



Alkco's 4" Square Sealed Specialty Downlight provides a solution for complex environments such as healthcare, cleanroom and food processing applications where keeping a sterile environment is essential.

Standard luminaire: Complete luminaire = Frame + Engine + Trim + Accessories (optional)

Buy American Act of 1933 (BAA) Compliant luminaire*:** Complete luminaire = Frame-BAC + Engine-BAC + Trim-BAC

* BAA compliance requires that BAC option be selected for each of frame, engine, and trim. Frame and engine will be ordered/shipped together; trim will be ordered/shipped separately. Accessories (optional) are not currently BAA-compliant.

Project: _____
 Location: _____
 Cat.No: _____
 Type: _____
 Line ID: _____ Qty: _____
 Notes: _____

Order logic: Static White

Frame

Example: ASDFRBAC

Family	Size	Shape	Voltage / Options
ASDF	4	S	
ASDF Specialty downlight frame	4 4"	S Square	EM6 ¹ Emergency, 6W LC ² Chicago Plenum BAC ³ Meets the requisites of the Buy American Act of 1933 (BAA)

Engine

Example: ASDE4O20930MDU

Family	Size	Lumens	CRI/CCT	Beam	Dimming	Options	Voltage	Options
ASDE	4O							
ASDE Specialty downlight engine	4O 4" Open	10 1000lm 15 1500lm 20 2000lm 25 2500lm 30 3000lm	927 90CRI 2700K 930 90CRI 3000K 935 90CRI 3500K 940 90CRI 4000K	N Narrow M Medium & Wide	Z10 ⁴ 0-10V 1% (up to 3000lm) L01 Lutron PEQO EcoSystem L1 0.1% (up to 2000lm) Lutron LDE1 EcoSystem (up to 3000lm) RA ⁵ Integral Interact Pro RF sensor (enables wireless connected lighting) D DALI 0.1% (up to 3000lm) SOL EldoLED Solo 0-10V 0.1% (up to 3000lm) DMX Digital Multiplexing with RDM 0.1% (up to 3000lm)	— None D20 Dim to Off LIN ⁵ Linear LIN ⁵ Linear LIN ⁵ Linear SQR Square	U 120/277V 3 347V (Z10 only) U 120/277V U 120/277V U 120/277V U 120/277V	BAC ³ Meets the requisites of the Buy American Act of 1933 (BAA)

Trim

Example: ASDT4SOWCLP

Family	Size	Aperture	Style	Beam	Finish	Flange	Options
ASDT	4	S					
ASDT Specialty downlight trim	4 4"	S Square	O Open	NM Narrow & Medium W Wide	CL Specular clear CC Comfort clear CD Comfort clear diffuse WH Matte White	WH Matte White P Polished WH Matte White	BAC ³ Meets the requisites of the Buy American Act of 1933 (BAA)

Accessories (Not currently BAA-compliant) learn more on page 3

SBA	Interact Ready System Bridge Accessory (refer to Philips System Bridge Accessory spec sheet for options and details)
CAEM6	Field-installable Bodine BSL6 6W battery pack with self-test/self-diagnostic (for new construction frames, 120-277V, test switch is not wet location listed)
T347-75VA	347:120V step-down transformer for non-IC (N) frame only (see page 2 for details)
CAEM6TSCP	Must be ordered with EM6 frame for remote test switch (see page 2 for details)

Footnotes

- Emergency (EM6) frame is compatible with reflector mounted test switch when trim is ordered with IEM6 option code (not compatible with 347V or Power over Ethernet configurations). For remote mount switch, order standard trim and CAEM6TSCP mounting plate accessory.
- Chicago Plenum frame is available for Buy American Compliant (BAC).
- Failure to properly select the "BAC" suffix could result in you receiving product that is not BAA compliant product with no recourse for an RMA or refund. This BAC designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requisites imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the Department of Transportation or other federal agencies.
- Dim-to-warm (D2W) available only with Z10 dimming. Narrow (N) and medium (M) beams only.
- Linear driver profile (see page 8).

ASD4 Square Sealed Downlight

Order logic: Tunable White

Frame

Example: ASDFRBAC

Family	Size	Shape	Voltage / Options
ASDF	4	S	
ASDF Specialty downlight frame	4 4"	S Square	EM6¹ Emergency, 6W LC² Chicago Plenum BAC³ Meets the requisites of the Buy American Act of 1933 (BAA)

Engine

Example: ASDE40159BIONZ10U

Family	Size	Lumens	CRI/CCT	Beam	Dimming	Options	Voltage	Options
ASDE	40							
ASDE Specialty downlight engine	40 4" Open	10 1000lm 15 1500lm 20 2000lm	96T 90 CRI Tunable White, up to 2000lm 9D2W⁴ 90 CRI Dim to Warm, up to 2000lm 9BIO 90 CRI BioUp, up to 1500lm	N Narrow M Medium	Z10⁴ 0-10V 1% L01 Lutron PEQ0 EcoSystem L1 0.1% (up to 2000lm) Lutron LDE1 EcoSystem RA⁵ Integral Interact Pro RF sensor (enables wireless connected lighting) D DALI 0.1% SOL EldoLED Solo 0-10V 0.1% DMX Digital Multiplexing with RDM 0.1%	-- None D20 Dim to Off LIN⁵ Linear LIN⁵ Linear SQR Square	U 120/277V 3 347V U 120/277V U 120/277V U 120/277V	BAC³ Meets the requisites of the Buy American Act of 1933 (BAA)

Trim

Example: ASDT4SONMCLP

Family	Size	Aperture	Style	Beam	Finish	Flange	Options
ASDT	4	S		-			
ASDT Specialty downlight trim	4 4"	S Square	O Open	NM Narrow & Medium	CL Specular clear CC Comfort clear CD Comfort clear diffuse WH Matte White	WH Matte White P Polished WH Matte White	BAC³ Meets the requisites of the Buy American Act of 1933 (BAA)

