Downlighting

LIGHTOLIER

Calculite LED 4" gen 3







C4SDL Square Downlight

Calculite LED 4" generation 3 provides excellent performance coupled with optimized installation flexibility. Industry leading visual comfort and uniform illumination make it an ideal choice for open office, institution, healthcare, and retail applications.

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, engine, and trim will be shipped together as a single product. Accessories (optional) are not currently BAA-compliant.

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Follow the ordering guidelines below. Each step is a separate order line.

Step 1	Frame: Ordered & shipped separately.		
	Frame 4S		Example: 4SN
Step 2	Engine & Trim: Ordered & shipped as a single product.		
	Engine C4L	-C4S	Example: C4L15935MZ10U-C4SDLNMCC
Step 3 (optional)	Accessories: Ordered & shipped separately.		

Frame	Standard example: 4SN	BAC example: 4SN-BAC

Series Installation			stallation	Voltage/Options					
48									
48	4" Non-IC Square	N	New construction	— ЕМ6	Universal 120/277/347V Emergency, 6W Self-Test/Self-Diagnostic ¹	LC BAC	Chicago Plenum ² Meets the requirements of the Buy American Act of 1933 (BAA) ⁹		
		R	Remodeler	-	Universal 120/277/347V	BAC	Meets the requirements of the Buy American Act of 1933 (BAA) ⁹		

Engine $\textbf{Standard example:} \ \texttt{C4L20930MZ10D20UF} \quad \textbf{I} \quad \textbf{BAC example:} \ \texttt{C4L20930MZ10D20U-BAC}$

Series C4L	Lumens	CRI/CCT	Beam ⁵	Dimming	Options	Voltage	Options
C4L Calculite LED 4"	05 500 lm 10 1000 lm	927 90CRI/2700K 930 90CRI/3000K	N Narrow M Medium	Z10 0-10 V 1%	None D2O Dim to Off	U 120/277V 3 347V (Z10 only)	F Flex install ⁷ (no frame required)
gen 3	15 1500 lm 20 2000 lm 25 2500 lm 30 3000 lm*	935 90CRI/3500K 940 90CRI/4000K 950 90CRI/5000K ³ D2W 90CRI/3000K	& Wide ⁴	L01 Lutron PEQ0 EcoSystem 0.1% L1 Lutron LDE1 EcoSystem (500Im RA Integral Interact RF sensor ⁶	RH Retrofit for tall collar frame ⁸ BAC Meets the		
	* See marked	to 1800K ⁴ (dim-to-warm)		D DALI 0.1%	None LIN Linear	U 120/277V	requirements of the Buy American Act of 1933 (BAA) ⁹
	spacings requirements on page 9.			SOL EldoLED Solo 0-10 V 0.1% DMX Digital Multiplexing w/RDM 0.1%	None LIN Linear SQR Square	U 120/277V	
				E Forward & Reverse Phase (up	to 2500lm)	1 120V	

Trim Standard example: C4SDLCCP | BAC example: C4SDLCCP-BAC

	Standard Staniple: 040BE001 BAO CAU							
Series Apertur		Style DL	Beam ⁵	Finish	Flange	Options		
C4 Calculite LED 4" gen 3	S Square	DL Downlight	NM Narrow & Medium W Wide	CL Specular clear CC Comfort clear CD Comfort clear diffuse BK Black (matte)	- White (matte) P Polished (matches aperture) F Flangeless (requires CA4SFT)	IEM6 Trim mounted EM test switch BAC Meets the requisites of the Buy		
				WH White (matte)	- White (matches finish) F Flangeless (requires CA4SET)	American Act of 1933 (BAA) ⁹		

Beam options

Narrow engine	45° (0.7 s.c.) with narrow & medium trim			
	Not recommended with wide trim			
Medium engine	58° (0.9 s.c.) narrow & medium trim			
	69° (1.2 s.c.) with wide trim			

See footnotes on page 2.













