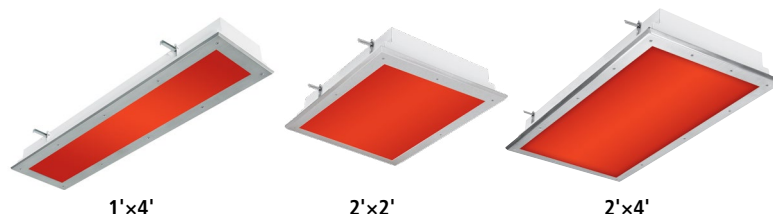


SIMPLESEAL™ NARROW SPECTRUM

CSEDO SERIES – RED & BIOS SkyBlue™ – OVERLAPPING DOOR

PRODUCT FEATURES:

- » Features BIOS SkyBlue Technology to benefit daytime alertness, cognition, mood and circadian rhythms
- » Narrow-spectrum 630nm red LED circuit provides only high-purity light for spectrally-sensitive applications
- » 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



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.

LED MODULE: BIOS: Serviceable static, dynamic or tunable mid-power Gen 2 BIOS Biological LED modules. Biological Static, Biological Dynamic, and Biological Tunable LED source with blue spectrum peak at 490nm and higher melanopic ratio. CRI 80+ with R9 > 90. Biological Dynamic features 500K downward CCT shift when dimmed for evening applications requiring lower melanopic ratio. Biological Tunable features 2700K CCT for evening applications. Refer to table for specific melanopic values. Red: Serviceable 630nm red mid-power LED array (16nm FWHM bandwidth).

DRIVER: 120-277VAC, 50/60Hz electrical input (PF ≥ 0.9, THD < 20%). **Biological Static:** Serviceable, constant-current single channel driver with single analog (0-10V) control input for intensity. 1-100% range with dim to dark capabilities and a linear dimming curve. **Biological Dynamic:** Serviceable constant-current driver with the BIOS Dynamic Bio-Dimming™ module keeps light output constant while reducing melanopic lux. Single analog (0-10V) control input. 1-100% dimming range with dim-to-dark capabilities and a linear dimming curve. Dimming from 100-75% reduces CCT by 500K, dimming below 75% reduces light level. **Biological Tunable:** 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. Red: Serviceable constant-current programmable driver. Dimming protocol matches BIOS Biological 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. 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.

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. CSEDO is participating in Declare.



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

Model	Size	Lamp Power	Lamp Color	Driver	Voltage	Doorframe	Housing	Optics	Options		
CSEDO							SYM				
Size	Lamp Power		Voltage			Options					
14	1'×4'	1'×4'	DV			120-277VAC, 50/60Hz	LEL▲ 10W Emergency Battery Pack				
22	2'×2'	23R/45B	23W Red/45W BIOS	120			120VAC	20KV 20KV/KA Surge Protection per IEEE/ANSI C62.41.2 Cat. A			
24	2'×4'	23R/67B†	23W Red/67W BIOS	277			277VAC	AMF* Antimicrobial Finish			
		2'×2'	Doorframe Options			FS Fuse & Holder					
		23RD/45BD	23W Red/45W BIOS Dual-Row	5F			20-Ga Type 304 SS (STD)	HJ Sealed Wireway			
		23RD/67B	23W Red/67W BIOS	2F			20-Ga CRS	RF• Radio Frequency Filter			
		2'×4'	XF			20-Ga Type 316 SS	RM‡ Continuous Row Mounting				
		23RD/67B	23W Red/67W BIOS	PAF			.063" Painted Fabricated Aluminum	P442* Optional NSF Protocol P442 Certified			
		23RD/90B	23W Red/90W BIOS	Housing Options			Accessories				
		23RD/135B†	23W Red/135W BIOS	4H			24-Ga CRS (STD)	IF*‡ Install Frame			
		Lamp Color	2H			20-Ga CRS	† n/a with BIODIM1 Driver Type				
		35K8	3500K SkyBlue / 80CRI min / R9 90+	5H			20-Ga Type 304 SS	* Add .375" to ceiling cut out dimensions			
		40K8	4000K SkyBlue / 80CRI min / R9 90+	XH			20-Ga Type 316 SS	• Voltage specific selection required. n/a with 23R/67B lamp on and 2'×2' sizes			
		Driver Type	PAH			.050" Painted Aluminum	▲ 0°C/32°F min. ambient. Wired to BIOS lamping				
		DIM1	BIOS Biological Static with 0-10V Dimming to 1% with Dim-to-Dark Capabilities	Optics			▼ Applied only to exposed painted surfaces of luminaire (not available on stainless steel doorframes)				
		BIODIM1	BIOS Biological Dynamic with 0-10V Intensity Dimming to 1% and Dim-to-Dark Capabilities	SYM			Symmetric, Diffused DR Acrylic	‡ Only available when installed in drywall ceilings (flange mount)			
		ATW	BIOS Biological Tunable White with 0-10V Control of Intensity and CCT independently on 2 separate channels				Consult factory for ceiling layout assistance				
		DTW	BIOS Biological Tunable White with DALI Control of Intensity and CCT independently on 2 separate channels				♦ P442 only available on CSEDO24				



