42	953	34
	M	27.9	1033	37	802	29	773	28	515	18
	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

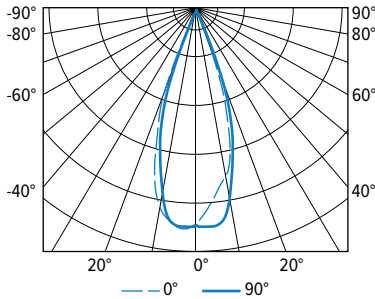
### BEAM ANGLE

	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 shown are based on 25°C ambient temperature.
- Wattage shown is based on 120V input.
- Results based on 3500K, 80 CRI, actual lumens may vary +/-5%
- Beam angle based on O Trim Type and CS Reflector Finish.
- 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

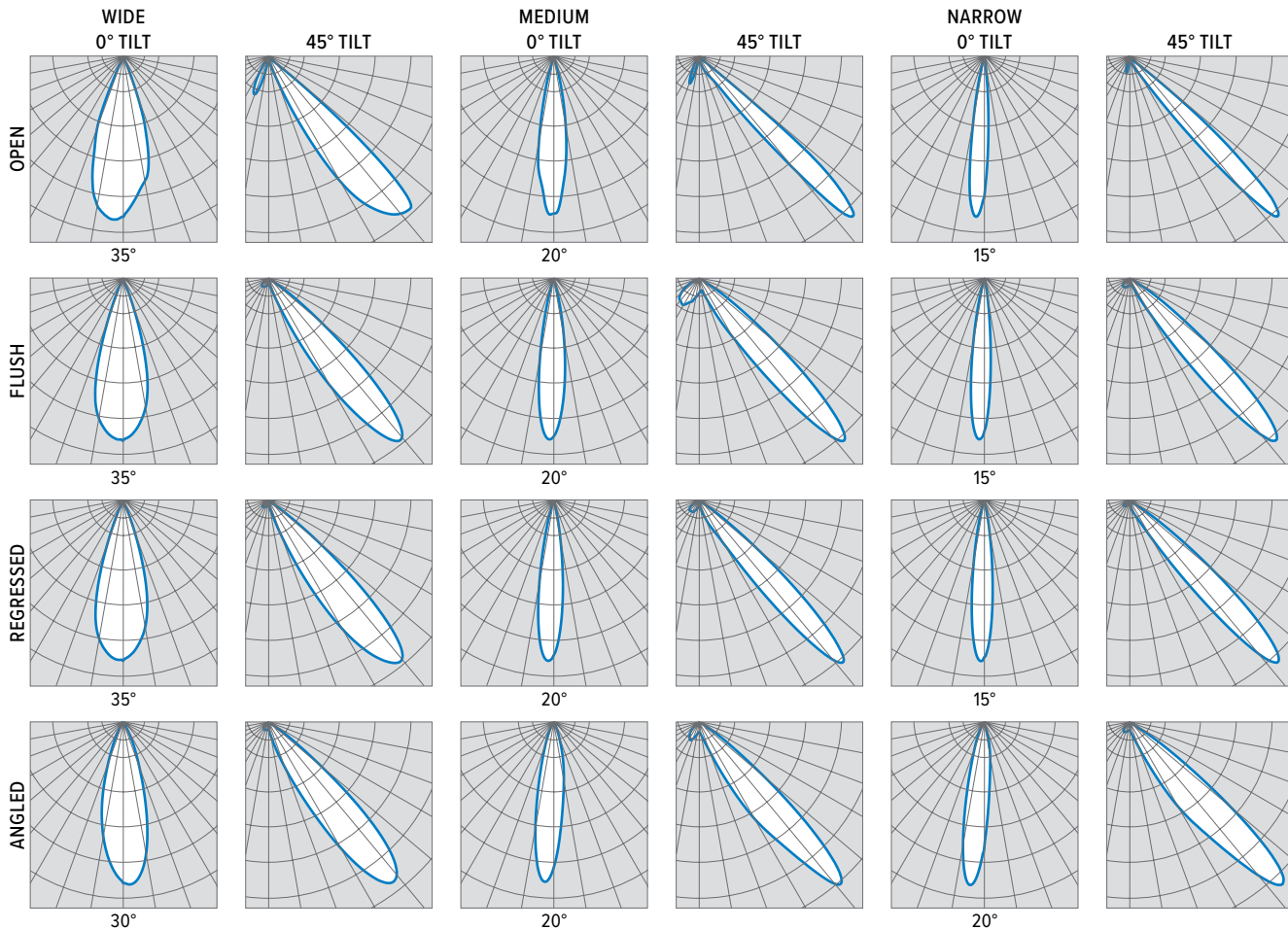


VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0°	45°	90°	135°	180°	
0	4289	4289	4289	4289	4289	
5	3774	3951	4315	4457	4336	101
15	2373	2461	2698	2969	3068	382
25	65	79	145	260	278	133
35	7	9	12	13	14	5
45	2	3	5	5	5	2
55	1	2	2	2	2	1
65	1	1	1	1	0	0
75	0	0	0	0	0	0
85	0	0	0	0	0	0
90	0	0	0	0	0	0

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



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## ADDITIONAL CONTROL OPTIONS

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.

