



## Light Emission Distribution Laboratory

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Accreditation No. 19541

# Test Report: 171232LCP

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

for Roadflair Streetlight 130W Model No. BRP392 130W

*Type of product:* LED Streetlight

*Prepared for:* Philips Lighting Australia

*Model number:* BRP392 130W

*Description:* 130W LED StreetLight. Features IP66 cast aluminium housing, 4xLED modules made of 140xLEDs powered from 1x Philips Xitanium driver Xi FP 150W 0.2-0.7A SNLDAE 230V S240 sXt model number 9290 009 622.

## 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 14/12/2017 Authorised Signatory

Date: 18/12/2017

Alain Yetendje

## Conclusions

Test results are given in following Tables.

**The Average Load (W) is 127.14W at 0.98 Power Factor.**

## Results

Time till stabilisation: 2h

## Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.084	0.518	126.702	0.978
Min	249.230	0.517	126.690	0.977
Max	250.700	0.520	126.720	0.978
Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.05	0.5179	126.62	0.978
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.981	0.519	126.806	0.978
Min	249.460	0.517	126.780	0.977
Max	251.040	0.520	126.830	0.978
Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.95	0.5186	126.73	0.978
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.775	0.522	128.038	0.978
Min	250.230	0.522	128.010	0.978
Max	251.040	0.523	128.060	0.978
Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.74	0.5218	127.96	0.978
Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.574	0.521	127.715	0.978
Min	249.800	0.520	127.690	0.978
Max	251.170	0.523	127.740	0.978
Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.54	0.5208	127.64	0.978

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<b>Sample 5</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.270	0.518	126.845	0.978
Min	249.600	0.517	126.810	0.977
Max	250.950	0.520	126.870	0.978
Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.24	0.5182	126.77	0.978
<b>Sample 6</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	249.979	0.518	126.693	0.978
Min	249.360	0.517	126.680	0.978
Max	250.610	0.520	126.710	0.978
Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.95	0.5180	126.61	0.978
<b>Sample 7</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.532	0.519	127.070	0.978
Min	250.220	0.518	127.060	0.978
Max	250.800	0.519	127.090	0.978
Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.50	0.5185	126.99	0.978
<b>Sample 8</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	249.761	0.522	127.464	0.978
Min	248.970	0.520	127.440	0.978
Max	250.390	0.523	127.480	0.979
Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.73	0.5213	127.38	0.978
<b>Sample 9</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.569	0.522	127.889	0.978
Min	249.200	0.520	127.860	0.978
Max	251.470	0.525	127.910	0.978
Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.54	0.5217	127.81	0.978
<b>Sample 10</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.538	0.518	126.949	0.977
Min	249.800	0.518	126.920	0.977
Max	250.940	0.520	126.980	0.977
Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.51	0.5182	126.87	0.977

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 Roadflair Streetlight 130W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.084	0.518	126.622	0.978
Sample 2	249.950	0.519	126.726	0.978
Sample 3	250.743	0.522	127.958	0.978
Sample 4	250.543	0.521	127.635	0.978
Sample 5	250.239	0.518	126.766	0.978
Sample 6	249.948	0.518	126.613	0.978
Sample 7	250.501	0.518	126.991	0.978
Sample 8	249.729	0.521	127.384	0.978
Sample 9	250.538	0.522	127.809	0.978
Sample 10	250.507	0.518	126.869	0.977
<b>Average</b>	<b>250.28</b>	<b>0.52</b>	<b>127.14</b>	<b>0.98</b>

*Illustration 1: Electrical operating parameters of Roadflair Streetlight 130W*

## 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:**  $\pm 0.005$

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

## Test Equipment Used

*Power meter:* Newton 4<sup>th</sup> 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: Luminaire label

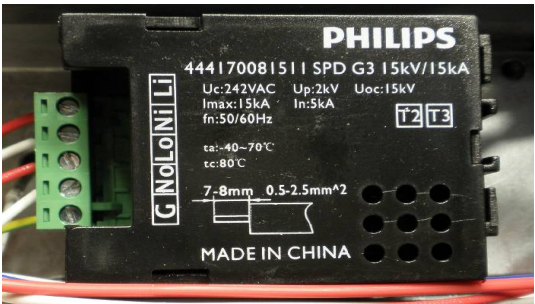


Illustration 4: Surge protector



Illustration 6: LED driver (1x off)



Illustration 5: Setup