



# Certificate of Compliance

**Certificate:** 70112879

**Master Contract:** 164460

**Project:** 80069058

**Date Issued:** 2021-06-22

**Issued To:** Appleton Group  
9377 W Higgins Rd  
Rosemont, Illinois, 60019  
United States

**Attention:** Stephan Nalywajko

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*

**Issued by:** Steven Simkevitz  
Steven Simkevitz



## **PRODUCTS**

CLASS - C342803 - FIXTURES AND FITTINGS For Hazardous Locations

CLASS - C342883 - FIXTURES AND FITTINGS For Hazardous Locations-Certified to U.S. Standards

**Class I, Division 2, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III; T-coded per table below; Type 3R, 4 and 4X; IP66, 67; Marine Outside Type (Salt Water) for USA only;**

- MERCMaster LED Gen 3.0 – Series MLG LED luminaires for use in hazardous locations; ceiling surface, wall surface, stanchion, trunnion or pendant mounted; rated input voltage 120-277 VAC 50/60 Hz, 125-300 VDC or 347-480 VAC 50/60 Hz, 210 Watts max; T<sub>ambient</sub> -40 °C to +55 °C, or +60 °C, or +65 °C, or +70 °C, or +75 °C per table below.
- Catalogue number MLG may be followed by A, B, C, D, K, R, S, T, U, V, W, X or Y, followed by L3, L5, L7, L9, H9, H1, H3, H6, X1 or X5, may be followed by 2, 3, 4, 5 or 6 followed by C, M, N, R or W,



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may be followed by P, D, G, or J, may be followed by 1, 3 5 or W, followed by BU or BH, optionally followed by F, and/or 1, 2, 3 or 4, optionally may be followed by S, optionally may be followed by A.

| Series Number       | Min Supply Wire (C°) | Max Driver Current (mA) | Max Ambient Temperature (C°) | Class I Division 2 Groups A, B, C and D | Class I, Zone 2, Group IIC | Class II, Division 1, Groups E, F and G | Zone 20, Group IIIC | Class I, Division 2 & Class II, Division 1 |
|---------------------|----------------------|-------------------------|------------------------------|---|----------------------------|---|---------------------|--|
| MLG*L3****B<br>**** | 90                   | 550                     | 40                           | T4A                                     | T4                         | T6                                      | T6                  | T4A  |
|                     |                      |                         | 55                           | T4A                                     | T4                         | T5                                      | T5                  | T4A  |
|                     |                      |                         | 65                           | T4                                      | T4                         | T5                                      | T5                  | T4   |
|                     |                      |                         | 75                           | T4                                      | T4                         | T4A                                     | T4                  | T3C  |
| MLG*L5****B<br>**** | 90                   | 860                     | 40                           | T4A                                     | T4                         | T6                                      | T6                  | T4A  |
|                     |                      |                         | 55                           | T4                                      | T4                         | T5                                      | T5                  | T4   |
|                     |                      |                         | 65                           | T3C                                     | T3                         | T5                                      | T5                  | T3C  |
|                     |                      |                         | 75                           | T3C                                     | T3                         | T4A                                     | T4                  | T3C  |
| MLG*L7****B<br>**** | 90                   | 390                     | 40                           | T4A                                     | T4                         | T6                                      | T6                  | T4A  |
|                     |                      |                         | 55                           | T4A                                     | T4                         | T5                                      | T5                  | T4   |
|                     |                      |                         | 65                           | T4                                      | T4                         | T5                                      | T5                  | T3C  |
|                     |                      |                         | 70                           | T4                                      | T4                         | T5                                      | T5                  | T3C  |
|                     |                      |                         | 75                           | T4                                      | T4                         | T4A                                     | T4                  | T3C  |
| MLG*L9****B<br>**** | 90                   | 480                     | 40                           | T4A                                     | T4                         | T6                                      | T6                  | T4A  |
|                     |                      |                         | 55                           | T4                                      | T4                         | T5                                      | T5                  | T4   |
|                     |                      |                         | 65                           | T4                                      | T4                         | T5                                      | T5                  | T4   |
|                     |                      |                         | 70                           | T3C                                     | T3                         | T5                                      | T5                  | T3C  |
| MLG*H9****B<br>**** | 90                   | 480                     | 40                           | T4                                      | T4                         | T6                                      | T6                  | T4   |
|                     |                      |                         | 55                           | T3C                                     | T3                         | T6                                      | T6                  | T3C  |
|                     |                      |                         | 65                           | T3C                                     | T3                         | T6                                      | T6                  | T3C  |
|                     |                      |                         | 70                           | T3C                                     | T3                         | T5                                      | T5                  | T3C  |
| MLG*H1****B<br>**** | 90                   | 595                     | 40                           | T3C                                     | T3                         | T6                                      | T6                  | T3C  |
|                     |                      |                         | 55                           | T3C                                     | T3                         | T6                                      | T6                  | T3C  |
|                     |                      |                         | 65                           | T3C                                     | T3                         | T6                                      | T6                  | T3C  |
|                     |                      |                         | 70                           | T3B                                     | T3                         | T5                                      | T5                  | T3B  |
| MLG*H3****B<br>**** | 90                   | 720                     | 40                           | T3C                                     | T3                         | T6                                      | T6                  | T3C  |
|                     |                      |                         | 55                           | T3B                                     | T3                         | T6                                      | T6                  | T3B  |
|                     |                      |                         | 65                           | T3A                                     | T3                         | T5                                      | T5                  | T3A  |