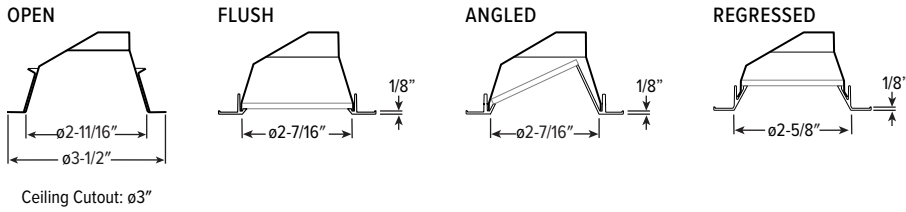
CATALOG NUMBER	DESCRIPTION
DIM	Dimming driver prewired for 0-10V low voltage applications
DIM1	1% dimming driver prewired for 0-10V low voltage applications
DIM LINE	Line voltage dimming driver (TRIAC and ELV compatible at 120V only)
DMX	0.1% dimming driver for DMX controls
LTE LINE	Lutron Hi-lume 1% 2-wire dimming driver forward phase line voltage controls (120V only)
LDE1	Lutron Hi-lume 1% EcoSystem dimming LED driver
LDE5	Lutron 5-Series 5% EcoSystem dimming LED driver
VRF/DSR	Lutron Vive integral fixture control, RF only (DFCSJ-OEM-RF) and sensor-ready driver
VRF/DBI/LDE1	Lutron Vive integral fixture control, RF only (DFCSJ-OEM-RF), Lutron Hi-lume 1% EcoSystem dimming LED driver, and digital link interface
VRF/DBI/LDE5	Lutron Vive integral fixture control, RF only (DFCSJ-OEM-RF), Lutron 5-Series 5% EcoSystem dimming LED driver, and digital link interface
FCJS/DIM	Lutron Vive PowPak wireless fixture control with dimming driver
FCJS/DIM1	Lutron Vive PowPak wireless fixture control with 1% dimming driver
ELDO SOLOB	EldoLED Solodrive, 0.1% dimming driver for 0-10V controls
ELDO SOLOB DALI	EldoLED Solodrive, 0.1% dimming driver for DALI controls
ELDO ECO1	EldoLED Ecodrive, 1% dimming driver for 0-10V controls
ELDO ECO1 DALI	EldoLED Ecodrive, 1% dimming driver for DALI controls



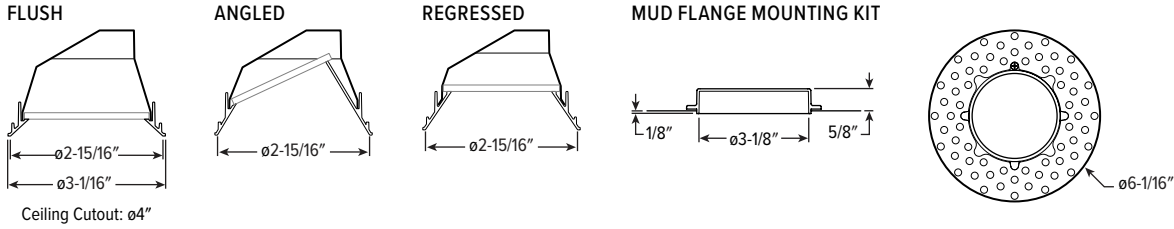
# 2AR LED 2" Adjustable Downlight – Round

