PHILIPS
LIGHTOLIER

Downlighting

Calculite LED gen 3
4" round wall wash

500 – 3000lm

Calculite LED 4" generation 3 features industry leading visual comfort, excellent uniform illumination over time, and patented installation flexibility.

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

Frame

example: C4RN

Series	Aperture	Installation	Voltage / Options
C4	**R**		
C4 Calculite LED 4" aperture	**R** Round	**N** New construction[1] **R** Remodeler	**—** Universal 120 V/277 V (specify for Power Over Ethernet configurations) **3** 347 V (not compatible with ELV dimming)[3] **EM** Emergency[1,2] **LC** Chicago Plenum[1]

Engine

example: C4L15835NZ10U

Series	Lumens	CRI	CCT	Beam	Dimming	Voltage
C4L				**W**		
C4L Calculite LED 4" aperture	**05** 500 lm[4] **10** 1000 lm **15** 1500 lm **20** 2000 lm[5] **25** 2500 lm[5] **30** 3000 lm[5]	**8** 80 CRI **9** 90 CRI	**27** 2700 K **30** 3000 K **35** 3500 K **40** 4000 K	**W** Wide	**Z10** 0–10 V 1%[4] **SOL** EldoLED Solo 0–10 V 0.1% **D** Dali **L** Lutron LDE1 EcoSystem (fade-to-black)	**U** Universal 120 V/277 V/347 V
					E ELV (120V dimming only)[6]	**1** Universal 120 V/277 V
					P Power over Ethernet	**E** Ethernet 48 V DC
					Only compatible with 1000 (10) to 2500 (25) lumen configurations.	

Trim

example: C4RWWCCP

Series	Aperture	Style	Finish		Flange
C4	**R**				
C4 Calculite LED 4" aperture	**R** Round	**WW** Open Wall Wash **LW** Lensed Wall Wash[3] **CW** Corner Wall Wash[7] **DW** Double Wall Wash[7]	**BK** Black (matte) **CL** Specular clear	**CC** Comfort clear **CD** Comfort clear diffuse **CZ** Champagne bronze	**—** White (matte) **P** Polished **F** Flangeless[7]
			WH White (matte)		**—** White (matte) **F** Flangeless[7]

Accessories   (ordered with a flangeless trim)

|	
CA4RFT	Mud-in ring for use with flangeless installations
CAEM	Field installable EM pack
C4RVPWH	IP65 rated vandal proof matte white accessory that mounts onto a flangeless trim (not available for use with Lensed Wall Wash)

1. Emergency (EM) and Chicago Plenum (LC) options are only available with New construction (N) installations.
2. Emergency (EM) frame comes with emergency battery pack and ceiling mountable test switch.
   Reflector mounted test switch requires above ceiling access. For reflector mounted test switch,
   order emergency frame and add "**EM**" suffix to reflector (example: C4RDLCCEM).
3. The 347V (3) is not compatible with lumen packages over 2500lm (25) for the Lensed Wall wash (LW) style.
4. The 500lm (05) option is only compatible with 0-10V (Z10) dimming.
5. The 2500lm (25), and 3000lm (30) packages have marked spacing requirements (see page 3).
6. ELV (E) dimming is only compatible with up to 2000lm (20) configurations.
7. Corner (CW) and Double (DW) Wall Wash are not available with flangeless (F) option.

# C4RWW   Calculite LED generation 3

4" round wall wash

New Construction (N)

10 ⅞ in
277 mm

7 ½ in
190 mm

8 ¾ in
221 mm

10 ⅜ in
264 mm

13 in
329 mm

4 ⅞ in
123 mm

ø4 ½ in
114 mm

ø5 ¾ in
146 mm

Ceiling Cutout
ø4 ⅞ in
124 mm

See below for max ceiling thickness

Chicago Plenum (LC)

