# LIGHTOLIER

by (s)ignify

# **Downlighting**

Calculite LED 6" gen 3

**C6RDL** Round Downlight



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

Cat.No:
Type:
Lamps: Oty:

Project:

Notes:

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

Frame example: 6RNIP

Series	Installation	Voltage/Options	
6R			
<b>6R</b> 6" Non-IC Round	N New construction	Universal 120 V/277V (specify for Power Over Ethernet)     EM Emergency (see page 2 for details and limitations) <sup>1</sup> Interact Pro ready (for 0-10V engine only)	<ul> <li>LC Chicago Plenum</li> <li>3 347 V (not compatible with ELV dimming)<sup>2</sup></li> <li>3IP 347V with Interact Pro (for 0-10V engine only)</li> </ul>
	<b>R</b> Remodeler	<ul> <li>Universal 120 V/277V (specify for Power Over Ethernet)</li> <li>IP Interact Pro ready (for 0-10V engine only)</li> </ul>	<b>3</b> 347 V (not compatible with ELV dimming)

Engine example: C6L15835NZ10U

Series	Lumens	CRI	ССТ	Beam	Dimming	Voltage
C6L						
<b>C6L</b> Calculite LED 6"	10 1000 lm 15 1500 lm 20 2000 lm 25 2500 lm 30 3000 lm	8 80 CRI 9 90 CRI	27 2700 K 30 3000 K 35 3500 K 40 4000 K	N Narrow (40°) M Medium (56°) W Wide (76°)	Z10 0-10 V 1% SOL EldoLED Solo 0-10 V 0.1% D Dali 0.1% L Lutron LDE1 EcoSystem (fade	U Universal 120 V/277 V/347 V e-to-black)
	<b>35</b> 3500 lm <b>48</b> 4800 lm (Z10 only) <b>60</b> 6000 lm (Z10 only)				E ELV (for up to 2000lm only)  P Power over Ethernet (PoE)	1 120 V E Ethernet 48 V DC
					Only compatible with 1000 (10) to 2500	) (25) lumen configurations.

Trim example: CGRDLCCP

Series	Aperture	Style	Finish	Flange
<b>C6</b>	R	DL		
C6 Calculite LED 6"	R Round	<b>DL</b> Downlight	BK Black (annodized) CC Comfort clear CD Comfort clear diffuse CZ Champagne bronze	<ul><li>White (matte)</li><li>P Polished (matches aperture)</li><li>F Flangeless (requires CA6RFT)</li></ul>
			WH White (matte)	<ul><li>White (matte)</li><li>F Flangeless (requires CA6RFT)</li></ul>
		SL Shower light (non-conductive) <sup>3</sup>	WH White (matte)	- Not applicable

## **Accessories**

**CA6RFT** Mud-in ring for use in flangeless trim installations (ordered with a flangeless trim)

CAEM Field instalable EM pack (for use with new construction frame only)

**CGRVPWH** IP65 Rated vandal proof matte white accessory mounts onto flangeless trims (C4RDL\*F) and new construction frame only

AMS ActiLume multi-sensor (optional accessory for PoE configurations)

**SWZDT** SpaceWise wireless controller with dwell time functionality (compatible with all 0-10V options, see SWZDT spec sheet)

**SRAINT** InterAct Office Accessory (for use with Lightolier UniFrame 0-10V products)

- 1. Emergency (EM) frame includes emergency battery with ceiling and reflector mountable test switch (see page 2 for details and limitations).
- 2. The 347V frame is not compatible with lumen packages above 2000lm for lensed wall wash trims.
- 3. Non-conductive flush mount lens with pre-installed gasket (matte white non-conductive flange with diffuse lens that is flush with the flange)









# Round 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 2.75" (70 mm) including PoE frame 4.88" (124 mm) plenum depth for installation.

#### **Emergency:**

For reflector mounted emergency test switch add "EM" to emd of catalog code (example: C6RDLCCEM). 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 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.

