PROJECT	Job Name	Catalog Number	
NFORMATION	Fixture Type	Approved by	_

# Luminaires for Cleanroom Applications

#### **CDL SERIES**

#### **PRODUCT FEATURES:**

- » 6" sealed, recessed downlight with flush lens trim
- » 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



630nm (Red)



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 2", adjustable post-installation. Universal mounting brackets accept 3/4" and 1-1/2" lathers channel, 1/2" EMT conduit and hanger bars. Quick-access junction box accessible post-installation from above and below ceiling. Includes (4) 1/2" and (2) 3/4" knock-outs to allow straight conduit runs. Listed for (8) 12AWG, 90°C conductors and feed-thru branch wiring. Provided with FMC with electrical quick-connect to Trim Section.

**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, and an IP65 Flush lens trim secured with four (4) Phillips-head, captive fasteners. See trim ordering information for available options.

**OPTICAL:** Diffused tempered glass upper lens. No light filtering elements. Available with various reflector distribution patterns and finishes. Flush lens trim options include a clear lens. See distribution and reflector finish 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 (non dim-to-dark with 347V); 165µA maximum source current. Optional eldoLED ECOdrive DALI 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.

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. Meets FED-STD-209E/Class 100 (ISO 5) Cleanrooms.



12NA





12 Watt 590nm Native Amber LED







1/8" Clear Polycarbonate

#### ORDERING INFORMATION (EX: CDL6-FF-2FW-10R-W-CSS-T-RIG6-DV-DIM1)

Model	Trim Style	Trim Finish	Lamp Power	Distrib	ution	Reflector Finish	Flush Lens Type						
CDL	6												
Trim S	tyle			Distri	bution								
FF	Flush Lens (With Fa	steners - IP65)		M	M Medium								
NF	Flush Lens (Withou	Fasteners - IP6	54)	W	W								
Trim F	inish			Refle	ctor Fi	nish							
2FW	Cold-Rolled Stee	in Flat White		FW Flat White									
5BR	Type 304 Stainle	s Steel with 4E	Brushed Finish	CS Clear Specular									
5FW	Type 304 Stainle	ss Steel in Flat \	Vhite	CSS	Clear S	Semi-Specular							
Lamp	Power / Color		Flush	Lens T	vpe								
10R	10 Watt 630nr	n Native Red LF	D	т	1/8" C	lear High-Impact A	crylic						

ROUGH-IN			
Rough-In	Input Voltage	Driver Type	Options
RIG6			

#### Rough-In RIG6 6" Rough-In

Input Voltage
DV 120-277V, 50/60Hz
120 120VAC, 50/60Hz
277 277VAC, 50/60Hz
347\* 347VAC, 60Hz

Driver Type
DIM1 0-10V Dimming to 1%
DALI Dimming to 1%

#### Options

LEL 7W Emergency Battery Backup with Remote Test Switch
FS Fuse & Holder

CCEA CCEA Approved (specified voltage required; n/a 347V)

\* N/A with DALI Driver Type. N/A with LEL option



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#### PHOTOMETRIC PERFORMANCE

		Optic											
Distribution	Distribution	Reflector Finish	Lens Type	Lamp Code	Lamp Color	Initial Delivered Lumens	Input Power (W)	Estd. L70 LED Life (hrs)					
			Т	10R	630nm Red	411	12						
		CS	Į.	12NA	590nm Native Amber	235	15						
		C3	G	10R	630nm Red	400	12						
			G	12NA	590nm Native Amber	228	15						
			Т	10R	630nm Red	386	12						
	M	CSS	ı	12NA	590nm Native Amber	220	15						
	IVI	C33	G	10R	630nm Red	375	12						
			G	12NA	590nm Native Amber	214	15						
			Т	10R	630nm Red	381	12						
		FW	'	12NA	590nm Native Amber	218	15						
		1 VV	G	10R	630nm Red	371	12						
FF / NF			J	12NA	590nm Native Amber	212	15	36,000					
FF / INF			Т	10R	630nm Red	463	12	30,000					
		CS	'	12NA	590nm Native Amber	264	15						
		C3	G	10R	630nm Red	450	12						
			G	12NA	590nm Native Amber	257	15						
			Т	10R	630nm Red	393	12						
	W	CSS	ı	12NA	590nm Native Amber	224	15						
	VV	C33	G	10R	630nm Red	382	12						
			· ·	12NA	590nm Native Amber	218	15						
			Т	10R	630nm Red	435	12						
		FW	1	12NA	590nm Native Amber	248	15						
		1 VV	G	10R	630nm Red	423	12						
			J	12NA	590nm Native Amber	242	15						

