



Features industry leading visual comfort, excellent uniform illumination over time, and patented installation flexibility. IntelliHue color changing capability combines the consistent quality of light from both Lightolier Calculite downlights with Color Kinetics, and provides millions of combinations of precise white and color to maximize potential of architectural appeal in application. Calculite plus Color Kinetics greatly expands product flexibility in addition to providing peace of mind with precision quality from a broad array of IntelliHue luminaires.

Project: \_\_\_\_\_

Location: \_\_\_\_\_

Cat.No: \_\_\_\_\_

Type: \_\_\_\_\_

Lamps: \_\_\_\_\_ Qty: \_\_\_\_\_

Notes: \_\_\_\_\_

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

#### Frame

example: 4RN

Series	Installation	Voltage / Options
4R 4" Non-IC Round	N New construction	— Universal 120V/277V
	R Remodeler	— Universal 120V/277V

#### Engine

example: C4L15CKMDMXU

Series	Lumens <sup>2</sup>	Color Kinetics	Beam	Dimming	Voltage
C4L					
C4L Calculite LED 4"	15 1500lm <sup>3</sup>	CK IntelliHue by Color Kinetics	M Medium (56°) W Wide (76°)	DMX Digital Multiplexing	U Universal 120V/277V

#### Trim

example: C4RDLCCP

Series	Aperture	Style	Finish	Flange
C4				
C4 Calculite LED 4"	R Round	DL Downlight WW Wall Wash <sup>1</sup>	BK Black (anodized) CL Specular clear	CC Comfort clear CD Comfort clear diffuse CZ Champagne bronze
			WH White (matte)	— White (matte) P Polished (matches aperture) F Flangeless (requires CA4RFT)

#### Accessories

CA4RFT	Mud-in ring for use in flangeless trim installations (ordered with a flangeless trim)
C4RVPWH	IP65 Rated vandal proof matte white accessory mounts onto flangeless trims (C4RDL*F) and new construction frame only

- Specify Wide (W) beam light engine only for Wall Wash trim option.
- Nominal Lumens at 25°C ambient temperature.
- Nominal output varies by color temperature/hue selected.

# C4RCK Calculite LED 4" gen 3

## Downlight & Wall Wash with IntelliHue

### Frame-in-kits

#### New Construction:

Galvanized stamped steel for dry or plaster ceilings. Pre-installed 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.**

#### Emergency:

For reflector mounted emergency test switch add "EM" to end of catalog code (example: C4RDLCCEM). Leave blank for ceiling mounted test switch. Reflector mounted test switch requires above ceiling access.

#### 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.

### Control

#### Interface:

Data Enabler Pro (DMX or Ethernet).

#### Control System:

Color Kinetics full range of controllers, including Light System Manager, Video System Manager Pro, iPlayer 3, Antumbra iColor Keypad, and ColorDial Pro.

#### Remote Monitoring & Management:

Philips Activesite ready, works with Interact Landmark.

### 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.
- Predicted 70% lumen maintenance to 78,000 hrs.
- Max operating ambient temperature 30°C.

### 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.

Time tested 3-step technology from Color Kinetics now exclusively available in Calculite downlights assures color consistency between luminaires in the space.

#### Optibin

A proprietary binning optimization process that exceeds industry standards for chromaticity leading to uniformity and consistency of hue and color temperature

#### Chromasync

An advanced algorithm that delivers improved color consistency between luminaires by adjusting color points. Factory adjustments translates to less time calibrating in the field and more time commissioning for desired lighting effect.

#### IntelliHue

Brings unparalleled consistency in CRI and quality of both white and color LED light to Calculite downlights. Color-control technology enables use of millions of colors and shades of white light with pinpoint precision.

### 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 flangeless trim and new construction frame.

### Labels and Listings

- cULus listed for wet locations

- IP65 rated with vandal proof accessory

### 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.

### Output

Beam Angle	Medium	Wide
Lumens @ 2700K	1464	1313
Lumens @ 4000K	1464	1337
Efficacy @ 2700K	64.5	59.7
Efficacy @ 4000K	67.4	61.3
CRI @ 2700K	85	85
CRI R9 @ 2700K	70	64
CRI @ 4000K	94	93
CRI R9 @ 4000K	53	54
LED Channels	Red-Orange, Green, Blue, Mint, Lime	

