

Pharmaceutical • Biotech Biosafety • Research Facilities • Hazardous Locations



Clear-Vu Lighting's cleanLED™ luminaires are designed to maximize the effectiveness/efficiency of LED technology and protect the integrity of clean room (ISO3-ISO8) and containment area (BSL3 and BSL4) environments.

cleanLED is the first lighting fixture series designed and tested to National Sanitation Foundation's new protocol (P442) "Lighting Fixtures for Controlled Environments" – clean room, containment area and surgical suites. P442 addresses three types of leakage (plenum to room, room to plenum, and plenum/room to lighting fixtures interior), ease of cleanability, corrosion, toxicity and interface with ceiling structure. Listings, ratings, certifications and protocols include: IP66 (ISO60598); Hazardous Locations – Optional Class I, Division 2; Class II, Division 2; NSF2 (Splash Zone); LM79; LM80; DLC Qualified. Optional MIL STD 461F.

First-time innovations include: deep-draw stainless steel lens frame with no surface welding; universal installation design (gypsum, 2.0" walkable ceiling panels and 2.0" T-Bar); edge-lit LED optics; one-piece mono-gasket system; wire and install without removing lens frame; LED heat sink/heat fin aluminum housing design; factory leakage testing and registration of every lighting fixture – 100%.

FEATURES AND BENEFITS:

BEST-IN-CLASS LED LIGHT ENGINE

- Edge-Lit optical system produces even facial luminance and glare free uniform lighting distribution
- DLC qualified
- 80,000 hour design life – 5 year warranty

HIGH-TECH ENCLOSURE

- Heavy duty, low-profile (2.0") extruded aluminum housing and die-cast end caps maximize conducted heat dissipation and produce a housing strong enough for walkable ceilings
- One-piece, deep-draw stainless steel lens frame is free of surface welding. 60° beveled edge produces a progressive surface with the ceiling
- One-piece Mono-Gasket System™ seals housing to ceiling structure and lens frame to housing

UNMATCHED CONTROLLED ENVIRONMENT PERFORMANCE

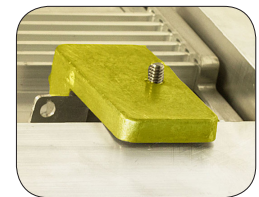
- Independent Lab (NRTL) tested for leakage – IP66 (IEC60598)
- Independent Lab tested for ease of cleanability, corrosion resistance and toxicity – National Sanitation Foundation (NSF2/Splash Zone)
- Class I, Division 2 and Class II, Division 2 listed to assure safe operation in hazardous locations
- Optional MIL STD 461F
- IP66 sealed wire-way junction and swing-lock mounting brackets protect the housing interior from plenum space contaminants

EASE OF INSTALLATION

- Lens frame does not need to be removed for wiring or installation
- Lighting fixture designed for universal installation (gypsum, 2.0" walkable ceiling panels and 2.0" T-Bar)



Patent-pending Mono-Gasket System™ (shown in black) insulates controlled environments from the plenum space and provides and provides IP66 protection for the interior of the lighting fixture

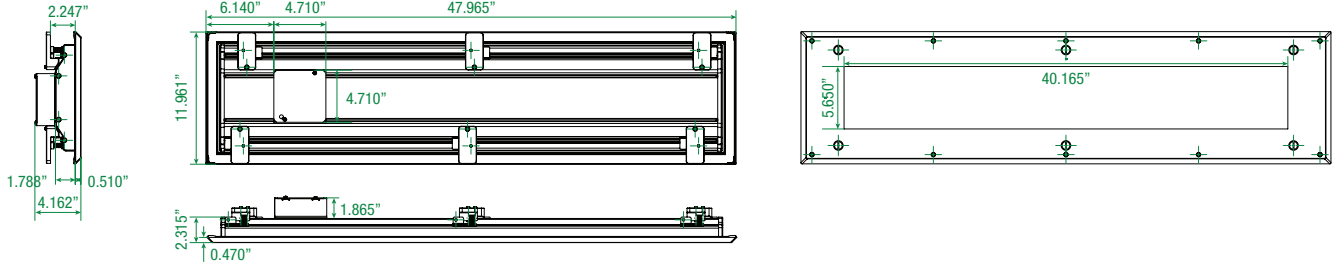


The sealed swing-lock mounting brackets are adjustable without removing the lens frame, greatly reducing installation time. LED boards (shown in green) are mounted directly to integral heat sink/heat fins maximizing conducted heat dissipation



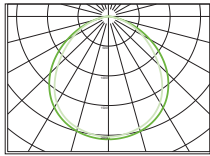
One-piece overlapping lens frame fasteners are positioned very close to the perimeter of the lens frame, facilitating consistent ceiling structure contact

DIMENSIONAL DATA – Housing requires a ceiling cutout of 9.75" x 45.75"



