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 ITS 18.0049

Issue No: 1

Certificate history:
Issue No. 1 (2019-07-30)
Issue No. 0 (2019-02-28)

Status: **Current**

Date of Issue: **2019-07-30**

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

Equipment: **Areamaster/Baymaster LED Luminaire; Areamaster Generation 2 LED Luminaire, model: AMLGxyzwBUm; Areamaster High Lumen (HL) LED Luminaire, model: AMLHxyzwBUm; Baymaster LED Luminaire, model: BLLxyzbBUm; Baymaster High Lumen (HL) LED luminaire, model: BHLxyzwNBUm**

Optional accessory:

Type of Protection: **Ex e, m, op is, t**

Marking:

Ex ec IIC T3/T4/T5 Gc

Ex tc IIIC T85°C/T100°C Dc

Ex op is tb IIIC T85°C/T100°C Db (certain models only – see note)

-40°C < T_{AMB} < +65°C

IP66 / IP67

120 – 277 VAC, 50/60 Hz

125-300 VDC

150 W (max), 1.8A (max) for AMLG and BLL models

315 W (max), 2.7A (max) for AMLH and BHL models

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Note: Ex op is tb IIIC T85°C/T100°C Db rating pertains to the following LED luminaire construction only:

- Areamaster Gen 2/Baymaster with light engine (LED array) LLOMAFF-A3N201A (3000K-W), LLOMAFF-A3N602A (5000K-A), LLOMAFF-A3N202A (3000K-A), LLOMAFF-A3N601A (5000K-W), LLOMAFF-A3N601B (5000K-no optic), LLOMAFF-A3N604A (5000K-S), or LLOMAFF-A3N204A (3000K-S)
- Areamaster/Baymaster LED High Lumen with light engine (LED array) LLOMAGA-A4N601B (5000K-no optic), LLOMAGA-A4N601A (5000K-W), LLOMAGA-A4N201A (3000K-W), LLOMAGA-A4N604A (5000K-S), or LLOMAGA-A4N204A (3000K-S)
- Areamaster Gen 2/Baymaster with light engine (LED array) 59660049001 (5000K), 59660049002 (4000K), 59660049003 (3000K)
- Areamaster Gen 2/Baymaster with light engine (LED array) 59660047001 (5000K), 59660047002 (4000K), 59660047003 (3000K)
- Areamaster/Baymaster LED High Lumen with light engine (LED array) 59660048001 (5000K), 59660048002 (4000K), 59660048003 (3000K)

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- Areamaster/Baymaster LED High Lumen with light engine (LED array) 59660046001 (5000K), 59660046002 (4000K), 59660046003 (3000K)

Approved for issue on behalf of the IECEx Certification Body: Paul Moss

Position: Certification Manager

Signature:
(for printed version)

Date:

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.

Certificate issued by:

Intertek Testing & Certification Limited
ITS House, Cleeve Road,
Leatherhead,
Surrey, KT22 7SA
United Kingdom

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

Additional Manufacturing location(s):

Emerson
Emerson Street No. 4, Parc Industrial Tetarom 2, 400641, Cluj-Napoca
Romania

EGS Mexico S. de R.L. de C.V.
Via Monterrey Matamoros No. 598 Parque Industrial Milenium C.P. 66626 Apodaca, Nuevo Leon
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 60079-28 : 2015 Edition:2	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
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/ITS/ExTR18.0053/00 GB/ITS/ExTR19.0028/00

Quality Assessment Report:

FR/LCI/QAR07.0008/12 US/UL/QAR17.0020/02

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Areamaster Generation 2, Areamaster High Lumen (HL), 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 luminaires contain an IECEx certified LED driver (either 100W or 150W), LED array and AC/DC terminal blocks. Areamaster Generation 2/Baymaster models utilize 1 LED driver, while the Areamaster/Baymaster High Lumen (HL) models utilizes 2 LED drivers. Also, the Areamaster Generation 2/Baymaster model luminaires consist of 1 LED module, while the Areamaster/Baymaster High Lumen (HL) luminaires consist of 2 LED modules. The joints on the housing are sealed by a Silicone 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, where construction 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 supplied with two or three ¾-14 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 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(s) are secured by mechanical means.