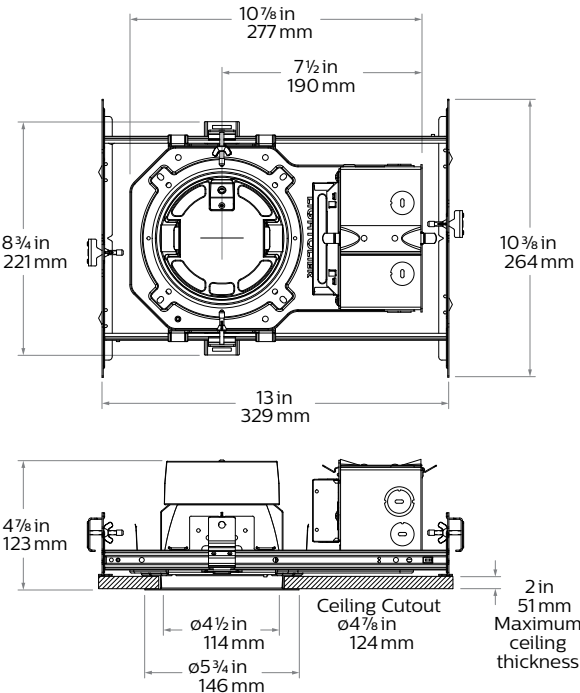
### Electrical

Input Voltage	100 to 277 VAC, auto-ranging, 50/60Hz
Power Consumption	24W
Input Current	120V @ 0.205A
	277V @ 0.087A
Power Factor	>0.9 @ 100 to 240 VAC
LED Channels	>0.85 @ 277 VAC

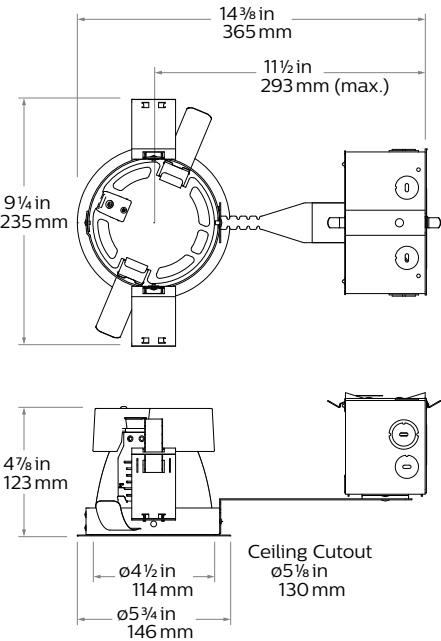
# C4RCK    Calculite LED 4" gen 3

Downlight & Wall Wash with IntelliHue

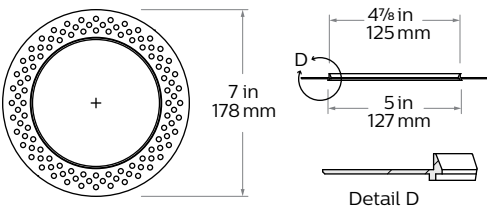
## New Construction (N)



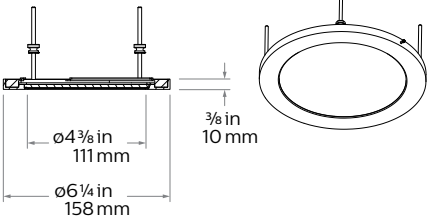
## Remodeler (R)



## Flangeless mud-in ring (CA4RFT) accessory



## Vandal Proof (VP) accessory



# C4RCK Calculite LED 4" gen 3

## Downlight & Wall Wash with IntelliHue

### Reflector



**Specular clear (CL):** Most specular and most efficient finish, delivers maximum photometric performance but can produce a mirror image effect of the interior space.



**Champagne bronze (CZ):** Semi-specular finish that softens light at the source of the reflector while providing a warmer reflector appearance (slightly warmer).



**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.



**Black (BK):** (matte) Specular finish that provides the lowest aperture brightness possible and significantly reduces source identification in a ceiling.



**Vandal proof (VP):** Provides an elegant solution for vandal resistant needs. One piece machined aluminum ring with impact resistant clear lens. Flangeless (F) flange must be ordered. Provides the luminaire with an IK10 impact and IP65 rating.

### Flange



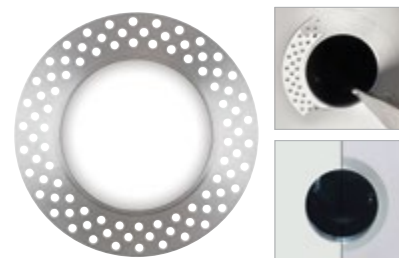
**White (-):** (matte) Provides the smoothest transition to ceilings when off.



