Light Emission Distribution Laboratory
Division of Photometry & Electrical Testing Pty. Ltd ABN 11 166 255 134
Unit 4, 140 George St. Hornsby NSW 2077 Australia
Ph: +61 2 9476 3097 E: sales@ledlab.com.au

Accredited for compliance with ISO/IEC 17025 – For Testing. Accreditation No. 19541

Test Report: 180304LCP

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

for RoadLED MIDI 100W

Type of product: LED Streetlight

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

Model number: RoadLED MIDI 100W

Description: Sylvania RoadLED MIDI 100W with Aero Screen Visor 4K. Die cast powder coated aluminium body. Two Samsung panels with 38 LH351B 4k chips. Inventronics driver EUD-096S105DVA set at 0.840 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 97.88 W at 0.98 Power Factor.

Tested by: David Orwin On 5/03/2018 Authorised Signatory David Ford  Date: 15/03/2018

Results

Time till stabilisation: 7.2h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.124	0.401	98.113	0.978
Min	249.280	0.400	98.102	0.977
Max	251.230	0.403	98.125	0.978
Calibration correction (see Newton 4th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.09	0.4010	98.04	0.978

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.887	0.395	96.236	0.976
Min	248.890	0.393	96.229	0.976
Max	250.650	0.396	96.245	0.976
Calibration correction (see Newton 4th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.86	0.3943	96.16	0.976

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.314	0.403	98.409	0.976
Min	249.890	0.402	98.407	0.976
Max	250.760	0.403	98.413	0.976
Calibration correction (see Newton 4th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.28	0.4024	98.33	0.976

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.082	0.407	99.512	0.978
Min	249.410	0.406	99.507	0.978
Max	250.810	0.408	99.523	0.978
Calibration correction (see Newton 4th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.05	0.4065	99.44	0.978

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.920	0.407	99.416	0.977
Min	248.880	0.405	99.407	0.977
Max	251.300	0.409	99.434	0.977
Calibration correction (see Newton 4th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.89	0.4069	99.34	0.977

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.833	0.395	96.450	0.977
Min	249.180	0.394	96.442	0.977
Max	250.620	0.396	96.463	0.977
Calibration correction (see Newton 4th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.80	0.3949	96.38	0.977

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.436	0.396	96.756	0.977
Min	249.690	0.395	96.743	0.976
Max	251.220	0.397	96.767	0.977
Calibration correction (see Newton 4th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.41	0.3954	96.68	0.977

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.152	0.405	98.888	0.977
Min	249.330	0.403	98.875	0.976
Max	251.390	0.406	98.900	0.977
Calibration correction (see Newton 4th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.12	0.4044	98.81	0.977

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.402	0.402	98.411	0.977
Min	249.980	0.401	98.397	0.976
Max	251.440	0.403	98.425	0.977
Calibration correction (see Newton 4th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.37	0.4021	98.34	0.977

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.804	0.399	97.308	0.977
Min	247.820	0.396	97.288	0.977
Max	251.240	0.402	97.315	0.978
Calibration correction (see Newton 4th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.77	0.3983	97.23	0.977

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.124	0.401	98.039	0.978
Sample 2	249.856	0.394	96.162	0.976
Sample 3	250.283	0.402	98.334	0.976
Sample 4	250.051	0.407	99.437	0.978
Sample 5	249.889	0.407	99.342	0.977
Sample 6	249.802	0.395	96.376	0.977
Sample 7	250.405	0.395	96.682	0.977
Sample 8	250.121	0.404	98.813	0.977
Sample 9	250.371	0.402	98.336	0.977
Sample 10	249.773	0.398	97.233	0.977
Average	**250.07**	**0.40**	**97.88**	**0.98**