Accessories (Not currently BAA-compliant) learn more on page 3

SBA	Interact Ready System Bridge Accessory (refer to Philips System Bridge Accessory spec sheet for options and details)
CAEM6	Field-installable Bodine BSL6 6W battery pack with self-test/self-diagnostic (for new construction frames, 120-277V, test switch is not wet location listed)
T347-75VA	347:120V step-down transformer for non-IC (N) frame only (see page 2 for details)
CAEM6TSCP	Must be ordered with EM6 frame for remote test switch (see page 2 for details)

Footnotes

- Emergency (EM6) frame is compatible with reflector mounted test switch when trim is ordered with IEM6 option code (not compatible with 347V or Power over Ethernet configurations). For remote mount switch, order standard trim and CAEM6TSCP mounting plate accessory.
- Chicago Plenum frame is available for Buy American Compliant (BAC).
- Failure to properly select the "BAC" suffix could result in you receiving product that is not BAA compliant product with no recourse for an RMA or refund. This BAC designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requisites imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the Department of Transportation or other federal agencies.
- Dim-to-warm (D2W) available only with Z10 dimming. Narrow (N) and medium (M) beams only.
- Linear driver profile (see page 8).

ASD4 Square Sealed Downlight

Frame-in-kits

New Construction:

Galvanized stamped steel for dry or plaster ceilings. Preinstalled telescoping mounting bars from 13" to 24". For 4' distances, use 1/2" EMT, 1-1/2" x 1/2" U or C channel. Installation requires access to the top side of the luminaire - consult installation instructions for details.

Max ceiling thickness is 2.75" (70 mm)

Patented install Mounting frame:

- Pre-installed mounting bars for fast and tool-less installs into T-grid & hat channel ceilings.
- Close-cut aperture design eliminates possibility of gap between ceiling opening and reflector flange.
- Separate wiring compartment for wiring frame to building allows inspection prior to light engine install.
- Simple plug-and-play connection between frame and light engine from below ceiling.

Emergency

Bodine BSL6 6W battery pack with self-test/diagnostic functionality. Factory or field mounted to frame.

For remote ceiling mounted test switch, order standard trim (ex: C6RDLCC). Optional accessory ceiling mounting plate available (CAEM6TSCP) for remote mounted test switch.

Dimming

All configurations are FCC Class A unless otherwise specified.

- Advance 0-10V 1% (Z10), logarithmic curve is standard. Specify D2O for factory-set dim-to-off function, consult factory for linear dimming curve.
- EldoLED SOLODrive (SOL) 0-10v 0.1%
- Lutron LDE1 (L01) EcoSystem 1%
- DALI (D) - DT6 DALI 0.1%
- DMX (DMX) - Digital Multiplexing with RDM 0.1%

Dimming Options

The following are factory-set options for the SOL, D, DMX and RA driver options (ex. DMXLIN):

- SOL/D/DMX: Logarithmic (-) standard
- RA/SOL/D/DMX: Linear (LIN)
- SOL/DMX: Square (SQR)
- Dim to Warm (D2W): option changes CCT from 3000-1800K gradually as it dims. Use with Z10 dimming only. Fixture-to-fixture consistency of ≤3SDCM at 2700K & 3000K, and ≤5SDCM at 1800K.

Optical Systems

Comfort throughout the space:

True 50° physical cutoff and 45° reflected cutoff.

Quality of light:

2 SDCM ensures color consistency from fixture to fixture and over the luminaire's long lifetime.

MesoOptics PET optical diffusion film:

Provides a smooth beam shape and mitigates color over angle with optimized luminaire efficiency.

Light Engine

Quick connect power pack allow for easy installation and replacement from below ceiling with no need for additional wiring. This allows for:

- Frame and ceiling installation to be performed while still finalizing details such as lumen packages, CCT and control type.
- Easy replacement of electronics at end of life with minimal wasted material and labor required.
- Ease and upgradability of technology.
- 347V light engines are Z10 dimming only and include dedicated 347V driver. For 347V non-Z10 dimming, order T347-75VA field-installed step-down transformer accessory.

Options and Accessories

SBA: Interact Ready System Bridge Accessory. Requires IRT9015 IR remote and Interact Pro App for commissioning.

CAEM6: Field install EM6 kit with Bodine BSL6 6W battery pack with self-test/self-diagnostic, mounts to new construction frames. Includes remote ceiling plate for test switch.

CAEM6TSCP: Ceiling cover plate for remote mounted EM6 test switch. 1/2" (25mm) hole, 4 3/8" (109mm) x 2 3/4" (69mm) rectangular. Includes two mounting screws.

T347-75VA: Field installable 347:120V 75VA step-down transformer, attaches to knock out on frame junction box, for use with non-IC (N) or remodel (R) frames.

Labels and Listings

Wet Location, IP65, NSF, IK07, RoHS.

Designed to comply with ISO5 requirements for cleanroom applications.

Warranty



5 year limited warranty

Visit [Signify.com/warranties](https://www.signify.com/warranties) for more information on Signify's standard 5-year limited warranty on complete luminaire systems.

ASD4 Square Sealed Downlight



AccuRender Technology (CRI 90+)

The right light brings colors to life. Our new AccuRender technology helps ensure colors are rendered more accurately and consistently, while doing so as efficiently as CRI 80 products.



Standard CRI 80
Good color rendering and high efficacy



Standard CRI 90
Better color rendering and low efficacy



AccuRender
Best color rendering, color preference and high efficacy

Enjoy design flexibility

Full range of products and options:

- Multiple color temperatures (CCTs) and lumen packages offered

Promote savings

High efficacy, with no penalty:

- Energy efficacy compares well to conventional 80 CRI
- Up to 25% more energy savings vs competitor 90 CRI¹

Show your true colors

High color rendering:

- True to life colors that help energize your environment and render better flesh tones critical for healthcare hospitality and retail applications.
- R_a up to 94 CRI • R_f up to 92 TM-30
- R_g up to 67 CRI • $R_{g,h1}$ up to 91 TM-30
- G_a up to 99 CRI • R_g up to 100 TM-30
- C_g up to 94 CRI • $R_{cs,h1}$ up to -5% TM-30

Achieve color balance

Best in class color consistency:

