
KENALL® *THE COMPETITIVE*
EDGE

Issue #5

SimpleSeal™ CSERO/CSERI

NEW SimpleSeal™ Luminaire Ends Debilitating Glare, Ushers in Energy Efficiency, Reduces Cost

Building owners and facility managers face a number of challenges when lighting a cleanroom. Frequently only one or two factors drive the decision. For example, in order to save money, some may opt to retrofit existing fluorescent fixtures with LED tubes — not realizing that this can create substantial visual discomfort for workers. Improperly diffused light shining on the highly reflective surfaces in cleanrooms creates disabling glare on computer monitors, industrial displays and culture dishes.

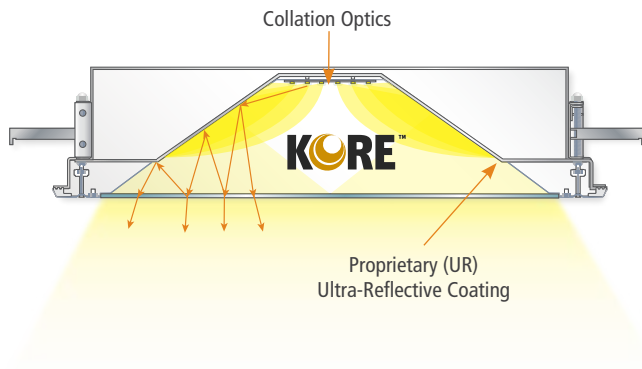
Others may specify unsealed light fixtures, creating a whole new set of problems. One of the defining characteristics of a cleanroom is that contaminants should not enter or exit the space. All ingress and egress points, including the lighting, must be sealed against particulates; or dust, dirt, and other impurities can pass through and contaminate the space.

Additionally, since these unsealed solutions produce insufficient lumens, additional fixtures must be installed in ceilings already crowded with High Efficiency Particulate Air (HEPA) filters and other necessary equipment. Using additional lights has a negative impact on energy efficiency, costing more money both up front and over the life of the fixtures.

KORE™ *Kenall's SimpleSeal CSERO/CSERI Series uses a new, patent-pending KORE Technology™ (Kenall Optical Radiance Engine), delivering unmatched efficacy, uniform brightness, and completely eliminating debilitating glare — thereby increasing visual acuity and worker productivity. The fixture is IP66-rated, providing the sealed performance that cleanrooms and clean manufacturing facilities demand.*



The CSERO/CSERI luminaires combine precision collation optics, a special lens and an ultra-reflective coating to provide a high level of efficiency and uniform lens brightness. The optics redirect the candlepower normally found at nadir, eliminating direct view of the LEDs and redirecting the light to an ultra-reflective (UR) coating.



The CSERO/CSERI luminaires feature Kenall's patent-pending KORE (Kenall Optical Radiance Engine) Technology™, which dramatically increases efficacy and eliminates debilitating glare.

Less fixtures. Less energy. Less Cost.

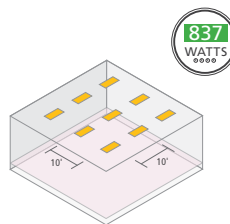
This UR coating takes advantage of nearly perfect, high-angle reflectance due to the fixture's shape. After its first reflection, light will either exit through the special highly-reflective lens, or reflect back onto the UR coating and be recycled with minimal loss. This sends more light to the lens on its second incidence, which then diffuses the light and reduces glare. This cycle repeats until all the light exits. The result? The highest efficacy, sealed cleanroom luminaire in the industry. In fact, *these lights use up to 42% less power to illuminate a space compared to typical standard cleanroom fixtures*, while also providing outstanding efficacy of up to 175 lumens per watt.

In addition to providing uniform illumination and high efficacy, the advanced optics in the SimpleSeal CSERO/CSERI series permit the fixtures to be spaced farther apart, while still achieving the required foot candles for the space. If needed, the luminaires can be serviced simply without compromising the integrity of the cleanroom. In comparison, competitor fixtures must be removed for service, thereby breaking the cleanroom seal, and potentially destroying expensive research data and results.

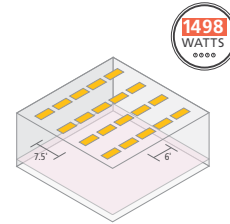
Standard competitive fixtures require more than twice the number of fixtures to light the space, consuming more energy and leaving less room for HEPA filters and other essential cleanroom equipment.

With CSERO and CSERI, you can purchase, install, maintain and power fewer fixtures, greatly reducing your total cost of ownership.

CSERO/CSERI Series



Competitor Fixture



Comparison of two rooms with 100 fc (lab light levels) 30 x 30 ft. space with 10 ft. ceilings.
Light Loss Factor: 0.85
Reflectance: 80,50,20

New Build Cost Comparison		
Fixture	CSERO with KORE Technology	Competitor @ Max. Power
Fixture Count	9	20
Circuits	1	2
Power	837	1498
Labor	55% less	100%
55% Installed Cost Savings		



The SimpleSeal CSERO/CSERI Series offers:

- Input watts: 18 – 136W
- Lumen range: 2,109 – 21,637 lm
- Up to 175 lm/W
- Up to 100,000 hours of LED life
- CCT: 3000K, 3500K, 4000K, 5000K; 82 or 90 CRI

Nominal sizes: 1' x 4', 2' x 2', 2' x 4'
Installation Type: Universal installation into 1.0" and 1.5" grid or flange (drywall) ceilings
Lamp Type: LED



For more detailed information on listings, visit Kenall.com