Subject to change without notice. Visit www.kenall.com for ies files and additional information.

Luminaires for Cleanroom Applications

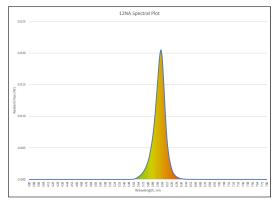
## **CDL SERIES**

#### PHOTOMETRIC PERFORMANCE

	CDL6-vF-12	NA-W-CS-T		CDL6-vF-12	NA-M-CS-T								
Wide Distribution Candela Curve	Initial center beam footcandles	Beam diameter (ft)	Distance to illuminated plane (ft)	Initial center beam footcandles	Beam diameter (ft)	Medium Distribution Candela Curve							
555	5.8	7.3	5'	18.7	2.8	131							
111	4.1	8.8	6'	13.0	3.4	261							
166	3.0	10.2	7'	9.6	3.9	392 7							
	2.3	11.7	8'	7.3	4.5								
	1.8	13.2	9'	5.8	5.0	$HY \setminus Y \mid$							
	1.5	14.6	10'	4.7	5.6								
Spacing Criteria: 1.38		foot-o	Spacing Criteria: 0.61										
Beam Angle: 72°		Beam diame	eter is where foot-candles drop to 50%	of maximum		Beam Angle: 31°							

	CDL6-vF-12I	NA-W-CSS-T		CDL6-vF-12I	NA-M-CSS-T								
Wide Distribution Candela Curve	Initial center beam footcandles	Beam diameter (ft)	Distance to illuminated plane (ft)	Initial center beam footcandles	Beam diameter (ft)	Medium Distribution Candela Curve							
40	6.35	5.7	5'	11.9	4.6	76							
80	4.41	6.8	6'	8.2	5.5	153							
160	3.24	7.9	7'	6.1	6.5	229 /							
	2.48	9.1	8'	4.6	7.4								
	1.96	10.2	9'	3.7	8.3	$HH \setminus Y \mid$							
	1.59	11.3	10'	3.0	9.2								
Spacing Criteria: 1.13		·	Spacing Criteria: 0.77										
Beam Angle: 59°		Beam diameter is where foot-candles drop to 50% of maximum											

#### SPECTROPHOTOMETRIC PERFORMANCE



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

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0	0.120																																								
																											1														
0	0.100																																								
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10R	
Purity	1.0003
UV (<400nm)	0.000%
Radiant Flux ( ≤560nm)	0.000%
Bandwidth	18.7 nm
Peak Wavelength	630 nm

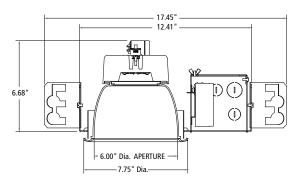


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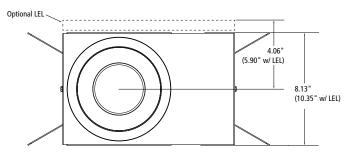
## **CDL SERIES**

**DIMENSIONAL DATA** 

## **CROSS SECTION**



## **BOTTOM VIEW**



RECOMMENDED CEILING CUT-OUT

NF Trims: 7.13" Dia. FF Trims: 7.38" Dia.