

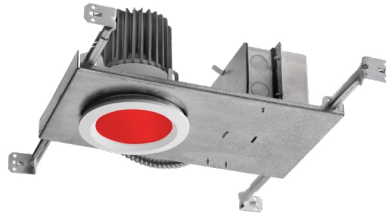
# SIMPLESEAL NARROW SPECTRUM

## Luminaires for Cleanroom Applications

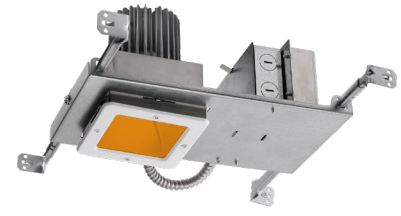
### CDL4 SERIES

#### PRODUCT FEATURES:

- » 4" sealed, recessed downlight with a flush trim; round or square aperture
- » Native 630nm Red and 590nm Amber lamping options for narrow bandwidth, spectrally sensitive applications such as photo-sensitive manufacturing
- » 1% Dimming via 0-10V or DALI control
- » Suitable for ISO 5-9 cleanroom spaces



Round - 630nm Red



Square - 590nm Native Amber

#### 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. Diffused 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:** Native 630nm Red and 590nm Amber LED options (non phosphor-converted). Narrow bandwidth native sources provide optimal control over spectral emissions. 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 three (3) 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-10R-CSS-T-RIG4-277-DIM1)

TRIM					ROUGH-IN															
Model	Trim Style	Trim Finish	Lamp Power/Color	Reflector Finish	Flush Lens Type	Rough-In	Input Voltage	Driver Type	Options											
<b>Model</b>					<b>Reflector Finish</b>					<b>Driver Type</b>										
CDL4	4" Cleanroom - Round			FW	Flat White	DIM1	0-10V Dimming to 1% with Dim-to-Dark													
CDL4S	4" Cleanroom - Square			CD	Clear Diffuse	DALI	DALI-2/LEDcode2 Dimming to 1% without Dim-to-Dark													
<b>Trim Style</b>					<b>Flush Lens Type</b>					<b>Options</b>										
NF	Flush Lens (Without Fasteners - IP64)			CS	Clear Specular (square only)	LEL	Emergency Battery Backup with Remote Test Switch (0°C min. ambient)													
FF	Flush Lens (With Fasteners - IP65)			CSS	Clear Semi-Specular (round only)	FS	Fuse & Holder													
<b>Trim Finish</b>					<b>Rough-In</b>					<b>CCEA</b>										
DCFW	Die-Cast Aluminum in Flat White (NF Trim Style only)			RIG4	4" Cleanroom Rough-In - Round															
2FW	Cold-Rolled Steel in Flat White			RIG4S	4" Cleanroom Rough-In - Square															
5BR	Type 304 Stainless Steel with 4B Brushed Finish																			
5FW	Type 304 Stainless Steel in Flat White																			
<b>Lamp Power / Color</b>					<b>Input Voltage</b>															
10R	10 Watt 630nm Native Red LED			120	120VAC, 50/60Hz															
12NA	12 Watt 590nm Native Amber LED			277	277VAC, 50/60Hz															
				347†	347VAC, 60Hz															

