

ESA Series

ESA™ LED Architectural Downlight – Square 8" Aperture – 28, 42 & 56 LEDs

Product Description

Downlight luminaire with 8" (203mm) square aperture, designed for 56 high output LEDs maximum. Two piece optical assembly provides a broad, even light distribution, combining low brightness, with maximum visual cutoff and efficiency. Three light distributions available – narrow, medium, and wide.

Performance Summary

Patented NanoOptic® Product Technology

Made in the U.S.A. of U.S. and imported parts

CRI: Refer to chart on page 2

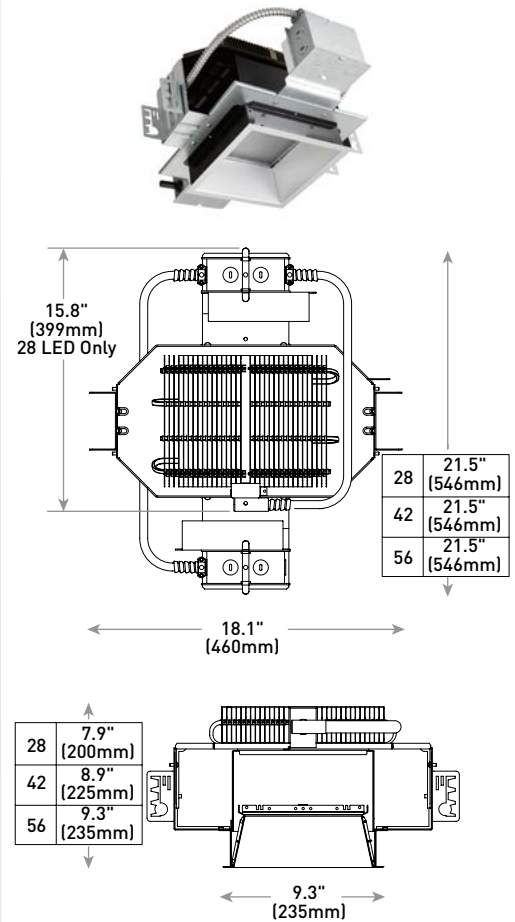
CCT: 2700K, 3000K, 3500K (standard) , 4000K

Limited Warranty†: 10 years on luminaire

† See <http://lighting.cree.com/warranty> for warranty terms

Accessories

Companion Luminaires	
LED Adjustable Downlight ESA-ADS-NDADJ-8-28-D-SSGCFF	LED Lensed Wallwash ESA-ADS-LWW-8-28-D-SGCFE



Ordering Information

Example: ESA-ADS-ND-8-28-D-120-SSGC-FF-C

ESA	ADS	MD	8		D				C	
Family Name	Type	Optic	Aperture Size	LED Count	Series	Voltage	Trim Finish ¹	Flange Finish	Drive Current	Options
ESA	ADS Architectural Downlight Square	ND Narrow MD Medium WD Wide	8 8 inch	28 42 56	D	120 120V 230 230V 277 277V	SSGC Clear SSGGR Graphite SSGBR Bronze SSGCG Champagne Gold SSGPE Pewter SSGWH Wheat SSGB Black W White Paint	FF Flat Flange WF White Flange XF Custom Color Flange	C 525mA	27K 2700K ² - 90+ CRI 30K 3000K ² - 90+ CRI 40K 4000K ² - 80+ CRI DH Dimming ³ - Optional Lutron® Hi-Lume® driver available ES Flangeless FS Fusing LM Shielding Media SCA Slope Ceiling Adapter MC Mounting Channels

1. SSG = Satin Glow Anti-Iridescent
2. Color temperature per luminaire; 3500K Standard
3. Available with 28 LED only



US: lighting.cree.com

T (800) 236-6800 F (262) 504-5415

Rev. Date: V2 R1 10/03/2018

Canada: www.cree.com/canada



T (800) 473-1234 F (800) 890-7507

ESA™ LED Architectural Downlight – Square 8" Aperture – 28, 42 & 56 LEDs

Product Specifications


CONSTRUCTION & MATERIALS

- Luminaire uses 28, 42, or 56 high output LEDs, tolerance to be within a 2-step MacAdam Ellipse
- Tilted Axial and/or Axial TIR NanoOptic® on each individual LED to maximize light delivered through aperture
- Lower cone is die formed, low-iridescent, 0.032" (1mm) thick, pre-finished aluminum
- Soft Satin Glow Clear finish, standard
- Precision nickel plated cone retainers assure that the lower cone is held in position
- Formed cone blackout baffle to minimize stray light
- 2" (51mm) aperture throat to accommodate all standard and extra-thick ceilings and provide flexibility in mounting within grid
- Custom heat pipe to optimize cooling of LEDs
- Provided with quick mounting brackets for optional carrying channels
- Light engine, optics, and driver(s) accessible from above or below ceiling

ELECTRICAL SYSTEM

- High efficiency constant current drivers 525mA drive current
- **Input Voltage:** 120V (50-60Hz), 230V (50Hz), or 277V (50-60Hz)
- 0-10V dimming, standard. 100%-10% full-range continuous dimming
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for damp locations
- Meets Buy American requirements within ARRA
-  **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

