



Alcco's 4" Behavioral Health Specialty Downlight provides a versatile solution for behavioral health applications, where fixtures must be designed to be ligature resistant and withstand frequent abuse.

**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: ASDF4RLC

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

#### Engine

Example: ASDE420930NZ103

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

#### Trim

Example: ASDT4RVBLCP125

Family	Size	Aperture	Style	Bottom Lens	Beam	Finish	Flange	Options
<b>ASDT</b>	<b>4</b>	<b>R</b>						
ASDT Specialty downlight trim	4 4"	R Round	VT Vandal Trim	CP125	Blank Round	<b>CL</b> Specular clear <b>CC</b> Comfort clear <b>CD</b> Comfort clear diffuse <b>WH</b> Matte White	<b>WH</b> Matte White <b>P</b> Polished <b>WH</b> Matte White	<b>IEM6</b> Trim mounted EM test switch <b>BAC<sup>3</sup></b> Meets the requisites of the Buy American Act of 1933 (BAA) <b>IP65</b> Factory installed gasket to meet IP65 rating

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

<b>SBA</b>	Interact Ready System Bridge Accessory (refer to Philips System Bridge Accessory spec sheet for options and details)
<b>T347-75VA</b>	347:120V step-down transformer for non-IC (N) frame only (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 Behavioral Health Downlight

Order logic: Tunable White

## Frame

Example: ASDF4RLC

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

## Engine

Example: ASDE4O2096TNDU

Family	Size	Lumens	CRI/CCT	Beam	Dimming	Options	Voltage	Options
<b>ASDE</b>	<b>4</b>							
ASDE Specialty downlight engine	4 4"	<b>10</b> 1000lm <b>15</b> 1500lm <b>20</b> 2000lm	<b>96T</b> 90 CRI Tunable White, up to 2000lm <b>9D2W<sup>4</sup></b> 90 CRI Dim to Warm, up to 2000lm <b>9BIO</b> 90 CRI BioUp, up to 1500lm	<b>N</b> Narrow <b>M</b> Medium	<b>Z10<sup>4</sup></b> 0-10V 1% <b>LTW</b> Lutron Lutron T-series <b>RA<sup>5</sup></b> Integral Interact Pro RF sensor (enables wireless connected lighting) <b>D</b> DALI 0.1% <b>DMX</b> Digital Multiplexing with RDM 0.1%	<b>---</b> None <b>LIN</b> Linear <b>---</b> None <b>SQR</b> Square	<b>U</b> 120/277V <b>347</b> 347V <b>U</b> 120/277V <b>U</b> 120/277V <b>U</b> 120/277V	<b>BAC<sup>3</sup></b> Meets the requisites of the Buy American Act of 1933 (BAA)

## Trim

Example: ASDT6SOWCLMW

Family	Size	Aperture	Style	Bottom Lens	Beam	Finish	Flange	Options
<b>ASDT</b>	<b>4</b>	<b>R</b>			<b>-</b>			
ASDT Specialty downlight trim	4 4"	R Round	VT Vandal Trim	CP125	- Round	<b>CL</b> Specular clear <b>CC</b> Comfort clear <b>CD</b> Comfort clear diffuse <b>WH</b> Matte White	<b>WH</b> Matte White <b>P</b> Polished <b>WH</b> Matte White	<b>IEM6</b> Trim mounted EM test switch <b>BAC<sup>5</sup></b> Meets the requisites of the Buy American Act of 1933 (BAA) <b>IP65</b> Factory installed gasket to meet IP65 rating

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

<b>SBA</b>	Interact Ready System Bridge Accessory (refer to Philips System Bridge Accessory spec sheet for options and details)
<b>T347-75VA</b>	347:120V step-down transformer for non-IC (N) frame only (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 Behavioral Health 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 trim with integral emergency test switch, order trim with IEM6 option (ex: C6RDLCCIEM6).
- 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 <math>\leq 3\text{SDCM}</math> at 2700K & 3000K, and <math>\leq 5\text{SDCM}</math> 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.

