



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
Accreditation No. 19541

Test Report: 216063

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

for Sylvania StreetLED 14W Category P LED Luminaire

Project No. PTR 4524

Type of product: Category P Street Light

Prepared for: Gerard Lighting Pty Ltd

Description: Sylvania StreetLED 14W 4000K Category P luminaire. Horizontal spigot street light with two part cast Aluminium housing. The top part of the housing contains 1x Samsung LED module SL-I7T1F33LBWW and the lower part of the housing is hinged and latched and contains the visor. The spigot end contains 1x Samsung LED driver PSDV180101U set at 350mA.

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 25/05/2016 Authorised Signatory

Date: 25/05/2016

Alain Yetendje

Conclusions

Test results are given in following tables.

The Average Load (Watts) is 16.953 Watts at 0.975 Power Factor.

Results

Time till stabilisation: 12h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.2	0.0676	16.49	0.975
Min	250.0	0.0675	16.49	0.975
Max	250.5	0.0676	16.49	0.975
Calibration correction	0.9998	0.9998	0.9999	1
Instrument impedance correction (PPA)		0.00024	0.058	
Final value	250	0.0673	16.43	0.98

Sample 2	Time	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.2	0.0708	17.28	0.975
Min		250.0	0.0707	17.27	0.975
Max		250.6	0.0708	17.28	0.975
Calibration correction		0.9998	0.9998	0.9999	1
Instrument impedance correction (PPA)			0.00024	0.058	
Final value		250.11	0.0705	17.22	0.98

Sample 3	Time	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		249.927	0.070	17.07	0.976
Min		249.790	0.070	17.07	0.98
Max		250.040	0.070	17.08	0.98
Calibration correction		0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (PPA)			0.00024	0.0576	
Final value		249.88	0.0698	17.01	0.976

Sample 4	Time	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.2	0.0697	16.99	0.975
Min		249.9	0.0696	16.99	0.975
Max		250.5	0.0698	17.00	0.975
Calibration correction		0.9998	0.9998	0.9999	1
Instrument impedance correction (PPA)			0.00024	0.058	
Final value		250.14	0.0694	16.93	0.97

Sample 5	Time	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.2	0.0696	16.98	0.975
Min		249.9	0.0695	16.97	0.975
Max		250.5	0.0696	16.98	0.975
Calibration correction		0.9998	0.9998	0.9999	1
Instrument impedance correction (PPA)			0.00024	0.058	
Final value		250.11	0.0693	16.92	0.98

Sample 6	Time	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.2	0.0700	17.07	0.975
Min		249.8	0.0698	17.06	0.975
Max		250.7	0.0701	17.07	0.975
Calibration correction		0.9998	0.9998	0.9999	1
Instrument impedance correction (PPA)			0.00024	0.058	
Final value		250.14	0.0697	17.01	0.97

Sample 7	Time	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		249.9	0.0698	16.99	0.975
Min		249.5	0.0697	16.99	0.975
Max		250.1	0.0699	17.00	0.975
Calibration correction		0.9998	0.9998	0.9999	1
Instrument impedance correction (PPA)			0.00024	0.058	
Final value		249.82	0.0695	16.93	0.98

Sample 8	Time	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		249.8	0.0699	17.03	0.976
Min		249.6	0.0698	17.02	0.976
Max		249.9	0.0699	17.03	0.976
Calibration correction		0.9998	0.9998	0.9999	1
Instrument impedance correction (PPA)			0.00024	0.058	
Final value		249.75	0.0696	16.97	0.98

Sample 9	Time	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.1	0.0701	17.09	0.975
Min		249.7	0.0701	17.09	0.975
Max		250.3	0.0702	17.10	0.975
Calibration correction		0.9998	0.9998	0.9999	1
Instrument impedance correction (PPA)			0.00024	0.058	
Final value		250	0.0699	17.04	0.97

Sample 10	Time	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.3	0.0702	17.13	0.976
Min		250.1	0.0701	17.13	0.976
Max		250.5	0.0702	17.14	0.976
Calibration correction		0.9998	0.9998	0.9999	1
Instrument impedance correction (PPA)			0.00024	0.058	
Final value		250.26	0.0699	17.07	0.98

Electrical operating parameters of Sylvania StreetLED 14W

Supply Voltage (Vrms)	Input Current (mA _{rms})	Input Power (W)	Power Factor
250.15	0.067	16.430	0.975
250.11	0.071	17.216	0.975
249.88	0.070	17.014	0.976
250.14	0.069	16.935	0.975
250.11	0.069	16.916	0.975
250.14	0.070	17.008	0.975
249.82	0.070	16.935	0.975
249.75	0.070	16.969	0.976
250.00	0.070	17.036	0.975
250.26	0.070	17.073	0.976
250.04	0.070	16.953	0.975

Illustration 1: Electrical operating parameters of Sylvania StreetLED 14W

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: Newton 4th Power Analyser KinetiQ Model PPA2520 SN 133-00467

Power meter integration time (s): 5

Calibration Report: Ausgrid 221983

Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs



Illustration 2: Samsung LED driver PSDV180101U set at 350mA.



Illustration 3: Luminaire setup on a pole