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 LCIE 16.0038X

Issue No: 2

Certificate history:
Issue No. 2 (2017-10-12)
Issue No. 1 (2017-03-07)
Issue No. 0 (2016-10-14)

Status: **Current**

Date of Issue: **2017-10-12**

Applicant: **Appleton Group - ATX**
EIN 35 rue André Durouchez
CS 98017
80084 Amiens cedex 2
France

Equipment: **Luminaire LED - Type: FELED - model: FELED* ** * * * or FELED* * ** * * ***

Optional accessory:

Type of Protection: **Ex db eb mb tb**

Marking:

Ex db eb mb IIC T... Gb
Ex tb IIIC T...°C Db IP66

(For the complete marking, refer to the annex 01)

Approved for issue on behalf of the IECEx Certification Body:

Didier BOURGES

Position:

Manager Certification Operations

Signature:
(for printed version)

LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES
S.A.S au capital de 15.745.984 €
RCS Nanterre B 408 363 174
33 Avenue du Général Leclerc
F – 92266 FONTENAY AUX ROSES

Date:

2017/10/12

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:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France

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Manufacturer:	**Appleton Group - ATX** EIN 35 rue André Durouchez CS 98017 80084 Amiens cedex 2 **France**	

Additional Manufacturing location(s):

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 electrical 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 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-18 : 2014 Edition:4.0	Explosive atmospheres – Part 18: Equipment protection by encapsulation “m”
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:

FR/LCIE/ExTR16.0060/01 FR/LCIE/ExTR17.0078/00

Quality Assessment Report:

FR/LCI/QAR07.0008/10

IECEx Certificate of Conformity

Certificate No: IECEx LCIE 16.0038X Issue No: 2

Date of Issue: 2017-10-12

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

This product is a luminaire with encapsulated LED array. It exists in Standard and Emergency versions.

Refer to attachment for full equipment description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The lengths of the flameproof joints of the TUBED are greater than the values stated in the tables of the standard IEC 60079-1.

Cable gland used shall comply with IEC 60079-0 and 60079-1 requirements (M20x1.5 or M25x1.5).

The minimum ambient temperature for the emergency version is -20°C if the battery (BATT) used is made of nickel-cadmium.

IECEx Certificate of Conformity

Certificate No: IECEx LCIE 16.0038X Issue No: 2

Date of Issue: **2017-10-12** Page 4 of 4

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

Issue 00 :

Initial assessment of the LED luminaire, type FELED according to IEC 60079-0 Ed.6.0, IEC 60079-1 Ed.6, IEC 60079-7 Ed.5.0, IEC 60079-18 Ed.4.0 and IEC 60079-31 Ed.2.0.

Issue 01 :

Adding a special condition for using the emergency version and removal of a warning in the marking

Issue 02 :

Adding the FELED Generation 2: Use of new LED array certified IECEx UL 17.0008 U + addition of 2 new drivers (same series than Generation 1 but different currents)

Annex:

IECEx LCIE 16.0038 X - Issue 02 - Annex 01 - Appleton - ATX.pdf

Annex 01 to Certificate
IECEx LCIE 16.0038 X issue 02

FULL EQUIPMENT DESCRIPTION

This product is a luminaire equipped with encapsulated LED array. It exists in Standard or Emergency versions.
It comprises a body and a transparent lens with hinges.
The sealing is achieved using a gasket fixed in the groove of the lens.
The LED luminaire has two configurations in function of axis and lens gaskets used. The ambient operating temperature range of the luminaire is different according to the configuration.

Configuration	Configuration 1	Configuration 2
Type of axis gasket	NBR 70sh 36624	EPDM 55914
Type of lens gasket	EPDM BK1101	Silicone xiameter
Ambient operating temperature	-30°C up to +55°C	-40°C up to +55°C

This certificate covers two ranges (Generation 1 and 2) of LED luminaire; the nomenclature is detailed in the range details.
In function of the Generation (1 or 2), the encapsulated LED array and the led driver used are different.