\* Quality of light section would be different for the tunable white option

## 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.

**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 optional, IK10, RoHS

\*see ratings table

## 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 Behavioral Health 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 CRI<sup>1</sup>

### 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    •  $R_r$  up to 92 TM-30  
 $R_g$  up to 67 CRI    •  $R_{e,ht}$  up to 91 TM-30  
 $G_a$  up to 99 CRI    •  $R_g$  up to 100 TM-30  
 $C_g$  up to 94 CRI    •  $R_{cs,ht}$  up to -5% TM-30

### Achieve color balance

Best in class color consistency:

- Promote aesthetic harmony in your space with  $\leq 2$  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
									$R_r$	$R_g$	$R_{cs,ht}$	
500 lm	Narrow (N)	607	101	41	1495	90+	50+	Calc	92	100	-6%	0
	Medium (M)	622	92	55	792	90+	50+	Calc	92	99	-6%	0
	Wide (W)	571	84	71	363	90+	50+	Calc	92	99	-6%	0
1000 lm	Narrow (N)	902	104	41	2222	90+	50+	Calc	92	100	-6%	0
	Medium (M)	1052	95	55	1340	90+	50+	Calc	92	99	-6%	0
	Wide (W)	964	86	71	613	90+	50+	Calc	92	99	-6%	0
1500 lm	Narrow (N)	1343	105	41	3308	90+	50+	Calc	92	100	-6%	1
	Medium (M)	1472	106	55	1917	90+	50+	STMR - 4872	92	99	-6%	1
	Wide (W)	1386	89	71	881	90+	50+	Calc	92	99	-6%	1
2000 lm	Narrow (N)	1772	101	41	4366	90+	50+	Calc	92	100	-6%	2
	Medium (M)	1929	95	55	2458	90+	50+	Calc	92	99	-6%	2
	Wide (W)	1781	87	71	1132	90+	50+	Calc	92	99	-6%	2
2500 lm	Narrow (N)	2099	97	41	5172	90+	50+	Calc	92	100	-6%	2
	Medium (M)	1521	93	55	3083	90+	50+	Calc	92	99	-6%	3
	Wide (W)	2235	86	71	1422	90+	50+	Calc	92	99	-6%	2
3000 lm	Narrow (N)	2578	93	41	6352	90+	50+	Calc	92	100	-6%	3
	Medium (M)	2979	91	55	3794	90+	50+	Calc	92	99	-6%	3
	Wide (W)	2705	82	71	1721	90+	50+	Calc	92	99	-6%	3

# ASD4 Behavioral Health Downlight

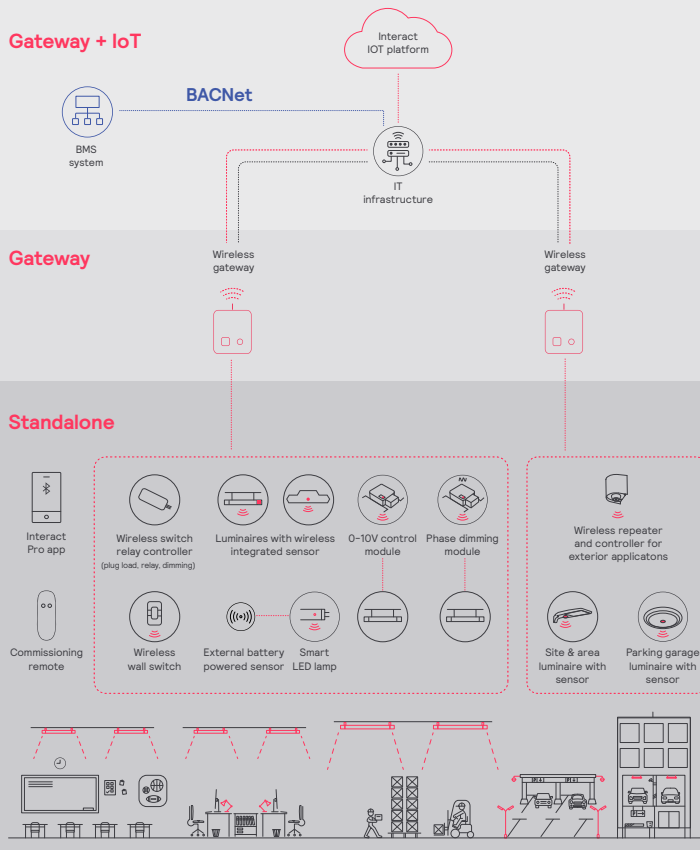
	The three tiers of Interact		
	Standalone	Gateway	Gateway + IoT
Dimming, grouping, and zoning	✓	✓	✓
Bluetooth and ZigBee enabled	✓	✓	✓
Motion sensing and daylight harvesting	✓	✓	✓
Integration with 0-10V and phase dimming fixtures	✓	✓	✓
Code compliance	✓	✓	✓
Granular dimming and dwell time	✓	✓	✓
<b>New</b> Correlated color temperature (CCT) tuning by switch	✓	✓	✓
<b>New</b> 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