#### **Dimming**

- 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
- EldoLED DMX POWERdrive

## **Power over Ethernet**

Powered via Lightolier 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.

# **Optical systems**

### Comfort throughout the space:

True 50° physical cutoff and 45° reflected cutoff

#### Ouality of light:

2 SDCM ensures color consistency from fixture to fixture and over the luminaire's long lifetime.

## **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.

## **Wired Controls Options**

## Interact Office Wired (PoE):

- PoE based IoT connected lighting solution for large enterprises that span across multiple floors, buildings and require multiple gateways.
- Use Interact Office software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- Supports advanced IoT Apps on Personal Control, Space Management, wayfinding, room/ desk reservation and offers open APIs for light control and data exchange.
- · PoE lighting controller is accessible from below.
- Integral sensor option for occupancy sensing (PIR) and/or daylight harvesting available for additional energy savings.
- Optional integral emergency controller and battery pack provides 600lm nominal output.
- Test switch and indicator light mounted on side of chassis on one end.
- Emergency battery has a 3 month pre-installed shelf life, and must be stored and installed in environments of 20C to 30C (-4F to 86F) ambient, and 45-85% relative humidity.
- For more information on Interact Office Wired, visit: www.interact-lighting.com/office or www.usa.lighting.philips.com/systems/ systemareas/offices.

#### Interact Office Wired (PoE), Static White and Tunable White:

- 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 Zigbee Green Power wall dimmer and wireless Occupancy or Daylight & Occupancy sensors available.
- Use Interact Office software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- Supports advanced IoT Apps on wayfinding, room/desk reservation and offers open APIs
- Requires compatible Interact Office Gateway and internet connectivity for commissioning.
- For more information on Interact Office Wireless, visit: www.interact-lighting.com/ office or www.usa.lighting.philips.com/systems/ systemareas/offices.

# Interact Pro (IAP)

- Interact Pro brings the power of connected lighting to small and medium businesses without the complexity usually associated with connected lighting.
- Interact Pro includes an app, a portal and a broad portfolio of wireless Luminaires, lamps and retrofit kits all working on the same system.
- Commissioning via Interact Pro App (Android or iPhone).
- Prepare commissioning remotely via Interact Pro portal.
- Requires compatible Interact Pro Gateway and internet connectivity for commissioning.
- Compatible with UID8451/10 ZigBee Greenpower wireless dimmer switch.
- Compatible with wireless Occ sensor (OCC SENSOR IA CM IP42 WH 10/1) or wireless Day/ Occ sensor (OCC MULTI SENSOR IA CM WH 10/1).
- For more information on Interact Pro visit: www.interact-lighting.com/pro.
- For more information on Interact Ready visit: www.philips.com/interact-ready.

## **Options and Accessories**

**Flangeless mud-in ring:** Use **CA6RFT** for use with flangless plaster installations.

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

Vandal Proof: Use C6RVPWH for an IP65 rated vandal proof matte white accessory. Must be ordered with flangeless trim and new construction frame.

# **ENERGY STAR®** exceptions

- 90 CRI configurations
- Champagne Bronze & Black finishes
- 347V & Emergency voltage/options
- Dali, EldoLED Solo & PoE drivers

# Title 24 exceptions

- 1000lm configurations
- Champagne Bronze & Black finishes

# **Labels and Listings**

- cULus listed for wet locations
- ENERGY STAR® certified
- RoHS certified
- CEC Title 24 JA8 certified
- CCEA (frames with \*LC suffix)
- IP65 rated with vandal proof accessory

