LightLab
INTERNATIONAL

NATA Accreditation 2258

Test Report No.
LL13237

AS2293.3 2005 Pictogram. Luminance and Colour Test Report

Cat No. : 2625
"RAZOR" 24m Dali LED double sided Exit Sign

Prepared for: Maco Lighting Pty Ltd

ORIGINAL REPORT

LightLab International
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Photometric Test Report Number LL13237

Client	Maco Lighting Pty Ltd
Contact	Joshua Newell
Address	Australian Microelectronic Centre 1 Clunies Ross Crt Eight Mile Plains, QLD, 4113
Manufacturer	Maco Lighting Pty Ltd
Catalogue No. Tested	2625
Luminaire Tested	"RAZOR" 24m DALI LED double sided Exit with "Right from here" pictogram.
Type of Exit Sign tested:	Standard internally illuminated exit sign in accordance with AS2293.3-2005 Clause 1.4.2.1 Standard
Nature of tests	To determine luminance, at photometric stability, of the Pictorial element(s) of a standard internally illuminated exit sign as specified in AS2293.3-2005 clause 3.4, (excluding Clause 2.3), and colour in clause 3.3.6. The sign was visually inspected to check the format of the element(s) as specified in Figure 3.1
Procedure	The luminaire was operated under the conditions specified in AS2293.3-2005 Clause C2.4. Measurements were made using a Luminance / Colorimeter. Power to the luminaire was from a power source set to the determined test voltage.
Determined Test Voltage	3.590 Vdc Test voltage and current as determined by LightLab and stated in Test Report number LL0930805T dated 18th November 2009
Compliance Summary	**Complies** with the requirements specified on page 4. **Complies** with the requirements for a **24**m viewing distance Compliance for colour not stated.

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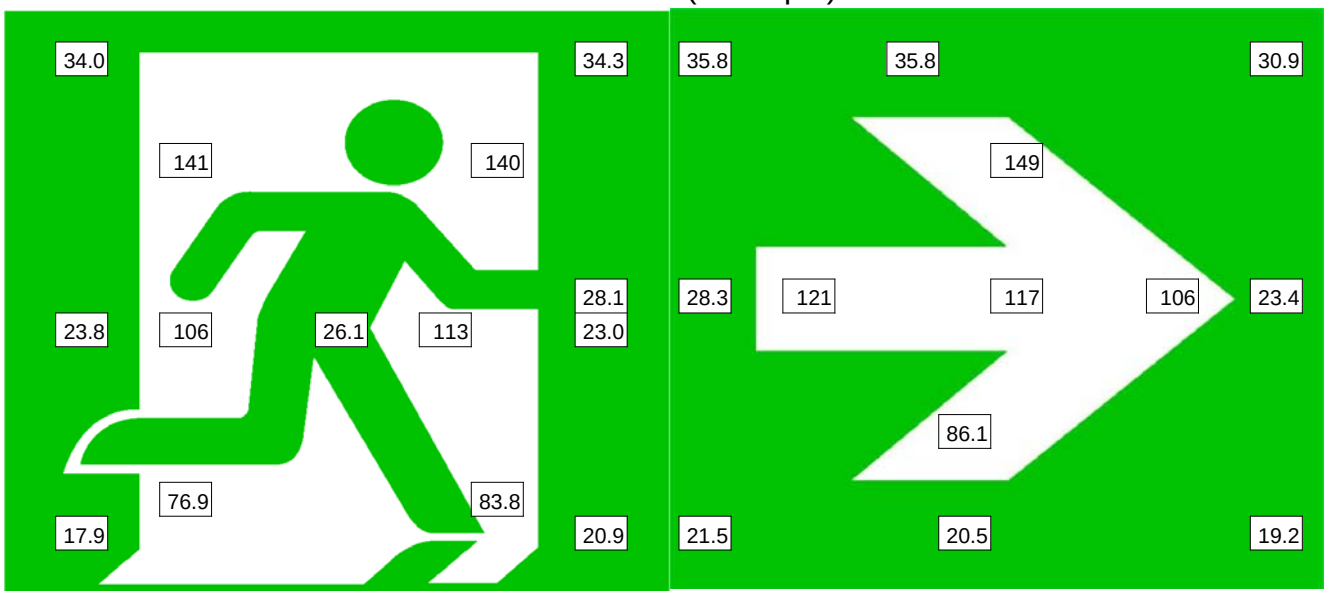
Lamp	Maco Lighting Pty Ltd, Cat # 2951,18 White LEDs
Ancillary Equipment	Inverter: Maco Lighting Pty Ltd, RAZOR LED V6 02/2009 Battery: BST Power, 3x H-AA1200BT, EKTOR p/n 1200-MAH3.6V Product details: refer Thermal report LL0930805T
Test Procedure	The test was carried out in accordance with the requirements of AS2293.3:2005 "Emergency escape lighting and exit signs for buildings Part 3: Emergency escape luminaires and exit signs"

Summary of Measurements

Luminance (cd / sq.m)



Maximum Luminance in White	148.7	cd/sq.m		
Maximum Luminance in Green	35.8	cd/sq.m		
Minimum Luminance in White	76.9	cd/sq.m		
Minimum Luminance in Green	17.9	cd/sq.m		
White Measured CIE (x,y) 1931 co-ords	0.336	x	0.370	y
Green Measured CIE (x,y) 1931 co-ords	0.298	x	0.557	y
Test Temperature	24.5	degrees C		

Tabulated measurements of single element performed in the C_0 direction

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Tabulated worst case results for the pictorial element(s) present

(Compliance criteria for standard pictogram elements)

Clause	Requirement	Requirement	Measured
3.4.2 (a)	Minimum luminance of the green area in the pictorial element.	Not less than 8 cd/sq.m	17.9 cd/sq.m
	Minimum luminance ratio LC60 : LC0 expressed as a percentage.	Not less than 10%	82%
3.4.2 (b)	Minimum luminance ratio of adjacent white area to green area in the pictorial element.	Not less than 4:1	4.0 : 1
3.4.2 (c)	Maximum luminance ratio of any two white areas in the pictorial element.	Not more than 5:1	1.9 : 1
	Maximum luminance ratio of any two green areas in the pictorial element.	Not more than 5:1	2.0 : 1
3.4.2(d)	Minimum luminance of the additional green background.	Not less than 8 cd/sq.m	n/a cd/sq.m

Uncertainties To the 95% confidence interval and with K = 2 the uncertainties for this test do not exceed :

Temperature	+/- 1 degrees Celsius
Applied Voltage	+/- 0.1 V
Luminance	+/- 6.0% of indicated value
Tri-chromatic coordinates	+/- 0.03 units of chromaticity

LightLab has no control over the selection of samples to be tested. All testing is performed on the understanding that the significance of this report is limited to the extent that the samples are representative of production units. Lightlab has not taken into account uncertainties of measurement in determining compliance.

Authorised Signatory

M. Price

Date of Test 24th November 2009

Date of Report 25th November 2009

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