



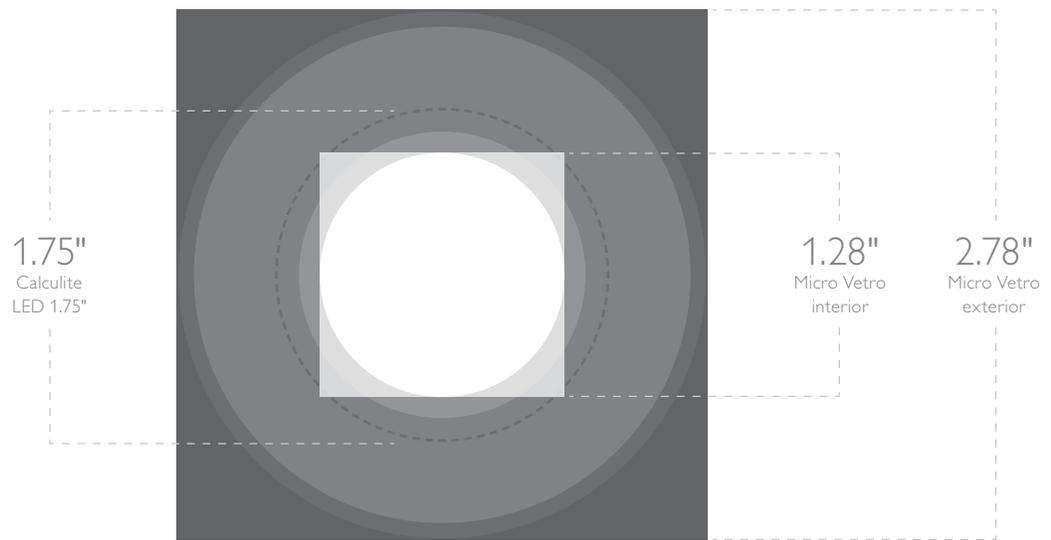
Calculite LED 1.75" with Micro Vetro

Professional-grade downlighting with decorative elements



PHILIPS
LIGHTOLIER





Powerful. Affordable. Versatile.

The Calculite 1.75" downlight is now available with Micro Vetro glass and acrylic trim accessories.

Light levels from the original aperture range from 328 to 412 lumens with an input wattage of 11W. Vetro elements add decorative appeal while maintaining architectural output at approximately 80% of the standard trim options.

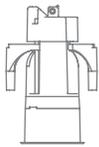
Beam spread options for the standard trims are 12°, 17°, 25°, 38° and 47°. The wall wash option features an integral lens. Add-on optics include diffusion, condensing, warming and linear spread. Vetro trims are optimized with 17° and 25° beams.

LED 1.75" with Micro Vetro

Features at a glance



Dual-hinge construction limits required plenum depth to 5.5".



Drive-actuated swing arms. Accommodates 1/8" to 2" thick ceilings.



2700K and 3000K CCT
Field interchangeable optics.
Field replaceable LED board.
50,000 hour rated LED life¹ (L70).



Screws actuate swing arms from below ceiling.



Optional decorative round and square glass elements.



Secure twist and lock reflector.

Wet location rated².

50° cutoff 2 1/8" ceiling cutout (standard hole saw size).

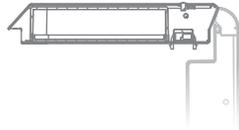
Flanged and flush-mount option.



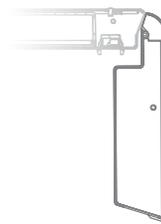
Round acrylic decorative element
Actual size

1. Based on IESNA LM-80-2008

2. Excludes 12° beam



ELV dimming or 0-10V dimming options.
Remote driver option. 50,000 hour rated driver life. Field replaceable LED driver.

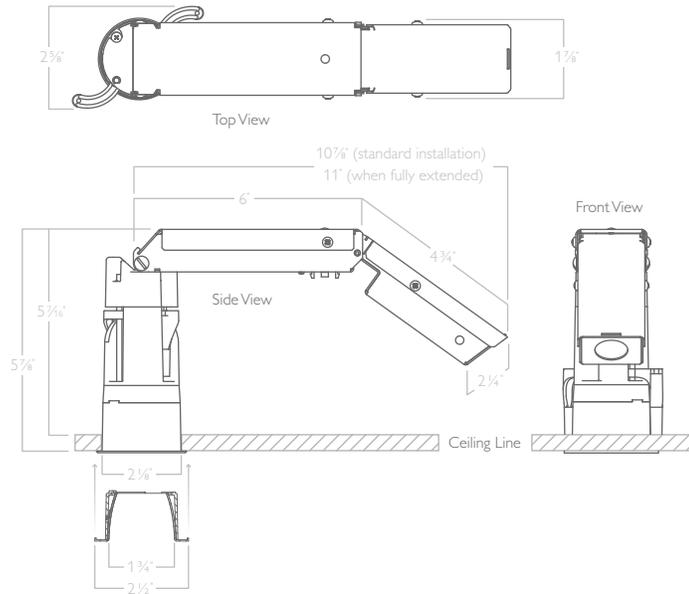


Through-wiring capable with standard 2-1 conduit connector.

