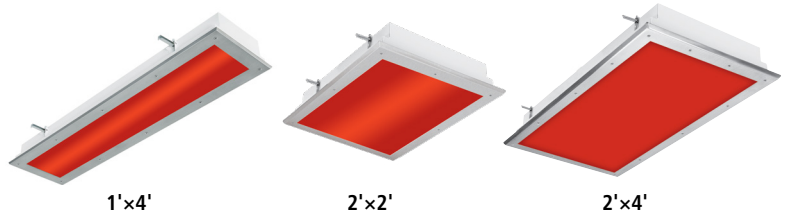


# SIMPLESEAL™ NARROW SPECTRUM

## CSEDO SERIES – RED & WHITE LED – OVERLAPPING DOOR

### PRODUCT FEATURES:

- » Narrow-spectrum 630nm red LED circuit provides only high-purity light for spectrally-sensitive applications
- » High-output, high-CRI white LED circuit provides visual acuity and accurate color rendition
- » Diffused high-efficiency lens for reduced glare
- » One-piece overlapping door provides air-tight integrity of luminaire
- » Suitable for universal installation into 1.0" and 1.5" grid or flange (drywall) ceilings



### PROJECT INFORMATION

Job Name \_\_\_\_\_

Fixture Type \_\_\_\_\_

Catalog Number \_\_\_\_\_

Approved by \_\_\_\_\_

### SPECIFICATIONS

**HOUSING:** Standard 24-gauge (optional 20-gauge) cold rolled steel, hole-free, one-piece, seam-welded construction. 18-gauge housing flange with mitered and welded corners. White TGIC polyester powder coat finish – 5-step pre-treatment. Salt spray test: 1,000 hours; Reflectance: 92%.

**DOORFRAME:** 20-gauge type 304 stainless steel (#4 finish-post fabrication). One-piece 60° beveled perimeter construction. Continuous angle lens retention system. Mechanical guide for doorframe fastener alignment. Doorframe secured to housing with stainless steel aircraft cables and captive flush mounted Phillips head stainless steel fasteners (8) for 2x2, (12) for 2x4.

**OPTICS:** Symmetric optic includes diffused, impact-resistant acrylic lens.

**DOORFRAME GASKET:** One-piece closed cell extruded Nitrile gasket seals doorframe to housing and ceiling structure.

**ELECTRICAL:** Replaceable white mid-power LED array. Available 3500K, 4000K and 5000K color temperatures with maximum 3-step MacAdam variation allowance. Minimum 82 CRI, R9>0. 630nm red mid-power LED array (16nm FWHM bandwidth). 120/277VAC or 347VAC, 50/60Hz electrical input with replaceable high power factor electronic, constant-current driver (<10% THD, >0.90 PF). Minimum 85% driver efficiency. EMC meets or exceeds FCC CFR Part 15 requirements. Standard 0-10V dimming with 1-100% range on white and red circuits with dim-to-dark capabilities (non dim-to-dark with 347V; 495µA maximum source current per circuit). Optional 0-10V dimming with 0.1-100% range and dim-to-dark capabilities via eldoLED SOLOdrive series driver (n/a 347V input; ≤0.5V required from dimming control for dim-to-dark operation; 600µA max. source current). White circuit and red circuit can be independently powered and dimmed.

**INSTALLATION:** Non-IC recessed ceiling mounting into grid and flange application types. Flange installation utilizes included adjustable swing-out mounting brackets. Grid installation suitable for 1" and 1.5" T-bar ceilings. Housing is field-convertible between grid and flange-style mounting types. See Options for continuous row mounting and install frames.

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

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

**LISTINGS:** Luminaire is certified to UL standards by Intertek Testing Laboratories for Wet Location. Certified IP66 per IEC 60598. CCEA Approved. Optional NSF Protocol P442 certified. FED-STD-209E/Class 1 (ISO 3) Cleanrooms. Suitable for BSL 1-4 laboratories. Suitable for EU GMP Grade A cleanrooms.