Square Downlight

Accessories (Not currently BAA-compliant) learn more below

SWCS Interact Ready System Bridge Accessory

(refer to SWCS spec sheet for options and details)

4" round/square non-IC frame with Flex (F) light engine 4RNSR (provides mechanical support for rough-in construction only, no junction box)

LCEM6 Field installable Bodine BSL06 emergency battery pack

(for Flex (F) light engine only, includes switch mounting plate) T347-75VA 347:120V step-down transformer for non-IC (N) frame only (see page 3)

Mud-in ring for use in 4" square flangeless trim installations CA4SFT

(ordered with a flangeless trim)

Field-installable Bodine BSL6 6W battery pack with self-test/self-CAEM6 diagnostic (for new construction frames, 120-277V) (see page 3 for details)

CAEM6TSCP

Emergency test switch mounting plate.
Must be ordered with EM6 frame for remote test switch (see page 3)

Square Downlight

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

Lumen		Flux	Efficacy	Beam				IES	TM-30	D-18	
Package	Beam	(lm)	(lm/W)	Angle	СВСР	CRI	R9	R_f	R_g	R _{cs,h1}	UGR
500 lm	Narrow (N)	617	102	40°	1409	90+	50+	92	100	-5%	0
	Medium (M)	545	89	57°	769	90+	50+	91	99	-6%	0
	Wide (W)	413	67	74°	378	90+	50+	91	99	-6%	0
1000 lm	Narrow (N)	916	106	40°	2094	90+	50+	92	100	-5%	0
	Medium (M)	921	91	57°	1300	90+	50+	91	99	-6%	0
	Wide (W)	696	69	74°	638	90+	50+	91	99	-6%	0
1500 lm	Narrow (N)	1364	101	40°	3118	90+	50+	92	100	-5%	1
	Medium (M)	1317	94	57°	1859	90+	50+	91	99	-6%	1
	Wide (W)	1002	72	74°	917	90+	50+	91	99	-6%	0
2000 lm	Narrow (N)	1800	102	40°	4115	90+	50+	92	100	-5%	2
	Medium (M)	1690	92	57°	2385	90+	50+	91	99	-6%	2
	Wide (W)	1287	70	74°	1178	90+	50+	91	99	-6%	1
2500 lm	Narrow (N)	2133	99	40°	4875	90+	50+	92	100	-5%	3
	Medium (M)	2120	90	57°	2992	90+	50+	91	99	-6%	3
	Wide (W)	1615	68	74°	1479	90+	50+	91	99	-6%	2
3000 lm	Narrow (N)	2619	94	40°	5987	90+	50+	92	100	-5%	3
	Medium (M)	2609	88	57°	3682	90+	50+	91	99	-6%	3
	Wide (W)	1954	66	74°	1790	90+	50+	91	99	-6%	2



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:

- Available soon in across Lightolier portfolio for application flexibility
- 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
- · Helps meet Title 24 requirements

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 R₉ up to 67 CRI $R_{f,h1}$ up to 91 TM-30 R_9 up to 100 TM-30 G_a up to 99 CRI C₉ 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

Footnotes for page 1

- 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.
- 2. Chicago plenum (LC) frame option not available with BAC nor EM6 options.
- 3. Consult factory for 5000K CCT (50) with narrow (N) beam
- 4. Dim-to-warm (D2W) available only with Z10 dimming up to 2000lm. Narrow (N) and medium (M) beam engines only.
- 5. See Beam options table for light engine and trim combination spacing criterion.
- 6. Linear driver profile (see page 8).
- Flex install option requires light engine (F)/trim only (up to 2500lm). For use only with optional 4RNSR new construction frame accessory Not available with Interact (RA) dimming and IEM6 trim options. See page 3 for further details.
- Retrofits select legacy luminaires (E & Z10 dimming only see pages 3 & 8).
- 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 requirements 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.

Square 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.

Max ceiling thickness is 2" (51 mm) including PoE frame 4.88" (124 mm) plenum depth for installation.

Patented install Mounting frame:

- Pre-installed mounting bars for fast and toolless 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.
- Easy alignment of fixtures and present locking at 0°, 45°, & 90° with 360° rotation via toolless locking.