Calculite LED 1.75"

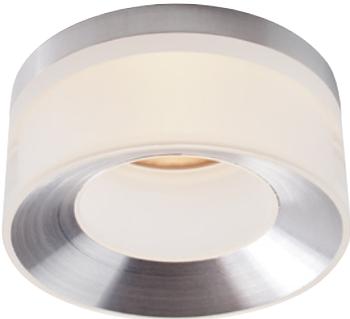
Actual size

Dimensions



LED 1.75" with Micro Vetro

Calculite Professional-grade downlighting with decorative round glass elements



Round acrylic decorative element with aluminum insert



Round acrylic decorative element



Round glass decorative element



Square acrylic decorative element



Square glass decorative element



LED 1.75" with Micro Vetro

Calculite Professional-grade downlighting with decorative round glass elements



Calculite LED 1.75"

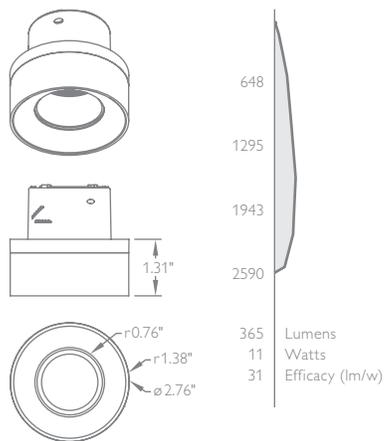
Actual size

Complete fixture consists of Decorative element with reflector, Calculite light engine, and Calculite frame-in kit (not always required).

Each sold separately.



Round acrylic decorative element with aluminum insert
Actual size

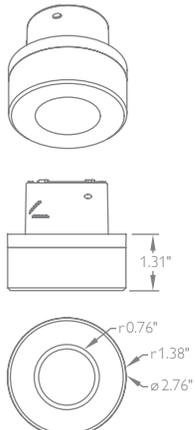


LED 1.75" with Micro Vetro

Calculite Professional-grade downlighting with decorative round glass elements



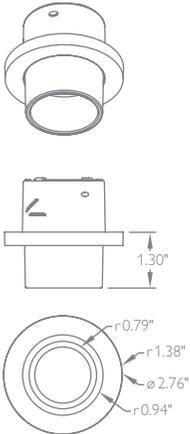
Round acrylic decorative element
Actual size



655	
1310	
1965	
2620	
368	Lumens
11	Watts
31	Efficacy (lm/w)



Round glass decorative element
Actual size



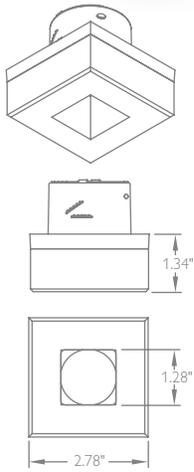
364 Lumens
11 Watts
31 Efficacy (lm/w)

LED 1.75" with Micro Vetro

Calculite Professional-grade downlighting with decorative square glass elements



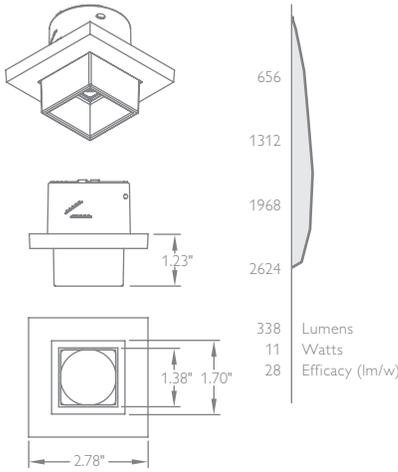
Square acrylic decorative element
Actual size



647	
1295	
1942	
2589	
359	Lumens
11	Watts
30	Efficacy (lm/w)



Square glass decorative element
Actual size



LED 1.75" with Micro Vetro

Technical specifications

Color rendering

Calculite LED 1.75" features an 82 CRI typical, 80 CRI minimum (see "R" values below)

RA	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81	80	87	91	79	78	81	86	66	21	68	75	62	81	94
														

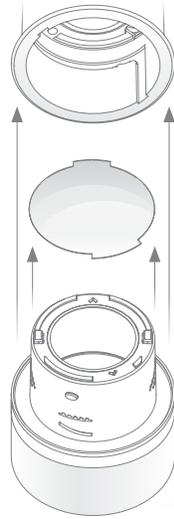
While CRI continues to be used as a tool to predict color appearance in objects, the industry understands that CRI is an incomplete metric for many lighting technologies. With LED technology, CRI can be inflated without truly improving the rendering of most colors. Therefore, Calculite's emphasis is the overall color spectrum.