- Promote aesthetic harmony in your space with ≤ 2 SDCM

Photometric - Downlights with CRI of 90+ & R9 of 50+

Lumen Package	Beam	Flux (lm)	Efficacy (lm/W)	Beam Angle	CBCP	CRI	R9	Photometry Report	IES TM-30-18			UGR
									R_f	R_g	$R_{cs,h1}$	
500 lm	Narrow (N)	617	102	40	1661	90+	50+	Calc	91	100	-6%	0
	Medium (M)	545	89	57	769	90+	50+	Calc	91	99	-6%	0
	Wide (W)	413	67	74	378	90+	50+	Calc	91	99	-6%	0
1000 lm	Narrow (N)	916	106	40	2469	90+	50+	Calc	91	100	-6%	0
	Medium (M)	921	91	57	1300	90+	50+	Calc	91	99	-6%	0
	Wide (W)	696	69	74	638	90+	50+	Calc	91	99	-6%	0
1500 lm	Narrow (N)	1364	101	40	3676	90+	50+	STMR - 2431	91	100	-6%	1
	Medium (M)	1317	94	57	1859	90+	50+	STMR - 1857	91	99	-6%	1
	Wide (W)	1002	72	74	917	90+	50+	STMR - 1821	91	99	-6%	0
2000 lm	Narrow (N)	1800	102	40	4851	90+	50+	Calc	91	100	-6%	2
	Medium (M)	1690	92	57	2385	90+	50+	Calc	91	99	-6%	2
	Wide (W)	1287	70	74	1178	90+	50+	Calc	91	99	-6%	1
2500 lm	Narrow (N)	2133	99	40	5747	90+	50+	Calc	91	100	-6%	3
	Medium (M)	2120	90	57	2992	90+	50+	Calc	91	99	-6%	3
	Wide (W)	1615	68	74	1479	90+	50+	Calc	91	99	-6%	2
3000 lm	Narrow (N)	2619	94	40	7058	90+	50+	Calc	91	100	-6%	3
	Medium (M)	2609	88	57	3682	90+	50+	Calc	91	99	-6%	3
	Wide (W)	1954	66	74	1790	90+	50+	Calc	91	99	-6%	2

ASD4 Square Sealed Downlight

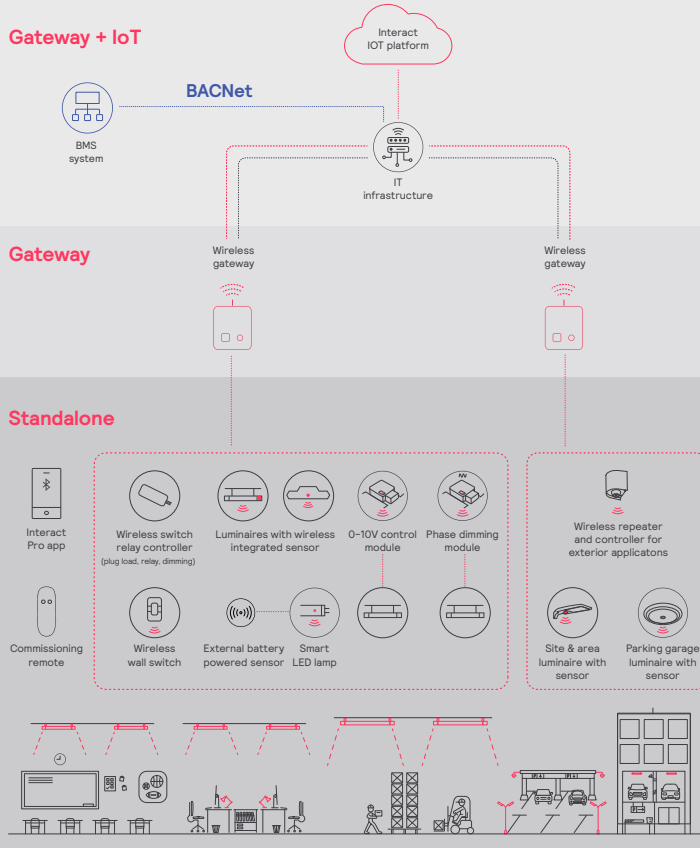
	The three tiers of Interact		
	Standalone	Gateway	Gateway + IoT
Dimming, grouping, and zoning	✓	✓	✓
Bluetooth and ZigBee enabled	✓	✓	✓
Motion sensing and daylight harvesting	✓	✓	✓
Integration with 0-10V and phase dimming fixtures	✓	✓	✓
Code compliance	✓	✓	✓
Granular dimming and dwell time	✓	✓	✓
New Correlated color temperature (CCT) tuning by switch	✓	✓	✓
New Support for sensor-based Tunable White luminaires	✓	✓	✓
Energy reporting and monitoring		✓	✓
Scheduling		✓	✓
Demand response		✓	✓
BMS integration (BACnet)			✓
Floor plan visualization			✓
IoT sensors for wellness			✓
IoT Apps for productivity			✓

Currently supported maximum system size

To be able to design the lighting system correctly for the customer, it is important to know the prime characteristics of the system, its possibilities and limitations.

System level	
Total number of gateways	Unlimited
Total number of devices	200 per network
• luminaires with integrated sensors	150
• smart TLEDs	150
Total number of ZGP devices (sensors and switches)	50
• sensors	30
• switches	50
• zones and groups	64
Group level	
Recommended number of lights	40 (recommended 25)
Number of ZGP devices	5
Number of scenes	16

Interact system architecture for office, education, healthcare, retail, industrial and parking applications



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Wireless controls options

Interact

- SWZCS is a connected sensor with integral occupancy and daylight sensing and supports wireless mesh connectivity.
- The sensor works in the standalone mode (similar to SpaceWise) when configured without a gateway or in a cloud connected mode if a compatible gateway is used.
- Interact includes an App, a portal and a broad portfolio of wireless luminaires, lamps and retrofit kits all working on the same system.
- Startup is implemented via Interact Pro App (Android or iPhone) & Bluetooth connectivity. The App provides flexibility to choose between a gateway or non gateway mode for setup.
- Setup with the gateway requires wired internet access to the gateway. It is possible to add a gateway at a later point.
- Prepare project configuration steps remotely and use IRT9015 remote on-site to identify and group devices together.