Standard version :
The LED luminaire can be equipped with the following certified components :

Designation of component	Manufacturer	Type	Document of reference
Switch	Appleton Group - ATX	IS3	IECEx LCI 10.0033 U
Encapsulated LED array	Appleton Group - ATX	OTLH	IECEx UL 16.0106 U
Encapsulated LED array	Appleton Group - ATX	Models n° 299707539 ; 299707430	IECEx UL 17.0008 U
LED driver	Appleton Group - ATX	TUBED	IECEx INE 16.0033 U
Terminal block	Weidmuller	WDU	IECEx ULD 14.0005 U
Terminal block	Weidmuller	MK 3	IECEx SIR 05.0036 U

Emergency version (for models “2K Emergency” and “5K Emergency” for the Generation 1 and the model “5Ka Emergency” for the Generation 2) :
The LED luminaire can have the following certified components added, compared to the standard version :

Designation of component	Manufacturer	Type	Document of reference
Battery	Appleton Group - ATX	BATT (**)	IECEx LCIE 16.0027 U
Battery inverter	Appleton Group - ATX	TUBED	IECEx INE 16.0033 U
Switch	Appleton Group - ATX	IS3	IECEx LCI 10.0033 U

Instructions :
Instruction notice, Ref. 2500699
Instruction notice FELED STD GEN2, Ref. 2500714
Instruction notice FELED EMERGENCY GEN2, Ref. 2500715

MARKING

Appleton - ATX
Address : …
Type : FELED
Model : FELED* ** * * * or FELED* * ** * * * (***0***)
Serial number : …
Year of construction : …
IECEx LCIE 16.0038 X
- (***3***)°C ≤ T_{amb} ≤ +(***4***)°C

(***0***): Completed with model defined in range details

The above general marking shall be completed with :

Generation 1 :
(Model FELED* ** * * *)
Ex db eb mb IIC T(***1***) Gb
Ex tb IIIC T(***2***)°C Db IP66
- (***3***)°C ≤ Tamb ≤ +(***4***)°C

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

WARNING (only for dust) – AFTER DEENERGIZED, WAITING (***5***) MIN BEFORE OPENING

The marking is completed by tables given below :

$T_{amb\ min}$ (***3***)	Axis gasket	Lens gasket	For emergency version, type of BATT to use
-20°C	NBR 70sh 36624 or EPDM 55914	EPDM BK1101 or Xiameter Silicone	Nickel-Cadmium or Nickel-Metal hybride
-30°C	NBR 70sh 36624 or EPDM 55914	EPDM BK1101 or Xiameter Silicone	Nickel-Metal hybride
-40°C	EPDM 55914	Xiameter Silicone	Nickel-Metal hybride

Explosive atmospheres			Gas				Dust							
$T_{amb\ max}$ (4)			+40°C	+45°C	+50°C	+55°C	+40°C		+45°C		+50°C		+55°C	
Model	Position	Diffuser	Temperature class (***1***)				$T_{surface}$ without opening delay (***2***)	$T_{surface}$ with opening delay (***2***)+(***5***)	$T_{surface}$ without opening delay (***2***)	$T_{surface}$ with opening delay (***2***)+(***5***)	$T_{surface}$ without opening delay (***2***)	$T_{surface}$ with opening delay (***2***)+(***5***)	$T_{surface}$ without opening delay (***2***)	$T_{surface}$ with opening delay (***2***)+(***5***)
2k	Horizontal	With	T6	T5	T5	T5	80°C	51°C 45mn	85°C	56°C 45mn	90°C	61°C 45mn	95°C	66°C 45mn
		Without	T6	T5	T5	T5								
	Vertical	With	T6	T5	T5	T5								
		Without	T6	T5	T5	T5								
2k Emergency	Horizontal	With	T5	T5	T5	/	84°C	49°C 100mn	89°C	55°C 100mn	94°C	60°C 100mn	/	/
		Without	T6	T5	T5	/								
	Vertical	With	T6	T5	T5	/								
		Without	T6	T5	T5	/								
4k	Horizontal	With	T5	T5	T4	/	86°C	52°C 60mn	91°C	57°C 60mn	96°C	62°C 60mn	/	/
		Without	T6	T5	T5	/								
	Vertical	With	T5	T5	T5	/								
		Without	T6	T5	T5	/								
5k	Horizontal	With	T6	T5	T5	T5	78°C	51°C 60mn	83°C	56°C 60mn	88°C	61°C 60mn	93°C	66°C 60mn
		Without	T6	T6	T5	T5								
	Vertical	With	T6	T5	T5	T5								
		Without	T6	T5	T5	T5								
5k Emergency	Horizontal	With	T6	T5	T5	/	79°C	51°C 70mn	84°C	56°C 70mn	89°C	61°C 70mn	/	/
		Without	T6	T5	T5	/								
	Vertical	With	T6	T5	T5	/								
		Without	T6	T6	T5	/								
8k	Horizontal	With	T5	T5	T4	/	86°C	54°C 75mn	91°C	59°C 75mn	96°C	64°C 75mn	/	/
		Without	T6	T5	T5	/								
	Vertical	With	T6	T5	T5	/								
		Without	T6	T5	T5	/								

