

# SIMPLESEAL DOWNLIGHT

## Luminaires for Cleanroom Applications

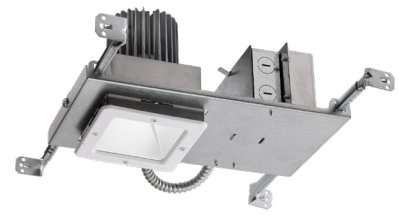
### CDL4 SERIES

**PRODUCT FEATURES:**

- » 4" sealed, recessed downlight with a flush trim; round or square aperture
- » 830 - 2,500 lm with multiple distribution, lens and color options
- » 1% Dimming via 0-10V or DALI-2 control
- » Suitable for ISO 5-9 cleanroom spaces



Round



Square

**SPECIFICATIONS**

**HEAT SINK:** Die-cast aluminum with external radial fins for natural convection.

**ROUGH-IN FRAME:** 18-gauge die-formed, corrosion-resistant steel. Vertically adjustable collar accommodates ceiling thicknesses up to 1.5", adjustable post-installation. Adjustable mounting bars for installation with wood and steel frame joists and T-grid ceiling systems spaced up to 24" on center. Quick-access junction box accessible post-installation from above and below ceiling. Includes (5) 1/2" knock-outs to allow straight conduit runs.

**TRIM/HOUSING SECTION:** IP-rated housing section incorporates the heat sink, LED module, optics and lower trim. Configurable with an IP64-rated Flush lens trim that is secured to the Rough-In frame with hidden torsion springs or an IP65 Flush lens trim secured with three (Round) or four (Square) Phillips-head, captive fasteners. Closed-cell gasketing at ceiling flange. See Trim Ordering Information for available options.

**OPTICAL:** Round or Square aperture. Clear tempered-glass upper lens. 1/8" clear impact-resistant acrylic or polycarbonate flush lens at ceiling trim. Continuous seal between lens and trim ring. Available with various reflector finishes. See Ordering Information for available options.

**ELECTRICAL:** LED source available in multiple CCT and CRI combinations with a maximum 3-step MacAdam variation allowance. See Trim Ordering Information for available options. 120-277VAC or 347VAC, 50/60Hz electrical input with serviceable constant current driver (<20% THD, >0.90 PF). Minimum 85% driver efficiency. Standard 0-10V dimming with 1-100% range and dim-to-dark capabilities; 0.2mA maximum source current. Optional eldoLED ECOdrive DALI-2/LEDcode2 driver with 1-100% range.

**PHOTOMETRICS:** Photometry tested to the IESNA LM-79-08 standard by an ILAC/ISO17025 accredited laboratory. For photometric information, go to [www.kenall.com](http://www.kenall.com).

**WARRANTY:** Limited five (5) year LED warranty.

**LISTINGS:** Luminaire is certified to UL standards by Intertek Testing Laboratory for non-IC and Wet Location installations. IP64 and IP65 rating per IEC60598. NSF2 Splash/Non-Food Zone. Optional CCEA compliance. Suitable for FED-STD-209E/Class 100 (ISO 5) Cleanrooms.



