



**Compliance Testing Report for  
Australian/New Zealand Standards  
AS/NZS 60598.1:2003 and  
AS/NZS 60598.2.2:2001  
Luminaires  
Part 2.2: Particular Requirements — Recessed Luminaires  
(Limited Testing Only)**

Client:	Efficiency Matrix
Address:	14 Ondine Dve, Wheelers Hill, Victoria 3150
Report Number:	0302EFFBDM_59822 (Replacement report for 0225EFFBDM_59822)
Date of Testing:	24-02-2010
File Number:	EFF100209
Equipment Name:	Basic Downlight Mitt
Equipment Model Number:	Dowmit03
Equipment Description:	Basic Downlight Mitt
Result:	Refer to summary page
Tested by:	Wing Ming Yeung Electrical Safety Test Engineer 
Approved by:	Kenneth Fu Electrical Safety Manager 
Date of issue	02-03-2010
<p>Results appearing herein relate only to the sample(s) tested. This report may not be reproduced in any form unless done so in full. Original copies of reports are printed on Austest Laboratories official Test Report letterhead, printed in reflex blue. This report is issued errors and omissions exempt and is subject to withdrawal at Austest Laboratories discretion.</p>	

**SUMMARY OF COMPLIANCE WITH AUSTRALIAN AND NEW ZEALAND STANDARDS AS/NZS 60598.1: 2003 AND AS/NZS60598.2.2: 2001**

The EUT (Equipment Under Test) known as a Basic Downlight Mitt, model number Dowmit03, was supplied for AS/NZS 60598.1: 2003 and AS/NZS60598.2.2: 2001 testing by Efficiency Matrix of 14 Ondine Dve, Wheelers Hill, Victoria 3150.

At client’s request, the EUT was tested to clause 12.4 of AS/NZS 60598.1: 2003 and clause 2.12 of AS/NZS 60598.2.2: 2001 for surrounding parts only (timber and fibre glass batt R5)

This replacement report includes test results of the EUT when tested in conjunction with timber as the surrounding part, from within Austest Laboratories test report no. 0130EFFBDM\_59822.

When the EUT was tested in conjunction with timber as the surrounding part, the EUT COMPLIES with the tested clause 12.4 of AS/NZS 60598.1:2003 and clause 2.12 of AS/NZS60598.2.2:2001.

Hence there is no restriction for installation of the Basic Downlight Mitt around timber as per Australian Wiring Rules, AS/NZS 3000:2007 clause 4.5.2.3.

When the EUT was tested with fibre glass batt R5 as per the set-up in appendix 2, the EUT COMPLIES with the tested clause 12.4 of AS/NZS 60598.1:2003 and clause 2.12 of AS/NZS60598.2.2:2001.

Hence there is no restriction for installation of the Basic Downlight Mitt around fibre glass batt R5 material as per the Australian Wiring Rules, AS/NZS 3000:2007 clause 4.5.2.3.

**Method**

Testing was performed in accordance with the standard: 60598.1man

**Possible Test Case Verdicts:**

- test case does not apply to the test object .....N(.A)
- test object does meet the requirements .....P(ass)
- test object does not meet the requirements .....F(ail)
- test was not performed .....NT(not tested)
- noted .....ND

AS/NZS60598.2.2: 2001			
Clause	Requirement - Test	Result - Remark	Verdict

2.12 (12)	ENDURANCE TEST AND THERMAL TEST		
2.12 (12.4)	Thermal test (normal operation)	Refer to appended tables	ND

12.4	TABLE: temperature rise measurements for <b>normal operation</b>		ND
	test voltage (V) .....	254.4	—
Temperature (°C) of part		T (°C)	Max. T (°C)
Surrounding parts of heat shield construct of timber <sup>A)</sup>			
Timber		36	90
Ambient		23.5	Reference
Surrounding parts of heat shield construct of fibre glass batt R5 <sup>B)</sup>			
Fibre glass batt R5		53.2	90
Inside the Mitt		126	Reference
Outside the Mitt		48	Reference
Ambient		27	Reference
<p><sup>A)</sup> 100mmX100mm timber side pieces were fitted as close as possible against four sides of the insulation Mitt. The thermocouples were placed on the timbers near the insulation Mitt where temperature expected to be highest.</p> <p><sup>B)</sup> The thermal insulation (fibre glass batt R5) is only in direct contact with the base of circumference of the insulation Mitt. The thermocouple was placed on the thermal insulation near the insulation Mitt where temperature expected to be highest.</p>			