16 ⅜ in
416 mm

11 ¼ in
286 mm

6 ⅛ in
156 mm

13 ¼ in
337 mm

7 ¾ in
197 mm
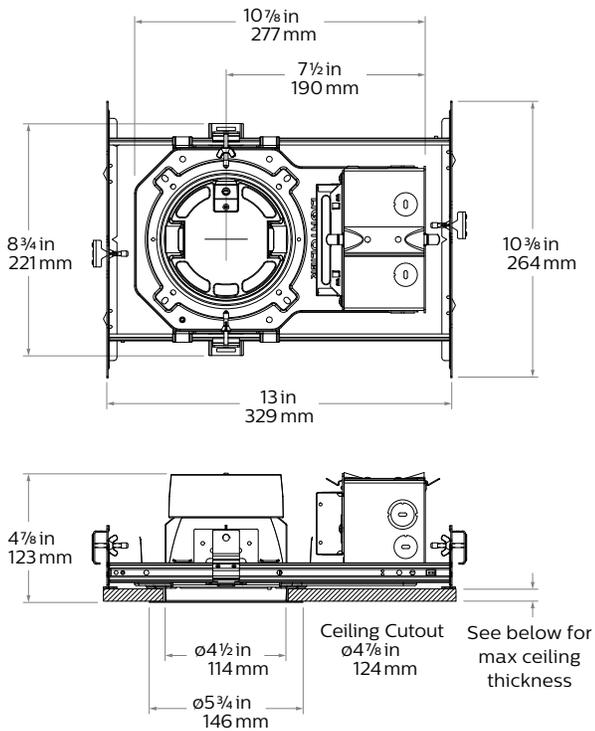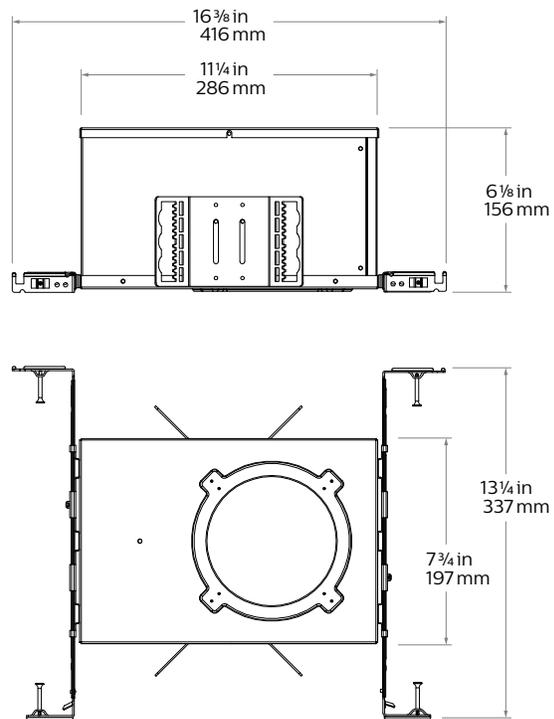
Remodeler (R)
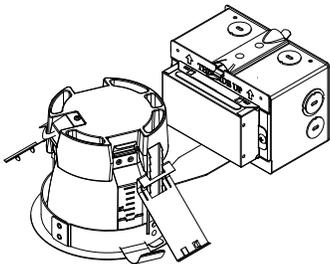
Vandal Proof (VP) accessory

ø4 ⅜ in
111 mm

ø6 ¼ in
158 mm

⅜ in
10 mm
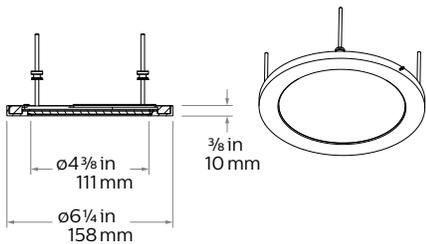
Flangeless mud–in ring (CA4RFT) accessory

7 in
178 mm

4 ⅞ in
125 mm

5 in
127 mm

D

Detail D
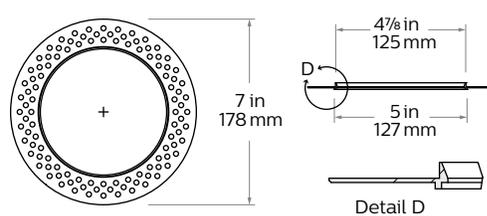
Consult factory for wood installation instructions.

C4RWW   Calculite LED generation 3

4" round wall wash
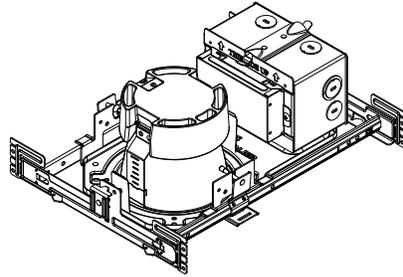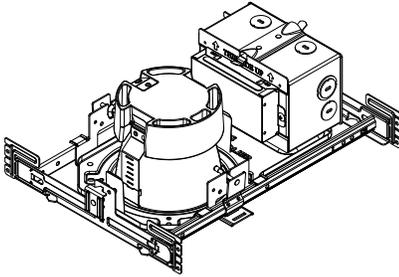
Narrow

