



Light Emission Distribution Laboratory

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

Test Report: 200116LCP

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

for: Sylvania Orbital Small OR199Z15L29

Project number: 504443

Type of product: LED Streetlight

Prepared for: GLG, 96-112 Gow St, Padstow NSW 2211 Australia

Model number: OR199Z15L29

Description: Sylvania Orbital Small model LED Streetlight. Features die-cast aluminium body with powder coated finish, polycarbonate diffuser, 2x Luxeon LED modules, made of individual Lumileds-LUXEON 3535L HE LED chips, driven from 1x Philips LED driver (model number Xi FP 40W 0.2-0.7A SNLDAE 230V S175 sXt set at 500mA).

Test objective and Method

Determination of the luminaire supply operating parameters Voltage, Current, Power and Power Factor when tested at nominal test voltage 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: GLG, 96-112 Gow St, Padstow NSW 2211 Australia contact Swati Dhembre

Conclusion

The Average Load (W) is 29.44W at 0.97 Power Factor.

Tested by: Adrian Gagla On 16/01/2020 Authorised Signatory

Date: 22/01/2020

Alain Yetendje

The data specified in this report relates to the sample measured under standard conditions specified in the Test Specification, and may not necessarily relate to other similar luminaires or other operating conditions. The tests and measurements covered by this document are traceable to Australian national standards of measurement. This report shall only be reproduced in full unless approved in writing by Light Emission Distribution Laboratory (LEDLab).

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Results

Time till stabilisation: 3h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.114	0.122	29.480	0.967
Min	249.850	0.122	29.476	0.967
Max	250.300	0.122	29.483	0.967
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	250.08	0.1217	29.42	0.967

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.118	0.123	29.607	0.966
Min	249.610	0.122	29.603	0.966
Max	250.360	0.123	29.612	0.966
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	0.1223	29.54	0.966

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.117	0.121	29.329	0.967
Min	250.020	0.121	29.326	0.967
Max	250.240	0.121	29.332	0.967
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	0.1211	29.27	0.967

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Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.301	0.123	29.609	0.966
Min	250.190	0.122	29.601	0.965
Max	250.410	0.123	29.612	0.966
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	250.27	0.1223	29.55	0.966
Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.111	0.121	29.365	0.967
Min	249.930	0.121	29.362	0.967
Max	250.290	0.122	29.370	0.967
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	250.08	0.1212	29.30	0.967
Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.354	0.122	29.485	0.965
Min	250.260	0.122	29.481	0.965
Max	250.560	0.122	29.487	0.965
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	250.32	0.1218	29.42	0.965
Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.594	0.122	29.466	0.966
Min	250.320	0.122	29.463	0.966
Max	250.880	0.122	29.469	0.967
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	250.56	0.1214	29.40	0.966

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Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.107	0.122	29.503	0.968
Min	249.770	0.122	29.499	0.967
Max	250.460	0.122	29.509	0.968
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	250.08	0.1217	29.44	0.968

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.438	0.122	29.679	0.969
Min	249.830	0.122	29.675	0.968
Max	250.930	0.123	29.682	0.969
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	250.41	0.1221	29.62	0.969

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.524	0.122	29.540	0.968
Min	250.350	0.122	29.536	0.968
Max	250.830	0.122	29.545	0.968
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	0.1215	29.48	0.968

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Electrical operating parameters of Sylvania Orbital Small 29W model OR199Z15L29

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.114	0.122	29.417	0.967
Sample 2	250.087	0.122	29.544	0.966
Sample 3	250.085	0.121	29.267	0.967
Sample 4	250.269	0.122	29.546	0.966
Sample 5	250.080	0.121	29.302	0.967
Sample 6	250.322	0.122	29.422	0.965
Sample 7	250.563	0.121	29.403	0.966
Sample 8	250.075	0.122	29.440	0.968
Sample 9	250.406	0.122	29.616	0.969
Sample 10	250.492	0.122	29.477	0.968
Average	250.25	0.12	29.44	0.97

Table 1: Electrical operating parameters of Sylvania Orbital Small 29W model OR199Z15L29.

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: TRCalibration NC17.36115

Luminaire thermometer: AMA S No. 1086110-0.1deg



Photo 1: Luminaire front

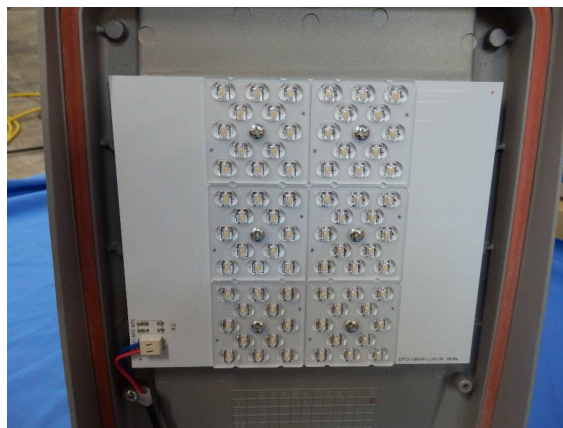


Photo 2: LED module close-up



Photo 3: Luminaire label



Photo 4: LED driver



Photo 5: Surge protector

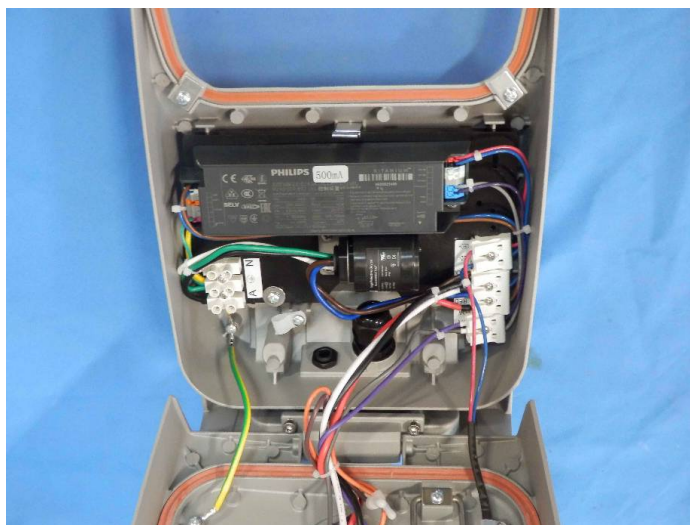


Photo 6: Luminaire geartray

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