



## Light Emission Distribution Laboratory

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Accreditation No. 19541

# Test Report: 171231LCP

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

for Tango floodlight 200W Model No. BVP38x 200W

*Type of product:* LED Floodlight

*Prepared for:* Philips Lighting Australia

*Model number:* BVP38x 200W

*Description:* 200W LED FloodLight. Features IP66 cast aluminium housing, 2xLED modules made of 110x LEDs powered from 2x Philips Xitanium driver Xi 100W 0.7A 230V Y model number 9290 014 010.

## 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 12/12/2017 Authorised Signatory

Date: 13/12/2017

Alain Yetendje

## Conclusions

Test results are given in following Tables.

**The Average Load (W) is 202.90W at 0.99 Power Factor.**

## Results

Time till stabilisation: 3h

## Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.561	0.820	202.344	0.986
Min	249.490	0.817	202.310	0.986
Max	251.530	0.824	202.370	0.986
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	250.53	0.8199	202.25	0.986
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.317	0.830	204.680	0.985
Min	249.760	0.829	204.660	0.985
Max	250.640	0.832	204.700	0.985
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	250.29	0.8299	204.59	0.985
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.619	0.814	200.699	0.986
Min	249.740	0.811	200.650	0.986
Max	251.500	0.816	200.720	0.986
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	250.59	0.8133	200.61	0.986
Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.250	0.812	200.002	0.986
Min	249.410	0.811	199.980	0.986
Max	250.670	0.815	200.040	0.986
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	250.22	0.8115	199.91	0.986

## LEDLab Test Report: 171231LCP

<b>Sample 5</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.392	0.827	203.922	0.986
Min	250.140	0.826	203.780	0.986
Max	250.730	0.830	204.670	0.986
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	250.36	0.8268	203.83	0.986
<b>Sample 6</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.331	0.830	204.586	0.985
Min	249.980	0.829	204.540	0.985
Max	250.570	0.831	204.610	0.985
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	250.30	0.8298	204.49	0.985
<b>Sample 7</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.367	0.825	203.370	0.986
Min	249.860	0.822	203.340	0.986
Max	251.320	0.827	203.400	0.986
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	250.34	0.8249	203.28	0.986
<b>Sample 8</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.584	0.822	202.835	0.985
Min	249.780	0.820	202.810	0.985
Max	251.390	0.825	202.870	0.985
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	250.55	0.8218	202.74	0.985
<b>Sample 9</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.127	0.822	202.515	0.986
Min	249.640	0.820	202.490	0.986
Max	250.910	0.824	202.540	0.986
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	250.10	0.8219	202.42	0.986
<b>Sample 10</b>	<b>Supply Voltage (Vrms)</b>	<b>Input Current (Arms)</b>	<b>Input Power (W)</b>	<b>Power Factor</b>
Average	250.505	0.831	204.957	0.986
Min	250.010	0.829	204.930	0.986
Max	251.060	0.832	205.030	0.986
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	250.47	0.8303	204.86	0.986

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 Tango G3 LED Floodlight 200W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.561	0.820	202.251	0.986
Sample 2	250.285	0.830	204.587	0.985
Sample 3	250.588	0.813	200.607	0.986
Sample 4	250.219	0.812	199.909	0.986
Sample 5	250.361	0.827	203.829	0.986
Sample 6	250.300	0.830	204.493	0.985
Sample 7	250.336	0.825	203.277	0.986
Sample 8	250.552	0.822	202.742	0.985
Sample 9	250.095	0.822	202.422	0.986
Sample 10	250.474	0.830	204.863	0.986
<b>Average</b>	<b>250.38</b>	<b>0.82</b>	<b>202.90</b>	<b>0.99</b>

*Illustration 1: Electrical operating parameters of Tango G3 Floodlight 200W*

## 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

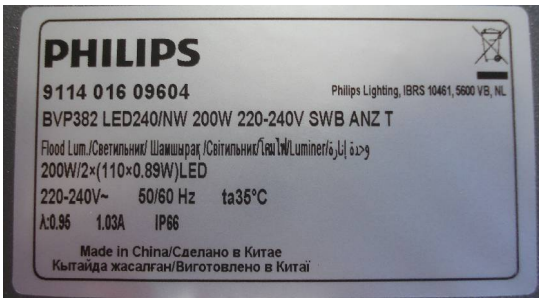


Illustration 4: Luminaire label

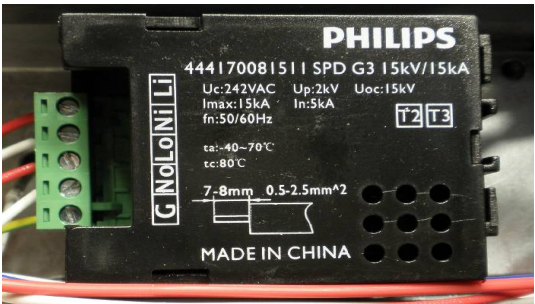


Illustration 3: Surge protector



Illustration 6: LED driver (2x off)



Illustration 5: Setup