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TYPE EXAMINATION CERTIFICATE

2

**Equipment Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3

Type Examination Certificate Number: **BAS98ATEX3197X**

4

Equipment: **ECLIPSE WELLGLASS LUMINAIRE**

5

Manufacturer: **CHALMIT LIGHTING LTD**

6

Address: **388 Hillington Road, Glasgow, Scotland, G52 4BL**

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

8

The Electrical Equipment Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment of Category 3 intended for use in potentially explosive atmospheres given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in confidential Report N°

98(C)0252 dated 17 July 1998

9

Compliance with the Essential Health and Safety Requirements has been assessed by reference to:

prEN50021: 1998

except in respect of those requirements listed at item 18 of the Schedule.

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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.

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This TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment, and not to specific items of equipment subsequently manufactured.

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The marking of the equipment shall include the following:-



II 3 G

Ex nAR II T (see schedule) T_{amb} (see schedule)

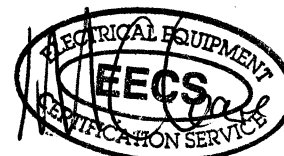
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File No: EECS 0068/03/035

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire. SK17 9JN. United Kingdom
Tel: 01298 28000 Fax: 01298 28244



I M CLEARE
DIRECTOR
23 July 1998



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TYPE EXAMINATION CERTIFICATE N° BAS98ATEX3197X

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Description of Equipment

The Eclipse Midi and Eclipse Mini Luminaires are designed for fitting the following lamps on supply voltages of 200V up to 254V, 50 or 60 Hz:

Eclipse MIDI	Eclipse MINI
250W SON & MBI	50W SON
250W MBF	70W SON & MBI
400W SON & MBI	100W SON & MBI
400W MBF	150W SON & MBI
	80W MBF
	125W MBF

Enclosure

The enclosure comprises a die cast aluminium lid and body with the body having a threaded part which allows a variety of different diffusers to be fitted. The joint between lid and body is sealed by a silicone rubber gasket and contact pressure is maintained by four screws. The luminaire is designed to be mounted using the fixing lugs provided on the lid but may be pole mounted using an alternative lid and cable entry arrangement. In this case the installer must ensure the IP rating of the enclosure is maintained.

The luminaire may be fitted with the following types of diffuser: symmetrical refractor, globe or enclosed reflector. The diffusers are fitted on to the threaded part of the luminaire body, compressing a silicone rubber gasket by the screw pressure. The lamp chamber forms a restricted breathing enclosure. The control gear and terminal chamber are not restricted breathing.

Diffusers

Symmetrical refractor- has a cast aluminium body fitted with a dimpled plain glass lens. The lens is retained by a metal band and screw clamp and the joint between the lens and body is sealed by a ceramic fibre gasket and silicone rubber sealant. This assembly is suitable for low risk impact only.

Globe - is manufactured from plain glass, with integral screw thread and ground sealing face.

Enclosed reflector- has an aluminium body secured to a cast aluminium threaded part. A flat toughened glass lens is held in place by a swaged rim.

Cable entries

Tapped or plain holes in the lid allow access for suitably glanded supply cable or conduit entry, up to M25 size or 1.5" NPT. Up to four entries may be fitted with unused entries plugged.



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Control gear

Internally the enclosure contains bracket mounted control gear. The supply cable is terminated on a terminal block fixed to the inside of the lid. An intermediate terminal block, or plug and socket, is also fitted to form the connection point between the supply and control gear.

The ballast, which may include thermal protectors, is manufactured by Transtar Parry or Tridonic and is rated at 200 to 254V, 50 Hz or 210 to 254V, 60 Hz which is achieved by single or multi tapplings. The ballasts have T_w 140°C and Δt 55°C or 75°C.

The ignitor may be the Tridonic ZRM6-ESB, Component Approval Ex 94Y4537U coded Ex N II or alternatively the Parry PXA 000, PXA 100, PXA 070 or PXA 400, covered by BASEEFA Component Approval Ex 97Y4283U coded Ex N II.

Capacitors which comply with EN 61048 and EN 61049, marked T_c 85°C or 90°C may be fitted.

The capacitor and ballast may be omitted from the luminaire and located in a remote control gear box. The gear box may contain any ballast suitable for sodium lamps in accordance with the lamp manufacturer's specification, provided that all ballasts comply with IEC 922 and IEC 923 or BS EN 60922: 1991 and BS EN 60923: 1991 and have third party assessment. IEC 922 and IEC 923 are identical to BS EN 60922: 1991 and BS EN 60923: 1991.

