



## Light Emission Distribution Laboratory

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Accreditation No. 19541

# Test Report: 170918LCP

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

for Roadflair Streetlight 110W Model No. BRP392 LED132/NW 110W

*Type of product:* LED Streetlight

*Prepared for:* Philips Lighting Australia

*Model number:* BRP392 LED132/NW 110W

*Description:* 110W LED StreetLight. Features IP66 cast aluminium housing, 2xLED modules made of 60 LEDs each powered from a 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 11/09/2017 Authorised Signatory

Date: 12/09/2017

Alain Yetendje

## Conclusions

Test results are given in following Tables.

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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 109.51W at 0.97 Power Factor.**

## Results

Time till stabilisation: 3h

## Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.701	0.452	110.119	0.972
Min	250.140	0.451	110.110	0.972
Max	251.480	0.453	110.130	0.972
Calibration correction (see Newton 4 <sup>th</sup> calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.65	0.4516	110.05	0.972
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.268	0.451	109.693	0.972
Min	249.570	0.450	109.670	0.972
Max	251.060	0.452	109.710	0.972
Calibration correction (see Newton 4 <sup>th</sup> calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.22	0.4506	109.63	0.972
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.302	0.450	109.381	0.972
Min	249.380	0.449	109.360	0.972
Max	250.920	0.451	109.400	0.972
Calibration correction (see Newton 4 <sup>th</sup> calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.25	0.4492	109.31	0.972
Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.818	0.451	109.477	0.972
Min	249.060	0.448	109.460	0.972
Max	251.290	0.452	109.490	0.972
Calibration correction (see Newton 4 <sup>th</sup> calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.77	0.4505	109.41	0.972

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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	250.137	0.449	109.202	0.971
Min	249.570	0.448	109.190	0.971
Max	250.730	0.450	109.210	0.972
Calibration correction (see Newton 4 <sup>th</sup> calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.09	0.4491	109.14	0.971
<b>Sample 6</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.436	0.451	109.740	0.972
Min	249.770	0.449	109.710	0.972
Max	251.360	0.452	109.760	0.972
Calibration correction (see Newton 4 <sup>th</sup> calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.39	0.4504	109.67	0.972
<b>Sample 7</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.250	0.450	109.426	0.972
Min	249.660	0.449	109.400	0.972
Max	250.780	0.451	109.440	0.972
Calibration correction (see Newton 4 <sup>th</sup> calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.20	0.4495	109.36	0.972
<b>Sample 8</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.347	0.453	110.193	0.972
Min	250.100	0.452	110.190	0.972
Max	250.950	0.453	110.200	0.972
Calibration correction (see Newton 4 <sup>th</sup> calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.30	0.4525	110.13	0.972
<b>Sample 9</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.001	0.449	109.158	0.972
Min	249.500	0.449	109.130	0.972
Max	250.490	0.450	109.170	0.972
Calibration correction (see Newton 4 <sup>th</sup> calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.95	0.4490	109.09	0.972
<b>Sample 10</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.111	0.450	109.421	0.972
Min	249.380	0.450	109.410	0.972
Max	250.460	0.452	109.440	0.972
Calibration correction (see Newton 4 <sup>th</sup> calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.06	0.4499	109.35	0.972

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## Electrical operating parameters of Roadflair Streetlight 110W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.701	0.452	110.052	0.972
Sample 2	250.218	0.451	109.626	0.972
Sample 3	250.252	0.449	109.314	0.972
Sample 4	249.768	0.450	109.410	0.972
Sample 5	250.087	0.449	109.135	0.971
Sample 6	250.386	0.450	109.673	0.972
Sample 7	250.200	0.450	109.359	0.972
Sample 8	250.297	0.452	110.126	0.972
Sample 9	249.951	0.449	109.091	0.972
Sample 10	250.061	0.450	109.355	0.972
<b>Average</b>	<b>250.19</b>	<b>0.45</b>	<b>109.51</b>	<b>0.97</b>

