

# SIMPLESEAL™

## CSEDO SERIES – TUNABLE WHITE LED

### PRODUCT FEATURES:

- » High-output, high-CRI LED lamp sources WITH 2700K-6500K white tuning capability
- » Diffused high-efficiency lens for reduced glare
- » Suitable for universal installation into 1.0" and 1.5" grid or flange (drywall) ceilings
- » One piece overlapping door provides air-tight integrity of luminaire
- » Optional Food Zone/Non-Contact listing, ideal for food processing applications
- » Optional NSF P442 Protocol assures a sealed cleanroom environment

### SPECIFICATIONS

**HOUSING:** 20-gauge CRS. Hole-free, one-piece, seam-welded construction. Integral aluminum heatsink for thermal dissipation. 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. FN option includes FDA approved Food Zone clear polycarbonate lens outer lens; diffused acrylic inner lens.

**LED MODULE:** Serviceable tunable-white, mid-power LED array provides 2700K through 6500K CCT range with a two-point path. Minimum 82 CRI standard (R9 >20) with optional minimum 90 CRI (R9 >50).

**DRIVER:** 120-277VAC, 50/60Hz electrical input (PF ≥ 0.9, THD < 20%). Minimum 85% electrical efficiency. 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.

**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 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.



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



### ORDERING INFORMATION (Ex: CSEDO-24-90T-27/65K8-ATW-DV-2F-2H-SYM)

Model	Size	Lamp Power	Lamp Color	Driver	Voltage	Doorframe	Housing	Optics	Options	Accessories
<b>CSEDO</b>							<b>SYM</b>			
<b>Size</b>		<b>Lamp Power</b>			<b>Voltage</b>		<b>Housing Options</b>			
14	1'x4'	45T	45W Tunable White		DV	120-277VAC, 50/60Hz	2H	20-Ga CRS (STD)		
22	2'x2'	67T	67W Tunable White		120	120VAC	5H	20-Ga Type 304 SS		
24	2'x4'	90T	90W Tunable White		277	277VAC	XH	20-Ga Type 316 SS		
							PAH	.050" Painted Aluminum		
		<b>Lamp Color</b>			<b>Doorframe Options</b>		<b>Optics</b>			
		27/65K8	2700-6500K CCT Range (82 CRI min)		5F	20-Ga Type 304 SS (STD)	SYM	Symmetric, Diffused DR Acrylic		
		27/65K9	2700-6500K CCT Range (92 CRI min)		2F	20-Ga CRS				
		<b>Driver Type</b>			XF	20-Ga Type 316 SS				
		ATW	Analog (0-10V) Dimming Tunable White Driver		PAF	.063" Painted Fabricated Aluminum			<b>Options</b>	
		DTW	DALI Tunable White Driver						LEL†	8.4W Emergency Battery Pack (voltage specific selection required)
									AMF‡	Antimicrobial Finish
									FN**	Food Zone/Non-Contact
									FS	Fuse & Holder
									HJ	Sealed Wireway
									RF	Radio Frequency Filter (voltage specific selection required)
									RM	Continuous Row Mounting
									P442‡	Optional NSF Protocol P442 Certified
									<b>Accessories</b>	
									IF*§	Install Frame

- \* Add .375" to ceiling cut out dimensions
- \*\* Lensing consists of FDA approved Food Zone clear polycarbonate outer lens and diffused acrylic inner lens
- † Height of fixture is 5.875" with LEL Option
- ‡ Applied only to exposed painted surfaces of luminaire (not available on stainless steel doorframes)
- ‡ P442 only available on CSEDO24
- § Only available when installed in drywall ceilings (flange mount)



[www.kenall.com](http://www.kenall.com)

P: 800-4-Kenall

F: 262-891-9701

10200 55th Street Kenosha, Wisconsin 53144

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## CSEDO SERIES – TUNABLE WHITE LED