Temperature Classification and ambient temperature range

Luminaire	Lamp type	Lamp designation	Watts	Diffuser type	T_{amb}	Temperature Class	
MIDI	HPS or Metal halide	SON	400W	Symmetrical	-30°C to +35°C	T3	
			400W ¹	Symmetrical	-30°C to +50°C	T3	
			400W	Enclosed	-30°C to +45°C	T3	
			400W ¹	Enclosed	-30°C to +55°C	T3	
		Mercury	MBI	250W	Symmetrical	-30°C to +50°C	150°C (T3)
				250W ¹	Symmetrical	-30°C to +55°C	T3
				250W	Enclosed	-30°C to +45°C	T3
				250W ¹	Enclosed	-30°C to +55°C	T3
	MBF		400W	Symmetrical	-30°C to +35°C	T3	
			400W ¹	Symmetrical	-30°C to +45°C	T3	
			400W	Enclosed	-30°C to +40°C	T3	
			400W ¹	Enclosed	-30°C to +55°C	T3	
		250W	Symmetrical	-30°C to +50°C	T3		
		250W ¹	Symmetrical	-30°C to +55°C	T3		
		250W	Enclosed	-30°C to +40°C	T3		
		250W ¹	Enclosed	-30°C to +55°C	T3		



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Luminaire	Lamp type	Lamp designation	Watts	Diffuser type	T _{amb}	Temperature Class
MINI	HPS or Metal halide	SON or MBI	150W	Symmetrical or Globe	-30°C to +50°C	160°C (T3)
			100W	Symmetrical or Globe	-30°C to +50°C	160°C (T3)
			70W	Symmetrical or Globe	-30°C to +45°C	T4
		SON	50W	Symmetrical or Globe	-30°C to +45°C	T4
		SON or MBI	150W ¹	Symmetrical	-30°C to +55°C	T3
			100W ¹	Symmetrical	-30°C to +55°C	T3
			70W ¹	Symmetrical	-30°C to +55°C	150°C (T3)
	SON	50W ¹	Symmetrical	-30°C to +55°C	150°C (T3)	
	Mercury	MBF	125W	Symmetrical or Globe	-30°C to +45°C	T3
			80W	Symmetrical or Globe	-30°C to +45°C	T3

¹ PFC capacitor omitted

16 **Report Nos.**

98(C)0252

17 **Special Conditions For Safe Use**

1. The luminaire diffusers form a restricted breathing enclosure when fitted in accordance with the manufacturer's instructions. Silicone grease shall be applied to the threads of the diffuser which shall be hand tightened, then tightened up to a further 36°.
2. The locking screw shall be tightened after the diffuser is fitted.
3. The symmetrical refractor is suitable only for areas with a low risk of mechanical damage.

18 **Essential Health and Safety Requirements**

Essential Health & Safety Requirements not covered by Standards listed at (9)		
ESR	Subject	Compliance: Report Clause
1.0.2	Analysis of possible operating faults and misuse	see report 98(C)0252 clause 4.1.0.2
1.0.5	Marking	see report 98(C)0252 clause 4.1.0.5
1.0.6	Instructions	see report 98(C)0252 clause 4.1.0.6
1.1.1	Materials not to trigger off explosions	see report 98(C)0252 clause 4.1.1.1
1.1.2	Constructional materials not to degrade or reduce protection	see report 98(C)0252 clause 4.1.1.2
1.1.3	Changes in characteristics of materials	see report 98(C)0252 clause 4.1.1.3
1.2.2	Components for incorporation or replacement	see report 98(C)0252 clause 4.1.2.2
1.2.5	Additional means of protection	see report 98(C)0252 clause 4.12.5
1.2.6	Safe opening	see report 98(C)0252 clause 4.1.2.6



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TYPE EXAMINATION CERTIFICATE N° BAS98ATEX3197X

Essential Health & Safety Requirements not covered by Standards listed at (9)		
ESR	Subject	Compliance: Report Clause
1.2.7	Protection against other hazards	see report 98(C)0252 clause 4.12.7
1.3.3	Hazards arising from stray electric and leakage currents	see report 98(C)0252 clause 4.13.3
1.4.1	Safe function in changing external conditions	see report 98(C)0252 clause 4.14.1
1.4.2	Withstanding attack by stresses or aggressive substances	see report 98(C)0252 clause 4.14.2

