



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.: IECEX SIR 17.0079

Issue No: 1

Certificate history:

Status: **Current**

Issue No. 1 (2018-07-02)

Issue No. 0 (2018-01-08)

Date of Issue: **2018-07-02**

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Applicant: **Appleton Group LLC**
9377 W. Higgins Rd.
Rosemont, IL 60018
United States of America

Equipment: **Areamaster Generation 2 and Baymaster series LED Luminaires**

Optional accessory:

Type of Protection: **Increased Safety and Protection by Enclosure.**

Marking:
Refer to the Annexe

*Approved for issue on behalf of the IECEX
Certification Body:*

C Ellaby

Position:

Deputy Certification Manager

*Signature:
(for printed version)*

Date:

C. Ellaby
2018-07-02

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEX Website](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

sira
CERTIFICATION





IECEX Certificate of Conformity

Certificate No: IECEX SIR 17.0079 Issue No: 1

Date of Issue: **2018-07-02** Page 2 of 4

Manufacturer: **Appleton Group LLC**
9377 W. Higgins Rd.
Rosemont, IL 60018
United States of America

Additional Manufacturing location(s):

EGS Mexico S de R L de C.V.
Via Monterrey-Matamoros 598
Parque Industrial Milenium
Apodaca, 66626
Mexico

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[GB/SIR/ExTR17.0266/00](#) [GB/SIR/ExTR18.0102/00](#)

Quality Assessment Report:

[US/UL/QAR17.0020/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Areamaster Generation 2, Areamaster Generation 2 High Lumen, Baymaster and the Baymaster High Lumen Luminaires are made up of three main body parts, the driver housing, the LED Array board(s) housing and the glass cover frame. The joints on the housing are sealed by a Silicone Sponge O-ring joined by vulcanization which is secured in position in a groove by RTV sealant or for the window an RTV (flexible one-piece Silicone bead) seal is secured in position using clips secured by screws.

Refer to the Annexe for additional information.

SPECIFIC CONDITIONS OF USE: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

This issue, Issue 1, recognises the following changes; refer to the certificate annex to view a comprehensive history:

1. Addition of the "Areamaster Generation 2 HL " Model Series AMLHxyzwBU LED Luminaires and "Baymaster HL" Model Series BHLxyzwNBU LED Luminaires for "Ex ec" and Ex "tc" applications. The model code options and description were amended to recognise these new models.
2. The use of a thermal pad in place of thermal grease between the Printed Circuit Board (PCB) and Housing Heatsink (all models).

Annex:

[IECEX SIR 17.0079 issue 1 Annexe.pdf](#)

Annexe to: IEC Ex SIR 17.0079 Issue 1

Applicant: Appleton Group LLC

Apparatus: Areamaster Generation 2 and Baymaster LED Luminaires



Marking:

"Areamaster Generation 2" Model Series AMLGxyzwBU LED Luminaire

"Baymaster" Model Series BLLxzyb-BU LED Luminaire

Ex ec IIC T5...T3 Gc

Ex tc IIIC T85°C...T100°C Dc

Ambient Temp.	Ex ec IIC			Ex tc IIIC		
	100W Driver	150W Driver		100W Driver	150W Driver	
	410mA	680mA	930mA	410mA	680mA	930mA
-40°C ≤ T _a ≤ +40°C	T5	T4	T3	T85°C	T85°C	T85°C
-40°C ≤ T _a ≤ +55°C	T4	T3	T3	T85°C	T85°C	T100°C
-40°C ≤ T _a ≤ +65°C	T4	T3	T3	T85°C	T100°C	T100°C

IP66

The temperature code table immediately below applies to all Areamaster Generation 2 HL and Baymaster HL models except those identified in the table further below:

Ex ec IIC T5...T3 Gc

Ex tc IIIC T85°C...T100°C Dc

Ambient Temp.	Ex ec IIC			Ex tc IIIC		
	100W Driver	150W Driver		100W Driver	150W Driver	
	530mA	680mA	915mA	530mA	530mA	680mA
-40°C ≤ T _a ≤ +40°C	T4	T4	T3	T85°C	T85°C	T85°C
-40°C ≤ T _a ≤ +55°C	T4	T4	T3	T85°C	T100°C	T100°C
-40°C ≤ T _a ≤ +65°C	T4	T3	--	T100°C	T100°C	-----

IP66

For models with the 3 x 3 beam pattern; Areamaster High Lumen, w = 3, where AMLHxyzwBvoo and for the Baymaster High Bays, n = V, where BHLijkqnNBvoo)

Ex ec IIC T5...T3 Gc

Ex tc IIIC T85°C...T100°C Dc

Ambient Temp.	Ex ec IIC			Ex tc IIIC		
	100W Driver	150W Driver		100W Driver	150W Driver	
	530mA	680mA	915mA	530mA	680mA	915mA
-40°C ≤ T _a ≤ +40°C	T4	T4	T3	T100°C	T100°C	T100°C
-40°C ≤ T _a ≤ +55°C	T4	T4	T3	T100°C	T100°C	T100°C
-40°C ≤ T _a ≤ +65°C	T4	T3	--	T100°C	T100°C	-----

IP66

Equipment:

The Areamaster Generation 2, Areamaster Generation 2 High Lumen, Baymaster and the Baymaster High Lumen Luminaires are made up of three main body parts, the driver housing, the LED Array board(s) housing and the glass cover frame. The joints on the housing are sealed by a Silicone Sponge O-ring joined by vulcanization which is secured in position in a groove by RTV sealant or for the window an RTV (flexible one-piece Silicone bead) seal is secured in position using clips secured by screws.