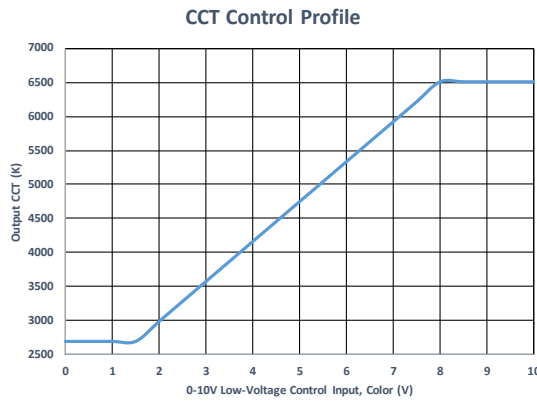
PERFORMANCE		Initial Delivered Lumens			
Model	Lamp Code	Lumen Output (lm)	Efficacy (lm/W)	Input Power (W)	Estd L70 LED Life (Hrs)
CSEDI14	45T-27/65K8	5,676	123	46	80,000
	45T-27/65K9	4,575	99	46	80,000
	67T-27/65K8	8,493	125	68	80,000
	67T-27/65K9	7,034	103	68	80,000
	90T-27/65K8	11,031	120	92	60,000
	90T-27/65K9	8,890	97	92	60,000
CSEDI22	45T-27/65K8	5,490	119	46	80,000
	45T-27/65K9	4,425	96	46	80,000
	67T-27/65K8	8,214	121	68	80,000
	67T-27/65K9	6,803	100	68	80,000
	90T-27/65K8	10,668	116	92	60,000
	90T-27/65K9	8,598	93	92	60,000
CSEDI24	45T-27/65K8	5,855	127	46	80,000
	45T-27/65K9	4,719	103	46	80,000
	67T-27/65K8	8,760	129	68	80,000
	67T-27/65K9	7,256	107	68	80,000
	90T-27/65K8	11,377	124	92	60,000
	90T-27/65K9	9,170	100	92	60,000

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

### PERFORMANCE SCALING, BY LAMP COLOR

CCT (K)	27/65K8					27/65K9				
	LUMEN SCALE FACTOR	Ra	R9	Rf	Rg	LUMEN SCALE FACTOR	Ra	R9	Rf	Rg
2700	0.97	83	10	83	97	0.98	92	57	89	98
3000	0.98	84	15	83	98	0.99	94	70	91	99
3500	0.99	86	23	84	98	0.99	95	77	92	99
4000	1.00	86	26	84	98	1.00	96	83	92	99
4600	1.01	86	28	84	98	1.01	96	90	92	100
5000	1.01	86	25	83	98	1.03	96	96	91	101
5700	1.02	85	23	82	98	1.02	96	96	91	100
6500	1.04	84	16	82	96	1.02	96	96	90	100

### 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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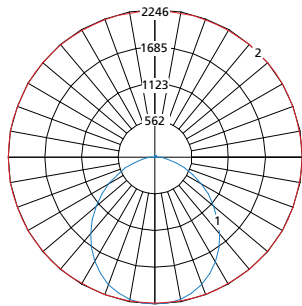
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### PERFORMANCE

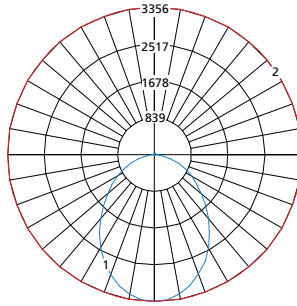
Model: CSEDO14-45T-27/65K8-ATW-120-2F-2H-SYM



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.)

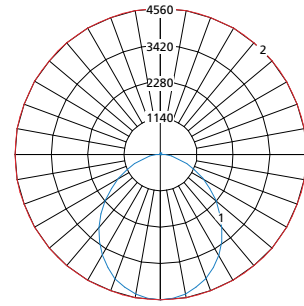
Model: CSEDO22-67T-27/65K8-ATW-120-2F-2H-SYM



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: CSEDO24-90T-27/65K8-ATW-120-2F-2H-SYM

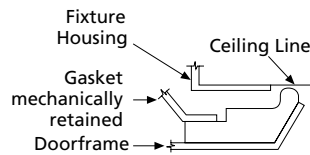


Max Candela = 4560 Located At Horizontal Angle = 0, Vertical Angle = 0

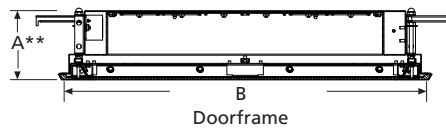
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

### DIMENSIONAL DATA

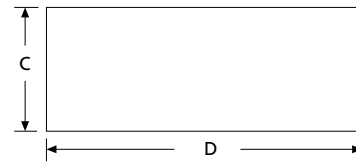
#### GASKET PROFILE



#### 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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