

SIMPLESEAL® CSEDI

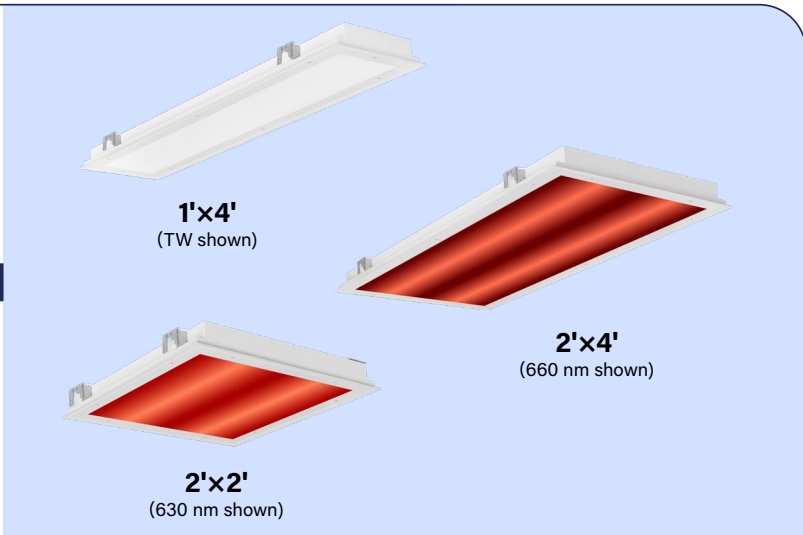
RECESSED INSET DOOR - NARROW SPECTRUM & TUNABLE WHITE LED

Luminaires for Cleanroom Applications



PRODUCT FEATURES

- Recessed ceiling mount; grid or flange - 1'x4', 2'x2', 2'x4'
- Native 630 nm Red and 660 nm Deep Red lamping options for spectrally sensitive applications such as animal research
- High-output, high-CRI LED lamp sources with 2700K-5000K white tuning capability
- Evenly illuminated diffuser in white mode provides reduced glare and surface brightness
- 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 arrays with separately controlled tunable white and narrow spectrum circuits. Tunable white lamping has a 2700K through 5000K CCT adjustment range with a two-point path; minimum 90 CRI standard (R9 >50); 3 SDCM color variation max. Narrow spectrum offering is 630 nm native red or 660 nm native deep red mid-power LED arrays for spectrally sensitive applications.

DRIVER: 120-277VAC, 50/60Hz electrical input (PF ≥ 0.9, THD < 20%). Minimum 85% electrical efficiency. Tunable white and narrow spectrum circuits can be independently powered and dimmed. **Narrow Spectrum:** Serviceable constant-current programmable driver. Dimming protocol matches tunable white circuit selection: 0-10V dimming with 1-100% range and dim-to-dark capabilities or DALI (Type 6) with 1-100% range without dim-to-dark capability. **Tunable White:** Serviceable, constant-current multi-channel programmable driver with dual analog (0-10V) control inputs for intensity and CCT. Optional DALI (Type 8) driver. Logarithmic intensity profile with 0.1-100% range, with dim-to-dark capabilities. Linear profile on CCT adjustment. Refer to charts on page 2 for further details.

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/63T-27/50K9-ATW-DV-2F-4H-SYM-2-LEL)

