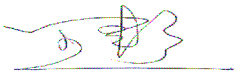
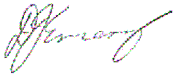
Vipac Engineers & Scientists Limited
2 Sirius Road, Lane Cove, NSW, AUSTRALIA, 2066
A.B.N. 33 005 453 627

t. (+61 2) 9422 4222 **f.** (+61 2) 9420 5911
e. sydneylabs@vipac.com.au **w.** www.vipac.com.au
ISO9001 Certified Quality Management System

Electrical Load Test Certificate – Testing of Traffic Signal Lanterns

CERTIFICATE NO: 20E-12-0173-COC-266969-1	**Purchase Order:** 4510316048
PREPARED FOR:	**PREPARED BY:**
Roads & Maritime Services	Sydney Laboratories
Level 2, Pod C	Vipac Engineers & Scientists Ltd.
99 Phillip Street, PARRAMATTA, NSW, 2124	2 Sirius Road
Contact: Trevor Johnson	LANE COVE, NSW, AUSTRALIA, 2066
Phone: +61 2 8837 0273	**Phone:** +61 2 9422 4222
Fax: +61 2 8837 0020 **Email:** Trevor.JOHNSON@rms.nsw.gov.au	**Fax:** +61 2 9420 5911 **Email:** sydneylabs@vipac.com.au

AUTHOR: John Wang Date: 25 Oct 2012		Electrical Safety Team Leader
REVIEWED BY: James Emery Date: 29 Oct 2012		Electrical Safety Electrician
ISSUED BY: Leigh Grant Date: 29 Oct 2012		Test Facility Manager & QA Representative

REVISION HISTORY:

Revision No.	**Date Issued:**	**Reason/Comments:**
00	28 Sep 2012	Initial Issue
01	29 Oct 2012	Revised version with additional test result

DISTRIBUTION:

Copy No._____		**Location**
1		Project
2	Uncontrolled Copy	Client (PDF Format)

KEYWORDS: Traffic, lantern

TEST ITEM DESCRIPTION

Name	Traffic Signal Lanterns with LED or halogen lighting
Item	**Model Reference**
LED 200mm **VEHICLE** aspect	RA453 BL: 12645 200 3ASP VEH RYG ALUM
LED 200mm **BUS** aspect	Not indicated
LED 200mm **ARROW** aspect	Not indicated
LED 200mm **PEDISTRIAN** aspect	RL552 BL: 11013 200 2ASP PED RG ALU
LED 200mm **BICYCLE** aspect	RA452C BL: 12340 200 2ASP CYC RG ALUM
LED 300mm **VEHICLE** aspect	RA983 BL: 10014 300 3ASP VEH RYG ALU
LED 300mm **ARROW** aspect	RA983A 300mm 3ASP BCA05174
Halogen 200mm **VEHICLE** and **ARROW** aspect	Not indicated
Halogen 300mm **VEHICLE** aspect	Not indicated

TEST REQUIREMENT

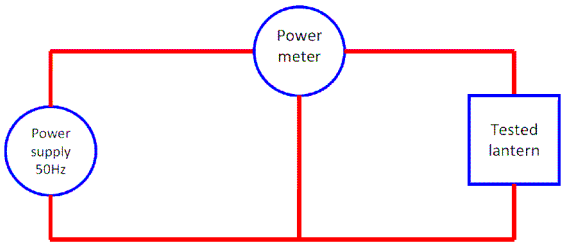
Parameter

Measuring power consumption of each traffic lantern device incorporated with LED or quartz halogen lamp

- Power consumption of devices with LED lighting was measured with supply voltage at 192V and 240V ac 50Hz.
- Power consumption of devices with quartz halogen lamp was measured with supply voltage at 216V and 240V ac 50Hz.

The power consumption was measured around 10 minutes after the tested lantern connected to power source.

Configuration



Test environment: indoor, 23±2°C

TEST EQUIPMENT

Equipment	Vipac asset code	Brand and model	Serial number	Calibration due date
Digital power meter	15773	Yokogawa WT210	91M329675	25 September 2013
Voltage stabiliser	30188	Power Electronics EMA-50	87241-1	-

RESULTS			
Table 1- Traffic Lanterns with LED			
No	**Tested device**	**Power consumption measured at 192.0±0.2V ac 50Hz (W)**	**Power consumption measured at 240.0±0.2V ac 50Hz (W)**
1	LED 200mm **VEHICLE** aspect, RED	4.115	6.207
2	LED 200mm **VEHICLE** aspect, YELLOW	8.721	13.629
3	LED 200mm **VEHICLE** aspect, GREEN	4.269	6.510
4	LED 200mm **BUS** aspect, RED	3.094	6.143
5	LED 200mm **BUS** aspect, YELLOW	3.811	4.796
6	LED 200mm **BUS** aspect, GREEN	3.744	5.059
7	LED 200mm **ARROW** aspect, RED	3.976	5.828
8	LED 200mm **ARROW** aspect, YELLOW	4.108	6.122
9	LED 200mm ARROW aspect, GREEN	3.744	5.435
10	LED 200mm **PEDISTRIAN** aspect, RED	3.922	5.789
11	LED 200mm **PEDISTRIAN** aspect, GREEN	3.651	5.542
12	LED 200mm **BICYCLE** aspect, RED	5.028	7.341
13	LED 200mm **BICYCLE** aspect, GREEN	5.242	7.640
14	LED 300mm **VEHICLE** aspect, RED	6.828	8.624
15	LED 300mm **VEHICLE** aspect, YELLOW	22.897	30.978
16	LED **VEHICLE** aspect, GREEN	8.803	10.119
17	LED 300mm **ARROW** aspect, RED	3.927	5.793
18	LED 300mm **ARROW** aspect, YELLOW	4.046	6.114
19	LED 300mm **ARROW** aspect, GREEN (see note 1)	4.501	6.813

Table 2- Traffic Lanterns with Quartz Halogen Lamp			
No	**Tested device**	**Power consumption measured at 216.0±0.2V ac 50Hz (W)**	**Power consumption measured at 240.0±0.2V ac 50Hz (W)**
1	Halogen 200mm aspects (see note 2)	33.504	39.462
2	Halogen 300mm aspects (see note 3)	47.88	56.43

Note:

1. Measured a replacement LED module provided by the client, testing performed on 25 Oct 2012.
2. Mean value of results measured on all 200mm aspects with 35W Quartz Halogen Lamp.
3. Mean value of results measured on all 300mm aspects with 50W Quartz Halogen Lamp.