SIMPLESEAL™

CSEDO SERIES – RED & BIOS SkyBlue™ – OVERLAPPING DOOR

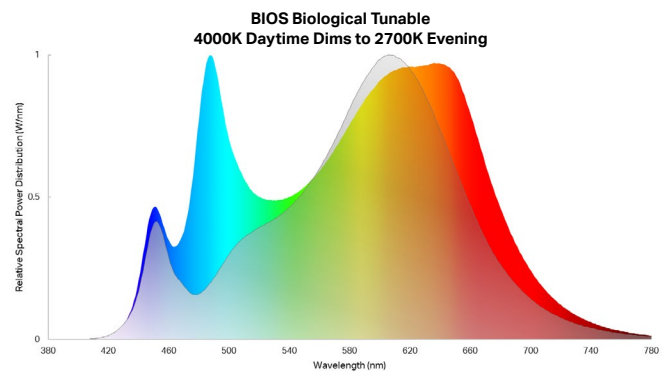
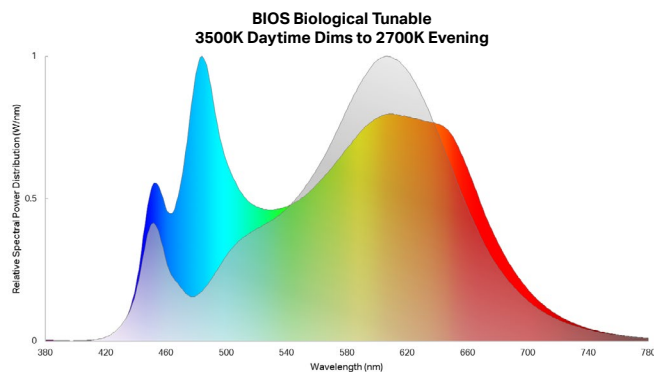
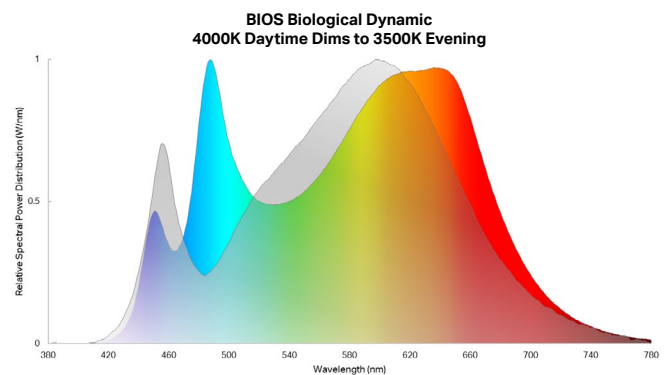
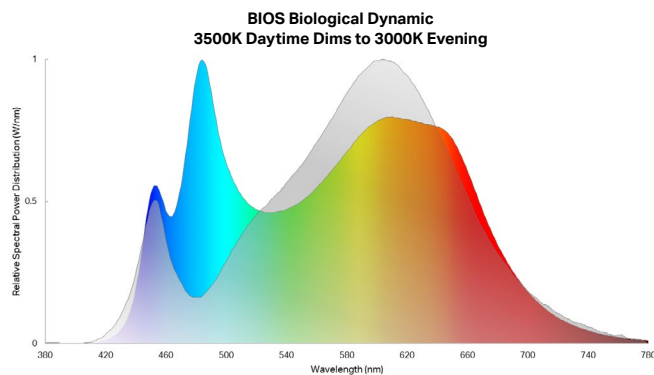
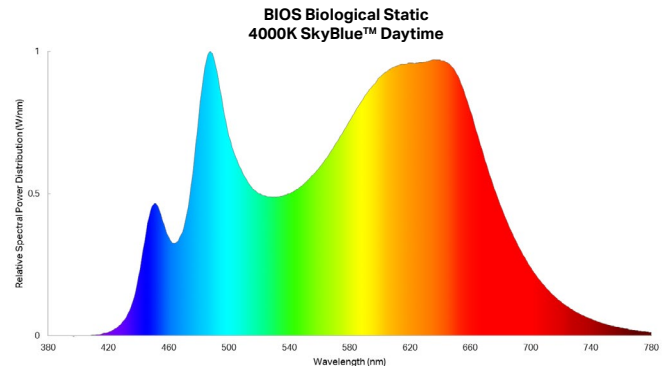
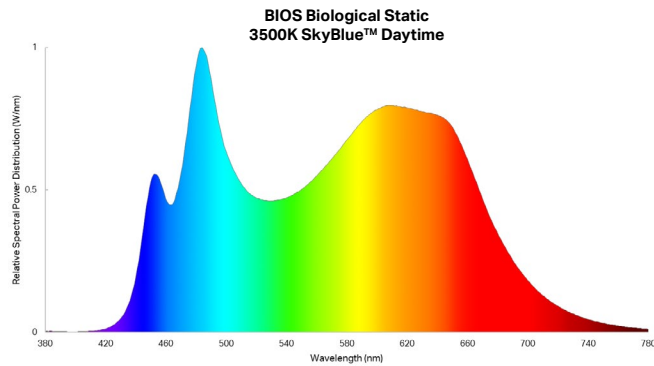
DELIVERED MELANOPIC RATIO OF 35K8 BIOS