## TRIM TYPE DETAILS

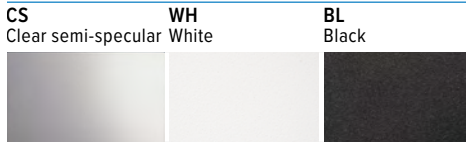
### 1/2" STANDARD FLANGE TYPE



### ZERO-FLANGE MUD-IN

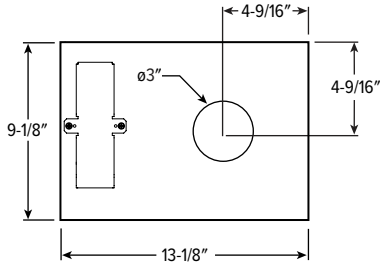


## REFLECTOR FINISH DETAILS

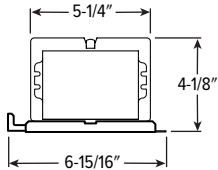


## MOUNTING TYPE DETAILS

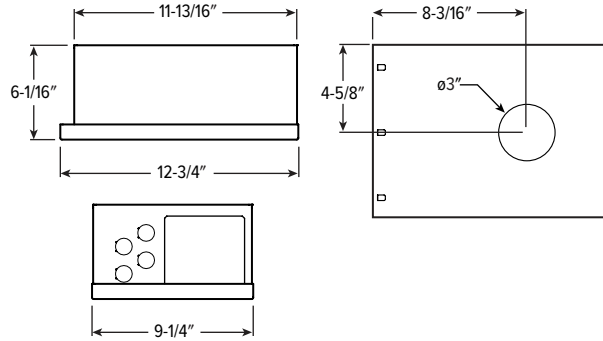
### NEW CONSTRUCTION



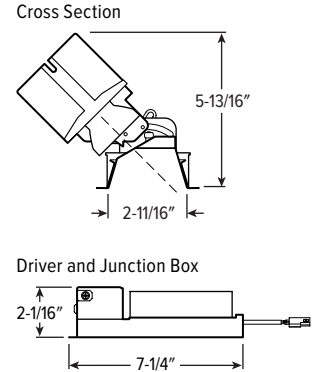
### Driver and Junction Box



### IC-RATED



### REMODEL



# 2AR<sup>LED</sup> 2" Adjustable Downlight – Round

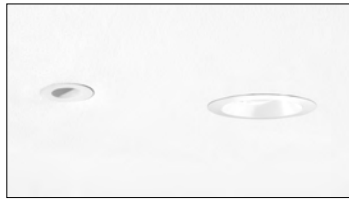
## EM BATTERY DETAILS

### REMODEL MOUNTING

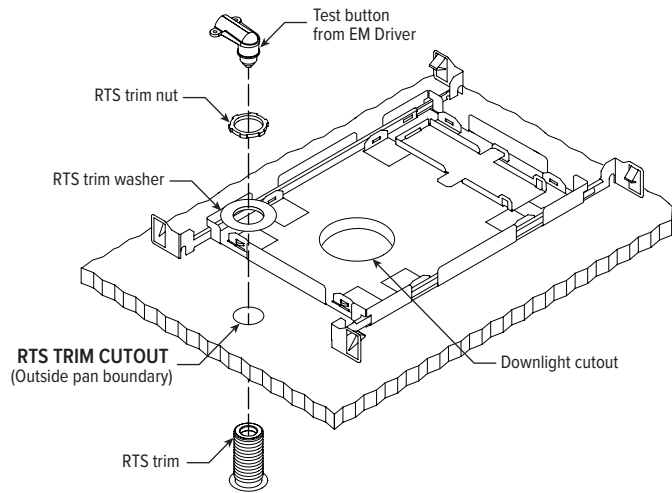
Additional plenum space required for R mounting when specified with EM battery.

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

### EM/10W/RTS MOUNTING

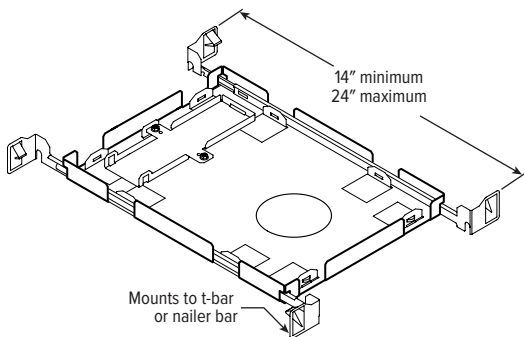


Shown Installed

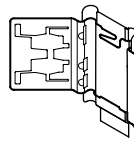


## MOUNTING HARDWARE DETAILS

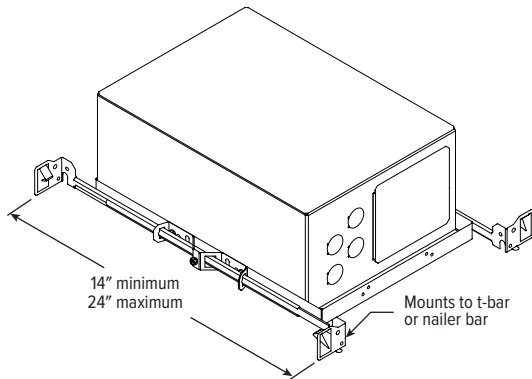
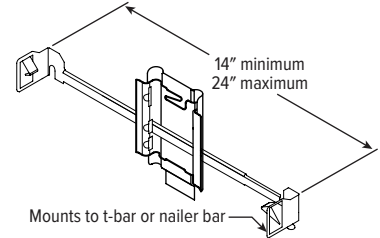
**F1** Integral 2-position fixed pan bracket, universal bar hanger included



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

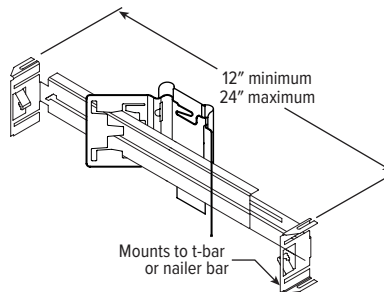


**CA1** Adjustable caterpillar pan bracket, universal bar hanger included (N Mounting Type only)



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)