PATENTS

- Patented Slideways™ feature for ease of maintenance from below the ceiling

Electrical Data*			
LED Count	System Watts 120-277V	Total Current (A)	
		120V	277V
0-10V Dimming, 525mA			
28	52	0.43	0.19
42	80	0.66	0.29
56	103	0.86	0.37
Lutron® Hi-Lume®, 525mA			
28	55	0.31	0.14

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V +/-10%

ESA Series Lumen Maintenance Factors (LMF) ¹					
Ambient	Initial LMF	25K hr Projected ² LMF	50K hr Projected ² LMF	75K hr Calculated ³ LMF	100K hr Calculated ³ LMF
5°C (41°F)	1.04	1.01	0.99	0.98	0.96
10°C (50°F)	1.03	1.00	0.98	0.97	0.95
15°C (59°F)	1.02	0.99	0.97	0.96	0.94
20°C (68°F)	1.01	0.98	0.96	0.95	0.93
25°C (77°F)	1.00	0.97	0.95	0.94	0.92

¹ Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors

² In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

³ In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

Color Tolerance			
Color	Target CCT	Tolerance	CRI
4000K	3899	+/- 75K	80
3500K	3388	+/- 63K	80
3000K	2993	+/- 50K	90
2700K	2755	+/- 42K	90

Installation

- Recommended ceiling cutout 8.5" [216mm] x 8.5" [216mm]



ESA™ LED Architectural Downlight – Square 8" Aperture – 28, 42 & 56 LEDs

Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards

Narrow Distribution without Lens Media			
LED Count	2700K	3000K	3500K/4000K
	Initial Delivered Lumens	Initial Delivered Lumens	Initial Delivered Lumens
28	2,123	2,308	3,077
42	3,305	3,593	4,790
56	4,264	4,634	6,179

Narrow Distribution with Lens Media			
LED Count	2700K	3000K	3500K/4000K
	Initial Delivered Lumens	Initial Delivered Lumens	Initial Delivered Lumens
28	1,887	2,051	2,735
42	2,997	3,257	4,343
56	3,860	4,196	5,594

Medium Distribution without Lens Media			
LED Count	2700K	3000K	3500K/4000K
	Initial Delivered Lumens	Initial Delivered Lumens	Initial Delivered Lumens
28	2,064	2,244	2,992
42	3,261	3,545	4,726
56	4,206	4,571	6,095

Medium Distribution with Lens Media			
LED Count	2700K	3000K	3500K/4000K
	Initial Delivered Lumens	Initial Delivered Lumens	Initial Delivered Lumens
28	1,829	1,988	2,650
42	2,908	3,161	4,215
56	3,803	4,133	5,511

Wide Distribution without Lens Media			
LED Count	2700K	3000K	3500K/4000K
	Initial Delivered Lumens	Initial Delivered Lumens	Initial Delivered Lumens
28	1,976	2,148	2,864
42	3,040	3,305	4,406
56	3,975	4,321	5,761

Wide Distribution with Lens Media			
LED Count	2700K	3000K	3500K/4000K
	Initial Delivered Lumens	Initial Delivered Lumens	Initial Delivered Lumens
28	1,769	1,923	2,564
42	2,644	2,874	3,832
56	3,514	3,820	5,093

© 2018 Cree, Inc. and/or one of its subsidiaries. All rights reserved. For informational purposes only. Content is subject to change. Patent www.cree.com/patents. Cree® is a registered trademark, and the Cree logo and ESA™ are trademarks of Cree, Inc. Lutron® and Hi-Lume® are registered trademarks of Lutron Electronics Co., Inc. The UL logo is a registered trademark of UL LLC.

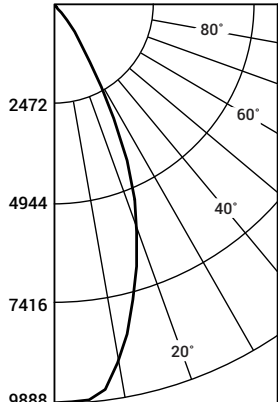


ESA™ LED Architectural Downlight – Square 8" Aperture – 28, 42 & 56 LEDs

Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards

MD



ITL Test Report #: ITL76360
 ESA-ADS-MD-8-256-C-120-SSGC-FF-C-35K
 Initial Delivered Lumens: 6,095
 Efficacy: 59 Lm/W
 S/M: 0.74

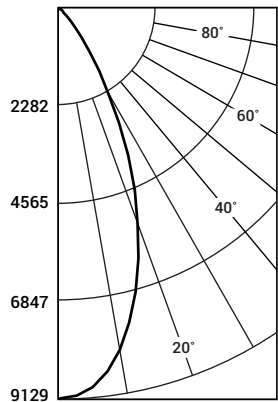
Candlepower Summary	
Angle	Mean CP
0°	10315
5°	10280
15°	7902
25°	4443
35°	1195
45°	132
55°	38
65°	13
75°	4
85°	0
90°	0

