

## Light Emission Distribution Laboratory

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Accreditation No. 19541

# Test Report: 171230LCP

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

for Tango floodlight 100W Model No. BVP38x 100W

*Type of product:* LED Floodlight

*Prepared for:* Philips Lighting Australia

*Model number:* BVP38x 100W

*Description:* 100W LED FloodLight. Features IP66 cast aluminium housing, 1xLED module made of 110x LEDs powered from 1x 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: 18/12/2017

Alain Yetendje

## Conclusions

Test results are given in following Tables.

**The Average Load (W) is 101.24W 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	250.040	0.417	102.549	0.983
Min	249.480	0.416	102.540	0.983
Max	250.670	0.418	102.560	0.983
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	250.01	0.4170	102.47	0.983
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.038	0.410	100.572	0.982
Min	249.370	0.409	100.550	0.982
Max	250.560	0.411	100.580	0.982
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	250.01	0.4094	100.50	0.982
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.991	0.410	100.553	0.982
Min	249.570	0.409	100.540	0.982
Max	250.190	0.410	100.580	0.982
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	249.96	0.4094	100.48	0.982
Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.286	0.412	101.429	0.983
Min	249.730	0.411	101.420	0.982
Max	251.000	0.413	101.440	0.983
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	250.25	0.4122	101.35	0.983

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Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.050	0.406	99.550	0.981
Min	249.510	0.405	99.535	0.981
Max	250.880	0.407	99.569	0.981
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	250.02	0.4054	99.48	0.981
Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.051	0.408	100.217	0.983
Min	249.280	0.407	100.200	0.982
Max	250.530	0.409	100.230	0.983
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	250.02	0.4076	100.14	0.983
Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.183	0.415	101.985	0.982
Min	249.690	0.414	101.960	0.982
Max	251.240	0.416	102.000	0.982
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	250.15	0.4149	101.91	0.982
Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.954	0.422	103.639	0.982
Min	249.290	0.421	103.620	0.982
Max	250.560	0.423	103.650	0.983
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	249.92	0.4218	103.56	0.982
Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.032	0.413	101.473	0.982
Min	249.500	0.413	101.460	0.982
Max	250.500	0.414	101.500	0.982
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	250.00	0.4129	101.40	0.982
Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.997	0.412	101.135	0.982
Min	249.380	0.411	101.130	0.982
Max	250.590	0.413	101.150	0.982
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	249.97	0.4119	101.06	0.982

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 100W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.040	0.417	102.474	0.983
Sample 2	250.007	0.409	100.497	0.982
Sample 3	249.960	0.409	100.478	0.982
Sample 4	250.255	0.412	101.353	0.983
Sample 5	250.019	0.405	99.475	0.981
Sample 6	250.020	0.408	100.142	0.983
Sample 7	250.152	0.415	101.910	0.982
Sample 8	249.923	0.422	103.564	0.982
Sample 9	250.000	0.413	101.398	0.982
Sample 10	249.966	0.412	101.060	0.982
<b>Average</b>	<b>250.03</b>	<b>0.41</b>	<b>101.24</b>	<b>0.98</b>

*Illustration 1: Electrical operating parameters of Tango G3 Floodlight 100W*

## 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

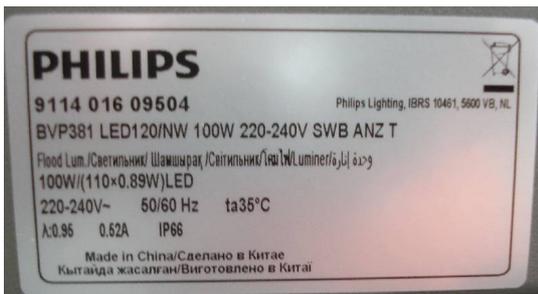


Illustration 4: Luminaire label



Illustration 3: Surge protector



Illustration 6: LED driver (1x off)



Illustration 5: Setup