1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 06ATEX4348X** Issue: **1**

4 Equipment: **Sterling II or Sterling II E Fluorescent Luminaires**

5 Applicant: **Chalmit Lighting**

6 Address: PO Box 5575
Glasgow
G52 9AP
UK

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2006	EN 60079-15:2005
EN 61241-0: 2006	EN 61241-1: 2004

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

II 3 G D
Ex nA II T* Tamb = -20°C to +*°C
Ex tD A21 IP6X or
Ex tD A22 IP6X
(* See Product Description for applicable temperature classes, ambient temperature ranges and temperatures for dust)

Project Number 51A16988
C. Index 05

C Ellaby
Certification Officer

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13 **DESCRIPTION OF EQUIPMENT**

The Sterling Mk II Fluorescent Luminaires are manufactured with single or twin T8 bi-pin lamps. For use with either a 120 or 240 V a.c. high frequency ballast or via a 120 to 240 V a.c step up transformer with the 240V Hf ballast, or also as specified below with the copper/iron control gear. The Luminaires comply with EN 60598.

Each unit comprises a glass filled polyester or stainless steel body with a polycarbonate diffuser secured by stainless steel clips. The enclosure is sealed by an EPDM gasket, which fits between the body and diffuser. At each end of the body, there are cable entry holes, which are fitted with blanks.

Inside the luminaire, there is a gear tray and, when fitted with an electronic ballast, comprises lamp holders, terminal blocks and optional transformer. When fitted with the alternative copper iron wound ballast additionally has a capacitor and starter fitted.

The gear tray is held in place by stainless steel spring clips, which are mounted directly to the body. Additionally the gear tray is fitted with suspension cords to the main body to aid maintenance.

The Sterling Mk II E Fluorescent Luminaires are the emergency versions of the Sterling Mk II Fluorescent Luminaires and are supplied in single or twin lamp versions. On failure of the supply, a single lamp is maintained by the internal battery pack. The emergency versions are further fitted with a battery pack and charger/inverter unit.

The battery pack comprises five nickel-cadmium cells connected in series as a single unit. The battery is rated at 6.0 V, 4 Ah.

The Luminaires may be supplied as through wired versions with a terminal block at each end of the gear tray. With the stainless steel bodied Luminaires also having the facility for looping conductors.

Fixing of the Luminaire is by holes drilled in the enclosure body. Sealing washers are provided to ensure the enclosure is sealed. For Luminaires intended to be used in hazardous dust atmospheres, self-tapping screws are provided to secure the lens clips in position.

The rating marking, including the voltage rating, the type of lamp and the power rating is indicated on the product label.

Attitude positions

Standard & Emergency Luminaires with either: Ceiling / pendant mounting, horizontal wall mounting-lamp forward or outreach pole facing down or horizontal-lamp forward mountings.