Cone of Light		
Distance from Workplane	Footcandles	Beam Diameter
6'	141	4.4'
8'	79	5.8'
10'	51	7.3'
12'	35	8.8'
14'	26	10.3'

Zonal Lumen Summary	
Verticle Angle	Average
45°	10040
55°	3536
65°	1680
75°	784
85°	0

Medium Distribution without Lens Media			
LED Count	2700K	3000K	3500K/4000K
	Initial Delivered Lumens	Initial Delivered Lumens	Initial Delivered Lumens
28	2,064	2,244	2,992
42	3,261	3,545	4,726
56	4,206	4,571	6,095

MD LENSED



ITL Test Report #: ITL76359
 ESA-ADS-MD-8-56-C-120-SSGC-FF-C-35KLM
 Initial Delivered Lumens: 5,511
 Efficacy: 54 Lm/W
 S/M: 0.72

Candlepower Summary	
Angle	Mean CP
0°	9129
5°	8903
15°	6866
25°	3794
35°	1247
45°	223
55°	55
65°	15
75°	6
85°	0
90°	0

Cone of Light		
Distance from Workplane	Footcandles	Beam Diameter
6'	122	4.2'
8'	69	5.8'
10'	44	7.1'
12'	30	8.9'
14'	22	10.0'

Zonal Lumen Summary	
Verticle Angle	Average
45°	16882
55°	5115
65°	1915
75°	1173
85°	0

Medium Distribution with Lens Media			
LED Count	2700K	3000K	3500K/4000K
	Initial Delivered Lumens	Initial Delivered Lumens	Initial Delivered Lumens
28	1,829	1,988	2,650
42	2,908	3,161	4,215
56	3,803	4,133	5,511

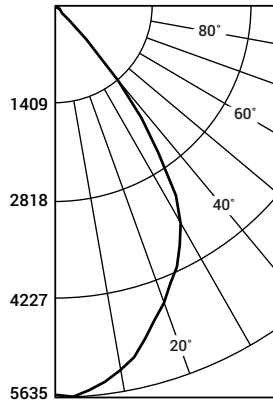
IES Files
 To obtain an IES file specific to your project consult: <http://www.cree.com/lighting/tools-and-support/interior-ies-configuration-tool>



Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards

WD



ITL Test Report #: ITL76362
 ESA-ADS-WD-8-56-C-120-SSGC-FF-C-35K
 Initial Delivered Lumens: 5,344
 Efficacy: 56 Lm/W
 S/M: 1.00

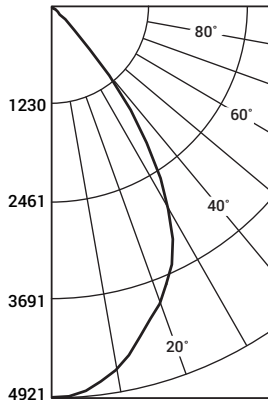
Candlepower Summary	
Angle	Mean CP
0°	5610
5°	5563
15°	4915
25°	4012
35°	2523
45°	293
55°	59
65°	20
75°	6
85°	0
90°	0

Cone of Light		
Distance from Workplane	Footcandles	Beam Diameter
6'	152	6.3'
8'	86	8.3'
10'	55	10.5'
12'	38	12.5'
14'	28	14.5'

Zonal Lumen Summary	
Verticle Angle	Average
45°	22206
55°	5475
65°	2477
75°	1213
85°	0

Wide Distribution without Lens Media			
LED Count	2700K	3000K	3500K/4000K
	Initial Delivered Lumens	Initial Delivered Lumens	Initial Delivered Lumens
28	1,976	2,148	2,864
42	3,040	3,305	4,406
56	3,975	4,321	5,761

WD LENSED



ITL Test Report #: ITL76361
 ESA-ADS-WD-8-56-C-120-SSGC-FF-C-35KLM
 Initial Delivered Lumens: 5,093
 Efficacy: 49 Lm/W
 S/M: 1.00

Candlepower Summary	
Angle	Mean CP
0°	4921
5°	4858
15°	4306
25°	3582
35°	2089
45°	406
55°	73
65°	23
75°	6
85°	0
90°	0

Cone of Light		
Distance from Workplane	Footcandles	Beam Diameter
6'	132	6.2'
8'	74	8.2'
10'	48	10.3'
12'	33	12.3'
14'	24	14.5'

Zonal Lumen Summary	
Verticle Angle	Average
45°	30821
55°	6811
65°	2919
75°	1192
85°	0

Wide Distribution with Lens Media			
LED Count	2700K	3000K	3500K/4000K
	Initial Delivered Lumens	Initial Delivered Lumens	Initial Delivered Lumens
28	1,769	1,923	2,564
42	2,644	2,874	3,832
56	3,514	3,820	5,093

IES Files
 To obtain an IES file specific to your project consult: <http://www.cree.com/lighting/tools-and-support/interior-ies-configuration-tool>

