

PHILIPS LIGHTOLIER

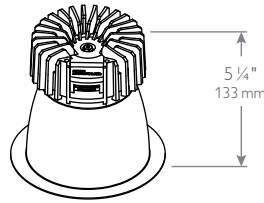


Downlighting

Calculite LED 4" Downlight

Round aperture, Wide beam
500/1000/1500/2250lm

Total height of
Light engine
+
Reflector



Calculite LED 4" features an LED array of high brightness white light LEDs. The new LED boards in Calculite LED ensure a less than 2-step SDCM color variation between luminaires.

Complete product = Frame-in kit + Trim kit
Lumen package for the frame-in kit must match the trim kit.

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

Frame-in kit

example: C4L05NUVBZ10V

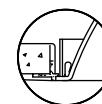
Series	Lumens	Installation	Input voltage	Version	Dimming	Options ⁵
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VB	<input type="checkbox"/>	<input type="checkbox"/>
C4L Calculite 4" LED round aperture	05 500lm	N New construction	U Universal (120/277V)	VB Version B	Z10V 0-10V dimming LD Lutron driver	EM Emergency ¹ LC Chicago Plenum ³
	10 1000lm	R Remodeler				
C4L Calculite 4" LED round aperture (347v configurations)	15 1500lm	N New construction	1 120V 2 277V	VB Version B	Z10V 0-10V dimming LD Lutron driver ⁵	EM Emergency ¹ LC Chicago Plenum ³
	20 2250lm	R Remodeler ⁶				
C4L Calculite 4" LED round aperture (347v configurations)	05 500lm	N New construction	1 120V	VB Version B	Z10V 0-10V dimming	- 347 347V (for Canada) ²
	10 1000lm	R Remodeler				
C4L Calculite 4" LED round aperture (347v configurations)	15 1500lm	N New construction	2 227V	VB Version B	Z10V 0-10V dimming	- 347 347V (for Canada) ²
	20 2250lm	R Remodeler				
CUL Calculite LED Universal aperture	05 500lm	J J-box mount retrofit	U Universal (120/277V)	VB Version B	Z10V 0-10V dimming Existing wiring will determine if dimming is an option.	
	10 1000lm	R Remodeler				
CUL Calculite LED Universal aperture	05 500lm	S Screw-in base retrofit	1 120V	VB Version B	Z10V 0-10V dimming Existing wiring will determine if dimming is an option.	
	10 1000lm	R Remodeler				

Trim kit

example: C4L10DL35KCCDPVB

Series	Lumens	Style	CCT	Reflector	Flange	Version ¹
C4L	<input type="checkbox"/>	DL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VB
C4L Calculite 4" LED round aperture	05 500lm	DL Downlight	27K 2700K	CL Clear CCL Comfort clear CCD Comfort clear diffuse CCZ Champagne bronze WH White (painted)	W White (painted) P Polished (matches aperture) FT Flangeless (flush-mount) ^{4,5}	VB Version B
	10 1000/1500/2250lm		30K 3000K 35K 3500K 40K 4000K			

- Consult LED-EM spec sheet for Emergency (**EM**) option details and restrictions.
Not available with Lutron driver (**LD**) dimming.
 - Consult factory for availability of other 347V (-**347**) option configurations.
 - Consult factory for availability for other Chicago Plenum (**LC**) option configurations.
 - Accessory **CA4FMR** required for gypsum applications and flangeless (**FT**) trims (minimal 1/4" reflector flange).
 - Available for new construction (**N**) installation frame-in kits only (leave blank for none).
 - Remodeler only available with 0-10V dimming (**Z10V**) not available with Emergency (**EM**) or Chicago Plenum (**LC**).
- Note: See page 3 for Energy Star[®] compatibility.