Microstructure lenses

To minimize accessory thickness and thus maximize optical performance, microstructure lenses are utilized in lieu of traditional glass lenses.

Durability

Calculite LED 1.75" fixture operating temperature is well below the recommended thermal limit of each optical accessory, eliminating lens degradation and ensuring maximum optical stability.



Micro Vetro¹

Comfort clear diffuse reflector is standard



- Reflector can be rotated 90° to ensure proper alignment.
- Friction-fit design maintains installation integrity.
- Lenses are factory-assembled into specified reflector for wall washer & linear spread options.
- Accessories are keyed to ensure proper installation.
- Fixtures accept one accessory which can be field-installed in any reflector assembly.

Accessory films²

Recommended for use primarily with 12° beam option

CA2DF2

2° clear
Softens beam with limited impact on delivered lumens and CBCP.

CA2DF85

85° frosted
Delivers uniform distribution and wide (66°) beam angle.

1. Compatible with all open and lensed reflectors. Other finishes are available.
2. Fixture model numbers C2L04DL30K12R1 or C2L04DL27K12R1.

Performance

Calculite LED 1.75" comparison to MR16 halogen lamping

Though small in aperture, Calculite LED 1.75" performance compares favorably to MR16 halogen alternatives. This comparison is to a magnetic transformer MR16 downlight with a Solite diffusion lens.

Lamping	Beam spread	CBCP	Lumens	Watts	lm/w
Calculite LED 1.75" (25° option)	25°	1995	382	11	35
35W MR16 (10° lamp)	23°	1491	333	42	8
35W MR16 (24° lamp)	28°	1186	348	42	8
50W MR16 (24° lamp)	27°	1888	511	58	9

LED 1.75" with Micro Vetro

Installation process

Standard product in Non-IC installation

Calculite LED 1.75" is an install-from-below product for either remodel or new construction. The standard product offering is Non-IC, wet location with no additional "frame-in-kit" required. Install as illustrated below:



Insert fixture through 2 1/8" cutout in ceiling. 2 1/8" is standard hole saw size. Hinged design requires only 5 1/2" plenum depth (Non-IC).

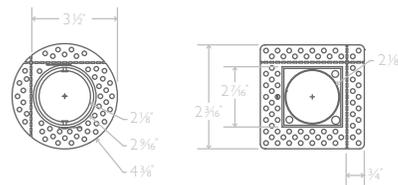
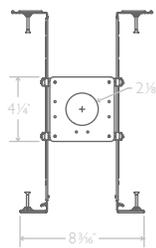
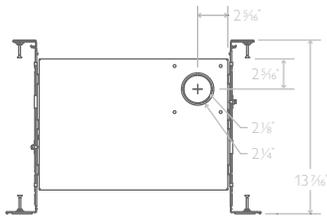


Using screwdriver (electric or manual), rotate installation screws in aperture to actuate pivoting installation arms. Arms will secure fixture directly to ceiling.



Align bumps on reflector housing with grooves in fixture body. Press flush to ceiling and rotate. Slight force is required to overcome initial resistance, ensuring proper installation.

IC and other installation accessories



New construction (enhanced mounting configuration)

C2LIC Insulated ceiling (IC) rated new construction frame-in kit. Features an off-center fixture installation point.

C2LMP New construction mounting pan provides ability to prelocate wiring for easy below-ceiling access. Includes bar hangers with preset screws which accommodate 12" to 24" joist spacing. Bars also attach to T-bar ceilings. Width: 5.5", Length (min.): 13.12"

Mud rings (for use with flush mount fixtures)

CA2FMR Round aperture flush-mount mud-in ring. Recommended for gypsum applications. Perforated flange allows installation only 1.4" from vertical structure, including corners.

CA2X2FMR Square aperture flush-mount mud-in ring. Recommended for gypsum applications. Perforated flange allows installation only 1.4" from vertical structure, including corners.

Ordering guide and specifications

A + C + D (if required) + E (optional) = complete unit.