Generation 2 :
(Model FELED* * ** * * *)
Ex db eb mb IIC T(***1***) Gb
Ex tb IIIC T(***2***)°C Db IP66
- (***3***)°C ≤ Tamb ≤ +(***4***)°C

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

WARNING (only for dust) – AFTER DEENERGIZED, WAITING (***5***) MIN BEFORE OPENING

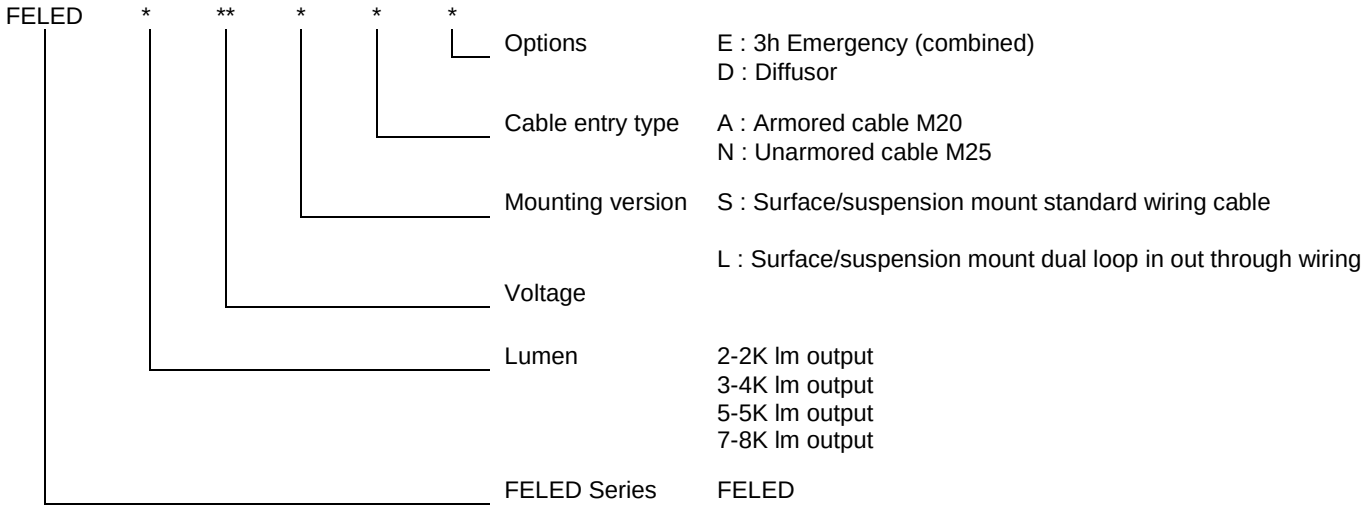
The marking is completed by tables given below :

$T_{amb\ min}$ (***3***)	Axis gasket	Lens gasket	For emergency version, type of BATT to use
-20°C	NBR 70sh 36624 or EPDM 55914	EPDM BK1101 or Xiameter Silicone	Nickel-Cadmium or Nickel-Metal hybride
-30°C	NBR 70sh 36624 or EPDM 55914	EPDM BK1101 or Xiameter Silicone	Nickel-Metal hybride
-40°C	EPDM 55914	Xiameter Silicone	Nickel-Metal hybride