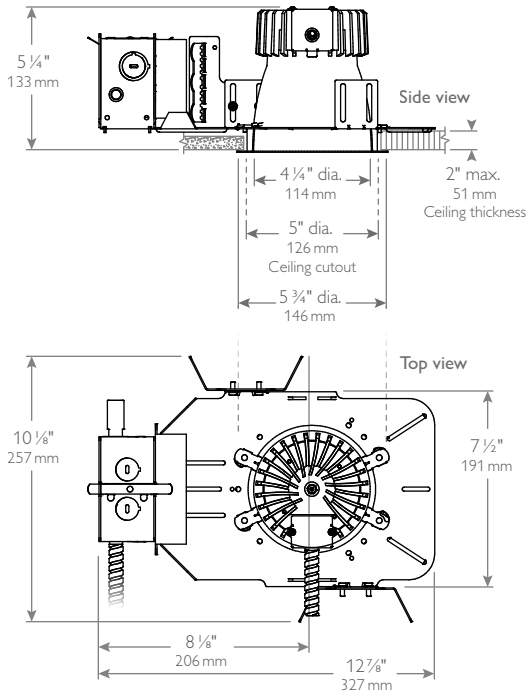
CA4FMR
Flangeless trim with plaster ring accessory.
(Required for gypsum installations)



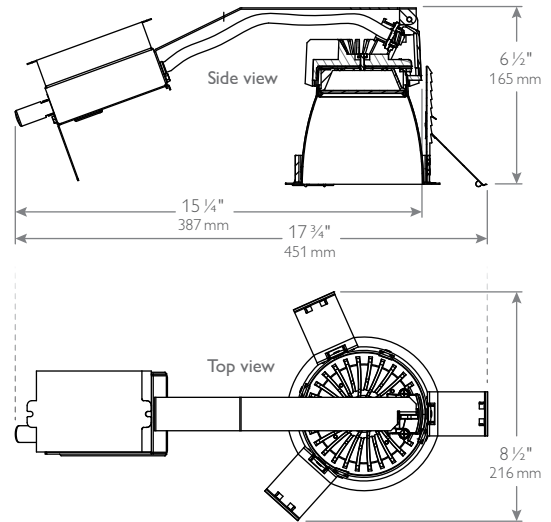
C4L-DL-VB Calculite LED

4" Round Aperture, Downlight, Wide Beam 500/1000/1500/2250lm

New Construction



Remodeler



Frame-in kits

New construction

Mounting frame: Galvanized stamped steel for dry or plaster ceilings.

Vertical adjustment: Light engine adjusts in frame below ceilings up to 2" max.

Mounting brackets: Galvanized Steel.

Adjustable through aperture. Use 3/4" or 1 1/2" lathing channel, 1/2" EMT or optional mounting bars (see Options and Accessories for optional mounting bars).

Remodeler

Compatibility: Flanged downlight only.
Power pack: Swivel junction box for tight plenum spaces. Snap-off covers permits wiring from top.

Spring holder: Galvanized steel. Accepts up to 2 1/2" (64mm) ceiling thickness.

Retrofit

Compatibility: Downlight only.

Capability: Converts 4 1/2" (115mm) or 6" (153mm) Lightolier incandescent frame-in kit without additional wiring using existing Calculite E26 base.

Socket cup support: Spun steel.

Holds Calculite incandescent socket cup.

Socket extender: Phenolic E26 base.

Connect to existing lamp holder.

Quick-ship

Philips is committed to providing customers with the products they need when they need them. For Service Smart (2 day) and Spec Smart (2 week) availability please reference the Philips Luminaire Smart Service Guide or contact your Philips Lighting representative. Quick-ship SKUs apply to the United States only.

Options and accessories

Dimming capability: 0-10V or Lutron dimming (see LED-DIM spec sheet).

Emergency capability: Inverter (see CP-60150 spec sheet - ZI series). Integral (see LED-EM spec sheet - add "EM" suffix).