Retrofit

 Easily updates legacy Calculite downlights to the latest LED technology. Includes light engine, trim, and driver mounted on cover plate that mounts to junction box of previous Calculite generations. Order with RH option code at end of light engine catalog number (see details on page 7).

Compatibility:

Frames	Engines
With CFL	Use Retrofit configuration
S4118_series	C4R_ Trim + C4L_ Engine
With INC	Use Retrofit configuration
AS400_series	C4R_ Trim + C4L_ Engine
With LED C4L_N series C4X4L_N series P4RD_N_ series	Use Retrofit configuration C4R_ Trim + C4L_ Engine C4S_ Trim + C4L_ Engine C4R_ Trim + C4L_ Engine

* Not available for retrofitting luminaires with integral emergency battery.

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: C4SDLWCCIEM6).
- For remote ceiling mounted test switch, order standard trim (ex: C4SDLWCC). Optional accessory ceiling mounting plate available (CAEM6TSCP) for remote mounted test switch.
- Refer to Calculite-LyteProfile-EasyLyte Emergency Battery Pack specification sheet for more details.

Dimming

All configurations are FCC Class A unless otherwise specified.

- Advance 0-10V 1% (Z10), logarithmic curve is standard. Specify D2O for factory-set dimto-off function, consult factory for linear dimming curve.
- EldoLED SOLODrive (SOL) 0-10v 0.1%
- Lutron PEQ0 (L) Hi-Lume Premier 0.1% EcoSystem
- · Lutron LDE1 (LO1) EcoSystem 1%
- Electronic low voltage (E) forward or reverse phase dimming, Remodel and AirSeal IC Shallow are FCC Class B
- 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, and DMX driver options (ex. DMXLIN):

- · SOL/D/DMX: Logarithmic (-) standard
- · 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. Mitigates LED pixilation.

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 stepdown transformer accessory.

Flex engine (F)

- Frame-optional engine suited for new construction, remodel, and retrofit applications.
- 4RNSR new construction frame accessory available as required to support ceiling construction.
- All wiring is done on the integral j-box to the engine.

Options and Accessories

Flangeless mud-in ring: Use CA4SFT for use with flangless plaster installations.

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.

Field Installed Emergency: Refer to Calculite-LyteProfile-EasyLyte Emergency Battery Pack specification sheet for more details.

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. To mount test switch to trim for new construction frame, order trim with IEM6 option code (e.g. C4SDLWCCIEM6). Refer to Calculite-LyteProfile-EasyLyte Emergency Battery Pack specification sheet for more details.

SWCS: 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) frames. Not for use with emergency options.

Title 24 exceptions

- 1000lm configurations

Labels and Listings

- cULus listed for wet locations
- RoHS certified
- CEC Title 24 JA8 certified
- CCEA (frames with *LC suffix)
- Red List Declare label certified, ID SIG-0021 (<u>View full Declare label</u>)

Warranty



5 year limited warranty Visit Signify.com/warranties for more information on Signify's standard 5- year limited warranty on complete luminaire systems.

Square Downlight

interact

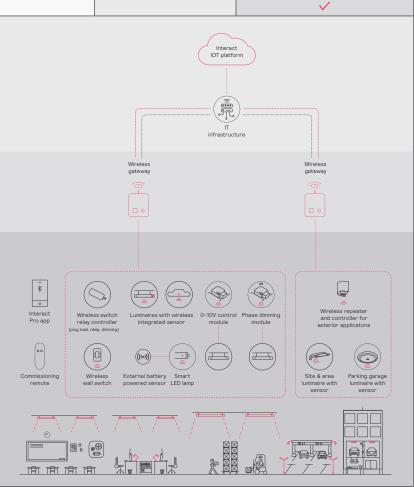
		1		
			Gatev	vay Connected
		Standalone	Option 1	Option 2
Dimming, grouping, and zoning		~	✓	~
Bluetooth and ZigBee enabled		✓	✓	~
Motion sensing and daylight harvesting		✓	✓	~
Integration with 0-10V and phase dimming fixtures		~	✓	~
Code compliance		~	✓	~
Granular dimming and dwell time		~	✓	~
Correlated color temperature (CCT) tuning by switch	New	~	✓	~
Support for sensor-based Tunable White luminaires	New	~	✓	V
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
Zones + groups	64
Total number of ZGP devices (sensors and switches)	50
Sensors	30
Switches	50