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Temperature Ratings

TABLE A				
Range of Non-Emergency Luminares with HF Control Gear				
Nom. Volts: 120 V - 240 V with HF Ballast		**Inverter:** N/A	**T Class:** T4	**Max Surface Temp (Dust):** +85°C
Lamp	**Body**	**Body Material**	**Ballast**	**Tamb Max**
1 x 18 W	Single	GRP	1 x 18 W	+45°C
1 x 18 W	Twin	GRP	1 x 18 W	+45°C
1 x 18 W	Twin	SS	1 x 18 W	+45°C
2 x 18 W	Twin	GRP	2 x 18 W	+45°C
2 x 18 W	Twin	SS	2 x 18 W	+45°C
1 x 36 W	Single	GRP	1 x 36 W	+45°C
1 x 36 W	Twin	GRP	1 x 36 W	+45°C
1 x 36 W	Twin	SS	1 x 36W	+45°C
2 x 36 W	Twin	GRP	2 x 36 W	+45°C
2 x 36 W	Twin	SS	2 x 36 W	+45°C
1 x 58 W	Single	GRP	1 x 58 W	+45°C
1 x 58 W	Twin	GRP	1 x 58 W	+45°C
1 x 58 W	Twin	SS	1 x 58 W	+35°C
2 x 58 W	Twin	GRP	2 x 58 W	+45°C
2 x 58 W	Twin	SS	2 x 58 W	+45°C
Nom. Volts: 120 V with step-up Transformer and 240 V HF Ballast		**Inverter:** N/A	**T Class:** T4	**Max Surface Temp (Dust):** +85°C
Lamp	**Body**	**Body Material**	**Ballast**	**Tamb Max**
1 x 18 W	Single	GRP	1 x 18 W	+30°C
1 x 18 W	Twin	GRP	1 x 18 W	+30°C
1 x 18 W	Twin	SS	1 x 18W	+30°C
2 x 18 W	Twin	GRP	2 x 18 W	+30°C
2 x 18 W	Twin	SS	2 x 18 W	+30°C
1 x 36 W	Single	GRP	1 x 36 W	+30°C
1 x 36 W	Twin	GRP	1 x 36 W	+30°C
1 x 36 W	Twin	SS	1 x 36 W	+30°C
2 x 36 W	Twin	GRP	2 x 36 W	+30°C
2 x 36W	Twin	SS	2 x 36 W	+30°C
1 x 58 W	Single	GRP	1 x 58 W	+30°C
1 x 58 W	Twin	GRP	1 x 58 W	+30°C
1 x 58 W	Twin	SS	1 x 58 W	+20°C
2 x 58 W	Twin	GRP	2 x 58 W	+30°C
2 x 58 W	Twin	SS	2 x 58 W	+30°C

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TABLE B

Range of Emergency Luminares with HF Control Gear

Nom. Volts:	Inverter:	T Class:	Max Surface Temp (Dust):
120 V - 240 V with HF Ballast	VL111 with or without auto test facility	T4	+85°C

Lamp	Body	Body Material	Ballast	Tamb Max
1 x 18 W	Twin	GRP	1 x 18 W	+40°C
1 x 18 W	Twin	SS	1 x 18 W	+40°C
2 x 18 W	Twin	GRP	2 x 18 W	+40°C
2 x 18 W	Twin	SS	2 x 18 W	+40°C
1 x 36 W	Twin	GRP	1 x 36 W	+40°C
1 x 36 W	Twin	SS	1 x 36 W	+40°C
2 x 36 W	Twin	GRP	2 x 36 W	+40°C
2 x 36 W	Twin	SS	2 x 36 W	+40°C
1 x 58 W	Twin	GRP	1 x 58 W	+40°C
1 x 58 W	Twin	SS	1 x 58 W	+30°C
2 x 58 W	Twin	GRP	2 x 58 W	+40°C
2 x 58 W	Twin	SS	2 x 58 W	+40°C

Nom. Volts:	Inverter:	T Class:	Max Surface Temp (Dust):
120 V with step-up Transformer and 240 V HF Ballast	VL111 with or without auto test facility	T4	+85°C

Lamp	Body	Body Material	Ballast	Tamb Max
1 x 18 W	Twin	GRP	1 x 18 W	+30°C
1 x 18 W	Twin	SS	1 x 18 W	+30°C
2 x 18 W	Twin	GRP	2 x 18 W	+30°C
2 x 18 W	Twin	SS	2 x 18 W	+30°C
1 x 36 W	Twin	GRP	1 x 36 W	+30°C
1 x 36 W	Twin	SS	1 x 36 W	+30°C
2 x 36 W	Twin	GRP	2 x 36 W	+30°C
2 x 36 W	Twin	SS	2 x 36 W	+30°C
1 x 58W	Twin	GRP	1 x 58 W	+30°C
1 x 58W	Twin	SS	1 x 58 W	+20°C
2 x 58 W	Twin	GRP	2 x 58 W	+30°C
2 x 58 W	Twin	SS	2 x 58 W	+30°C

