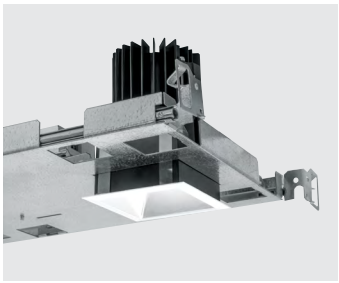
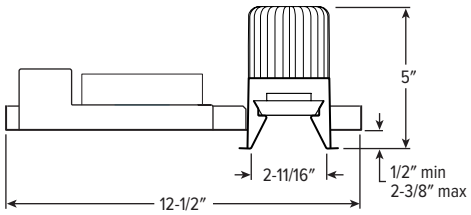
2DS LED
2″ Downlight – Square



NEW CONSTRUCTION AND REMODEL



CATALOG #:

TYPE:

PROJECT:

BAA & BABA COMPLIANT | CCEA Approved | Low UGR | JA8 Compliant | TITLE 24 | WET/CC | TW

ORDERING EXAMPLE: 2DS - L20/835 - OPTIONS - CONTROL/DIM - UNV - LW - OF - WH - TRIM OPTIONS - N - F1
(HOUSING | TRIM | MOUNT)

HOUSING

SERIES
2DS

LUMENS[1]
Single CCT or TW
L5 500lm
L7 700lm
L9 900lm
L12 1,200lm
L15 1,500lm

Single CCT only
L20 2,000lm
L25 2,500lm
L30 3,000lm

CRI
8 80 [2]
9 90

CCT
27 2700K
30 3000K
35 3500K
40 4000K
50 5000K
TW Tunable white (90 CRI, 2700K-5000K)

OPTIONS
See page 3 for EMERGENCY BATTERY OPTIONS.
ATH Airtight construction
F Fuse kit
SDT Stepdown transformer [3]
CP Chicago plenum (CCEA)[4]
(L__) Additional lower lumen packages available [5] Example: 2,200 lumens = 2DS-L25/835-**(L22)**

CONTROL
*Click **HERE** for control options.*
– None

DRIVER
See page 5 for ADDITIONAL DRIVER OPTIONS.
DIM Dimming driver, 0-10V [6]
DIM1 1% Dimming driver, 0-10V [7]
DIM LINE Driver with line voltage dimming wires [8]

VOLTAGE
UNV 120-277V
347 347V [9]

TRIM [10]

TRIM TYPE
L Flush lens
O Open reflector
R Regressed lens
A Angled lens [11]

DISTRIBUTION
See page 2 for BEAM ANGLE.
W Wide
M Medium
N Narrow [12]
S Narrow spot [13]
WW Wall wash [14]

FLANGE TYPE
OF 1/2″ standard flange
ZF Zero-flange mud-in [15]

REFLECTOR FINISH
Open trim types
CS Clear semi-specular anodize
SG Satin glow anodize
GD Gold anodize
CG Champagne gold anodize
PW Pewter anodize
SPC Clear specular anodize
RG Rose gold anodize
Lens trim types
CS Clear semi-specular powder coat
WH White texture powder coat
BL Black texture powder coat

TRIM OPTIONS
MWT Smooth matte white trim flange [16]
AD Diffuse acrylic lens [17]
PD Diffuse 1/8″ polycarbonate lens [18]
WET/CC Wet location, covered ceiling listed [19]
AM Anti-microbial [20]

MOUNTING

MOUNTING TYPE [21]
N Open pan for new construction
I IC-rated enclosure for new construction [23]
R Remodel kit [24]

MOUNTING HARDWARE [22]
F1 Integral 2-position fixed pan bracket, universal bar hanger included [25]
BA1 Adjustable butterfly pan bracket, bar hanger not included [26]
CA1 Adjustable caterpillar pan bracket, universal bar hanger included [27]