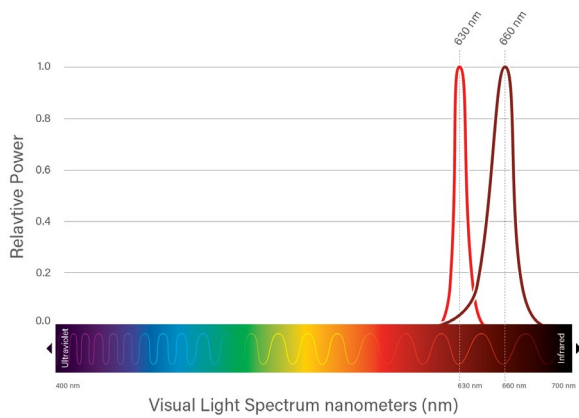
Model	Size	Ceiling Type	Lamp Power	Lamp Color	Driver	Voltage	Doorframe	Housing	Optical	Fasteners	Options	Accessories
CSEDI					DV			SYM				
Size					Lamp Color (Tunable White Lamping Only)			Doorframe Fasteners				
14	1'x4' Nominal				27/50K9	2700K-5000K / 90 CRI min.	1	Stainless Steel Flush Philips Head (STD)				
22	2'x2' Nominal						2	White Painted Stainless Steel Flush Philips Head				
24	2'x4' Nominal											
Ceiling Type					Driver Type			Options				
G	Grid 1"-1.5" T Bar				ATW	Analog (0-10V) Dimming Tunable White Driver to 0.1%			LEL†	10W Emergency Battery Pack		
F1*	Flange 1.30"-2.20" Ceiling Thickness				DTW	DALI DT8 Tunable White Driver Dimmable to 0.1%			AMF*	Antimicrobial Finish		
F2*	Flange 2.10"-3.00" Ceiling Thickness								FS	Fuse & Holder		
									HJ	Sealed Wireway		
									RM†	Continuous Row Mounting		
Lamp Power					Voltage			Accessories				
1'x4'					DV			IF*† Install Frame (for use with Ceiling Type F2 only)				
22R/44T	22W 630 nm Native Red / 44W Tunable White LED				Doorframe Options			* Add .375" to ceiling cut out dimensions				
22R/63T	22W 630 nm Native Red / 63W Tunable White LED				5F	20-Ga Type 304SS with 4B Brushed Finish	† Only available when installed in drywall ceilings (flange mount)					
2'x2'					2F	18-Ga CRS in Gloss White (STD)	‡ n/a with 347V input. 0°C/32°F min. ambient. Wired to the narrow spectrum circuit when combination lamping is specified. n/a with 22R/63T on 2'x2'.					
22R/44T	22W 630 nm Native Red / 44W Tunable White LED				PAF	.050" Fabricated Aluminum in Gloss White	▲ Applied only to exposed painted surfaces of luminaire (not available on stainless steel doorframes)					
22R/63T	22W 630 nm Native Red / 63W Tunable White LED				Housing Options			▼ F1 & F2 are also compatible with Grid ceiling installation when using commercial hardware by others				
22R/80T	22W 630 nm Native Red / 80W Tunable White LED				4H	24-Ga CRS in Gloss White (STD)						
54DR/44T	54W 660 nm Native Deep Red / 44W Tunable White LED				2H	20-Ga CRS in Gloss White						
54DR/63T	54W 660 nm Native Deep Red / 63W Tunable White LED				5H	20-Ga Type 304 SS						
54DR/80T	54W 660 nm Native Deep Red / 80W Tunable White LED				PAH	.050" Fabricated Aluminum in Gloss White						
					Optical Distribution							
					SYM			Symmetric, Diffused DR Acrylic				

PERFORMANCE

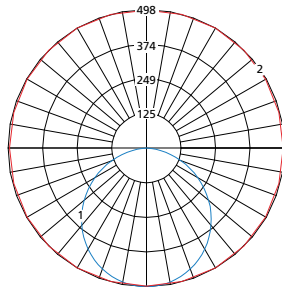
Size	Lamp Code	Lamp Description	Color Lamp Types Initial Delivered Performance			Tunable White Initial Delivered Performance at 4000K Tuning			TM-21 Reported L70 (hrs)
			Lumen Output (lm)	Efficacy (lm/W)	Input Power (W)	Lumen Output (lm)	Efficacy (lm/W)	Input Power (W)	
1 x 4	22R/44T	630 nm Native Red / TW	1,421	53	27	6,159	119	52	>60K / >102K
	22R/63T		1,421	53	27	8,768	119	74	
2 x 2	22R/44T	630 nm Native Red / TW	1,446	54	27	6,245	121	52	>60K / >102K
	22R/63T		1,446	54	27	8,891	119	75	
2 x 4	22R/44T	630 nm Native Red / TW	1,545	57	27	6,826	132	52	>60K / >102K
	22R/63T		1,545	57	27	9,718	131	74	
	22R/80T		1,545	57	27	12,127	130	93	
	54DR/44T	660 nm Native Deep Red / TW	1,089	18	62	6,826	132	52	>54K / >102K
	54DR/63T		1,089	18	62	9,718	131	74	
	54DR/80T		1,089	18	62	12,127	130	93	

