



## Light Emission Distribution Laboratory

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Accreditation No. 19541

# Test Report: 180303LCP

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

for RoadLED MIDI 120W

*Type of product:* LED Streetlight

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

*Model number:* RoadLED MIDI 120W

*Description:* Sylvania RoadLED MIDI 120W with Aero Screen Visor 4K. Die cast powder coated aluminium body. Two Samsung panels with 38 LH351B 4k chips. Inventronics driver EUD-150S105DVA set at 0.998 Amp.

## 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 Elizabeth Fernandes

## Conclusion

**The Average Load (W) is 118.45 at 0.97 Power Factor.**

Tested by: David Orwin

On 5/03/2018

Authorised Signatory  
David Ford

Date: 14/03/2018

## Results

Time till stabilisation: 7 h

## Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.277	0.493	120.248	0.974
Min	249.870	0.493	120.240	0.974
Max	250.570	0.494	120.270	0.975
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	0.4928	120.17	0.974
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.198	0.482	116.962	0.969
Min	249.750	0.481	116.950	0.969
Max	250.830	0.483	116.980	0.970
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	250.17	0.4820	116.88	0.969
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.981	0.487	118.530	0.975
Min	249.600	0.486	118.520	0.974
Max	250.300	0.487	118.540	0.975
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	0.4863	118.45	0.975

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	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
<b>Sample 4</b>				
Average	250.191	0.485	118.198	0.974
Min	249.770	0.484	118.180	0.974
Max	250.600	0.486	118.210	0.974
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	250.16	0.4848	118.12	0.974
	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
<b>Sample 5</b>				
Average	250.115	0.496	120.888	0.975
Min	249.490	0.495	120.880	0.975
Max	250.470	0.497	120.900	0.975
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	250.08	0.4954	120.81	0.975
	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
<b>Sample 6</b>				
Average	250.338	0.484	118.021	0.974
Min	249.310	0.483	118.010	0.974
Max	251.120	0.486	118.030	0.975
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	250.31	0.4836	117.94	0.974

The tests and measurements covered by this document are traceable to Australian national standards of measurement.

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	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
<b>Sample 7</b>				
Average	250.251	0.485	118.194	0.973
Min	249.050	0.485	118.180	0.973
Max	250.640	0.487	118.210	0.974
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	0.4850	118.12	0.973
	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
<b>Sample 8</b>				
Average	250.222	0.485	118.148	0.974
Min	249.680	0.484	118.100	0.974
Max	250.570	0.486	118.190	0.974
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	250.19	0.4846	118.07	0.974
	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
<b>Sample 9</b>				
Average	250.153	0.487	118.730	0.974
Min	248.400	0.485	118.680	0.974
Max	251.180	0.490	118.760	0.975
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	250.12	0.4868	118.65	0.974
	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
<b>Sample 10</b>				
Average	249.825	0.482	117.368	0.974
Min	248.080	0.481	117.330	0.974
Max	250.620	0.485	117.400	0.975
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	249.79	0.4820	117.29	0.974

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Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.277	0.493	120.169	0.974
Sample 2	250.166	0.482	116.884	0.969
Sample 3	249.950	0.486	118.452	0.975
Sample 4	250.160	0.485	118.120	0.974
Sample 5	250.084	0.495	120.809	0.975
Sample 6	250.307	0.484	117.943	0.974
Sample 7	250.220	0.485	118.116	0.973
Sample 8	250.191	0.485	118.070	0.974
Sample 9	250.122	0.487	118.651	0.974
Sample 10	249.794	0.482	117.290	0.974
<b>Average</b>	<b>250.13</b>	<b>0.49</b>	<b>118.45</b>	<b>0.97</b>

*Illustration 1: Electrical operating parameters of RoadLED MIDI 120W*

## 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

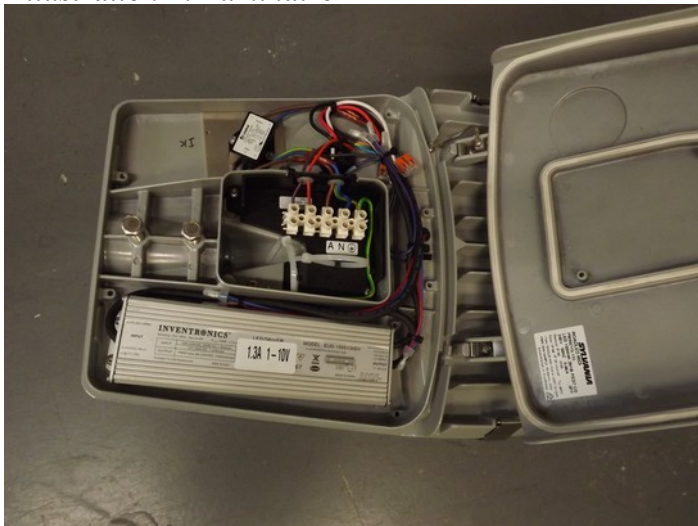
*Power meter integration time (s):* 5

*Calibration Report:* Ausgrid NC17.36115

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



*Illustration 2: Luminaire*



*Illustration 3: Control gear*



*Illustration 4: Surge protector*

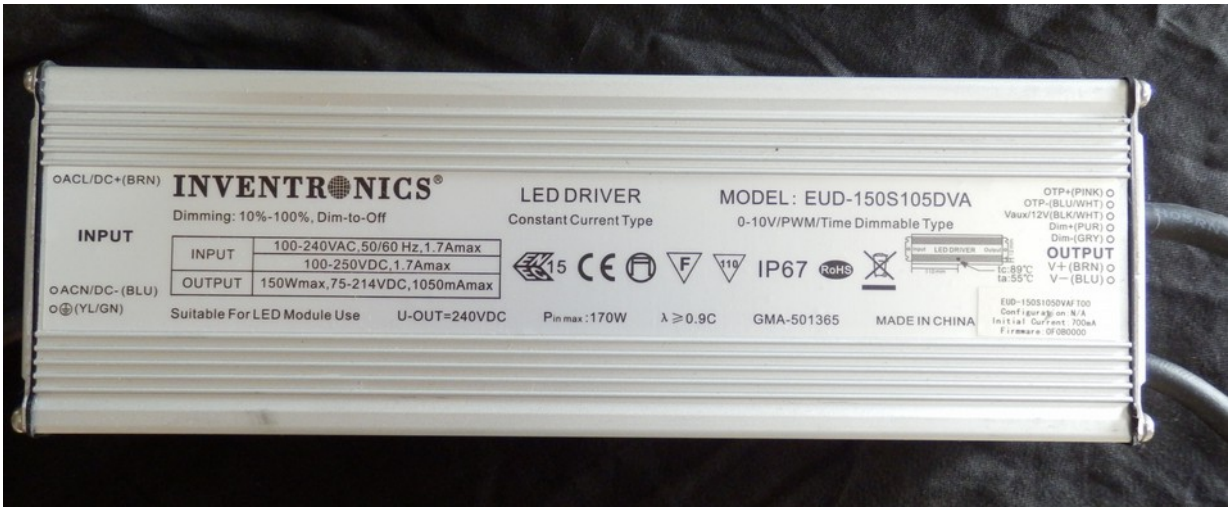


Illustration 5: LED driver



Illustration 6: Setup