



# Calculite White LED square aperture

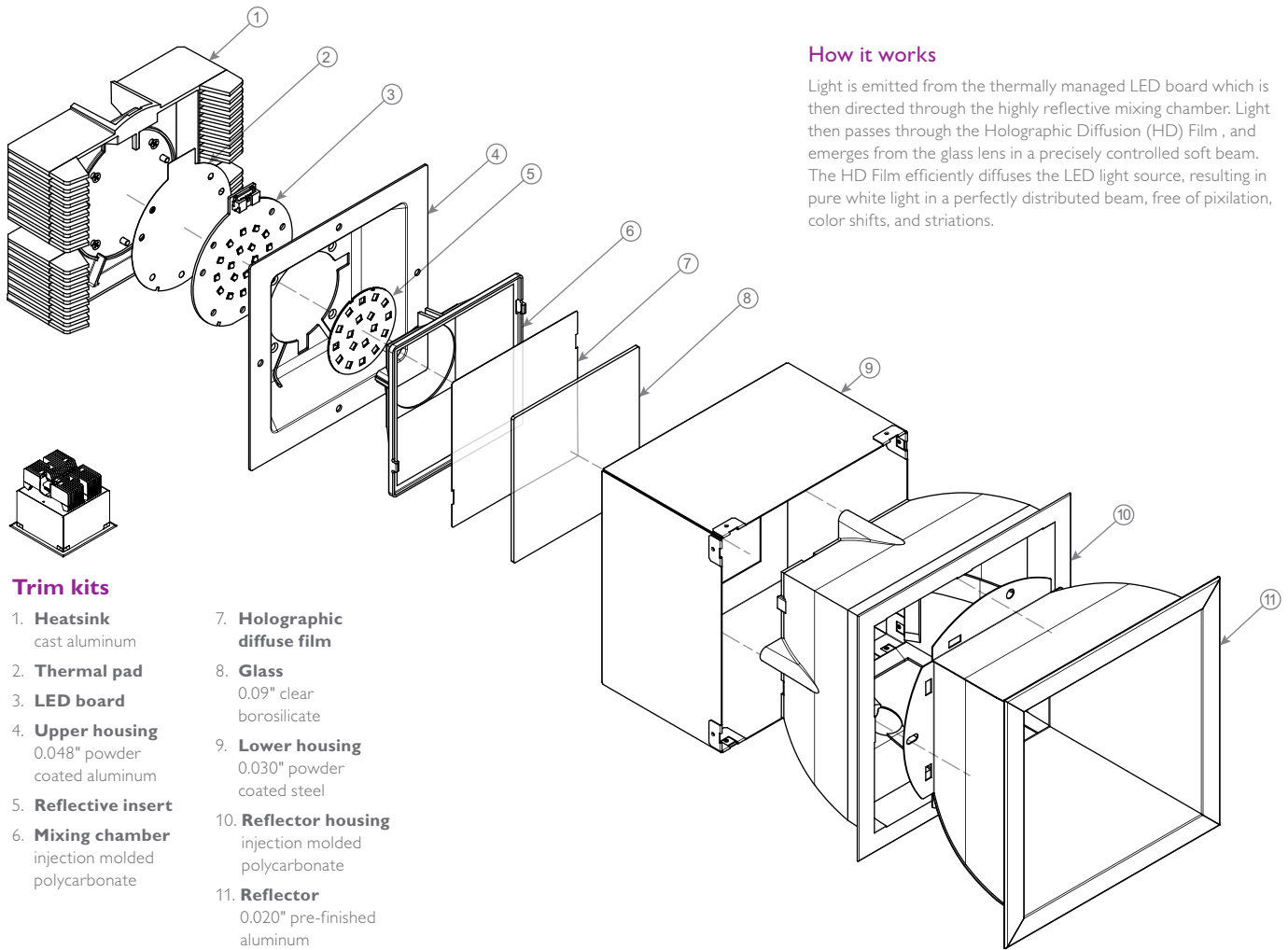
**Calculite** Professional-grade downlighting