**\*\*\* END OF REPORT BODY \*\*\***

**Appendix 1 – Critical Component List**

**Appendix 2 – Photographic Record of Sample**

**Appendix 3 – Wiring Rules Details, informative only**

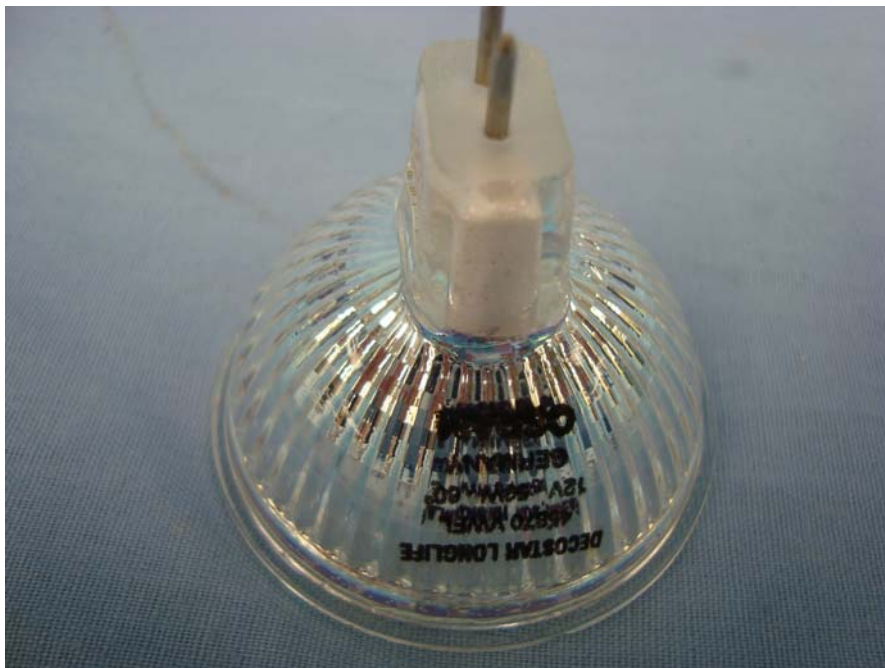
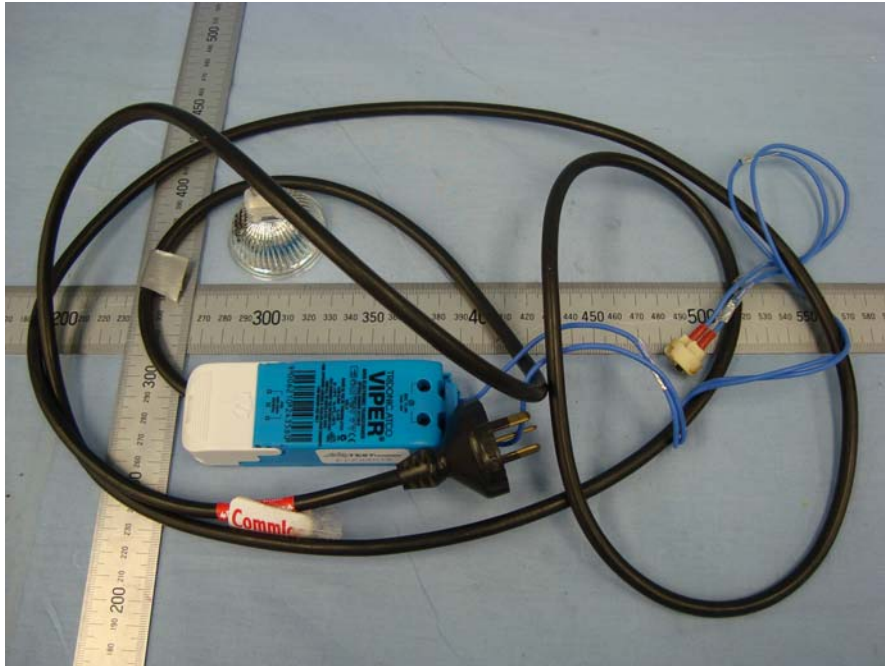
**Appendix 1 – Critical Component List**

Appendix 1		TABLE: Components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity	
Transformer	TRIDONIC.ATCO	VIPER	Pri: 230-240V~ 50/60Hz Sec: 11.6V	-	V99	
Halogen Lamp	OSRAM	45870	12V 50W	-	-	
Ceiling Batt R5.0	Insulco	201504	Thickness 215mm	-	-	
<sup>1)</sup> An asterisk indicates a mark which assures the agreed level of surveillance						

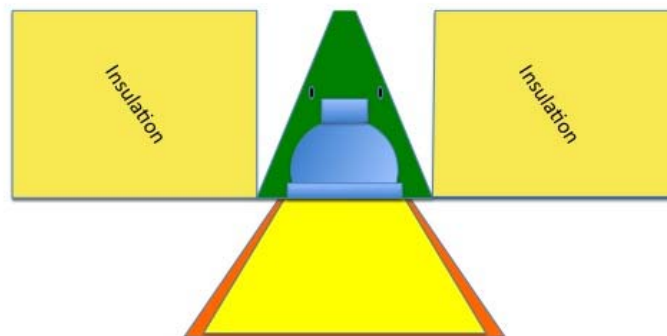
**Appendix 2 – Photographic Record of Sample**