The LED Array board housing 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 ¼-20 x 1-¼ cap hex head bolts and sealed by a Silicone 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 (via five or twelve 4-40 SS screws).

The glass cover frame is made from Cast Aluminum Alloy. The frame is fitted with either a clear or diffused (frosted) tempered low iron float glass lens, in either 174.24mm x 174.24mm or 231.14mm x 220.98mm size. The glass is secured with four #6-32 x ¼ pan SS screws and clips. The glass is additionally sealed with RTV. The frame is secured to the array board housing by four ¼-20 x 1-¼ cap hex head bolts and sealed by a Silicone ring joined by vulcanization which is secured in position in a groove by RTV sealant.

The only difference between the Areamaster Generation 2, Areamaster High Lumen, Baymaster, and the Baymaster High Lumen is the enclosure powder coating, where the Areamaster luminaires are bronze and Baymaster luminaires are gray in color.

Ex op is tb IIIC T85°C/T100°C Db rating pertains to the following LED luminaire construction only:

- Areamaster Gen 2/Baymaster with light engine (LED array) LLOMAFF-A3N201A (3000K-W), LLOMAFF-A3N602A (5000K-A), LLOMAFF-A3N202A (3000K-A), LLOMAFF-A3N601A (5000K-W), LLOMAFF-A3N601B (5000K-no optic), LLOMAFF-A3N604A (5000K-S), or LLOMAFF-A3N204A (3000K-S)
- Areamaster/Baymaster LED High Lumen with light engine (LED array) LLOMAGA-A4N601B (5000K-no optic), LLOMAGA-A4N601A (5000K-W), LLOMAGA-A4N201A (3000K-W), LLOMAGA-A4N604A (5000K-S), or LLOMAGA-A4N204A (3000K-S)
- Areamaster Gen 2/Baymaster with light engine (LED array) 59660049001 (5000K), 59660049002 (4000K), 59660049003 (3000K)
- Areamaster Gen 2/Baymaster with light engine (LED array) 59660047001 (5000K), 59660047002 (4000K), 59660047003 (3000K)
- Areamaster/Baymaster LED High Lumen with light engine (LED array) 59660048001 (5000K), 59660048002 (4000K), 59660048003 (3000K)
- Areamaster/Baymaster LED High Lumen with light engine (LED array) 59660046001 (5000K), 59660046002 (4000K), 59660046003

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Date of Issue: **2019-07-30**

(3000K)

SPECIFIC CONDITIONS OF USE: NO

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

Addition of the following light engines (LED arrays) to the equipment construction:

- Areamaster Gen 2/Baymaster with light engine (LED array) 59660049001 (5000K), 59660049002 (4000K), 59660049003 (3000K)
- Areamaster Gen 2/Baymaster with light engine (LED array) 59660047001 (5000K), 59660047002 (4000K), 59660047003 (3000K)
- Areamaster/Baymaster LED High Lumen with light engine (LED array) 59660048001 (5000K), 59660048002 (4000K), 59660048003 (3000K)
- Areamaster/Baymaster LED High Lumen with light engine (LED array) 59660046001 (5000K), 59660046002 (4000K), 59660046003 (3000K)

All light engines (LED arrays) have been evaluated with secondary LED array optics (lens).

Also, the above specified LED array models intruduce 4000K color temperature option to the luminaire construction.

Reference Annex doc for IEC Ex C of C 103941167DAL-001 for more information.

Annex:

Annex doc for IEC Ex C of C 103941167DAL-001-FINAL.pdf

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General product information:

The Areamaster Generation 2, Areamaster High Lumen (HL), 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 luminaires contain an IECEx certified LED driver (either 100W or 150W), LED array and AC/DC terminal blocks. Areamaster Generation 2/Baymaster models utilize 1 LED driver, while the Areamaster/Baymaster High Lumen (HL) models utilizes 2 LED drivers. Also, the Areamaster Generation 2/Baymaster model luminaires consist of 1 LED module, while the Areamaster/Baymaster High Lumen (HL) luminaires consist of 2 LED modules. The joints on the housing are sealed by a Silicone 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, where construction 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 supplied with two or three ¾-14 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 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(s) are secured by mechanical means.