Compatible with:

- SWS200 & UID8465 wireless scene switch
- Battery powered IP42 presence sensor OCC sensor IA CM WH 10/1
- Battery powered IP42 presence & daylight sensor OCC-DL sensor IA CM IP42 WH
- LCN3110: battery powered IP65 presence sensor, OCC sensor IA CM IP65W
- LCN3120: battery powered IP65 presence & daylight sensor, OCC-DL sensor IA CM IP65 WH
- For more information on Interact visit: interact-lighting.com/interactproscalablesystem

Radio only sensor (RA or RADIO)

- Integral RA or RADIO only sensor simply enables wireless mesh connectivity to the luminaire without any occupancy or daylight sensing.
- Ideal for applications where sensing functionality is managed by other Interact devices and the luminaire only needs to have wireless connectivity.
- Interact includes an App, a portal and a broad portfolio of wireless luminaires, lamps and retrofit kits all working on the same system.
- Startup is implemented via Interact Pro App (Android or iPhone) & Bluetooth connectivity. The App provides flexibility to choose between a gateway or non-gateway mode for setup.
- Setup with the gateway requires wired internet access to the gateway. It is possible to add a gateway at a later point.
- Prepare project configuration steps remotely, identify and group devices together onsite.
- Compatible with SWS200 and UID8465 wireless scene switch, wireless Occ sensor (OCC SENSOR IA CM IP42 WH 10/1) and wireless Day/Occ sensor (OCC MULTI SENSOR IA CM WH 10/1).
- For more information on Interact visit: interact-lighting.com/interactproscalablesystem

Sensor bundle (IAOSB or SB)

- A wireless IoT connected lighting solution for large enterprises that span across multiple floors, buildings and require multiple gateways.
- View all your projects under one dashboard and easily compare insights from multiple projects in one view.
- Compatible with SWS200 wireless scene switch, wireless Occ sensor (OCC SENSOR IA CM IP42 WH 10/1) and wireless Day/Occ sensor (OCC MULTI SENSOR IA CM WH 10/1) and wireless Occupancy or Daylight & Occupancy sensors available. Use Interact software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- IAOSB or SB option in addition to occupancy and daylight sensing supports advanced IoT capabilities, such as people estimation analysis, desk level temperature & humidity sensing, noise classification, and BLE beacon.
- Requires compatible Gateway and internet connectivity for commissioning.
- For more information, visit: interact-lighting.com/interactproscalablesystem

Emergency Options (ER100)

- **Power Sensing** (factory default) – Recommended UL924 option requires unswitched power sense line, absence of voltage on the normal circuit triggers luminaire to 100% output.
- **Power Interruption Detection** (field option) – Detects AC power interruption >30ms triggers 90 minute emergency mode with luminaire at 100% output.

Interact supported sensor option codes across Genlyte product lines

	Evokit	Day-Brite	Ledalite	Lightolier
ZigBee + Bluetooth + Sensing	SWZCS	SWZCS	CS	SBA accessory (external)
ZigBee + Bluetooth	RADIO	RADIO	RA	RA
ZigBee + Bluetooth + Sensing + Environmental data	IAOSB	IAOSB	SB	SB
ZigBee + Highbay + Sensing	-	SWZCSH	-	-

ASD4 Square Sealed Downlight

Finishes



Specular clear (CL): Most specular and most efficient finish, delivers maximum photometric performance but can produce a mirror image effect of the interior space.



Comfort clear (CC): Semi-specular finish that softens the light at the source of the reflector and creates a subtle, even luminance from the reflector cone.



Comfort clear diffuse (CD): Slightly diffuse clear finish, that eliminates iridescence and reduces the mirror image effect inherent with specular finishes.



Matte White (WH): Brightest illuminated aperture and provides the smoothest transition to most ceilings when off (matte white finish is only available with a matte white flange).

Flanges



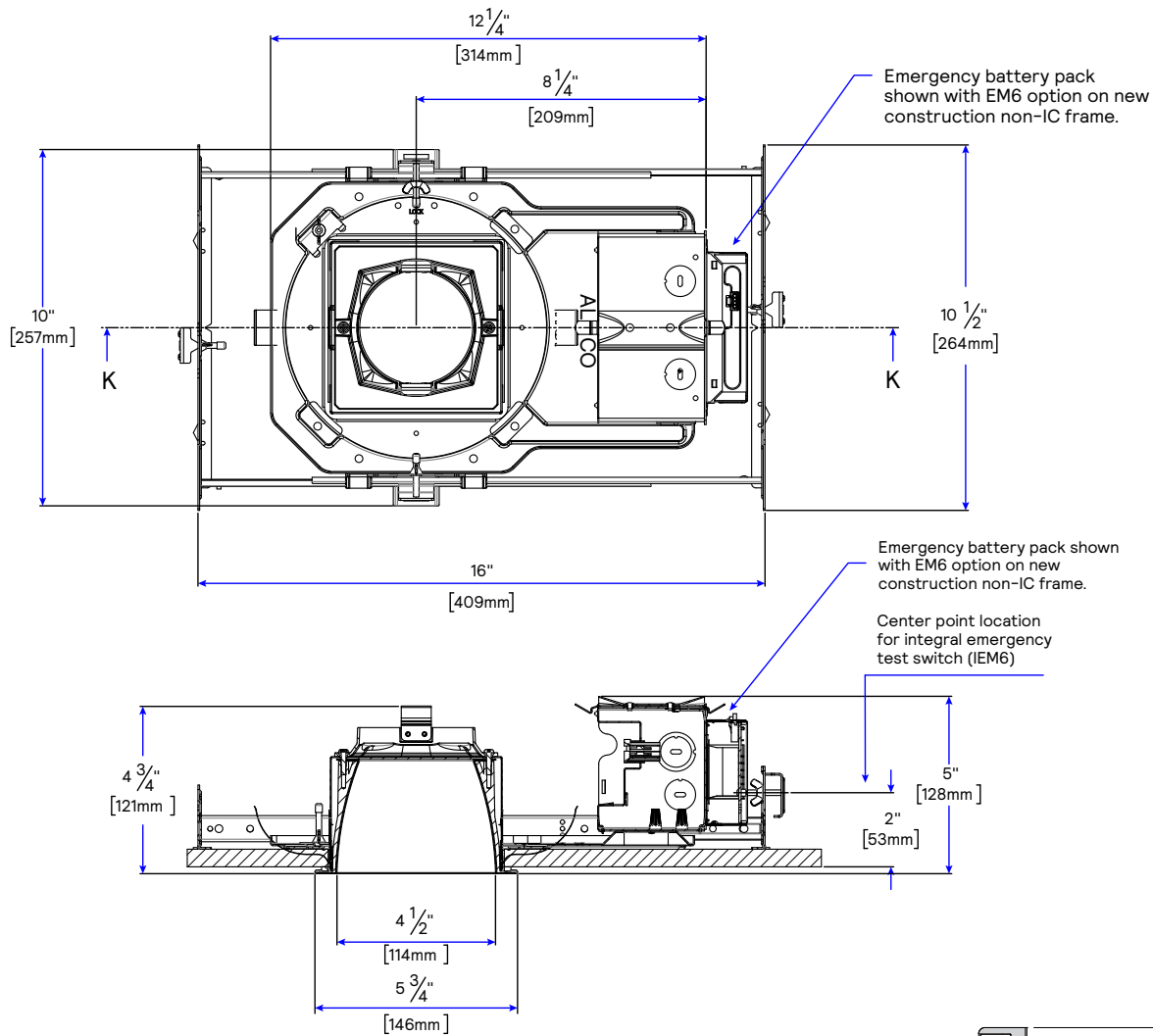
Matte White (WH): Brightest illuminated aperture and provides the smoothest transition to most ceilings when off (matte white finish is only available with a matte white flange).