Calulite 1.75" with Micro Vetro is composed of fixture, reflector, decorative element, installation accessories (if required), and microstructure lens (optional)

A Fixture

Series	Lumen package	Trim flange	Color temp	Beam spread	Installation style	Input voltage
C2L	04				R	
C2L Calulite 1.75" LED	04 400lms ¹	DL Flanged DLFT Flush mount ²	30K 3000K 27K 2700K	12 12° ³ 17 17° 25 25° 38 38° 47 47°	R Installs from below	1 120V UZ10V Universal (with 0-10V dimming)
Standard fixture is Non-IC, wet location ³ . For IC fixture add C2LIC mounting accessory (D).						

B Open and lensed reflectors

Series	Style	Finish	Flange
			
C2L Round	DL Downlight (50° cutoff) DLLS Downlight (75° cutoff) with linear spread lens LW Lensed wall washer ⁴	BK Black CCD Comfort clear linear diffuse CCZ Champagne bronze WH Painted white	P Aperture-matching FT Flush mount ⁵
C2X2L Square	DL Downlight (50° cutoff) LW Lensed wall washer ⁴	BK Black WH Painted white	P Aperture-matching FT Flush mount ⁵

C Micro Vetro decorative elements

Series	Style
D2L	
D2L Decorative	R01 Round acrylic w/aluminum insert R02 Round acrylic R03 Round glass S01 Square acrylic S02 Square glass
Comfort clear diffuse reflector is standard. Compatible with all open and lensed reflectors. Other finishes are available. Please contact factory.	

D Installation accessories⁶

Cat. no.	Description
C2LIC	IC frame (new construction)
C2LMP	New construction mounting pan
CA2FMR	Round aperture flush-mount mud-in ring
CA2X2FMR	Square aperture flush-mount mud-in ring

E Microstructure lens⁷

Cat. no.	Description
CA2DF2	2° clear diffusion film
CA2DF85	85° frosted diffusion film
CA2OPF	Opal 2700K color correction ⁸

1. Values are nominal lumens.

2. Requires "FT" selection on reflectors (B) and can not be used with Micro Vetro element (C).

3. Wet location is not available with 12° beam spread.

4. 17° beam spread recommended (A).

5. Requires "DLFT" selection on trim flange (A) for flush mount.

6. Recommended for specific applications, see specification sheet for details.

7. Actual diffusion depends on selected beam spread (A).

8. Requires "27K" selection on color temp (A) for retrofit.

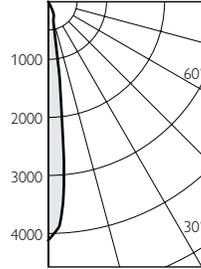
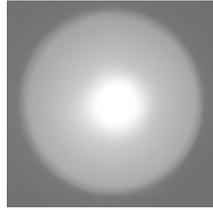
LED 1.75" with Micro Vetro

Photometric performance

C2L04DL30K12R1 + C2LDLCCDP (12° beam angle)

Photometry

Beam angle	12°
Spacing ratio	0.2
CBCP	5099
Lumens	328
Watts	11
Efficacy	29.8 lm/w
CCT	2990
Cutoff	50°



Single unit data

Ceiling height	5'	6'	7'	8'	9'
Initial footcandles	204	142	104	80	63
Beam diameter	1.0'	1.2'	1.4'	1.6'	1.8'

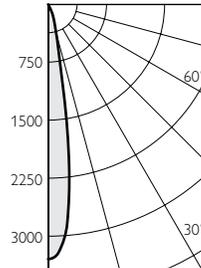
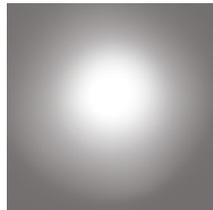
Candela table

Angle	0	5	15	25	35	45	55	65
Intensity	5099	2829	290	61	14	7	3	1
Lumens	-	118	83	45	9	6	3	1

C2L04DL30K17R1 + C2LDLCCDP (17° beam angle)

Photometry

Beam angle	17°
Spacing ratio	0.3
CBCP	3282
Lumens	412
Watts	11
Efficacy	37.3 lm/w
CCT	2979
Cutoff	50°



Single unit data

Ceiling height	5'	6'	7'	8'	9'
Initial footcandles	131	91	67	51	41
Beam diameter	1.5'	1.8'	2.1'	2.4'	2.7'

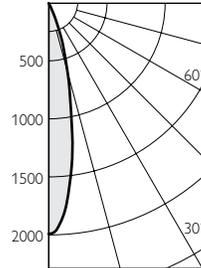
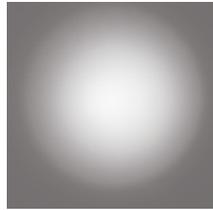
Candela table

