



Calculite LED 6" generation 3 features industry leading visual comfort, excellent uniform illumination over time, and patented installation flexibility.

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

Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Lamps: \_\_\_\_\_ Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

### Frame

example: 6SA

Series	Aperture	Installation
<input type="text"/>	<input type="text"/>	<input type="text"/>
6 6" Non-IC	S Square	A AirSeal IC 120 V/277V

### Engine

example: C6L15835NZ10U

Series	Lumens	CRI	CCT	Beam <sup>2</sup>	Dimming	Voltage
<input type="text"/>						<input type="text"/>
C6L Calculite LED 6" aperture	10 1000lm	8 80 CRI	27 2700 K	N Narrow (40°)	Z10 0-10V 1%	U Universal 120 V/277V
	15 1500lm	9 90 CRI	30 3000 K	M Medium (55°)	SOL EldoLED Solo 0-10V 0.1%	
	20 2000lm		35 3500 K	& Wide (72°) <sup>1</sup>	D Dali 0.1%	
	25 2500lm		40 4000 K		L Lutron LDE1 EcoSystem (fade-to-black)	
					DMX Digital Multiplexing	
					E ELV (120V dimming only)	1 Universal 120 V/277V
	35 3500lm	8 80 CRI	27 2700 K	M Medium (55°)	Z10 0-10V 1%	U Universal 120 V/277V
		9 90 CRI	30 3000 K	& Wide (72°) <sup>1</sup>	SOL EldoLED Solo 0.1%	
			35 3500 K		DMX Digital Multiplexing	
			40 4000 K			

### Trim

example: C6SDLNMCCP

Series	Aperture	Style	Beam <sup>2</sup>	Finish	Flange
<input type="text"/>	<input type="text"/>				
C6 Calculite LED 6" aperture	S Square	DL Downlight	NM Narrow & Medium	CL Specular clear	- White (matte)
			W Wide	CC Comfort clear	P Polished (matches aperture)
		LW Lensed Wall Wash <sup>1</sup>	- blank	CD Comfort clear diffuse	F Flangeless (requires CA4RFT)
				WH White (matte)	- White (matte)
					F Flangeless (requires CA4RFT)

### Beam options

Trim	Narrow engine	Medium engine
Narrow/ Medium	37° (0.6 s.c.)	56° (0.9 s.c.)
Wide	Not recommended	65° (1.1 s.c.)

### Accessories

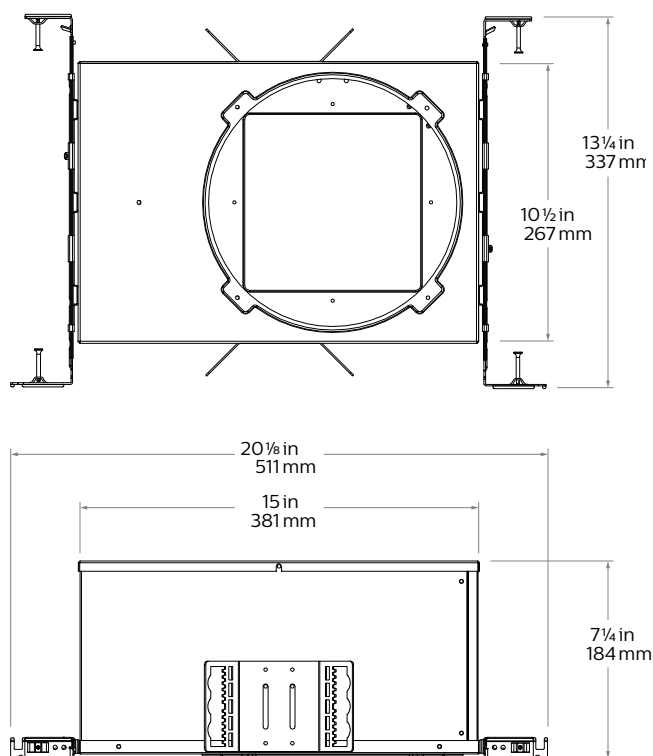
**CA6SFT** Mud-in kit for use with flangeless installations (ordered with a flangeless trim)  
**SWZDT** SpaceWise wireless controller with dwell time functionality, compatible with all 0-10V configurations (for details see "SWZDT" spec sheet)

1. Medium (M) beam is ideal for Lensed Wall Wash (LW) applications.
2. See beam options table for light engine and trim combination spacing criterion.

