

SIMPLESEAL™ NARROW SPECTRUM

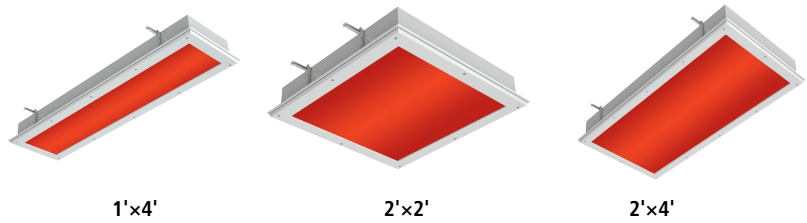
CSEFL SERIES – RED & WHITE LED – LF EXTENDED FLANGE

PROJECT INFORMATION

Job Name _____
 Fixture Type _____
 Catalog Number _____
 Approved by _____

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 seam welded housing with extended flange assures seal against rough ceilings
- » One-piece lapping door provides air-tight integrity of luminaire
- » Flanged for drywall or plaster ceilings— Not suitable for grid ceilings



SPECIFICATIONS:

HOUSING: 20-gauge CRS. Hole-free one-piece seam welded construction. White TGIC polyester powder coat finish – 5-step pre-treatment. Salt spray test: 1,000 hours; Reflectance: 92%. Housing flange is 18-gauge stainless steel or aluminum with mitered and welded corners. Flange finish matches doorframe except when PAH Housing Option (flange is painted white aluminum).

DOORFRAME: Heavy duty extruded marine grade aluminum with anodized finish. 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. (12) for 1x4, (10) for 2x2, (14) for 2x4; thumb screws optional. Doorframe Gasket: One-piece closed cell extruded nitrile gasket seals doorframe to housing flange.

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

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. Standard 0-10V dimming with 1-100% range and dim-to-dark capabilities on white and red circuit (non dim-to-dark with 347V). 495 µA max. source current per circuit. White circuit and red circuit can be independently powered and dimmed.

INSTALLATION: Adjustable swing-out mounting brackets standard. See Options for continuous row mounting and plaster frames. Fixture designed for hard ceilings only.

Not suitable for grid ceilings.

WARRANTY: Limited five (5) year warranty.

LISTINGS: Luminaire is certified to UL standards by Intertek Testing Laboratories for Wet Location. Certified IP65 per IEC 60598. NSF2 Splash/Non-Food Zone. CCEA Approved. Suitable for BSL 1-4 laboratories.



NOT FOR GRID CEILING INSTALLATIONS

ORDERING INFORMATION (Ex: CSEFL22-23RD-DIM1-DV-5F-2H-SYM)

Model	Lamp Type	Lamp Color	Driver Type	Voltage	Doorframe Option	Housing	Optics	Options	Accessories
			DIM1						
					SYM				
Model			Lamp Color ‡		Housing Options		Options		
CSEFL14	1'x4'		35K8	3500K, 82 CRI	2H	20-Ga CRS (STD)	L [▲]	10W LED Emergency Battery Backup	
CSEFL22	2'x2'		40K8	4000K, 82 CRI	5H	20-Ga Type 304 SS	DLN	LED Night Light w/Light Level Control (100% - 20%; Voltage specific selection required; n/a 347V)	
CSEFL24	2'x4'		50K8	5000K, 82 CRI	XH	20-Ga Type 316 SS	FS	Fuse & Holder	
					PAH	.050" Painted Aluminum	FN	Food Zone/Non-Contact	
Lamp Type			Driver Type		Optics		TS	Stainless Steel Doorframe Thumb Screws	
1'x4'			DIM1	0-10V Dimming to 1%	SYM	Symmetric, Diffused DR Acrylic	HJ	Sealed Wireway	
23R/45L	23 Watt Red/45 Watt White LED		Voltage				RF	Radio Frequency Filter	
23R/67L	23 Watt Red/67 Watt White LED		120	120 Volts			RM	Continuous Row Mounting (consult factory for ceiling cut-out)	
23R	23 Watt Red LED		277	277 Volts			TH	1/2" Trade Size Threaded Hub	
2'x2'			347	347 Volts			Accessories		
23RD/45LD	23 Watt Red/45 Watt White LED		DV	120-277 Volts			PF	Plaster Frame	
23RD/67L	23 Watt Red/67 Watt White LED		Doorframe/Flange Options						
23RD	23 Watt Red LED		PAF	.063" Painted Fabricated Aluminum					
2'x4'			5F	20-Ga/18-Ga Type 304 SS					
23RD/67L	23 Watt Red/67 Watt White LED		XF	20-Ga/18-Ga Type 316 SS					
23RD/90L	23 Watt Red/90 Watt White LED								
23RD/135L	23 Watt Red/135 Watt White LED								
46R	46 Watt Red LED								

‡ Not applicable for all-red configurations
 ▲ n/a with 347V; 0°C/32°F min. operating environment



