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

Test Report: 210333LCP

Testing of Bourke Hill II 100W/ Parkville II 100W Power for AEMO's NEM Load Table and other tests on optical systems

for Bourke Hill II 100W/ Parkville II 100W

Type of product: LED StreetLight

Prepared for: Sylvania Schréder, Bldg 4A, Parklands Estate, 21-23 South Street, Rydalmere NSW 2116 Australia

Model number: Bourke Hill II 100W/ Parkville II 100W

Description: Bourke Hill II 100W/ Parkville II 100W LED Streetlight. Features die-cast aluminium housing with powder coated finish, a tempered glass visor, 8x individual lenses, a custom 46V LED board made of 48x Samsung LH351C LED chips driven from 1x Inventronics LED driver (model number EUD-100S210DD) programmed at 2016mA.

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 Wattmeter for their twenty readings.

Client contact: Swati Dhembre

Conclusion

The Average Load (W) is 101.63W at .97 Power Factor.

Tested by: David Orwin On 25/03/2021 Authorised Signatory Date: 14/04/2021

Alain Yetendje

The data specified in this report relates to the sample measured as received from the client 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		250.161	0.416	101.287	0.972
Min		249.580	0.415	101.270	0.972
Max		250.840	0.417	101.300	0.973
Calibration correction (see Newton 4th calibr		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.22	0.4160	101.24	0.972

Sample 2		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.232	0.419	102.005	0.972
Min		249.760	0.419	101.980	0.972
Max		250.480	0.420	102.040	0.973
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.29	0.4188	101.96	0.972

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Sample 3		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.277	0.412	100.138	0.971
Min		249.540	0.411	100.120	0.971
Max		250.740	0.413	100.160	0.972
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.34	0.4115	100.09	0.971

Sample 4		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.108	0.418	101.633	0.972
Min		249.460	0.417	101.600	0.972
Max		250.450	0.419	101.660	0.972
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.17	0.4176	101.59	0.972

Sample 5		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.031	0.423	102.744	0.972
Min		249.030	0.422	102.730	0.972
Max		250.870	0.424	102.760	0.972
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.09	0.4224	102.70	0.972

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Sample 6		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.149	0.420	102.127	0.973
Min		249.520	0.419	102.110	0.973
Max		250.490	0.421	102.140	0.973
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.21	0.4193	102.08	0.973

Sample 7		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.079	0.419	101.891	0.972
Min		249.560	0.418	101.880	0.972
Max		250.480	0.420	101.900	0.973
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.14	0.4186	101.84	0.972

Sample 8		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.103	0.413	100.248	0.972
Min		249.500	0.411	100.230	0.971
Max		250.850	0.413	100.260	0.972
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.16	0.4121	100.20	0.972

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Sample 9		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		249.983	0.422	102.577	0.972
Min		249.600	0.421	102.550	0.972
Max		250.460	0.423	102.610	0.972
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.04	0.4216	102.53	0.972

Sample 10		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.068	0.420	102.124	0.972
Min		249.770	0.420	102.120	0.972
Max		250.420	0.421	102.130	0.972
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.13	0.4197	102.08	0.972

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Electrical operating parameters of Bourke Hill II 100W/ Parkville II 100W LE

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.161	0.416	101.239	0.972
Sample 2	250.232	0.419	101.957	0.972
Sample 3	250.277	0.411	100.090	0.971
Sample 4	250.108	0.418	101.585	0.972
Sample 5	250.031	0.422	102.696	0.972
Sample 6	250.149	0.419	102.080	0.973
Sample 7	250.079	0.419	101.843	0.972
Sample 8	250.103	0.412	100.200	0.972
Sample 9	249.983	0.422	102.530	0.972
Sample 10	250.068	0.420	102.077	0.972
Average	250.12	**0.42**	**101.63**	**0.97**

Illustration 1: Electrical operating parameters of Bourke Hill II 100W/ Parkville II 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: PlusEs report no. 2020002794
Luminaire thermometer: AMA S No. 1086110-0.1°

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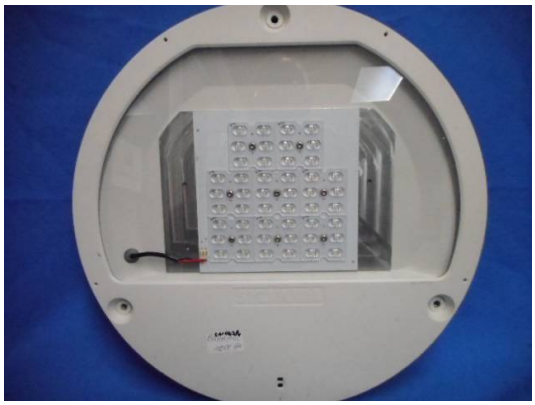

Illustration 3: Luminaire

Illustration 2: Setup

Illustration 4: LED driver