



Light Emission Distribution Laboratory

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Accreditation No. 19541

Test Report: 200105LCP

Testing of LED Street Pole-top Luminaire Power for AEMO's NEM Load Table and other tests on optical systems

for Street Pole Top Model No. EH77

Type of product: LED Pole-top Luminaire

Prepared for: illuminotecnica, Suite 100, Jones Bay Wharf, 26-32 Pirrama Road, Pyrmont, NSW 2009

Model number: EH77

Description: Street Pole Top - 23.2W Pole-mounted LED luminaire. Features die-cast aluminium body, glass visor, an LED module powered from a Philips Xitanium LED driver (model number 9290 014 085).

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: illuminotecnica, Suite 100, Jones Bay Wharf, 26-32 Pirrama Road, Pyrmont, NSW 2009 contact Robert Woodward

Conclusion

The Average Load (W) is 23.45W at 0.91 Power Factor.

Tested by: David Orwin

On 06/01/2020

Authorised Signatory

Date: 13/01/2020

Alain Yetendje

Results

Time till stabilisation: 2h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.038	0.102	23.389	0.917
Min	249.520	0.102	23.384	0.917
Max	250.430	0.102	23.394	0.918
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.01	0.1018	23.33	0.917
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.047	0.102	23.417	0.917
Min	249.540	0.102	23.411	0.917
Max	250.460	0.102	23.424	0.918
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.02	0.1019	23.36	0.917
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.242	0.105	23.967	0.915
Min	249.430	0.105	23.962	0.915
Max	250.640	0.105	23.971	0.916
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.21	0.1044	23.91	0.915

The tests and measurements covered by this document are traceable to Australian national standards of measurement.

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Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.094	0.103	23.467	0.914
Min	249.870	0.103	23.462	0.913
Max	250.290	0.103	23.473	0.915
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.06	0.1024	23.40	0.914
Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.356	0.103	23.557	0.916
Min	250.230	0.103	23.552	0.915
Max	250.490	0.103	23.562	0.916
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.32	0.1025	23.49	0.916
Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.194	0.102	23.437	0.914
Min	249.680	0.102	23.432	0.914
Max	250.520	0.103	23.443	0.914
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.16	0.1022	23.38	0.914

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Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.155	0.103	23.523	0.916
Min	249.670	0.103	23.518	0.915
Max	250.680	0.103	23.528	0.916
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.12	0.1024	23.46	0.916
Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.110	0.103	23.526	0.914
Min	249.560	0.103	23.521	0.914
Max	250.460	0.103	23.531	0.915
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.08	0.1027	23.46	0.914
Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.134	0.102	23.361	0.912
Min	249.670	0.102	23.355	0.912
Max	250.470	0.102	23.366	0.913
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.10	0.1021	23.30	0.912
Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.171	0.103	23.447	0.912
Min	249.730	0.103	23.442	0.912
Max	250.440	0.103	23.452	0.913
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.14	0.1025	23.39	0.912

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Electrical operating parameters of 23.2W Street Pole Top

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.038	0.102	23.327	0.917
Sample 2	250.016	0.102	23.355	0.917
Sample 3	250.211	0.104	23.906	0.915
Sample 4	250.062	0.102	23.405	0.914
Sample 5	250.324	0.103	23.495	0.916
Sample 6	250.163	0.102	23.375	0.914
Sample 7	250.124	0.102	23.461	0.916
Sample 8	250.079	0.103	23.465	0.914
Sample 9	250.103	0.102	23.300	0.912
Sample 10	250.140	0.102	23.386	0.912
Average	250.13	0.10	23.45	0.91

Illustration 1: Electrical operating parameters of Street Pole Top

Uncertainties

At a Confidence Level of 95% with a Coverage Factor of 2

Supply Voltage: $\pm 0.07\%$

Supply Current: $\pm 0.14\%$

Supply Power: $\pm 0.19\%$

Power Factor: ± 0.005

Ambient Temperature: $\pm 1^\circ\text{C}$

Test Equipment Used

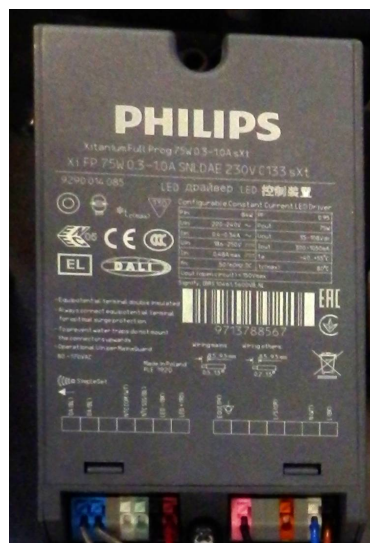
Power meter: Newton 4th Power Analyser KinetiQ Model PPA2520 SN 133-00467

Power meter integration time (s): 5

Calibration Report: Ausgrid NC17.36115

Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs

*Illustration 2: LED driver*

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Illustration 4: Luminaire



Illustration 3: Geartray

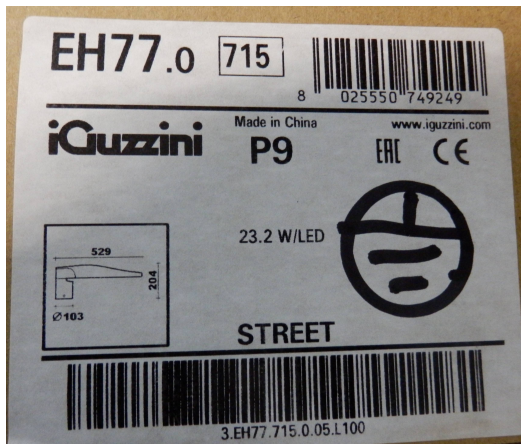


Illustration 5: Label