

MERCMASTER LED: THE CHOICE FOR A SMART FUTURE.

No LED industrial fixture surpasses the Appleton Mercmaster LED in efficiency, performance and advanced engineering. In day-to-day use, installation and maintenance, the Appleton Mercmaster LED's superior design simply shines.

In areas requiring better visibility and instant-on illumination, the complete range of Mercmaster LEDs provide a low maintenance, energy efficient solution. Whether low temperatures or retrofit applications Appleton has the answer.

FEATURES

- 5 LED array choices for light levels equivalent to 70 W HPS/PSMH, 100 W HPS/PSMH, 150 W HPS/PSMH, 175 W PSMH and 250 W HPS/PSMH.
- Luminaires rated for NEC/CEC and ATEX/IECEX environments.
- Upgraded LED array provides higher efficacies.
- 700mA drive current.
- Ambient temperatures:
 - 70W equivalent: -40 °C to 65 °C (-40 °F to 149 °F)
 - 100W to 175W equivalent: -40 °C to 55 °C (-40 °F to 131 °F)
 - 250W equivalent: -40 °C to 50 °C (-40 °F to 122 °F)
- Electrical: 120-277 Vac, 50/60 Hz
347-480 Vac, 50/60 Hz
- Supplied with terminals to allow for easier wiring.
- Resistant to low temperatures; the lumen output does not decrease.
- Compact lightweight low profile design, well suited for low mounting heights.
- Utilizes the same electrical wiring for HID fixtures with lower electrical ratings.
- Fixture housing and mounting hoods are copperfree cast aluminum for better heat dissipation. All exposed hardware is stainless steel.
- Heatsink designed to keep dust and debris from accumulating on the fixture, while maintaining rounded edges to reduce risk of injury during installation and maintenance.
- High hinge design increases safety during installation and servicing, assuring 360° compression on ballast housing gasket.
- Silicone rubber gasket seals out moisture, dirt and dust; stays flexible and withstands high temperatures.
- High impact-resistant polycarbonate lens is threaded for easy removal.
- Epoxy powder coat finish and stainless steel latch assembly are corrosion resistant.
- Dark Sky Compliant: meets specifications for low glare, focused beam and avoidance of overlighting.
- NEMA Type I and Type 5 light distributions available.

WHY IS LED THE FUTURE?

It's not just about efficiency. LED lighting delivers real productivity benefits.

- Resistant to vibrations and shock.
- Directional light can improve efficiency, productivity and safety.
- Cold start capable to -40 °C and instant-on (<100ns).
- Uses no mercury and its beam gives off no heat.
- Promises long life, 60,000+ hours.
- Delivers reduced maintenance costs.

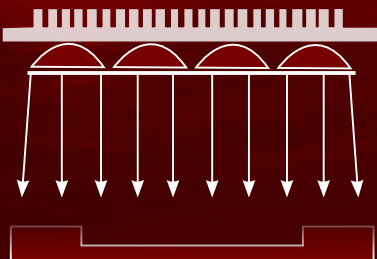
And perhaps most importantly, it's green — offering an energy reduction up to 68% for similar luminosities compared to the PSMH (Pulse Start Metal Halide) you may be using today. Because of its all-around benefits, LED will soon be the prevalent lamp technology in manufacturing settings worldwide. Your future can start now.

LED vs. HID: THE FUTURE OF EFFICACY.

BULB: HID lamps emit light in every direction; this light is controlled using a reflector or refractor. The result is poor utilization efficiencies.



LED: LED directs the light to where it's needed without the use of external optics.



EASIER INSTALLATION, EASIER MAINTENANCE, EASIER TO BE GREEN – EVERYWHERE.

The Appleton Mercmaster LED excels in a varied range of demanding locations.

