

Downlighting

Calculite LED gen 3 6" square tunable white

1000 & 2500lm



Project: _____
Location: _____
Cat.No: _____
Type: _____
Lamps: _____ Qty: _____
Notes: _____

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

Complete product = Frame + Engine + Trim

Frame

example: C6SN

Series	Aperture	Installation	Voltage/Options
C6	S		
C4 Calculite LED 6" aperture	S Square	N New Construction R Remodeler	— Universal (120/277V) 3 347V EM Emergency ^{1,2} LC Chicago Plenum ¹
		A Airseal IC	— Universal (120/277V)

Engine

example: C6L10865MDUTW

Series	Lumens	CRI	CCT	Beam	Dimming	Voltage	Options
C6L							TW
C6L Calculite LED 6" aperture	10 1000lm	8 80 CRI	65 6500-2700K	M Medium (56°) ³ W Wide (76°)	D Dali	U Universal (120/277V/347V)	TW Tunable White
	15 1500lm						
	20 2000lm						
	25 2500lm						

Trim

example: C6SDLNMCCP

Series	Aperture	Style	Beam ³	Finish	Flange
C6	S				
C6 Calculite LED 6" aperture	S Square	DL Downlight	NM Narrow & Medium W Wide	CL Specular clear CC Comfort clear CD Comfort clear diffuse	— White (matte) P Polished F Flangeless
		LW Lensed Wall Wash ³	— blank	WH White (matte)	— White (matte) F Flangeless

Mixing chambers

	6" Med	6" Wide
4" cone	0.8 s.c. (52°)	1.1 s.c. (72°)

Accessories (ordered with a flangeless trim)

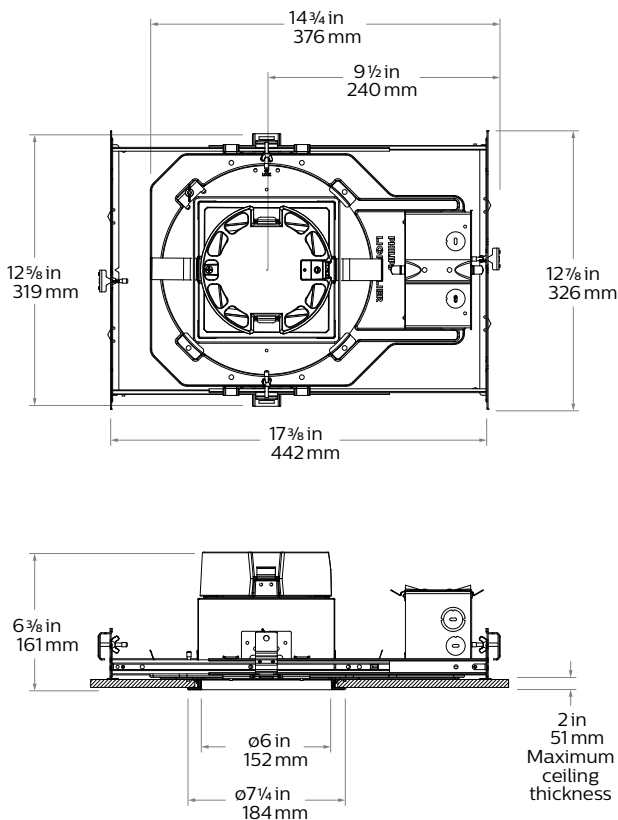
CA4SFT Mud-in ring for use with flangeless installations.

- Emergency (EM) and Chicago Plenum (LC) options are only available with New construction (N) installations.
- Emergency (EM) frame comes with emergency battery pack and ceiling mountable test switch. Reflector mounted test switch requires above ceiling access and is only available with the downlight option. For reflector mounted test switch, order emergency frame and add "EM" suffix to reflector (example: C6SDLNMCCEM).
- Medium (M) beam is ideal for lensed wall washing.

