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: 210332LCP

Testing of Bourke Hill II 80W/ Parkville II 80W Power for AEMO's NEM Load Table and other tests on optical systems

for Bourke Hill II 80W/ Parkville II 80W

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 80W/ Parkville II 80W

Description: Bourke Hill II 80W/ Parkville II 80W 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 1596mA.

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 79.74W at .96 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		250.244	0.330	79.208	0.958
Min		249.820	0.330	79.194	0.958
Max		250.590	0.331	79.215	0.959
Calibration correction (see Newton 4th calibr		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.31	0.3299	79.16	0.958

Sample 2		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.268	0.332	79.773	0.959
Min		249.700	0.332	79.761	0.959
Max		250.540	0.333	79.785	0.959
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.33	0.3321	79.72	0.959

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Sample 3		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.196	0.329	78.772	0.958
Min		249.540	0.328	78.760	0.958
Max		250.790	0.329	78.784	0.959
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	0.3282	78.72	0.958

Sample 4		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.113	0.332	79.645	0.959
Min		249.580	0.332	79.626	0.959
Max		250.490	0.333	79.672	0.959
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	0.3317	79.59	0.959

Sample 5		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.228	0.336	80.456	0.958
Min		249.500	0.335	80.443	0.958
Max		250.980	0.336	80.473	0.958
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	0.3353	80.41	0.958

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Sample 6		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.142	0.334	80.112	0.959
Min		249.210	0.333	80.095	0.959
Max		250.730	0.335	80.130	0.960
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	0.3335	80.06	0.959

Sample 7		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.321	0.335	80.430	0.959
Min		249.650	0.335	80.423	0.959
Max		250.490	0.336	80.437	0.960
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.38	0.3345	80.38	0.959

Sample 8		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.028	0.329	78.830	0.958
Min		249.540	0.329	78.820	0.958
Max		250.360	0.330	78.850	0.959
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	0.3286	78.78	0.958

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Sample 9		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.238	0.335	80.503	0.959
Min		249.640	0.334	80.480	0.959
Max		251.170	0.336	80.519	0.959
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.30	0.3350	80.45	0.959

Sample 10		Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average		250.019	0.334	80.165	0.959
Min		249.310	0.334	80.141	0.959
Max		250.440	0.335	80.178	0.959
Calibration correction (see Newton 4th c		1.00025	0.99958	1.00010	1.0000
Instrument impedance correction (N4)			0.00024	0.0576	
Final value		250.08	0.3339	80.11	0.959

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Electrical operating parameters of Bourke Hill II 80W/ Parkville II 80W LED

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.244	0.330	79.158	0.958
Sample 2	250.268	0.332	79.723	0.959
Sample 3	250.196	0.328	78.722	0.958
Sample 4	250.113	0.332	79.595	0.959
Sample 5	250.228	0.335	80.406	0.958
Sample 6	250.142	0.334	80.063	0.959
Sample 7	250.321	0.335	80.380	0.959
Sample 8	250.028	0.329	78.780	0.958
Sample 9	250.238	0.335	80.453	0.959
Sample 10	250.019	0.334	80.115	0.959
Average	250.18	**0.33**	**79.74**	**0.96**

Illustration 1: Electrical operating parameters of Bourke Hill II 80W/ Parkville II 80W

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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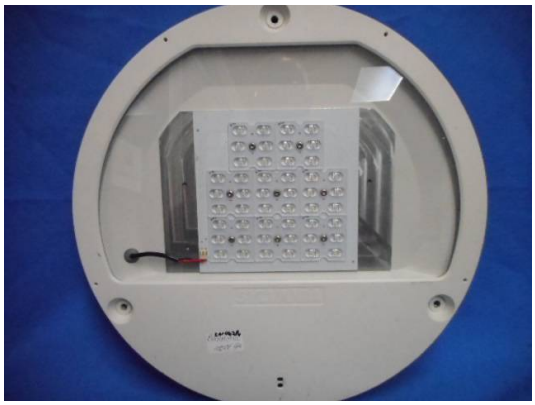

Illustration 3: Luminaire

Illustration 2: Setup

Illustration 4: LED driver