Polished (P): Produces a continuous look throughout the reflector.

ASD4 Square Sealed Downlight

New Construction (N)

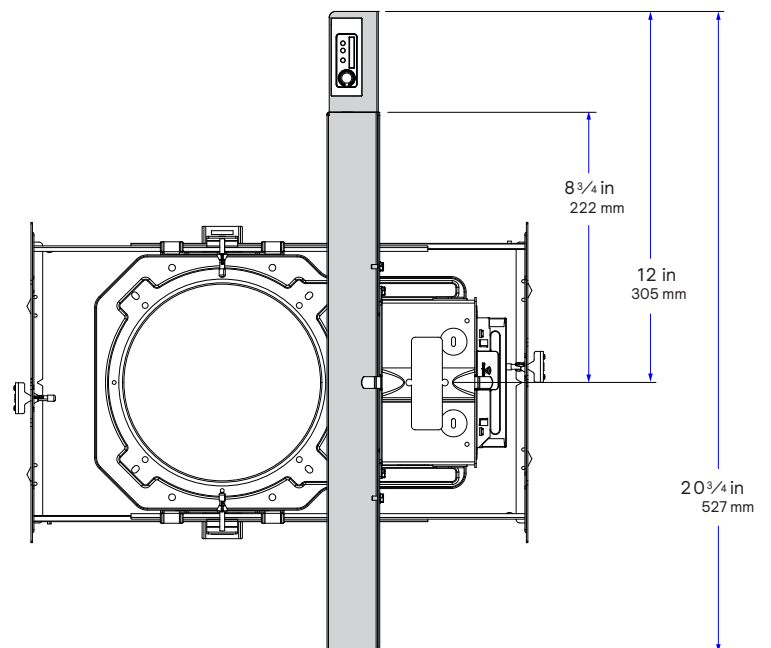
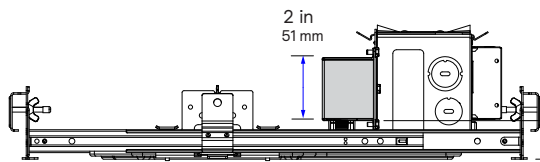


Linear driver (RA)

Surface/Pendant Remote Driver
(driver assembly recessed into ceiling) for all configurations.

Requires 19" plenum space.

Sensor shown for RA light engine only.



ASD4 Square Sealed Downlight

Static White: Electrical - Narrow

Frame-in Kit	Input Volts	Input Freq.	Input Current	LED Drive Current	Input Power	LED Power	THD Factor	Power Factor
							@ Max Load	
ASDE4_05_NZ10U/3	120V	50/60Hz	0.058A	0.15A	7.0W	5.5W	<10%	>0.9
	277V	50/60Hz	0.026A	0.15A	7.2W	5.5W	<30%	>0.9
	347V	50/60Hz	0.023A	0.15A	8.1W	5.5W	N/A	>0.9
ASDE4_10_NZ10U/3	120V	50/60Hz	0.083A	0.22A	9.9W	8.1W	<10%	>0.9
	277V	50/60Hz	0.037A	0.22A	10.2W	8.1W	<20%	>0.9
	347V	50/60Hz	0.033A	0.22A	11.5W	8.1W	<30%	>0.9
ASDE4_15_NZ10U/3	120V	50/60Hz	0.121A	0.33A	14.5W	12.1W	<10%	>0.9
	277V	50/60Hz	0.053A	0.33A	14.6W	12.1W	<10%	>0.9
	347	50/60Hz	0.048A	0.33A	16.6W	12.1W	<25%	>0.9
ASDE4_20_NZ10U/3	120V	50/60Hz	0.163A	0.45A	19.5W	16.5W	<10%	>0.9
	277V	50/60Hz	0.071A	0.45A	19.7W	16.5W	<10%	>0.9
	347V	50/60Hz	0.063A	0.45A	21.7W	16.5W	<20%	>0.9
ASDE4_25_NZ10U/3	120V	50/60Hz	0.198A	0.55A	23.7W	20.2W	<10%	>0.9
	277V	50/60Hz	0.086A	0.55A	23.9W	20.2W	<10%	>0.9
	347V	50/60Hz	0.073A	0.55A	25.2W	20.2W	<20%	>0.9
ASDE4_30_NZ10U/3	120V	50/60Hz	0.250A	0.70A	30.0W	25.7W	<10%	>0.9
	277V	50/60Hz	0.108A	0.70A	29.9W	25.7W	<10%	>0.9
	347V	50/60Hz	0.090A	0.70A	31.3W	25.7W	<15%	>0.9