**PHILIPS**  
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# White LED

## Downlight square aperture

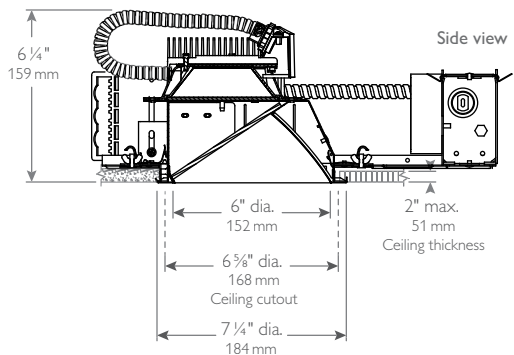


### How it works

Light is emitted from the thermally managed LED board which is then directed through the highly reflective mixing chamber. Light then passes through the Holographic Diffusion (HD) Film, and emerges from the glass lens in a precisely controlled soft beam. The HD Film efficiently diffuses the LED light source, resulting in pure white light in a perfectly distributed beam, free of pixilation, color shifts, and striations.

### Trim kits

- 1. **Heatsink**  
cast aluminum
- 2. **Thermal pad**
- 3. **LED board**
- 4. **Upper housing**  
0.048" powder coated aluminum
- 5. **Reflective insert**
- 6. **Mixing chamber**  
injection molded polycarbonate
- 7. **Holographic diffuse film**
- 8. **Glass**  
0.09" clear borosilicate
- 9. **Lower housing**  
0.030" powder coated steel
- 10. **Reflector housing**  
injection molded polycarbonate
- 11. **Reflector**  
0.020" pre-finished aluminum



### Frame-in kit: New construction

**Mounting frame:** Galvanized stamped steel for dry or plaster ceilings.  
**Vertical adjustment:** Light engine adjusts in frame below ceilings up to 1 1/8".  
**Mounting brackets:** Galvanized Steel. Adjustable through aperture. Use 3/4" or 1 1/2" lathing channel, 1/2" EMT or optional mounting bars.

## Square aperture overview



### Features

**Ceiling cutout:** See drawings for details.  
 4" aperture; 5 1/8" (130 mm).  
 6" aperture; 6 3/4" (167mm).  
**Depth:** See drawings for full dimensions.  
**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.

### Options and accessories

**Dimming capability:** 0-10V or Lutron dimming. See LED-DIM specification sheet.  
**Emergency capability:** Inverter; See LED-LMI specification sheet. Integral (4, 6, & 7 inch); See LED-EM spec sheet (add "EM" suffix).  
**Sloped ceilings:** Compatible with slope ceiling adaptors. See specification sheet SCA.  
**Mounting bars<sup>1</sup>:** 1950-18" (set of 2) 1951-27" (set of 2)  
**T-Bar anchor clips<sup>1</sup>:** 1956 (set of 4), for use with above.

### Labels

cULus, I.B.E.W.  
 Suitable for wet locations.  
 5 year warranty.  
 Energy Star certified (see below for exclusions).

Complete product = Frame-in kit + Trim kit  
 Lumen package for the frame-in kit must match the trim kit.  
 Calculite LED Trim kits are backwards compatible with all Calculite LED Frame-in Kits.

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

### 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, 35°C maximum ambient environment.  
**Rated life:** 4" & 6" aperture; 60,000 hrs at 70% lumen maintenance. 7" aperture; 1500lm and 2000lm are 60,000 hrs at 70% lumen maintenance. Based on IES LM-80-08 and TM-21-11.

### Energy Star®

All new construction frame-in and trim kit configurations are Energy Star certified except for the following:

- Trim Kits configured with champagne bronze reflector finish (CCZ); example C6L10DL30KMCCZWVB.
- Frame-in Kits configured with universal voltage that are used in 277V applications; example C6L10NUVBZ10V.
- All configurations with 3500 lumen optics (35) are NOT Energy Star certified.
- All configurations with emergency options (EM) are NOT Energy Star certified.

Reference the following specification sheets for more info:  
 C4X4L-DL-VB, C6X6L-DL-VB, C4X4L-WW-VB, C6X6L-WW-VB.