NOTES

1 Lumen output based on O Trim Type, W Distribution, and WH Reflector Finish, 80 CRI/3500K for single CCT and 90 CRI/4000K for tunable white. Actual performance may vary +/-5%, see page 2 for FIXTURE PERFORMANCE DATA. Additional lumen packages available, see Options.
2 Not available with tunable white.
3 Not available with R Mounting. May be required for 347V, see product builder at hew.com/product-builder
4 I Mounting Type required.
5 Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
6 0.1% Driver with tunable white.
7 Not available tunable white.
8 L9 minimum when specified with W, M, or N Distributions; L7 minimum when specified with S Distribution. Not available with tunable white.
9 Not available with Tunable White, EM batteries, or DMX Driver.
10 Trim ships separately.
11 Available with WW Distribution only.
12 L20 lumen package max for N and R Mounting. L12 lumen package max for I Mounting.
13 L15 lumen package max for N and R Mounting. L12 lumen package max for I Mounting. Not available with 950 CRI/CCT.
14 A Trim Type only.
15 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.
16 Not available with L Trim Type, ZF Flange Type or WH Reflector Finish.
17 W Distribution only. Not available with O Trim Type.
18 W and WW Distributions only. Not available with O Trim Type.
19 Not available with O Trim Type.
20 WH and BL Reflector Finishes only.
21 Mounting hardware required (N and I only), ordered separately, see MOUNTING HARDWARE ordering info. See page 4 for MOUNTING TYPE DETAILS.
22 Additional mounting hardware options available. See page 5 for MOUNTING HARDWARE DETAILS.
23 L15 lumen package max. Not available with EM batteries.
24 Not available with tunable white. 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.
25 N and I Mounting Types only. I Mounting requires external brackets.
26 N Mounting Type only.
27 N Mounting Type only.

2DS LED
2″ Downlight – Square

FEATURES

- 2″ aperture is unobtrusive in small scale spaces
- 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
- Easily adjust mounting arms below ceiling to adapt to a range of ceiling thicknesses
- Open reflector with seven finishes complements any interior style
- Support human-centric design with adaptive, individualized lighting using tunable white light
- 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. Tunable White products use LEDs of multiple CCTs and may produce a perceptibly different shade of white from single-CCT products at the same CCT. All CCTs are within 3 MacAdam ellipses.
- 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 – L30 lumen packages when specified with R Mounting Type and L15 lumen package when specified with S Distribution. Top access required when specified with EM battery or drivers other than DIM, DIM1, and DIM LINE.
- 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
  - Build America, Buy America (BABA) and Buy American Act (BAA) compliant. Request certification at hew.com/buy-american
- WARRANTY – 5-year limited warranty, see hew.com/warranty

FIXTURE PERFORMANCE DATA

			OPEN (O)		FLUSH (L)		REGRESSED (R)		ANGLED (A)	
	DISTRIBUTION	WATTAGE	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
L30	W	29.9	2858	96	3012	101	2967	99	–	–
	M	29.9	2455	82	2792	93	2789	93	–	–
	N	29.9	2048	69	2843	95	2801	94	–	–
	S	–	–	–	–	–	–	–	–	–
	WW	–	–	–	–	–	–	–	2033	68

[1] Distribution will also be affected, consult factory.

- 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 for single CCT and 90 CRI/4000K for tunable white, 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.
- POE PR fixture efficacy is typically 10-12% higher than shown at same lumen level. Consult factory during project design phase for details.

MULTIPLIER TABLES

	COLOR TEMPERATURE		
	CCT	SINGLE CCT	TW
80 CRI	2700K	0.92	–
	3000K	0.98	–
	3500K	1.00	–
	4000K	1.01	–
	5000K	1.02	–
90 CRI	2700K	0.76	0.87
	3000K	0.79	0.96
	3500K	0.82	1.02
	4000K	0.84	1.00
	5000K	0.88	1.02