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|                     |    |      |    |     |    |    |    |     |
|---------------------|----|------|----|-----|----|----|----|-----|
| MLG*H6****B<br>**** | 90 | 900  | 70 | T3A | T3 | T5 | T5 | T3A |
|                     |    |      | 40 | T3A | T3 | T6 | T6 | T3A |
|                     |    |      | 55 | T3A | T3 | T6 | T6 | T3A |
|                     |    |      | 65 | T3  | T3 | T5 | T5 | T3  |
| MLG*X1****B<br>**** | 90 | 1040 | 40 | T3C | T3 | T6 | T6 | T3C |
|                     |    |      | 55 | T3A | T3 | T5 | T5 | T3A |
|                     |    |      | 60 | T3A | T3 | T5 | T5 | T3A |
| MLG*X5****B<br>**** | 90 | 1300 | 40 | T3B | T3 | T6 | T6 | T3B |
|                     |    |      | 55 | T3A | T3 | T5 | T5 | T3A |

**Ex ec IIC T-coded per table below Gc;**  
**Class I, Zone 2, AEx ec IIC T-coded per table below Gc;**  
**Ex tb IIIC T-coded per table below Db;**  
**Zone 21, AEx tb IIIC T-coded per table below Db;**

- MERCMaster LED Gen 3.0 – Series MLG LED luminaires for use in hazardous locations; ceiling surface, wall surface, stanchion, trunion or pendant mounted; rated input voltage 120-277 VAC 50/60 Hz, 125-300 VDC, 210 Watts max; T<sub>ambient</sub> -40 °C to +55 °C, or 60 °C or +65 °C or +70 °C per table below.
- Catalogue number MLG may be followed by A, C, R, S, T or W, followed by L3, L5, L7, L9, H9, H1, H3, H6, X1 or X5, may be followed by 2, 3, 4, 5 or 6 followed by C, M, N, R or W, may be followed by P, D or G, may be followed by 1, 3 5 or W, followed by BU, optionally may be followed by A.