1. Excludes 4" aperture.  
 2. +/- 5%

### 4" aperture

Frame-In kit Electrical specifications	Input volts	Input freq.	Input current	LED drive current	Input power <sup>2</sup>	LED power	THD factor	Power factor
<b>C4X4L05_VBZ10V</b> 500lm w/0-10V dimming	120V	50/60Hz	0.07A	350mA	8W	6W	<20%	>0.9
	277V	50/60Hz	0.04A	350mA	8W	6W	<20%	>0.7
<b>C4X4L10_VBZ10V</b> 1000lm w/0-10V dimming	120V	50/60Hz	0.12A	350mA	14W	11W	<20%	>0.9
	277V	50/60Hz	0.62A	350mA	14W	11W	<20%	>0.8
<b>C4X4L15_VBZ10V</b> 1500lm w/0-10V dimming	120V	50/60Hz	0.18A	520mA	23W	17W	<20%	>0.9
	277V	50/60Hz	0.09A	520mA	24W	17W	<20%	>0.9

### 6" aperture

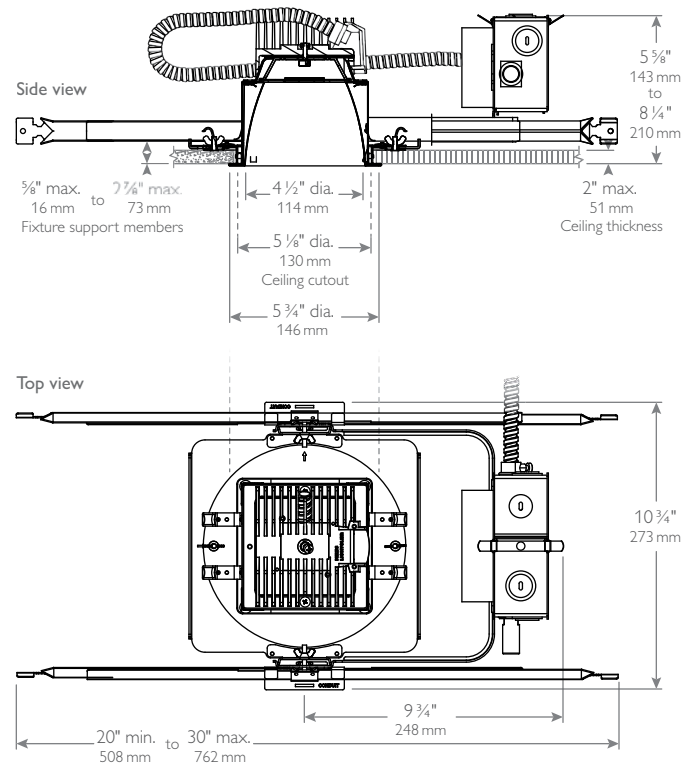
Frame-In kit Electrical specifications	Input volts	Input freq.	Input current	LED drive current	Input power <sup>2</sup>	LED power	THD factor	Power factor
<b>C6X6L10_VBZ10V</b> 1000lm w/0-10V dimming	120V	50/60Hz	0.12A	350mA	14W	11W	<20%	>0.9
	277V	50/60Hz	0.62A	350mA	14W	11W	<20%	>0.8
<b>C6X6L15_VBZ10V</b> 1500lm w/0-10V dimming	120V	50/60Hz	0.17A	350mA	21W	18W	<20%	>0.9
	277V	50/60Hz	0.08A	350mA	21W	18W	<20%	>0.9
<b>C6X6L20_VBZ10V</b> 2000lm w/0-10V dimming	120V	50/60Hz	0.26A	520mA	32W	26W	<20%	>0.9
	277V	50/60Hz	0.12A	520mA	33W	26W	<20%	>0.9

# White LED

## 4" Downlight square aperture



Trim kit height is 5 1/2" (140mm)



Calculite White LED square aperture Downlight is comprised of a frame-in kit and a trim kit.

### Frame-in kit

example: C4X4L05NUVBZ10V

Series	Lumens	Installation	Input voltage	Version	Dimming	Options
<b>C4X4L</b>	<input type="checkbox"/>	<b>N</b>	<b>U</b>	<b>VB</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>C4X4L</b> Calculite 4" LED square aperture	<b>05</b> 500lm	<b>N</b> New construction	<b>U</b> Universal (120/277V)	<b>VB</b> Version B	<b>Z10V</b> 0-10V dimming <b>LD</b> Lutron driver	<b>EM</b> Emergency <sup>1</sup>
	<b>10</b> 1000lm	<b>N</b> New construction				<b>LC</b> Chicago Plenum
<b>C4X4L</b> Calculite 4" LED square aperture	<b>15</b> 1500lm	<b>N</b> New construction	<b>1</b> 120V <b>2</b> 277V	<b>VB</b> Version B	<b>Z10V</b> 0-10V dimming <b>LD</b> Lutron driver	<b>EM</b> Emergency <sup>1</sup>
						<b>LC</b> Chicago Plenum

