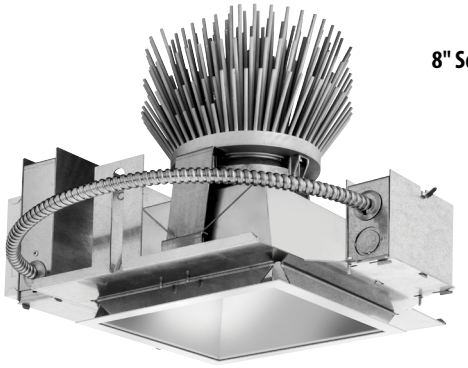
LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

LDN8SQ DC2DC ARCHITECTURE



8" Square Open and Wallwash LED
Non-IC
New Construction
Downlight

FEATURES & SPECIFICATIONS

INTENDED USE — Acuity Brands' DC2DC architecture provides for distributed low-voltage DC power and digital controls for a range of LED luminaries. The DC2DC architecture enhances an LED lighting system's efficiency by eliminating the need and cost to convert AC to DC power at the luminaire and facilitating the installation and commissioning of lighting controls. Intrinsically more efficient by design, our DC-powered lighting architecture also delivers savings at design and installation, facilitates maintenance, and empowers lighting design focused on sustainable and well-being applications. Typical applications include corridors, lobbies, conference rooms and private offices. Click DC2DC for more information

CONSTRUCTION — Durable square metal trims

Galvanized steel mounting/plaster frame; galvanized steel junction box with bottom-hinged access covers and spring latches.

Vertically adjustable mounting brackets with commercial bar hangers provide 3-3/4" total adjustment. C-channel T-bar fastener options available.

Two combination ½"-3/4" and four ½" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out). No. 12 AWG conductors, rated for 90°C.

Accommodates 12"-24" joist spacing

Passive cooling thermal management; light engine and drivers are accessible from above or below ceiling

Max ceiling thickness 1-1/2"

OPTICS — LEDs are binned to a 3-step MacAdam Ellipse; 80 CRI minimum.

Diffusing lens covers optical chamber

General illumination 1.0 S/MH

55° cutoff to source and source image

Self-flanged anodized reflectors in specular, semi-specular, or matte diffuse finishes.

UGR — UGR is zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg, per CIE 117-1996 Discomfort Glare in Interior Lighting.

ELECTRICAL — eldoLED constant current driver option delivers a dimming range for ultrasmooth dimming resolution from 100% to less than 1% assuring flicker fee, low current inrush, high efficiency and low EMI. Drivers are mounted to junction box.

0-10V dimming fixture requires two (2) additional low-voltage wires to be pulled

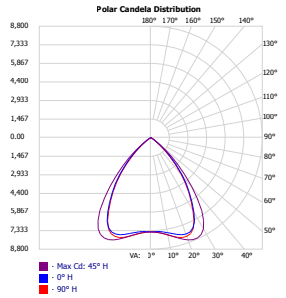
LUMEN MAINTENANCE — 70% lumen maintenance at 50,000 hours

LISTINGS — Certified to US and Canadian safety standards. Damp location standard. Drivers are RoHS compliant.

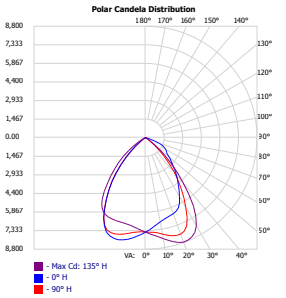
GOVERNEMENT PROCUREMENT — BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.



Open



Wallwash

PERFORMANCE DATA

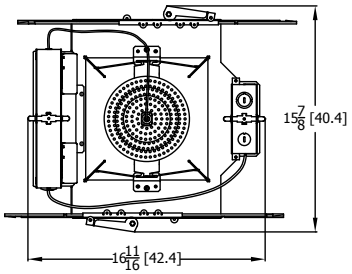
LDN8SQ 3500K AR LS 80CRI				
Nominal Lumens	**Delivered Lumens**	**Wattage**	**LPW**	**# Device Addresses**
5000	4844	55.3	87.6	1
6000	5724	64.5	88.7	1
8000	8022	91.8	87.4	1
10,000	9631	108.3	88.9	1
12,000	11267	139.2	80.9	1
15,000	13861	162.4	85.4	1
20,000	18731	235.7	79.5	1

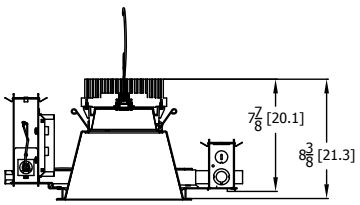
Notes

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical.