| Series Number     | Min Supply Wire (C°) | Max Driver Current (mA) | Max Ambient Temperature (C°) | Ex ec IIC, Class I, Zone 2, AEx ec IIC | Ex tb IIIC, Zone 21, AEx tb IIIC |
|-------------------|----------------------|-------------------------|------------------------------|--|----------------------------------|
| MLG*L3****B<br>U  | 90                   | 550                     | 40                           | T4                                     | T81 °C                           |
|                   |                      |                         | 55                           | T4                                     | T88 °C                           |
|                   |                      |                         | 65                           | T4                                     | T94 °C                           |
| MLG*L5****B<br>U  | 90                   | 860                     | 40                           | T4                                     | T81 °C                           |
|                   |                      |                         | 55                           | T4                                     | T88 °C                           |
|                   |                      |                         | 65                           | T3                                     | T94 °C                           |
| MLG*L7****B<br>U* | 90                   | 390                     | 40                           | T4                                     | T81 °C                           |
|                   |                      |                         | 55                           | T4                                     | T88 °C                           |
|                   |                      |                         | 65 <sup>§</sup>              | T4                                     | T94 °C                           |
|                   |                      |                         | 70 <sup>§</sup>              | T4                                     | T99 °C                           |
| MLG*L9****B<br>U  | 90                   | 480                     | 40                           | T4                                     | T81 °C                           |
|                   |                      |                         | 55                           | T4                                     | T88 °C                           |



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|                   |    |      |                 |    |         |
|-------------------|----|------|-----------------|----|---------|
|                   |    |      | 65 <sup>§</sup> | T4 | T94 °C  |
| MLG*H9****B<br>U* | 90 | 480  | 40              | T4 | T61 °C  |
|                   |    |      | 55              | T3 | T74 °C  |
|                   |    |      | 65 <sup>§</sup> | T3 | T83 °C  |
|                   |    |      | 70 <sup>§</sup> | T3 | T88 °C  |
| MLG*H1****B<br>U* | 90 | 595  | 40              | T3 | T64 °C  |
|                   |    |      | 55              | T3 | T77 °C  |
|                   |    |      | 65 <sup>§</sup> | T3 | T83 °C  |
|                   |    |      | 70 <sup>§</sup> | T3 | T88 °C  |
| MLG*H3****B<br>U  | 90 | 720  | 40              | T4 | T 66 °C |
|                   |    |      | 55              | T3 | T79 °C  |
|                   |    |      | 65 <sup>§</sup> | T3 | T86 °C  |
| MLG*H6****B<br>U  | 90 | 900  | 40              | T3 | T71 °C  |
|                   |    |      | 55              | T3 | T84 °C  |
|                   |    |      | 65 <sup>§</sup> | T3 | T95 °C  |
| MLG*X1****B<br>U  | 90 | 1040 | 40              | T3 | T82 °C  |
|                   |    |      | 55              | T3 | T102 °C |
|                   |    |      | 60 <sup>§</sup> | T3 | T102 °C |
| MLG*X5****B<br>U  | 90 | 1300 | 40              | T3 | T92 °C  |
|                   |    |      | 55              | T3 | T104 °C |

§ For MLG\*L7, MLG\*L9, MLG\*H9, MLG\*H1, MLG\*H3, MLG\*H6 and MLG\*X1 with voltage range of 125 VDC to 169 VDC operating temperature range is -40 °C to +55 °C.

**Notes:**

1. \*\*\* Series model MLG is followed with alphanumeric suffixes to denote electrical and mechanical variations. Refer to nomenclature for details.
2. Marine Outside Type (Salt Water) rating applies to installation in the USA only.
3. Marine Outside Type (Salt Water) rating not valid for equipment with fusing.
4. Luminaire is not intended for mounting with LEDs in Face up orientation.
5. Luminaire for marine application in the US is intended to be installed in accordance with CG-259 American Bureau of Shipping and Coast Guard requirements.
6. Enclosure ratings are not valid for equipment with photocontrols.
7. Products not rated with Type of Protection “ec” and/or “tb” may be additionally marked Class I, Zone 2, IIC; Zone 20, IIIC;
8. Only certain models are valid for the Ex and/or AEx markings per catalogue nomenclature noted above for Types of Protection “ec” and/or “tb”.
9. Specific Condition of Use: “Mercmaster LED Series Luminaires with clear and diffused polycarbonate globes may generate ignition capable levels of electrostatic charge. When installing the equipment in a location where external conditions are conducive to the build-up of electrostatic charge on the plastic



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surface, the equipment shall only be cleaned with a damp cloth and the instructions in the manual followed.”