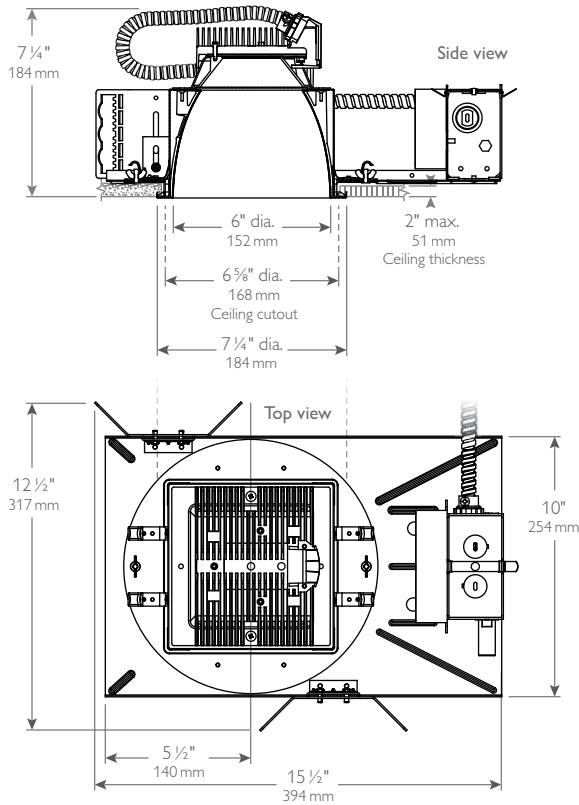
### Trim kit

example: C4X4L10DL35KCCDPVB

Series	Lumens	Style	CCT	Reflector finish	Flange	Version <sup>1</sup>
<b>C4X4L</b>	<input type="checkbox"/>	<b>DL</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>VB</b>
<b>C4X4L</b> Calculite 4" LED square aperture	<b>05</b> 500lm <b>10</b> 1000lm & 1500lm	<b>DL</b> Downlight	<b>27K</b> 2700K	<b>CL</b> Clear	<b>W</b> White (painted) <b>P</b> Polished (matches aperture)	<b>VB</b> Version B
			<b>30K</b> 3000K	<b>CCL</b> Comfort clear		
			<b>35K</b> 3500K	<b>CCD</b> Comfort clear diffuse		
			<b>40K</b> 4000K	<b>CCZ</b> Champagne bronze		
				<b>WH</b> White (painted)		

1. Consult LED-EM spec sheet for **EM** option details and restrictions.

## 6" Downlight square aperture



Trim kit height is 6 1/2" (165 mm)

Calculate White LED square aperture Downlight is comprised of a frame-in kit and a trim kit.

### Frame-in kit

example: C6X6L15NUVBZ10V

Series	Lumens	Installation	Input voltage	Version	Dimming	Options
<b>C6X6L</b>	<input type="checkbox"/>	<b>N</b>	<b>U</b>	<b>VB</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>C6X6L</b> Calculate 6" LED square aperture	<b>15</b> 1500lm	<b>N</b> New construction	<b>U</b> Universal (120/277V)	<b>VB</b> Version B	<b>Z10V</b> 0-10V dimming <b>LD</b> Lutron driver	<b>EM</b> Emergency <sup>1</sup> <b>LC</b> Chicago Plenum
	<b>20</b> 2000lm <b>35</b> 3500lm	<b>N</b> New construction	<b>1</b> 120V <b>2</b> 277V	<b>VB</b> Version B	<b>Z10V</b> 0-10V dimming <b>LD</b> Lutron driver	<b>EM</b> Emergency <sup>1</sup> <b>LC</b> Chicago Plenum

### Trim kit

example: C6X6L1520DL35KCCDPVB

Series	Lumens	Style	CCT	Reflector finish	Flange	Version <sup>1</sup>
<b>C6X6L</b>	<input type="checkbox"/>	<b>DL</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>VB</b>
<b>C6X6L</b> Calculate 6" LED square aperture	<b>1520</b> 1500lm, 2000lm, & 3500lm	<b>DL</b> Downlight	<b>27K</b> 2700K <b>30K</b> 3000K <b>35K</b> 3500K <b>40K</b> 4000K	<b>CL</b> Clear <b>CCL</b> Comfort clear <b>CCD</b> Comfort clear diffuse <b>CCZ</b> Champagne bronze <b>WH</b> White (painted)	<b>W</b> White (painted) <b>P</b> Polished (matches aperture) <b>FT</b> Flangeless (flush-mount) <sup>2</sup>	<b>VB</b> Version B

1. Consult LED-EM spec sheet for **EM** option details and restrictions.
2. Accessory **CA6X6FMR** required for gypsum applications (minimal 1/4" reflector flange).