Light engine	Input volts	Input freq	Input current	Drive current	Input power	THD power	Power factor
C4L05_NZ10U	120V	50/60Hz	0.05	110 mA	6W	<20%	>0.95
	277V		0.03			<20%	>0.90
C4L10_NZ10U	120V	50/60Hz	0.08	230 mA	11W	<15%	>0.95
	277V		0.04			<20%	>0.95
C4L15_NZ10U	120V	50/60Hz	0.12	360 mA	16W	<10%	>0.95
	277V		0.06			<15%	>0.95
C4L20_NZ10U	120V	50/60Hz	0.17	490 mA	21W	<10%	>0.95
	277V		0.08			<15%	>0.95
C4L25_NZ10U	120V	50/60Hz	0.22	640 mA	27W	<10%	>0.95
	277V		0.10			<15%	>0.95
C4L30_NZ10U	120V	50/60Hz	0.27	790 mA	33W	<10%	>0.95
	277V		0.13			<15%	>0.95

Medium/Wide

Light engine	Input volts	Input freq	Input current	Drive current	Input power	THD power	Power factor
C4L05_MZ10U	120V	50/60Hz	0.05	110 mA	6W	<20%	>0.95
	277V		0.03			<20%	>0.90
C4L10_MZ10U	120V	50/60Hz	0.08	230 mA	11W	<15%	>0.95
	277V		0.04			<20%	>0.95
C4L15_MZ10U	120V	50/60Hz	0.12	350 mA	16W	<10%	>0.95
	277V		0.06			<15%	>0.95
C4L20_MZ10U	120V	50/60Hz	0.16	470 mA	21W	<10%	>0.95
	277V		0.08			<15%	>0.95
C4L25_MZ10U	120V	50/60Hz	0.21	610 mA	25W	<10%	>0.95
	277V		0.09			<15%	>0.95
C4L30_MZ10U	120V	50/60Hz	0.26	770 mA	31W	<10%	>0.95
	277V		0.12			<15%	>0.95

Narrow (Power over Ethernet)

Light engine	Input Volts[1]	Input Voltage[2]	Input Freq	Input Current	Input Power
C4L10___NPE	53V	51-54V	DC	160 mA	8.9 W
C4L15___NPE	53V	51-54V	DC	250 mA	13.6 W
C4L20___NPE	53V	51-54V	DC	340 mA	18.5 W
C4L25___NPE	53V	51-54V	DC	460 mA	24.6 W

Medium (Power over Ethernet)

Light engine	Input Volts[1]	Input Voltage[2]	Input Freq	Input Current	Input Power
C4L10___MPE	53V	51-54V	DC	160 mA	8.8 W
C4L15___MPE	53V	51-54V	DC	250 mA	13.4 W
C4L20___MPE	53V	51-54V	DC	320 mA	17.6 W
C4L25___MPE	53V	51-54V	DC	430 mA	23.2 W

Wide (Power over Ethernet)

Light engine	Input Volts[1]	Input Voltage[2]	Input Freq	Input Current	Input Power
C4L10___WPE	53V	51-54V	DC	160 mA	8.8 W
C4L15___WPE	53V	51-54V	DC	250 mA	13.4 W
C4L20___WPE	53V	51-54V	DC	320 mA	17.6 W
C4L25___WPE	53V	51-54V	DC	430 mA	23.2 W

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

Marked spacing applications

Light engine	2500 lm	3000 lm
C4L_Z10U series	—	X
C4L_LU series	X	X
C4L_DU series	—	X

Modules marked with an X require marked spacing:
– Center-to-center of adjacent luminaires: 24" (610mm)
– Luminaire center to side building member: 12" (305mm)

Maxium Ceiling Thickness

Lensed Wall Wash (LW): 1–1/2"
Wall Wash (WW, DW, CW): 2"

Lifetime (TM–21) data

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

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

C4RWW Calculite LED generation 3

4" round wall wash

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 for Lensed Wall Wash (LW) is 1-1/2" and for Open, Corner, Double Wall Wash (WW, CW, DW) is 2".

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.

Pre-installed mounting bars allow for fast and tool-less installation into T-grid and hat channel ceilings.

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.

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

Power over Ethernet

Powered via Philips PoE lighting controller: complies with FCC rules per Title 47 part 15 (Class A) for EMI / RFI (conducted & radiated). PoE lighting controller accessible from below ceiling.

Rated life: 60,0000 hrs at 70% lumen maintenance based on IES LM-80-08 and TM-21-11.

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 **CA4RFT** for use with flangeless plaster installations.

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

Vandal Proof: Use **C4RVPWH** for an IP65 rated vandal proof matte white accessory. Must be ordered with a flangeless trim. Not available with Lensed Wall Wash.