DIMENSIONS

LDN8SQ 5K-6K





Aperture: 8-3/4 (22.2)
Ceiling Opening: 8-7/8 (22.5)
Overlap Trim: 9-1/2 (24.1)

See page 4 for other fixture dimensions

LDN8SQ DC2DC ARCHITECTURE

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: LDN8SQ 35/50 LS8 AR LSS 57VDC DALI

LDN8SQ					
Series	**Color temperature**	**Lumens**	**Trim Style**	**Trim Color**	**Trim Finish**
LDN8SQ 8" Square	27/ 2700K 30/ 3000K 35/ 3500K 40/ 4000K	50 5000 lumens 60 6000 lumens 80 8000 lumens 100 10000 lumens 120 12000 lumens 150 15000 lumens 200 20000 lumens	LS8 Downlight LSW8 Wallwash	AR Clear WR ‡ White BR ‡ Black TCPC ‡ Custom painted trim TRALTBD ‡ RAL painted trim	LSS Semi-specular LD Matte diffuse LS Specular

Flange Color ‡	**Voltage**	**Control Interface**
TRW White painted flange TRBL Black painted flange FCPC Custom painted flange only FRALTBD RAL painted flange only	57VDC 57VDC, Class 2 Only	DALI eldoLED DALI 2 log<1%min

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
LDN8SQ	Marked Spacing for 8000 lumens and above.
WR, BR	Not available with finishes.
TRALTBD, FRALTBD	RALTBD for pricing only. Replace with applicable RAL number and finish when ready to order. See the RAL BROCHURE for available color options.
TCPC, FCPC	CPC options for pricing only. Custom color chip needs to be sent in to your Customer Resolution specialist before order can be processed. Click HERE for more details

DOWNLIGHTING: One Lithonia Way Conyers, GA 30012 Phone: 800-705-SERV (7378) TechSupport-Lighting@Acuitybrands.com www.lithonia.com

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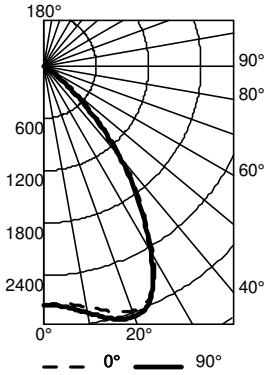
LDN8SQ DC2DC ARCHITECTURE

PHOTOMETRY

Distribution Curve | **Distribution Data** | **Output Data** | **Illuminance Data at 30" Above Floor for a Single Luminaire**

LDN8SQ 35/50 LS8AR LS, input watts: 55.3, delivered lumens: 4844, LM/W = 87.6, spacing criterion at 0 = 1.26, test no. ISF32878P61.



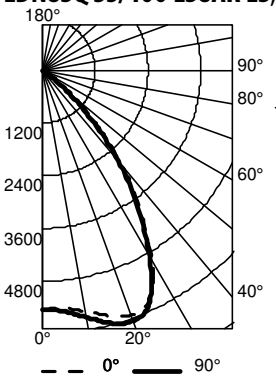
CP Summary

	0°	90
0°	2736	2736
5°	2734	2772
15°	2907	2995
25°	2892	2915
35°	1952	1906
45°	879	792
55°	186	131
65°	34	22
75°	8	5
85°	1	1
90	0	0

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	2496	51.5	51.5
0° - 40°	3860	79.7	79.7
0° - 60°	4807	99.2	99.2
0° - 90°	4844	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	4844	100.0	100.0

LDN8SQ 35/100 LS8AR LS, input watts: 108.3, delivered lumens: 9631.3, LM/W = 88.9, spacing criterion at 0 = 1.26, test no. ISF32878P31.



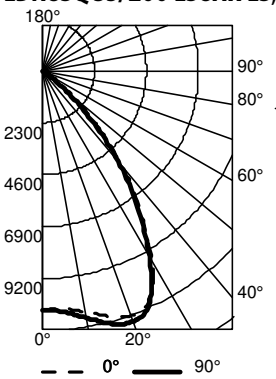
CP Summary

	0°	90
0°	5439	5439
5°	5435	5512
15°	5779	5956
25°	5749	5796
35°	3881	3790
45°	1748	1574
55°	370	261
65°	67	44
75°	17	11
85°	3	2
90	0	0

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	4962	51.5	51.5
0° - 40°	7674	79.7	79.7
0° - 60°	9557	99.2	99.2
0° - 90°	9631	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	9631	100.0	100.0

LDN8SQ 35/200 LS8AR LS, input watts: 235.7, delivered lumens: 18731, LM/W = 79.5, spacing criterion at 0 = 1.26, test no. ISF32878P22.



CP Summary

	0°	90
0°	10578	10578
5°	10570	10720
15°	11239	11582
25°	11181	11271
35°	7549	7370
45°	3400	3062
55°	720	507
65°	131	86
75°	33	21
85°	6	4
90	0	0

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	9650	51.5	51.5
0° - 40°	14924	79.7	79.7
0° - 60°	18586	99.2	99.2
0° - 90°	18731	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	18731	100.0	100.0

LUMEN OUTPUT MULTIPLIERS - FINISH	
Specular (LS)	1.0
Semi-specular (LSS)	0.95
Matte diffuse (LD)	0.85
White	0.87
Black	0.73

LUMEN OUTPUT MULTIPLIERS - CRI	
80	1.0
90	0.874

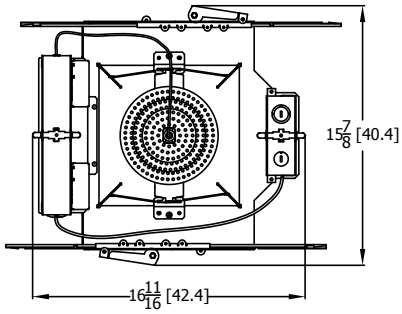
LUMEN OUTPUT MULTIPLIERS - CCT				
	2700K	3000K	3500K	4000K
80CRI	0.950	0.966	1.000	1.101