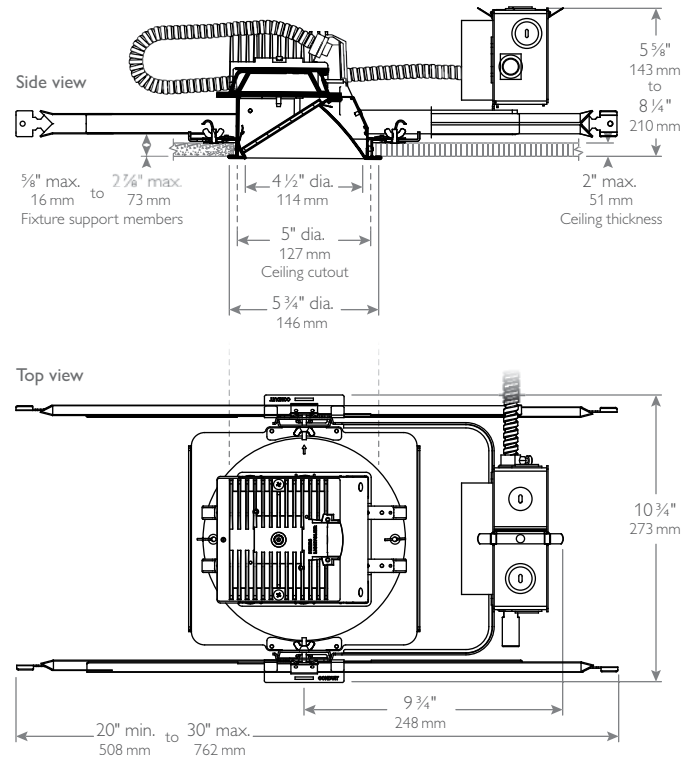
**CA6X6FMR**  
Flangeless trim with plaster ring accessory.  
(Recommended for gypsum installations)

# White LED

## 4" Lensed Wall Wash square aperture



Trim kit height is 4 3/4" (121 mm)



Calculite White LED square aperture Wall Wash is comprised of a frame-in kit and a trim kit.

### Frame-in kit

example: C4X4L05NUVBZ10V

Series	Lumens	Installation	Input voltage	Version	Dimming	Options
<b>C4X4L</b>	<input type="checkbox"/>	<b>N</b>	<input type="checkbox"/>	<b>VB</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>C4X4L</b> Calculite 4" LED square aperture	<b>05</b> 500lm	<b>N</b> New construction	<b>U</b> Universal (120/277V)	<b>VB</b> Version B	<b>Z10V</b> 0-10V dimming <b>LD</b> Lutron driver	<b>EM</b> Emergency <sup>1</sup> <b>LC</b> Chicago Plenum
	<b>10</b> 1000lm	<b>N</b> New construction		<b>VB</b> Version B		
	<b>15</b> 1500lm	<b>N</b> New construction	<b>1</b> 120V <b>2</b> 277V	<b>VB</b> Version B	<b>Z10V</b> 0-10V dimming <b>LD</b> Lutron driver	<b>EM</b> Emergency <sup>1</sup> <b>LC</b> Chicago Plenum