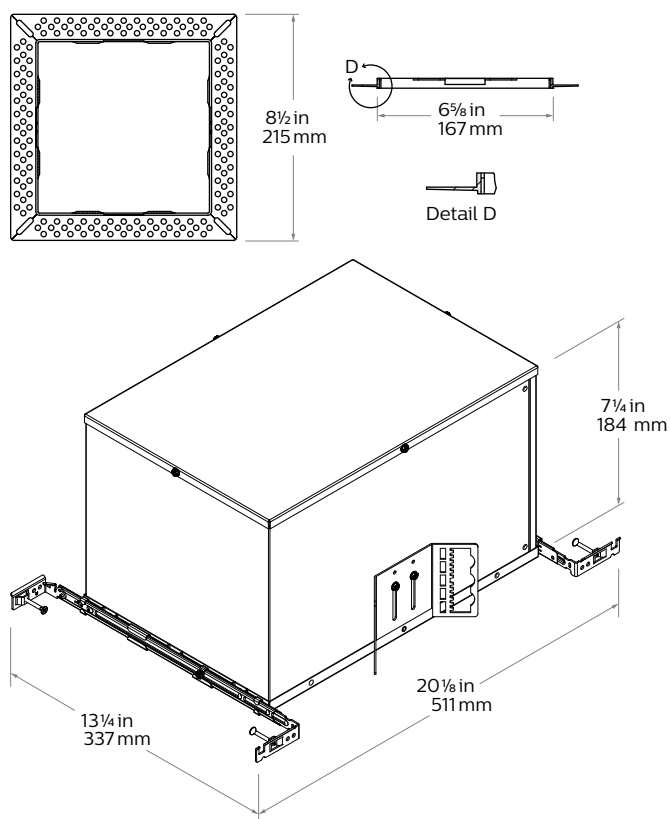
# C6SA Calculite LED 6" gen 3

## Square AirSeal IC frame

### AirSeal (A)



### Flangeless mud-in ring (CA6SFT) accessory



### Narrow

Light engine	Input volts	Input freq	Input current	Drive current	Input power	THD power	Power factor
<b>C6L10_NZ10U</b>	120V	50/60Hz	0.08	230 mA	9W	<15%	>0.95
	277V		0.04			<20%	>0.95
<b>C6L15_NZ10U</b>	120V	50/60Hz	0.11	340 mA	15W	<10%	>0.95
	277V		0.05			<15%	>0.95
<b>C6L20_NZ10U</b>	120V	50/60Hz	0.16	460 mA	22W	<10%	>0.95
	277V		0.08			<15%	>0.95
<b>C6L25_NZ10U</b>	120V	50/60Hz	0.20	590 mA	25W	<10%	>0.95
	277V		0.10			<15%	>0.95
<b>C6L35_NZ10U</b>	120V	50/60Hz	0.30	900 mA	36W	<10%	>0.95
	277V		0.14			<15%	>0.95

### Lifetime (TM-21) data

Lumens	Narrow beam	Medium/Wide beam
1000lm	L90 @ 60,000hrs.	L85 @ 60,000hrs.
1500lm		
2000lm		
2500lm	Not Available	L80 @ 60,000hrs.
3500lm		

### Medium/Wide

Light engine	Input volts	Input freq	Input current	Drive current	Input power	THD power	Power factor
<b>C6L10_MZ10U</b>	120V	50/60Hz	0.08	210 mA	9W	<15%	>0.95
	277V		0.04			<20%	>0.95
<b>C6L15_MZ10U</b>	120V	50/60Hz	0.11	320 mA	15W	<10%	>0.95
	277V		0.05			<15%	>0.95
<b>C6L20_MZ10U</b>	120V	50/60Hz	0.15	430 mA	19W	<10%	>0.95
	277V		0.07			<15%	>0.95
<b>C6L25_MZ10U</b>	120V	50/60Hz	0.19	550 mA	23W	<10%	>0.95
	277V		0.09			<15%	>0.95
<b>C6L35_MZ10U</b>	120V	50/60Hz	0.25	570 mA	30W	<10%	>0.95
	277V		0.11			<15%	>0.95

### Reflector



Specular clear (CL)

Comfort clear (CC)

### Flange



White (-)

Polished (P)

Flangeless (F)

# C6SA Calculite LED 6" gen 3

## Square AirSeal IC frame

### Frame-in-kits

#### AirSeal

Black painted steel housing for dry or plaster ceilings. Pre-installed telescoping mounting bars from 13" to 24".