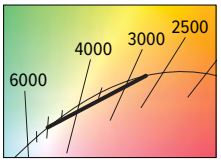
REFLECTOR FINISH		
CATALOG NUMBER	CONVERSION FACTOR	
	O TRIM	R TRIM
CS	1.00	0.98
SG [1]	0.92	–
GD	0.93	–
CG	0.96	–
PW	0.86	–
SPC	1.02	–
RG	0.88	–
WH	–	1.00
BL	–	0.79

TRIM OPTIONS	
CATALOG NUMBER	CONVERSION FACTOR
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°

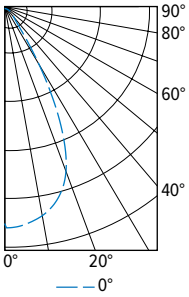
TUNABLE WHITE



2DS LED
2″ Downlight – Square

PHOTOMETRY

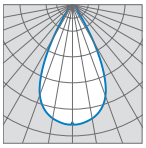
2DS-L15/835-DIM-UNV-LW-OF-WH Report #: 13257153; 03/11/20 | Total Luminaire Output: 1602 lumens; 17.3 Watts | Efficacy: 92.5 lm/W | 80 CRI; 3500K CCT

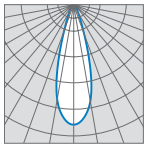


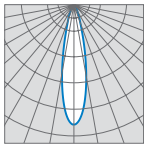
CANDLEPOWER DISTRIBUTION	VERTICAL ANGLE	HORIZONTAL ANGLE 0°	ZONAL LUMENS
	0	1852	
	5	1869	129
	15	1690	259
	25	1065	225
	35	269	83
	45	109	43
	55	72	32
	65	46	21
	75	22	9
	85	5	1
	90	0	

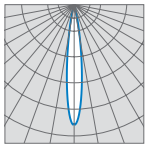
LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 40	1361	85
	0 - 60	1526	95
	0 - 90	1601	100
	0-180	1602	100

FLUSH (L)

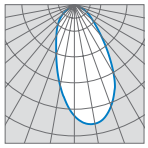

50° Wide


30° Medium

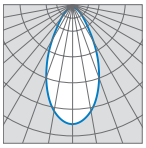

20° Narrow

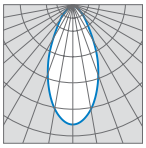

14° Spot

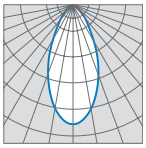
ANGLED (A)

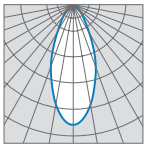

Wall Wash

OPEN (O)

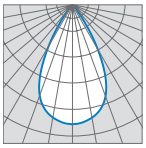

50° Wide

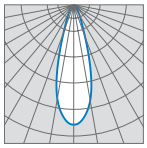

47° Medium

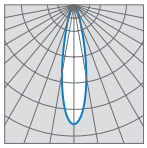

47° Narrow

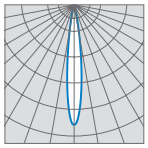

43° Spot

REGRESSED (R)


55° Wide


30° Medium


20° Narrow


14° Spot

EMERGENCY BATTERY OPTIONS

ORDERING EXAMPLE: EM/7W/RTS			
EMERGENCY BATTERY		TEST SWITCH	
EM/5W	5-watt emergency battery	**–**	Standard
EM/7W	7-watt emergency battery [1]	**/RTS**	Regressed test switch [3]
EM/10W	10-watt emergency battery [2]	**/IPRTS**	IP65 rated regressed test switch [4]

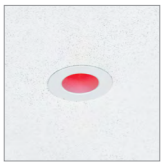
Top access required.

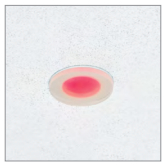
Additional limitations apply, see page 1. Specify CEC in the option code when California Energy Commission regulations are required. Max remote distance is 50′, connection by others.

1 L9 minimum lumen package required.
2 L12 minimum lumen package required.
3 Not available with WET/CC Trim Option.
4 Must specify WET/CC Trim Option.