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TABLE C						
Range of Non-Emergency Luminares with Cu / Fe Control Gear						
T Class: T4				Max Surface Temp (Dust): +85°C		
Lamp	**Body**	**Body Material**	**Nom. Volts**	**Choke**	**Circuit Type**	**Tamb Max**
1 x 18 W	Single	GRP	200 - 250	1 x 18 W	Series	+35°C
1 x 18 W	Twin	GRP	100 - 130	1 x 18 W	Series	+40°C
1 x 18 W	Twin	SS	100 - 130	1 x 18 W	Series	+40°C
1 x 18 W	Twin	GRP	200 - 250	1 x 18 W	Series	+40°C
1 x 18 W	Twin	SS	200 - 250	1 x 18 W	Series	+40°C
2 x 18 W	Twin	GRP	100 - 130	2 x 18 W	Parallel	+45°C
2 x 18 W	Twin	SS	100 - 130	2 x 18 W	Parallel	+45°C
2 x 18 W	Twin	GRP	200 - 250	1 x 36 W	Series	+50°C
2 x 18 W	Twin	SS	200 - 250	1 x 36 W	Series	+50°C
2 x 18 W	Twin	GRP	200 - 250	2 x 18 W	Parallel	+40°C
2 x 18 W	Twin	SS	200 - 250	2 x 18 W	Parallel	+40°C
1 x 36 W	Single	GRP	100 - 130	1 x 36 W	Series	+35°C
1 x 36 W	Single	GRP	200 - 250	1 x 36 W	Series	+40°C
1 x 36 W	Twin	GRP	100 - 130	1 x 36 W	Series	+45°C
1 x 36 W	Twin	SS	100 - 130	1 x 36 W	Series	+35°C
1 x 36 W	Twin	GRP	200 - 250	1 x 36 W	Series	+50°C
1 x 36 W	Twin	SS	200 - 250	1 x 36 W	Series	+40°C
2 x 36 W	Twin	GRP	100 - 130	2 x 36 W	Parallel	+40°C
2 x 36 W	Twin	SS	100 - 130	2 x 36 W	Parallel	+40°C
2 x 36 W	Twin	GRP	200 - 250	2 x 36 W	Parallel	+45°C
2 x 36 W	Twin	SS	200 - 250	2 x 36 W	Parallel	+45°C
1 x 58 W	Single	GRP	100 - 130	1 x 58 W	Series	+25°C
1 x 58 W	Single	GRP	200 - 250	1 x 58 W	Series	+30°C
1 x 58 W	Twin	GRP	100 - 130	1 x 58 W	Series	+35°C
1 x 58 W	Twin	SS	100 - 130	1 x 58 W	Series	+25°C
1 x 58 W	Twin	GRP	200 - 250	1 x 58 W	Series	+40°C
1 x 58 W	Twin	SS	200 - 250	1 x 58 W	Series	+30°C
T Class: (150°C) T3				**Max Surface Temp (Dust):** +85°C		
Lamp	**Body**	**Body Material**	**Nom. Volts**	**Choke**	**Circuit Type**	**Tamb Max**
2 x 58 W	Twin	GRP	100 - 130	2 x 58 W	Parallel	+25°C
2 x 58 W	Twin	SS	100 - 130	2 x 58 W	Parallel	+25°C
2 x 58 W	Twin	GRP	200 - 250	2 x 58 W	Parallel	+30°C
2 x 58 W	Twin	SS	200 - 250	2 x 58 W	Parallel	+30°C

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Issue 1

TABLE D				
Range of Non-Emergency Luminares with HF Control Gear				
Nom. Volts:		**Inverter:**	**T Class:**	**Max Surface Temp (Dust):**
120 V - 254 V with HF Ballast		N/A	T4	+85°C
Lamp	**Body**	**Body Material**	**Ballast**	**Tamb Max**
1 x 18 W	Single	GRP	1 x 18 W	+35°C
1 x 18 W	Twin	GRP	1 x 18 W	+35°C
1 x 18 W	Twin	SS	1 x 18 W	+35°C
2 x 18 W	Twin	GRP	2 x 18 W	+32°C
2 x 18 W	Twin	SS	2 x 18 W	+32°C
1 x 36 W	Single	GRP	1 x 36 W	+35°C
1 x 36 W	Twin	GRP	1 x 36 W	+35°C
1 x 36 W	Twin	SS	1 x 36 W	+35°C
2 x 36W	Twin	GRP	2 x 36 W	+35°C
2 x 36W	Twin	SS	2 x 36 W	+35°C
1 x 58 W	Single	GRP	1 x 58 W	+35°C
1 x 58 W	Twin	GRP	1 x 58 W	+35°C
1 x 58 W	Twin	SS	1 x 58 W	+25°C
2 x 58 W	Twin	GRP	2 x 58 W	+35°C
2 x 58 W	Twin	SS	2 x 58 W	+35°C