# ASD4 Behavioral Health Downlight

## 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](http://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](http://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 daylights 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](http://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 Behavioral Health 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



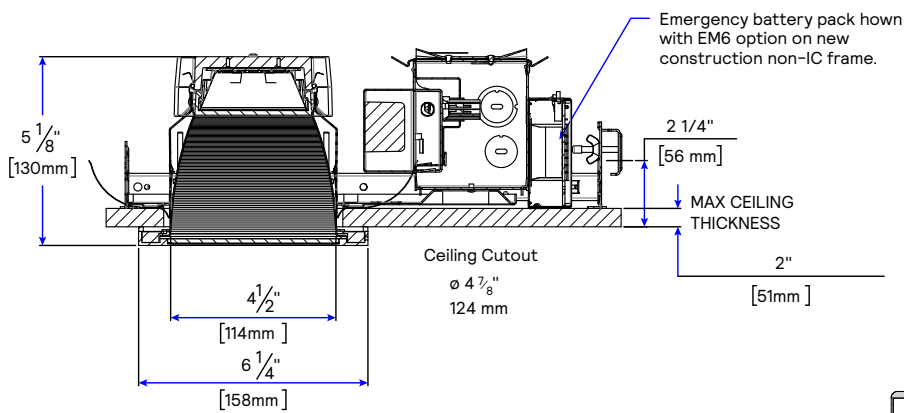
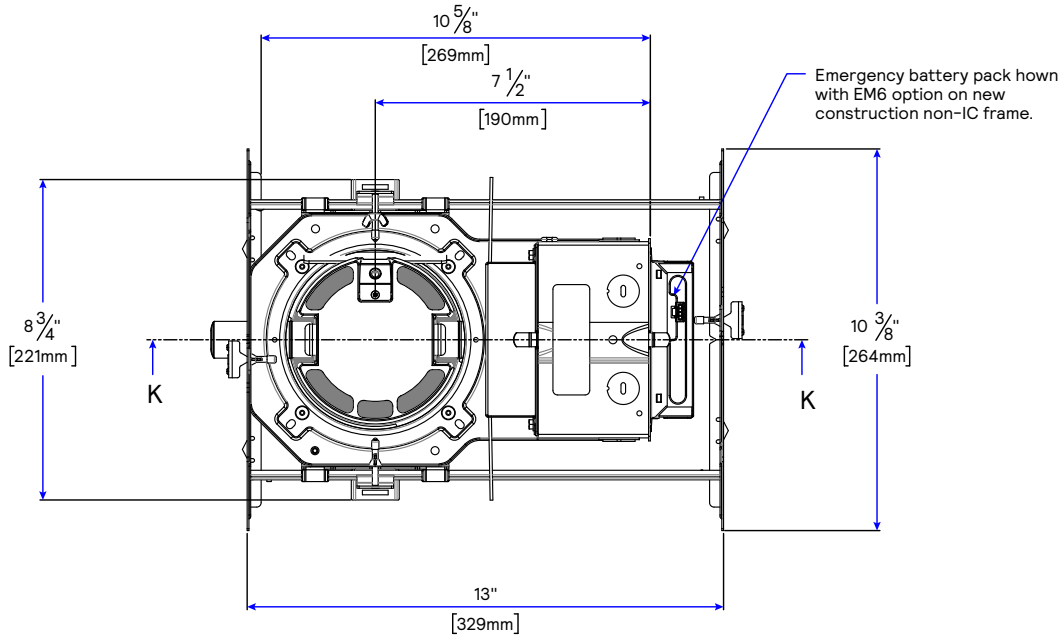
**Matte White (WH):** Brightest illuminated aperture and provides the smoothest transition to most ceilings when off (matte white finish is only available with a matte white flange).