# SIMPLESEAL NARROW SPECTRUM

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#### PERFORMANCE

Optic				Lamp Code	Lamp Color	Initial Delivered Lumens	Input Power (W)	Estd. L70 LED Life (hrs)
Aperture	Trim Style	Reflector Finish	Lens Type					
Round	FF	CD	T	8R	630nm Red	345	10	36,000
				12NA	590nm Native Amber	357	14	36,000
			G	8R	630nm Red	339	10	36,000
				12NA	590nm Native Amber	351	14	36,000
		CSS	T	8R	630nm Red	350	10	36,000
				12NA	590nm Native Amber	362	14	36,000
			G	8R	630nm Red	344	10	36,000
				12NA	590nm Native Amber	356	14	36,000
		FW	T	8R	630nm Red	328	10	36,000
				12NA	590nm Native Amber	339	14	36,000
			G	8R	630nm Red	322	10	36,000
				12NA	590nm Native Amber	333	14	36,000
Square	NF / FF	CD	T	8R	630nm Red	301	10	36,000
				12NA	590nm Native Amber	311	14	36,000
			G	8R	630nm Red	290	10	36,000
				12NA	590nm Native Amber	300	14	36,000
		CS	T	8R	630nm Red	352	10	36,000
				12NA	590nm Native Amber	364	14	36,000
			G	8R	630nm Red	339	10	36,000
				12NA	590nm Native Amber	351	14	36,000
		FW	T	8R	630nm Red	309	10	36,000
				12NA	590nm Native Amber	320	14	36,000
			G	8R	630nm Red	298	10	36,000
				12NA	590nm Native Amber	308	14	36,000

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-ssss-12NA-CSS-T		Distance to illuminated plane (ft)	CDL4S-qF-ssss-12NA-CS-T		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	14.5	4.6	5'	26.9	4.0	
	10.1	5.5	6'	18.7	4.8	
	7.4	6.4	7'	13.7	5.6	
	5.7	7.3	8'	10.5	6.4	
	4.5	8.2	9'	8.3	7.2	
	3.6	9.1	10'	6.7	8.0	
Spacing Criteria: 0.93	Beam diameter is where foot-candles drop to 50% of maximum				Spacing Criteria: 0.68	
Beam Angle: 72					Beam Angle: 44	

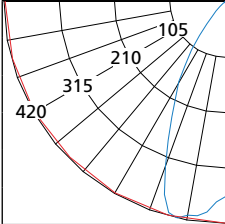
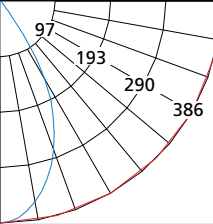


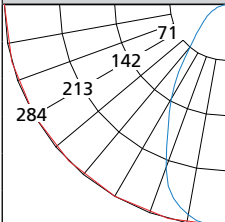
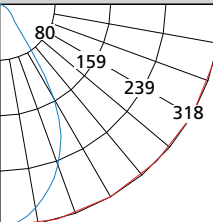
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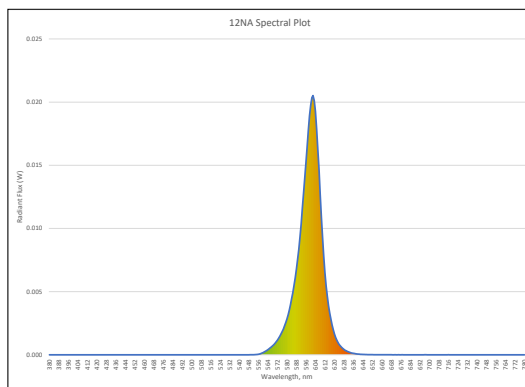
### CDL4 SERIES

#### PERFORMANCE

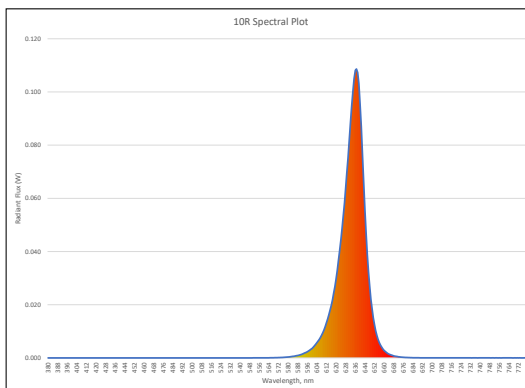
Round Aperture Candela Curve	CDL4-qF-ssss-12NA-CD-T		Distance to illuminated plane (ft)	CDL4S-qF-ssss-12NA-CD-T		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	14.8	4.6	5'	15.5	5.2	
	10.3	5.5	6'	10.7	6.3	
	7.5	6.4	7'	7.9	7.3	
	5.8	7.3	8'	6.0	8.4	
	4.6	8.2	9'	4.8	9.4	
	3.7	9.1	10'	3.9	10.4	
Spacing Criteria: 0.92	Beam diameter is where foot-candles drop to 50% of maximum					Spacing Criteria: 0.84
Beam Angle: 49						Beam Angle: 55

