

Light Emission Distribution Laboratory

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Test Report: 181026LCP

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

for Sylvania StreetLED MKIII 24W

Project number: PTR 5923

Type of product: LED Streetlight

Prepared for: Gerard Lighting Pty Ltd, 96-112 Gow St, Padstow NSW 2211 Australia

Model number: JLC99XXXL24

Description: LED Streetlight 24W 4000K. Features die-cast aluminium body, an acrylic Standard visor, 1x Samsung LED module (model number SL-B7T1N30LBWW) driven from a Philips Xitanium LED driver (model number 929000736203) programmed at 496mA.

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, 50Hz, 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, 96-112 Gow St, Padstow NSW 2211 Australia contact Sunil Das

Conclusion

The Average Load (W) is 24.43W at .92 Power Factor.

Tested by: David Orwin On 23/10/2018 Authorised Signatory

Date: 24/10/2018

Alain Yetendje

Results

Time till stabilisation: 3h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.286	0.106	24.432	0.919
Min	249.450	0.106	24.427	0.918
Max	250.820	0.106	24.439	0.920
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.26	0.1060	24.37	0.919
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.229	0.107	24.716	0.920
Min	249.590	0.107	24.710	0.919
Max	250.570	0.108	24.721	0.920
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.20	0.1071	24.65	0.920
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.151	0.106	24.346	0.917
Min	249.570	0.106	24.342	0.916
Max	250.510	0.106	24.350	0.918
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.12	0.1059	24.28	0.917

The tests and measurements covered by this document are traceable to Australian national standards of measurement.

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	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 4				
Average	250.184	0.106	24.393	0.918
Min	249.830	0.106	24.386	0.918
Max	250.510	0.106	24.399	0.918
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.15	0.1060	24.33	0.918
Sample 5				
Average	250.526	0.107	24.666	0.917
Min	249.810	0.107	24.657	0.916
Max	251.340	0.108	24.671	0.917
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.49	0.1071	24.60	0.917
Sample 6				
Average	250.106	0.106	24.325	0.917
Min	249.620	0.106	24.319	0.916
Max	250.490	0.106	24.332	0.917
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.07	0.1058	24.26	0.917

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	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 7				
Average	250.282	0.107	24.579	0.920
Min	249.580	0.107	24.566	0.919
Max	250.840	0.107	24.615	0.921
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.25	0.1065	24.52	0.920
Sample 8				
Average	250.124	0.106	24.355	0.919
Min	248.670	0.106	24.344	0.918
Max	251.160	0.106	24.362	0.921
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.09	0.1057	24.29	0.919
Sample 9				
Average	250.275	0.107	24.557	0.919
Min	249.760	0.107	24.552	0.918
Max	250.720	0.107	24.565	0.919
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.24	0.1066	24.50	0.919
Sample 10				
Average	250.229	0.107	24.530	0.918
Min	249.840	0.107	24.524	0.917
Max	250.490	0.107	24.536	0.918
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.20	0.1066	24.47	0.918

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Electrical operating parameters of Sylvania StreetLED MKIII 24W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.286	0.106	24.370	0.919
Sample 2	250.198	0.107	24.654	0.920
Sample 3	250.119	0.106	24.284	0.917
Sample 4	250.153	0.106	24.331	0.918
Sample 5	250.495	0.107	24.605	0.917
Sample 6	250.074	0.106	24.263	0.917
Sample 7	250.251	0.107	24.517	0.920
Sample 8	250.093	0.106	24.293	0.919
Sample 9	250.244	0.107	24.495	0.919
Sample 10	250.198	0.107	24.468	0.918
Average	250.21	0.11	24.43	0.92

*Illustration 1: Electrical operating parameters of Sylvania StreetLED MKIII 24W***Uncertainties**

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

Supply Voltage: $\pm 0.07\%$

Supply Current: $\pm 0.14\%$

Supply Power: $\pm 0.19\%$

Power Factor: ± 0.005

Ambient Temperature: $\pm 1^\circ\text{C}$

Test Equipment Used

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

Power meter integration time (s): 5

Calibration Report: Ausgrid NC17.36115

Luminaire thermometer: AMA S No. 1086110-0.1deg



Illustration 2: Luminaire



Illustration 3: Surge protector



Illustration 4: LED driver



Illustration 5: Setup

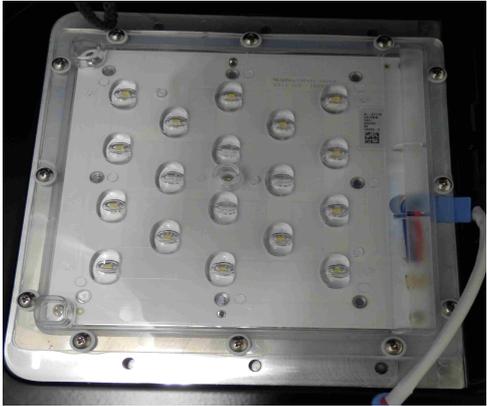


Illustration 6: LED module