TEST SWITCH DETAILS

Standard
2-3/4″ x 4-1/2″


Regressed
ø1-3/4″


IP-Rated
ø1-3/4″

REMODEL MOUNTING PLENUM RESTRICTIONS

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

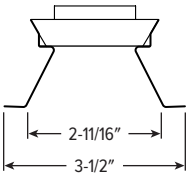
CATALOG NUMBER	MINIMUM HEIGHT
EM/5W	9″
EM/7W	11″
EM/10W	12″

2DS LED
2″ Downlight – Square

TRIM TYPE DETAILS

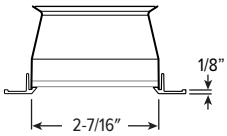
1/2″ STANDARD FLANGE TYPE

OPEN

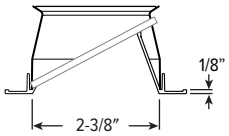


Ceiling Cutout: 3″

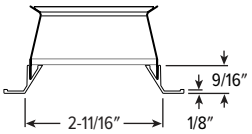
FLUSH



ANGLED

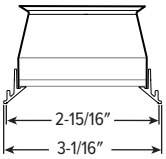


REGRESSED



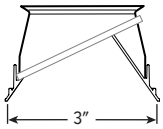
ZERO-FLANGE MUD-IN

FLUSH

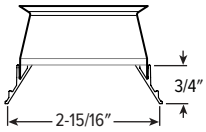


Ceiling Cutout: 3-1/2″

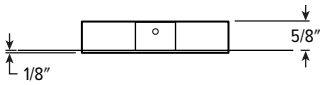
ANGLED

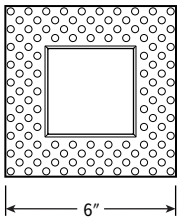


REGRESSED



MUD FLANGE MOUNTING KIT





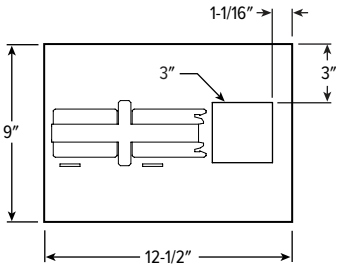
REFLECTOR FINISH DETAILS

SPC	SG	PW	GD	CG	RG	CS	WH	BL
Clear specular	Satin glow	Pewter	Gold	Champagne gold	Rose gold	Clear semi-specular	White	Black

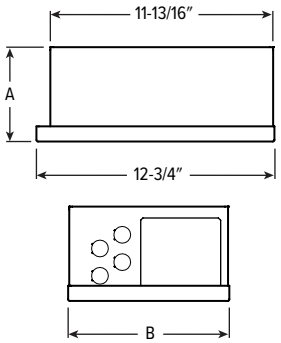
MOUNTING TYPE DETAILS

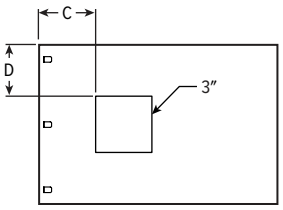
Flex conduit is recommended for installation.

NEW CONSTRUCTION



IC-RATED





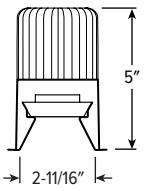
	DIM, DIM1, DIM LINE	ALL OTHER CONTROLS
A	5″	6-1/16″
B	8-9/16″	9-1/4″
C	3-1/16″	6-11/16″
D	2-3/4″	3-1/8″

REMODEL

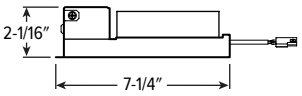
Not available in tunable white.

H.E. Williams Inc. strongly recommends installing a trial fixture to confirm fitment on-site prior to ordering full project quantities.

