



Light Emission Distribution Laboratory

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Accreditation No. 19541

Test Report: 170919LCP

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

for Road Grace Streetlight 20W Model No. BRP711 LED23/NW 20W

Type of product: LED Streetlight

Prepared for: Philips Lighting Australia

Model number: BRP711 LED23/NW 20W

Description: 20W LED StreetLight. Features IP66 cast aluminium housing, 1xLED module made of 48 LEDs powered from a Philips Xitanium driver 40W 0.7A Prog+ GL-J sXt model number 92900009 622.

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 Jacek Lipiec, 65 Epping Road, North Ryde, NSW, 2113

Tested by: David Orwin On 11/09/2017 Authorised Signatory

Date: 12/09/2017

Alain Yetendje

Conclusions

Test results are given in following Tables.

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).

The Average Load (W) is 20.00W at 0.88 Power Factor.

Results

Time till stabilisation: 3h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.181	0.091	20.183	0.882
Min	249.640	0.091	20.178	0.882
Max	250.760	0.092	20.190	0.883
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.13	0.0912	20.12	0.882
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.046	0.091	20.116	0.880
Min	249.200	0.091	20.109	0.878
Max	251.260	0.092	20.125	0.881
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.00	0.0912	20.06	0.880
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.443	0.091	20.075	0.879
Min	249.710	0.091	20.069	0.879
Max	251.190	0.091	20.085	0.880
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.39	0.0909	20.02	0.880
Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.385	0.091	20.103	0.879
Min	250.140	0.091	20.097	0.878
Max	251.000	0.091	20.107	0.879
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.33	0.0911	20.04	0.879

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Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.305	0.091	19.927	0.879
Min	250.060	0.090	19.922	0.878
Max	251.150	0.091	19.937	0.880
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.26	0.0903	19.87	0.880
Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.900	0.091	20.068	0.878
Min	249.330	0.091	20.061	0.878
Max	250.450	0.092	20.074	0.879
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.85	0.0912	20.01	0.878
Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.159	0.091	20.067	0.882
Min	249.160	0.091	20.059	0.880
Max	251.130	0.091	20.073	0.883
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.11	0.0907	20.01	0.882
Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.710	0.091	19.941	0.880
Min	249.190	0.091	19.937	0.879
Max	250.540	0.091	19.947	0.881
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.66	0.0905	19.88	0.880
Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.819	0.092	20.157	0.881
Min	249.120	0.091	20.150	0.880
Max	250.540	0.092	20.163	0.882
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.77	0.0914	20.10	0.881
Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.265	0.090	19.915	0.881
Min	249.760	0.090	19.911	0.880
Max	251.020	0.090	19.923	0.881
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.21	0.0901	19.86	0.881

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

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Electrical operating parameters of Road Grace Streetlight 20W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.181	0.091	20.124	0.882
Sample 2	249.996	0.091	20.057	0.880
Sample 3	250.392	0.091	20.016	0.879
Sample 4	250.335	0.091	20.043	0.879
Sample 5	250.255	0.090	19.868	0.879
Sample 6	249.850	0.091	20.009	0.878
Sample 7	250.109	0.091	20.007	0.882
Sample 8	249.660	0.090	19.882	0.880
Sample 9	249.769	0.091	20.098	0.881
Sample 10	250.215	0.090	19.856	0.881
Average	250.08	0.09	20.00	0.88

Illustration 1: Electrical operating parameters of Road Grace Streetlight 20W

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 221983

Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs



Illustration 2: Luminaire



Illustration 3: Control gear

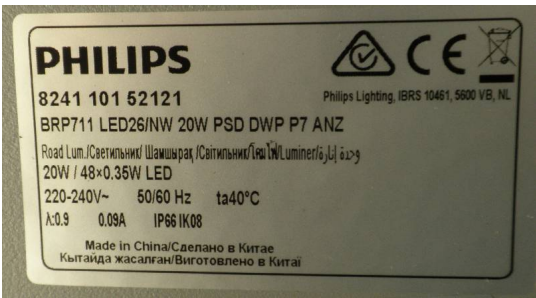


Illustration 4: Luminaire label



Illustration 5: Surge protector



Illustration 6: LED driver



Illustration 7: Setup