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DRAWINGS

<u>Number</u>	<u>Sheet</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
D1812	1	-	10.7.98	Construction details
D1812	2	-	8.6.98	General arrangement
D1812	3	-	8.6.98	General arrangement
D1812	4	-	8.6.98	Parts list and detail parts.
D1812	5	-	19.05.98	Mounting and optical details

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BASEEFA List Keywords
2BULKUM



1 **SUPPLEMENTARY TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use
in Potentially explosive atmospheres
Directive 94/9/EC**

3 Supplementary Type Examination Certificate Number: **BAS98ATEX3197X/1**

4 Equipment or Protective System: **THE ECLIPSE RANGE OF WELLGLASS LUMINAIRES**

5 Manufacturer: **CHALMIT LIGHTING LIMITED**

6 Address: **388 Hillington Road, Glasgow, G52 4BL**

7 This supplementary certificate extends Type Examination Certificate No. BAS98ATEX3197X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 0068/03/035

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**I M CLEARE
DIRECTOR
23 December 1999**



Electrical Equipment Certification Service
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TYPE EXAMINATION CERTIFICATE N° BAS98ATEX3197X/1

Description of the Variation to the Equipment or Protective System

VARIATION ONE

To extend the range to include a smaller series of luminaires known as the Eclipse Junior.

The luminaires are intended for use on supplies of 110-120V and 200 to 254 volts d.c., 50/60 Hz a.c., with lamps rated at up to 150 watts (GLS) and 200-254V, 50/60 Hz for the CFL and HID lamps up to 100W. The lamp type / power ratings are tabulated below. The luminaire may be matched to the supply voltage by tapings on the choke where used.

The construction differs from the other luminaires in the ECLIPSE range in that the original luminaires have a quasi-rectangular shape with four retaining screws between the upper and lower bodies and the Junior range have circular bodies with a single retaining screw.

The top part carries the mounting feet and the main terminal block. The lower portion carries the gear tray and lamp holder. The well glass is screwed into the lower face of this part.

The body of the "Junior" is smaller having approximately 1/3 of the volume of the original range. It is made from cast aluminium.

The luminaire is designed to be "restricted breathing" as far as the lamp and holder is concerned whilst the closing of the top and bottom parts forms an enclosure, sealed with an integral silicone rubber tubular seal and has an IP54 minimum ingress protection rating.

The electrical components used within the luminaire are component certified by BASEEFA Certificate BAS98ATEX3379U.

Range table;

Wattage	Lamp	Cap	Min.amb.	Max amb		T class	
				with pfc	no pfc	with pfc	no pfc
50	SON	E27	-45°C	50°C	55°C	T4	T3
70	SON, MBI	E27	-45°C	50°C	55°C	T4	T3
80	MBF	E27	-45°C	50°C	55°C	T3	T3
100	SON, MBI	E27	-45°C	45°C	50°C	T3	T3
125	MBF	E27	-45°C	40°C	55°C	T3	T3
100	GLS	E27	-45°C	55°C	-	T4	-
150	GLS	E27	-45°C	55°C	-	T4	-
13	CFL-DE	G24q	-20°C	50°C	-	T4	-
18	CFL-DE	G24q	-20°C	50°C	-	T4	-
26	CFL-DE	G24q	-20°C	50°C	-	T4	-



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TYPE EXAMINATION CERTIFICATE N° BAS98ATEX3197X/1

VARIATION TWO

Extends the ambient range on the Mini and Midi Eclipse down to -45°C for the Glass Globe and Enclosed Reflector only. The range is tabulated in Chalmit document "Installation Operation and Maintenance Instructions ~ Eclipse Mini & Midi Wellglass" issue 00 rev 11 January 00.

Report Nos.

99(C)0444

SPECIAL CONDITIONS FOR SAFE USE

As in the original certificate and additionally:

Care must be taken to ensure that the wellglass is securely screwed into place.

Essential Health and Safety Requirements

As in the original certificate.