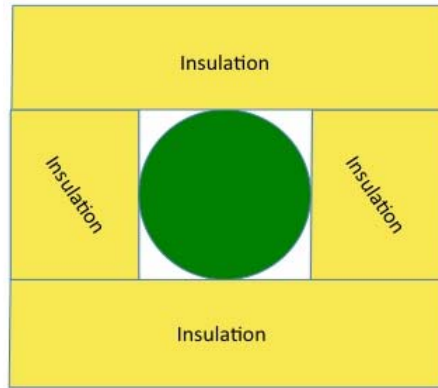
**Appendix 2 – Photographic Record of Sample**



**Appendix 2 – Photographic Record of Sample**



**Appendix 2 – Photographic Record of Sample**



### Appendix 3 – Wiring Rules Details, informative only

23 July 2007



#### MESSAGE FOR THE ELECTRICITY INDUSTRY ON THE INSTALLATION OF DOWNLIGHTS

ESV advises registered electrical contractors and licensed electricians to be aware of the sections in the proposed new Wiring Rules covering the installation of downlights. They should become familiar with them and follow the new standards right away.

Compared to the current Wiring Rules, AS/NZS 3000 covers the issue of downlight installation much more explicitly – and includes a diagram and a table showing the default minimum clearances for recessed luminaires or downlights. They are reproduced here, together with the draft standard.

AS/NZS 3000 will be in force from early 2008 and will apply to all new buildings, retrofits and new installations of recessed lamps.

Apart from working to the new standards straight away, registered electrical contractors and licensed electricians should remain vigilant and provide appropriate advice if they observe wrongly installed and dangerous downlights when called to work at customers' premises.

The new standard - 4.5.2.3 Recessed luminaires – says:

*Recessed luminaires and their auxiliary equipment shall be installed in a manner designed to minimise temperature rise and prevent the risk of fire.*

*The temperature rise at the rear of a recessed luminaire shall be limited to prevent damage to adjacent materials.*

*This requirement shall be satisfied by one of the following methods:*

- (a) The use of a luminaire specifically designed and certified by the manufacturer to permit—
  - (i) contact with combustible materials; or
  - (ii) enclosure or covering by thermal insulation material, as appropriate to the location of the luminaire.
- (b) Installation of the luminaire within a suitable fire resistant enclosure.
- (c) Provision of required clearances from combustible and thermal insulating material as specified by the manufacturer of the luminaire.
- (d) Provision of the default clearances from combustible and thermal insulating material as specified in Figure 4.7.

*Where manufacturer's installation instructions that specify required clearances are not available, the luminaire shall be installed in accordance with (b) or (d).*

*NOTE: In the case of a suitably designed luminaire, the installation instructions may specify that no clearance is required.*

*Recessed luminaires and their auxiliary equipment shall be installed in such a manner that necessary cooling air movement through or around the luminaire is not impaired by thermal insulation or other material.*

### Appendix 3 – Wiring Rules Details, informative only

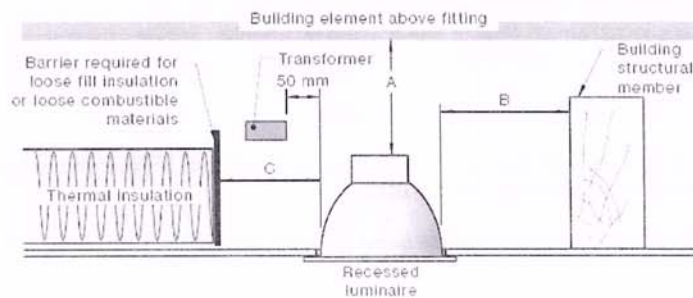


Where thermal insulation is of a type that is not fixed in position (e.g. loose fill), a barrier or guard constructed of fire resistant material shall be provided and secured in position to maintain the necessary clearance (See Figure 4.7).

Where thermal insulation may reasonably be expected to be installed in the space containing a recessed luminaire, the luminaire shall be installed in such a manner as to provide for the subsequent installation of thermal insulation.

Recessed luminaires shall be installed in accordance with (a) or (b), or provided with equivalent protective measures, where there is a likelihood of extraneous combustible material (e.g. leaves or vermin debris etc.) collecting on or around the luminaire."

The diagram and table from the draft Wiring Rules:



Dimension	Incandescent lamp	Halogen lamp
A - Clearance above luminaire	50 mm	200mm
B - Side clearance to structural member	100 mm	200 mm
C - Clearance to thermal insulation	50 mm	200 mm
D - Clearance to supply transformer	50 mm	

FIGURE 4.7 DEFAULT MINIMUM CLEARANCES FOR RECESSED LUMINAIRES