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

Narrow Spectrum Performance Chart

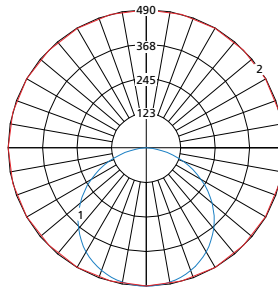


Model: CSEDI-14-pp-22R_qq-27_50K9-ATW-DV-uu-vv-SYM-xx-yy-zz Native Red on



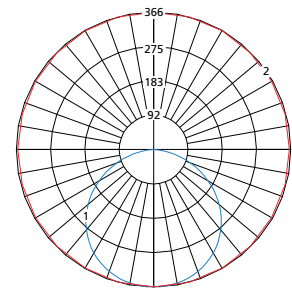
Max Candela = 498 Located At Horizontal Angle = 60, Vertical Angle = 2.5
 1 - Vertical Plane Through Horizontal Angles (60 - 240) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDI-22-pp-22R_qq-27_50K9-ATW-DV-uu-vv-SYM-xx-yy-zz Native Red on



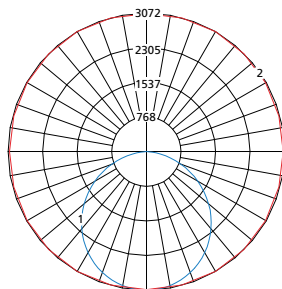
Max Candela = 490 Located At Horizontal Angle = 0, Vertical Angle = 2.5
 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDI-24-pp-54DR_qq-27_50K9-ATW-DV-uu-vv-SYM-xx-yy-zz Native Deep Red on



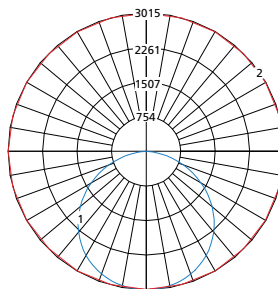
Max Candela = 366 Located At Horizontal Angle = 90, Vertical Angle = 2.5
 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDI-14-pp-qq_63T-27_50K9-ATW-DV-uu-vv-SYM-xx-yy-zz TW on



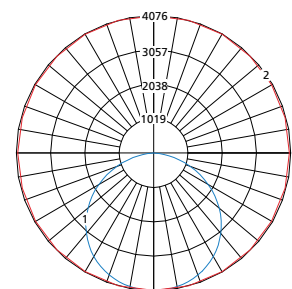
Max Candela = 3072 Located At Horizontal Angle = 60, Vertical Angle = 2.5
 1 - Vertical Plane Through Horizontal Angles (60 - 240) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDI-22-pp-qq_63T-27_50K9-ATW-DV-uu-vv-SYM-xx-yy-zz TW on



Max Candela = 3015 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.)

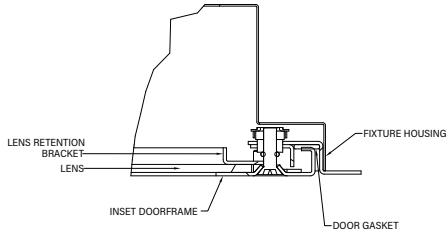
Model: CSEDI-24-pp-qq_80T-27_50K9-ATW-DV-uu-vv-SYM-xx-yy-zz TW on



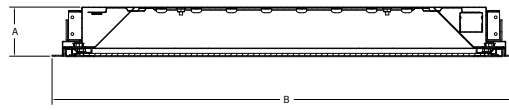
Max Candela = 4076 Located At Horizontal Angle = 90, Vertical Angle = 2.5
 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

DIMENSIONAL DATA

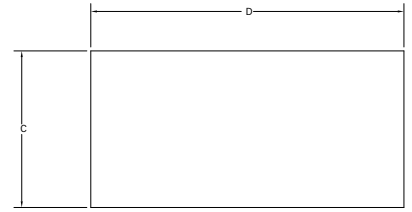
GASKET PROFILE



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