Light Emission Distribution Laboratory
Division of Photometry & Electrical Testing Pty. Ltd ABN 11 166 255 134
Unit 23, 9 Hoyle Avenue, Castle Hill NSW 2154 Australia
P: +61 2 86264639 E: sales@ledlab.com.au

Accredited for compliance with ISO/IEC 17025 – For Testing. Accreditation No. 19541

Test Report: 216283

Testing of Road Light Power for AEMO's NEM Load Table and other tests on optical systems

for RoadLED 70W 4000K Category V Luminaire

Project No. PTR 4918

Type of product: Category V Luminaire

Prepared for: Gerard Lighting Pty Ltd

Model number: PL99A05L70, PL99A15L70

Description: RoadLED 70W 4000K Category V luminaire. Horizontal spigot street light with two part cast Aluminium housing. The top part of the housing contains 2x LED modules with 38xLH351B 4K COB with heatsink fins above. The lower part of the housing is hinged and latched and contains the visor. The spigot end contains 1x Inventronics LED driver EUD-096S070DTA programmed at 588mA.

Test objective and Method

Determination of the luminaire supply operating parameters Voltage, Current, Power and Power Factor when tested at nominal test voltages of 250V. By the method of LEDLab Electrical Parameter Determination and AEMO Unmetered_Load_Guideline_v1_0.

Test configuration

The ten luminaires were operated at 25°C ambient temperature in their normal operational orientation at 250VAC until the monitored luminaire stabilised as defined in IES LM79. Twenty readings were taken ten seconds apart and the average found. The average value is multiplied by the Calibration Correction given in the latest NATA endorsed calibration report then has Voltmeter losses subtracted based on Watt-meter input impedance and test voltage. The other nine luminaires having operated for the same or more time are switched one by one to Watt-meter for their twenty readings.

Client:

Gerard Lighting Pty Ltd contact Vishal Galchar, 96 Gow St, Padstow, NSW 2211

Tested by: Alain Yetendje On 23/11/2016 Authorised Signatory Date: 24/11/2016

Alain Yetendje

Conclusions

Test results are given in following Tables.
The Average Load (Watts) is 70.41W at 0.931 Power Factor.

Results

Time till stabilisation: 8h

Electrical Measurements

Sample 1	Time	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Average		249.900	303.2279	70.45	0.930
Min		249.900	303.1000	70.43	
Max		249.900	303.3000	70.46	
Calibration correction (see Clark Hess calibration report)		1.0013	1.0025	1.0013	
Instrument impedance correction (CH)			0.00023	0.053	
Final value		250.21	303.9876	70.49	

Sample 2	Time	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Average		249.980	300.1433	70.20	0.936
Min		249.900	299.7000	70.16	
Max		250.000	300.7000	70.24	
Calibration correction (see Clark Hess calibration report)		1.0013	1.0025	1.0013	
Instrument impedance correction (CH)			0.00023	0.053	
Final value		250.29	300.8953	70.24	

Sample 3	Time	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Average		249.977	301.0677	70.30	0.934
Min		249.900	300.9000	70.29	
Max		250.000	301.2000	70.31	
Calibration correction (see Clark Hess calibration report)		1.0013	1.0025	1.0013	
Instrument impedance correction (CH)			0.00023	0.053	
Final value		250.29	301.8221	70.34	

Sample 4	Time	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Average		249.983	301.3674	69.99	0.929
Min		249.900	301.3000	69.98	
Max		250.000	301.4000	70.00	
Calibration correction (see Clark Hess calibration report)		1.0013	1.0025	1.0013	
Instrument impedance correction (CH)			0.00023	0.053	
Final value		250.30	302.1225	70.03	

Sample 5	Time	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Average		249.983	301.3696	69.99	0.929
Min		249.900	301.3000	69.98	
Max		250.000	301.5000	70.00	
Calibration correction (see Clark Hess calibration report)		1.0013	1.0025	1.0013	
Instrument impedance correction (CH)			0.00023	0.053	
Final value		250.30	302.1246	70.03	

Sample 6	Time	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Average		249.962	304.8067	70.90	0.931
Min		249.900	304.7000	70.89	
Max		250.000	304.9000	70.91	
Calibration correction (see Clark Hess calibration report)		1.0013	1.0025	1.0013	
Instrument impedance correction (CH)			0.00023	0.053	
Final value		250.28	305.5704	70.94	