**ORDERING INFORMATION (EX: CDL4-FF-5BR-23L-40K9-CSS-T-RIG4-277-DIM1)**

TRIM							ROUGH-IN			
Model	Trim Style	Trim Finish	Lamp Power	Lamp Color	Reflector Finish	Flush Lens Type	Rough-In	Input Voltage	Driver Type	Options
<b>Model</b>				<b>Lamp Color</b>			<b>Rough-In</b>			
<b>CDL4</b>	4" Cleanroom - Round			<b>30K8</b>	3000K / 80 CRI min.		<b>RIG4</b>	4" Cleanroom Rough-In - Round		
<b>CDL4S</b>	4" Cleanroom - Square			<b>30K9</b>	3000K / 90 CRI min.		<b>RIG4S</b>	4" Cleanroom Rough-In - Square		
<b>Trim Style</b>				<b>35K8</b>	3500K / 80 CRI min.		<b>Input Voltage</b>			
<b>NF</b>	Flush Lens (Without Fasteners - IP64)			<b>35K9</b>	3500K / 90 CRI min.		<b>120</b>	120VAC, 50/60Hz		
<b>FF</b>	Flush Lens (With Fasteners - IP65)			<b>40K8</b>	4000K / 80 CRI min.		<b>277</b>	277VAC, 50/60Hz		
<b>Trim Finish</b>				<b>40K9</b>	4000K / 90 CRI min.		<b>347†</b>	347VAC, 60Hz		
<b>DCFW</b>	Die-Cast Aluminum in Flat White (NF Trim Style only)			<b>50K8</b>	5000K / 80 CRI min.		<b>Driver Type</b>			
<b>2FW</b>	Cold-Rolled Steel in Flat White			<b>Reflector Finish</b>			<b>DIM1</b>	0-10V Dimming to 1% with Dim-to-Dark		
<b>5BR</b>	Type 304 Stainless Steel with 4B Brushed Finish			<b>FW</b>	Flat White		<b>DALI</b>	DALI-2/LEDcode2 Dimming to 1% without Dim-to-Dark		
<b>5FW</b>	Type 304 Stainless Steel in Flat White			<b>CD</b>	Clear Diffuse		<b>Options</b>			
<b>Lamp Power</b>				<b>CS</b>	Clear Specular (square only)		<b>LEL</b>	Emergency Battery Backup with Remote Test Switch (0°C min ambient)		
<b>11L</b>	11 Watt LED			<b>CSS</b>	Clear Semi-Specular (round only)		<b>FS</b>	Fuse & Holder		
<b>23L*</b>	23 Watt LED			<b>Flush Lens Type</b>			<b>CCEA</b>	CCEA Approved		
				<b>T</b>	1/8" Clear High-Impact Acrylic					
				<b>G</b>	1/8" Clear Polycarbonate					

† N/A with DALI Driver Type. N/A with LEL and CCEA option

\* Must be installed with a minimum 24" on-center spacing, 12" from wall, and have 6" clearance above the Trim/Housing



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For additional photometry, go to [www.kenall.com](http://www.kenall.com)

Luminaires for Cleanroom Applications

## CDL4 SERIES

### PERFORMANCE

Optic				Lamp Power	Initial Delivered Lumens, By Lamp Color							Efficacy (lm/W)	Input Power (W)	TM-21 Reported L90 (hrs)	TM-21 Reported L70 (hrs)
Aperture	Trim Style	Reflector Finish	Lens Type		30K8	30K9	35K8	35K9	40K8	40K9	50K8				
Round	NF / FF	CD	T	11L	1,223	993	1,251	1,029	1,259	1,050	1,273	74 - 95	13	>55,000	>55,000
				23L	2,374	1,928	2,430	1,998	2,444	2,039	2,472	71 - 91	27	52,000	>55,000
			G	11L	1,201	975	1,229	1,011	1,236	1,031	1,251	73 - 93	13	>55,000	>55,000
				23L	2,333	1,894	2,387	1,962	2,401	2,003	2,429	69 - 89	27	52,000	>55,000
		CSS	T	11L	1,239	1,006	1,268	1,042	1,276	1,064	1,290	75 - 96	13	>55,000	>55,000
				23L	2,406	1,954	2,463	2,024	2,477	2,066	2,506	72 - 92	27	52,000	>55,000
			G	11L	1,217	988	1,246	1,024	1,253	1,045	1,268	74 - 95	13	>55,000	>55,000
				23L	2,364	1,919	2,419	1,989	2,433	2,030	2,462	70 - 90	27	52,000	>55,000
		FW	T	11L	1,161	942	1,188	976	1,195	997	1,209	70 - 90	13	>55,000	>55,000
				23L	2,254	1,830	2,307	1,896	2,320	1,935	2,347	67 - 86	27	52,000	>55,000
			G	11L	1,140	926	1,167	959	1,174	979	1,187	69 - 89	13	>55,000	>55,000
				23L	2,214	1,798	2,266	1,863	2,279	1,901	2,306	66 - 85	27	52,000	>55,000
Square	NF / FF	CD	T	11L	1,065	865	1,090	896	1,097	915	1,109	64 - 83	13	>55,000	>55,000
				23L	2,069	1,680	2,117	1,740	2,129	1,776	2,154	62 - 79	27	52,000	>55,000
			G	11L	1,026	833	1,050	863	1,056	881	1,069	62 - 80	13	>55,000	>55,000
				23L	1,993	1,618	2,040	1,677	2,051	1,711	2,075	59 - 76	27	52,000	>55,000
		CS	T	11L	1,246	1,012	1,275	1,048	1,283	1,070	1,298	75 - 97	13	>55,000	>55,000
				23L	2,420	1,965	2,477	2,036	2,491	2,078	2,520	72 - 92	27	52,000	>55,000
			G	11L	1,201	975	1,229	1,010	1,236	1,031	1,250	73 - 93	13	>55,000	>55,000
				23L	2,332	1,893	2,386	1,962	2,400	2,002	2,428	69 - 89	27	52,000	>55,000
		FW	T	11L	1,095	889	1,120	921	1,127	940	1,140	66 - 85	13	>55,000	>55,000
				23L	2,126	1,726	2,175	1,788	2,188	1,825	2,214	63 - 81	27	52,000	>55,000
			G	11L	1,055	856	1,079	887	1,086	906	1,098	64 - 82	13	>55,000	>55,000
				23L	2,048	1,663	2,096	1,723	2,108	1,759	2,133	61 - 78	27	52,000	>55,000