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

Mounting bars:

- 1950** 18" long (set of 2)
- 1951** 27" long (set of 2)
- 7994** Wood joist telescoping mounting bars (minimum 13 1/4" and maximum 24 1/2")

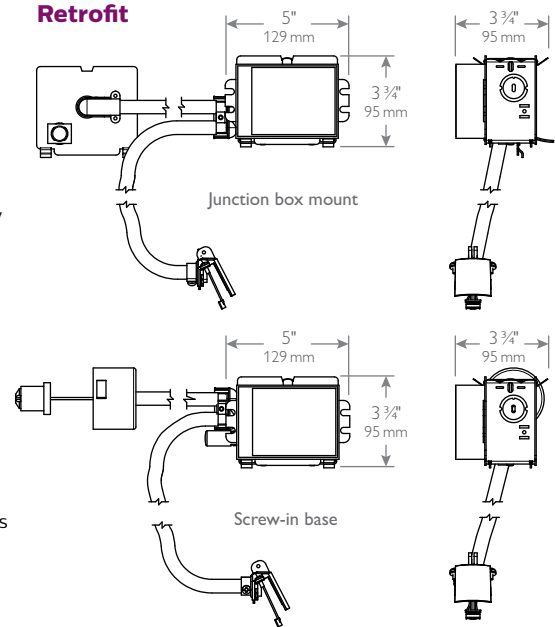
T-Bar anchor clips:

- 1956** For 18"/27" mounting bars (set of 4)

Decorative elements:

- D4A** Consult 4in Vetro spec sheet

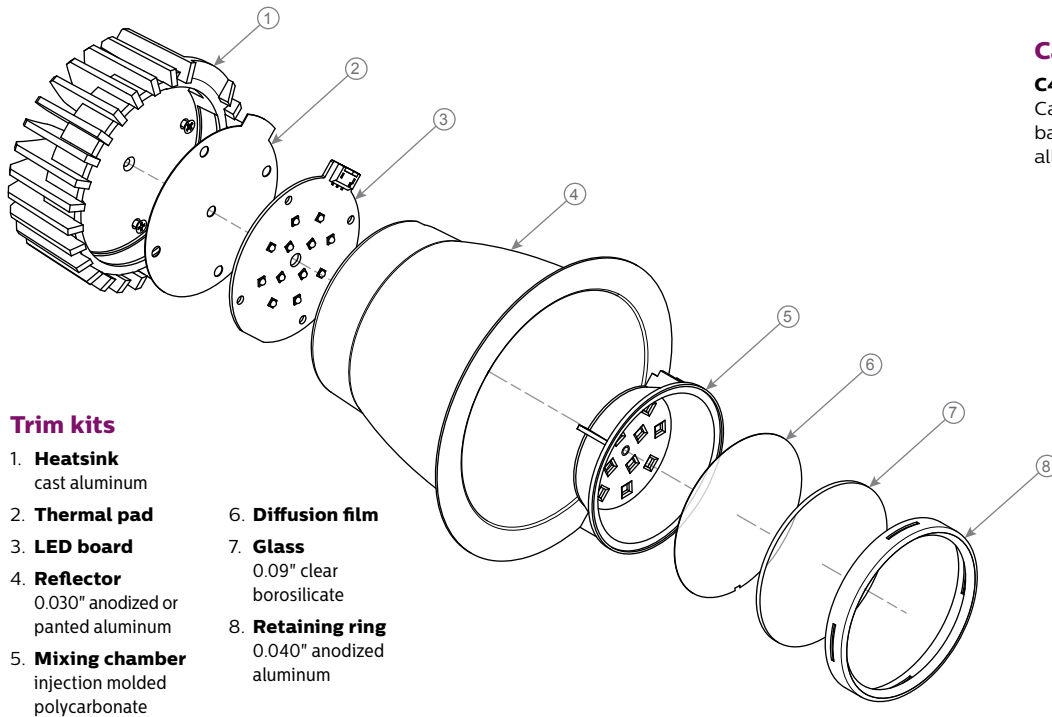
Retrofit



Retrofit is not available for 2250lm configurations.

