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

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Accreditation No. 19541

Test Report: 216138

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

for Ozlite 23W Category P Luminaire Catalogue No. SWOZ23

Type of product: Decorative Category P StreetLight

Prepared for: Streetworx

Description: Ozlite 23W Decorative LED Streetlight, features aluminium body with spun aluminium canopy and riven from a Mean Well LPF-25D-12 LED driver.

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:

Streetworx contact Joe Calvi 185-191 Liverpool Road, Kilsyth, Victoria 3137

Tested by: Alain Yetendje On 21/06/2016 Authorised Signatory Date: 07/07/2016

Alain Yetendje

Conclusions

Test results are given in following Tables.
The Average Load (Watts) is 23.00 Watts at 0.952 Power Factor.

Results

Time till stabilisation: 6h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.040	0.097	23.271	0.956
Min	249.830	0.097	23.269	0.956
Max	250.210	0.097	23.273	0.956
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.99	0.0971	23.21	0.956

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.123	0.099	23.567	0.956
Min	249.780	0.099	23.563	0.956
Max	250.300	0.099	23.569	0.956
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.07	0.0983	23.51	0.956

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.104	0.097	22.953	0.951
Min	249.810	0.096	22.948	0.950
Max	250.500	0.097	22.957	0.951
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.05	0.0963	22.89	0.951

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.070	0.097	23.095	0.951
Min	249.890	0.097	23.091	0.950
Max	250.320	0.097	23.099	0.951
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.02	0.0969	23.04	0.951

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.929	0.095	22.599	0.950
Min	249.740	0.095	22.595	0.950
Max	250.160	0.095	22.602	0.951
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.88	0.0949	22.54	0.951

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.844	0.097	23.065	0.951
Min	249.690	0.097	23.062	0.951
Max	250.000	0.097	23.069	0.951
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.79	0.0968	23.01	0.951

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.097	0.097	23.085	0.952
Min	249.830	0.097	23.081	0.952
Max	250.270	0.097	23.088	0.952
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.05	0.0967	23.03	0.952

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.018	0.096	22.773	0.951
Min	249.860	0.096	22.772	0.951
Max	250.150	0.096	22.776	0.951
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.97	0.0955	22.71	0.951

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.176	0.097	23.103	0.952
Min	249.910	0.097	23.098	0.952
Max	250.410	0.097	23.106	0.952
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.13	0.0967	23.04	0.952

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.145	0.097	23.085	0.952
Min	249.910	0.095	22.597	0.950
Max	250.330	0.097	23.106	0.952
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.10	0.0967	23.03	0.952

Electrical operating parameters of Ozlite 23 LED SWOZ23

Sample No.	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Sample 1	249.99	0.097	23.212	0.956
Sample 2	250.07	0.098	23.508	0.956
Sample 3	250.05	0.096	22.894	0.951
Sample 4	250.02	0.097	23.036	0.951
Sample 5	249.88	0.095	22.539	0.950
Sample 6	249.79	0.097	23.006	0.951
Sample 7	250.05	0.097	23.025	0.952
Sample 8	249.97	0.096	22.714	0.951
Sample 9	250.13	0.097	23.043	0.952
Sample 10	250.10	0.097	23.025	0.952
Average	**250.00**	**0.097**	**23.000**	**0.952**

Illustration 1: Electrical operating parameters of Ozlite 23 LED SWOZ23

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

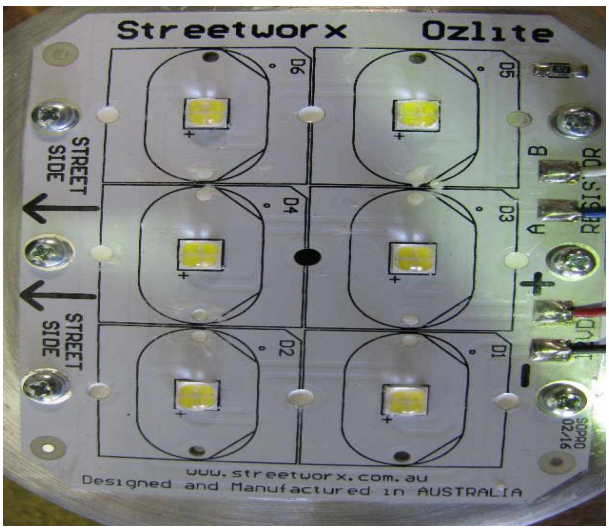

Illustration 2: Luminaire

Illustration 3: Mean Well driver

Illustration 4: Luminaire setup on a pole