The LED Array board housing 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 ¼-20 x 1-¼ cap hex head bolts and sealed by a Silicone 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 (via five or twelve 4-40 SS screws).

The glass cover frame is made from Cast Aluminum Alloy. The frame is fitted with either a clear or diffused (frosted) tempered low iron float glass lens, in either 174.24mm x 174.24mm or 231.14mm x 220.98mm size. The glass is secured with four #6-32 x ¼ pan SS screws and clips. The glass is additionally sealed with RTV. The frame is secured to the array board housing by four ¼-20 x 1-¼ cap hex head bolts and sealed by a Silicone ring joined by vulcanization which is secured in position in a groove by RTV sealant.

The only difference between the Areamaster Generation 2, Areamaster High Lumen, Baymaster, and the Baymaster High Lumen is the enclosure powder coating, where the Areamaster luminaires are bronze and Baymaster luminaires are gray in color.

Ex op is tb IIIC T85°C/T100°C Db rating pertains to the following LED luminaire constructions only:

- Areamaster Gen 2/Baymaster with light engine (LED array) LLOMAFF-A3N201A (3000K-W), LLOMAFF-A3N602A (5000K-A), LLOMAFF-A3N202A (3000K-A), LLOMAFF-A3N601A (5000K-W), LLOMAFF-A3N601B (5000K-no optic), LLOMAFF-A3N604A (5000K-S), or LLOMAFF-A3N204A (3000K-S)
- Areamaster/Baymaster LED High Lumen with light engine (LED array) LLOMAGA-A4N601B (5000K-no optic), LLOMAGA-A4N601A (5000K-W), LLOMAGA-A4N201A (3000K-W), LLOMAGA-A4N604A (5000K-S), or LLOMAGA-A4N204A (3000K-S)

Reference Intertek Test Report 103509278DAL-001 and partial IECEx ExTR GB/ITS/ExTR18.0032/00 for more information.

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Intertek Testing & Certification Limited
Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
United Kingdom

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- Areamaster Gen 2/Baymaster with light engine (LED array) 59660049001 (5000K), 59660049002 (4000K), 59660049003 (3000K)
- Areamaster Gen 2/Baymaster with light engine (LED array) 59660047001 (5000K), 59660047002 (4000K), 59660047003 (3000K)
- Areamaster/Baymaster LED High Lumen with light engine (LED array) 59660048001 (5000K), 59660048002 (4000K), 59660048003 (3000K)
- Areamaster/Baymaster LED High Lumen with light engine (LED array) 59660046001 (5000K), 59660046002 (4000K), 59660046003 (3000K)

Reference Test Data within 103941167DAL-001 60079-28 checklist for more information.

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

Areamaster Generation 2 Model Series AMLGxyzwBUm LED luminaire	**Baymaster Model Series BLLxyzwNBUm LED luminaire**
Model code breakdown for AMLGxyzwBU: **x** = Lumens (L6=9000 lumens, L7=15000 Lumens or L8=19000 Lumens) **y** = Correlated Color Temperature – CCT (C=5000K, N =4000K or W=3000K) **z** = Glass Type (G=Clear Glass or F=Frosted Glass) **w** = Beam Pattern (6=(no optic) or 7=(with optic)) **m** = Metric M20 adaptor option (M=M20 adaptor included)	Model code breakdown for BLLxyzbBU: **x** = Lumens (L6=9000 lumens, L7=15000 Lumens or L8=19000 Lumens) **y** = Correlated Color Temperature – CCT (C=5000K, N =4000K 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) **m** = Metric M20 adaptor option (M=M20 adaptor included)
Note: Option L6 utilizes the 100W driver and L7 and L8 utilize the 150W driver.	

Areamaster High Lumen (HL) Model Series AMLHxyzwBUm LED luminaire	**Baymaster High Lumen (HL) Model Series BHLxyzwNBUm LED luminaire**
Model code breakdown for AMLHxyzwBU: **x** = Lumens (L1=24000 lumens, L2=30000 Lumens or L3=38000 Lumens) **y** = Correlated Color Temperature – CCT (C=5000K, N =4000K 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)) **m** = Metric M20 adaptor option (M=M20 adaptor included)	Model code breakdown for BHLxyzwNBU: **x**= Lumens (L1=24000 lumens, L2=30000 Lumens or L3=38000 Lumens) **y** = Correlated Color Temperature – CCT (C=5000K, N =4000K 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) **m** = Metric M20 adaptor option (M=M20 adaptor included)
Note: Option L1 utilizes the 100W drivers and L2 and L3 utilize the 150W drivers.	