10. Only certain models are eligible for high ambient applications.
11. Rated current for pass-through wiring varies for each model and ambient refer to the instructions for details.
12. The pass-through wiring conductors shall be rated for 12 AWG, 90 °C or better.

### **APPLICABLE REQUIREMENTS**

|                               |   |   |
|-------------------------------|---|---|
| CAN/CSA C22.2 No. 0-10        | - | General requirements — Canadian Electrical Code, Part II                                  |
| CAN/CSA C22.2 No. 94.2-15     | - | Enclosures for electrical equipment, environmental considerations                         |
| CAN/CSA C22.2 No. 137-M1981   | - | Electric Luminaires for Use in Hazardous Locations  |
| CAN/CSA C22.2 No. 250.0-18    | - | Luminaires  |
| CAN/CSA C22.2 No. 250.13-17   | - | Light emitting diode (LED) equipment for lighting applications                            |
| CAN/CSA E60598-1:16           | - | Luminaires — Part 1: General requirements and tests                                       |
| CAN/CSA-C22.2 No. 60079-0:19  | - | Explosive atmospheres — Part 0: Equipment — General requirements                          |
| CAN/CSA-C22.2 No. 60079-7:16  | - | Explosive atmospheres — Part 7: Equipment protection by increased safety “e”              |
| CAN/CSA-C22.2 No. 60079-31:15 | - | Explosive atmospheres — Part 31: Equipment dust ignition protection by enclosure “t”      |
| UL 50E, Second Edition        | - | Enclosures for electrical equipment, environmental considerations                         |
| UL 844, Thirteenth Edition    | - | Luminaires for Use in Hazardous (Classified) Locations                                    |
| UL 1598, Fourth Edition       | - | Luminaires  |
| UL 8750, Second Edition       | - | Light Emitting Diode (LED) Equipment for Use in Lighting Products                         |
| UL 60079-0, Seventh Edition   | - | Explosive Atmospheres – Part 0: Equipment – General Requirements                          |
| UL 60079-7, Fifth Edition     | - | Standard for Explosive Atmospheres – Part 7: Equipment Protection by Increased Safety “e” |
| UL 60079-31, Second Edition   | - | Explosive Atmospheres – Part 31: Equipment Dust Ignition Protection by Enclosure “t”      |

### **MARKINGS**

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.



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The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

- a) Manufacturer's name, trademark or tradename
- b) Date code
- c) Catalogue, style, model or other type designation
- d) Rated input voltage
- e) Frequency in Hertz
- f) Rated input in amperes, watts and if applicable power factor
- g) Supply wire temperature
- h) Hazardous locations designation
- i) Optional Zone equivalency marking per NEC/CEC applicable to products not rated for Ex/AEx "ec" and/or "tb"
- j) Temperature Codes as applicable
- k) May be marked with IP66 (optional), IP67 (optional), Type 3R, 4, 4X (optional) ratings (only for luminaires without photocontrols)
- l) The phrase: "MARINE OUTSIDE TYPE (SALT WATER) For Installation in the USA Only" (optional)
- m) Operating ambient temperature; -40°C to 40 °C or -40°C to 55 °C or -40°C to 60 °C or -40°C to 65 °C or -40°C to 70 °C or -40°C to 75 °C (as applicable)
- n) When luminaire is disconnected or connected the following bilingual warning shall apply:

**CAUTION: TO REDUCE THE RISK OF IGNITION OF HAZARDOUS ATMOSPHERES, DISCONNECT THE LUMINAIRE FROM THE SUPPLY CIRCUIT BEFORE OPENING. KEEP TIGHTLY CLOSED WHEN IN OPERATION.**

**ATTENTION: MISE EN GARDE: POUR REDUIRE LE RISQUE D'INFLAMMATION/EXPLOSION EN ATMOSPHERES EXPLOSIBLES, ISOLER LE LUMINAIRE DU CIRCUIT D'ALIMENTATION AVANT L'OUVERTURE. VEILLEZ À CE QUE LE LUMINAIRE SOIT CORRECTEMENT FERME AVANT LA MISE SOUS TENSION.**

