

MR Series**MR Series - Performance Specification for Industrial Grade LED Luminaires****1. Luminaire Housing and System Design**

- 1.1. cULus listed to match the specific area rating.
- 1.2. Flexible mounting options to allow implementation of the luminaire category for a variety of applications.
- 1.3. Passes 7J impact exceeding IK08 requirements.
- 1.4. High-pressure die-cast low copper aluminum alloy housing.
- 1.5. Multi-layer powder-coated housing for chemical and UV resistance.
- 1.6. Polycarbonate impact, flame and UV resistant lens.
- 1.7. Stainless steel fasteners.
- 1.8. Pressure equalized housing with breathing membrane to accommodate atmospheric differences between the sealed interior and external environment.
- 1.9. Secondary fastening point for all overhead luminaires.
- 1.10. Ingress protection rating of IP66 and IP67.
- 1.11. Retention straps for all accessible junction points.
- 1.12. Field replaceable light engine with quick disconnects. Field soldering not permitted.
- 1.13. IP66 rated field accessible power supply chamber for future upgrades (where applicable).
- 1.14. Heat sink fin spacing, and orientation shall be optimized for drainage, snow/ice melt as well as debris shedding.

2. Light Emitting Diode Specification

- 2.1. Reported TM21 Lifetime data for L90 shall be greater than 60,000h based on typical junction point temperature at 25°C ambient temperature and typical drive current.
- 2.2. Correlated colour temperature shall be 5,000K (+/- 300K) for indoor and 3,000K (+/- 300K) for outdoor applications.
- 2.3. Minimum CRI value of 70 to provide accurate representation of colors and increased visual acuity.

3. Optical Control

- 3.1. 0% up light when the fixture is installed horizontally in reference to the ground, ensuring no light trespass above the horizontal plane.
- 3.2. A glare-reduction lens and sharp cutoff to reduce the potential for glare.
- 3.3. Secondary optics to shape the light and deliver targeted illumination, which reduces light spillage into sensitive areas.

4. Power Supply Specification

- 4.1. Auto ranging constant-current output power supplies that are optimized for the anticipated thermal load.
- 4.2. 0-10V dimmable.
- 4.3. Lifetime projection (not MTBF) of > 100,000h.
- 4.4. Field replaceable power supplies with spring-clamp splicing connectors that provide enhanced vibration resistance and lower probability of loose connections.
- 4.5. Built-in surge suppression.

5. Manufacturing

- 5.1. Manufacturer shall have no less than 10 years of experience in supplying industrial and hazardous location LED based luminaires.
- 5.2. The luminaire shall be manufactured in an ISO 9001:2015 certified facility in North America.
- 5.3. Project documentation and final packaging labels must match the luminaire types (where applicable) to support rapid deployment during the construction stage.

6. Warranty

- 6.1. The manufacturer shall provide a 5-year luminaire warranty, which shall include housing, light engine and power supply.
- 6.2. The warranty shall be tied to and tracked based on luminaire serial number and be transferable from the original purchaser to the final facility owner / operator.