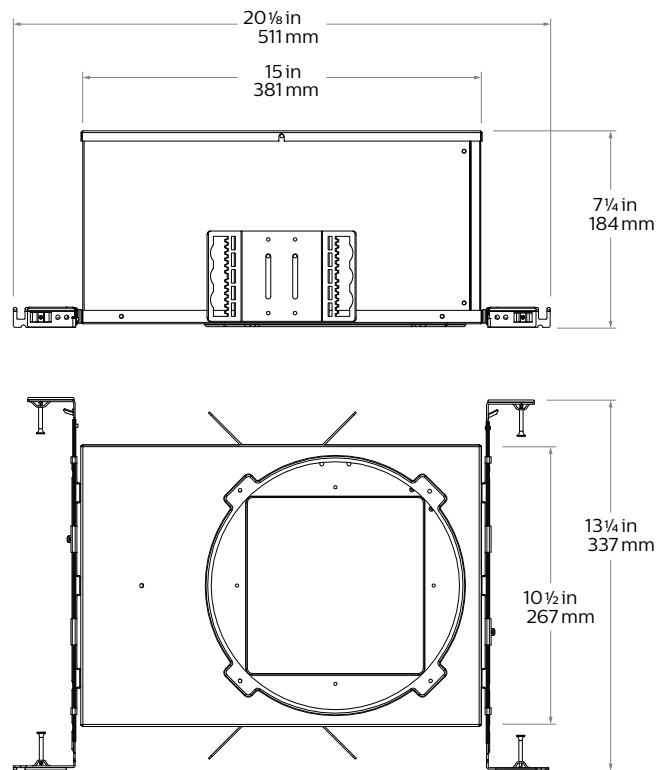
C6STW Calculite LED generation 3

6" square tunable white

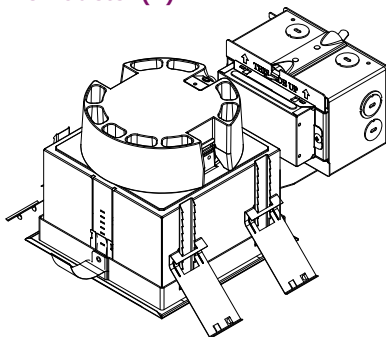
New Construction (N)



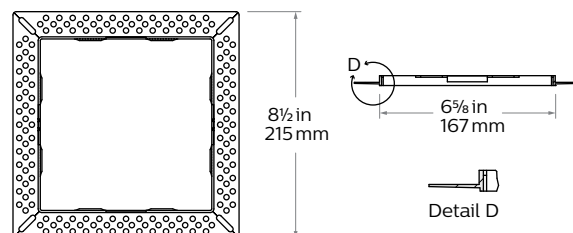
Chicago Plenum (LC)



Remodeler (R)



Flangeless mud-in ring (CA6SFT)



Consult factory for wood installation instructions.

Beam options

	6" Med engine	6" wide engine
6" reflector	56° (0.8 s.c.)	78° (1.2 s.c.)

Lifetime (TM-21) data

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

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

C6STW Calculite LED generation 3

6" square tunable white

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".

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 the possibility of undesired gap between ceiling opening and reflector flange.

Separate wiring compartment for wiring frame to building allows inspection prior to light engine installation.

Simple plug-and-play connection between the frame and light engine from below the ceiling eliminates the 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.

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.

Drivers

- EldoLED ECoDrive Dali 1% Dimming

Options and Accessories

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

Sloped ceilings: Compatible with sloped ceiling adapters (see **SCA** spec sheet).

Labels and Listings

cULus listed for wet locations

IBEW Union made (light engines & reflectors)

RoHS compliant

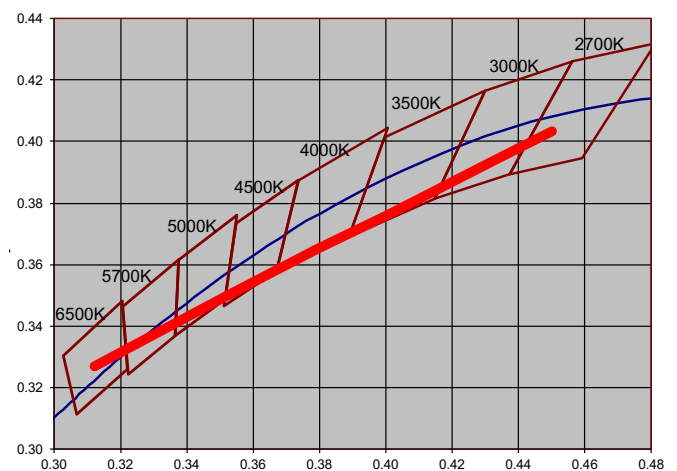
Warranty

5 year warranty on complete system.