C4L-DL-VB Calculite LED

4" Round Aperture, Downlight, Wide Beam 500/1000/1500/2250lm



Trim kits

- 1. **Heatsink**
cast aluminum
- 2. **Thermal pad**
- 3. **LED board**
- 4. **Reflector**
0.030" anodized or
painted aluminum
- 5. **Mixing chamber**
injection molded
polycarbonate
- 6. **Diffusion film**
- 7. **Glass**
0.09" clear
borosilicate
- 8. **Retaining ring**
0.040" anodized
aluminum

Calculite LED 4"

C4L10DL35KCCDPVB

Calculite LED 4" Trim kits are backwards compatible with all Calculite LED 4" Frame-in Kits.

Features

Ceiling cutout: 4" aperture; 5" (126mm) cutout.
Depth: 5 1/4" (133mm) including light engine.
Power connection: Attaches to light engine via push-in connector (on frame). Removable cover provides access.
Junction box: Allows inspection from below.
Thermal protector: Meets NEC & UL requirements. Do not install insulation above or within 3" of luminaire.
Thermal Management: Heat sink and thermal design along with the clean room assembly process ensures specified performance levels are maintained.

Rated life: Offers 60,000 hour rated life (2250lm offers 50,000 hour rated life) at 70% lumen maintenance (L70). Tested in accordance with IES LM-80-08 and TM-21-11. Color consistency between luminaires over the duration of our standard warranty will not be greater than 3 points in u', v'.

ENERGY STAR®

All new construction (N) frame-in and trim kit configurations are ENERGY STAR® certified except for the following:
 - **Frame-in Kits:** Universal voltage options used in 277V configurations.
 - **Trim Kits:** Champagne bronze (CCZ) reflector finishes.
 - All emergency (EM) configurations.
 - All 347V configurations.

Labels

cULus, I.B.E.W.
 Suitable for wet locations.
 5 year warranty.
 ENERGY STAR® certified (see exclusions to the left).

Electrical

Electronic power supply: 120 or 277V, 50/60Hz, encased, overload and short circuit protected, thermal regulation to protect against overheating, sound rating "A", -20°C minimum starting temperature.

Frame-In kit Electrical specifications	Input volts	Input freq.	Input current	LED drive current	Input power*	LED power	THD factor	Power factor
C4L05 <input type="checkbox"/> UVBZ10V 500lm w/0-10V dimming	120V	50/60Hz	0.06A	300mA	7W	5W	<15%	>0.95
	277V	50/60Hz	0.03A	300mA	7W	5W	<20%	>0.80
C4L10 <input type="checkbox"/> UVBZ10V 1000lm w/0-10V dimming	120V	50/60Hz	0.11A	300mA	13W	10W	<10%	>0.95
	277V	50/60Hz	0.05A	300mA	13W	10W	<15%	>0.85
C4L15 <input type="checkbox"/> _VBZ10V 1500lm w/0-10V dimming	120V	50/60Hz	0.17A	450mA	21W	16W	<10%	>0.95
	277V	50/60Hz	0.08A	450mA	21W	16W	<15%	>0.90
C4L20 <input type="checkbox"/> _VBZ10V 2250lm w/0-10V dimming	120V	50/60Hz	0.25A	675mA	30W	24W	<10%	>0.95
	277V	50/60Hz	0.11A	675mA	30W	24W	<15%	>0.95

* +/- 5%

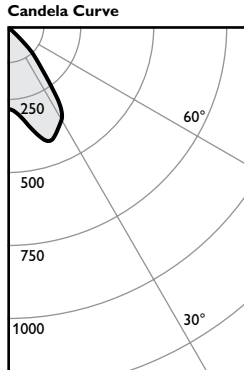
= Applies to both New Construction (N) and Remodeler (R) Installations.