Static White: Electrical - Medium & Wide

Frame-in Kit	Input Volts	Input Freq.	Input Current	LED Drive Current	Input Power	LED Power	THD Factor	Power Factor
							@ Max Load	
ASDE4_05_[MIW]Z10U/3	120V	50/60Hz	0.053A	0.15A	6.3W	5.0W	<10%	>0.9
	277V	50/60Hz	0.024A	0.15A	6.6W	5.0W	<30%	>0.9
	347V	50/60Hz	0.021A	0.15A	7.4W	5.0W	N/A	>0.9
ASDE4_10_[MIW]Z10U/3	120V	50/60Hz	0.085A	0.25A	10.2W	8.4W	<10%	>0.9
	277V	50/60Hz	0.037A	0.25A	10.4W	8.4W	<10%	>0.9
	347V	50/60Hz	0.034A	0.25A	11.8W	8.4W	<30%	>0.9
ASDE4_15_[MIW]Z10U/3	120V	50/60Hz	0.119A	0.36A	14.3W	12.0W	<10%	>0.9
	277V	50/60Hz	0.052A	0.36A	14.4W	12.0W	<10%	>0.9
	347	50/60Hz	0.047A	0.36A	16.3W	12.0W	<25%	>0.9
ASDE4_20_[MIW]Z10U/3	120V	50/60Hz	0.154A	0.47A	18.5W	15.7W	<10%	>0.9
	277V	50/60Hz	0.067A	0.47A	18.6W	15.7W	<10%	>0.9
	347V	50/60Hz	0.059A	0.47A	20.5W	15.7W	<20%	>0.9
ASDE4_25_[MIW]Z10U/3	120V	50/60Hz	0.196A	0.60A	23.5W	20.0W	<10%	>0.9
	277V	50/60Hz	0.085A	0.60A	23.5W	20.0W	<10%	>0.9
	347V	50/60Hz	0.072A	0.60A	24.8W	20.0W	<20%	>0.9
ASDE4_30_[MIW]Z10U/3	120V	50/60Hz	0.242A	0.75A	29.0W	25.0W	<10%	>0.9
	277V	50/60Hz	0.105A	0.75A	29.0W	25.0W	<10%	>0.9
	347V	50/60Hz	0.086A	0.75A	29.7W	25.0W	<15%	>0.9

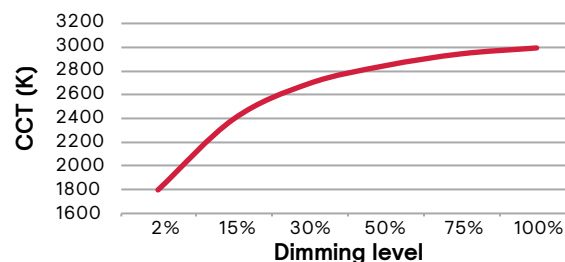
Static White

Lifetime (TM-21) data

Lumens	Narrow beam	Medium/Wide beam
1000lm	L90 @ 60,000hrs.	L90 @ 60,000hrs.
1500lm		
2000lm		
2500lm		
3500lm*		

* Lutron 3500lm with Medium/Wide beam is L85 @ 60,000hrs.

Dim-to-Warm: CCT vs Dimmed level



ASD4 Square Sealed Downlight

Tunable White: Electrical - Narrow

Frame-in Kit	Input Volts	Input Freq.	Input Current	LED Drive Current	Input Power	LED Power	THD Factor	Power Factor
							@ Max Load	
ASDE4_05D2WNZ10U/3	120V	50/60Hz	0.061A	0.15A	7.3W	5.5W	<15%	>0.9
	277V	50/60Hz	0.028A	0.15A	7.9W	5.5W	<30%	>0.8
ASDE4_15D2WNZ10U/3	120V	50/60Hz	0.085A	0.22A	10.2W	8.1W	<15%	>0.9
	277V	50/60Hz	0.040A	0.22A	11.1W	8.1W	<25%	>0.8
ASDE4_20D2WNZ10U/3	120V	50/60Hz	0.122A	0.33A	14.6W	12.1W	<10%	>0.9
	277V	50/60Hz	0.056A	0.33A	15.5W	12.1W	<25%	>0.85
ASDE4_1096TeZ10U/3	120V	50/60Hz	0.162A	0.45A	19.4W	16.5W	<10%	>0.9
	277V	50/60Hz	0.075A	0.45A	20.6W	16.5W	<20%	>0.9
ASDE4_1096TeZ10U/3	120	50/60Hz	0.074A	0.20A	8.8W	7.2W	<20%	>0.9
	277V	50/60Hz	0.034A	0.20A	9.5W	7.2W	<30%	>0.8
ASDE4_1596TeZ10U/3	120V	50/60Hz	0.133A	0.37A	16.0W	13.2W	<20%	>0.9
	277V	50/60Hz	0.060A	0.37A	16.6W	13.2W	<20%	>0.8
ASDE4_1596TeZ10U/3	120V	50/60Hz	0.193A	0.55A	23.2W	19.7W	<15%	>0.9
	277V	50/60Hz	0.088A	0.55A	24.3W	19.7W	<20%	>0.85
ASDE4_059BIONZ10U/3	120V	50/60Hz	0.257A	0.75A	30.9W	26.9W	<15%	>0.9
	277V	50/60Hz	0.117A	0.75A	32.3W	26.9W	<15%	>0.9
ASDE4_109BIONZ10U/3	120V	50/60Hz	0.056A	0.16A	6.7W	5.4W	<20%	>0.9
	277V	50/60Hz	0.026A	0.16A	7.3W	5.4W	<30%	>0.8
ASDE4_109BIONZ10U/3	120	50/60Hz	0.112449799	0.32	13.4939759	11.2	<20%	>0.9
	277V	50/60Hz	0.051A	0.32A	14.0W	11.2W	<20%	>0.8
ASDE4_159BIONZ10U/3	120V	50/60Hz	0.189A	0.54A	22.7W	19.3W	<15%	>0.9
	277V	50/60Hz	0.086A	0.54A	23.8W	19.3W	<20%	>0.85