*Illustration 1: Electrical operating parameters of Roadflair Streetlight 110W*

## 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:* Ausgrid 221983

*Luminaire thermometer:* AMA S No. 1086110-0.1deg

## General Photographs

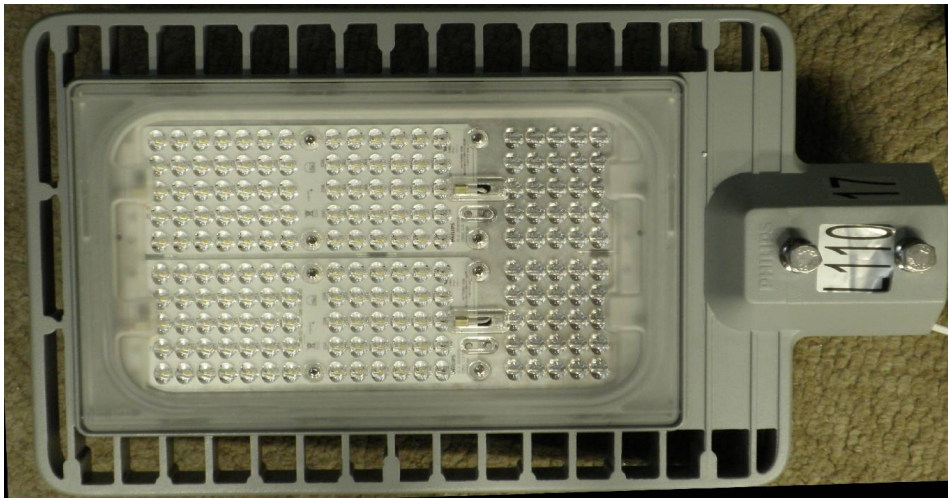


Illustration 2: Luminaire

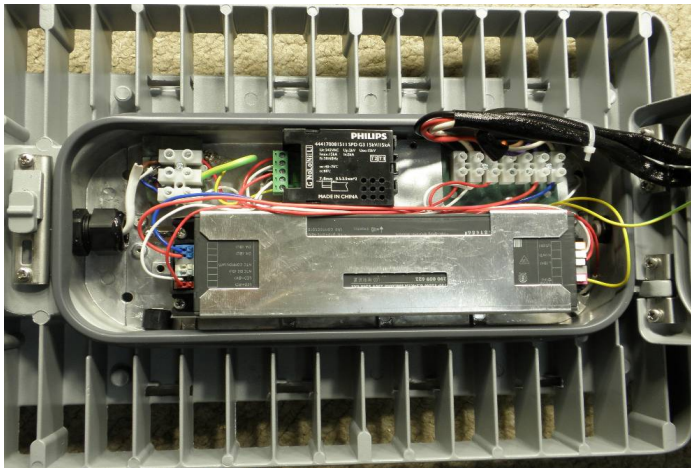


Illustration 3: Control gear



Illustration 4: Luminaire label



Illustration 5: Surge protector



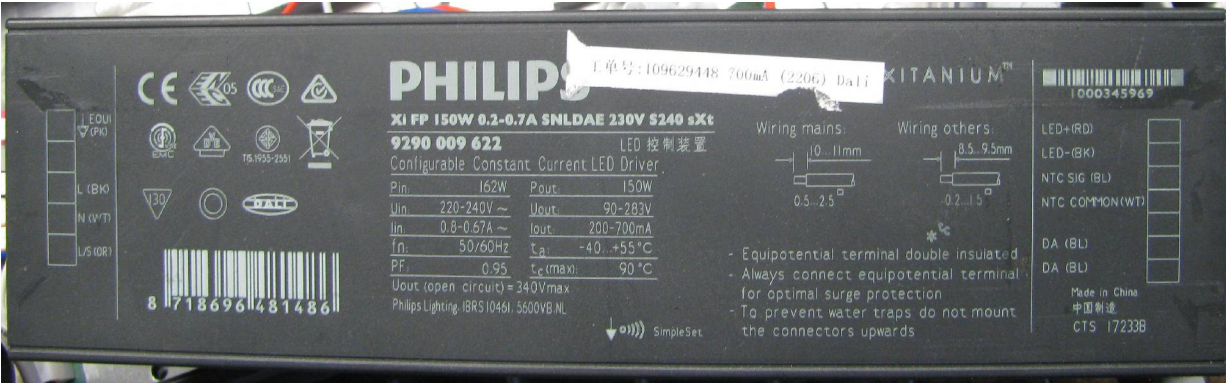


Illustration 6: LED driver



Illustration 7: Setup