EU-Type Examination Certificate

1.   **EU-TYPE EXAMINATION CERTIFICATE**

2.   **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**

3.   **EU-Type Examination Certificate Number: ITS18ATEX303521 Issue 0**

4.   **Product:**   Areamaster LED Luminaire, models: Generation 2 (Gen 2) and High Lumen (HL)
and
Baymaster LED Luminaire, models: Baymaster LED and Baymaster High Lumen (HL)

5.   **Manufacturer:**   Appleton Group LLC

6.   **Address:**   9377 W Higgins Rd; Rosemont, IL 60018, USA

7.   This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8.   Intertek Testing and Certification Limited, Notified Body number 0359 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Intertek Report 103476732DAL-002, Issued: September 19, 2018.

9.   Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012+A11, EN 60079-7:2015, EN 60079-18:2015+A1:2017, EN 60079-28:2015, EN 60079-31:2014 except in respect of those requirements referred to at item 16 of the Schedule.

10.   If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Safe Use specified in the Schedule to this certificate.

11.   This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12.   The marking of the product shall include the following:

       ⟨Ex⟩   II 2 G Ex eb mb op is IIC T4/T5/T6 Gb
                 II 2 D Ex op is tb IIIC T85°C/T100°C Db
                 -40°C ≤ Ta ≤ +65°C
                 IP64/66/67

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13. **Description of Equipment or Protective System**

The Areamaster/Baymaster Generation 2 (Gen 2)/LED and Areamaster/Baymaster High Lumen (HL) are LED luminaires housed in an aluminum enclosure. The Areamaster and Baymaster luminaires are identical in construction except for the enclosure powder coating, where the Areamaster luminaires are bronze and Baymaster luminaires are gray in color. The equipment consists of a main luminaire compartment (12.75 inch x 7.83 inch / 324 mm x 199 mm) for Gen 2 and (16 inch x 15.5 inch / 406 mm x 394 mm) for HL. The terminal enclosure size is (6.25 inch x 3 inch / 159 mm x 76 mm). The luminaires are equipped with a clear or diffused tempered low iron float glass lens with an antireflective coating on one side. Each LED luminaire can utilize one of two different types of silicone gaskets (Parker Hannifin or SurSeal). The luminaires have 3 threaded entries filled with blanking elements for connection of entry devices in the terminal enclosure. All luminaire models have been successfully evaluated/tested for IP64/66/67 per the requirements of EN 60079-0:2012+A11 (with reference to IEC 60529). The luminaires contain an ATEX certified LED driver (either 100W or 150W), LED array and AC/DC terminal blocks. The LED driver is housed within the main luminaire compartment. Gen 2/LED models utilize 1 LED driver, while the High Lumen (HL) models utilizes 2 LED drivers. Also, the Gen 2/LED model luminaires consist of 3 LED modules, while the HL luminaires consist of 4 LED modules.

All individually approved ATEX components have been certified to the standards noted above.

The model nomenclature for the two Areamaster and two Baymaster LED luminaires is shown below:

Series	Lumen Level	Color Temperature	Diffusion Type	Beam Spread	Voltage	Options
AMLZ - Areamaster Gen 2	**L6** - 9K **L7** - 14K **L8** – 18.5K	**C** - 5000K **N** - 4000K **W** - 3000K	**G** - Clear Glass **F** - Frosted Glass	**6** - 7x7 **7** - 7x6	**BU** - 120-277 Vac 50/60 Hz, 170-300Vdc	**M** – M20 Metric
AMHZ – Areamaster - High Lumen	**L1** - 23K **L2** – 28.5K **L3** - 36K	**C** - 5000K **N** - 4000K **W** - 3000K	**G** - Clear Glass **F** - Frosted Glass	**6** - 7x7 **7** - 7x6	**BU** - 120-277 Vac 50/60 Hz, 170-300Vdc	**M** – M20 Metric

Series	Lumen Level	Color Temperature	Diffusion Type	Beam Spread	None (place holder)	Voltage	Options
BLZ - Baymaster	**L6** - 9K **L7** - 14K **L8** – 18.5K	**C** - 5000K **N** - 4000K **W** - 3000K	**G** - Clear Glass **F** - Frosted Glass	**W** - Wide **M** - Medium	**N**	**BU** - 120-277 Vac 50/60 Hz, 170-300Vdc	**M** – M20 Metric
BHZ – Baymaster - High Lumen	**L1** - 23K **L2** – 28.5K **L3** - 36K	**C** - 5000K **N** - 4000K **W** - 3000K	**G** - Clear Glass **F** - Frosted Glass	**W** - Wide **M** - Medium	**N**	**BU** - 120-277 Vac 50/60 Hz, 170-300Vdc	**M** – M20 Metric

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Electrical parameters/ratings for the above luminaire models is shown below:

120 – 277 VAC, 50/60 Hz
170-300 VDC
315 W (max), 3A (max)

Temperature codes assigned to each model type based on driver current is shown below:

Areamaster Generation 2 model for Gas atmospheres:

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
AMLZL6 – one 100W LED driver (at 450mA max)	T6	T5	T5
AMLZL7 – one 150W LED driver (at 930mA max)	T4	T4	T4
AMLZL8 – one 150W LED driver (at 930mA max)	T4	T4	T4

Areamaster Generation 2 model for Dust atmospheres:

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
AMLZL6 – one 100W LED driver (at 450mA max)	85°C	85°C	85°C
AMLZL7 – one 150W LED driver (at 930mA max)	85°C	100°C	100°C
AMLZL8 – one 150W LED driver (at 930mA max)	85°C	100°C	100°C

