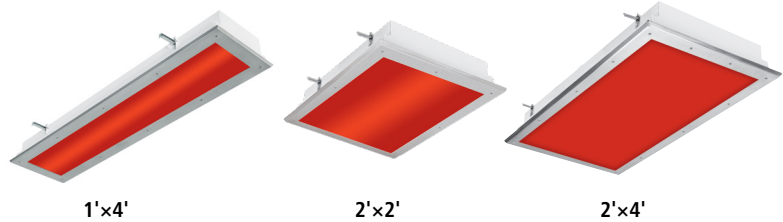


SIMPLESEAL™ NARROW SPECTRUM CSEDO SERIES – RED & TUNABLE WHITE LED

PRODUCT FEATURES:

- » Click [here](#) for fixed white CCT Product
- » Narrow-spectrum 630nm red LED circuit provides only high-purity light for spectrally-sensitive applications
- » High-output, tunable white LED circuit provides visual acuity and accurate color rendition with an adjustable color spectrum
- » Diffused high-efficiency lens for reduced glare
- » One-piece overlapping door provides air-tight integrity of luminaire and room
- » Suitable for universal installation into 1.0" and 1.5" grid or flange



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. Thumb screws used for FN option.

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

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

LED MODULE: Serviceable tunable-white, mid-power LED array provides 2700K through 6500K CCT range with a two-point path. 3-step MacAdam variation allowance on each CCT. Minimum 82 CRI standard (R9 >20) with optional minimum 92 CRI (R9 >50). Serviceable 630nm red mid-power LED array (16nm FWHM bandwidth).

DRIVER: 120-277VAC, 50/60Hz electrical input (PF ≥ 0.9, THD < 20%). Minimum 85% electrical efficiency. Tunable white circuit can be independently powered and dimmed. **TW:** Serviceable, constant-current multi-channel programmable driver with dual analog (0-10V) control inputs for intensity and CCT. Linear intensity and CCT adjustment profiles with 1-100% range and dim-to-dark capabilities on intensity. Optional DALI (Type 8) driver with 1-100% range and dim-to-dark intensity dimming with linear intensity and CCT adjustment profiles. **RED:** 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 with 1-100% range and dim-to-dark capability.

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. Universal installation into grid or flange (drywall) ceiling applications. 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

WARRANTY: Limited five (5) year warranty.

LISTINGS: Luminaire is certified to UL standards by Intertek Testing Laboratories for Wet Locations and non-IC recessed installation. Certified IP66 per IEC 60598. NSF2 Splash/Non-Food Zone. CCEA Approved. Suitable for biosafety labs rated BSL 3 and 4. Optional NSF Protocol P442 certified. FED-STD-209E/Class 1 (ISO 3) Cleanrooms. Optional NSF2 Food Zone/Non-Contact. Suitable for EU GMP Grade A cleanrooms.



ORDERING INFORMATION (Ex: CSEDO-24-23RD/67T-27/65K9-ATW-DV-5F-2H-SYM)