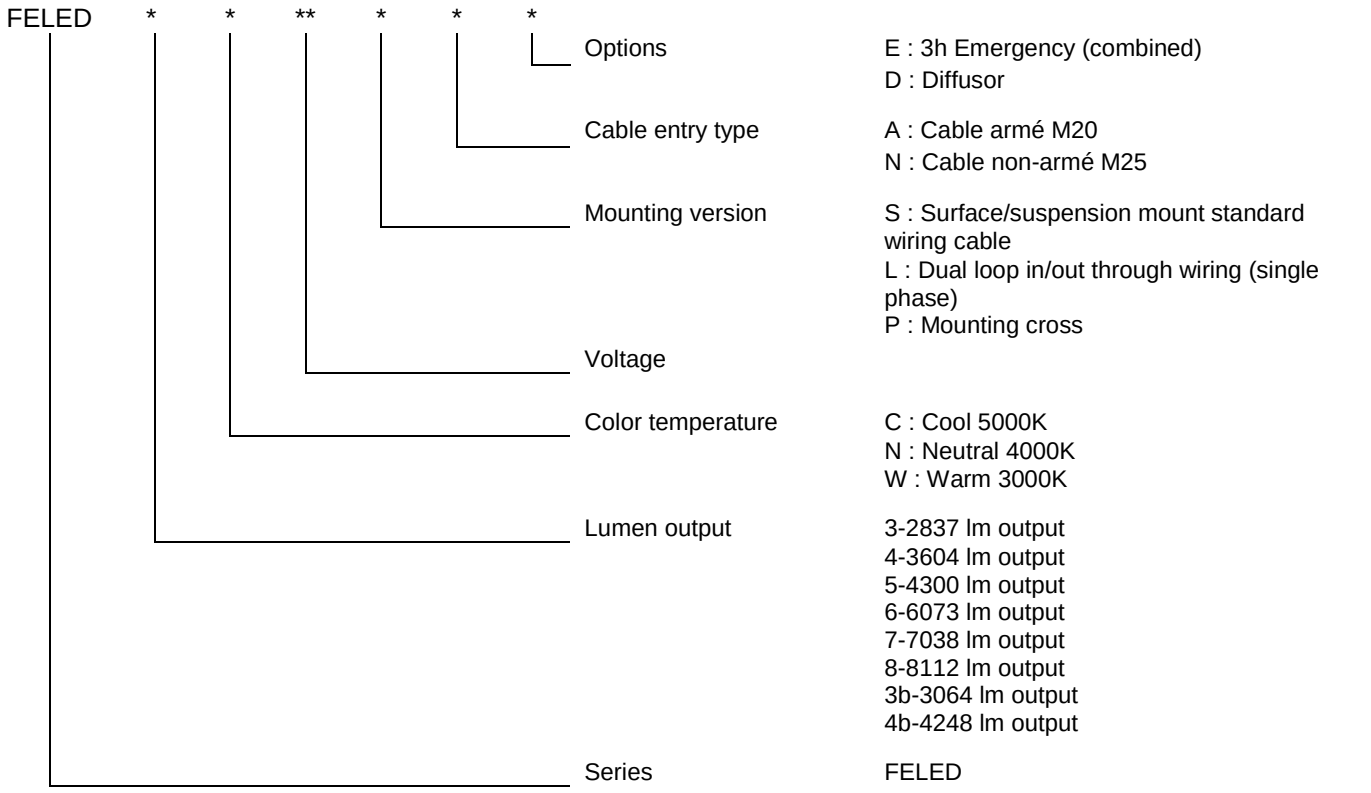
Explosive atmospheres			Gas				Dust							
$T_{amb\ max}$ (4)			+40°C	+45°C	+50°C	+55°C	+40°C		+45°C		+50°C		+55°C	
Model	Position	Diffuser	Temperature class (***1***)				$T_{surface}$ without opening delay (***2***)	$T_{surface}$ with opening delay (***2***)+(***5***)	$T_{surface}$ without opening delay (***2***)	$T_{surface}$ with opening delay (***2***)+(***5***)	$T_{surface}$ without opening delay (***2***)	$T_{surface}$ with opening delay (***2***)+(***5***)	$T_{surface}$ without opening delay (***2***)	$T_{surface}$ with opening delay (***2***)+(***5***)
3Ka	Horizontal	With	T6	T6	T6	T5	70°C	50°C 65mn	75°C	55°C 65mn	80°C	60°C 65mn	85°C	65°C 65mn
		Without	T6	T6	T6	T5								
	Vertical	With	T6	T6	T6	T5								
		Without	T6	T6	T6	T5								
3Kb	Horizontal	With	T6	T6	T6	T6	60°C	46°C 64mn	65°C	51°C 64mn	70°C	56°C 64mn	75°C	61°C 64mn
		Without	T6	T6	T6	T6								
	Vertical	With	T6	T6	T6	T6								
		Without	T6	T6	T6	T6								
4Ka	Horizontal	With	T6	T6	T6	T6	64°C	47°C 89mn	69°C	52°C 89mn	74°C	57°C 89mn	79°C	62°C 89mn
		Without	T6	T6	T6	T6								
	Vertical	With	T6	T6	T6	T6								
		Without	T6	T6	T6	T6								
4Kb	Horizontal	With	T6	T6	T6	/	66°C	47°C 93mn	71°C	52°C 93mn	76°C	57°C 93mn	/	/
		Without	T6	T6	T6	/								
	Vertical	With	T6	T6	T6	/								
		Without	T6	T6	T6	/								
5Ka	Horizontal	With	T6	T6	T6	T6	63°C	48°C 123mn	68°C	53°C 123mn	73°C	58°C 123mn	78°C	63°C 123mn
		Without	T6	T6	T6	T6								
	Vertical	With	T6	T6	T6	T6								
		Without	T6	T6	T6	T6								
5Ka Emergency	Horizontal	With	T6	T6	T6	/	63°C	48°C 123mn	68°C	53°C 123mn	73°C	58°C 123mn	/	/
		Without	T6	T6	T6	/								
	Vertical	With	T6	T6	T6	/								
		Without	T6	T6	T6	/								
6Ka	Horizontal	With	T6	T6	T6	T6	62°C	48°C 95mn	67°C	53°C 95mn	72°C	58°C 95mn	77°C	63°C 95mn
		Without	T6	T6	T6	T6								
	Vertical	With	T6	T6	T6	T6								
		Without	T6	T6	T6	T6								
7Ka	Horizontal	With	T6	T6	T6	T6	65°C	49°C 90mn	70°C	54°C 90mn	75°C	59°C 90mn	80°C	64°C 90mn
		Without	T6	T6	T6	T6								
	Vertical	With	T6	T6	T6	T6								
		Without	T6	T6	T6	T6								
8Ka	Horizontal	With	T6	T6	T6	/	69°C	49°C 89mn	74°C	54°C 89mn	79°C	59°C 89mn	/	/
		Without	T6	T6	T6	/								
	Vertical	With	T6	T6	T6	/								
		Without	T6	T6	T6	/								