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

Areamaster Generation 2 and Baymaster models for Gas/Dust atmospheres with the following light engines (LED arrays):

- LLOMAFF-A3N201A (3000K-W), LLOMAFF-A3N602A (5000K-A), LLOMAFF-A3N202A (3000K-A), LLOMAFF-A3N601A (5000K-W), LLOMAFF-A3N601B (5000K-no optic), LLOMAFF-A3N604A (5000K-S), or LLOMAFF-A3N204A (3000K-S), 59660049001 (5000K), 59660049002 (4000K), 59660049003 (3000K), 59660047001 (5000K), 59660047002 (4000K), 59660047003 (3000K)

Ambient temperature	Ex ec IIC			Ex tb/tc IIIC		
	100W Driver	150W Driver		100W Driver	150W Driver	
	410mA	680mA	930mA	410mA	680mA	930mA
-40°C≤Ta≤+40°C	T5	T4	T3	T85°C	T85°C	T85°C
-40°C≤Ta≤+55°C	T4	T3	T3	T85°C	T85°C	T100°C
-40°C≤Ta≤+65°C	T4	T3	T3	T85°C	T100°C	T100°C

Areamaster High Lumen and Baymaster High Lumen models for Gas/Dust atmospheres with the following light engines (LED arrays):

- LLOMAGA-A4N601B (5000K-no optic), LLOMAGA-A4N601A (5000K-W), LLOMAGA-A4N201A (3000K-W), LLOMAGA-A4N604A (5000K-S), or LLOMAGA-A4N204A (3000K-S), 59660048001 (5000K), 59660048002 (4000K), 59660048003 (3000K), 59660046001 (5000K), 59660046002 (4000K), 59660046003 (3000K)

Ambient temperature	Ex ec IIC			Ex tb/tc IIIC		
	100W Driver	150W Driver		100W Driver	150W Driver	
	530mA	680mA	915mA	530mA	680mA	915mA
-40°C≤Ta≤+40°C	T4	T4	T3	T85°C	T85°C	T85°C
-40°C≤Ta≤+55°C	T4	T4	T3	T85°C	T100°C	T100°C
-40°C≤Ta≤+65°C	T4	T3	--	T100°C	T100°C	--

Areamaster High Lumen and Baymaster High Lumen models for Gas/Dust atmospheres where very narrow optic (3 x 3 beam) is used (AMLHxyz3BU and BHLxyzVNBU):

Ambient temperature	Ex ec IIC			Ex tb/tc IIIC		
	100W Driver	150W Driver		100W Driver	150W Driver	
	530mA	680mA	915mA	530mA	680mA	915mA
-40°C≤Ta≤+40°C	T4	T4	T3	T100°C	T100°C	T100°C
-40°C≤Ta≤+55°C	T4	T4	T3	T100°C	T100°C	T100°C
-40°C≤Ta≤+65°C	T4	T3	--	T100°C	T100°C	--

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Manufacturer's documents
Drawings associated with Issue 0 of this certificate:

Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
COVER TERMINAL BOX CASTING AREAMASTER LED HIGH LUMEN	609160	N	10/25/2016
HOUSING HEATSINK CASTING AREAMASTER LED GEN 2.0	609172	L	8/23/2018
HOUSING DRIVER CASTING AREAMASTER LED GEN 2.0	609173	P	05/03/2017
COVER CASTING AREAMSTER LED GEN 2.0	609174	K	11/04/2016
CLEAR TEMPERED AR COATING GLASS AREAMASTER GEN 2	609204	E	06/27/2018
*AREAMASTER LED GEN 2.0	615044	E	06/19/2019
*NO MOUNT BAYMASTER LED GEN 2.0	615064	C	06/19/2019
DIFFUSED TEMPERED AR COATING GLASS AREAMASTER GEN 2	615025	D	06/27/2018
GASKET, O-RING DIA 0.26 AREAMASTER LED	615060	D	06/27/2018
GASKET SILICONE HOLLOW O-RING AREAMASTER LED	615057	C	06/27/2018
ZONE 2 RATED LED DRIVER (100W – BU VERSION)	299707455	05	06/01/2018
ZONE 2 RATED LED DRIVER (150W – BU VERSION)	299707456	05	06/01/2018
LED ENGINE – WIDE 3000K AREAMASTER LED – GEN 2	603278	D	11/20/2017
LED ENGINE – AISLE 5000K AREAMASTER LED – GEN 2	603279	D	11/20/2017
LED ENGINE – AISLE 3000K AREAMASTER LED – GEN 2	603280	D	11/20/2017
LED ENGINE - WIDE 5000K AREAMASTER LED – GEN 2	609175	D	11/20/2017