### Warranty



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

# Round Downlight

### **Narrow**

	Input	Input	Input	Drive	Input	LED	THD	Power
Light engine	volts	freq	current	current	power	power	power	factor
C6L10_NZ10U	120V	50/60Hz	0.08	230 mA	9W	8W	<15%	>0.95
COLIO_NZIOO	277V	30/00HZ	0.04	ZSUIIIA	900	OVV	<20%	>0.95
CELSE NZSOU	120V	50/60Hz	0.11	240 4	15W	11\A/	<10%	>0.95
C6L15_NZ10U	277V	30/60HZ	0.05	340 mA	IDW	11W	<15%	>0.95
CG1 20 N71011	120V	50/60Hz	0.16	460 mA	22W 16W	16\M	<10%	>0.95
C6L20_NZ10U	277V		0.08			10 00	<15%	>0.95
C6L25_NZ10U	120V	50/60Hz	0.20	590 mA	25W	N 21W	<10%	>0.95
	277V		0.10		2300		<15%	>0.95
	120V	50/60Hz	0.30	900 mA	36W 30	2011	<10%	>0.95
C6L35_NZ10U	277V	30/60HZ	0.14			3000	<15%	>0.95
CCI 40 N710II	120V	E0/60U=	0.42	1250 00 1	E1\A/	4.4\\	<10%	>0.95
C6L48_NZ10U	277V	50/60Hz	0.19	1250 mA	51W	44W	<15%	>0.95
CELED N71011	120V	F0/60U=	0.48	1400 4	571A/	5014	<10%	>0.95
C6L60_NZ10U	277V	50/60Hz	0.21	1400 mA	57W	50W	<15%	>0.95

# Medium/Wide

Light engine	Input volts	Input freq	Input current	Drive current	Input power	LED power	THD power	Power factor
CEL10 M710H	120V	FO/6011=	0.08	210 m A	9W	014/	<15%	>0.95
C6L10_MZ10U	277V	50/60Hz	0.04	210 mA	900	8W	<20%	>0.95
CELIE MITION	120V	FO/6011=	0.11	220 4	15/4/	11\A/	<10%	>0.95
C6L15_MZ10U	277V	50/60Hz	0.05	320 mA	15W	11W	<15%	>0.95
C6L20_MZ10U	120V	50/60Hz	0.15	430 mA	19W	15W	<10%	>0.95
	277V		0.07				<15%	>0.95
C6L25_MZ10U	120V	50/60Hz	0.19	550 mA	23W	19W	<10%	>0.95
	277V		0.09				<15%	>0.95
CCL DE M710U	120V	FO/6011=	0.25	570 A	30W	25W	<10%	>0.95
C6L35_MZ10U	277V	50/60Hz	0.11	570 mA			<15%	>0.95
CCI 40 M710II	120V	FO/6011=	0.36	010 4	40\\	2 4147	<10%	>0.95
C6L48_MZ10U	277V	50/60Hz	0.16	810 mA	40W	34W	<15%	>0.95
CC1 CO 1471011	120V	FO/6011=	0.50	1120 1	5711	5014	<10%	>0.95
C6L60_MZ10U	277V	50/60Hz	0.22	1130 mA	57W	50W	<15%	>0.95

# Narrow (Power over Ethernet)

	Input					
Light engine	Volts1	Voltage <sup>2</sup>	Freq	Current	Power	
C6L10NPE	53V	51-54V	DC	160 mA	8.9 W	
C6L15NPE	53V	51-54V	DC	250 mA	13.7 W	
C6L20NPE	53V	51-54V	DC	330 mA	17.7 W	
C6L25NPE	53V	51-54V	DC	420 mA	22.8 W	

# **Medium** (Power over Ethernet)

	Input					
Light engine	Volts1	Voltage <sup>2</sup>	Freq	Current	Power	
C6L10MPE	53V	51-54V	DC	160 mA	8.4 W	
C6L15MPE	53V	51-54V	DC	230 mA	12.5 W	
C6L20MPE	53V	51-54V	DC	310 mA	16.7 W	
C6L25MPE	53V	51-54V	DC	390 mA	21.4 W	