- o) Luminaires provided with fusing shall have an adhesive-backed label located adjacent to the fuseholder, and following warning or equivalent shall apply:

**CAUTION: REPLACE ONLY WITH FUSE RATED 3A, 600 VAC. REPLACEMENT FUSE MUST BE NON-ARCING (FILLED), NON-INDICATING, AND CURRENT LIMITING. FUSE IS FOR SUPPLEMENTARY PROTETION ONLY.**

- p) Luminaires for row mounting (optional) shall be marked as follows:

**SUITABLE FOR CONTINUOUS ROW MOUNTING  
PEUT ÊTRE MONTÉ EN RANGÉE CONTINUE**



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And shall be marked with the maximum amps rated for continuous row mounting based on max ambient temperature; 40 °C is maximum 16 A, 55 °C is maximum 12 A and 60 °C or 65 °C is maximum 6 A.

Note: continuous row mount is not permitted for high ambient rated variants of 70 °C or 75 °C.

- q) May be marked with the phrase “Suitable for use in wet locations” (optional) (in English and French as applicable)

**Nameplate adhesive label material approval information:**

Labels indicated in drawings 663518, 663526, 663527, 663528, 663529, 663530 and 663534 all use the same material (Note: material callouts 000035-135, 000035-159, 000035-212, 000035-216, 000035-217, 000035-218, 000035-219 and 000035-220 listed in the drawings refer to the same material but are different cut sizes): THERMLfilm NEXgen 23120 consisting of 2.0 mil gloss top-coated silver matte polyester (film 2.0 mils, adhesive 0.8-0.9 mils, liner 3.1 mils) manufactured by Flexcon, cUL recognized under file PGJI8.MH16635 and PGJI2.MH16635 for the US.



## Supplement to Certificate of Compliance

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*The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.*

### Product Certification History

| Project      | Date       | Description   |
|--------------|------------|---|
| 80069058     | 2021-06-22 | Update to cCSAus Report 70112879 for the Mercmaster LED Gen 3.0 luminaire to evaluate the use of two new polycarbonate globe/lens materials (Makrolon 2407 and Makrolon 2607, both manufactured by Covestro).   |
| 80043074     | 2021-01-26 | Update CSA Report 70112879 for Mercmaster Gen 3.0 for new lower profile refractor and guard.  |
| 80022725     | 2020-04-28 | Update Report 70112879 to evaluate the following:<br>i) To add an alternate supplier of LED chip components (Nichia) for the LED Array<br>ii) Add new CCT version of Cree LEDs (3500 K and 4500 K)<br>iii) Add high ambient variants based on extrapolation |
| 000070193213 | 2018-09-04 | Update 70112879 to add MMII adaptor as an accessory   |
| 000070172302 | 2018-07-26 | Update to Report 70112879 to add a new construction of the pendant hood 609224 with watertight cord connector or threaded smooth bore bushing.  |
| 000070187744 | 2018-07-11 | Update to Report 70112879 to include extended voltage range for DC version of the LED fixtures.   |
| 000070172306 | 2018-07-05 | Update MLG report 70112879 to include assessment for Killark Hood Adaptor- MMAD-KVA use with Killark Hoods and MMII Hood Adaptors MM AD-IIS & MMAD-IIA use with MMII series hoods.  |
| 000070138053 | 2018-05-15 | To update report 70112879 to include North American Zone certification for Mercmaster Gen 3.0 Luminaires and the ability to use a thermal pad in place of thermal grease.   |
| 000070163656 | 2017-11-30 | Update to Report 70112879 to add L9 lumen level, Internal Reflector, Trunion mounting option, revise Nomenclature and update construction (fuse/fuseholder).  |
| 000070146480 | 2017-11-10 | Update to Report 70112879 for a minor revision to the nomenclature.   |





000070112879

2017-06-16

Original certification of the Mercmaster LED Gen 3.0 luminaires, Series MLG to North American Division Requirements.