



LED Demanding LED Troffers by Lithonia Lighting®

Lasting Protection in Challenging Applications





Complete Cleanroom Confidence

Building on a successful history for delivering high-quality sealed lighting fixtures, Lithonia Lighting enhances our portfolio with the SRTL Cleanroom LED recessed luminaire for uncompromised containment and control of clean spaces. The SRTL Cleanroom LED luminaires, available in 1'x4', 2'x2' and 2'x4', are ISO 3-9 (Class 100-100,000), NSF and IP66 rated to meet the distinct demands of cleanroom and containment areas.

A robotically-guided, machine-welded, hole-free enclosure reliably seals the fixture from the environment and the environment from the fixture. No leaks mean that people, products, processes and production are protected and uncompromised.

The SRTL Cleanroom LED is designed for applications in clean manufacturing, medical device production and packaging, pharmaceutical compounding and packaging, optics assembly and packaging, laboratories, healthcare, and other controlled environments.

Industries served by the SRTL Cleanroom LED:

- Aviation and Aerospace
- Biotech
- Cosmetics
- Education
- Electronics Manufacturing
- Government
- Healthcare
- Medical Device Manufacturing
- Laboratory
- Optics Assembly
- Pharmaceutical
- Life Science

Robust Offering to Meet Demanding Applications:

- Available in 1'x4', 2'x2', and 2'x4'
- Up to 12,000 in 1X4, 18,000 lumens in 2X2 and 30,000 lumens in 2X4
- ISO 3-9 (US Fed Std 209E class 1 –100,000) certified
- NSF Splash Zone 2
- NSF P442
- USP 797 & 800 certified
- BioSafety Levels 1, 2, 3, & 4
- IP65 and IP66
- nLight Air Wireless control capability
- Up to 145 LPW, DLC Premium
- 80CRI, 90CRI
- 30K, 35K, 40K, 50K CCT options
- Amber LED option
- Red LED option
- Inset, Overlap door options
- Grid, Flange, Surface-mount trim options
- MIL-STD 461F Option
- IK10

ISO 3-9 cleanroom certified

(Fed Std 209E class 1 – 100,000) - ISO 14644-1:2015 is the international standard that addresses the classification of air cleanliness by particle concentration in cleanrooms and clean zones. ISO 14644-1 replaced Fed Std 209E in 2001 as the international standard for cleanrooms to be designed to. The classes, from 1 to 9, are classified in order according to the number and size of particles permitted per volume of air (measured in cubic meters). The cleanroom classifications also provide how often air should change (using fan filter systems) per hour.