Sample 7	Time	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Average		249.967	301.5762	70.08	0.930
Min		249.900	301.5000	70.07	
Max		250.000	301.6000	70.09	
Calibration correction (see Clark Hess calibration report)		1.0013	1.0025	1.0013	
Instrument impedance correction (CH)			0.00023	0.053	
Final value		250.28	302.3318	70.12	

Sample 8	Time	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Average		249.962	306.6643	71.32	0.930
Min		249.900	306.6000	71.31	
Max		250.000	306.7000	71.34	
Calibration correction (see Clark Hess calibration report)		1.0013	1.0025	1.0013	
Instrument impedance correction (CH)			0.00023	0.053	
Final value		250.27	307.4326	71.37	

Sample 9	Time	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Average		249.984	301.3680	69.99	0.929
Min		249.900	301.2000	69.98	
Max		250.100	301.4000	70.00	
Calibration correction (see Clark Hess calibration report)		1.0013	1.0025	1.0013	
Instrument impedance correction (CH)			0.00023	0.053	
Final value		250.30	302.1231	70.03	

Sample 10	Time	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Average		250.000	302.7091	70.48	0.931
Min		250.000	302.7000	70.47	
Max		250.000	302.8000	70.49	
Calibration correction (see Clark Hess calibration report)		1.0013	1.0025	1.0013	
Instrument impedance correction (CH)			0.00023	0.053	
Final value		250.31	303.4675	70.52	

Electrical operating parameters of RoadLED 70W 4000K

Sample No.	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Sample 1	250.21	303.988	70.488	0.930
Sample 2	250.29	300.895	70.238	0.936
Sample 3	250.29	301.822	70.338	0.934
Sample 4	250.30	302.122	70.031	0.929
Sample 5	250.30	302.125	70.031	0.929
Sample 6	250.28	305.570	70.943	0.931
Sample 7	250.28	302.332	70.117	0.930
Sample 8	250.27	307.433	71.365	0.930
Sample 9	250.30	302.123	70.032	0.929
Sample 10	250.31	303.468	70.522	0.931
Average	**250.28**	**303.188**	**70.410**	**0.931**

Illustration 1: Electrical operating parameters of RoadLED 70W 4000K

Uncertainties

At a Confidence Level of 95% with a Coverage Factor of 2

Supply Voltage: ± 0.07%
Supply Current: ± 0.14%
Supply Power: ± 0.19%
Power Factor: ± 0.05
Ambient Temperature: ± 1°C

Test Equipment Used

Power meter: Clark Hess Model 2335 SN 52164
Power meter integration time (s): 5
Calibration Report: Ausgrid 222080
Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs

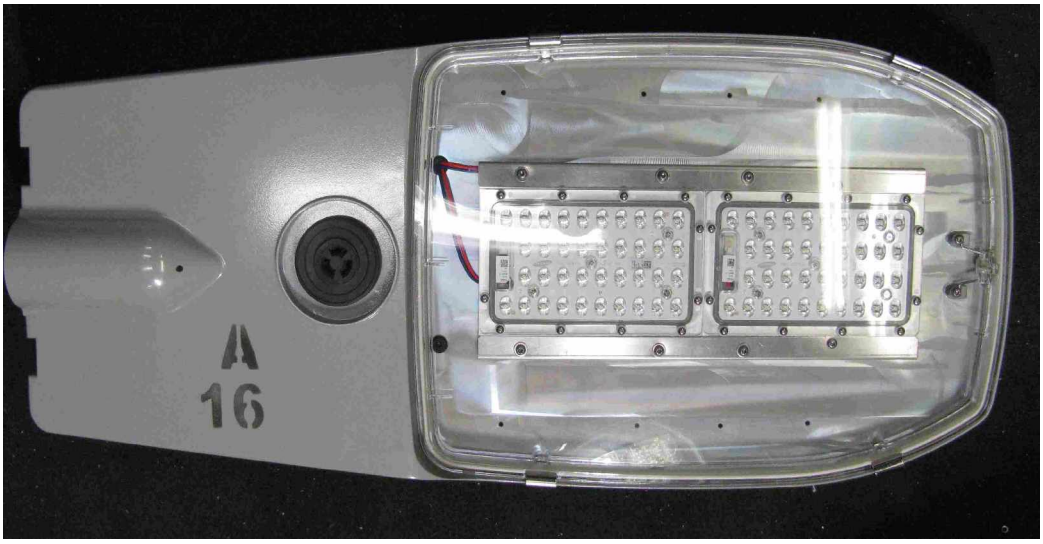

Illustration 2: Optical opening

Illustration 3: LED driver

Illustration 4: Setup