

# SIMPLESEAL® CSEDI

## RECESSED INSET DOOR - NARROW SPECTRUM LED

### Luminaires for Cleanroom Applications



#### PRODUCT FEATURES

- Recessed ceiling mount; grid or flange - 1'x4', 2'x2', 2'x4'
- Phosphor-converted 570 nm Amber, Native 590 nm Amber, 630 nm Red and 660 nm Deep Red lamping options for spectrally sensitive applications such as photo-sensitive manufacturing
- White LED light sources deliver greater than 90 CRI without sacrificing efficacy
- Evenly illuminated diffuser in white mode provides reduced glare and surface brightness
- Low-profile housing fits in tight spaces – only 2.5" deep
- One piece inset doorframe, secured to housing with aircraft cables

#### SPECIFICATIONS

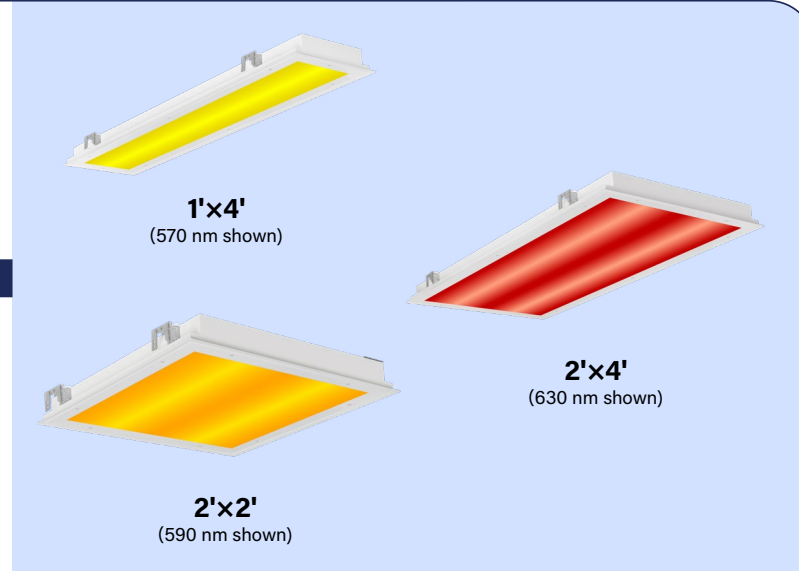
**HOUSING:** Constructed of die-formed, fully seam-welded 24-gauge cold rolled steel as standard. Optional 20-gauge CRS, 304 stainless or .050" aluminum. 18-gauge housing flange with mitered and welded-corners in matching material type. White TGIC polyester powder coat finish – 5-step pre-treatment. Salt spray test: 1,000 hours; Reflectance: 92%.

**DOORFRAME:** Standard one-piece, 20-gauge cold-rolled steel with inset-style construction and seam-welded corners. Optional Type 304 stainless steel in 4B brushed finish or painted aluminum. Gloss white TGIC polyester powder coat finish with 5-stage pre-treatment. Doorframe secured to housing with galvanized steel aircraft cables and captive, flush-mounted Phillips-head fasteners. Closed-cell silicone gasket seals doorframe to housing.

**OPTICS:** High-impact diffuse acrylic lens, nominal .125" thick. Continuous seal to perimeter of door aperture with RTV silicone and mechanical retention bracketry.

**LED MODULE:** Serviceable back-lit LED array. Replaceable narrow spectrum 570 nm phosphor-converted amber (115nm bandwidth), 590 nm native amber (15nm bandwidth), 630 nm native red or 660 nm native deep red mid-power LED arrays for spectrally sensitive applications. Available separately circuited and controlled white LED source with 90CRI min, 3 SDCM color variation max.

**DRIVER:** 120-277VAC or 347VAC, 50/60Hz electrical input with serviceable constant-current drivers (<20% THD, >0.90 PF). Minimum 85% driver efficiency. Standard 0-10V dimming with 1-100% range and dim-to-dark capabilities. 0.4mA maximum driver source current. Consult factory for DALI availability. Narrow spectrum and white LED circuits can be independently powered and dimmed.



**SENSOR & CONTROLS:** Wattstopper or third-party control options available upon request. To see the full list of compatible controls, click [here](#).

**INSTALLATION:** Suitable for recessed ceiling installation in specified grid or drywall (flange) ceiling types. Grid installation suitable for 15/16", 1" and 1.5" wide T-bar ceilings. Includes integral grid brackets designed for lay-in applications with nominal T-bar heights of 1.5", 1-11/16", and 2". Refer to installation instructions for additional details. The construction can accommodate other T-bar heights when means of attachment to the structure are provided by others. Flange constructions shall be specified for total ceiling thicknesses (including structure) of 1.30"-2.20" (F1) or 2.10"-3.00" (F2). See Options for continuous row mounting and install frames. Gasketed wire access panel on rear of housing allows electrical connections without door removal; includes one 7/8" hole and one 7/8" knockout. Suitable for -30°C to 40°C ambient environments, unless otherwise noted.