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PERFORMANCE

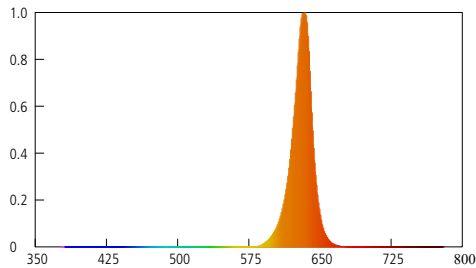
Red/White LED		Red Circuit			White Circuit			White/Red Estd. L ₇₀ LED Life (hrs)
Size	Lamp Code	Delivered Lumens @ 25°C (lm)	Efficacy (lm/W)	Input Power (W)	Delivered Lumens @ 25°C (lm)	Efficacy (lm/W)	Input Power (W)	
1' x 4'	23R/45L-35K8	954	34	28	5,140	105	49	80,000 / 36,000
	23R/45L-40K8	954	34	28	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		Input Power Red (W)	Estd. L ₇₀ LED Life (hrs)
		Red Lamp @ 25°C (lm)	Efficacy - Red (lm/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 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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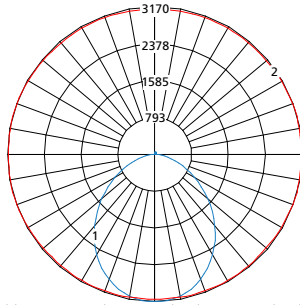
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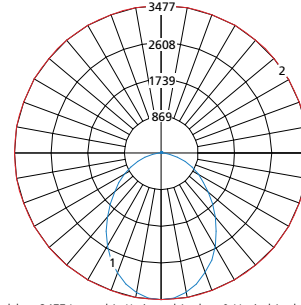
PERFORMANCE

Model: CSEFL14-23R/67L-40K8-DIM1-120-2F-2H-SYM (White Mode)



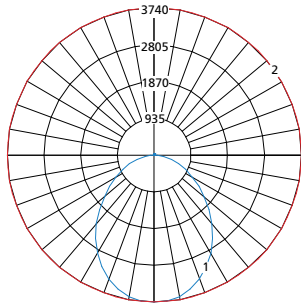
Maximum Candela = 3170 Located At Horizontal Angle = 15, Vertical Angle = 5
 1 - Vertical Plane Through Horizontal Angles (15-195) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

Model: CSEFL22-23RD/67L-40K8-DIM1-120-2F-2H-SYM (White Mode)



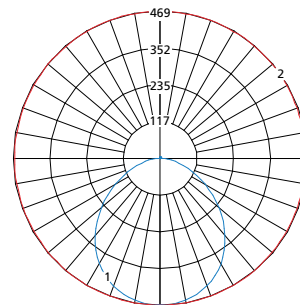
Maximum Candela = 3477 Located At Horizontal Angle = 0, Vertical Angle = 0
 1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

Model: CSEFL24-23RD/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.)

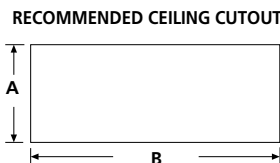
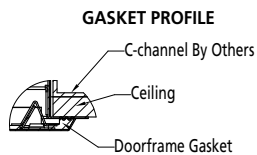
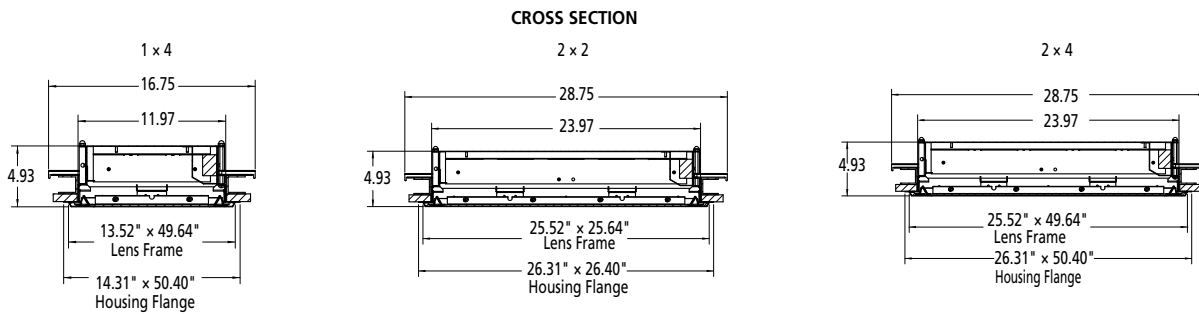
Model: CSEFL24-23RD/67L-40K8-DIM1-120-2F-2H-SYM (Red Mode)*



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



CEILING CUT-OUT DIMENSIONS

	A	B
1x4	12.13	48.25
2x2	24.13	24.25
2x4	24.13	48.25



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