DRAWINGS

Number	Sheet	Issue	Date	Description
D1912	1	-	28.05.99	Parts list
	2	-	27.05.99	Section and cct. drawing
	3	-	27.04.99	Outside view
	4	-	27.05.99	Shades and fixings
D1812	1	1	29.06.99	Parts list & ratings
	2	1	29.06.99	MINI section
	3	1	29.06.99	MIDI section
	4	1	29.06.99	Brackets and fixings
	5	1	29.06.99	Mounting and optical

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- 1 **SUPPLEMENTARY TYPE EXAMINATION CERTIFICATE**
- 2 **Equipment Intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EC
- 3 Supplementary Type Examination Certificate Number : **BAS98ATEX3197X/2**
- 4 Equipment: **THE ECLIPSE RANGE OF WELLGLASS LUMINAIRES**
- 5 Manufacturer : **CHALMIT LIGHTING**
- 6 Address : **388 Hillington Road, Glasgow, G52 4BL**
- 7 This supplementary certificate extends Type Examination Certificate No. BAS98ATEX3197 to apply to equipment designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate

The Electrical Equipment Certification Service, Notified Body Number 0600, retains responsibility for its original documentation. Baseefa (2001) Ltd. is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate that it has issued.

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Baseefa (2001) Ltd. Customer Reference No. 0068

Project File No. 02/0107

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R S SINCLAIR

DIRECTOR

On behalf of

Baseefa (2001) Ltd.

Schedule

Description of the variation to the Equipment

Variation 2.1

To allow the Eclipse Range of Wellglass Luminaires to be used in dust environments. The apparatus can be classified as Category 3D or Category 3GD and include the marking:

Ⓔ II3D T (see schedule) T_{amb} (see schedule)

The following models are included for use in zone 22 dust:

Lamp type	Housing	Designation	Power (W)	amb. (°C)	Max. surface temp (°C)	Alternative Optics	amb. (°C)	Max. surface temp (°C)
HPS	Junior	SON	50	50	130			
HPS			70					
HPS			100	45	135			
Metal halide		MBI	70	50	130			
Mercury			MBF	80				
Mercury		125		40	140			
Incandescent		GLS	100	55	100			
Incandescent			150					
Compact Fluor.		CFL-DE	13	50	130			
Compact Fluor.			18					
Compact Fluor.			26					
HPS	Midi	SON	400	35	130	Symmetric Refractor	45	175
Metal halide		MBI			120			
HPS		SON	250	50				
Metal halide		MBI						
HPS	Mini	SON	150	50	135			
Metal halide		MBI						
HPS		SON	100					
Metal halide		MBI						
HPS		SON	70	45	130			
Metal halide		MBI						
HPS		SON	50					



Lamp type	Housing	Designation	Power (W)	amb. (°C)	Max. surface temp (°C)	Alternative Optics	amb. (°C)	Max. surface temp (°C)
Mercury	Midi	MBF	400	35	160	Symmetric refractor	40	180
			250	50	125			
	Mini		125	45	135			
			80					

Report No.

02(C)0107 dated 12 November 2002

Special Conditions for Safe Use

See original certificate and subsequent variations

Essential Health and Safety Requirements

See original certificate and subsequent variations

Drawings and Documents

Number	Sheet	Issue	Date	Description
D2115	1 & 2	0	3/7/02	Dust general arrangement



SUPPLEMENTARY TYPE EXAMINATION CERTIFICATE

**Equipment Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary Type Examination Certificate Number: **BAS98ATEX3197X/3**
- 4 Equipment: **THE ECLIPSE RANGE OF WELLGLASS LUMINAIRES**
- 5 Manufacturer: **CHALMIT LIGHTING**
- 6 Address: **388 Hillington Road, Glasgow, G52 4BL**
- 7 This supplementary certificate extends Type Examination Certificate No. BAS98ATEX3197X to apply to equipment designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

The original certificate was issued by The Electrical Equipment Certification Service, which retains responsibility for its original documentation. Baseefa (2001) Ltd. is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

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Baseefa Customer Reference No. 0068

Project File No. 06/0759

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Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

A handwritten signature in black ink, appearing to read "R S Sinclair".

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



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Certificate Number BAS98ATEX3197X/3

15 Description of the variation to the Equipment

Variation 3.1

To clarify details of the stanchion mount version of the Eclipse Junior Luminaire.

16 Report Number

06(C)0759

17 Special Conditions for Safe Use

1. The installer shall apply an anaerobic PTFE pipe thread sealant to the internal thread in the luminaire.
2. The installer must ensure that the base of the stanchion is sealed to maintain the IP rating of the enclosure.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
D1912	1-4	1	3/10/06	Eclipse Junior certification details