Tunable White: Electrical - Medium & Wide

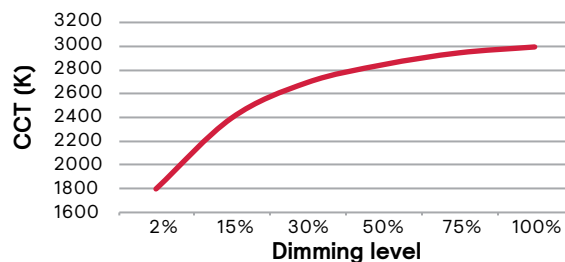
Frame-in Kit	Input Volts	Input Freq.	Input Current	LED Drive Current	Input Power	LED Power	THD Factor	Power Factor
							@ Max Load	
ASDE4_05D2W[MiW]Z10U/3	120V	50/60Hz	0.056A	0.15A	6.7W	5.0W	<15%	>0.9
	277V	50/60Hz	0.026A	0.15A	7.2W	5.0W	<30%	>0.8
ASDE4_15D2W[MiW]Z10U/3	120V	50/60Hz	0.088A	0.25A	10.6W	8.4W	<15%	>0.9
	277V	50/60Hz	0.041A	0.25A	11.4W	8.4W	<25%	>0.8
ASDE4_20D2W[MiW]Z10U/3	120V	50/60Hz	0.120A	0.36A	14.4W	12.0W	<10%	>0.9
	277V	50/60Hz	0.055A	0.36A	15.4W	12.0W	<25%	>0.85
ASDE4_1096TeZ10U/3	120V	50/60Hz	0.153A	0.47A	18.4W	15.7W	<10%	>0.9
	277V	50/60Hz	0.071A	0.47A	19.6W	15.7W	<20%	>0.9
ASDE4_1096TeZ10U/3	120	50/60Hz	0.074A	0.20A	8.8W	7.2W	<20%	>0.9
	277V	50/60Hz	0.034A	0.20A	9.5W	7.2W	<30%	>0.8
ASDE4_1596TeZ10U/3	120V	50/60Hz	0.133A	0.37A	16.0W	13.2W	<20%	>0.9
	277V	50/60Hz	0.060A	0.37A	16.6W	13.2W	<20%	>0.8
ASDE4_1596TeZ10U/3	120V	50/60Hz	0.193A	0.55A	23.2W	19.7W	<15%	>0.9
	277V	50/60Hz	0.088A	0.55A	24.3W	19.7W	<20%	>0.85
ASDE4_059BIO[MiW]Z10U/3	120V	50/60Hz	0.257A	0.75A	30.9W	26.9W	<15%	>0.9
	277V	50/60Hz	0.117A	0.75A	32.3W	26.9W	<15%	>0.9
ASDE4_109BIO[MiW]Z10U/3	120V	50/60Hz	0.056A	0.16A	6.7W	5.4W	<20%	>0.9
	277V	50/60Hz	0.026A	0.16A	7.3W	5.4W	<30%	>0.8
ASDE4_159BIO[MiW]Z10U/3	120	50/60Hz	0.112449799	0.32	13.4939759	11.2	<20%	>0.9
	277V	50/60Hz	0.051A	0.32A	14.0W	11.2W	<20%	>0.8
ASDE4_159BIO[MiW]Z10U/3	120V	50/60Hz	0.189A	0.54A	22.7W	19.3W	<15%	>0.9
	277V	50/60Hz	0.086A	0.54A	23.8W	19.3W	<20%	>0.85

Tunable White Lifetime (TM-21) data

Lumens	Narrow beam	Medium/Wide beam
1000lm 1500lm 2000lm 2500lm 3500lm*	L90 @ 60,000hrs.	L90 @ 60,000hrs.

* Lutron 3500lm with Medium/Wide beam is L85 @ 60,000hrs.

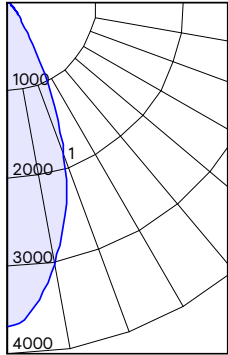
Dim-to-Warm: CCT vs Dimmed level



ASD4 Square Sealed Downlight

Narrow beam, 2000lm Engine, 102lm/W at 18W

Candela curve



ASDE4O20935NZ10U - ASDT4SONMCL

Output lumens:	1788 lm
CCT:	3500K
Input watts:	17.6 W
Efficacy:	101.6 lm/W
CRI:	90 min
Spacing crit.:	0.66
Beam angle:	40°

Zonal summary

Zone	Lumens	%Luminaire
0-30	1535	85.9%
0-40	1717	96.0%
0-60	1788	100.0%
0-90	1788	100.0%

Angle	Mean CP	Lumens
0	3694	
5	3485	
10	3026	318
15	2503	
20	1861	686
25	1180	
30	560	531
35	268	
40	155	182
45	82	
50	24	64
55	5	
60	2	7
65	1	
70	1	1
75	1	
80	0	1
85	0	
90	0	0

Single unit data

Height to lighted plane	Initial foot-candles	Beam diameter (ft)*
8'	58	4.8'
9'	46	5.4'
10'	37	6.0'
12'	26	6.6'
14'	19	9.2'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial foot-candles	Watts per sq. ft.
5'	83.0	0.78
6'	55.0	0.51
7'	39.0	0.37
8'	33.0	0.30
9'	26.0	0.24

38' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficacy: 101.6lm/W
Report#: STMR-2341

Adjustment factors

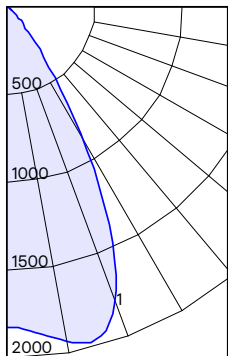
Reflector Finish	CCT	Lenses
CL = 100%	90CRI, 4000K = 102%	125CA = 96%
CC = 95%	90CRI, 3500K = 100%	125CP = 90%
CD = 87%	90CRI, 3000K = 96%	187CP = 92%
WH = 87%	90CRI, 2700K = 92%	250CP = 85%
BK = 57%		CP125 = 84%
AM = 97%		NA = 100%