**PHOTOMETRICS:** Photometry tested to the IESNA LM-79-08 standard. For additional photometric data, please go to [www.kenall.com](#).

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

**LISTINGS:** Luminaire is certified to UL standards by Intertek Testing Laboratories for recessed ceiling insulation contact (IC-rated) and Indoor Wet Location installations. Certified IP65 per IEC 60598. Certified NSF2 Splash Zone. CCEA Approved. Suitable for biosafety labs rated BSL 1 and 2. Meets FED-STD-209E/Class 1 (ISO 3) Cleanrooms. Suitable for EU GMP Grade A cleanrooms. CSEDI is participating in Declare. Build America, Buy America Act compliant.

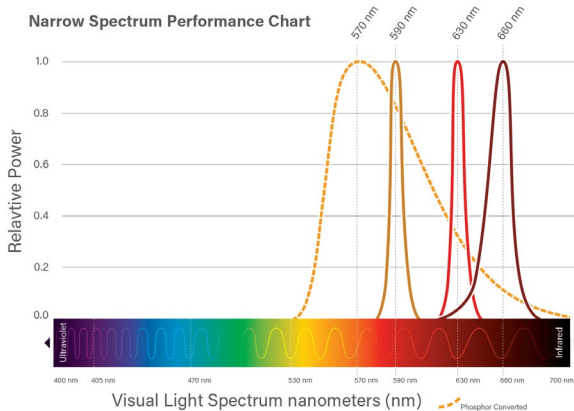
#### ORDERING INFORMATION (EX: CSEDI-24-F1-54DR/63L-40K9-DIMI-DV-2F-4H-SYM-2-LEL)

Model	Size	Ceiling Type	Lamp Power	Lamp Color	Driver	Voltage	Doorframe	Housing	Optical	Fasteners	Options	Accessories	
<b>CSEDI</b>									<b>SYM</b>				
<b>Size</b>					<b>2'x4' Lamp Power Continued</b>					<b>Housing Options</b>			
14	1'x4' Nominal								4H	24-Ga CRS in Gloss White (STD)			
22	2'x2' Nominal								2H	20-Ga CRS in Gloss White			
24	2'x4' Nominal								5H	20-Ga Type 304 SS			
									PAH	.050" Fabricated Aluminum in Gloss White			
<b>Ceiling Type</b>					<b>Lamp Color (White Lamping Only)</b>					<b>Optical Distribution</b>			
G	Grid 1"-1.5" T Bar								SYM	Symmetric, Diffused DR Acrylic			
F1*	Flange 1.30"-2.20" Ceiling Thickness								<b>Doorframe Fasteners</b>				
F2*	Flange 2.10"-3.00" Ceiling Thickness								1	Stainless Steel Flush Philips Head (STD)			
									2	White Painted Stainless Steel Flush Philips Head			
<b>Lamp Power</b>					<b>Driver Type</b>					<b>Options</b>			
<b>1'x4' &amp; 2'x2'</b>					<b>DIMI</b>					<b>LEL‡</b>			
22R/44L	22W 630 nm Native Red / 44W White LED								10W Emergency Battery Pack				
22R/63L	22W 630 nm Native Red / 63W White LED								<b>AMF▲</b>				
22R	22W 630 nm Native Red								Antimicrobial Finish				
22NA/44L	22W 590 nm Native Amber / 44W White LED								<b>FS</b>				
22NA/63L	22W 590 nm Native Amber / 63W White LED								Fuse & Holder				
22NA	22W 590 nm Native Amber								<b>HJ</b>				
54DR	54W 660 nm Native Deep Red								Sealed Wireway				
45A/44L	45W 570 nm PC Amber / 44W White LED								<b>RM†</b>				
45A	45W 570 nm PC Amber								Continuous Row Mounting				
90A	90W 570 nm PC Amber								<b>Accessories</b>				
<b>2'x4'</b>					<b>Voltage</b>					<b>IF††</b>			
22R/63L	22W 630 nm Native Red / 63W White LED								Install Frame (for use with Ceiling Type F2 only)				
22R/80L	22W 630 nm Native Red / 80W White LED								* Add .375" to ceiling cut out dimensions				
22R/120L	22W 630 nm Native Red / 120W White LED								† Only available when installed in drywall ceilings (flange mount)				
44R	44W 630 nm Native Red								‡ n/a with 347V input. 0°C/32°F min. ambient. Wired to the narrow spectrum circuit when combination lamping is specified.				
22NA/63L	22W 590 nm Native Amber / 63W White LED								▲ Applied only to exposed painted surfaces of luminaire (not available on stainless steel doorframes)				
22NA/80L	22W 590 nm Native Amber / 80W White LED								▼ F1 & F2 are also compatible with Grid ceiling installation when using commercial hardware by others				

