

Test Report

Report No : L11911 Amd2

Client: : Tenmat Limited
Ashburton Road West
Trafford Park
Manchester
M17 1RU

Description : Fire Hood

Manufacturer : Tenmat Limited

Type/Model : 410mm recessed luminaire rear cover FF135
355mm recessed luminaire rear cover FF130

Lamp Type : Refer to report

Condition on Receipt : Good


Test Specification : Thermal and flammability test with reference to
UL1598 and IEC 60598-1

Date Tested : 29/03/12


Conclusion : Please see results section of this report

Date Issued : 03/04/12

Signed: **N.BUSBY**

Position: Technical Manager 

Approved: **G.RICHARDS**

Position: Quality Manager 

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Introduction

The Lighting Association Laboratories were commissioned by Tenmat Limited to conduct thermals tests to the clients own specification with reference to UL 1598 clause 11, 13.4.8, 14.7 & 15.4 on 2 recessed luminaire fire hoods. The testing is to be undertaken using a readily available recessed luminaire supplied by the client. Each fire hood is to be tested using 2 lamps supplied by the client.

The amendment to this report is for the inclusion of additional thermal test results for an alternative lamp type and the removal of lamp types deemed not suitable for use within this product due to operation of the luminaire internal thermal protection during testing.

Product Details

The Fire Hoods

The 2 fire hoods supplied are manufactured from similar material but differ in size and shape.

The fire hoods are intended to be positioned over the rear of a recessed downlight to prevent the spread of fire through a building. The products submitted are intended for use in domestic and commercial premises.

No installation instructions have been supplied with the covers

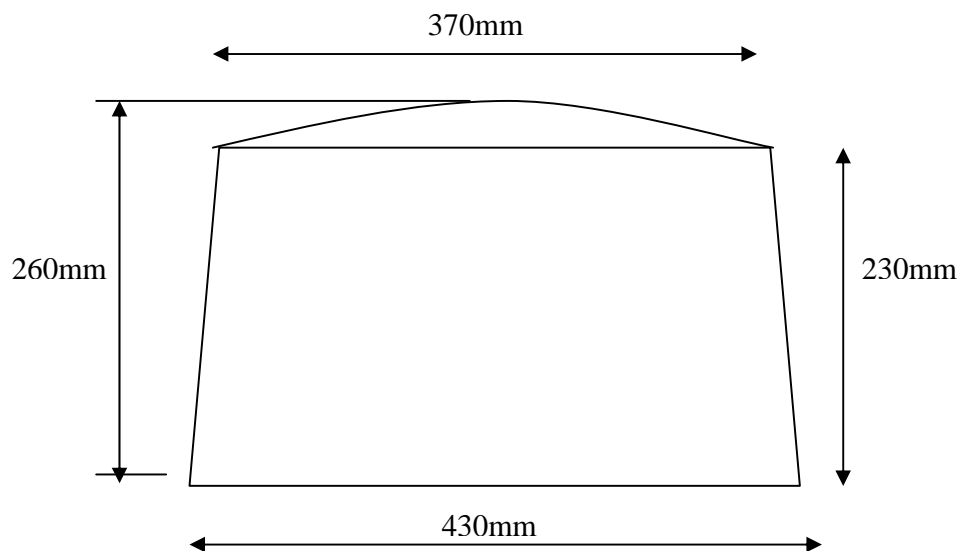
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Product reference FF135 is a circular cover with a domed top section.



The cover dimensions are as shown in the diagram below:



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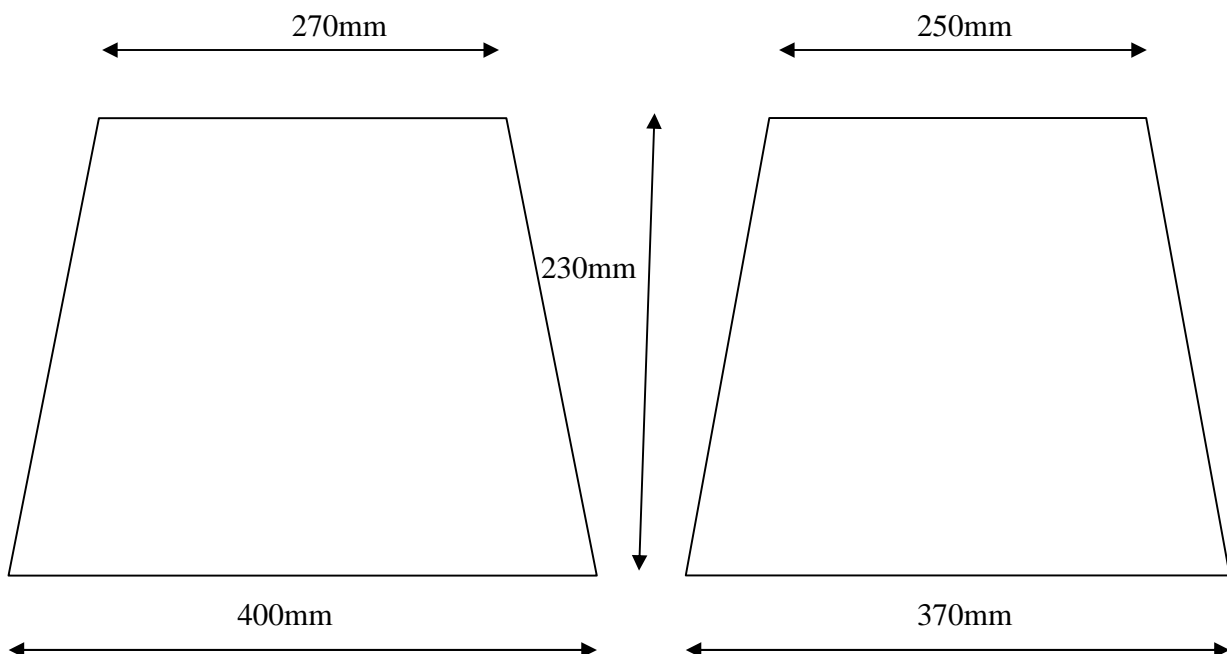
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Product reference FF130 is an oval cover with a flat top section.



The cover dimensions are as shown in the diagram below:



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The Luminaire

Luminaire supplied is a Halo H7T thermally protected recessed luminaire. Whilst no data has been supplied regarding the thermal protection it is believed to operate when the internal luminaire temperature is in excess of 90°C



Lamps supplied for testing

The client has supplied 2 lamps for evaluation of the product. The lamp types are:

Philips AmbientLED outdoor & security PAR38 18W 120V

Philips 65W indoor BR30 flood 120V

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Philips AmbientLED outdoor & security PAR38 18W
120V



Philips 65W indoor BR30 flood 120V



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Test specification

Thermal Test

The luminaire was installed to simulate mounting in a suspended ceiling. For the purposes of testing the mounting surface used to simulate the ceiling was 12 mm thick porous wood fibre board. The fire hood was placed over the top of the luminaire so as to position the luminaire centrally within the fire hood. The edges of the fire hood were sealed down onto the false ceiling

The fire hood was covered in 100mm thickness of insulation to simulate the insulation material used in a ceiling cavity

The testing was conducted in a draught proof enclosure as detailed in UL1598. The luminaire was fitted with each of the lamps in turn and operated at rated lamp rated voltage (120V).

The luminaire was allowed to reach thermal stability – i.e temperature change $< 1^{\circ}\text{C}$ per hour. Once thermal stability was reached the temperature was recorded.

Temperature limits in the results section below are referenced to table 12.2 of UL1598 or are specific limits specified by the client

Flammability Tests

Glow wire and Needle Flame tests were carried out on each of the fire hoods in accordance with section 13 of IEC 60598. See Illustrations

The glow wire test was conducted at a temperature of 650°C

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Thermal Test Results

Product reference FF135

Philips AmbientLED outdoor & security PAR38 18W 120V

Test Voltage 120V

Test Current 0.193A

Test wattage 17.4W

Position	Recorded result	Referenced to 25°C ambient	Temperature limit*
Ambient	23.8	25.0	--
Insulation 10mm from Lampholder	53.6	54.8	150°C
Internal wiring internal fitting	50.6	51.8	150°C
Top of luminaire	45.7	46.9	Reference Only
Internal wiring	37.7	38.9	150°C
On fitting between luminaire & box	35.7	36.9	Reference Only
On fitting opposite side luminaire	36.2	37.4	Reference Only
Inside top of hood	40.2	41.4	90°C
90mm from base Left side inside hood	36.9	38.1	90°C
180mm from base Left side inside hood	38.7	39.9	90°C
90mm from base Right side inside hood	38.2	39.4	90°C
180mm from base right side inside hood	39.0	40.2	90°C
Lamp Cap	64.3	65.5	Reference Only
Thermal cut-out	44.8	46	Reference Only

