

Light Emission Distribution Laboratory

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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

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).

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 4 th calibration report 221983) Instrument impedance correction (N4)	0.9998	0.9998 0.00024	0.9999 0.0576	1.0001
Final value	249.85	0.1512	33.22	0.954
	243.05	0.1312	55.22	0.554
Sample 2	Supply Voltage	Input Current	Input Power (W)	Power Factor
	(Vrms)	(Arms)		
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 4 th 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
	Supply	Input	Input Power	
Sample 3	Voltage	Current	Input Power (W)	Power Factor
	Voltage (Vrms)	Current (Arms)	(W)	
Average	Voltage (Vrms) 250.051	Current (Arms) 0.152	(W) 33.448	0.954
Average Min	Voltage (Vrms) 250.051 249.090	Current (Arms) 0.152 0.152	(W) 33.448 33.441	0.954 0.953
Average	Voltage (Vrms) 250.051	Current (Arms) 0.152	(W) 33.448	0.954
Average Min	Voltage (Vrms) 250.051 249.090	Current (Arms) 0.152 0.152	(W) 33.448 33.441	0.954 0.953
Average Min Max	Voltage (Vrms) 250.051 249.090 250.900	Current (Arms) 0.152 0.152 0.153	(W) 33.448 33.441 33.459	0.954 0.953 0.954
Average Min Max Calibration correction (see Newton 4 th calibration report 221983)	Voltage (Vrms) 250.051 249.090 250.900	Current (Arms) 0.152 0.152 0.153 0.9998	(W) 33.448 33.441 33.459 0.9999	0.954 0.953 0.954
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4)	Voltage (Vrms) 250.051 249.090 250.900 0.9998	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024	(W) 33.448 33.441 33.459 0.9999 0.0576	0.954 0.953 0.954 1.0001
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4)	Voltage (Vrms) 250.051 249.090 250.900 0.9998 250.00	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024	(W) 33.448 33.441 33.459 0.9999 0.0576 33.39	0.954 0.953 0.954 1.0001 0.954
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4) Final value	Voltage (Vrms) 250.051 249.090 250.900 0.9998 250.00 Supply	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024 0.1519	(W) 33.448 33.441 33.459 0.9999 0.0576 33.39 Input Power	0.954 0.953 0.954 1.0001 0.954
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4)	Voltage (Vrms) 250.051 249.090 250.900 0.9998 250.00	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024 0.1519 Input	(W) 33.448 33.441 33.459 0.9999 0.0576 33.39	0.954 0.953 0.954 1.0001 0.954
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4) Final value	Voltage (Vrms) 250.051 249.090 250.900 0.9998 250.00 Supply Voltage	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024 0.1519 Input Current	(W) 33.448 33.441 33.459 0.9999 0.0576 33.39 Input Power	0.954 0.953 0.954 1.0001 0.954
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4) Final value Sample 4	Voltage (Vrms) 250.051 249.090 250.900 0.9998 250.00 Supply Voltage (Vrms)	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024 0.1519 Input Current (Arms)	(W) 33.448 33.441 33.459 0.9999 0.0576 33.39 Input Power (W)	0.954 0.953 0.954 1.0001 0.954 Power Factor
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4) Final value Sample 4 Average	Voltage (Vrms) 250.051 249.090 250.900 0.9998 250.00 Supply Voltage (Vrms) 249.917	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024 0.1519 Input Current (Arms) 0.154 0.154	(W) 33.448 33.441 33.459 0.9999 0.0576 33.39 Input Power (W) 33.934	0.954 0.953 0.954 1.0001 0.954 Power Factor 0.956
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4) Final value Sample 4 Average Min	Voltage (Vrms) 250.051 249.090 250.900 0.9998 250.00 Supply Voltage (Vrms) 249.917 249.130	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024 0.1519 Input Current (Arms) 0.154	(W) 33.448 33.441 33.459 0.9999 0.0576 33.39 Input Power (W) 33.934 33.927	0.954 0.953 0.954 1.0001 0.954 Power Factor 0.956 0.955
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4) Final value Sample 4 Average Min Max	Voltage (Vrms) 250.051 249.090 250.900 0.9998 250.00 Supply Voltage (Vrms) 249.917 249.130	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024 0.1519 Input Current (Arms) 0.154 0.154 0.155	(W) 33.448 33.441 33.459 0.9999 0.0576 33.39 Input Power (W) 33.934 33.927 33.941	0.954 0.953 0.954 1.0001 0.954 Power Factor 0.956 0.955
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4) Final value Sample 4 Average Min Max Calibration correction (see Newton 4 th calibration report 221983)	Voltage (Vrms) 250.051 249.090 250.900 0.9998 250.00 Supply Voltage (Vrms) 249.917 249.130 251.210	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024 0.1519 Input Current (Arms) 0.154 0.154	(W) 33.448 33.441 33.459 0.9999 0.0576 33.39 Input Power (W) 33.934 33.927	0.954 0.953 0.954 1.0001 0.954 Power Factor 0.956 0.955 0.956
Average Min Max Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4) Final value Sample 4 Average Min Max	Voltage (Vrms) 250.051 249.090 250.900 0.9998 250.00 Supply Voltage (Vrms) 249.917 249.130 251.210	Current (Arms) 0.152 0.152 0.153 0.9998 0.00024 0.1519 Input Current (Arms) 0.154 0.154 0.155 0.9998	(W) 33.448 33.441 33.459 0.9999 0.0576 33.39 Input Power (W) 33.934 33.927 33.941 0.9999	0.954 0.953 0.954 1.0001 0.954 Power Factor 0.956 0.955 0.956

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				110011201
	Supply	Input		
Sample 5	Voltage	Current	Input Power	ower Factor
Sample 5	-		(W) 「	ower Factor
A	(Vrms)	(Arms)	22,400	0.054
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 $4^{ ext{th}}$ 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
	Supply	Input	Input Power	
Sample 6	Voltage	Current	(W)	ower Factor
	(Vrms)	(Arms)	(vv)	
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 4 th 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
	Supply	Input		
Sample 7	Voltage	Current	Input Power	Power Factor
	(Vrms)	(Arms)	(W) .	
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 4 th 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
	Supply	Input		
Sample 8	Voltage	Current	Input Power	ower Factor
	(Vrms)	(Arms)	(W)	
Average	249.891	0.152	33.271	0.953
Min	249.620	0.151	33.200	0.953
Max	250.270	0.151	33.300	0.953
Calibration correction (see Newton 4 $^{ m th}$ 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
	Supply	Input		
Sample 9	Voltage	Current	Input Power P	ower Factor
•	(Vrms)	(Arms)	(W) ·	
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
	0.0000	0.0000	0.0000	1 0001
Calibration correction (see Newton 4 th calibration report 221983) Instrument impedance correction (N4)	0.9998	0.9998 0.00024	0.9999 0.0576	1.0001
Final value	250.00	0.1509	33.14	0.953
C 1 10	Supply	Input	Input Power	_
Sample 10	Voltage	Current	(W) F	ower Factor
	(Vrms)	(Arms)		0.05.5
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 4 th 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

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Sample No.	Supply Voltage	Input Current	Input Power	Power Factor
	(Vrms)	(Arms)	(W)	
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

Electrical operating parameters of B2001 Shade 34W 4K

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

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