Angle	0	5	15	25	35	45	55	65
Intensity	3282	2835	432	126	13	3	0	0
Lumens	-	212	133	56	9	2	0	0

C2L04DL30K25R1 + C2LDLCCDP (25° beam angle)

Photometry

Beam angle	25°
Spacing ratio	0.4
CBCP	1995
Lumens	382
Watts	10.6
Efficacy	36.0 lm/w
CCT	2979
Cutoff	50°



Single unit data

Ceiling height	5'	6'	7'	8'	9'
Initial footcandles	80	55	41	31	25
Beam diameter	2.0'	2.4'	2.8'	3.2'	3.6'

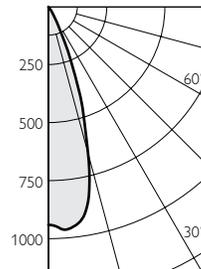
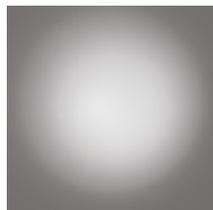
Candela table

Angle	0	5	15	25	35	45	55	65
Intensity	1995	1742	623	86	12	3	0	0
Lumens	-	147	174	51	8	2	0	0

C2L04DL30K38R1 + C2LDLCCDP (38° beam angle)

Photometry

Beam angle	38°
Spacing ratio	0.6
CBCP	936
Lumens	377
Watts	10.8
Efficacy	34.9 lm/w
CCT	2977
Cutoff	50°



Single unit data

Ceiling height	5'	6'	7'	8'	9'
Initial footcandles	37	26	19	15	12
Beam diameter	3.0'	3.6'	4.2'	4.8'	5.4'

Candela table

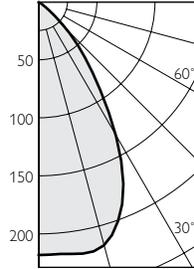
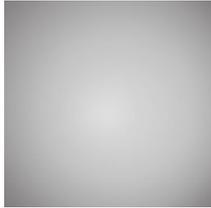
Angle	0	5	15	25	35	45	55	65
Intensity	936	959	668	167	28	4	0	0
Lumens	-	90	180	84	19	4	0	0

Photometric performance with lenses

C2L04DL30K12R1 + C2LDLCCDP + CA2DF85 (85° diffusion lens)

Photometry

Beam angle 66°
Spacing ratio 1.0
CBCP 217
Lumens 256
Watts 10.7
Efficacy 23.9 lm/w
CCT 2990
Cutoff 50°



Single unit data

Ceiling height	5'	6'	7'	8'	9'
Initial footcandles	9	6	4	3	3
Beam diameter	5.0'	6.0'	7.0'	8.0'	9.0'

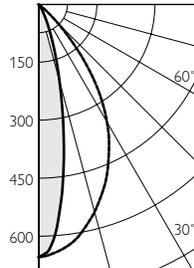
Candela table

Angle	0	5	15	25	35	45	55	65
Intensity	217	217	216	172	93	38	7	2
Lumens	-	21	60	77	58	29	7	2

C2L04DL30K17R1 + C2DLLSCDP (linear diffusion reflector)

Photometry

Beam angle 63° x 20°
Spacing ratio n/a
CBCP n/a
Lumens 314
Watts 10.7
Efficacy 29.3 lm/w
CCT 2979
Cutoff 75°



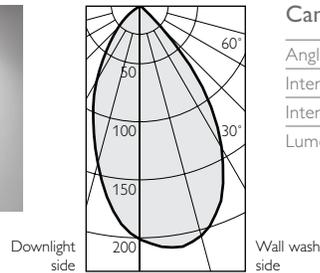
Candela table

Angle	0	5	15	25	35	45	55	65
Intensity (along)	660	644	562	434	270	83	11	1
Intensity (across)	660	574	216	56	14	5	2	1
Lumens	-	28	51	42	25	9	2	0

C2L04DL30K17R1 + C2LLWCCDP (integral wall wash reflector)

Photometry

Beam angle 66°
Spacing ratio 1.0
CBCP 217
Lumens 256
Watts 10.7
Efficacy 23.9 lm/w
CCT 2990
Cutoff 50°



Candela table

Angle	0	5	15	25	35	45	55	65
Intensity (along)	201	189	141	96	56	29	12	3
Intensity (across)	201	208	205	169	106	24	2	1
Lumens	-	9	21	24	19	11	5	1



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