Round Aperture Candela Curve	CDL4-qF-ssss-12NA-FW-T		Distance to illuminated plane (ft)	CDL4S-qF-ssss-12NA-FW-T		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	11.4	5.7	5'	12.7	5.7	
	7.9	6.8	6'	8.9	6.9	
	5.8	7.9	7'	6.5	8.0	
	4.4	9.1	8'	5.0	9.2	
	3.5	10.2	9'	3.9	10.3	
	2.8	11.3	10'	3.2	11.5	
Spacing Criteria: 0.88	Beam diameter is where foot-candles drop to 50% of maximum					Spacing Criteria: 0.92
Beam Angle: 59						Beam Angle: 60

#### SPECTROPHOTOMETRIC PERFORMANCE



12NA	
Purity	1.0006
UV (<400nm)	0.000%
Radiant Flux (≤560nm)	0.000%
Bandwidth	17.8 nm
Peak Wavelength	590 nm



10R	
Purity	1.0003
UV (<400nm)	0.000%
Radiant Flux (≤560nm)	0.000%
Bandwidth	18.7 nm
Peak Wavelength	630 nm



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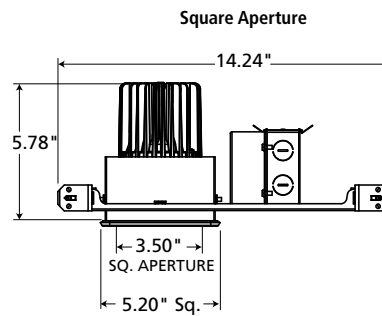
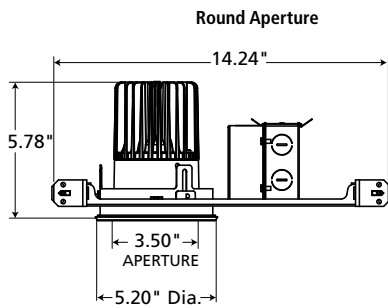
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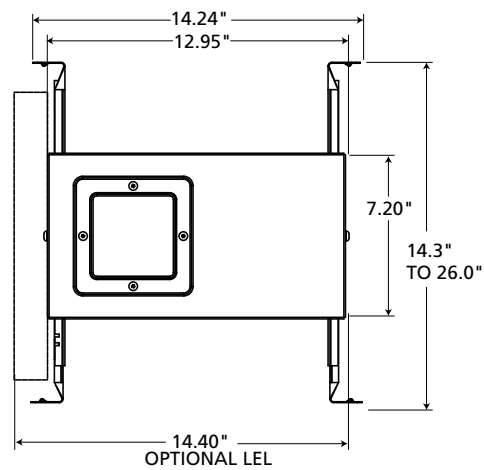
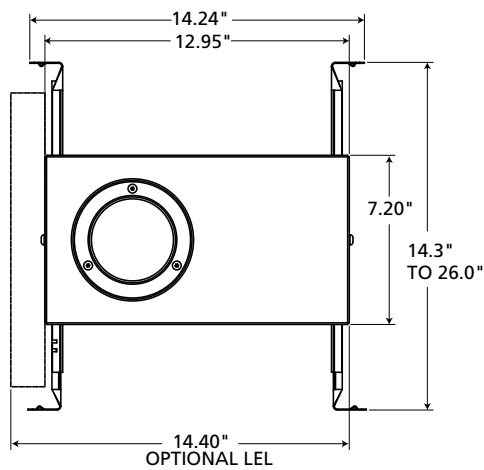
### CDL4 SERIES

#### 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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