Group level						
Recommended number of lights	40 (maximum 150)					
Number of ZGP devices	5					
Number of scenes	16					



dilato

Square 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

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 SENSORIA 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

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	-	-

Square Downlight

Polished Reflectors Shown as round reflectors but represent the finish of Calculite square reflectors.



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.



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



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

Flanges



White (-): (matte) Provides the smoothest transition to ceilings when off.



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

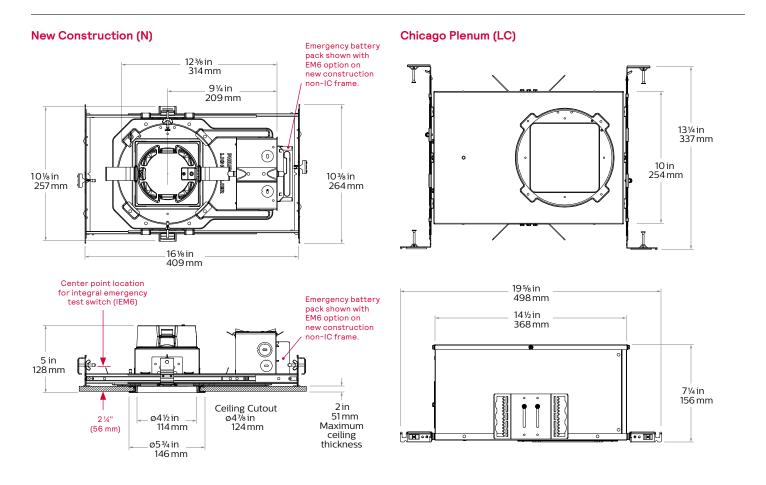


Flangeless (F): (flush-mount)Creates a flush, virtually seamless transition from aperture to ceiling.

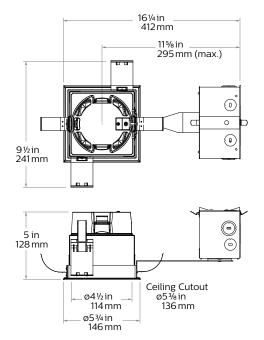


Mud-in ring (FT): Low profile, machined aluminum mud-in ring provides a raised rib to plaster up to and a 3/16" flange thickness. The ring is attached to the ceiling material as opposed to the frame-in kit to avoid conduction of heat and vibration which can cause yellowing or cracking of the plaster.

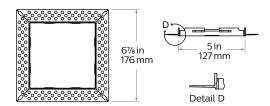
Square Downlight



Remodeler (R)

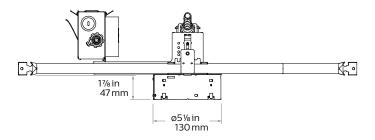


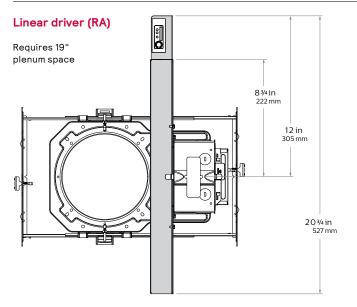
Flangeless mud-in ring (CA4SFT) accessory

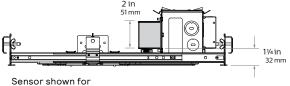


Square Downlight

Round tall collar frame (RH type light engine required)

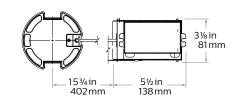


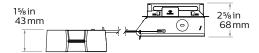




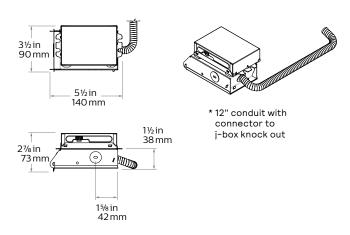
Sensor shown for RA light engine only.