BIOS Type	Spectral Mode	Nominal CCT	Melanopic Ratio*	
			m-EER	m-DER
Biological Static	Daytime	3500K	≥0.80	≥0.72
Biological Dynamic	Daytime	3500K	≥0.80	≥0.72
	Evening	3000K	≤0.49	≤0.44
Biological Tunable	Daytime	3500K	≥0.80	≥0.72
	Evening	2700K	≤0.47	≤0.42

*Melanopic ratios are provided in two forms: (m-EER) which is calculated using the WELL v2 methodology and the corresponding CIE melanopic Daylight Equivalent Ratio, (m-DER).

DELIVERED MELANOPIC RATIO OF 40K8 BIOS

BIOS Type	Spectral Mode	Nominal CCT	Melanopic Ratio*	
			m-EER	m-DER
Biological Static	Daytime	4000K	≥0.90	≥0.81
Biological Dynamic	Daytime	4000K	≥0.90	≥0.81
	Evening	3500K	≤0.57	≤0.51
Biological Tunable	Daytime	4000K	≥0.90	≥0.81
	Evening	2700K	≤0.47	≤0.42



www.kenall.com | P: 800-4-Kenall | F: 262-891-9700 | 10200 55th Street Kenosha, Wisconsin 53144, USA
This product is able to comply with the latest domestic preference legislation, such as the Buy American Act (BAA), Trade Agreement Act (TAA), Build America, Buy America Act (BABA), and others. It may be covered by patents found at www.kenall.com/patents. Content of specification sheets is subject to change; please consult www.kenall.com for current product details. ©2025 Kenall Mfg. Co.

A brand of **legrand**

SIMPLESEAL™

CSEDO SERIES – RED & BIOS SkyBlue™ – OVERLAPPING DOOR

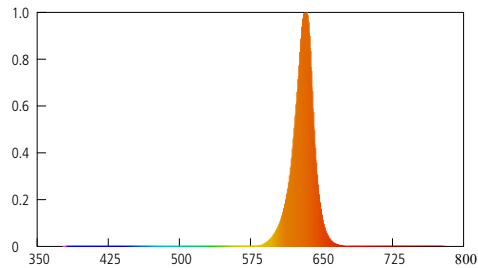
PERFORMANCE

CSEDO Red w/BIOS

		Red LED Circuit			BIOS LED Circuit			
		Initial Delivered Lumens		Input Power (W)	Initial Delivered Lumens		Input Power (W)	Estd. L ₇₀ LED Life: Red/White (hrs)
Size	Lamp Code	Flux @ 25°C (lm)	Efficacy (lm/W)		Flux @ 25°C (lm)	Efficacy (lm/W)		
1' x 4'	23R/45B-35K8	954	43	22	4,046	83	49	36,000 / 80,000
	23R/45B-40K8				4,393	90		
	23R/67B-35K8				6,197	86	72	
	23R/67B-40K8				6,729	93		
2' x 2'	23RD/45BD-35K8	1,021	46	22	4,298	88	49	36,000 / 80,000
	23RD/45BD-40K8				4,667	95		
	23RD/67B-35K8				6,584	91	72	
	23RD/67B-40K8				7,150	99		
2' x 4'	23RD/67B-35K8	1,171	53	22	7,337	102	72	36,000 / 80,000
	23RD/67B-40K8				7,838	109		
	23RD/90B-35K8				9,276	96	97	36,000 / 60,000
	23RD/90B-40K8				10,072	104		
	23RD/135B-35K8				13,149	89	147	36,000 / 60,000
	23RD/135B-40K8				14,277	97		