Amber LEDs

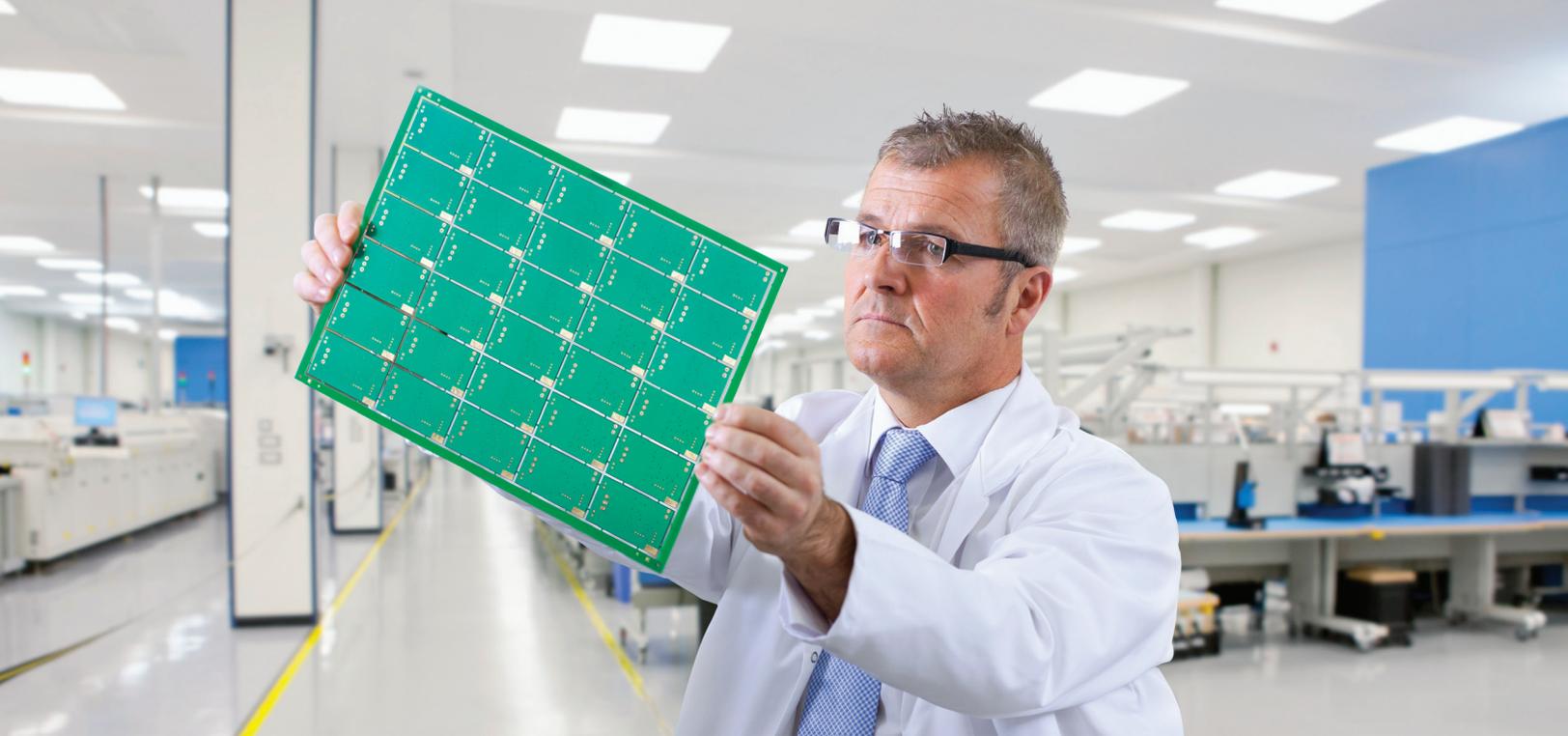
Required to protect photosensitive lithography processes in semiconductor manufacturing, light-sensitive products and organisms found in pharmaceutical compounding & manufacturing, and biotech applications. Amber light wavelength at ~570nm cuts out damaging UV and blue light found in standard white LED color temperatures.

Red LEDs

Used in animal research laboratories helping with sleep cycles for nocturnal animals used in research facilities. Red light has a longer wavelength and lower energy than other colors of light and therefore is less likely to affect an animal's behavior and activity. Many animals cannot see red light, so this helps to minimize any stress that may be caused by experiments.

ISO 14644-1 Cleanroom Standards							
Classification	Maximum Particles/m ³						FED STD 209E Equivalent
	Particle Size						
	≥0.1µm	≥0.2µm	≥0.3µm	≥0.4µm	≥1µm	≥5µm	
ISO 1	10	2.37	1.02	0.35	0.083	0.0029	
ISO 2	100	23.7	10.2	3.5	0.83	0.029	
ISO 3	1,000	237	102	35	8.3	0.029	Class 1
ISO 4	10,000	2,370	1,020	352	83	2.9	Class 10
ISO 5	100,000	23,700	10,200	3,520	832	29	Class 100
ISO 6	1.0 × 10 ⁶	237,000	102,000	35,200	8,320	293	Class 1,000
ISO 7	1.0 × 10 ⁷	2.37 × 10 ⁶	1,020,000	352,000	83,200	2,930	Class 10,000
ISO 8	1.0 × 10 ⁸	2.37 × 10 ⁷	1.02 × 10 ⁷	3,520,000	832,000	29,300	Class 100,000
ISO 9	1.0 × 10 ⁹	2.37 × 10 ⁸	1.02 × 10 ⁸	35,200,000	8,320,000	293,000	Room Air

Cleanroom Classification	Recommended air changes per hour
ISO Class 1	The "cleanest" cleanroom is ISO 1, used in industries such as life sciences and electronics that require nanotechnology or ultra-fine particulate processing. The recommended air changes per hour for an ISO class 1 clean room is 500-750, and the ceiling coverage should be 80-100%.
ISO Class 2	500-750 air changes per hour, with a ceiling coverage of 80-100%
ISO Class 3	500-750 air changes per hour, with a ceiling coverage of 60-100%
ISO Class 4	400-750 air changes per hour, with a ceiling coverage of 50-90%
ISO Class 5	240-600 air changes per hour, with a ceiling coverage of 35-70%
ISO Class 6	150-240 air changes per hour, with a ceiling coverage of 25-40%
ISO Class 7	60-150 air changes per hour, with a ceiling coverage of 15-25%
ISO Class 8	5-60 air changes per hour, with a ceiling coverage of 5-15%