Flex Install (F)

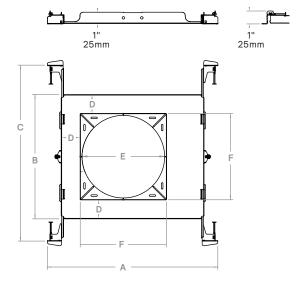




LCEM6 Flex install (F) engine only



4RNSR Flex install non-IC frame



Α	В	С	D	E	F
10 ¾"	7¼"	13 %"	1"	4%"	5¼"
276mm	184mm	345mm	25mm	124mm	132mm

Square Downlight

Electrical - Narrow

Light	Input	Input	Input	Drive	Input	LED	THD Factor	Power Factor
engine	Volts	Freq.		Current		Power	@ Max	Load
	120V	50/60Hz	0.050A	0.15A	6.0W	4.8W	<10%	>0.9
500lm	277V	50/60Hz	0.023A	0.15A	6.3W	4.8W	<30%	>0.9
	347V	50/60Hz	0.020A	0.15A	7.0W	4.8W	N/A	>0.9
	120V	50/60Hz	0.072A	0.22A	8.7W	7.1W	<10%	>0.9
1000lm	277V	50/60Hz	0.032A	0.22A	8.9W	7.1W	<20%	>0.9
	347V	50/60Hz	0.029A	0.22A	10.1W	7.1W	<30%	>0.9
	120V	50/60Hz	0.108A	0.33A	12.9W	10.8W	<10%	>0.9
1500lm	277V	50/60Hz	0.047A	0.33A	13.0W	10.8W	<10%	>0.9
	347V	50/60Hz	0.043A	0.33A	14.8W	10.8W	<25%	>0.9
	120V	50/60Hz	0.147A	0.45A	17.6W	14.9W	<10%	>0.9
2000lm	277V	50/60Hz	0.064A	0.45A	17.7W	14.9W	<10%	>0.9
	347V	50/60Hz	0.056A	0.45A	19.6W	14.9W	<20%	>0.9
	120V	50/60Hz	0.180A	0.55A	21.6W	18.3W	<10%	>0.9
2500lm	277V	50/60Hz	0.078A	0.55A	21.7W	18.3W	<10%	>0.9
	347V	50/60Hz	0.066A	0.55A	22.9W	18.3W	<20%	>0.9
	120V	50/60Hz	0.231A	0.70A	27.7W	23.7W	<10%	>0.9
3000lm	277V	50/60Hz	0.100A	0.70A	27.6W	23.7W	<10%	>0.9
	347V	50/60Hz	0.083A	0.70A	28.9W	23.7W	<15%	>0.9

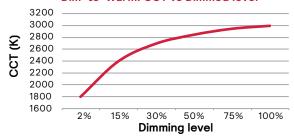
Lifetime (TM-21) data

Lumens	Narrow beam	Medium/Wide beam
500lm 1000lm 1500lm	L85 @ 55,000hrs.	L90 @ 60,000hrs.
2000lm	L85 @ 55,000hrs.	L80 @ 60,000hrs.