Subject to change without notice. Visit www.kenall.com for .ies files and additional information

Red Circuit Spectral Power Distribution (SPD)



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



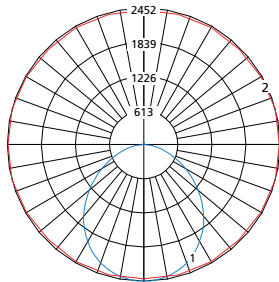
www.kenall.com | P: 800-4-Kenall | F: 262-891-9700 | 10200 55th Street Kenosha, Wisconsin 53144, USA
 This product is able to comply with the latest domestic preference legislation, such as the Buy American Act (BAA), Trade Agreement Act (TAA), Build America, Buy America Act (BABA), and others. It may be covered by patents found at www.kenall.com/patents. Content of specification sheets is subject to change; please consult www.kenall.com for current product details. ©2025 Kenall Mfg. Co.

A brand of **legrand**

SIMPLESEAL™
CSEDO SERIES – RED & BIOS SkyBlue™ – OVERLAPPING DOOR

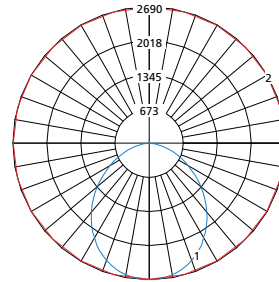
PERFORMANCE

Model: CSEDO14-23R/67B-35K8-DIM1-DV-2F-2H-SYM (White Mode)



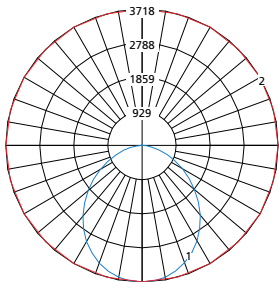
Maximum Candela = 2452 Located At Horizontal Angle = 15, Vertical Angle = 2.5
— 1 - Vertical Plane Through Horizontal Angles (15-195) (Through Max. Cd.)
— 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDO22-23RD/67B-35K8-DIM1-DV-2F-2H-SYM (White Mode)



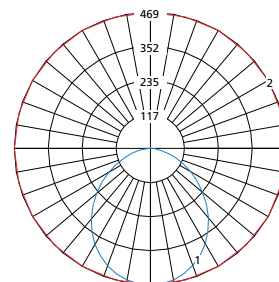
Maximum Candela = 2690 Located At Horizontal Angle = 15, Vertical Angle = 2.5
— 1 - Vertical Plane Through Horizontal Angles (15-195) (Through Max. Cd.)
— 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: CSEDO24-23RD/90B-35K8-DIM1-DV-2F-2H-SYM (White Mode)



Maximum Candela = 3718 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/90B-35K8-DIM1-DV-2F-2H-SYM (Red Mode)*

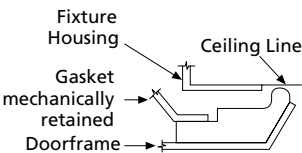


Maximum Candela = 469 Located At Horizontal Angle = 0, Vertical Angle = 0
— 1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)
— 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

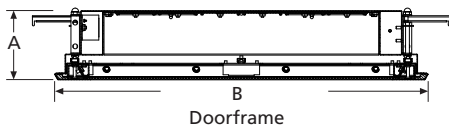
*Luminous intensity of "red" mode is equal across all product sizes

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



www.kenall.com | P: 800-4-Kenall | F: 262-891-9700 | 10200 55th Street Kenosha, Wisconsin 53144, USA
This product is able to comply with the latest domestic preference legislation, such as the Buy American Act (BAA), Trade Agreement Act (TAA), Build America, Buy America Act (BABA), and others. It may be covered by patents found at www.kenall.com/patents. Content of specification sheets is subject to change; please consult www.kenall.com for current product details. ©2025 Kenall Mfg. Co.

A brand of Legrand