Illustration 1: Electrical operating parameters of RoadLED MIDI 100W

Uncertainties

At a Confidence Level of 95% with a Coverage Factor of 2

Supply Voltage: ± 0.07%

Supply Current: ± 0.14%

Supply Power: ± 0.19%

Power Factor: ± 0.005

Ambient Temperature: ± 1°C

Test Equipment Used

Power meter: Newton 4th 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

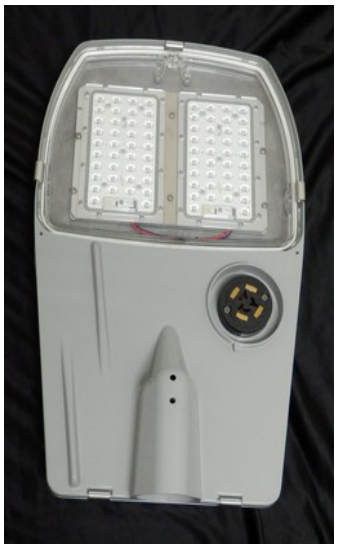

Illustration 2: Luminaire

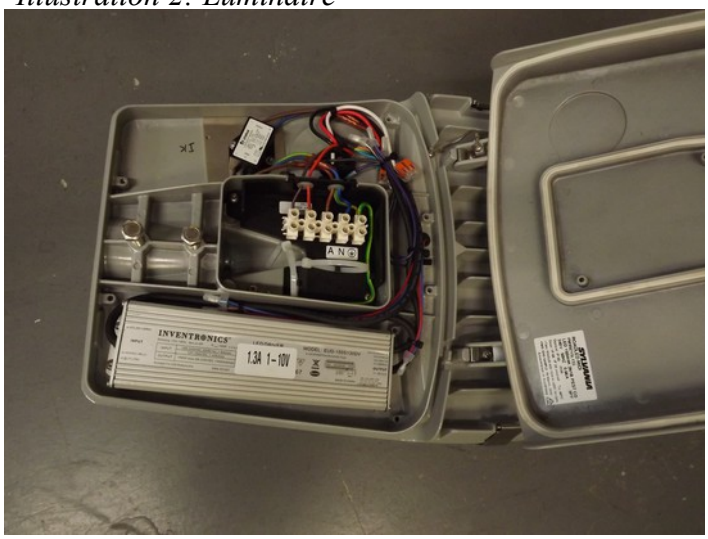

Illustration 3: Control gear

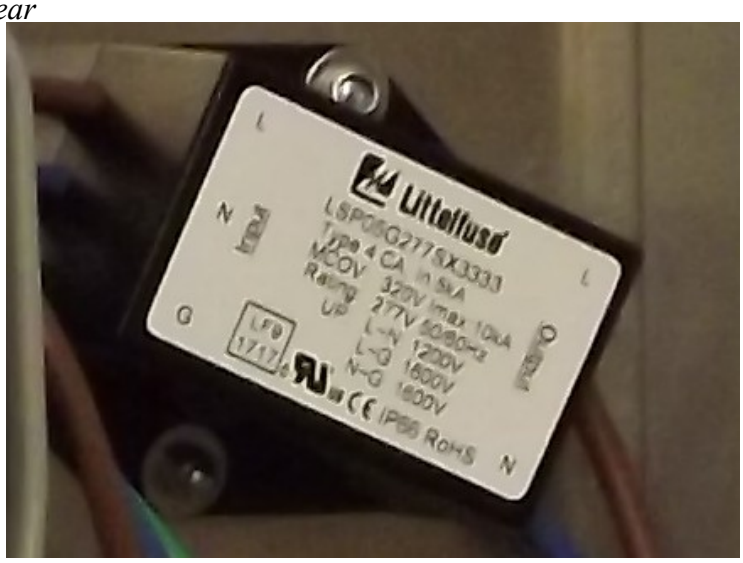

Illustration 4: Luminaire label

Illustration 5: Surge protector

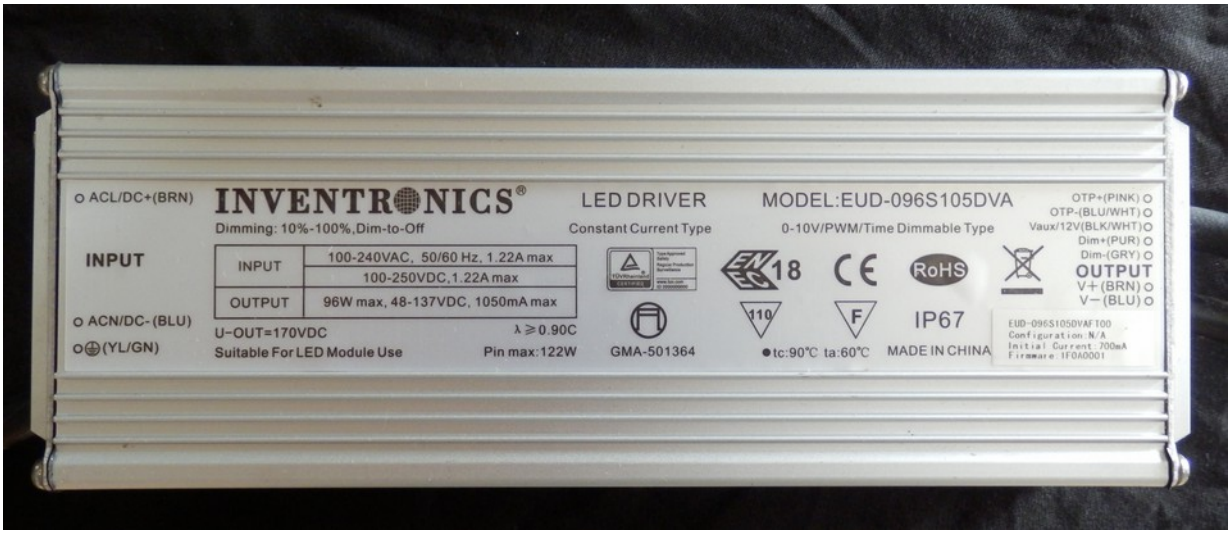

Illustration 6: LED driver

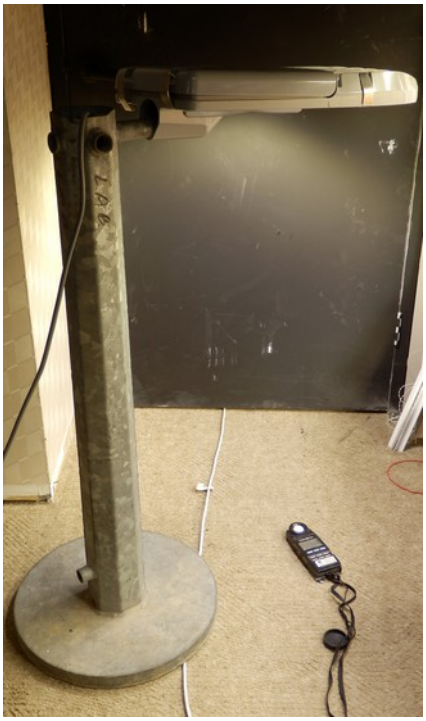

Illustration 7: Setup