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Test Report: 210331LCP

Testing of Bourke Hill II 60W/ Parkville II 60W Power for AEMO's NEM Load Table and other tests on optical systems

for Bourke Hill II 60W/ Parkville II 60W

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 60W/ Parkville II 60W

Description: Bourke Hill II 60W/ Parkville II 60W 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 1218mA.

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 60.90W at .94 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		250.269	0.257	60.223	0.936
Min		249.970	0.257	60.214	0.936
Max		250.550	0.257	60.235	0.936
Calibration correction (see Newton 4th calibr		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.33	0.2568	60.17	0.936

Sample 2		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.191	0.259	60.739	0.936
Min		249.480	0.259	60.725	0.936
Max		250.480	0.260	60.753	0.937
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.25	0.2589	60.69	0.936

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Sample 3		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.076	0.258	60.420	0.938
Min		249.520	0.257	60.408	0.938
Max		250.470	0.258	60.436	0.939
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	0.2572	60.37	0.938

Sample 4		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.224	0.259	60.949	0.939
Min		249.490	0.259	60.944	0.939
Max		250.540	0.260	60.959	0.940
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	0.2590	60.90	0.939

Sample 5		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		249.955	0.262	61.383	0.937
Min		249.510	0.262	61.377	0.936
Max		250.490	0.263	61.394	0.937
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.02	0.2618	61.33	0.937

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Sample 6		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.137	0.261	61.194	0.938
Min		249.550	0.261	61.189	0.937
Max		250.490	0.261	61.199	0.938
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.20	0.2606	61.14	0.938

Sample 7		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.169	0.261	61.372	0.939
Min		249.590	0.261	61.356	0.938
Max		250.450	0.262	61.395	0.939
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.23	0.2610	61.32	0.939

Sample 8		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.203	0.258	60.455	0.938
Min		249.660	0.257	60.447	0.938
Max		250.490	0.258	60.459	0.939
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.26	0.2572	60.40	0.938

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Sample 9		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.086	0.262	61.525	0.939
Min		249.610	0.262	61.514	0.938
Max		250.400	0.263	61.537	0.939
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.15	0.2617	61.47	0.939

Sample 10		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		249.993	0.261	61.272	0.938
Min		249.550	0.261	61.261	0.938
Max		250.350	0.262	61.282	0.939
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.06	0.2608	61.22	0.938

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Electrical operating parameters of Bourke Hill II 60W/ Parkville II 60W LED				
Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.269	0.257	60.171	0.936
Sample 2	250.191	0.259	60.687	0.936
Sample 3	250.076	0.257	60.368	0.938
Sample 4	250.224	0.259	60.897	0.939
Sample 5	249.955	0.262	61.332	0.937
Sample 6	250.137	0.261	61.142	0.938
Sample 7	250.169	0.261	61.320	0.939
Sample 8	250.203	0.257	60.403	0.938
Sample 9	250.086	0.262	61.473	0.939
Sample 10	249.993	0.261	61.220	0.938
Average	250.13	**0.26**	**60.90**	**0.94**

Illustration 1: Electrical operating parameters of Bourke Hill II 60W/ Parkville II 60W

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