Subject to change without notice. Visit [www.kenall.com](http://www.kenall.com) for ies files and additional information.

Round Aperture Candela Curve	CDL4-qF-rrrr-23L-40K8-CSS-T		Distance to illuminated plane (ft)	CDL4S-qF-rrrr-23L-40K8-CS-T		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	150.1	2.5	5'	196.3	3.5	
	104.3	3.0	6'	136.4	4.2	
	76.6	3.5	7'	100.2	4.9	
	58.6	4.0	8'	76.7	5.6	
	46.3	4.5	9'	60.6	6.3	
	37.5	5.0	10'	49.1	7.0	
Spacing Criteria: 0.72	foot-candle multipliers for 30K8(.96), 30K9(.79), 35K8(.99), 35K9(.82), 40K9(.83), 50K8(1.01)				Spacing Criteria: 0.64	
Beam Angle: 28	Beam diameter is where foot-candles drop to 50% of maximum				Beam Angle: 39	



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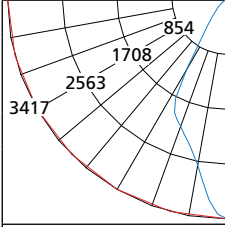
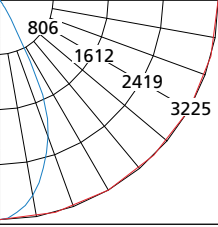
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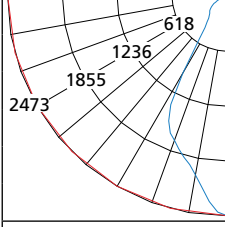
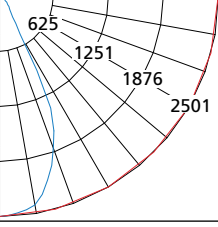
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## CDL4 SERIES

### PERFORMANCE

Round Aperture Candela Curve	CDL4-qF-rrrr-23L-40K8-CD-T		Distance to illuminated plane (ft)	CDL4S-qF-rrrr-23L-40K8-CD-T		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	136.7	5.2	5'	129.0	4.6	
	94.9	6.3	6'	89.6	5.5	
	69.7	7.3	7'	65.8	6.4	
	53.4	8.4	8'	50.4	7.3	
	42.2	9.4	9'	39.8	8.2	
	34.2	10.5	10'	32.3	9.1	
Spacing Criteria: 0.74	foot-candle multipliers for 30K8(.96), 30K9(.79), 35K8(.99), 35K9(.82), 40K9(.83), 50K8(1.01)					Spacing Criteria: 0.79
Beam Angle: 55	Beam diameter is where foot-candles drop to 50% of maximum					Beam Angle: 49