**PERFORMANCE**

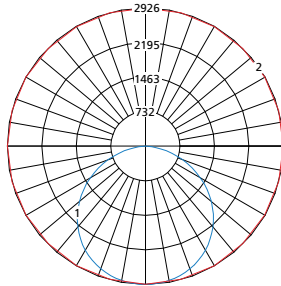
SIZE	LAMP CODE	LAMP DESCRIPTION	Initial Delivered Lumens, By Lamp Type (lm)					EFFICACY, WHITE (LM/W)	INPUT POWER, COLOR (W)	INPUT POWER, WHITE (W)	TM-21 REPORTED L70 (HRS)
			COLORS	30K9	35K9	40K9	50K9				
1 x 4	22NA/44L	590 nm Native Amber / White	1,236	5,791	6,008	6,150	6,242	116 - 125	27	50	>60K / >102K
	22NA/63L		1,236	8,134	8,439	8,638	8,768	117 - 126	27	69	
	45A/44L	570 nm PC Amber / White	5,927	5,791	6,008	6,150	6,242	116 - 125	47	50	>60K / >102K
	22R/44L	630 nm Native Red / White	1,421	5,791	6,008	6,150	6,242	116 - 125	27	50	>60K / >102K
	22R/63L		1,421	8,134	8,439	8,638	8,768	117 - 126	27	69	
	22NA	590 nm Native Amber	1,236	-	-	-	-	-	27	-	>60,000
	45A	570 nm PC Amber	5,927	-	-	-	-	-	47	-	>60,000
	22R	630 nm Native Red	1,421	-	-	-	-	-	27	-	>60,000
54DR	660 nm Native Deep Red	981	-	-	-	-	-	61	-	>54,000	
2 X 2	22NA/44L	590 nm Native Amber / White	1,258	5,893	6,114	6,258	6,352	118 - 127	27	50	>60K / >102K
	22NA/63L		1,258	8,128	8,432	8,631	8,761	116 - 125	27	70	
	45A/44L	570 nm PC Amber / White	6,031	5,893	6,114	6,258	6,352	118 - 127	47	50	>60K / >102K
	22R/44L	630 nm Native Red / White	1,446	5,893	6,114	6,258	6,352	118 - 127	27	50	>60K / >102K
	22R/63L		1,446	8,128	8,432	8,631	8,761	116 - 125	27	70	
	22NA	590 nm Native Amber	1,258	-	-	-	-	-	27	-	>60,000
	45A	570 nm PC Amber	6,031	-	-	-	-	-	47	-	>60,000
	90A		9,561	-	-	-	-	99	-		
	22R	630 nm Native Red	1,446	-	-	-	-	-	27	-	>60,000
54DR	660 nm Native Deep Red	999	-	-	-	-	-	61	-	>54,000	
2 X 4	22NA/63L	590 nm Native Amber / White	1,366	8,827	9,157	9,374	9,514	127 - 137	27	70	>60K / >102K
	22NA/80L		1,366	11,204	11,624	11,898	12,077	128 - 138	27	88	
	22NA/120L		1,366	16,338	16,950	17,350	17,610	126 - 136	27	129	
	45A/44L	570 nm PC Amber / White	6,428	6,436	6,677	6,834	6,937	131 - 141	48	49	>60K / >102K
	45A/63L		6,428	8,827	9,157	9,374	9,514	127 - 137	48	70	
	45A/80L		6,428	11,204	11,624	11,898	12,077	128 - 138	48	88	
	90A/80L		10,536	11,204	11,624	11,898	12,077	128 - 138	99	88	
	22R/63L	630 nm Native Red / White	1,545	8,827	9,157	9,374	9,514	127 - 137	27	70	>60K / >102K
	22R/80L		1,545	11,204	11,624	11,898	12,077	128 - 138	27	88	
	22R/120L		1,545	16,338	16,950	17,350	17,610	126 - 136	27	129	
	54DR/63L	660 nm Native Deep Red / White	1,089	8,827	9,157	9,374	9,514	127 - 137	62	70	>54K / >102K
	54DR/80L		1,089	11,204	11,624	11,898	12,077	128 - 138	62	88	
	44NA	590 nm Native Amber	2,579	-	-	-	-	-	52	-	>60,000
	90A	570 nm PC Amber	10,536	-	-	-	-	-	99	-	>60,000
	135A		15,502	-	-	-	-	148	-		
44R	630 nm Native Red	2,994	-	-	-	-	-	52	-	>60,000	
108DR	660 nm Native Deep Red	1,498	-	-	-	-	-	135	-	>54,000	

**NOTE:** Information subject to change without notice. All testing conducted by an ILAC/ISO17025 accredited laboratory. Please visit [www.kenall.com](http://www.kenall.com) for IES files and additional information.



