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

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Test Report: 170847LCP

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

for Sylvania B2001 Shade 34W 4K PECD 0003 Model No. DC99E03L34

Project No: PTR 5394

Type of product: LED Streetlight (Category P)

Prepared for: Gerard Lighting Pty Ltd

Model number: DC99E03L34

Description: 34W 4000K Post Top LED StreetLight. Features pressure die-cast aluminium body with spun aluminium canopy, acrylic refractor, 1x Samsung LED module powered from a Philips Xitanium driver 40W 0.7A Prog+ GL-J sXt model number 929000736203.

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 contact Jonas Olander, 96 Gow St, Padstow, NSW 2211

Tested by: Alain Yetendje On 07/09/2017 Authorised Signatory Date: 11/09/2017

Alain Yetendje

Conclusions

Test results are given in following Tables.
The Average Load (W) is 33.23W at 0.95 Power Factor.

Results

Time till stabilisation: 4h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.896	0.151	33.276	0.954
Min	248.960	0.151	33.267	0.954
Max	251.000	0.152	33.282	0.955
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.85	0.1512	33.22	0.954

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.833	0.151	33.114	0.952
Min	249.050	0.151	33.105	0.951
Max	250.970	0.152	33.119	0.952
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.78	0.1509	33.05	0.952

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.051	0.152	33.448	0.954
Min	249.090	0.152	33.441	0.953
Max	250.900	0.153	33.459	0.954
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.00	0.1519	33.39	0.954

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.917	0.154	33.934	0.956
Min	249.130	0.154	33.927	0.955
Max	251.210	0.155	33.941	0.956
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.87	0.1539	33.87	0.956

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.316	0.151	33.198	0.954
Min	249.560	0.150	33.191	0.954
Max	251.100	0.151	33.205	0.955
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.27	0.1505	33.14	0.954

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.538	0.150	33.000	0.953
Min	249.440	0.150	33.000	0.953
Max	251.410	0.151	33.000	0.954
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.49	0.1498	32.94	0.954

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.893	0.151	33.200	0.954
Min	248.960	0.150	33.200	0.953
Max	250.770	0.151	33.200	0.954
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.84	0.1507	33.14	0.954

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.891	0.152	33.271	0.953
Min	249.620	0.151	33.200	0.953
Max	250.270	0.152	33.300	0.953
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.84	0.1512	33.21	0.953

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.047	0.151	33.200	0.953
Min	249.580	0.151	33.200	0.953
Max	250.960	0.151	33.200	0.953
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.00	0.1509	33.14	0.953

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.378	0.151	33.300	0.954
Min	249.890	0.151	33.300	0.954
Max	251.000	0.151	33.300	0.955
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.33	0.1509	33.24	0.954

Electrical operating parameters of B2001 Shade 34W 4K

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	249.896	0.151	33.215	0.954
Sample 2	249.783	0.151	33.054	0.952
Sample 3	250.001	0.152	33.388	0.954
Sample 4	249.867	0.154	33.874	0.956
Sample 5	250.266	0.151	33.138	0.954
Sample 6	250.488	0.150	32.940	0.953
Sample 7	249.843	0.151	33.140	0.954
Sample 8	249.842	0.151	33.210	0.953
Sample 9	249.997	0.151	33.140	0.953
Sample 10	250.328	0.151	33.240	0.954
Average	**250.03**	**0.15**	**33.23**	**0.95**

Illustration 1: Electrical operating parameters of B2001 Shade 34W 4K

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 221983
Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs

Illustration 2: Luminaire

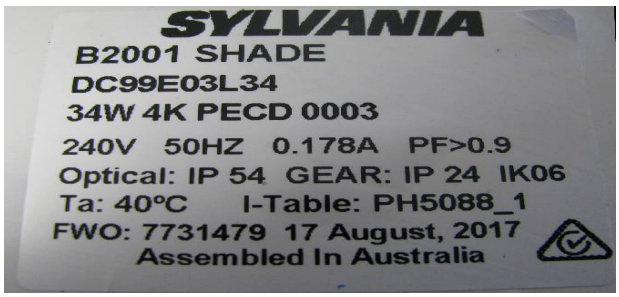

Illustration 4: Luminaire label

Illustration 3: LED module label

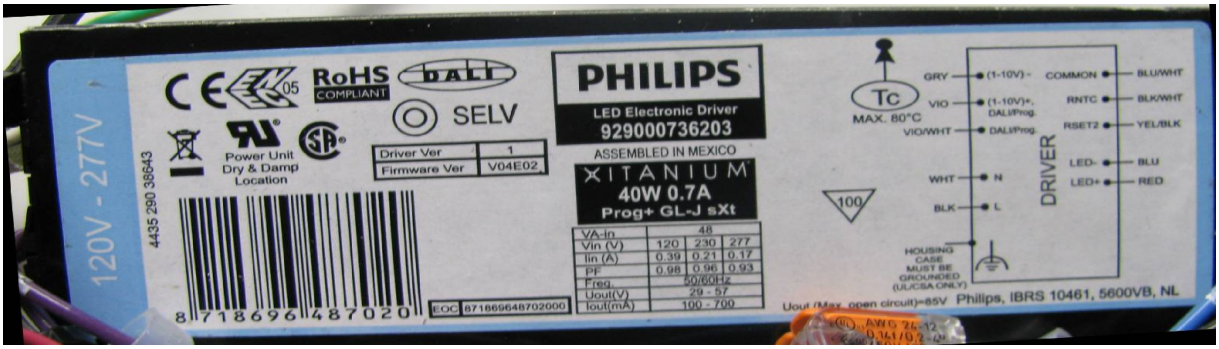

Illustration 5: LED driver

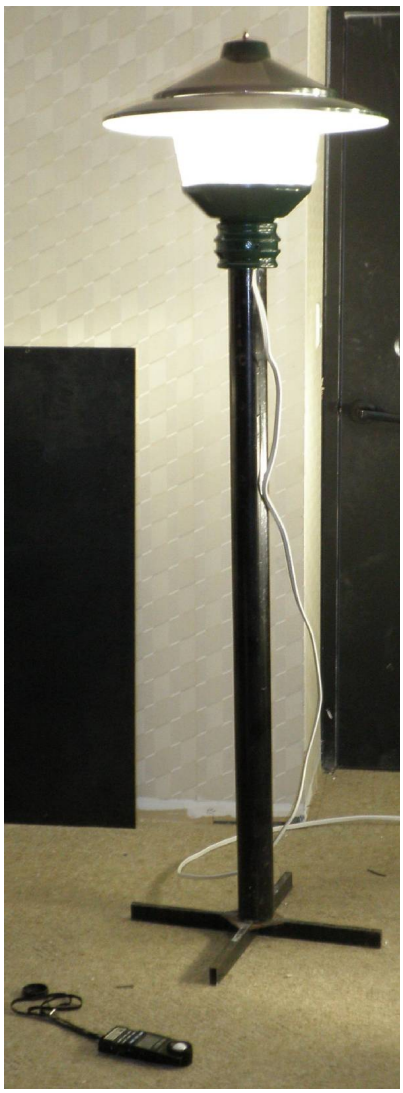

Illustration 6: Setup