# Wide (Power over Ethernet)

	Input					
Light engine	Volts1	Voltage <sup>2</sup>	Freq	Current	Power	
C6L10WPE	53V	51-54V	DC	160 mA	8.4 W	
C6L15WPE	53V	51-54V	DC	230 mA	12.5 W	
C6L20WPE	53V	51-54V	DC	310 mA	16.7 W	
C6L25 WPE	53V	51-54V	DC	390 mA	21.4 W	

# Marked spacing applications

Light engine	4800lm	6000lm
C6L_Z10U series	Х	Х
C6L_LU series	_	_
C6L_DU series	_	_

Modules marked with an X require marked spacing:

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

# Lifetime (TM-21) data

Lumens	Narrow beam	Medium/Wide beam*
1000lm 1500lm 2000lm 2500lm 3500lm* 4800lm	L90 @ 60,000hrs.	L90 @ 60,000hrs.
6000lm	L90 @ 60,000hrs.	L80 @ 60,000hrs.

<sup>\*</sup> Lutron 3500lm with Medium/Wide beam is L85 @ 60,000hrs.

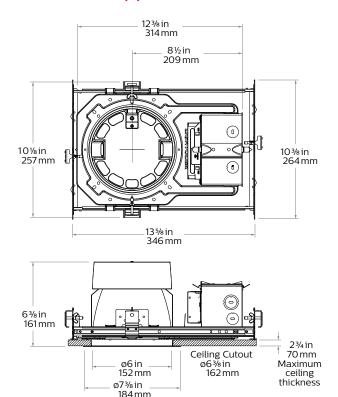
Nominal input volts.
 Preferred volt range.

<sup>-</sup> Center-to-center of adjacent luminaires: 24" (610mm)

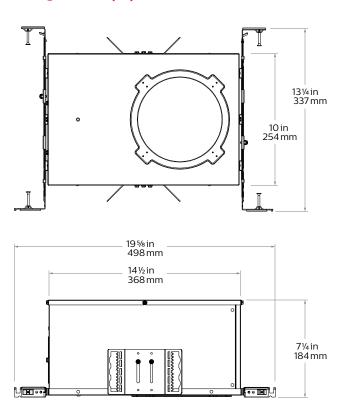
<sup>-</sup> Luminaire center to side building member: 12" (305mm)

# Round Downlight

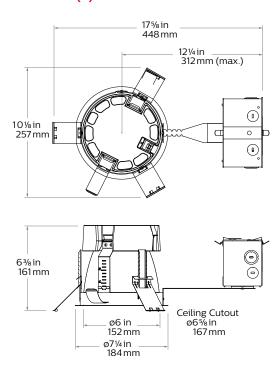
# **New Construction (N)**



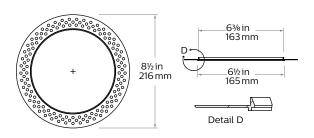
# Chicago Plenum (LC)



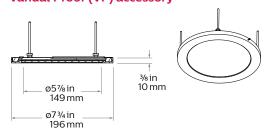
# Remodeler (R)



# Flangeless mud-in ring (CA6RFT) accessory



# Vandal Proof (VP) accessory



# Round Downlight

### 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).



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 (CC): Semi-specular finish that

softens the light at the source of the reflector

and creates a subtle, even luminance from

the reflector cone.

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.



Shower light (SL): Wet location rated shower light applicable in any installation requiring dead front trims, interior or exterior non-corrosive applications, or where a diffused lens at the ceiling is required (non-conductive).

# **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.





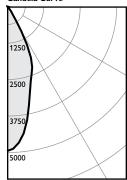


Mud-in ring (FT): Low profile, machined aluminum mud-in ring provides a raised rib to plaster up to and a 3/16" flange thickness. The ring is attached to the ceiling material as opposed to the frame-in kit to avoid conduction of heat and vibration which can cause yellowing or cracking of the plaster.