Complete warranty available at: http://images.philips.com/is/content/PhilipsConsumer/PDFDownloads/United%20States/ODLI20150930_003-UPD-en_US-Philips-warranty-indoor-PLS-us.pdf

Color information

6" 2000lm	2700K	3000K	3500K	4000K	5000K	6500K
Flux (lms)	1927	1856	1863	1937	1848	1790
Power (W)	19.21	18.12	17.62	17.93	17.14	16.84
Efficacy (lm/W)	100.3	102.4	105.7	108.0	107.8	106.3
CCT	2785	3008	3499	3936	4818	6549
CRI	86	87	88	89	88	84
R9	20	26	33	36	33	15
x	0.4501	0.4311	0.3999	0.3794	0.3495	0.3122
y	0.4033	0.393	0.376	0.3649	0.3484	0.3269
Duv	-0.0018	-0.0037	-0.0054	-0.0054	-0.0034	0.0024

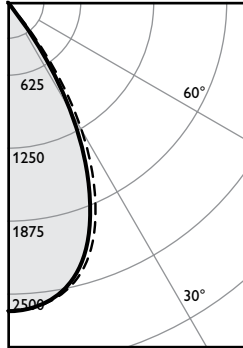


C6STW Calculite LED generation 3

6" square tunable white

Medium beam, 2500lm Engine, 101.6 lm/w

Candela Curve



Frame: **C6SN**
 Engine: **C6L25835MZ10U**
 Trim: **C6SDLNMCL**
 CCT¹: 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	
10	2539	2530	
15	2382	2348	
20	2088	2101	
25	1615	1730	
30	1058	1222	
35	563	723	
40	249	326	
45	88	133	
50	16	43	
55	3	9	
60	2	1	
65	1	1	
70	1	1	
75	1	0	
80	1	0	
85	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

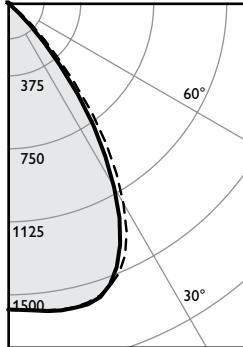
Finish	CCT	Lumens
CL = 100%	80CRI 4000K = 102%	6000lm = 240%
CCL = 95%	80CRI 3500K = 100%	4800lm = 192%
CCD = 87%	80CRI 3000K = 97%	3500lm = 140%
CCZ = 63%	80CRI 2700K = 87%	2500lm = 100%
WH = 87%	90CRI 3000K = 77%	2000lm = 80%
BK = 57%	90CRI 2700K = 73%	1500lm = 60%
		1000lm = 40%

Coefficients of utilization

Ceiling	80%	70%	50%	30%	0%
Wall	70	50	30	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%				
Room Cavity Ratio	0	119	119	119	119
1	114	111	109	107	105
2	108	104	100	97	102
3	103	97	92	89	96
4	98	91	86	82	90
5	94	86	80	76	85
6	89	81	75	71	80
7	85	76	70	66	75
8	81	72	66	62	71
9	77	68	62	58	67
10	74	64	59	55	64

Wide beam, 2500lm Engine, 90.0 lm/w

Candela Curve



Frame: **C6SN**
 Engine: **C6L25835MZ10U**
 Trim: **C6SDLWCL**
 CCT¹: 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	
10	1602	1603	
15	1601	1592	
20	1538	1544	
25	1368	1428	
30	1095	1190	
35	771	883	
40	419	531	
45	165	266	
50	23	96	
55	4	15	
60	2	2	
65	1	1	
70	1	1	
75	1	1	
80	1	0	
85	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	0
RCR	Zonal cavity method - Effective floor reflectance = 20%				
Room Cavity Ratio	0	119	119	119	119
1	113	110	108	106	104
2	107	102	98	95	101
3	102	95	90	86	93
4	96	88	82	78	87
5	91	82	76	71	81
6	86	76	70	66	76
7	81	71	65	61	71
8	77	67	61	56	66
9	73	63	56	52	62
10	69	59	53	49	58

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.

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Philips Lighting, North America Corporation
 200 Franklin Square Drive, Somerset, NJ 08873
 Tel. 855-486-2216

Philips Lighting Canada Ltd.
 281 Hillmount Rd, Markham, ON, Canada L6C 2S3
 Tel. 800-668-9008