RESULT – PASS

All temperatures recorded were within the specified limits

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Product reference FF135

Philips 65W indoor BR30 flood 120V

Test Voltage 120V

Test Current 0.561A

Test wattage 67.3W

Position	Recorded result	Referenced to 25°C ambient	Temperature limit*
Ambient	25.1	25	--
Insulation 10mm from Lampholder	85.6	85.5	150°C
Internal wiring internal fitting	74.6	74.5	150°C
Top of luminaire	66.2	66.1	Reference Only
Internal wiring	51.7	51.6	150°C
On fitting between luminaire & box	42.6	42.5	Reference Only
On fitting opposite side luminaire	47.9	47.8	Reference Only
Inside top of hood	56.7	56.6	90°C
90mm from base Left side inside hood	50.6	50.5	90°C
180mm from base Left side inside hood	53.6	53.5	90°C
90mm from base Right side inside hood	52.8	52.7	90°C
180mm from base right side inside hood	54.1	54.0	90°C
Lamp Cap	117.7	117.6	Reference Only
Thermal cut-out	65.5	65.4	Reference Only

RESULT – PASS

All temperatures recorded were within the specified limits

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Product reference FF130

Philips AmbientLED outdoor & security PAR38 18W 120V

Test Voltage 120V

Test Current 0.17.3A

Test wattage 17.3W

Position	Recorded result	Referenced to 25°C ambient	Temperature limit*
Ambient	24.6	25.0	--
Insulation 10mm from Lampholder	54.5	54.9	150°C
Internal wiring internal fitting	51.6	52.0	150°C
Top of luminaire	47	47.4	Reference Only
Internal wiring	39.7	40.1	150°C
On fitting between luminaire & box	36.9	37.3	Reference Only
On fitting opposite side luminaire	37.2	37.6	Reference Only
Inside top of hood	42.1	42.5	90°C
90mm from base Left side inside hood	39.1	39.5	90°C
180mm from base Left side inside hood	41.0	41.4	90°C
90mm from base Right side inside hood	41.3	41.7	90°C
180mm from base right side inside hood	41.6	42	90°C
Lamp Cap	64.8	65.2	Reference Only
Thermal cut-out	46	46.4	Reference Only

RESULT – PASS

All temperatures recorded were within the specified limits

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Product reference FF135

Philips 65W indoor BR30 flood 120V

Test Voltage 120V

Test Current 0.559A

Test wattage 67.1W

Position	Recorded result	Referenced to 25°C ambient	Temperature limit*
Ambient	25.2	25.0	--
Insulation 10mm from Lampholder	86.8	86.6	150°C
Internal wiring internal fitting	76.1	75.9	150°C
Top of luminaire	69.1	68.9	Reference Only
Internal wiring	54.6	54.4	150°C
On fitting between luminaire & box	49.1	48.9	Reference Only
On fitting opposite side luminaire	49.2	49.0	Reference Only
Inside top of hood	60.2	60.0	90°C
90mm from base Left side inside hood	54.0	53.8	90°C
180mm from base Left side inside hood	58.6	58.4	90°C
90mm from base Right side inside hood	57.9	57.7	90°C
180mm from base right side inside hood	59.3	59.1	90°C
Lamp Cap	115.7	115.5	Reference only
Thermal cut-out	67.5	67.3	Reference Only

RESULT – PASS

All temperatures recorded were within the specified limits

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Flammability Test Results

Product reference FF135

650°C Glow Wire Test **Pass**

Needle Flame Test **Pass**

Product reference FF130

650°C Glow Wire Test **Pass**

Needle Flame Test **Pass**

Illustrations

Glow Wire



Needle flame



End