



Light Emission Distribution Laboratory

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Accreditation No. 19541

Test Report: 180109LCP

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

for Road Grace Streetlight 36W Model No. BRP711 36W

Type of product: LED Streetlight

Prepared for: Philips Lighting Australia

Model number: BRP711 36W

Description: 36W LED StreetLight. Features IP66 cast aluminium housing, 1xLED module made of 48xLEDs powered from a Philips Xitanium driver 40W 0.7A Prog+ GL-J sXt model number 929000708803.

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:

Philips Lighting Australia contact Claus Reiner, 65 Epping Road, North Ryde, NSW, 2113

Tested by: David Orwin On 08/01/2018 Authorised Signatory

Date: 09/01/2018

Alain Yetendje

Conclusions

Test results are given in following Tables.

The Average Load (W) is 36.23W at 0.95 Power Factor.

Results

Time till stabilisation: 3h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.423	0.154	36.453	0.947
Min	249.450	0.153	36.445	0.947
Max	251.360	0.154	36.464	0.948
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	250.39	0.1534	36.39	0.947
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.570	0.153	36.332	0.947
Min	250.060	0.153	36.324	0.947
Max	250.920	0.153	36.339	0.947
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	250.54	0.1529	36.27	0.947
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.614	0.153	36.343	0.949
Min	250.090	0.153	36.337	0.948
Max	251.080	0.153	36.354	0.949
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	250.58	0.1526	36.28	0.949
Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.568	0.153	36.240	0.947
Min	250.220	0.152	36.234	0.947
Max	250.970	0.153	36.253	0.948
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	250.54	0.1524	36.18	0.947

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Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.508	0.153	36.398	0.947
Min	249.790	0.153	36.391	0.946
Max	251.140	0.154	36.405	0.947
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	250.48	0.1532	36.33	0.947
Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.736	0.154	36.470	0.947
Min	250.530	0.153	36.464	0.947
Max	251.000	0.154	36.475	0.948
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	250.70	0.1533	36.41	0.947
Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.231	0.153	36.168	0.948
Min	249.820	0.152	36.157	0.947
Max	251.300	0.153	36.181	0.948
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	0.1522	36.10	0.948
Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.533	0.154	36.548	0.949
Min	250.140	0.153	36.544	0.949
Max	251.090	0.154	36.553	0.949
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	250.50	0.1534	36.48	0.949
Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.579	0.150	35.857	0.954
Min	249.810	0.150	35.848	0.954
Max	251.130	0.150	35.867	0.955
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	250.55	0.1497	35.79	0.954
Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.695	0.152	36.126	0.947
Min	249.990	0.152	36.122	0.947
Max	251.310	0.152	36.136	0.948
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	250.66	0.1519	36.06	0.947

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

This report only applies to the items tested and shall only be reproduced in full unless approved in writing by Light Emission Distribution Laboratory (LEDLab).

Electrical operating parameters of Road Grace Streetlight 36W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.423	0.153	36.389	0.947
Sample 2	250.539	0.153	36.268	0.947
Sample 3	250.583	0.153	36.279	0.949
Sample 4	250.537	0.152	36.176	0.947
Sample 5	250.477	0.153	36.334	0.947
Sample 6	250.705	0.153	36.406	0.947
Sample 7	250.200	0.152	36.104	0.948
Sample 8	250.502	0.153	36.484	0.949
Sample 9	250.547	0.150	35.793	0.954
Sample 10	250.664	0.152	36.062	0.947
Average	250.52	0.15	36.23	0.95

Illustration 1: Electrical operating parameters of Road Grace Streetlight 36W

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: NC17.36096

Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs



Illustration 2: Luminaire

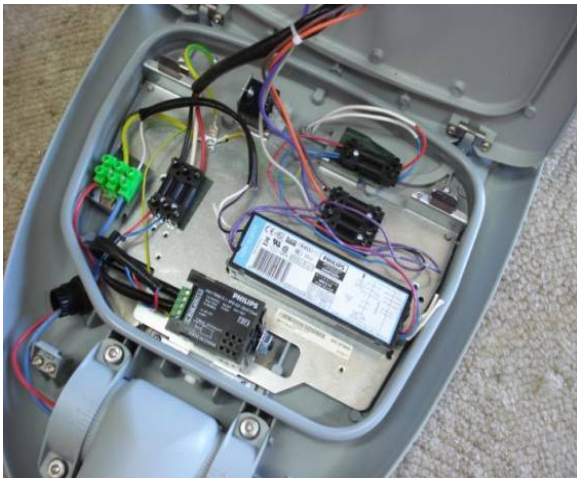


Illustration 3: Control gear

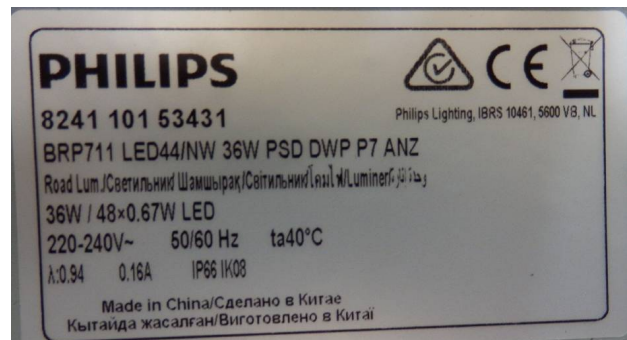


Illustration 4: Luminaire label



Illustration 5: Surge protector

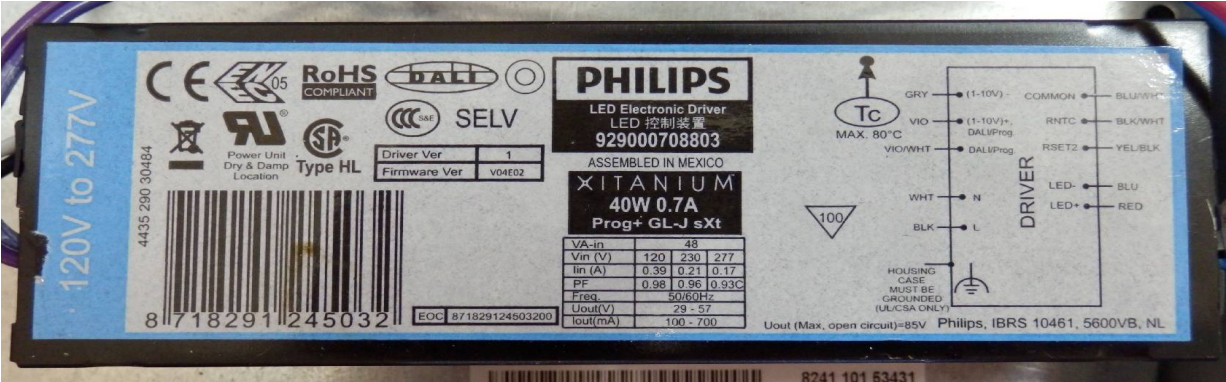


Illustration 6: LED driver



Illustration 7: Setup