


CLEANROOM GUIDE

WHAT MAKES A CLEANROOM A CLEANROOM?

Typically used in manufacturing or scientific research, a cleanroom is a controlled environment that has a low level of pollutants. Luminaires used in cleanroom area must be able to maintain their seal and withstand either negatively or positively pressured environments.


	Cleanroom Rated Luminaire	General Luminaire
Certification	UL or ETL, IP65, ISO4, NSF, Damp or Wet location	UL or ETL, Damp location
Construction	18Ga or 20Ga cold rolled steel or stainless steel material that can withstand rigorous cleaning procedures. Fixture is welded and sealed shut to prevent the passage of particles in or out of the housing. Doorframe design is evenly pressured from all sides.	24Ga material that is hard tooled, has no flexibility and has exposed corners. Fixture uses pop-rivets or tabs that allow air flow in and out of the plenum space.
Lens	Lens with smooth side out for easy cleaning. Acrylic standard.	Various lens options.
Gasket	Gasketed with closed cell EPDM and closed cell silicone to prevent air contaminations from entering the fixture.	Gasketing is more for light leaks than contamination.
Finish	Antimicrobial powder coat finish.	Various finishes.


NEW STAR LIGHTING'S CLEANROOM FIXTURES ARE CERTIFIED:


 The UL symbol signifies that Underwriter's Laboratory has determined that a manufacturer has demonstrated the ability to produce a product complying with UL's requirements for safety, performance and regulatory codes.



A damp location is an exterior or interior location that is normally or periodically subject to condensation of moisture in, on or adjacent to the electrical components of a lighting fixture.

 UL or ETL certified – ensures that the enclosure is dust-tight and protected against jet streams of water from any direction without harmful effects.

 Luminaire has been evaluated for corrosion resistance, cleanability and the ability of exposed material to withstand normal wear. This supports the infection control standards established by healthcare facilities as it indicates that the luminaire is easy to sanitize.

 Cleanrooms are classified according to the number and size of particles permitted per volume of air. The measurement must not exceed specified particle limits in order for the space to be considered a controlled "clean room" environment. The lower ISO equivalent, the more protection the fixture has against contamination.

Cleanroom Class	Measured Particle Size (Micrometers)					ISO Equivalent
	0.1	0.02	0.03	0.5	5	
1	35	7.5	3	1	N/A	ISO 3
10	350	75	30	10	N/A	ISO 4
100	N/A	750	300	100	N/A	ISO 5
1000	N/A	N/A	N/A	1000	7	ISO 6
10000	N/A	N/A	N/A	10000	70	ISO 7
100000	N/A	N/A	N/A	100000	700	ISO 8