S SRTL: Robust ratings to meet any challenge

NSF 2 (splash zone)

NSF certification is used to indicate an industrial light fixture meets guidelines for industrial applications including food processing facilities. Various industrial applications present many harsh conditions for light fixtures such as exposure to cold & high temperatures, and washdown with pressured water or chemicals. NSF 2 documents the minimum food protection and sanitation requirements for equipment in food spaces, which includes lighting. Lighting is classified into three zones – Non-Food Zone which includes kitchens, storage areas, dry process areas and damp process areas; Splash Zone which includes damp or wet process areas where high pressure cleaning and decontamination is done, and spaces using washdown hoses; Food Zone – areas where direct contact is made with food products and full sanitation is needed.

NSF P442 pressurized leakage

This NSF certification specifies that light fixtures are built for use in demanding and controlled environments to protect from contamination due to the use of the lighting. This certification requires multiple tests including specifically developed pressure testing to prove there is no leakage. Other tests are for compliance with NSF 2 for food equipment and confirming the fixture has necessary high levels of ingress protection (IP65 & IP66) against dust and water.

NEMA 4X

This rating, established by the National Electrical Manufacturers Association, is a rating for an outdoor electrical enclosure that includes a gasketed designed to protect against liquid and solid ingress, is suitable for indoor or outdoor use, and is resistant to corrosion.

BioSafety Levels 1, 2, 3, & 4

Fixture is suitable for the highest levels of biosafety precaution (level 4) where a dangerous agent could easily be transmitted in the air within the laboratory. Such agents could cause severe to fatal disease in humans for which there are no vaccines or treatments. Applications may include but not limited to labs used within the CDC, Biodefense and Biocontainment facilities, and other Biomedical research applications.

USP 797 & USP 800 certified

U.S. Pharmacopeia Convention's general chapter 797 and 800 provide guidelines and standards to reduce the health hazards that could be caused by exposure to dangerous drugs within a compounding pharmacy or medical facilities where specific treatment with these drugs are administered.

Tough Environments Demand Tough Troffers: WRTL & VRTL

Specially designed for demanding or abusive environments where dust, moisture or even vandalism is a concern, the WRTL and VRTL recessed LED troffers from Lithonia Lighting® are up for the challenge bringing you the efficiency and reliability of LEDs in a vapor-tight or vandal-resistant recessed troffer. The WRTL LED and VRTL LED are available in 1'x4', 2'x2' and 2'x4' sizes and are suitable for both in-ceiling and lay-in grid installations. Numerous lumen packages, fixture sizes and Acuity Controls options provide increased energy savings and versatility. Applications include food processing, locker rooms, bathrooms, schools, recreational facilities, supervised behavioral centers, isolated areas and canopies.

Robust Offering to Meet Demanding Applications:

- Available in 1X4, 2X2, and 2X4
- Up to 12,000 in 1X4, 18,000 lumens in 2X2 and 30,000 lumens in 2X4
- Factory-installed nLight Air Wireless control capability
- Up to 145 LPW for WRTL, Up to 125 LPW for VRTL. DLC Premium on many SKUs
- 80CRI, 90CRI
- 30K, 35K, 40K, 50K CCT options
- In-ceiling and lay-in grid
- Grid and Flange trim options
- NSF splash zone 2 (WRTL)
- IP65 and IP66 (roomside only) for WRTL
- IK10
- Multiple polycarbonate lens thicknesses available (VRTL)

W WRTL Wet-Location Recessed LED Troffer

The WRTL LED is wet location listed for applications where moisture and dust are a concern. For food processing, an NSF option allows the WRTL LED fixture to be rated NSF Splash Zone 2. Both inset and overlapping aluminum door designs are available with a frosted acrylic diffuser to meet your unique requirements. The WRTL LED housing is made from 20-gauge cold-rolled steel for strength and durability.

V VRTL Vandal-Resistant Recessed LED Troffer

The VRTL LED is vandal-resistant and built for tough, physically abusive environments. Its rugged design includes a polycarbonate lens and tamper-resistant fasteners. Its heavy-duty, 18-gauge cold rolled steel-framed door and 20-gauge steel housing protects the fixture from negligence and physical damage. The VRTL LED is damp location rated with a wet location rating as an upgrade option.