RANGE DETAILS

Generation 1 :



Generation 2 :



RATINGS

Generation 1 :
FELED products series is designed to supply one or two encapsulated LED array to operate within voltages :
100-240 V AC-50/60 Hz or 100-277 V AC-50/60 Hz

The FELED series is proposed in four models :
- 2K : 2625 lm (23 W), LED array 10 LEDs (2 foot)
- 4K : 4285 lm (43 W), LED array 19 LEDs (2 foot)
- 5K : 4525 lm (43 W), LED array 19 LEDs (4 foot)
- 8K : 8400 lm (86 W), LED array 38 LEDs (4 foot)

Generation 2 :
FELED products series is designed to supply one, two or four encapsulated LED array to operate within voltages :
100-240 V AC-50/60 Hz

The FELED series is proposed in eight models :
- 3Ka : 2837 lm (28 W), LED array 17 LEDs (2 foot)
- 3Kb : 3064 lm (28 W), LED array 34 LEDs (2 foot)
- 4Ka : 3604 lm (32 W), LED array 34 LEDs (2 foot)
- 4Kb : 4248 lm (39 W), LED array 34 LEDs (2 foot)
- 5Ka : 4300 lm (39 W), LED array 34 LEDs (4 foot)
- 6Ka : 6073 lm (54 W), LED array 68 LEDs (4 foot)
- 7Ka : 7038 lm (64 W), LED array 68 LEDs (4 foot)
- 8Ka : 8112 lm (77 W), LED array 68 LEDs (4 foot)

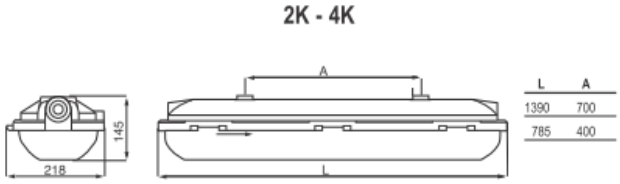
ROUTINE TESTS

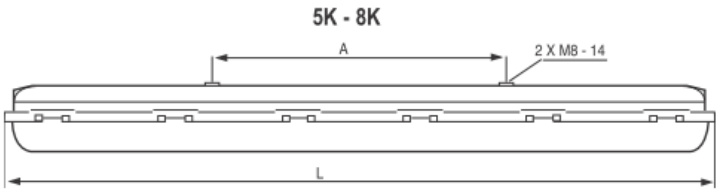
According to clause 7.1 of standard IEC 60079-7 each above apparatus shall be submitted before delivery to a dielectric strength test.

According to clause 9.1 of standard IEC 60079-18 each LED emergency luminaire shall be submitted to a visual inspection.

APPARATUS OVERVIEW

Generation 1 :





Generation 2 :