Electrical - Medium & Wide Downlights

Light	Input	Input	Input	Drive	Input	LED	THD Factor	Power Factor
engine	Volts	Freq.	Current	Current		Power	@ Max	Load
	120V	50/60Hz	0.051A	0.15A	6.1W	4.8W	<10%	>0.9
500lm	277V	50/60Hz	0.023A	0.15A	6.4W	4.8W	<30%	>0.9
	347V	50/60Hz	0.020A	0.15A	7.1W	4.8W	N/A	>0.9
	120V	50/60Hz	0.084A	0.25A	10.1W	8.3W	<10%	>0.9
1000lm	277V	50/60Hz	0.037A	0.25A	10.3W	8.3W	<10%	>0.9
	347V	50/60Hz	0.034A	0.25A	11.7W	8.3W	<30%	>0.9
	120V	50/60Hz	0.117A	0.36A	14.0W	11.8W	<10%	>0.9
1500lm	277V	50/60Hz	0.051A	0.36A	14.1W	11.8W	<10%	>0.9
	347V	50/60Hz	0.046A	0.36A	16.0W	11.8W	<25%	>0.9
	120V	50/60Hz	0.153A	0.47A	18.4W	15.5W	<10%	>0.9
2000lm	277V	50/60Hz	0.067A	0.47A	18.5W	15.5W	<10%	>0.9
	347V	50/60Hz	0.059A	0.47A	20.3W	15.5W	<20%	>0.9
	120V	50/60Hz	0.197A	0.60A	23.6W	20.1W	<10%	>0.9
2500lm	277V	50/60Hz	0.085A	0.60A	23.6W	20.1W	<10%	>0.9
	347V	50/60Hz	0.072A	0.60A	24.9W	20.1W	<20%	>0.9
·	120V	50/60Hz	0.247A	0.75A	29.7W	25.5W	<10%	>0.9
3000lm	277V	50/60Hz	0.107A	0.75A	29.7W	25.5W	<10%	>0.9
	347V	50/60Hz	0.087A	0.75A	30.4W	25.5W	<15%	>0.9

Dim-to-Warm: CCT vs Dimmed level



Narrow (Power over Ethernet)

		Input				
Light engine	Volts ¹	Voltage ²	Freq	Current	Power	
C4L10NPE	53V	51-54V	DC	160 mA	8.9 W	
C4L15NPE	53V	51-54V	DC	250 mA	13.6 W	
C4L20NPE	53V	51-54V	DC	340 mA	18.5 W	
C4L25NPE	53V	51-54V	DC	460 mA	24.6 W	

- 1. Nominal input volts.
- 2. Preferred volt range

Medium (Power over Ethernet)

	Input				
Light engine	Volts ¹	Voltage ²	Freq	Current	Power
C4L10MPE	53V	51-54V	DC	160 mA	8.8 W
C4L15MPE	53V	51-54V	DC	250 mA	13.4 W
C4L20MPE	53V	51-54V	DC	320 mA	17.6 W
C4L25MPE	53V	51-54V	DC	430 mA	23.2 W

Wide (Power over Ethernet)

	Input				
Light engine	Volts ¹	Voltage ²	Freq	Current	Power
C4L10WPE	53V	51-54V	DC	160 mA	8.8 W
C4L15WPE	53V	51-54V	DC	250 mA	13.4 W
C4L20WPE	53V	51-54V	DC	320 mA	17.6 W
C4L25WPE	53V	51-54V	DC	430 mA	23.2 W

Lifetime (TM-21 data)

Lumens	Narrow beam	Medium/Wide beam*
500lm 1000lm 1500lm	L90 @ 60,000hrs.	L90 @ 60,000hrs.
2000lm 2500lm 3000lm*	L90 @ 60,000hrs.	L85 @ 60,000hrs.

^{*} Lutron 3000lm with Medium/Wide beam is L80 @ 60,000hrs.

Marked spacing applications

Light engine	3000lm
C4L_Z10 series	Х
C4L_L01 series	Х
C4L_L1 series	Х
C4L_LD series	Х
C4L_LTE series	Х
C4L_D series	Х
C4L_DMX series	Х
C4L_RA series	Х

Modules marked with an X require marked spacing:

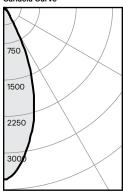
- Center-to-center of adjacent luminaires: 24" (610mm)
- Luminaire center to side building member: 12" (305mm)

In accordance with CAN ICES-005-A/ NEB-005-A and FCC Part 15-A.