#### Patented install Mounting frame

With no driver attached, this versatile frame is independent of driver accommodating a wide range of lumen packages, driver types and CCTs, including 120V and 277V inputs.

Close-cut aperture design eliminates possibility of gap between ceiling opening & 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 eliminates need for wiring between frame and LED driver, and also saves time during installation and future replacements/upgrades. Plug-and-play receptacle accommodates technology upgrade of light engines and replacements for the life of the building.

#### Drivers

- Advance 0-10V 1% dimming
- Lutron Hi-lume EcoSystem H Series 1% dimming
- EldoLED ECoDrive Dali 1% dimming
- EldoLED SOLOdrive 0-10V 0.1% dimming
- ELV dimming

### Optical systems

#### Comfort throughout the space:

Patented optical system combines primary and secondary optics to provide a true 50° physical cutoff and 45° reflected cutoff virtually eliminating the view of the light source and bright spots in the reflector. A new reflector curve reduces reflector brightness by up to 50% compared to existing products, allowing for the use of higher lumen packages in smaller apertures without creating bright spots in the ceiling.

**Quality of light:** 2 SDCM ensures color consistency from fixture to fixture and over the luminaire's long lifetime. Proprietary optical grade silicone lens with patterned surface provides soft, even beam diffusion without hotspots or dark rings.

#### Light Engine

Quick connect power pack comprised of light source and driver 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.

### Options and Accessories

**Flangeless mud-in ring:** Use CA6SFT for use with flangeless plaster installations.

#### ENERGY STAR® exceptions

- 90CRI & Lensed Wall Wash configurations
- Dali, ELV & EldoLED Solo drivers

#### Title 24 exceptions

- 1000lm in Downlight & Lensed Wall Wash configurations

#### Labels and Listings

- cULus listed for wet locations
- ENERGY STAR® certified
- RoHS certified
- CEC Title 24 JA8 certified

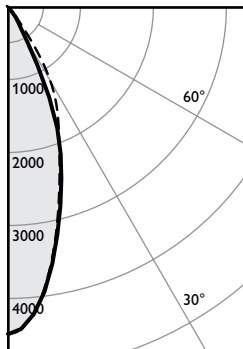
#### Warranty



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

### Narrow beam, 2500lm Engine, 89.3 lm/w

#### Candela Curve



Frame: **C6SA or 6SA**  
Engine: **C6L25835NZ10U**  
Trim: **C6SDLNMCCL**

CCT<sup>1</sup>: 3500K  
Output lumens: 2133 lms  
Input watts: 23.9 W (±5%)  
CRI: 80 min  
Spacing Crit.: 0.6  
Beam Angle: 37°

#### Zonal summary

Zone	Lumens	%Luminaire
0-30	1802	84.5%
0-40	2053	96.3%
0-60	2132	99.9%
0-90	2133	100.0%

Angle	0°	45°	Lms
0	4487	4487	380
5	4220	4210	
10	3570	3525	
15	2822	2741	764
20	2148	2098	
25	1366	1643	658
30	559	1189	
35	284	570	251
40	175	209	
45	80	103	72
50	15	39	
55	2	8	6
60	1	1	
65	1	1	1
70	1	1	
75	1	0	0
80	0	0	
85	1	1	1
90	0	0	

#### Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	179	3.0'
6'	125	3.6'
7'	92	4.2'
8'	70	4.8'
9'	55	5.4'

\* 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'	98.9	1.06
6'	64.9	0.70
7'	46.3	0.50
8'	38.6	0.41
9'	30.9	0.33

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

**Efficacy: 89.3 lm/w**  
Report<sup>2</sup>: F37156

#### Adjustment factors

Finish	CCT	Lumens
CL = 100%	80CRI 4000K = 103%	6000lm = 202%
CCL = 95%	80CRI 3500K = 100%	4800lm = 192%
CCD = 87%	80CRI 3000K = 95%	3500lm = 140%
CCZ = 63%	80CRI 2700K = 93%	2500lm = 100%
WH = 87%	90CRI 3000K = 83%	2000lm = 80%
BK = 57%	90CRI 2700K = 78%	1500lm = 60%
		1000lm = 40%