Model	Size	Lamp Power	Lamp Color	Driver	Voltage	Doorframe	Housing	Optics	Options
CSEDO								SYM	
Size				Voltage		Options			
14	1'x4'			DV	120-277VAC, 50/60Hz				LEL† 8.4W Emergency Battery Pack
22	2'x2'			120	120VAC				AMF▲ Antimicrobial Finish
24	2'x4'			277	277VAC				FN** Food Zone/Non-Contact
Lamp Power				Doorframe Options		Accessories			
1'x4'				5F 20-Ga Type 304 SS (STD)		IF** Install Frame			
23R/45T 23 Watt Red/45 Watt Tunable White LED				2F 20-Ga CRS		* Add .375" to ceiling cut out dimensions			
23R/67T 23 Watt Red/67 Watt Tunable White LED				XF 20-GA Type 316 SS		** Lensing consists of FDA approved Food Zone clear polycarbonate outer lens and diffused acrylic inner lens			
2'x2'				PAF .063" Painted Fabricated Aluminum		† Height of fixture is 5.875" with LEL Option. Voltage-specific selection required.			
23RD/45TD 23 Watt Red/45 Watt Tunable White LED				Housing Options		▲ Applied only to exposed painted surfaces of luminaire (not available on stainless steel doorframes)			
23RD/67T 23 Watt Red/67 Watt Tunable White LED				4H 24-Ga CRS (STD)		‡ P442 only available on CSEDO24			
2'x4'				2H 20-Ga CRS		♦ Only available when installed in drywall ceilings (flange mount). Consult factory for ceiling layout assistance.			
23RD/45TD 23 Watt Red/45 Watt Tunable White LED				5H 20-Ga Type 304 SS					
23RD/67T 23 Watt Red/67 Watt Tunable White LED				XH 20-GA Type 316 SS					
23RD/90T 23 Watt Red/90 Watt Tunable White LED				PAH .050" Painted Aluminum					
Lamp Color				Optics					
27/65K8 2700-6500K CCT Range (82 CRI min)				SYM Symmetric, Diffused DR Acrylic					
27/65K9 2700-6500K CCT Range (92 CRI min)									
Driver Type									
ATW Analog (0-10V) Dimming Tunable White Driver									
DTW DALI Tunable White Driver									
DMX DMX Tunable White Driver (Consult Factory)									



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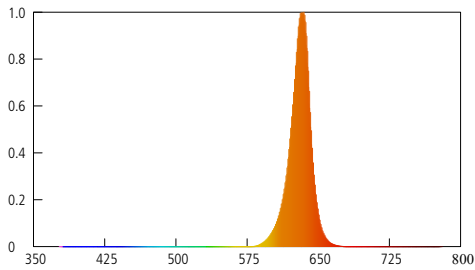
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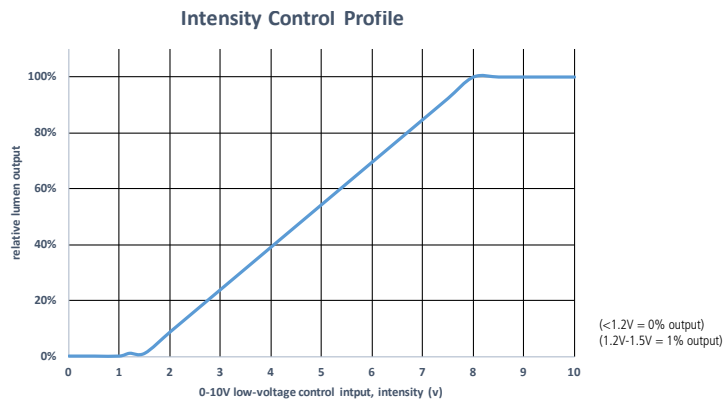
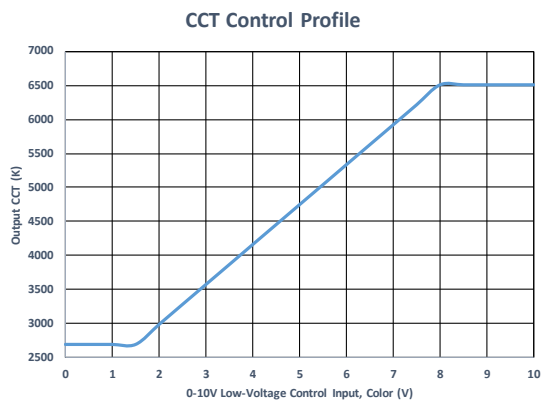
Size	Lamp Code	Red LED Circuit Initial Delivered Lumens			Tunable White LED Circuit Delivered Performance at 4000K			Red/White Estd. L ₇₀ LED Life (hrs)
		Lumen Output (lm)	Efficacy (lm/W)	Input Power (W)	Lumen Output (lm)	Efficacy (lm/W)	Input Power (W)	
1' × 4'	23R/45T-27/65K8	954	34	28	5,676	123	46	36,000 / 80,000
	23R/45T-27/65K9				4,575	99		
	23R/67T-27/65K8				8,493	125	68	
	23R/67T-27/65K9				7,034	103		
2' × 2'	23RD/45TD-27/65K8	1,021	36	28	5,490	119	46	
	23RD/45TD-27/65K9				4,425	96		
	23RD/67T-27/65K8				8,214	121	68	
	23RD/67T-27/65K9				6,803	100		
2' × 4'	23RD/45TD-27/65K8	1,171	53	22	6,503	145	45	36,000 / 100,000
	23RD/45TD-27/65K9				5,241	116		
	23RD/67T-27/65K8				8,760	129	68	36,000 / 80,000
	23RD/67T-27/65K9				7,256	107		
	23RD/90T-27/65K8				11,377	124	92	36,000 / 60,000
	23RD/90T-27/65K9				9,170	100		