— = Applies to both 120V (1) and 277V (2) Input voltages.

C4L-DL-VB Calculite LED

4" Round Aperture, Downlight, Wide Beam 500/1000/1500/2250lm

7W LED, 3500K, 500 lumen, Downlight



Frame: C4L05NUVBZ10V
Trim: C4L05DL35KCLWVB

CCT¹: 3500K
 Output lumens: 575 lms
 Input watts²: 7.1 W
Efficacy: 81.0 lm/w
 CRI: 80 min
 Spacing Crit.: 1.2
 Report no³: 668GFR

Zonal summary		
Zone	Lumens	%Luminaire
0-30	327.03	56.9%
0-40	505.81	88.0%
0-60	573.72	99.8%
0-90	574.91	100.0%

Angle	Mean CP	Lumens
0	296	
5	299	30
10	332	
15	386	110
20	426	
25	408	187
30	378	
35	299	179
40	175	
45	91	66
50	7	
55	2	2
60	1	
65	1	1
70	1	
75	0	0
80	0	
85	0	0
90	0	

Single unit data		
Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	12	6.0'
6'	8	7.2'
7'	6	8.4'
8'	5	9.6'
9'	4	10.8'

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

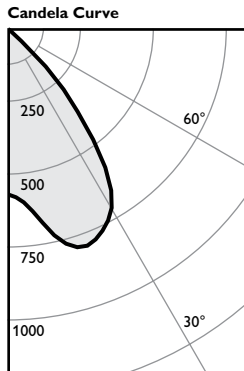
Multiple unit data - RCR 2		
Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	25.8	0.31
6'	16.9	0.21
7'	12.1	0.15
8'	10.1	0.12
9'	8.1	0.10

38"x38"x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors		CCT Adjust. factors	
CL	= 100%	4000K	= 103%
CCL	= 95%	3500K	= 100%
CCD	= 87%	3000K	= 97%
CCZ	= 63%	2700K	= 87%
WH	= 87%		

Coefficients of utilization														
Ceiling		80%			70%			50%			30%			0%
Wall	RCR	70	50	30	10	50	10	50	10	50	10	50	10	0
Zonal cavity method - Effective floor reflectance = 20%														
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100	100	100
	1	113	110	107	105	108	103	104	100	100	97	92	92	92
	2	107	101	97	93	100	92	96	90	93	88	85	85	85
	3	101	94	88	84	92	83	89	82	87	80	78	78	78
	4	95	86	80	76	85	75	83	74	81	73	71	71	71
	5	89	80	73	69	79	68	77	68	75	67	65	65	65
	6	84	74	67	63	73	62	72	62	70	62	60	60	60
	7	79	69	62	57	68	57	67	57	65	57	55	55	55
	8	74	64	57	53	63	53	62	52	61	52	50	50	50
	9	70	59	53	49	59	48	58	48	57	48	46	46	46
	10	66	56	49	45	55	45	54	45	53	44	43	43	43

13W LED, 3500K, 1000 lumen, Downlight



Frame: C4L10NUVBZ10V
Trim: C4L10DL35KCLWVB

CCT¹: 3500K
 Output lumens: 1114 lms
 Input watts²: 13.1 W
Efficacy: 85.1 lm/w
 CRI: 80 min
 Spacing Crit.: 1.2
 Report no³: 673GFR

Zonal summary		
Zone	Lumens	%Luminaire
0-30	624.87	56.1%
0-40	974.56	87.4%
0-60	1112.37	99.8%
0-90	1114.42	100.0%

Angle	Mean CP	Lumens
0	568	
5	597	60
10	676	
15	763	215
20	792	
25	764	350
30	709	
35	580	350
40	369	
45	180	134
50	13	
55	4	4
60	2	
65	1	1
70	1	
75	1	1
80	0	
85	0	0
90	0	