# Round Downlight

# Narrow beam, 2500lm Engine, 103.0 lm/W or 108.0 lm/W at 22.8W (Power over Ethernet)

### Candela Curve



#### Frame: C6RN or 6RN Engine: C6L25835NZ10U Trim: C6RDLCL

Output lumens: 2462 lms Input watts: 23.9 W CRI: 80 min CCT¹: 3500K Spacing Crit.: 0.6 Beam Angle: 40°

### Zonal summary

Zone	Lumens	%Luminaire
0-30	2113	85.8%
0-40	2383	96.8%
0-60	2459	99.9%
0-90	2462	100.0%

Angle | Mean CP | Lumens

0 5 10	4938 4667 3948	423
15	3027	856
20 25	2456 1936	834
30 35	977 352	270
40 45	205 87	72
50 55	13 4	4
60 65	3 2	2
70 75	1 1	1
80 85	0 1	0
90	0	

# Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	198	3.0'
6'	137	3.6'
7'	101	4.2'
8'	77	4.8'
9'	61	5.4'

\* Beam diameter is where foot-candles drop to 50% of maximum.

#### Multiple unit data - RCR 2

pacing center	Initial center beam foot-candles	Watts per sq. ft.
5'	114.3	1.06
6'	75.0	0.70
7'	53.6	0.50
8'	44.7	0.41
9'	35.7	0.33

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

Efficacy: 103.0 lm/w Report<sup>2</sup>: F37145

#### **Adjustment factors**

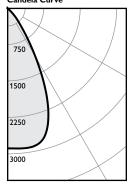
Finish	CCT	Lumens
CL = 100% CC = 95% CD = 87% CZ = 63% WH = 87% BK = 57%	80CRI 4000K = 103% 80CRI 3500K = 100% 80CRI 3000K = 95% 80CRI 2700K = 93% 90CRI 3000K = 83% 90CRI 2700K = 78%	6000lm = 202% 4800lm = 192% 3500lm = 140% 2500lm = 100% 2000lm = 80% 1500lm = 60% 1000lm = 40%

#### **Coefficients of utilization**

Ceiling		80	)%		70	)%	50	)%	30	)%	0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zo	nal ca	avity r	netho	d - Ef	fectiv	e floc	r refle	ectan	ce = 20	Э%
Room Cavity Ratio 0 6 8 2 9 5 7 8 5 1 0	119 114 109 105 100 96 92 88 85 81 78	119 112 105 99 94 89 84 80 76 73 70	119 109 101 95 89 84 79 75 71 68 65	119 107 98 91 85 80 75 71 67 64 61	116 110 103 98 93 88 83 79 76 72 69	116 106 97 90 85 79 75 71 67 64 61	111 105 100 95 90 86 82 78 75 72 68	111 102 95 89 84 79 74 71 67 64 61	106 102 97 93 88 84 81 77 74 71 68	106 99 93 88 83 78 74 70 67 64 61	100 95 90 85 80 76 72 69 65 62 59

# Medium beam, 2500lm Engine, 115.2 lm/W or 114.7 lm/W at 21.4W (Power over Ethernet)

# Candela Curve



#### Frame: **C6RN or 6RN** Engine: **C6L25835MZ10U** Trim: **C6RDLCL**

Output lumens:	2454 lms
Input watts:	21.3 W
CRI:	80 min
CCT1:	3500K
Spacing Crit.:	0.8
Ream Angle:	55°

#### Zonal summary

Zone	Lumens	%Lummaire
0-30	1896	77.2%
0-40	2319	94.5%
0-60	2450	99.8%
0-90	2454	100.0%

Mean CP Lumens

0	2886	
5	2900	277
10	2903	
15	2809	777
20	2472	
25	1880	842
30	1178	
35	644	423
40	347	
45	153	124
50	23	
55	6	8
60	4	
65	3	3
70	2	
75	1	1
80	1	
85	1	0
90	0	1