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LED ARRAY – 5000K WITHOUT SECONDARY OPTICS AREAMASTER LED – GEN 2	609207	C	11/20/2017
LED ENGINE – AISLE WIDE 5000K AREAMASTER LED – GEN 2	615038	B	11/20/2017
LED ENGINE – AISLE WIDE 3000K AREAMASTER LED – GEN 2	615039	B	11/20/2017
AREAMASTER HIGH LUMEN ARRAY LAYOUT	634611	A	10/13/2017
AREAMASTER/BAYMASTER LED GEN2 LED ARRAY BOARD	637008	A	11/20/2017
THREADED PLUG – SQUARE RECESS	503712	C	10/31/2016
G5-3 FACTORY WIRING TERMINAL PHOENIX G5/3-EX-2703172	609194	C	10/25/2016
TERMINAL BLOCK PHOENIX UT-4, 3044	609197	C	08/23/2018
TERMINAL BLOCK PHOENIX UT4-PE 3044128	609198	C	08/23/2018
END CLAMP-CLIPFIX 35-5 PHOENIX #3022276	609199	B	10/25/2016
SHUNT PHOENIX CONTACT TYPE FBS 2-6 3030336	609196	B	07/17/2017
SILICONE ADHESIVE/SEALANT RTV – GENERAL PURPOSE	669014	N	06/15/2018
CONDUCTIVE COMPOUND	669166	B	09/28/2017
AREAMASTER LED HIGH LUMEN AND GEN 2 NAMEPLATE LABEL	663474	E	12/11/2018
BAYMASTER LED HIGH LUMEN AND GEN 2 NAMEPLATE LABEL	663475	D	12/11/2018
*AREAMASTER LED HIGH LUMEN AND GEN 2 IECEx NAMEPLATE LABEL	663476	D	07/30/2019
*BAYMASTER LED HIGH LUMEN AND GEN 2 IECEx NAMEPLATE LABEL	663477	D	07/30/2019
SERIAL NUMBER NAMEPLATE	663570	A	10/2/2017

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THERMAL PAD FOR AMLED GEN2 ZONE2	606204	C	01/04/2018
THERMAL PAD FOR AMLED HL ZONE2	606206	C	01/04/2018
COVER SUB ASSEMBLY AREAMASTER LED HIGH LUMEN	618367	A	07/17/2018
COVER SUB ASSEMBLY AREAMASTER LED GEN 2	618366	A	07/17/2018
HEATSINK HOUSING & GASKET SUBASSEMBLY AREAMASTER LED HIGH LUMEN	609254	B	09/04/2017
DRIVER HOUSING & GASKET SUBASSEMBLY AREAMASTER LED HIGH LUMEN	609255	B	09/04/2017
LED ENGINE SUBASSEMBLY AREAMASTER / BAYMASTER LED HIGH LUMEN	609257	C	12/22/2017
*NO MOUNT BAYMASTER LED HIGH LUMEN	609354	C	06/19/2019
*AREAMASTER LED HIGH LUMEN	615043	C	06/19/2019
Installation Instructions for Appleton Areamaster High Lumen LED Luminaire – Yoke Mount	650525-000	F	01/10/2019
Installation Instructions for Appleton Areamaster GEN 2 LED Luminaire – Yoke Mount	650525-001	E	01/10/2019
Installation Instructions for Appleton Baymaster HL LED Luminaire – No Mount	650547-000	D	01/10/2019
Installation Instructions for Appleton Baymaster LED Luminaire – No Mount	650547-001	D	01/10/2019
LED ENGINE – WIDE 3000K AREAMASTER LED – HIGH LUMEN	603270	D	11/20/2017
LED ENGINE – WIDE 5000K AREAMASTER LED – HIGH LUMEN	609165	D	11/20/2017
LED ENGINE – NARROW 3000K AREAMASTER LED – HIGH LUMEN	603271	D	11/20/2017

