



## Light Emission Distribution Laboratory

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Accreditation No. 19541

# Test Report: 180939LCP

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

for StreetLED MKII 33W 4000K

Project number: PTR 5909

Type of product: LED Streetlight

Prepared for: Gerard Lighting Pty Ltd, 96-112 Gow St, Padstow NSW 2211 Australia

Model number: StreetLED MKII 33W 4000K

Description: LED Streetlight 33W 4000K. Features die-cast aluminium body, an acrylic Aeroscreen visor, 1x Samsung LED module (model number SL-I7T1F33LBWW) driven from a Philips Xitanium LED driver (model number 929000736203) programmed at 687mA.

## 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: Gerard Lighting Pty Ltd, 96-112 Gow St, Padstow NSW 2211 Australia contact Sunil Das

## Conclusion

**The Average Load (W) is 32.54W at .94 Power Factor.**

Tested by: David Orwin On 02/10/2018 Authorised Signatory

Date: 04/10/2018

Alain Yetendje

## Results

Time till stabilisation: 3h

## Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.353	0.138	32.649	0.945
Min	249.840	0.138	32.643	0.944
Max	250.800	0.138	32.655	0.945
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	250.32	0.1378	32.59	0.945
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.306	0.138	32.539	0.944
Min	250.050	0.137	32.531	0.944
Max	250.750	0.138	32.546	0.945
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	250.28	0.1374	32.48	0.944
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.253	0.138	32.675	0.944
Min	249.710	0.138	32.668	0.944
Max	251.030	0.139	32.681	0.945
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	0.1380	32.61	0.944

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.498	0.138	32.710	0.946
Min	249.930	0.138	32.676	0.946
Max	250.880	0.138	32.739	0.947
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	0.1377	32.65	0.946
Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.214	0.138	32.635	0.945
Min	249.740	0.138	32.630	0.944
Max	250.540	0.138	32.640	0.945
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	250.18	0.1378	32.57	0.945
Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.324	0.138	32.657	0.945
Min	249.350	0.138	32.649	0.945
Max	251.080	0.139	32.668	0.946
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	0.1378	32.59	0.945

## LEDLab Test Report: 180939LCP

	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
<b>Sample 7</b>				
Average	250.476	0.137	32.464	0.945
Min	249.980	0.137	32.457	0.945
Max	250.990	0.137	32.471	0.945
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	250.44	0.1369	32.40	0.945
<b>Sample 8</b>				
Average	250.268	0.137	32.407	0.945
Min	249.510	0.137	32.403	0.944
Max	250.610	0.137	32.411	0.945
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	0.1368	32.34	0.945
<b>Sample 9</b>				
Average	250.260	0.138	32.720	0.944
Min	249.640	0.138	32.714	0.944
Max	251.180	0.139	32.727	0.945
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	250.23	0.1382	32.66	0.944
<b>Sample 10</b>				
Average	250.263	0.138	32.541	0.945
Min	249.640	0.137	32.534	0.944
Max	250.820	0.138	32.554	0.945
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	250.23	0.1374	32.48	0.945

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 StreetLED MKII 33W 4000K

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.353	0.138	32.586	0.945
Sample 2	250.275	0.137	32.476	0.944
Sample 3	250.222	0.138	32.612	0.944
Sample 4	250.467	0.138	32.646	0.946
Sample 5	250.183	0.138	32.572	0.945
Sample 6	250.293	0.138	32.594	0.945
Sample 7	250.445	0.137	32.400	0.945
Sample 8	250.237	0.137	32.343	0.945
Sample 9	250.228	0.138	32.657	0.944
Sample 10	250.232	0.137	32.478	0.945
<b>Average</b>	<b>250.29</b>	<b>0.14</b>	<b>32.54</b>	<b>0.94</b>

*Illustration 1: Electrical operating parameters of StreetLED MKII 33W 4000K*

## 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 NC17.36115

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



Illustration 2: Luminaire



Illustration 3: Control gear



Illustration 5: Setup



Illustration 4: LED driver



Illustration 6: LED modules



Illustration 7: Luminaire label