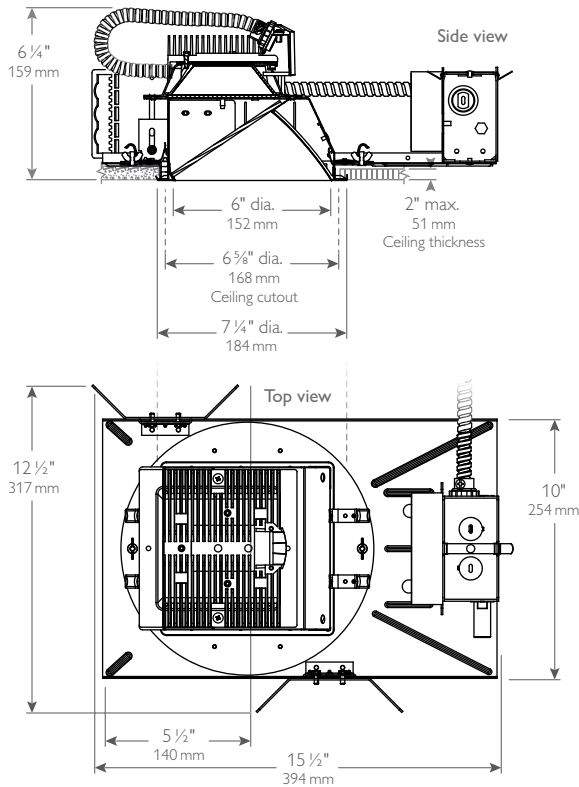
### Trim kit

example: C4X4L10WW35KCCDPVB

Series	Lumens	Style	CCT	Reflector finish	Flange	Version <sup>1</sup>
<b>C4X4L</b>	<input type="checkbox"/>	<b>WW</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>VB</b>
<b>C4X4L</b> Calculite 4" LED square aperture	<b>05</b> 500lm	<b>WW</b> Lensed wall wash	<b>27K</b> 2700K	<b>CL</b> Clear <b>CCL</b> Comfort clear <b>CCD</b> Comfort clear diffuse <b>CCZ</b> Champagne bronze <b>WH</b> White (painted)	<b>W</b> White (painted) <b>P</b> Polished (matches aperture)	<b>VB</b> Version B
	<b>10</b> 1000lm & 1500lm		<b>30K</b> 3000K <b>35K</b> 3500K <b>40K</b> 4000K			

1. Consult LED-EM spec sheet for **EM** option details and restrictions.

## 6" Lensed Wall Wash square aperture



Trim kit height is 5 1/2" (140mm)

Calculate White LED square aperture Wall Wash is comprised of a frame-in kit and a trim kit.

### Frame-in kit

example: C6X6L15NUVBZ10V

Series	Lumens	Installation	Input voltage	Version	Dimming	Options
<b>C6X6L</b>	<input type="checkbox"/>	<b>N</b>	<input type="checkbox"/>	<b>VB</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>C6X6L</b> Calculate 6" LED square aperture	<b>15</b> 1500lm	<b>N</b> New construction	<b>U</b> Universal (120/277V)	<b>VB</b> Version B	<b>Z10V</b> 0-10V dimming <b>LD</b> Lutron driver	<b>EM</b> Emergency <sup>1</sup> <b>LC</b> Chicago Plenum
	<b>20</b> 2000lm <b>35</b> 3500lm	<b>N</b> New construction	<b>1</b> 120V <b>2</b> 277V	<b>VB</b> Version B	<b>Z10V</b> 0-10V dimming <b>LD</b> Lutron driver	<b>EM</b> Emergency <sup>1</sup> <b>LC</b> Chicago Plenum

### Trim kit

example: C6X6L1520DL35KCCDPVB

Series	Lumens	Style	CCT	Reflector finish	Flange	Version <sup>1</sup>
<b>C6X6L</b>	<input type="checkbox"/>	<b>WW</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>VB</b>
<b>C6X6L</b> Calculate 6" LED square aperture	<b>1520</b> 1500lm, 2000lm, & 3500lm	<b>WW</b> Lensed wall wash	<b>27K</b> 2700K <b>30K</b> 3000K <b>35K</b> 3500K <b>40K</b> 4000K	<b>CL</b> Clear <b>CCL</b> Comfort clear <b>CCD</b> Comfort clear diffuse <b>CCZ</b> Champagne bronze <b>WH</b> White (painted)	<b>W</b> White (painted) <b>P</b> Polished (matches aperture) <b>FT</b> Flangeless (flush-mount) <sup>2</sup>	<b>VB</b> Version B

1. Consult LED-EM spec sheet for **EM** option details and restrictions.
2. Accessory **CA6X6FMR** required for gypsum applications (minimal 1/4" reflector flange).



**CA6X6FMR**  
Flangeless trim with plaster ring accessory.  
(Recommended for gypsum installations)



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