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

# ASD4 Behavioral Health Downlight

## New Construction (N)

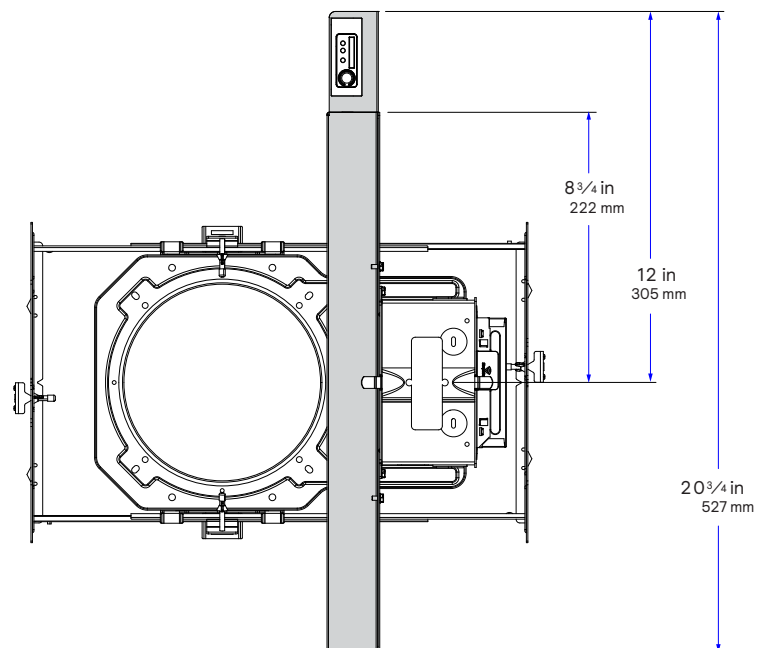
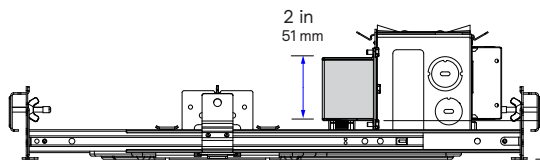


## Linear driver (RA)

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

Requires 19" plenum space.

Sensor shown for RA light engine only.





# ASD4 Behavioral Health 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

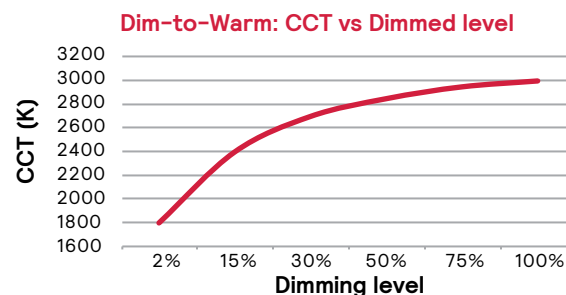
## Static White: Electrical - Medium & Wide

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.



# ASD4 Behavioral Health 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_1596TeZ10U/3	120V	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_059BIONZ10U/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_109BIONZ10U/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_159BIONZ10U/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_159BIONZ10U/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