## Single unit data

Initial center beam foot-candles	Beam diameter (ft)*
115	4.0'
80	4.8'
59	5.6'
45	6.4'
36	7.2'
	foot-candles 115 80 59 45

\* 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' 6'	112.7 74.0	0.94 0.62
7'	52.8	0.44
8'	44.0	0.37
9'	35.2	0.30

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

Efficacy: 115.2 lm/w Report<sup>2</sup>: F37135

#### Adjustment factors

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

### Coefficients of utilization

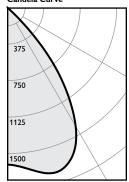
Ceiling		80	)%		70	)%	50	)%	30	)%	0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zc	Zonal cavity method - Effective floor reflectance = 20%						O%			
Room Cavity Ratio 0 6 8 2 9 5 7 8 6 7 1 0	119 114 108 103 98 94 89 85 81 77	119 111 104 97 91 86 81 76 72 68 65	119 109 100 92 86 80 75 70 66 63 59	119 107 97 89 82 76 71 66 62 59	116 109 102 96 90 85 80 76 71 68 64	116 105 96 88 81 76 71 66 62 59	111 105 99 93 88 83 78 74 70 67 63	111 102 94 87 80 75 70 66 62 58	106 101 96 91 86 81 77 73 69 66 63	106 99 92 85 79 74 70 66 62 58	100 94 88 82 77 72 68 64 60 57

- 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.

# Round Downlight

# Wide beam, 2500lm Engine, 108.3 lm/W or 107.8 lm/W at 21.4W (Power over Ethernet)

#### Candala Cur



Frame: C6RN or 6RN
Engine: C6L25835WZ10U
Trim: C6RDLCL

Output lumens: 2307 lms Input watts: 21.3 W CRI: 80 min CCT<sup>1</sup>: 3500K Spacing Crit.: 1.1 Beam Angle: 72°

### Zonal summary

Zone	Lumens	%Luminaire
0-30	1394	60.4%
0-40	2059	89.2%
0-60	2302	99.8%
0-90	2307	100.0%

Angle Mean CP Lumens

0 5 10	1612 1641 1705	159
15	1760	495
20 25	1740 1629	740
30 35	1408 1083	665
40 45	700 270	232
50 55	39 9	12
60 65	5 3	3
70 75	2 1	1
80 85	1 1	1
00	l ∧	

## Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*			
5'	64	5.5'			
6'	45	6.6'			
7'	33	7.7'			
8'	25	8.8'			
9'	20	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'	104.1	0.94			
6'	68.3	0.62			
7'	48.8	0.44			
8'	40.7	0.37			
9'	32.5	0.30			

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

Efficacy: 108.3 lm/w Report<sup>2</sup>: F37140

### **Adjustment factors**

Finish	CCT	Lumens			
CL = 100% CC = 95% CD = 87% CZ = 63% WH = 87% BK = 57%	80CRI 4000K = 102% 80CRI 3500K = 100% 80CRI 3000K = 97% 80CRI 2700K = 87% 90CRI 3000K = 77% 90CRI 2700K = 73%	6000lm = 240% 4800lm = 192% 3500lm = 140% 2500lm = 100% 2000lm = 80% 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%							Э%			
Room Cavity Ratio 0 6 8 2 9 5 7 8 5 10 0 1 5 2 9 5 7 8 10	119 113 107 101 95 90 85 80 76 72 68	119 110 102 94 87 81 75 70 66 61 57	119 108 98 89 81 75 69 64 59 55		116 108 100 93 86 80 75 70 65 61	116 104 93 84 76 70 64 59 55 51 47	111 104 97 90 84 78 73 68 64 60 56	111 100 91 83 76 69 64 59 54 50 47	106 100 94 88 82 77 72 67 63 59 55	106 97 89 81 75 69 63 58 54 50 47	100 93 85 79 72 66 61 57 52 49 45

<sup>1.</sup> 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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<sup>2.</sup> Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.