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Test Report: 180801LCP

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

for RoadLED MIDI 70W

Project number: PTR 5808

Type of product: LED Streetlight

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

Model number: RoadLED MIDI 70W

Description: Sylvania RoadLED MIDI 70W with Aero Screen Visor 4K. Die cast powder coated aluminium body. Two Samsung panels with 38 LH351B 4K LED chips. Inventronics driver EUD-096S070DVA set at 0.581A.

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 Vishal Galchar

Conclusion

The Average Load (W) is 69.60W at 0.96 Power Factor.

Tested by: David Orwin On 13/08/2018 Authorised Signatory Date: 14/08/2018

Alain Yetendje

The data specified in this report relates to the sample measured under standard conditions specified in the Test Specification, and may not necessarily relate to other similar luminaires or other operating conditions. The tests and measurements covered by this document are traceable to Australian national standards of measurement. This report shall only be reproduced in full unless approved in writing by Light Emission Distribution Laboratory (LEDLab).

Results

Time till stabilisation: 3h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.166	0.291	70.169	0.962
Min	249.340	0.291	70.155	0.962
Max	250.970	0.292	70.181	0.963
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	250.14	0.2912	70.10	0.962

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.391	0.290	69.754	0.962
Min	249.820	0.289	69.744	0.962
Max	250.890	0.290	69.767	0.962
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	250.36	0.2893	69.68	0.962

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.359	0.290	69.931	0.963
Min	249.400	0.289	69.924	0.962
Max	251.130	0.291	69.939	0.963
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	250.33	0.2899	69.86	0.963

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Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.522	0.288	69.348	0.962
Min	249.730	0.287	69.335	0.961
Max	251.210	0.289	69.359	0.962
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	250.49	0.2876	69.28	0.962

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.131	0.290	69.658	0.962
Min	249.760	0.289	69.645	0.961
Max	250.640	0.290	69.667	0.962
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	250.10	0.2893	69.59	0.962

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.342	0.287	69.302	0.963
Min	249.770	0.287	69.295	0.963
Max	251.060	0.288	69.312	0.963
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	250.31	0.2872	69.23	0.963

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Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.324	0.288	69.284	0.961
Min	249.390	0.287	69.279	0.961
Max	251.380	0.289	69.290	0.962
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	250.29	0.2877	69.21	0.961

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.293	0.291	70.138	0.963
Min	249.510	0.290	70.122	0.962
Max	251.350	0.292	70.148	0.963
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	250.26	0.2908	70.07	0.963

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.343	0.288	69.248	0.962
Min	249.120	0.287	69.234	0.961
Max	251.300	0.289	69.261	0.962
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	250.31	0.2874	69.18	0.962

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.192	0.291	69.836	0.961
Min	249.420	0.290	69.819	0.960
Max	251.100	0.291	69.851	0.961
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	250.16	0.2902	69.77	0.961

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Electrical operating parameters of RoadLED Midi 70W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.166	0.291	70.099	0.962
Sample 2	250.359	0.289	69.684	0.962
Sample 3	250.328	0.290	69.862	0.963
Sample 4	250.490	0.288	69.279	0.962
Sample 5	250.099	0.289	69.588	0.962
Sample 6	250.310	0.287	69.232	0.963
Sample 7	250.292	0.288	69.215	0.961
Sample 8	250.262	0.291	70.068	0.963
Sample 9	250.312	0.287	69.178	0.962
Sample 10	250.160	0.290	69.767	0.961
Average	**250.28**	**0.29**	**69.60**	**0.96**

Illustration 1: Electrical operating parameters of RoadLED MIDI 70W

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

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Illustration 2: Luminaire

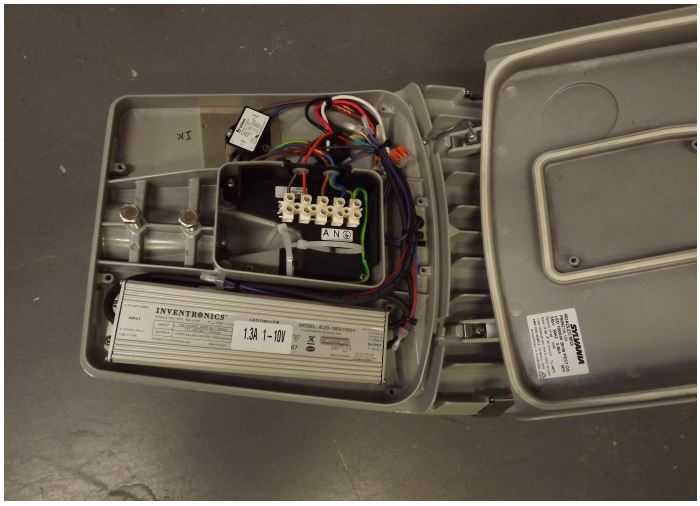

Illustration 3: Control gear

Illustration 5: Surge protector

Illustration 4: LED driver

Illustration 6: Setup

Illustration 7: LED modules

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