ENERGY STAR® exceptions

Dali configurations
90 CRI configurations
Champagne Bronze and Black finishes
347V and Emergency configurations
ELV & EldoLED SOLO dimming
Power over Ethernet driver

Labels and Listings

cULus listed for wet location (lensed wall washers)
CCEA (frames with *LC suffix)
IP65 rated with vandal proof accessory
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

C4RWW   Calculite LED generation 3

4" round wall wash

Adjustment factors

Finish	CCT	Lumens
CL = 100%	80CRI 4000K = 102%	3000lm = 200%
CC = 95%	80CRI 3500K = 100%	2500lm = 167%
CD = 87%	80CRI 3000K = 97%	2000lm = 133%
CZ = 63%	80CRI 2700K = 87%	1500lm = 100%
WH = 87%	90CRI 3000K = 77%	1000lm = 67%
BK = 57%	90CRI 2700K = 73%	500lm = 33%

Wall Wash, 1500lm Engine, 102.8 lm/W or 109.3 lm/W at 13.4W (Power over Ethernet)

Candela Curve

Room side | Wall side
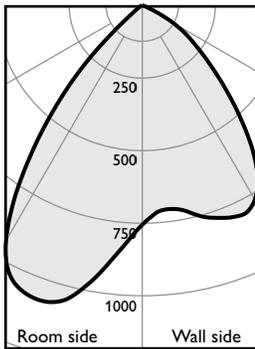
Frame: **C4RN**
Engine: **C4L15835WZ10U**
Trim: **C4RWWCL**

Output lumens: 1465 lms
Input watts: 14.3 W
CRI: 80 min
CCT[1]: 3500K

Efficacy: 102.8 lm/w
Report[2]: T20170304

Multiple unit data
Footcandles on wall

Distance from ceiling in feet	2' from wall / 3' on ctr.		
1	22	16	22
2	44	33	44
3	37	40	37
4	29	31	29
5	22	23	22
6	17	17	17
7	14	14	14
8	12	12	12
9	10	10	10
10	9	9	9
12	7	7	7
14	6	6	6

Multiple unit data
Footcandles on wall

Distance from ceiling in feet	3' from wall / 3' on ctr.		
1	9	9	9
2	19	18	19
3	27	26	27
4	27	28	27
5	24	24	24
6	20	21	20
7	17	17	17
8	15	14	15
9	12	12	12
10	11	11	11
12	9	9	9
14	8	8	8

Multiple unit data
Footcandles on wall

Distance from ceiling in feet	3' from wall / 4' on ctr.		
1	8	7	8
2	16	13	16
3	22	19	22
4	21	21	21
5	18	19	18
6	16	16	16
7	13	13	13
8	11	11	11
9	10	10	10
10	9	9	9
12	7	7	7
14	6	6	6

Lensed Wall Wash, 1500lm Engine, 71.1 lm/W or 75.5 lm/W at 13.4W (Power over Ethernet)

Candela Curve

Room side | Wall side
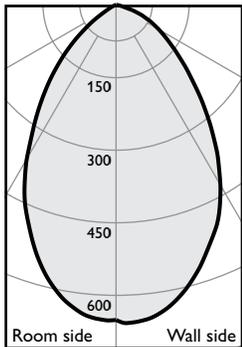
Frame: **C4RN**
Engine: **C4L15835WZ10U**
Trim: **C4RLWCL**

Output lumens: 1012 lms
Input watts: 14.2 W
CRI: 80 min
CCT[1]: 3500K

Efficacy: 71.1 lm/w
Report[2]: T20170310

Multiple unit data
Footcandles on wall

Distance from ceiling in feet	2' from wall / 3' on ctr.		
1	27	17	27
2	35	28	35
3	30	28	30
4	22	22	22
5	17	17	17
6	13	13	13
7	11	11	11
8	9	9	9
9	7	7	7
10	6	6	6
12	5	5	5
14	5	5	5

Multiple unit data
Footcandles on wall

Distance from ceiling in feet	3' from wall / 3' on ctr.		
1	10	9	10
2	19	18	19
3	22	21	22
4	21	21	21
5	18	18	18
6	15	15	15
7	13	13	13
8	11	11	11
9	9	9	9
10	8	8	8
12	7	6	7
14	6	6	6

Multiple unit data
Footcandles on wall

Distance from ceiling in feet	3' from wall / 4' on ctr.		
1	8	6	8
2	16	13	16
3	17	15	17
4	16	15	16
5	14	14	14
6	12	12	12
7	10	10	10
8	8	8	8
9	7	7	7
10	6	6	6
12	5	5	5
14	4	4	4

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.