Square Downlight

Narrow beam, 1500lm Engine, 101lm/W at 14W

Candela Curve



4SN / C4L15935N / C4SDLNMCL

Output lumens:	1365 lms
Input watts:	13.5 W
CRI:	90 min
CCT1:	3500K
Spacing Crit.:	0.66
Doom Angle:	400

Zonal summary

Zone	Lumens	%Luminaire
0-30 0-40 0-60	1170 1309 1363	85.7% 95.9% 99.9%
0-90	1365	100.0%

Angle	Mean CP	Lumens
0	2819	
5	2660	
10	2310	242
15	1911	
20	1421	523
25	901	
30	427	405
35	204	
40	118	139
45	63	
50	18	49
55	3	
60	2	5
65	1	
70	1	1
75	0	
80	0 0	1
85	0	
90	0	0

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5' 6'	102 80	4.8' 5.4'
7'	65	6.0'
8'	45	6.6'
9'	14	9.2'

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

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	64.0	0.60
6'	41.0	0.39
7'	30.0	0.28
8'	25.0	0.23
9'	38.0	0.19
30' ~ 30' ~ 10' 5	Room Workplane 2 5'	

above floor, 80/50/20% Reflectances

Efficacy: 101.1lm/W Report²: STMR-2431

Adjustment factors

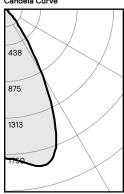
CL = 100% 90CRI, 4000K = 102% 3000Im = 200% 90CRI, 3500K = 100% 2500Im = 167% 167%	Finish	CCT	Lumens			
	CC = 95% CD = 87% CZ = 63% WH = 87%	90CRI, 3500K = 100% 90CRI, 3000K = 96%	2500lm = 167% 2000lm = 133% 1500lm = 100% 1000lm = 67%			

Coefficients of utilization

Cei	ling	80%		70	1%	50)%	30)%	0%		
Wal	I	70	50	30	10	50	10	50	10	50	10	0
RCR		Zona	al cav	ity me	ethod	- Eff	ectiv	e floo	rrefl	ectar	ice =	20%
	0	119	119	119	119	116	116	111	111	106	106	100
0	1	114	112	109	108	110	106	106	103	102	100	95
ij	2	109	105	102	99	103	97	100	95	97	93	90
20	3	105	99	95	91	98	91	95	89	93	88	85
Ę	4	100	94	89	85	93	85	91	84	89	83	81
á	5	96	89	84	80	88	80	86	79	85	79	77
Room Cavity Ratio	6	92	85	80	76	84	76	83	75	81	75	73
o	7	89	81	75	72	80	72	79	71	78	71	69
2	8	85	77	72	68	76	68	75	68	74	68	66
	9	82	74	69	65	73	65	72	65	71	65	63
	10	79	70	65	62	70	62	69	62	69	62	60

Medium beam, 1500lm Engine, 94 lm/W at 14W

Candela Curve



4SN / C4L15935M / C4SDLNMCL

Output lumens:	1317 lms
Input watts:	14.0 W
CRI:	90 min
CCT 1:	3500K
Spacing Crit.:	0.98
Beam Angle:	57°

Zonal summary

Zone	Lumens	%Luminaire
0-30	1045	79.3%
0-40	1261	95.7%
0-60	1316	99.9%
0-90	1317	100.0%

Angle	Mean CP	Lumens
0 5	1426	
5	1453	
10	1511	141
15	1534	
20	1404	426
25	1071	
30	656	478
35	328	
40	150	216
45	60	
50	16	51
55	3	
60	1	4
65	1	
70	0	1
75	0 0 0	
80	0	0
85	0	
90	0	0

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	57	4.9'
6'	40	5.9'
7'	29	6.9'
8'	22	7.8'
9'	18	8.8'

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

Multiple unit data - RCR 2

	per sq. ft.
61.0	0.62
40.0	0.41
28.0	0.29
24.0	0.24
19.0	0.19
	40.0 28.0 24.0

above floor, 80/50/20% Reflectances

Efficacy: 94.1lm/W Report2: STMR-1857

Adjustment factors

Finish	CCT	Lumens			
CL = 100% CC = 95% CD = 87% CZ = 63% WH = 87% BK = 57%	90CRI, 4000K = 102% 90CRI, 3500K = 100% 90CRI, 3000K = 96% 90CRI, 2700K = 92%	3000lm = 200% 2500lm = 167% 2000lm = 133% 1500lm = 100% 1000lm = 67% 500lm = 33%			
br = 5/%		5001111 = 33%			