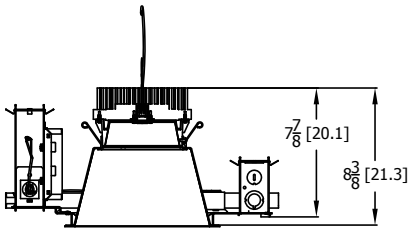
Notes
- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- Actual performance may differ as a result of end-user environment and application.
- CRI: 80 typical.

LDN8SQ DC2DC ARCHITECTURE

DIMENSIONAL DRAWINGS

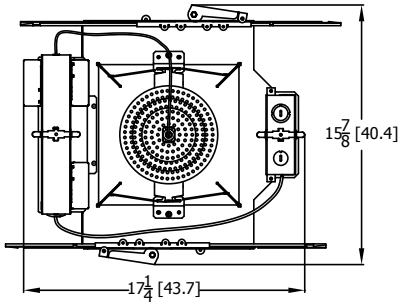
LDN8SQ 5K-6K

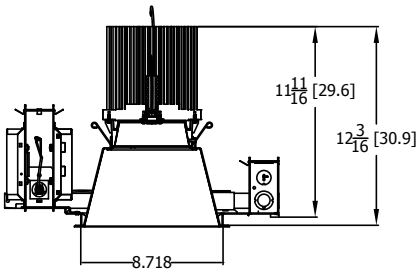




Aperture: 8-3/4 (22.2)
Ceiling Opening: 8-7/8 (22.5)
Overlap Trim: 9-1/2 (24.1)

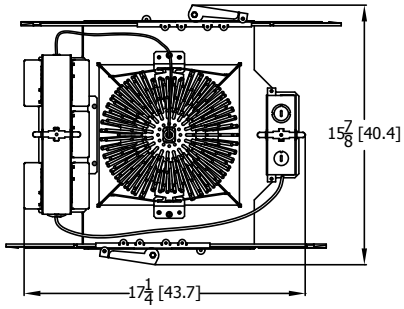
LDN8SQ 8K-12K

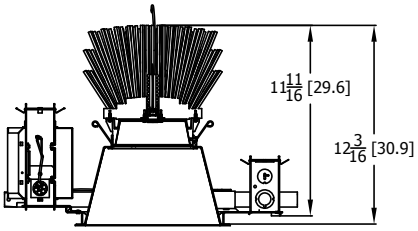




Aperture: 8-3/4 (22.2)
Ceiling Opening: 8-7/8 (22.5)
Overlap Trim: 9-1/2 (24.1)

LDN8SQ 15K-20K





Aperture: 8-3/4 (22.2)
Ceiling Opening: 8-7/8 (22.5)
Overlap Trim: 9-1/2 (24.1)

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Rev. 02/05/25

LDN8SQ DC2DC ARCHITECTURE

DC-powered Lighting, DC2DC Architecture

Acuity Brands' DC2DC architecture provides for distributed low-voltage DC power and digital controls for a range of LED luminaires, including the LDN series LED recessed downlights.

The DC2DC architecture enhances an LED lighting system's efficiency by eliminating the need and cost to convert AC to DC power at the luminaire and facilitating the installation and commissioning of lighting controls. Intrinsically more efficient by design, our DC-powered lighting architecture also delivers savings at design and installation, facilitates maintenance, and empowers lighting design focused on sustainable and well-being applications.

Components include:

- DCHUB (ordered separately), distributes DC power up to 1080 VA of DC-powered LED luminaires including support for emergency lighting.
- 57 VDC powered LED luminaires, with Static CCT or Tunable White, based on control options.
- nLight® lighting control
    - Integral or offboard wired networked lighting control, with nLight control devices (ordered separately).
    - Embedded nLight AIR wireless devices in 57VDC powered Static CCT LED luminaires.
- Class 2 power and control cables.
- The number of luminaires that can be supported by a single DCHUB port is a function of luminaire wattage and conductor losses. Please refer to the fixture wattages listed and the DCHUB spec sheet for additional details. Alternatively, the LED luminaires can be supplied with an approved, UL Listed, Class 2 power source supplying between 52.3 and 57.0 VDC at the input to the luminaire.

Note:

All luminaires require 57VDC option along with the corresponding Control Input option for DALI or DALI8 external nPS80 DALI 57VDC wired nLight control or NLTAIR2 or NLTAIREM2 embedded wireless lighting control.

When using external wired nLight control, nPS80 DALI 57 VDC is mounted locally with the controlled luminaires. Only 2 #16 AWG (min.) conductors are necessary between the DC power source and the nPS80 DALI controller, and 4 conductors between the controller and the luminaires.

When using nLight embedded wireless controls only 2 #16 AWG (min.) conductors are necessary between the DC power source and the luminaire runs.

Click DC2DC for more information.

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