**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.



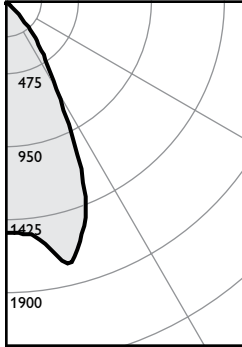
**Mud-in ring (FT):** Low profile, machined aluminum mud-in ring provides a raised rib to plaster up to and a 3/16" flange thickness. The ring is attached to the ceiling material as opposed to the frame-in kit to avoid conduction of heat and vibration which can cause yellowing or cracking of the plaster.

# C4RCK Calculite LED 4" gen 3

## Downlight & Wall Wash with IntelliHue

### Downlight, Medium beam, 1500lm Engine, 65.9 lm/W at 21.6W

#### Candela Curve



Frame: 4RN  
Engine: C4L15CKMDMXU  
Trim: C4RDLCL

Output lumens: 1423 lms  
Input watts<sup>1</sup>: 21.6 W  
CRI: 90 min  
CCT<sup>2</sup>: 3500K  
Spacing Crit.: 0.96

#### Zonal summary

Zone	Lumens	%Luminaire
0-30	1078	75.8%
0-40	1332	93.6%
0-60	1419	99.7%
0-90	1423	100.0%

Angle	Mean CP	Lumens
0	1511	
5	1521	
10	1643	149
15	1720	
20	1500	457
25	1097	
30	659	471
35	417	
40	266	255
45	110	
50	10	84
55	3	
60	2	3
65	1	
70	1	1
75	0	
80	0	0
85	0	
90	0	

#### Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	60	4.8'
6'	42	5.8'
7'	31	6.7'
8'	24	7.7'
9'	19	8.6'

\* 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'	65.0	0.96
6'	43.0	0.63
7'	31.0	0.45
8'	26.0	0.37
9'	20.0	0.30

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

Efficacy: 65.9 lm/w  
Report<sup>3</sup>: STMR-95-I

#### Adjustment factors

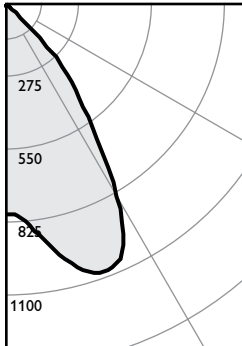
Finish	CCT
CL = 100%	2700K = 103%
CC = 95%	3000K = 101%
CD = 87%	3500K = 100%
CZ = 63%	4000K = 103%
WH = 87%	5000K = 96%
BK = 57%	6500K = 88%

#### Coefficients of utilization

Ceiling	80%				70%				50%				30%				0%
Wall	70	50	30	10	50	10	50	10	50	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	106	106	100	94	
1	114	111	109	106	109	105	105	101	101	98	98	94	98	98	94	88	
2	108	104	100	96	102	95	99	93	96	91	88	82	96	91	88	82	
3	103	97	92	88	96	88	93	86	90	85	82	77	90	85	82	77	
4	98	91	86	81	90	81	88	80	86	79	77	72	86	79	77	72	
5	93	85	80	76	84	75	83	75	81	74	72	67	81	74	72	67	
6	89	80	75	70	79	70	78	70	77	69	67	63	77	69	67	63	
7	85	76	70	66	75	66	74	65	73	65	63	59	73	65	63	59	
8	81	71	66	62	71	62	70	61	69	61	59	56	69	61	59	56	
9	77	68	62	58	67	58	66	58	65	58	56	53	65	58	56	53	
10	74	64	58	55	64	55	63	54	62	54	53	50	62	54	53	50	

### Downlight, Wide beam, 1500lm Engine, 59.8 lm/W at 21.7W

#### Candela Curve



Frame: 4RN  
Engine: C4L15CKWDMXU  
Trim: C4RDLCL

Output lumens: 1298 lms  
Input watts<sup>1</sup>: 21.7 W  
CRI: 90 min  
CCT<sup>2</sup>: 3500K  
Spacing Crit.: 1.3

#### Zonal summary

Zone	Lumens	%Luminaire
0-30	365	28.1%
0-40	1163	89.6%
0-60	1294	99.7%
0-90	1298	100.0%

Angle	Mean CP	Lumens
0	792	
5	824	
10	923	81
15	1028	
20	1077	285
25	1035	
30	835	449
35	566	
40	381	349
45	173	
50	16	127
55	3	
60	2	4
65	1	
70	1	1
75	0	
80	0	0
85	0	
90	0	

#### Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	32	6.5'
6'	22	7.8'
7'	16	9.1'
8'	12	10.4'
9'	10	11.7'

\* 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'	59.0	0.96
6'	39.0	0.63
7'	28.0	0.45
8'	23.0	0.38
9'	18.0	0.30

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

Efficacy: 59.8 lm/w  
Report<sup>3</sup>: STMR-95-I

#### Adjustment factors

Finish	CCT
CL = 100%	2700K = 103%
CC = 95%	3000K = 101%
CD = 87%	3500K = 100%
CZ = 63%	4000K = 103%
WH = 87%	5000K = 96%
BK = 57%	6500K = 88%

#### Coefficients of utilization

Ceiling	80%				70%				50%				30%				0%
Wall	70	50	30	10	50	10	50	10	50	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	106	106	100	94	
1	113	110	108	105	111	106	104	100	100	97	97	93	100	97	93	88	
2	107	102	98	94	105	96	97	91	94	89	85	82	94	89	85	82	
3	101	94	89	85	99	88	90	83	88	82	79	77	88	82	79	77	
4	96	88	82	77	94	81	84	76	82	75	72	67	82	75	72	67	
5	90	81	75	71	89	75	78	70	77	69	67	63	77	69	67	63	
6	85	76	69	65	84	69	73	64	72	63	61	57	72	63	61	57	
7	80	70	64	60	79	64	68	59	67	59	57	53	67	59	57	53	
8	76	66	59	55	75	59	64	55	63	54	53	49	63	54	53	49	
9	72	62	55	51	71	55	60	51	59	50	49	45	59	50	49	45	
10	68	58	51	47	67	51	56	47	56	47	45	42	56	47	45	42	

1. Wattage controlled to within 65%.

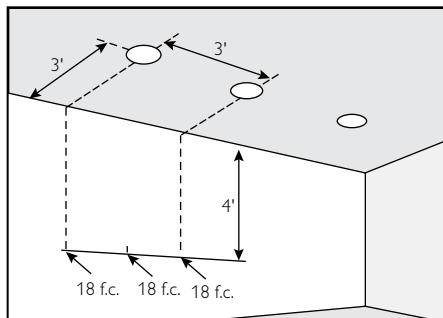
2. Correlated Color Temperature within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

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

# C4RCK Calculite LED 4" gen 3

## Downlight & Wall Wash with IntelliHue

### Spacing

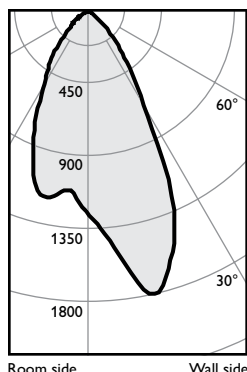


#### Adjustment factors

Finish	CCT
CL = 100%	2700K = 103%
CC = 95%	3000K = 101%
CD = 87%	3500K = 100%
CZ = 63%	4000K = 103%
WH = 87%	5000K = 96%
BK = 57%	6500K = 88%

### Wall wash, 1500lm Engine, 68.0 lm/W at 21.3W

#### Candela Curve



Frame: **4RN**  
Engine: **C4L15CKWDMXU**  
Trim: **C4RWWCL**

Output lumens: 1447 lms  
Input watts: 21.3 W  
CRI: 90 min  
CCT<sup>1</sup>: 3500K

Efficacy: **68.0 lm/w**  
Report<sup>2</sup>: STMR-95-1

#### Multiple unit data

##### Footcandles on wall

	2' from wall			
	3' on ctr.			
Distance from ceiling in feet	1	2	10	12
2	24	21	24	24
3	27	26	27	27
4	25	25	25	25
5	21	21	21	21
6	17	18	17	17
7	14	15	14	14
8	11	12	12	12
9	10	10	10	10
10	8	8	8	8
12	7	7	7	7
14	6	6	6	6

#### Multiple unit data

##### Footcandles on wall

	3' from wall			
	3' on ctr.			
Distance from ceiling in feet	1	5	5	5
2	11	11	11	11
3	16	16	16	16
4	18	18	18	18
5	18	18	18	18
6	16	17	16	16
7	14	15	14	14
8	13	13	13	13
9	11	11	11	11
10	10	10	10	10
12	8	9	8	8
14	7	7	7	7

#### Multiple unit data

##### Footcandles on wall

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

1. Wattage controlled to within 65%.
2. Correlated Color Temperature within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
3. 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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