TABLE E				
Range of Emergency Luminares with HF Control Gear				
Nom. Volts:		**Inverter:**	**T Class:**	**Max Surface Temp (Dust):**
120 V - 254 V with HF Ballast		VL111 with or without auto test facility	T4	+85°C
Lamp	**Body**	**Body Material**	**Ballast**	**Tamb Max**
1 x 18 W	Twin	GRP	1 x 18 W	+35°C
1 x 18 W	Twin	SS	1 x 18 W	+35°C
2 x 18 W	Twin	GRP	2 x 18 W	+35°C
2 x 18 W	Twin	SS	2 x 18 W	+35°C
1 x 36 W	Twin	GRP	1 x 36 W	+35°C
1 x 36 W	Twin	SS	1 x 36 W	+35°C
2 x 36 W	Twin	GRP	2 x 36 W	+35°C
2 x 36 W	Twin	SS	2 x 36 W	+35°C
1 x 58 W	Twin	GRP	1 x 58 W	+35°C
1 x 58 W	Twin	SS	1 x 58 W	+25°C
2 x 58 W	Twin	GRP	2 x 58 W	+35°C
2 x 58 W	Twin	SS	2 x 58 W	+35°C

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Variation 1: This variation introduced the following changes:

i. Table B for the Range of Emergency Luminares with HF Control Gear was corrected to rectify typographical errors.

ii. Tables A and B were amended to recognise the addition of new Luminaires to these ranges.

iii. Tables D and E were introduced to recognise the addition of new, 120 – 254 Volts rated, Non-Emergency and Emergency Luminares with HF Control Gear to the range.

iv. The information shown on the product marking label was rationalised.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	13 June 2007	R51A15151A	The release of the prime certificate.
1	3 September 2007	R51A16988A	The introduction of Variation 1.

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

15.1 The Luminaire shall only be installed where there is a low risk of mechanical damage.

15.2 When refitting the diffuser, the fixing clamps are to be re-secured with the original or replacement self-tapping screws.

15.3 The Luminaires are to be fitted with suitably certified cable glands and blanking devices maintaining with the enclosure an ingress protection rating minimum of IP54 (non-combustible dusts) or IP64 (combustible dusts).

15.4 Fasteners through the enclosure used for mounting purpose shall be fitted with appropriate sealing washers to maintain the ingress protection rating of the enclosure.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF CERTIFICATION

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

17.3 An electrical strength test of 1890 V rms [1.2x1.05(2U+1000)] shall be applied between live and neutral for at least 100 ms as required by clause 34.2.1 of EN 60079-15:2005.

17.4 When Arlen EFAFTB1 fused type supply terminals are used, a label is to be fitted close to the fuse holder to indicate the correct fuse type and rating.

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Certificate Annexe

Certificate Number: **Sira 06ATEX4348X**

Equipment: **Sterling II or Sterling II E**

Applicant: **Chalmit Lighting**

sira CERTIFICATION

Issue 0

Number	Sheet	Rev.	Date	Description
D6096	1 of 3	1	22 May 07	Circuit diagrams and general drawing notes
D6096	2 of 3	1	22 May 07	General assembly layout
D6096	3 of 3	1	22 May 07	Circuit diagrams for copper/iron ballast arrangement
D6091	1 of 1	1	19 Jun 07	Sterling label

Issue 1

Number	Sheet	Rev.	Date	Description
D6096	1 of 3	2	06 Aug 07	Circuit diagrams and general drawing notes.
D6091	1 of 1	2	04 Sep 07	Label detail

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