Single unit data		
Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	23	6.0'
6'	16	7.2'
7'	12	8.4'
8'	9	9.6'
9'	7	10.8'

* 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'	50.0	0.58
6'	32.8	0.38
7'	23.5	0.27
8'	19.5	0.23
9'	15.6	0.18

38"x38"x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors		CCT Adjust. factors	
CL	= 100%	4000K	= 103%
CCL	= 95%	3500K	= 100%
CCD	= 87%	3000K	= 97%
CCZ	= 63%	2700K	= 87%
WH	= 87%		

Coefficients of utilization														
Ceiling		80%			70%			50%			30%			0%
Wall	RCR	70	50	30	10	50	10	50	10	50	10	50	10	0
Zonal cavity method - Effective floor reflectance = 20%														
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100	100	100
	1	113	110	107	105	108	103	104	100	100	97	92	92	92
	2	107	101	97	93	100	92	96	90	93	88	85	85	85
	3	101	94	88	84	92	83	89	82	87	80	78	78	78
	4	95	86	80	76	85	75	83	74	81	73	71	71	71
	5	89	80	73	69	79	68	77	68	75	67	65	65	65
	6	84	74	67	63	73	62	72	62	70	61	59	59	59
	7	79	69	62	57	68	57	67	57	65	56	55	55	55
	8	74	64	57	53	63	52	62	52	61	52	50	50	50
	9	70	59	53	48	59	48	58	48	57	48	46	46	46
	10	66	55	49	45	55	45	54	45	53	44	43	43	43

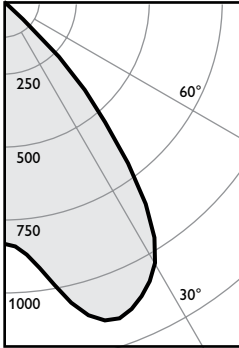
1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
 2. Wattage controlled to within +/- 5%.
 3. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

C4L-DL-VB Calculite LED

4" Round Aperture, Downlight, Wide Beam 500/1000/1500/2250lm

21W LED, 3500K, 1500 lumen, Downlight

Candela Curve



Frame: C4L15N1VBZ10V
Trim: C4L10DL35KCLWVB
 CCT¹: 3500K
 Output lumens: 1623 lms
 Input watts²: 20.6 W
Efficacy: 78.8 lm/w
 CRI: 80 min
 Spacing Crit.: 1.2
 Report no³: 678GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	911	56.1%
0-40	1420	87.5%
0-60	1620	99.8%
0-90	1623	100.0%

Angle	Mean CP	Lumens
0	830	
5	870	87
10	985	
15	1113	313
20	1155	
25	1113	511
30	1033	
35	845	510
40	537	
45	264	194
50	19	
55	5	6
60	3	
65	2	2
70	1	
75	1	1
80	0	
85	0	0
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	33	6.0'
6'	23	7.2'
7'	17	8.4'
8'	13	9.6'
9'	10	10.8'

* 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'	72.9	0.91
6'	47.8	0.60
7'	34.2	0.43
8'	28.5	0.36
9'	22.8	0.29

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL = 100%	4000K = 103%
CCL = 95%	3500K = 100%
CCD = 87%	3000K = 97%
CCZ = 63%	2700K = 87%
WH = 87%	