Areamaster High Lumen (HL) model for Gas atmospheres:

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
AMHZL1 – two 100W LED drivers (at 600mA max)	T5	T4	T4
AMHZL2 – two 150W LED drivers (at 680mA max)	T4	T4	T4
AMHZL3 – two 150W LED drivers (at 915mA max)	T4	T4	N/A

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Areamaster High Lumen (HL) model for Dust atmospheres:

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
AMHZL1 – two 100W LED drivers (at 600mA max)	85°C	100°C	100°C
AMHZL2 – two 150W LED drivers (at 680mA)	85°C	100°C	100°C
AMHZL3 – two 150W LED drivers (at 915mA)	100°C	100°C	N/A

Baymaster LED model for Gas atmospheres:

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
BLZL6 – one 100W LED driver (at 450mA max)	T6	T5	T5
BLZL7 – one 150W LED driver (at 930mA max)	T4	T4	T4
BLZL8 – one 150W LED driver (at 930mA max)	T4	T4	T4

Baymaster LED model for Dust atmospheres:

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
BLZL6 – one 100W LED driver (at 450mA max)	85°C	85°C	85°C
BLZL7 – one 150W LED driver (at 930mA max)	85°C	100°C	100°C
BLZL8 – one 150W LED driver (at 930mA max)	85°C	100°C	100°C

Baymaster High Lumen (HL) model for Gas atmospheres:

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
BHZL1 – two 100W LED drivers (at 600mA max)	T5	T4	T4
BHZL2 – two 150W LED drivers (at 680mA max)	T4	T4	T4
BHZL3 – two 150W LED drivers (at 915mA max)	T4	T4	N/A

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Baymaster High Lumen (HL) model for Dust atmospheres:

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
BHZL1 – two 100W LED drivers (at 600mA max)	85°C	100°C	100°C
BHZL2 – two 150W LED drivers (at 680mA)	85°C	100°C	100°C
BHZL3 – two 150W LED drivers (at 915mA)	100°C	100°C	N/A

14.   **Report Number**

Intertek Report Ref: 103476732DAL-002, Issued: September19, 2018.

15.   **Special Conditions of Certification**

(a). Specific Conditions of Safe Use
- None

(b). Conditions of Manufacture - Routine Tests

- Routine Dielectric Strength testing of the LED luminaires per IEC 60079-7:2015, Clause 7.1 is applicable. Dielectric strength shall be verified by test at the following test voltage and maintained for at least 1 min without dielectric breakdown occurring:

  For other electrical equipment and Ex Components, where working voltages exceeding 90 V peak are present: (1 000 + 2U) V r.m.s. + 5/0 % or 1 500 V r.m.s. +5 0 %, whichever is greater, where U is the working voltage.

  The LED luminaire shall be tested as follows:

  - Between inputs and ground (frame of the enclosure) – 1600V r.m.s.

  Alternatively, a test shall be carried out at 1.2 times the test voltage, but maintained for at least 100ms.

16.   **Essential Health and Safety Requirements (EHSRs)**

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report Ref: 103476732DAL-002, Issued: September 19, 2018.

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17. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
ZONE 1 RATED LED DRIVER (100W – BU VERSION)	299707557	01	05/21/2018
ZONE 1 RATED LED DRIVER (150W – BU VERSION)	299707558	01	05/21/2018
CLEAR TEMPERED AR COATING GLASS AREAMASTER LED HIGH LUMEN	609203	E	06/28/2018
DIFFUSED TEMPERED AR COATING GLASS AREAMASTER LED HIGH LUMEN	603266	F	06/28/2018
CLEAR TEMPERED AR COATING GLASS AREAMASTER GEN 2	609204	E	06/27/2018
DIFFUSED TEMPERED AR COATING GLASS AREAMASTER GEN 2	615025	D	06/27/2018
AREAMASTER LED GEN 2 ZONE 1	609350	C	07/13/2018
NO MOUNT BAYMASTER LED GEN 2 ZONE 1	609351	C	07/13/2018
AREAMASTER LED HIGH LUMEN ZONE 1	609352	B	06/25/2018
NO MOUNT BAYMASTER LED HIGH LUMEN ZONE 1	609353	B	06/22/2018
GASKET SILICONE HOLLOW O-RING AREAMASTER LED	615057	C	06/27/2018
GASKET, O-RING DIA 0.26 AREAMASTER LED	615060	D	06/27/2018
SILICONE ADHESIVE/SEALANT RTV – GENERAL PURPOSE	669014	N	06/15/2018
Polyester Powder Coating	MS4002	B	02/25/2016
Polyester Powder Coating	MS4003	E	06/27/2018
THREADED PLUG – SQUARE RECESS	503712	C	10/31/2016
Zone 1 Areamaster Metric Fasteners	610641000	A	06/28/2018
Zone 1 Areamaster Imperial Fasteners	610642000	A	06/28/2018
AREAMASTER LED HIGH LUMEN AND GEN 2 NAMEPLATE LABEL	609347	B	08/06/2018
AREAMASTER LED HIGH LUMEN AND GEN 2 ZONE1 IECEx NAMEPLATE LABEL	609349	B	08/06/2018
Installation Instructions for Appleton Areamaster GEN 2 LED Luminaire – Yoke Mount	650596-000	B	08/06/2018
Installation Instructions for Appleton Areamaster High Lumen LED Luminaire – Yoke Mount	650597-000	B	08/06/2018
Installation Instructions for Appleton Baymaster LED Luminaire – No Mount	650599-000	B	08/06/2018
Installation Instructions for Appleton Baymaster HL LED Luminaire – No Mount	650600-000	B	08/06/2018