Coefficients of utilization

Ceil	ling	80%		70	70%		50%		30%			
Wall		70 50 30 10		50	10	50	10	50	10	0		
RCF	?	Zona	al cav	ity me	thod	- Eff	ectiv	e floo	r refl	ectar	ice =	20%
	0	119	119	119	119	116	116	111	111	106	106	100
0	1	114	111	109	107	109	105	105	102	101	99	94
Ě	2	109	104	100	97	102	96	99	94	96	92	88
8	3	103	97	93	89	96	88	93	87	91	85	83
Room Cavity Ratio	4	99	91	86	82	90	82	88	81	86	80	77
a	5	94	86	80	76	85	76	83	75	82	75	73
0	6	90	81	75	71	80	71	79	71	77	70	68
οū	7	85	77	71	67	76	67	75	66	73	66	64
8	8	81	72	67	63	72	63	71	62	70	62	61
	9	78	69	63	59	68	59	67	59	66	59	57
	10	74	65	60	56	65	56	64	56	63	55	54

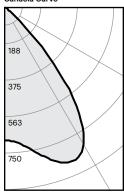
^{1.} Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

^{2.} Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

Square Downlight

Wide beam, 1500lm Engine, 72 lm/W at 14W

Candela Curve



4SN / C4L15935M / C4SDLWCL

Output lumens: Input watts: CRI:	1002 lms 14.0 W 90 min
CCT1:	3500K
Spacing Crit.:	1.44
Beam Angle:	74°

Zonal summary

Zone	Lumens	%Luminaire
0-30	548	54.7%
0-40	870	86.8%
0-60	1000	99.8%
0-90	1002	100.0%

Angle	Mean CP	Lumens
0	544	
5	555	
10	586	54
15	633	
20	675	181
25	687	
30	645	313
35	531	
40	347	322
45	148	
50	32	122
55	5	
60	2	8
65	1	
70	1	1
75	0	
80	0	0
85	0	
90	0	0

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*			
5'	22	7.2'			
6'	15	8.6'			
7'	11	10.1'			
8'	9	11.5'			
9'	7	13.0'			

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

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.					
5'	45.0	0.62					
6'	30.0	0.41					
7'	21.0	0.29					
8'	18.0	0.24					
9'	14.0	0.19					
201 201 101 Dana Wardindon 0 El							

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

Efficacy: 71.6 lm/W Report²: STMR-1821

Adjustment factors

Finish	CCT	Lumens			
CL = 100% CC = 95% CD = 87% CZ = 63% WH = 87% BK = 57%	90CRI, 4000K = 102% 90CRI, 3500K = 100% 90CRI, 3000K = 96% 90CRI, 2700K = 92%	3000lm = 200% 2500lm = 167% 2000lm = 133% 1500lm = 100% 1000lm = 67% 500lm = 33%			

Coefficients of utilization

Ceiling		80%			70%		50%		30%		0%	
Wal	I	70	50	30	10	50	10	50	10	50	10	0
RCR		Zona	al cav	ity me	ethod	- Eff	ectiv	e floo	rrefl	ectar	ice =	20%
	0	119	119	119	119	116	116	111	111	106	106	100
0	1	113	110	107	105	108	103	104	100	100	97	92
Ě	2	107	101	97	93	99	92	96	90	93	88	84
20	3	100	93	88	83	92	83	89	81	87	80	77
ΞĘ	4	94	86	80	75	85	75	83	74	81	73	70
ē,	5	89	79	73	68	78	68	77	67	75	67	64
Ö	6	83	74	67	62	73	62	71	61	70	61	59
o	7	79	68	61	57	67	57	66	56	65	56	54
Room Cavity Ratio	8	74	63	57	52	63	52	61	52	60	51	50
	9	70	59	52	48	58	48	57	48	56	47	46
	10	66	55	48	44	54	44	54	44	53	44	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.