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LED ENGINE – NARROW 5000K AREAMASTER LED – HIGH LUMEN	609166	D	11/20/2017
LED ARRAY – 5000K WITHOUT SECONDARY OPTICS AREAMASTER LED – HIGH LUMEN	609206	C	11/20/2017
LED ENGINE – AISLE WIDE 5000K AREAMASTER LED – HIGH LUMEN	615036	B	11/20/2017
LED ENGINE – AISLE WIDE 3000K AREAMASTER LED – HIGH LUMEN	615037	B	11/20/2017
LED LENS 3X3 PATTERN BAYMASTER LED	615051	C	01/15/2018
3/4” NPT TO M20 REDUCER	609399	01	11/13/2018

Note: An * is included before the title of documents that are new or revised.

Certified Components (LED Luminaires, models: AREAMASTER/BAYMASTER High Lumen (HL) and AREAMASTER/BAYMASTER Gen 2/LED):

#	Component	Manufacture and Type	Qty	Certificate Number	Standard and Edition	Ratings
1.	LED Driver	Appleton Group – ATX, APMS100C105UD APMS150C105UD	1 or 2	IECEx ITS 17.0014U	Issue 2, 2018-07-09 IEC 60079-0:2011 IEC 60079-7:2015	Ex ec IIC Gc -40°C to +70°C
2.	Terminal Blocks (AC)	Phoenix Contact GmbH & Co. KG, GB UT-4/UT-4 PE	2	IECEx KEM 06.0027U	Issue 6, 2018-03-08 IEC 60079-0:2011 IEC 60079-7:2011	Ex eb IIC Gb -60°C to +110°C
3.	Terminal Blocks (DC)	Phoenix Contact GmbH & Co. KG, GB 5/3-EX	4	IECEx PTB 06.0043U	Issue 1, 2014-05-26 IEC 60079-0:2011 IEC 60079-7:2006	Ex eb IIC -60°C to +110°C

#	Special Conditions and Verification of Conformance for Each Component
1.	**Special Conditions of Safe Use:** 1. The LED Drivers of Zone 2 shall be used in accordance with the manufacturer’s ratings and instructions installed inside an enclosure of the type of protection Increased Safety Ex “e” in compliance with Standard IEC 60079-7. 2. The drivers will be provided with stripped wires to a length of 9±1mm or 10±2mm, refer outline and installation dimensions for the details. Modifying the stripping length more than prescribed is strictly prohibited since this will affect the clearance and creepage distances requirements of IEC 60079-7. 3. The wires with stripped length should be fully inserted into the Ex terminal block openings and screwed firmly with proposed torque of 0.75Nm for proper connections.

Certificate issued by:
Intertek Testing & Certification Limited
Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
United Kingdom

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Certificate No:	IECEx ITS 18.0049	Issue No. 1
Annex No. 2		