APPLICATIONS

LED fixtures suitable for use in:

- Marine and wet locations.
- A wide range of industrial, chemical processing and other areas where flammable gases and vapors are present.
- Areas of low clearance, low ceiling heights or where fixture weights must be minimized.
- Hazardous locations where severe weather conditions, excessive moisture, dirt, dust, corrosive atmosphere or high ambient temperatures are encountered.

MOUNTING HOODS

- Six different types of mounting hoods accommodate any application requirement.
- Utilizes the same mounting hoods as the Mercmaster III Series.
- Easily accommodates retrofitting.



Pendant



Wall



Pendant Cone



25° Stanchion



Ceiling



90° Stanchion

LED TESTING COMPLIANCES

IES LM-79-08 “Electrical and Photometric Measurements of Solid-State Lighting Products”

An IES approved method describes the procedures to be followed in performing reproducible measurements of the following:

- Total luminous flux (fixture lumens)
- Luminous efficacy (lm/watt)
- Luminous intensity and distribution (candelas)
- Color Characteristics
 - Chromaticity - Quality of color, independent of brightness
 - CCT - Correlated Color Temp (k)
 - CRI - Color Rendering Index

The Result: Solid-State Lighting Photometric reports (Absolute).

LM-80-08 “Measuring Lumen Maintenance of LED Light Sources”

An IES approved method covers the measurement of lumen maintenance and procedures by which LED light sources can be operated.

- Operating for at least 6,000 hours at representative operating temperatures
- Photometric data collected at a minimum of every 1,000 hours
- Chromaticity, color temperature, color rendering

The Result: Photometric reports for long term lumen maintenance.

IES TM-21 – “Projecting Long Term Lumen Maintenance of LED Light Sources”

Provides recommendations for projecting long term lumen maintenance of LED light sources using data obtained per IES LM-80-08.

The Result: To project lumen degradation or LED’s operating life in accordance to LM-80.

CERTIFICATIONS AND COMPLIANCES

NEC/CEC

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2, Group IIC
- Class II, Division 1, Group E, F, G
- Class II, Division 2, Group F, G
- Class III
- Type 3R, 4X
- IP66
- Suitable for Use in Wet Locations
- Marine Outside Type (Salt Water)

- UL Standard: UL 1598, UL 1598A, UL 8750, UL 844
- CSA Standard: C22.2 No. 250.0, C22.2 No. 137
- cCSAus

IEC/ATEX

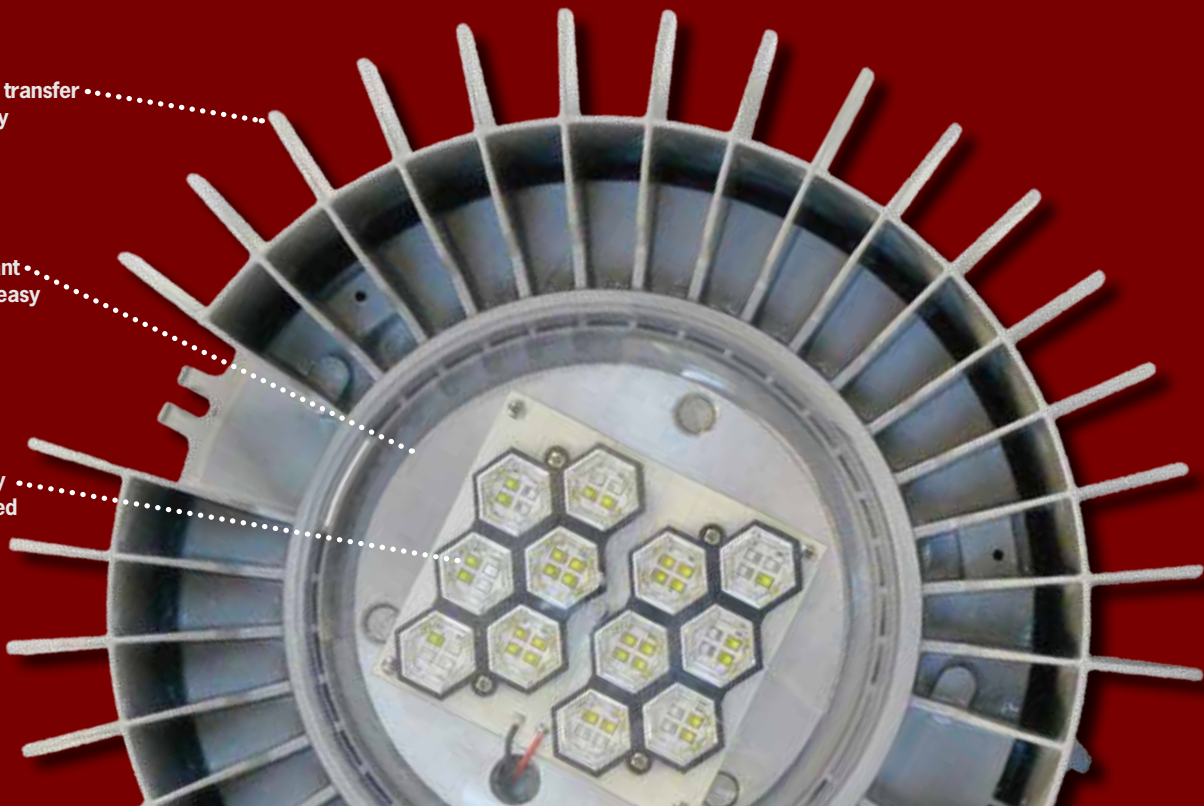
- Zone 2 and 22
- II 3 GD
- IP66
- Ex Standards: IEC 60079-0; 60079-15; 60079-31