The driver housing is comprised of a two compartment construction, compartment one is the driver housing and compartment two is the integral wiring box. The driver housing is made from Cast Aluminum, Alloy provided with cooling fins on three of the external edges and across the top of the luminaire. The wiring compartment is

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Date: 02 July 2018

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Annexe to: IEC Ex SIR 17.0079 Issue 1

Applicant: Appleton Group LLC

Apparatus: Areamaster Generation 2 and Baymaster LED Luminares



supplied with two or three 3/4-14 NPT threaded conduit entries (one or two sealed with a close-up plug). The cover to the wiring compartment is secured by four #8-32 x 7/8 cap pan head screws and sealed by a Silicone Sponge O-ring joined by vulcanization which is secured in position in a groove by RTV sealant. Inside the driver housing the driver, wiring, and terminal block are secured by mechanical means.

The LED Array board housing is made is made from Cast Aluminum, Alloy with the external provided with cooling fins on three of the external edges. The array board housing is secured to the driver housing by four 1/4-20 x 1-1/4 cap hex head bolts and sealed by a Silicone Sponge O-ring joined by vulcanization which is secured in position in a groove by RTV sealant. Inside the array board housing the LED array(s) is/are secured by mechanical means (five or twelve 4-40 SS screws).

The glass cover frame is made is made from Cast Aluminum, Alloy. The frame is fitted with either a clear or diffused (Frosted) in either 174.24mm x 174.24mm or 231.14mm x 220.98mm size tempered glass lens. The glass is secured with four #6-32 x 1/4 pan SS screws and clips. The glass is additionally sealed with RTV. The frame is secured to the array board housing by four 1/4-20 x 1-1/4 cap hex head bolts and sealed by a Silicone Sponge O-ring joined by vulcanization which is secured in position in a groove by RTV sealant.

The only difference between the Areamaster Generation 2, Areamaster Generation 2 High Lumen and the Baymaster, Baymaster High Lumen is the colour of the painted parts, Areamaster Generation 2, Areamaster Generation 2 High Lumen are Bronze in colour and the Baymaster, Baymaster High Lumen are Light Grey in colour.

Model Code Options:

"Areamaster Generation 2" Model Series AMLGxyzwBU LED Luminaire:	"Baymaster" Model Series BLLxyzwBU LED Luminaire:
Model code breakdown: AMLGxyzwBU x=Lumens (L6=9000 lumens, L7=15000 Lumens, or L8=19000 Lumens) y=Correlated Color Temperature – CCT (C=5000K or W=3000K) z=Glass Type (G=Clear Glass or F=Frosted Glass) w=Beam Pattern (6=(no optic) or 7=(with optic))	Model code breakdown: BLLxyzwNBU x=Lumens (L6=9000 lumens, L7=15000 Lumens, or L8=19000 Lumens) y=Correlated Color Temperature – CCT (C=5000K or W=3000K) z=Glass Type (G=Clear Glass or F=Frosted Glass) w=Beam Pattern (A=Aisle(with optic), M=Medium(no optic), W=Wide(with optic))
Note: Option L6 utilizes the 100W driver and L7 and L8 utilize the 150W driver.	

"Areamaster Generation 2 HL" Model Series AMLHxyzwBU LED Luminaire	"Baymaster HL" Model Series BHLxyzwNBU LED Luminaire
Model code breakdown: AMLHxyzwBU x=Lumens (L1=24000 lumens, L2=30000 Lumens, or L3=38000 Lumens) y=Correlated Color Temperature – CCT (C=5000K or W=3000K) z=Glass Type (G=Clear Glass or F=Frosted Glass) w=Beam Pattern (3=Very Narrow (with Optic) 5=Narrow (with Optic) 6=(no optic) 7=wide (with optic))	Model code breakdown: BHLxyzwNBU x=Lumens (L1=24000 lumens, L2=30000 Lumens, or L3=38000 Lumens) y=Correlated Color Temperature – CCT (C=5000K or W=3000K) z=Glass Type (G=Clear Glass or F=Frosted Glass) w=Beam Pattern (W=Wide (with optic), M=Medium(no optic), N=Narrow (with optic) V=Very Narrow (with optic))
Note: Option L1 utilizes the 100W drivers and L2 and L3 utilize the 150W drivers.	

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Annexe to: IEC Ex SIR 17.0079 Issue 1

Applicant: Appleton Group LLC

Apparatus: Areamaster Generation 2 and Baymaster LED
Luminaires



Conditions of Manufacture:

1. A dielectric strength test shall be carried out for at least 60 seconds without dielectric breakdown occurring in accordance with IEC 60079-7:15 clause(s) 6.1 and 7.1.

A test voltage shall be applied between L & N to Earth ground at 1560Vrms.

A test voltage shall be applied between (+) and (-) (red and blue output wires from LED driver) to Earth ground at 1560Vrms.

Alternatively, a D.C. test is permitted as an alternative to the specified a.c. test voltage and shall be 140% of the specified a.c. r.m.s. test voltage.

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

2. The luminaires covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacture to continually monitor the status of the certifications associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.

Full certificate change history:

- i. Addition of the "Areamaster Generation 2 HL " Model Series AMLHxyzwBU LED Luminaires and "Baymaster HL" Model Series BHLxyzwNBU LED Luminaires for "Ex ec" and Ex "tc" applications. The model code options and description were amended to recognise these new models.
- ii. The use of a thermal pad in place of thermal grease between the Printed Circuit Board (PCB) and Housing Heatsink (all models).

Date: 02 July 2018

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Form 9530 Issue 1

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