Recessed	SRTL	WRTL	VRTL
	Cleanroom LED	General Purpose / Wet Location LED Troffer	Vandal-Resistant LED Troffer
Purpose	 <p>General illumination of ISO 3-9 certified clean spaces protecting people, product, processes and production from contamination from the luminaire</p>	 <p>Wet location recessed troffer for in-ceiling and lay-in grid applications. General illumination, vapor tight fixture suitable for most demanding applications because of its available fixture sizes, broad range of lumen packages and numerous control options.</p>	 <p>Vandal-resistant, damp location recessed troffer for in-ceiling and lay-in grid applications. Use in public spaces and environments that are prone to negligence, abuse or vandalism.</p>
Available Sizes	1'x4', 2'x2', 2'x4'	1'x4', 2'x2', 2'x4'	1'x4', 2'x2', 2'x4'
Lumens	1X4 - 3,000 to 12,000 lumens 2X2 - 3,000 to 18,000 lumens 2X4 - 3,000 to 30,000 lumens	1X4 - 3,000 to 12,000 lumens 2X2 - 3,000 to 18,000 lumens 2X4 - 3,000 to 30,000 lumens	1X4 - 3,000 to 12,000 lumens 2X2 - 3,000 to 18,000 lumens 2X4 - 3,000 to 30,000 lumens
Performance	Up to 145 LPW, DLC Premium on make SKUs	Up to 145 LPW, DLC Premium on make SKUs	Up to 125 LPW, DLC Premium on make SKUs
Housing/Construction	Robotically seam welded, hole-free 20-gauge cold rolled steel	20-Gauge Cold Rolled Steel	20-Gauge Cold Rolled Steel
Door Frame Options	Inset Door and Overlap Door; white and silver paint finishes available; stainless steel door and doorframe available	Inset and overlap door styles available; white, black and silver door colors available	Inset door style only; white and black colors available
Surface Mount	Yes, optional	No	Yes, optional
Vandal Resistant	No	No	Yes, includes 18-Gauge steel doorframe, polycarbonate lens and tamper-resistant fasteners
Cleanroom Rating	ISO 3-9 (Class 1 - 100,000)	N/A	N/A
IP Ratings	IP65, IP66	IP65, IP66 (roomside only)	Damp location rated; Wet location option available
Environmental Ratings & Certifications	NSF non-food splash zone 2; NSF P442 pressurized leakage; NEMA 4X; USP 797 & 800 (pharmaceutical)	NSF, non-food splash zone 2 (overlap door only)	No
BioSafety	Suitable for all levels BSL1, BSL2, BSL3, & BSL4	N/A	N/A
Military Specification	Option meets MIL-STD 461F for interference	N/A	N/A
Temperature Range	-4°F (-20°C) to 104°F (40°C) – see spec sheet for exceptions	-4°F (-20°C) to 104°F (40°C) – see spec sheet for exceptions	-4°F (-20°C) to 104°F (40°C) – see spec sheet for exceptions
CCT	3000K, 3500K, 4000K, 5000K, Amber (570nm), Red (630nm)	3000K, 3500K, 4000K, 5000K	3000K, 3500K, 4000K, 5000K
CRI	80, 90 w/ high R9 value	80, 90 w/ high R9 value	80, 90 w/ high R9 value
Emergency Backup	Yes, available as option	Yes, available as option	Yes, available as option
Acuity Controls	Yes, available as option	Yes, available as option	Yes, available as option

Designed to protect & last across multiple strict applications



Technology Manufacturing



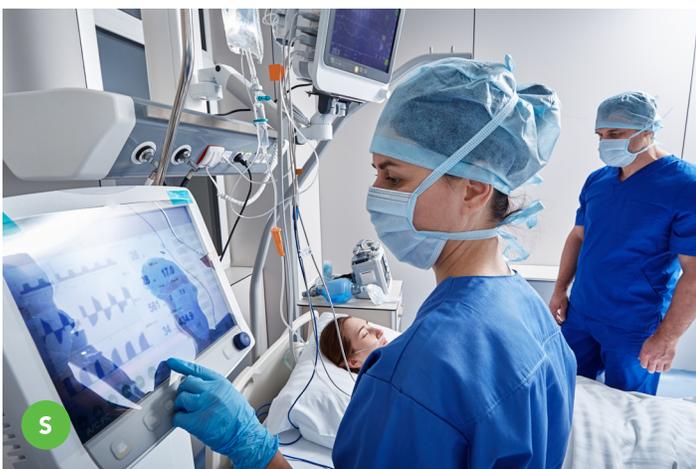
Pharmaceutical



Laboratories



Education



Healthcare



Food Processing



To learn more about the Demanding LED Troffers visit:

lithonia.acuitybrands.com/products/family/demanding-troffers



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