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
	70	50	30	10	50	10	50	10	50	10	0	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
1	114	112	109	108	110	106	106	103	102	100	95	95
2	109	105	102	99	103	97	100	95	97	93	90	90
3	105	99	95	91	98	91	95	89	93	88	85	85
4	100	94	89	85	93	85	91	84	89	83	81	81
5	96	89	84	80	88	80	86	79	85	79	77	77
6	92	85	80	76	84	76	83	75	81	75	73	73
7	89	81	75	72	80	72	79	71	78	71	69	69
8	85	77	72	68	76	68	75	68	74	68	66	66
9	82	74	69	65	73	65	72	65	71	65	63	63
10	79	70	65	62	70	62	69	62	69	62	60	60

Medium beam, 2000lm Engine, 94lm/W at 14W

Candela curve



ASDE4O20935MZ10U - ASDT4SONMCL

Output lumens:	1317 lm
CCT:	3500K
Input watts:	14.0 W
Efficacy:	94.1 lm/W
CRI:	90 min
Spacing crit.:	0.98
Beam angle:	56°

Zonal summary

Zone	Lumens	%Luminaire
0-30	1337	101.5%
0-40	1614	122.6%
0-60	1685	127.9%
0-90	1317	100.0%

Angle	Mean CP	Lumens
0	1826	
5	1859	
10	1935	180
15	1963	
20	1797	545
25	1371	
30	840	612
35	420	
40	192	277
45	77	
50	21	66
55	3	
60	1	5
65	1	
70	1	1
75	0	
80	0	0
85	0	
90	0	0

Single unit data

Height to lighted plane	Initial foot-candles	Beam diameter (ft)*
5'	73	4.9'
6'	51	5.9'
7'	37	6.9'
8'	29	7.8'
9'	23	8.8'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial foot-candles	Watts per sq. ft.
5'	78.0	0.62
6'	51.0	0.41
7'	36.0	0.29
8'	30.0	0.24
9'	24.0	0.19

38' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficacy: 94.1lm/W
Report#: STMR-1857

Adjustment factors

Reflector Finish	CCT	Lenses
CL = 100%	90CRI, 4000K = 102%	125CA = 96%
CC = 95%	90CRI, 3500K = 100%	125CP = 90%
CD = 87%	90CRI, 3000K = 96%	187CP = 92%
WH = 87%	90CRI, 2700K = 92%	250CP = 85%
BK = 57%		CP125 = 84%
AM = 97%		NA = 100%

Coefficients of utilization

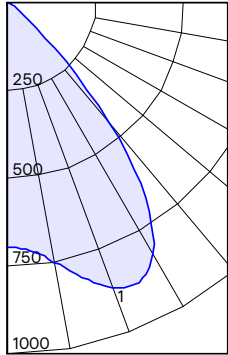
Ceiling	80%				70%		50%		30%		0%	
	70	50	30	10	50	10	50	10	50	10	0	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
1	114	111	109	107	109	105	105	102	101	99	94	94
2	109	104	100	97	102	96	99	94	96	92	88	88
3	103	97	93	89	96	88	93	87	91	85	83	83
4	99	91	86	82	90	82	88	81	86	80	77	77
5	94	86	80	76	85	76	83	75	82	75	73	73
6	90	81	75	71	80	71	79	71	77	70	68	68
7	85	77	71	67	76	67	75	66	73	66	64	64
8	81	72	67	63	72	63	71	62	70	62	61	61
9	78	69	63	59	68	59	67	59	66	59	57	57
10	74	65	60	56	65	56	64	56	63	55	54	54

1. Correlated Color Temperature within specs as defined in ANSI/NEMA ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
2. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

ASD4 Square Sealed Downlight

Wide beam, 2000lm Engine, 70lm/W at 18W

Candela curve



ASDE4O20935WZ10U - ASDT4SOWCL

Output lumens:	1282 lm
CCT:	3500K
Input watts:	18.4 W
Efficacy:	69.7 lm/W
CRI:	90 min
Spacing crit.:	1.44
Beam angle:	74°

Zonal summary

Zone	Lumens	%Luminaire
0-30	701	54.7%
0-40	1114	86.9%
0-60	1281	99.9%
0-90	1282	100.0%

Angle	Mean CP	Lumens
0	697	
5	710	
10	750	69
15	810	
20	864	231
25	879	
30	826	401
35	680	
40	445	413
45	189	
50	41	157
55	6	
60	2	10
65	1	
70	1	1
75	1	
80	0	0
85	0	
90	0	0

Single unit data

Height to lighted plane	Initial foot-candles	Beam diameter (ft)*
5'	28	7.2'
6'	19	8.6'
7'	14	10.1'
8'	11	11.5'
9'	9	13.0'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial foot-candles	Watts per sq. ft.
5'	58.0	0.82
6'	38.0	0.54
7'	27.0	0.38
8'	22.0	0.32
9'	18.0	0.25

38' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficacy: 69.7lm/W
Report#: STMR-1821

Adjustment factors

Reflector Finish	CCT	Lenses
CL = 100%	90CRI, 4000K = 102%	125CA = 96%
CC = 95%	90CRI, 3500K = 100%	125CP = 90%
CD = 87%	90CRI, 3000K = 96%	187CP = 92%
WH = 87%	90CRI, 2700K = 92%	250CP = 85%
BK = 57%		CP125 = 84%
AM = 97%		NA = 100%

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
	70	50	30	10	50	10	50	10	50	10	0	
Wall												
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
1	113	110	107	105	108	103	104	100	100	100	97	92
2	107	101	97	93	99	92	96	90	93	88	84	84
3	100	93	88	83	92	83	89	81	87	80	77	77
4	94	86	80	75	85	75	83	74	81	73	70	70
5	89	79	73	68	78	68	77	67	75	67	64	64
6	83	74	67	62	73	62	71	61	70	61	59	59
7	79	68	61	57	67	57	66	56	65	56	54	54
8	74	63	57	52	63	52	61	52	60	51	50	50
9	70	59	52	48	58	48	57	48	56	47	46	46
10	66	55	48	44	54	44	54	44	53	44	42	42

1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
2. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

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