	4. When the components are installed in the electrical apparatus, care must be taken that the components are not directly exposed to the sun light or lights from luminaires and temperatures at the mounting place are within the temperature range of use. 5. The Drivers are factory programmed with required output current within the 'settable output current' range mentioned on the driver label. Programming the drivers on field is strictly prohibited. 6. The temperature Tc (T case) point must not be exceeded of the LED Drivers.
	Conformance of Each Condition:
	1. The LED Drivers for Zone 2 (100W and 150W) are used in accordance with the manufacturer's ratings and installed in an IP66 enclosure of the type of protection per the requirements of IEC 60079-7. 2. The drivers are provided with stripped wires to a length of 9±1mm or 10±2mm, refer outline and installation dimensions for the details. Modifying the stripping length more than prescribed is strictly prohibited since this will affect the clearance and creepage distances requirements of IEC 60079-7. Noted information is outlined within the Instruction Manual(s). 3. The wires with stripped length are fully inserted into the Ex terminal block openings and screwed firmly with proposed torque of 0.75Nm for proper connections. Noted information is outlined within the Instruction Manual(s). 4. The LED drivers are installed within an enclosure compartment which can only be accessed with an assistance of a tool. The LED driver compartment is not be opened in direct sunlight or while under any other UV exposure. The ambient temperature within the LED compartment (-40°C to +65°C) is within the operating temperature range of the LED drivers (-40°C to +70°C). Noted information is outlined within the Instruction Manual(s). 5. The Drivers are factory programmed with required output current within the 'settable output current' range mentioned on the driver label. Programming the drivers in the field is strictly prohibited. Noted information is outlined within the Instruction Manual(s). 6. The maximum temperature measured at the LED Driver is +89°C at maximum ambient temperature of +65°C which is within the specified Tc limit of the LED driver (90°C). Reference SIRA IECEx Test Report R70142112A for more details.
2.	**Special Conditions of Safe Use:**
	1. The Terminal Blocks, the Protective Conductor Terminal Blocks and the Pick-off Terminal Blocks shall be mounted in a certified enclosure that meets the requirements of a type of protection as specified in IEC 60079-0 clause 1, with a degree of protection at least as required for Ex e. 2. When assembling with other certified series and sizes and using the associate accessories, the required creepage distances and clearances have to be observed. 3. The installation instruction of the manufacturer shall be followed e.g. for the use of cover, jumpers, end brackets. The data regarding current and associated temperature rise shall be used as guideline for the given conductor cross sections. The cross section has an influence on the temperature rise which shall be assessed in the end application. 4. If the Terminal Blocks and Pick-off Terminal Blocks are used in electrical equipment of temperature classes T1 up to T5, the highest temperature of the insulating material shall not exceed the maximum of the operating temperature range. 5. If the Terminal Blocks and the Pick-off Terminal Blocks are used in electrical equipment of the temperature classes T6 the permissible ambient temperature range is -60°C < Tamb < +40°C.
	Conformance of Each Condition:
	1. The terminal blocks are mounted within an enclosure that is evaluated per IEC 60079-7. The enclosure has been successfully tested for IP66 per IEC 60079-0. Reference SIRA IECEx Test Report R70142112A for more details. 2. No associated accessories used. Clearances and creepages are satisfied per the requirements of IEC 60079-7. Reference SIRA IECEx Test Report R70142112A for more details. 3. Service temperature range of the LED luminaire is -40°C to +65°C. The terminal block temperatures do not exceed 110°C (measured 91°C) at +65°C ambient temperature.

	Reference SIRA IECEx Test Report R70142112A for more details. 4. The maximum surface temperature of the enclosure surface (insulating material) was measured at 85°C and does not exceed the operating temperature of the terminal blocks (110°C). 5. Terminal blocks not for use within electrical equipment of the temperature class T6.
3.	**Special Conditions of Safe Use:**
	1. The terminal shall be mounted in an enclosure that meets the requirements of an approved type of protection as specified in IEC 60079-0, section 1. 2. For combustible dust and the enclosure shall satisfy the requirements according to the applicable/relevant standards of IEC 60079-series e.g. IEC 60079-31, type protection "t". 3. When installing the terminals in an enclosure designed to Increased Safety "e" type of protection as specified in IEC 60079-7, the clearances and creepage distances shown in table 1 shall be duly considered. If accessories are used, the instructions for installation provided by the manufacturer shall be observed. 4. Installation of electrical components requires a further assessment by an ExCB.
	Conformance of Each Condition:
	1. The terminal blocks are mounted within an enclosure that is evaluated per IEC 60079-7 and IEC 60079-31. The enclosure has been successfully tested for IP64/66/67 per IEC 60079-0. 2. See item #1 above. 3. Clearances and creepages are satisfied per the requirements of IEC 60079-7. Reference the applicable checklist for more information. 4. Terminal blocks are installed within the final equipment assembly per the requirements of IEC 60079-14.

Routine Tests:

1. 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 + 2*U*) 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.

2. Where the equipment incorporates certified components, the manufacturer shall ensure that any changes to those components do not affect the compliance of the certified product that is the subject of this certificate.