CATALOG NUMBERING GUIDE

| | | | | | | | |
|--|--|---|---|--|--|---|--|
| <p>MLEDN</p> <p>↓</p> <p>Mercmaster LED Series: MLEDN - NEC/CEC MLEDNA - ATEX/IECE_x</p> | <p>A</p> <p>↓</p> <p>Mounting: A - Pendant C - Ceiling D - Pendant Cone R - 90° Stanchion S - 25° Stanchion W - Wall</p> | <p>17</p> <p>↓</p> <p>Light Level Equivalent: 70 - 70 W HPS 10 - 100 W HPS 15 - 150 W HPS 17 - 175 W PSMH 25 - 250 W HPS/PSMH</p> | <p>2</p> <p>↓</p> <p>Hub Size: 2 - 3/4" NPT 3 - 1" NPT 4 - 1-1/4" NPT stanchion 5 - 1-1/2" NPT stanchion 6 - Metric M20</p> | <p>P</p> <p>↓</p> <p>Optical Assembly: P - Polycarbonate Globe</p> | <p>5</p> <p>↓</p> <p>Light Distribution: 1 - NEMA Type I Elliptical (100 W and 175 W only) 5 - NEMA Type V Symmetrical</p> | <p>BU</p> <p>↓</p> <p>Voltage: BU - Universal Voltages 120-277 Vac, 50/60 Hz BH - 347-480 Vac, 50/60 Hz</p> | <p>H1</p> <p>↓</p> <p>Options: F - Fusing [Ⓞ]</p> <p>For NEC/CEC Only: H1 - Photocontrol 120 V H2 - Photocontrol 208 V H3 - Photocontrol 240 V H4 - Photocontrol 277 V D - Diffused Globe</p> |
|--|--|---|---|--|--|---|--|

[Ⓞ] Canadian Electrical Code does NOT allow fusing in hazardous locations. Fuse not CEC rated.