#### Coefficients of utilization

Ceiling	80%				70%		50%		30%		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	107	110	106	106	102	102	99	95
	2	109	105	101	98	103	97	100	95	97	93	90
	3	105	99	95	91	98	90	95	89	93	88	85
	4	100	94	89	85	93	85	90	84	89	83	80
	5	96	89	84	80	88	80	86	79	85	78	76
	6	92	84	79	75	84	75	82	75	81	74	72
	7	88	80	75	71	80	71	78	71	77	70	69
	8	85	76	71	68	76	68	75	67	74	67	66
	9	81	73	68	64	73	64	72	64	71	64	63
10	78	70	65	61	69	61	69	61	68	61	60	

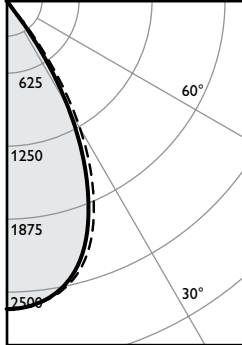
1. Correlated Color Temperature within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.  
2. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State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

# C6SA Calculite LED 6" gen 3

## Square AirSeal IC frame

### Medium beam, 2500lm Engine, 101.6 lm/w

Candela Curve



Frame: **C6SA or 6SA**  
Engine: **C6L25835MZ10U**  
Trim: **C6SDLNMCL**

CCT<sup>1</sup>: 3500K  
Output lumens: 2164 lms  
Input watts: 21.3 W (±5%)  
CRI: 80 min  
Spacing Crit.: 0.9  
Beam Angle: 55°

Zonal summary

Zone	Lumens	%Luminaire
0-30	1647	76.1%
0-40	2058	95.1%
0-60	2162	99.9%
0-90	2164	100.0%

Angle	0°	45°	Lms
0	2647	2647	
5	2624	2620	247
10	2539	2530	
15	2382	2348	654
20	2088	2101	
25	1615	1730	745
30	1058	1222	
35	563	723	411
40	249	326	
45	88	133	97
50	16	43	
55	3	9	7
60	2	1	
65	1	1	1
70	1	1	
75	1	0	1
80	1	0	
85	1	1	1
90	0	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	106	4.5'
6'	74	5.4'
7'	54	6.3'
8'	41	7.2'
9'	33	8.1'

\* 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'	99.1	0.94
6'	65.0	0.62
7'	46.5	0.44
8'	38.7	0.37
9'	31.0	0.30

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

**Efficacy: 101.6 lm/w**  
Report#: F37167

Adjustment factors

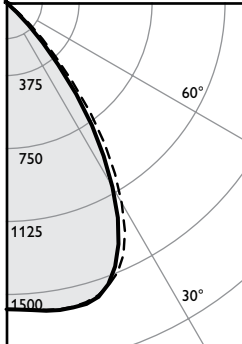
Finish	CCT	Lumens
CL = 100%	80CRI 4000K = 102%	6000lm = 240%
CCL = 95%	80CRI 3500K = 100%	4800lm = 192%
CCD = 87%	80CRI 3000K = 97%	3500lm = 140%
CCZ = 63%	80CRI 2700K = 87%	2500lm = 100%
WH = 87%	90CRI 3000K = 77%	2000lm = 80%
BK = 57%	90CRI 2700K = 73%	1500lm = 60%
		1000lm = 40%

Coefficients of utilization

Ceiling	80%				70%		50%		30%		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
	2	108	104	100	97	102	96	96	93	96	91	88
	3	103	97	92	89	96	88	93	86	91	85	82
	4	98	91	86	82	90	81	88	80	86	79	77
	5	94	86	80	76	85	75	83	75	81	74	72
	6	89	81	75	71	80	70	78	70	77	69	68
	7	85	76	70	66	75	66	74	66	73	65	64
	8	81	72	66	62	71	62	70	62	69	61	60
	9	77	68	62	58	67	58	66	58	66	58	56
10	74	64	59	55	64	55	63	55	62	55	53	

### Wide beam, 2500lm Engine, 90.0 lm/w

Candela Curve



Frame: **C6SA or 6SA**  
Engine: **C6L25835MZ10U**  
Trim: **C6SDLWCL**

CCT<sup>1</sup>: 3500K  
Output lumens: 1917 lms  
Input watts: 21.3 W (±5%)  
CRI: 80 min  
Spacing Crit.: 1.1  
Beam Angle: 68°

Zonal summary

Zone	Lumens	%Luminaire
0-30	1225	63.9%
0-40	1726	90.1%
0-60	1914	99.9%
0-90	1917	100.0%