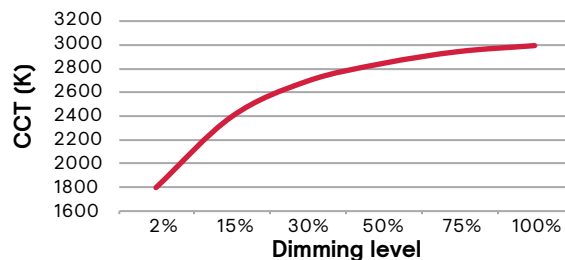
Frame-in Kit	Input Volts	Input Freq.	Input Current	LED Drive Current	Input Power	LED Power	THD Factor	Power Factor
							@ Max Load	
ASDE4_05D2W[M]W]Z10U/3	120V	50/60Hz	0.056A	0.15A	6.7W	5.0W	<15%	>0.9
	277V	50/60Hz	0.026A	0.15A	7.2W	5.0W	<30%	>0.8
ASDE4_15D2W[M]W]Z10U/3	120V	50/60Hz	0.088A	0.25A	10.6W	8.4W	<15%	>0.9
	277V	50/60Hz	0.041A	0.25A	11.4W	8.4W	<25%	>0.8
ASDE4_20D2W[M]W]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_1596TeZ10U/3	120V	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_1096TeZ10U/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_1096TeZ10U/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_059BIO[M]W]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_109BIO[M]W]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[M]W]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	L90 @ 60,000hrs.	L90 @ 60,000hrs.
1500lm		
2000lm		
2500lm		
3500lm*		

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

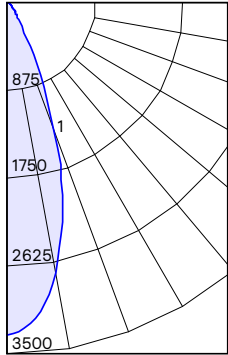
## Dim-to-Warm: CCT vs Dimmed level



# ASD4 Behavioral Health Downlight

## Narrow beam, 1500lm Engine, 105 lm/W at 13W

### Candela curve



ASDE415935NZ10U +  
ASDT4RVBL125CPCL

Output lumens: 1343 lm  
CCT: 3500K  
Input watts: 12.8 W  
Efficacy: 104.9 lm/W  
CRI: 90 min  
Spacing crit.: 0.6  
Beam angle: 36°

### Zonal summary

Zone	Lumens	%Luminaire
0-30	1190	88.6%
0-40	1294	96.4%
0-60	1342	99.9%
0-90	1343	100.0%

Angle	Mean CP	Lumens
0	3308	
5	3161	
10	2735	288
15	2128	
20	1383	575
25	692	
30	281	327
35	154	
40	122	104
45	57	
50	7	46
55	2	
60	1	2
65	1	
70	0	1
75	0	
80	0	0
85	0	
90	0	0

### Single unit data

Height to lighted plane	Initial foot-candles	Beam diameter (ft)*
8'	52	4.8'
9'	41	5.4'
10'	33	6.0'
12'	23	6.6'
14'	17	8.4'

\* 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'	63.0	0.57
6'	41.0	0.37
7'	30.0	0.27
8'	25.0	0.22
9'	20.0	0.18

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

Efficacy: 104.9lm/W  
Report#: STMR-2974

### Adjustment factors

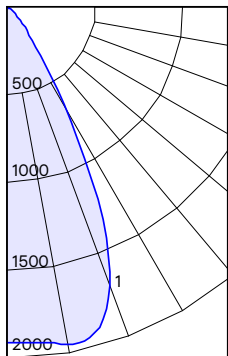
Reflector Finish	CCT	Lenses
CL = 100%	90CRI, 4000K = 102%	125CA = 96%
CC = 95%	90CRI, 3500K = 100%	125CP = 90%
CD = 87%	90CRI, 3000K = 96%	187CP = 92%
WH = 87%	90CRI, 2700K = 92%	250CP = 85%
BK = 57%		CP125 = 84%
AM = 97%		NA = 100%

### 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	110	108	110	106	106	103	103	102	100	95
2	110	106	102	100	104	99	101	96	98	94	91	87
3	106	100	96	93	99	92	96	91	94	89	87	83
4	102	95	91	87	94	87	92	86	90	85	83	79
5	98	91	86	83	90	82	88	82	87	81	79	75
6	94	87	82	78	86	78	85	78	83	77	75	72
7	91	83	78	75	82	75	81	74	80	74	72	69
8	87	80	75	71	79	71	78	71	77	71	69	67
9	84	76	72	68	76	68	75	68	74	68	67	65
10	82	74	69	66	73	66	72	65	72	65	64	62