- Heatsink enables reliable heat transfer via the diecast, aluminum body
- Protective, high impact resistant polycarbonate lens allows for easy maintenance access
- Up to 42 LEDs in internal array direct light to where it is needed without the use of external optics



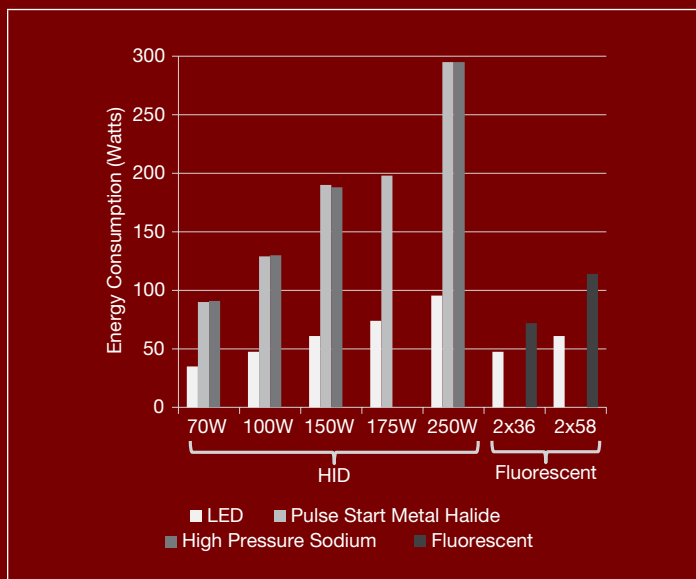
TECHNICAL DATA

| | MLEDN70 | MLEDN10 | MLEDN15 | MLEDN17 | MLEDN25 |
|------------------------------|---|---|----------------------------|----------------------------|----------------------------|
| Equivalent to HPS/PSMH | 70 Watt | 100 Watt | 150 Watt | 175 Watt | 250 Watt |
| Voltage Range | 120 - 277 Vac, 50/60 Hz, 347 - 480 Vac, 50/60 Hz | | | | |
| LED Lumen | 2300 | 3450 | 4850 | 6075 | 9455 |
| Input Power | 35 / 33 | 47.5 / 46 | 61 / 62 | 74 / 72 | 95.5 / 92 |
| Efficacy | 66 | 73 | 80 | 82 | 99 |
| Ambient Temperate / T Rating | -40 °C / T4A 55 °C / T4 65 °C / T3C | -40 °C / T4A 55 °C / T4 65 °C / T3C | -40 °C / T4A 55 °C / T4 | -40 °C / T4A 55 °C / T4 | -40 °C / T4A 50 °C / T4 |
| CCT/CRI | 5650K / 70 | | | | |
| Typical Mounting Height | Maximum 9 ft | 8 to 12 ft | 12 to 14 ft | Maximum 14 ft | 18 to 25 ft |
| Standard Materials | Housing – Copperfree cast aluminium Finish – Baked gray epoxy powder coat, electrostatically applied Lens – Polycarbonate | | | | |
| Fixture Weight | 19.4 lbs/8.8 kgs | | | | |

INDUCTION/HID/LED LAMP COMPARISON

| | 85 W QL | 165 W QL | 100 W HPS | 175 W PSMH | LED (70 W PSMH output) | LED (100 W PSMH output) | LED (150 W PSMH output) | LED (175 W PSMH output) | LED (250 W PSMH output) |
|--------------|---------|----------|-----------|------------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| System Watts | 85 | 165 | 130 | 208 | 35 | 47.5 | 61 | 74 | 95.5 |
| CRI | 85 | 80 | 22 | 62 | 70 | 70 | 70 | 70 | 70 |
| Ignition | 0.1 sec | 0.1 sec | 5 sec | 10 sec | Instant | Instant | Instant | Instant | Instant |
| Warm Up | 5 sec | 5 sec | 3 - 4 min | 1.5 min | Instant | Instant | Instant | Instant | Instant |
| Restrike | 0.1 sec | 0.1 sec | 1 min | 1 min | Instant | Instant | Instant | Instant | Instant |
| Life | 100k | 100k | 24k+ | 15k | 60k+ | 60k+ | 60k+ | 60k+ | 60k+ |

ENERGY CONSUMPTION COMPARISON



LIGHT SOURCE LAMP LIFE COMPARISON