CROSS SECTION



DRIVER & JUNCTION BOX

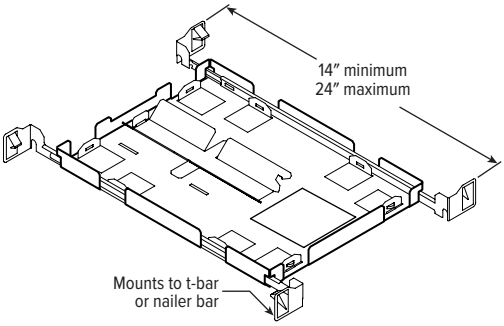


MOUNTING DETAILS CONTINUED ON NEXT PAGE.

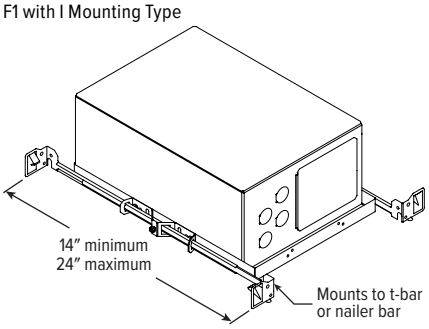
2DS LED
2″ Downlight – Square

MOUNTING HARDWARE DETAILS

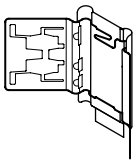
F1 Integral 2-position fixed pan bracket, universal bar hanger included



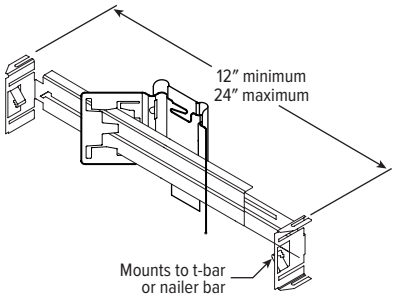
F1 with I Mounting Type



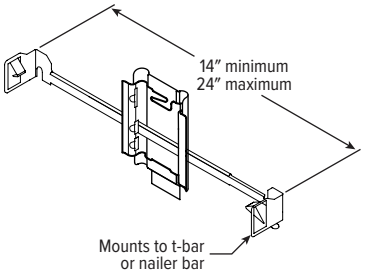
BA1 Adjustable butterfly pan bracket, bar hanger not included (N Mounting Type only)



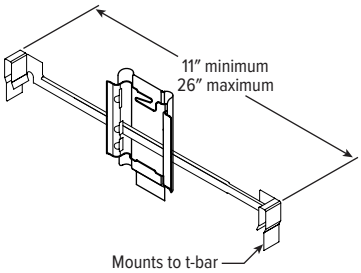
BA2 Adjustable butterfly pan bracket, heavy-duty universal bar hanger included. (N Mounting Type only)



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)



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. L9 minimum for LDE1 driver. Top access required when specified with drivers other than DIM, DIM1, DIM LINE. R Mounting Type only available with DIM, DIM1, DIM LINE drivers. Lutron driver available with N Mounting Type only. 347V may require stepdown transformer, see product builder at hew.com/product-builder

CATALOG NUMBER	DESCRIPTION
BELOW CEILING ACCESS	
DIM	Dimming driver prewired for 0-10V low voltage applications (tunable white: (1) 0-10V signal controls 0.1% dimming and (1) 0-10V signal controls CCT)
DIM1 [1]	1% dimming driver prewired for 0-10V low voltage applications
DIM LINE [1]	Line voltage dimming driver (TRIAC and ELV compatible at 120V only)
TOP ACCESS REQUIRED	
DA	Driver with 12V auxiliary power, without external dimming wires (not available with 347V)
DALI	DALI dimming driver
DMX	Driver prewired for DMX applications
LDE1 [1]	Lutron Hi-lume 1% EcoSystem dimming LED driver
LD2	Lutron DALI-2 digital driver, 1%
DCC	Remote UL Class 2 DC constant current supply, UL- or CSA-listed, by others

1 Single CCT only.

TUNABLE WHITE DRIVER DETAILS

Not available with R mounting type.

DIM

DALI

DMX

LD2