## Medium beam, 1500lm Engine, 108lm/W at 14W

### Candela curve



ASDE415935MZ10U +  
ASDT4RVBL125CPCL

Output lumens: 1504 lm  
CCT: 3500K  
Input watts: 13.9 W  
Efficacy: 108.2 lm/W  
CRI: 90 min  
Spacing crit.: 0.92  
Beam angle: 53°

### Zonal summary

Zone	Lumens	%Luminaire
0-30	1254	83.4%
0-40	1451	96.5%
0-60	1503	99.9%
0-90	1504	100.0%

Angle	Mean CP	Lumens
0	1917	
5	1919	
10	1953	184
15	1925	
20	1692	532
25	1214	
30	646	538
35	286	
40	141	197
45	60	
50	9	50
55	2	
60	1	2
65	1	
70	0	0
75	0	
80	0	0
85	0	
90	0	0

### Single unit data

Height to lighted plane	Initial foot-candles	Beam diameter (ft)*
5'	77	4.6'
6'	53	5.5'
7'	39	6.4'
8'	30	7.4'
9'	24	8.3'

\* 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'	70.0	0.62
6'	46.0	0.40
7'	33.0	0.29
8'	27.0	0.24
9'	22.0	0.19

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

Efficacy: 104.9lm/W  
Report#: STMR-4951

### 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

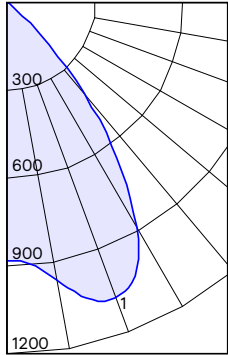
Ceiling	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
Room Cavity Ratio	0	119	119	119	116	116	111	111	106	106	100
1	114	111	109	107	109	105	105	102	102	99	94
2	109	104	101	98	103	97	100	94	97	92	89
3	104	98	94	90	97	89	94	88	92	86	84
4	99	92	87	84	91	83	89	82	87	81	79
5	95	87	82	78	86	78	85	77	83	76	74
6	91	83	77	73	82	73	80	72	79	72	70
7	87	78	73	69	78	69	76	68	75	68	66
8	83	74	69	65	74	65	73	65	72	64	63
9	79	70	65	61	70	61	69	61	68	61	59
10	76	67	62	58	67	58	66	58	65	58	56

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 Behavioral Health Downlight

Wide beam, 1500lm Engine, 89 lm/W at 16W

## Candela curve



ASDE415935WZ10U + ASDT4RVBL125CPCL

Output lumens: 1386 lm  
 CCT: 3500K  
 Input watts: 15.6 W  
 Efficacy: 88.8 lm/W  
 CRI: 90 min  
 Spacing crit: 1.3  
 Beam angle: 74°

## Zonal summary

Zone	Lumens	%Luminaire
0-30	849	61.3%
0-40	1252	90.3%
0-60	1385	99.9%
0-90	1386	100.0%

Angle	Mean CP	Lumens
0	881	
5	898	
10	963	88
15	1047	
20	1074	295
25	1030	
30	884	466
35	652	
40	408	403
45	148	
50	17	129
55	3	
60	2	4
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'	35	6.5'
6'	24	7.8'
7'	18	9.1'
8'	14	10.4'
9'	11	11.7'

\* 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'	63.0	0.69
6'	41.0	0.45
7'	30.0	0.32
8'	25.0	0.27
9'	20.0	0.22

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

Efficacy: 88.8lm/W  
 Report#: STMR-4974

## 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	108	105	108	104	104	100	100	100	97	93
2	107	102	98	94	100	93	97	91	94	89	85	
3	101	94	89	85	93	84	90	83	88	81	78	
4	95	87	81	77	86	76	84	75	82	75	72	
5	90	81	75	70	80	70	78	69	76	69	66	
6	85	75	69	64	74	64	73	64	71	63	61	
7	80	70	64	59	69	59	68	59	67	58	56	
8	76	65	59	54	65	54	64	54	63	54	52	
9	72	61	55	50	61	50	60	50	59	50	48	
10	68	57	51	47	57	47	56	47	55	46	45	

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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