### ORDERING INFORMATION (Ex: CSEDO-24-23RD/67L-40K8-DIM1-DV-2F-2H-SYM)

Model	Size	Lamp Power	Lamp Color	Driver	Voltage	Doorframe	Housing	Optics	Options
<b>CSEDO</b>							<b>SYM</b>		
<b>Size</b>				<b>Driver Type</b>			<b>Optics</b>		
14	1'x4'			<b>DIM1</b>	0-10V Dimming to 1%		<b>SYM</b> Symmetric, Diffused DR Acrylic		
22	2'x2'			<b>DIM01</b>	0-10V Dimming to 0.1% (n/a with 347V)				
24	2'x4'						<b>Options</b>		
<b>Lamp Power</b>				<b>Voltage</b>			<b>LEL*</b> 8.4W Emergency Battery Pack		
1'x4'				<b>DV</b>	120-277VAC, 50/60Hz		<b>20KV</b> 20KV/KA Surge Protection per IEEE/ANSI C62.41.2 Cat. A		
23R/45L	23 Watt Red/45 Watt White LED			<b>120</b>	120VAC		<b>AMF*</b> Antimicrobial Finish		
23R/67L	23 Watt Red/67 Watt White LED			<b>277</b>	277VAC		<b>FS</b> Fuse & Holder		
23R	23 Watt Red LED			<b>347</b>	347VAC		<b>HJ</b> Sealed Wireway		
<b>2'x2'</b>				<b>Doorframe Options</b>			<b>RF*</b> Radio Frequency Filter		
23RD/45LD	23 Watt Red/45 Watt White LED			<b>2F</b>	20-Ga Type 304 SS (STD)		<b>RM†</b> Continuous Row Mounting		
23RD/67L	23 Watt Red/67 Watt White LED			<b>5F</b>	20-Ga CRS		<b>P442*</b> Optional NSF Protocol P442 Certified		
23RD	23 Watt Red LED			<b>XF</b>	20-Ga Type 316 SS		<b>Accessories</b>		
<b>2'x4'</b>				<b>PAF</b>			.063" Painted Fabricated Aluminum		<b>IF*‡</b> Install Frame
23RD/67L	23 Watt Red/67 Watt White LED			<b>Housing Options</b>			* Add .375" to ceiling cut out dimensions		
23RD/90L	23 Watt Red/90 Watt White LED			<b>2H</b>	24-Ga CRS (STD)		• Voltage specific selection required. n/a with 23R/67L lamp on 1'x4' and 2'x2' sizes		
23RD/135L	23 Watt Red/135 Watt White LED			<b>4H</b>	20-Ga CRS		▲ Voltage specific selection required; n/a with 347V. Wired to white LED when red/white lamping is selected. Height of fixture is 5.875" with LEL Option. 0°C/32°F min. operating environment.		
46R	46 Watt Red LED			<b>5H</b>	20-Ga Type 304 SS		† Not applicable for all-red configurations		
<b>Lamp Color†</b>				<b>XH</b>	20-Ga Type 316 SS		▼ Applied only to exposed painted surfaces of luminaire (not available on stainless steel doorframes)		
35K8	3500K, 82 CRI			<b>PAH</b>	.050" Painted Aluminum		‡ Only available when installed in drywall ceilings (flange mount). Consult factory for ceiling layout assistance		
40K8	4000K, 82 CRI						• P442 only available on CSEDO24		
50K8	5000K, 82 CRI								



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# SIMPLESEAL™

## CSEDO SERIES – LED – OVERLAPPING DOOR

### PERFORMANCE

#### Red/White LED

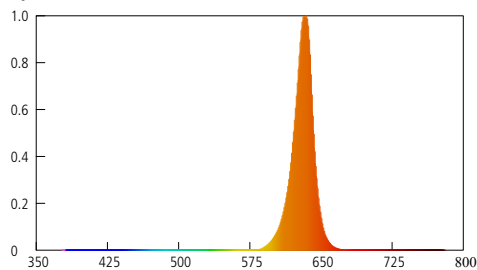
Size	Lamp Code	Red Circuit			White Circuit			White/Red Estd. L <sub>70</sub> LED Life (hrs)
		Delivered Lumens @ 25°C (lm)	Efficacy (lm/W)	Input Power (W)	Delivered Lumens @ 25°C (lm)	Efficacy (lm/W)	Input Power (W)	
1' x 4'	23R/45L-35K8	954	34	28	5,140	105	49	80,000 / 36,000
	23R/45L-40K8	954	34	28	5,230	107	49	80,000 / 36,000
	23R/45L-50K8	954	34	28	5,439	111	49	80,000 / 36,000
	23R/67L-35K8	954	34	28	7,874	109	72	80,000 / 36,000
	23R/67L-40K8	954	34	28	8,011	111	72	80,000 / 36,000
	23R/67L-50K8	954	34	28	8,332	116	72	80,000 / 36,000
2' x 2'	23RD/45LD-35K8	1,021	36	28	5,461	111	49	80,000 / 36,000
	23RD/45LD-40K8	1,021	36	28	5,556	113	49	80,000 / 36,000
	23RD/45LD-50K8	1,021	36	28	5,779	118	49	80,000 / 36,000
	23RD/67L-35K8	1,021	36	28	8,365	116	72	80,000 / 36,000
	23RD/67L-40K8	1,021	36	28	8,511	118	72	80,000 / 36,000
	23RD/67L-50K8	1,021	36	28	8,852	123	72	80,000 / 36,000
2' x 4'	23RD/67L-35K8	1,171	53	22	9,171	127	72	80,000 / 36,000
	23RD/67L-40K8	1,171	53	22	9,331	130	72	80,000 / 36,000
	23RD/67L-50K8	1,171	53	22	9,704	135	72	80,000 / 36,000
	23RD/90L-35K8	1,171	53	22	11,784	121	98	60,000 / 36,000
	23RD/90L-40K8	1,171	53	22	11,990	124	98	60,000 / 36,000
	23RD/90L-50K8	1,171	53	22	12,470	129	98	60,000 / 36,000
	23RD/135L-35K8	1,171	53	22	16,705	114	147	60,000 / 36,000
	23RD/135L-40K8	1,171	53	22	16,997	116	147	60,000 / 36,000
23RD/135L-50K8	1,171	53	22	17,677	120	147	60,000 / 36,000	