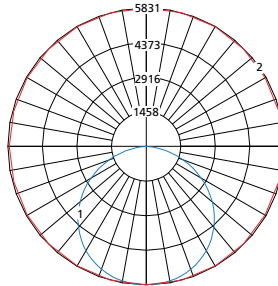
PERFORMANCE

Model: CSEDI-22-pp-qq\_63L-40K9-DIMI-DV-uu-vv-SYM-xx-yy-zz White on



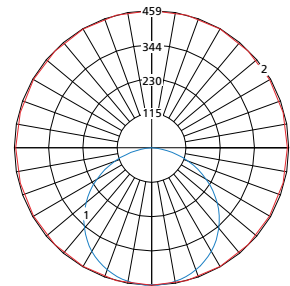
Max Candela = 2926 Located At Horizontal Angle = 0, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDI-24-pp-qq\_120L-40K9-DIMI-DV-uu-vv-SYM-xx-yy-zz White on



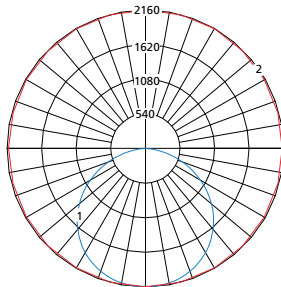
Max Candela = 5831 Located At Horizontal Angle = 90, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDI-24-pp-22NA\_qq-rr-DIMI-DV-uu-vv-SYM-xx-yy-zz Native Amber on



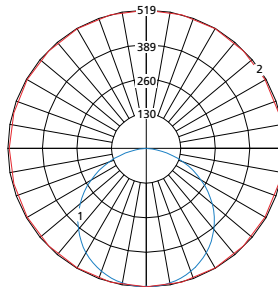
Max Candela = 459 Located At Horizontal Angle = 90, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDI-24-pp-45A\_qq-rr-DIMI-DV-uu-vv-SYM-xx-yy-zz Amber on



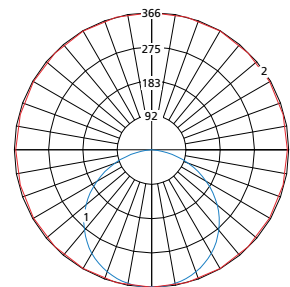
Max Candela = 2160 Located At Horizontal Angle = 90, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDI-24-pp-22R\_qq-rr-DIMI-DV-uu-vv-SYM-xx-yy-zz Native Red on



Max Candela = 519 Located At Horizontal Angle = 90, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

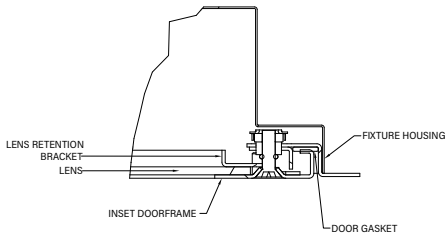
Model: CSEDI-24-pp-54DR\_qq-rr-DIMI-DV-uu-vv-SYM-xx-yy-zz Native Deep Red on



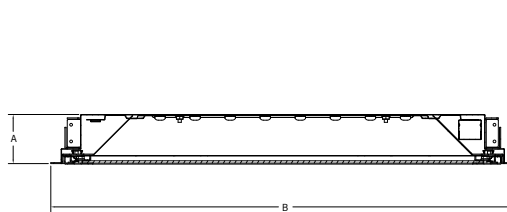
Max Candela = 366 Located At Horizontal Angle = 90, Vertical Angle = 2.5  
 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

DIMENSIONAL DATA

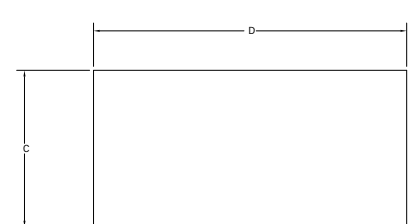
GASKET PROFILE



CROSS SECTION



CEILING CUTOUT



DIMENSIONAL DATA (IN INCHES)

	A	B	C*	D*
1x4	2.50	11.63 x 47.63	10.85	46.85
2x2	2.50	23.63 X 23.63	22.85	22.85
2x4	2.50	23.63 X 47.63	22.85	46.85

\* Add .375" to ceiling cut out dimensions when IF Option is specified