SPECTRAL POWER DISTRIBUTION - RED



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

CCT AND INTENSITY ADJUSTMENT PROFILE - ATW DRIVER TYPE



NOTE: The provided information is the typical expected performance of a single luminaire. Additional luminaires on the same 0-10V line may result in different control profiles. Fine tuning of system performance should be completed after installation is complete. To avoid CCT shift between luminaires, care should be taken to minimize voltage drop on the CCT Control line. It is recommended to limit the load on the CCT control circuit to twenty (20) 45T or ten (10) 67T/90T luminaires or less.



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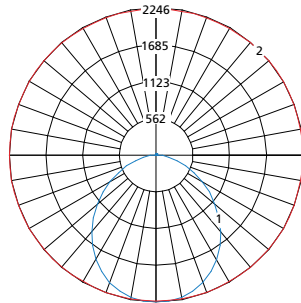
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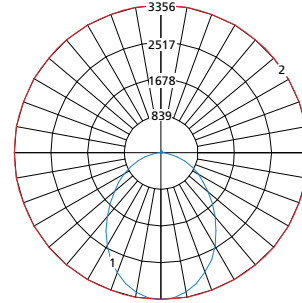
PERFORMANCE

Model: CSEDO14-23R/45T-27/65K8-ATW-120-2F-2H-SYM (White Mode)



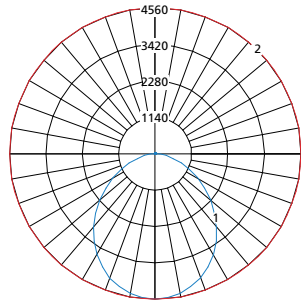
Maximum Candela = 2246 Located At Horizontal Angle = 15, Vertical Angle = 2.5
 1 - Vertical Plane Through Horizontal Angles (15-195) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDO22-23RD/67T-27/65K8-ATW-120-2F-2H-SYM (White Mode)



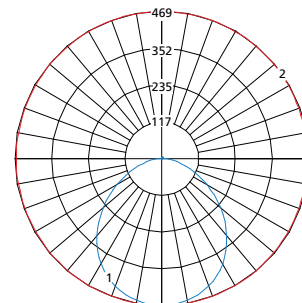
Maximum Candela = 3356 Located At Horizontal Angle = 195, Vertical Angle = 2.5
 1 - Vertical Plane Through Horizontal Angles (195-15) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDO24-23RD/90T-27/65K8-ATW-120-2F-2H-SYM (White Mode)



Max Candela = 4560 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.)

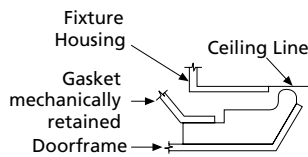
Model: CSEDO24-23RD/90T-27/65K8-ATW-120-2F-2H-SYM (Red Mode)



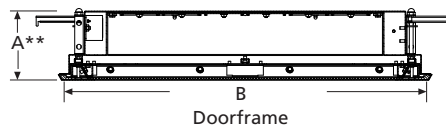
Maximum Candela = 469 Located At Horizontal Angle = 75, Vertical Angle = 2.5
 1 - Vertical Plane Through Horizontal Angles (75-255) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

DIMENSIONAL DATA

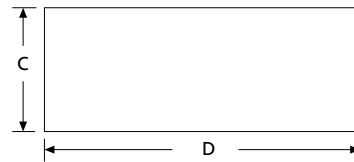
GASKET PROFILE



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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