#### Red LED

Size	Lamp Type	Initial Delivered Lumens			Estd. L <sub>70</sub> LED Life (hrs)
		Red Lamp @ 25°C (lm)	Efficacy - Red (lm/W)	Input Power Red (W)	
1' x 4'	23R	954	34	28	36,000
2' x 2'	23RD	1,021	36	28	36,000
2' x 4'	46R	2,042	36	56	36,000

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

#### Spectroradiometric Parameters



Purity: 1.0  
 UV: 0.0000% (<390nm)  
 Radiant Flux < 575nm: 0.000%  
 Bandwidth: 16nm  
 Peak Wavelength: 630nm



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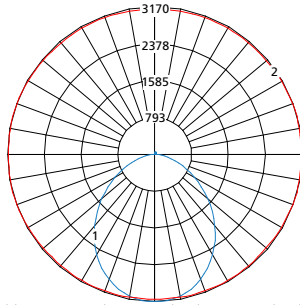
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# SIMPLESEAL™

## CSEDO SERIES – TECHNICAL DATA

### PERFORMANCE

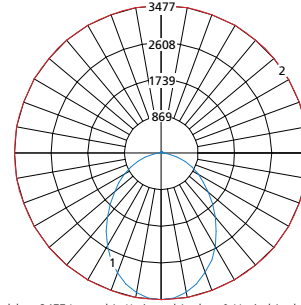
Model: CSEDO14-23R/67L-40K8-DIM1-120-2F-2H-SYM (White Mode)



Maximum Candela = 3170 Located At Horizontal Angle = 15, Vertical Angle = 5

- 1 - Vertical Plane Through Horizontal Angles (15-195) (Through Max. Cd.)
- 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

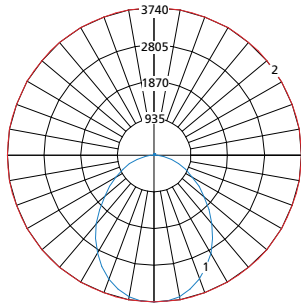
Model: CSEDO22-23RD/67L-40K8-DIM1-120-2F-2H-SYM (White Mode)



Maximum Candela = 3477 Located At Horizontal Angle = 0, Vertical Angle = 0

- 1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)
- 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

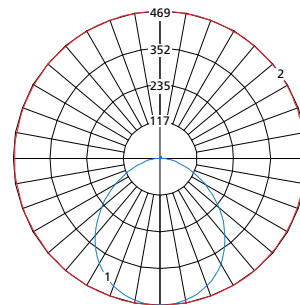
Model: CSEDO24-23RD/67L-40K8-DIM1-120-2F-2H-SYM (White Mode)



Maximum Candela = 3740 Located At Horizontal Angle = 0, Vertical Angle = 0

- 1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)
- 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

Model: CSEDO24-23RD/67L-40K8-DIM1-120-2F-2H-SYM (Red Mode)\*



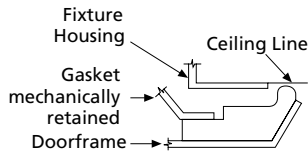
Maximum Candela = 469 Located At Horizontal Angle = 75, Vertical Angle = 2.5

- 1 - Vertical Plane Through Horizontal Angles (75-255) (Through Max. Cd.)
- 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

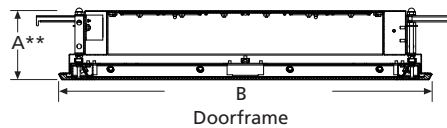
\*Luminous intensity of "red" mode is equal across all product sizes

### DIMENSIONAL DATA

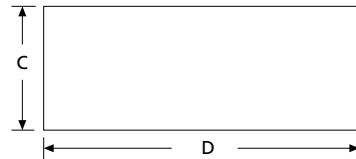
#### GASKET PROFILE



#### CROSS SECTION



#### CEILING CUTOUT



#### DIMENSIONAL DATA (IN INCHES)

	A	B	C	D
1x4	4.43	11.94 x 47.94	10.85	46.85
2x2	4.43	23.94 x 23.94	22.85	22.85
2x4	4.43	23.94 x 47.94	22.85	46.85

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

\*\* Height is 5.875" with LEL option



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