



Test Report: 220819LCP

Testing of Road Light Power for AEMO's NEM Load Table for Unmetered Loads on Road lighting luminaires

For Kensington MK II 30W

Type of product: Post Top Decorative Streetlight

Model Number: Kensington II, KX47Z0001L30

Prepared for: Schröder Australia Pty. Ltd

Description: 30W Sylvania LED Decorative Streetlight. Features die-cast aluminium body with powder coated finish, Acrylic/PMMA diffuser, 2x Samsung LED modules made of 9x LH351C Samsung LED chips driven from an Inventronics LED driver (model no. EUM-030S105DE set at 1000mA).

Test objective

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_v2_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

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Conclusions

The Average Load (W) is 30.09W at 0.976 Power Factor.

Tested by:
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16/08/2022

Authorised Signatory

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Date: 16/08/2022



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Results

Time till stabilisation: 2h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.121	0.122	29.837	0.976
Min	249.890	0.122	29.833	0.976
Max	250.230	0.122	29.841	0.976
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.18	0.122	29.84	0.976

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.091	0.122	29.723	0.975
Min	249.810	0.122	29.721	0.975
Max	250.280	0.122	29.726	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.15	0.122	29.73	0.975

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.384	0.122	29.759	0.975
Min	250.090	0.122	29.755	0.975
Max	250.680	0.122	29.761	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.45	0.122	29.76	0.975



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Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.151	0.125	30.423	0.976
Min	250.030	0.124	30.419	0.976
Max	250.290	0.125	30.432	0.976
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.21	0.125	30.43	0.976

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.233	0.122	29.814	0.976
Min	249.750	0.122	29.810	0.976
Max	250.590	0.122	29.817	0.976
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.29	0.122	29.82	0.976

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.211	0.123	30.042	0.975
Min	249.950	0.123	30.038	0.975
Max	250.400	0.123	30.047	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.27	0.123	30.04	0.975

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.176	0.124	30.306	0.975
Min	249.950	0.124	30.303	0.975
Max	250.310	0.124	30.312	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.24	0.124	30.31	0.975



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Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.294	0.124	30.320	0.976
Min	250.030	0.124	30.317	0.976
Max	250.620	0.124	30.323	0.976
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.36	0.124	30.32	0.976

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.204	0.125	30.585	0.976
Min	249.850	0.125	30.581	0.976
Max	250.630	0.125	30.588	0.976
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.27	0.125	30.59	0.976

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.985	0.123	30.059	0.976
Min	249.740	0.123	30.053	0.976
Max	250.130	0.123	30.064	0.976
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.05	0.123	30.06	0.976



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Table 1. Electrical operating parameters of Kensington II model KX47Z0001L30

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.18	0.122	29.84	0.976
Sample 2	250.15	0.122	29.73	0.975
Sample 3	250.45	0.122	29.76	0.975
Sample 4	250.21	0.125	30.43	0.976
Sample 5	250.29	0.122	29.82	0.976
Sample 6	250.27	0.123	30.04	0.975
Sample 7	250.24	0.124	30.31	0.975
Sample 8	250.36	0.124	30.32	0.976
Sample 9	250.27	0.125	30.59	0.976
Sample 10	250.05	0.123	30.06	0.976
Average	250.25	0.123	30.09	0.976

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: PlusEs report no. 2020002794

Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs



Photo 1. Luminaire.



Photo 2. Luminaire.



Photo 3. Light source.

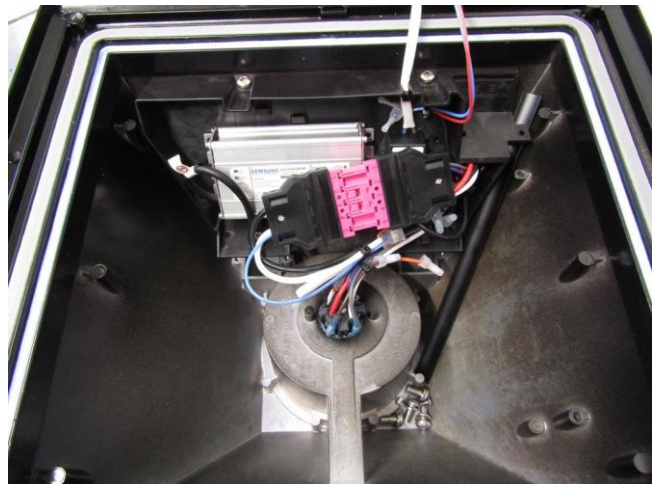


Photo 4. Gear tray.



Photo 5. LED driver.



Photo 6. Luminaire label.



Photo 7. Luminaire during test.



Photo 8. Luminaire during test.