PHOTOMETRICS

POLAR GRAPH



Catalog No.: CLF14-S1
Test Number: 11398264
Lumens: 5079

| | RC | 70 | 80 | 30 | 10 | 70 | 30 | 10 | 50 | 50 | 10 | 50 | 30 | 10 | 50 | 10 | 0 |
|----|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| RW | 0 | 6046 | 6046 | 6046 | 6046 | 5906 | 5906 | 5906 | 5643 | 5643 | 5643 | 5403 | 5403 | 5403 | 5183 | 5183 | 5079 |
| | 1 | 5579 | 5360 | 5163 | 4986 | 5444 | 5246 | 5067 | 4905 | 5032 | 4885 | 4751 | 4835 | 4716 | 4606 | 4654 | 4367 |
| | 2 | 5108 | 4721 | 4400 | 4130 | 4978 | 4626 | 4331 | 4081 | 4448 | 4201 | 3987 | 4285 | 4078 | 3897 | 4133 | 3706 |
| | 3 | 4680 | 4178 | 3789 | 3479 | 4558 | 4099 | 3739 | 3448 | 3650 | 3642 | 3388 | 3812 | 3550 | 3330 | 3685 | 3167 |
| | 4 | 4301 | 3724 | 3301 | 2978 | 4188 | 3657 | 3262 | 2957 | 3532 | 3189 | 2917 | 3416 | 3119 | 2878 | 3308 | 2734 |
| | 5 | 3966 | 3342 | 2906 | 2584 | 3862 | 3286 | 2877 | 2570 | 3180 | 2819 | 2543 | 3082 | 2765 | 2516 | 2990 | 2385 |
| | 6 | 3671 | 3020 | 2583 | 2270 | 3576 | 2972 | 2560 | 2260 | 2882 | 2515 | 2240 | 2798 | 2471 | 2221 | 2719 | 2101 |
| | 7 | 3409 | 2746 | 2316 | 2015 | 3323 | 2705 | 2297 | 2007 | 2628 | 2261 | 1993 | 2556 | 2225 | 1979 | 2488 | 1867 |
| | 8 | 3177 | 2511 | 2092 | 1804 | 3099 | 2476 | 2077 | 1799 | 2410 | 2048 | 1788 | 2348 | 2018 | 1777 | 2289 | 1673 |
| | 9 | 2971 | 2309 | 1903 | 1629 | 2901 | 2279 | 1890 | 1625 | 2221 | 1866 | 1616 | 2167 | 1842 | 1608 | 2116 | 1510 |
| | 10 | 2788 | 2133 | 1741 | 1481 | 2724 | 2107 | 1731 | 1478 | 2057 | 1710 | 1471 | 2040 | 1690 | 1465 | 1966 | 1372 |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Fixt |
|--------|--------|---------|
| 0-40 | 2564 | 50.5 % |
| 0-60 | 4286 | 84.4 % |
| 0-90 | 5079 | 100.0 % |
| 90-180 | 0 | 0% |

SPECIFICATIONS

Housing: Low-profile (2.0") extruded aluminum housing with die-cast aluminum end caps. Extrusion profile produces internal heat sink and external heat fins to conduct/dissipate heat away from LED junction point to the housing exterior. Housing will support 1,000 pounds for walkable ceiling applications.

Lens Frame: One-piece, deep-draw fabricated Type 304 or Type 316 stainless steel lens frame free of surface welding. 60 degree beveled edge produces a progressive surface with the ceiling.

Optics: Edge lit LED optics. Light guide panel provides even facial illuminates and eliminates glare. Available in 4,000K, 5,000K and UV filtering amber.

Electrical: 100-277 VAC integral high efficiency driver and power supply (>0.90 power factor). Dimmable (0-10V). Optional 1100 Lumens Flash 90-minute battery back-up (regular and Class I, Division 2/ Class II, Division 2).

Installation: Integral junction box with hermetically sealed wireway junction. Designed for universal installation – 2.0 T-Bar grid, modular ceiling panel (2"-3") and stick-built gypsum ceilings. Wiring and installation does not require removal of lens frame.

Listings, Ratings, Certifications and Protocols: IP66 (ISO60598); Hazardous Locations – Class I, Division 2; Class II, Division 2; NSF2 (Splash Zone); LM79; LM80; DLC Qualified. Optional MIL STD 461F.

ORDERING INFORMATION

| SERIES | LIGHT ENGINE | COLOR TEMP. | VOLTAGE | HOUSING | LENS FRAME | LENS | BACKUP | OPTIONS |
|--|---|--|-------------------------------------|---|--|--|---|---|
| CLF14 | | | UV | HAL | | | | |
| CLF14= cleanLED recessed flange or 2.0" T-bar grid 1x4 | S1=55 W/ 5,000 lm M1=80 W/ 7,500 lm H1=110 W/ 10,000 lm | N=4,000K C=5,000K A=Amber UV Filtering | UV= Universal Voltage (100-277 VAC) | HAL= Extruded aluminum with die-cast end caps | LFSS304= 18-gauge Type 304 Stainless Steel LFSS316= 18-gauge Type 316 Stainless Steel | CTG= .125" Clear Tempered Glass CIA= .125" Clear Impact Acrylic | NB= No Backup IBB= Integral Battery Back-up HBB= Class I, Div 2 Battery Back-up | MS= MIL STD 461F C1D2= Class I, Div 2 C2D2= Class II, Div 2 |

**All lumens initial*

PROJECT INFORMATION

Project Name/Location _____

Fixture Type _____

Fixture Quantity _____

Catalog Number _____