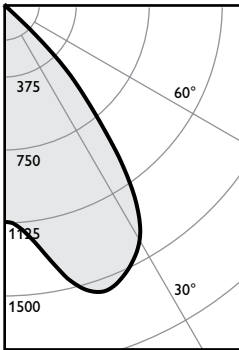
CCT Adjust. factors

Coefficients of utilization

Ceiling	80%					70%					50%					30%					0%
	70	50	30	10	50	10	50	10	50	10	50	10	50	10	50	10	50	10			
Wall	70	50	30	10	50	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	100	97	92	85	85	85	85		
1	113	110	107	105	108	103	104	100	96	90	93	88	88	85	85	85	85	85	85		
2	107	101	97	93	100	92	96	90	89	82	87	80	78	78	78	78	78	78	78		
3	101	94	88	84	92	83	89	82	85	75	83	74	71	71	71	71	71	71	71		
4	95	86	80	76	85	75	83	74	81	67	77	68	65	65	65	65	65	65	65		
5	89	80	73	69	79	68	77	68	75	67	75	67	65	65	65	65	65	65	65		
6	84	74	67	63	73	62	72	62	70	61	70	62	59	59	59	59	59	59	59		
7	79	69	62	57	68	57	67	57	65	56	65	56	55	55	55	55	55	55	55		
8	74	64	57	53	63	52	62	52	61	52	61	52	50	50	50	50	50	50	50		
9	70	59	53	48	59	48	58	48	57	48	57	48	46	46	46	46	46	46	46		
10	66	55	49	45	55	45	54	45	53	44	53	44	43	43	43	43	43	43	43		

29W LED, 3500K, 2250 lumen, Downlight

Candela Curve



Frame: C4L20N1VBZ10V
Trim: C4L10DL35KCLWVB
 CCT¹: 3500K
 Output lumens: 2200 lms
 Input watts²: 28.5 W
Efficacy: 77.2 lm/w
 CRI: 80 min
 Spacing Crit.: 1.2
 Report no³: 622GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	1237	56.3%
0-40	1927	87.6%
0-60	2196	99.8%
0-90	2200	100.0%

Angle	Mean CP	Lumens
0	1124	
5	1179	118
10	1337	
15	1513	426
20	1571	
25	1514	694
30	1402	
35	1143	689
40	724	
45	353	261
50	25	
55	7	8
60	4	
65	3	3
70	2	
75	1	1
80	1	
85	0	0
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	45	6.0'
6'	31	7.2'
7'	23	8.4'
8'	18	9.6'
9'	14	10.8'

* 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'	98.7	1.26
6'	64.8	0.83
7'	46.3	0.59
8'	38.6	0.49
9'	30.9	0.39

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL = 100%	4000K = 103%
CCL = 95%	3500K = 100%
CCD = 87%	3000K = 97%
CCZ = 63%	2700K = 87%
WH = 87%	

CCT Adjust. factors

Coefficients of utilization

Ceiling	80%					70%					50%					30%					0%
	70	50	30	10	50	10	50	10	50	10	50	10	50	10	50	10	50	10			
Wall	70	50	30	10	50	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	100	97	92	85	85	85	85		
1	113	110	107	105	108	103	104	100	96	90	93	88	85	85	85	85	85	85	85		
2	107	101	97	93	100	92	96	90	89	82	87	80	78	78	78	78	78	78	78		
3	101	94	88	84	92	83	89	82	85	75	83	74	71	71	71	71	71	71	71		
4	95	86	80	76	85	75	83	74	81	67	77	68	65	65	65	65	65	65	65		
5	89	80	73	69	79	68	77	68	75	67	75	67	65	65	65	65	65	65	65		
6	84	74	67	63	73	62	72	62	70	61	70	62	59	59	59	59	59	59	59		
7	79	69	62	57	68	57	67	57	65	56	65	56	55	55	55	55	55	55	55		
8	74	64	57	53	63	53	62	52	61	52	61	52	50	50	50	50	50	50	50		
9	70	59	53	48	59	48	58	48	57	48	57	48	46	46	46	46	46	46	46		
10	66	56	49	45	55	45	54	45	53	44	53	44	43	43	43	43	43	43	43		

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. Wattage controlled to within +/- 5%.
3. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

© 2015 Koninklijke Philips N.V. All rights reserved.
 Philips reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.
philips.com/luminaires



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

Imported by: Philips Lighting,
 A division of Philips Electronics Ltd.
 281 Hillmount Rd, Markham, ON, Canada L6C 2S3
 Tel. 800-668-9008