Angle	0°	45°	Lms
0	1573	1573	
5	1584	1581	151
10	1602	1603	
15	1601	1592	447
20	1538	1544	
25	1368	1428	627
30	1095	1190	
35	771	883	502
40	419	531	
45	165	266	176
50	23	96	
55	4	15	12
60	2	2	
65	1	1	1
70	1	1	
75	1	1	1
80	1	0	
85	1	1	1
90	0	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	63	5.5'
6'	44	6.6'
7'	32	7.7'
8'	25	8.8'
9'	19	9.9'

\* 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'	86.6	0.94
6'	56.8	0.62
7'	40.6	0.44
8'	33.8	0.37
9'	27.1	0.30

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

**Efficacy: 90.0 lm/w**  
Report#: F37139

Adjustment factors

Finish	CCT	Lumens
CL = 100%	80CRI 4000K = 102%	6000lm = 240%
CCL = 95%	80CRI 3500K = 100%	4800lm = 192%
CCD = 87%	80CRI 3000K = 97%	3500lm = 140%
CCZ = 63%	80CRI 2700K = 87%	2500lm = 100%
WH = 87%	90CRI 3000K = 77%	2000lm = 80%
BK = 57%	90CRI 2700K = 73%	1500lm = 60%
		1000lm = 40%

Coefficients of utilization

Ceiling	80%				70%		50%		30%		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	113	110	108	106	108	104	104	101	100	98	93
	2	107	102	98	95	101	94	97	91	94	89	86
	3	102	95	90	86	93	85	91	83	88	82	79
	4	96	88	82	78	87	77	85	77	83	76	73
	5	91	82	76	71	81	71	79	70	78	70	68
	6	86	76	70	66	76	65	74	65	73	65	63
	7	81	71	65	61	71	60	69	60	68	60	58
	8	77	67	61	56	66	56	65	56	64	56	54
	9	73	63	56	52	62	52	61	52	60	52	50
10	69	59	53	49	58	49	58	49	57	48	47	

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.

# C6SA    Calculite LED 6" gen 3

## Square AirSeal IC frame

Adjustment factors

Finish	CCT	Lumens
CL = 100%	80CRI 4000K = 102%	6000lm = 202%
CC = 95%	80CRI 3500K = 100%	4800lm = 192%
CD = 87%	80CRI 3000K = 97%	3500lm = 140%
CZ = 63%	80CRI 2700K = 87%	2500lm = 100%
WH = 87%	90CRI 3000K = 77%	2000lm = 80%
BK = 57%	90CRI 2700K = 73%	1500lm = 60%
		1000lm = 40%

Lensed Wall Wash, 2500lm Engine, 91.5 lm/w or 86.3 lm/W at 22.8W (Power over Ethernet)

**Candela Curve**

Frame: **C6SN or 6SN**  
Engine: **C6L25835MZ10U**  
Trim: **C6SLWCL**

CCT: 3500K  
Output lumens: 1968 lms  
Input watts: 21.5 W (±5%)  
CRI: 80 min

**Efficacy: 91.5 lm/w**  
Report#: 1222GFR

**Multiple unit data**  
Footcandles on wall

	2' from wall		
	3' on ctr.		
Distance from ceiling in feet			
1	54	33	54
2	59	47	59
3	53	48	53
4	43	42	43
5	33	33	33
6	26	26	26
7	22	21	22
8	18	18	18
9	15	15	15
10	13	13	13
12	11	11	11
14	10	9	10

**Multiple unit data**  
Footcandles on wall

	3' from wall		
	3' on ctr.		
Distance from ceiling in feet			
1	22	19	22
2	36	33	36
3	37	36	37
4	35	35	35
5	33	33	33
6	29	29	29
7	25	25	25
8	21	21	21
9	19	19	19
10	16	16	16
12	14	13	14
14	12	12	12

**Multiple unit data**  
Footcandles on wall (shown above)

	3' from wall		
	4' on ctr.		
Distance from ceiling in feet			
1	19	13	19
2	30	24	30
3	29	26	29
4	28	26	28
5	26	25	26
6	22	22	22
7	19	19	19
8	17	17	17
9	14	14	14
10	13	13	13
12	11	11	11
14	9	9	9

1. Correlated Color Temperature within specs as defined in ANSI\_NEMA\_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.  
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