Round Aperture Candela Curve	CDL4-qF-rrrr-23L-40K8-FW-T		Distance to illuminated plane (ft)	CDL4S-qF-rrrr-23L-40K8-FW-T		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	98.9	5.4	5'	100.1	4.8	
	68.7	6.5	6'	69.5	5.8	
	50.5	7.6	7'	51.1	6.8	
	38.6	8.7	8'	39.1	7.7	
	30.5	9.7	9'	30.9	8.7	
	24.7	10.8	10'	25.0	9.7	
Spacing Criteria: 0.88	foot-candle multipliers for 30K8(.96), 30K9(.79), 35K8(.99), 35K9(.82), 40K9(.83), 50K8(1.01)					Spacing Criteria: 0.85
Beam Angle: 57	Beam diameter is where foot-candles drop to 50% of maximum					Beam Angle: 52



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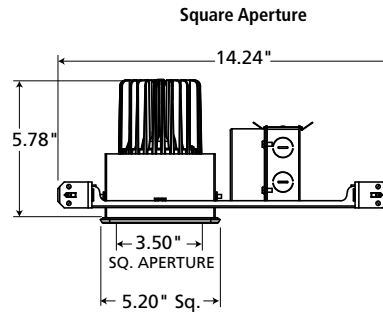
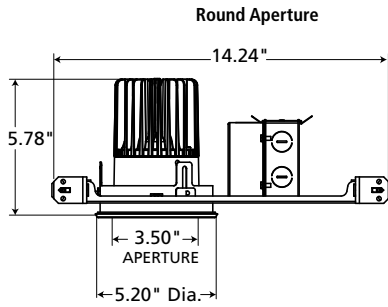
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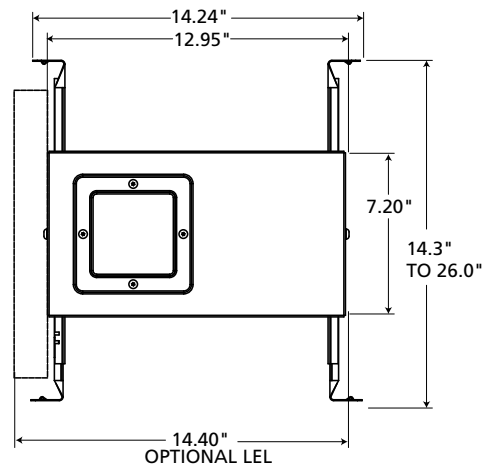
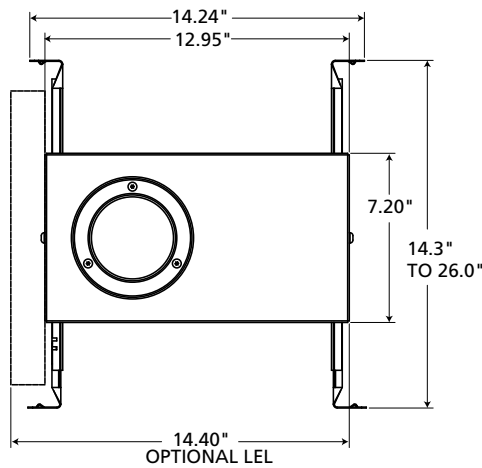
## CDL4 SERIES

### DIMENSIONAL DATA

#### CROSS SECTION



#### BOTTOM VIEW



RECOMMENDED CEILING CUTOUT:  
NF TRIM: 4.750" DIA.      FF TRIM: 4.875" DIA.

RECOMMENDED CEILING CUTOUT:  
NF TRIM: 4.750" X 4.750"      FF TRIM: 4.875" X 4.875"



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