



Test Report: 230112LCP

Testing of Road Light Power for AEMO's NEM Load Table for Unmetered Loads on Road lighting luminaires for 225W RoadFlair LED Streetlight

Type of product: LED Streetlight

Model Number: BRP394 LED324/WW 225W DWV PSD P7

Prepared for: Signify

Description: 225W LED Streetlight. 220-240V~, 50/60Hz, PF: 0.95, 1A, IP66, IK08, Ta 40°C, Class I luminaire. Features die-cast aluminium housing and polycarbonate optical cover and lens. 8x custom LED board driven from 2x Philips LED driver (model no. Xi FP 150W 0.2-0.7A SDAE 230V sXt).

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 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 Jacek Lipiec, Signify Australia Ltd, 65 Epping Rd, North Ryde NSW 2113, Australia.

Conclusions

The Average Load (W) is 226.08W at 0.990 Power Factor.

Tested by:
Adrian Gagla

1/02/2023

Authorised Signatory

David Ford

Date: 1/02/2023



Test Report: 230112LCP

Results

Time till stabilisation: 2h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.908	0.914	226.245	0.991
Min	249.780	0.913	226.230	0.991
Max	250.050	0.914	226.260	0.991
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.97	0.913	226.27	0.991

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.906	0.909	225.018	0.990
Min	249.700	0.909	225.000	0.990
Max	250.040	0.910	225.040	0.990
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.97	0.909	225.04	0.990

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.879	0.908	224.565	0.990
Min	249.260	0.905	224.550	0.990
Max	250.520	0.910	224.580	0.990
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.94	0.907	224.59	0.990



Test Report: 230112LCP

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.896	0.910	225.216	0.990
Min	249.590	0.909	225.170	0.990
Max	250.160	0.911	225.270	0.990
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.96	0.910	225.24	0.990

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.916	0.908	224.660	0.990
Min	249.740	0.908	224.650	0.990
Max	250.010	0.909	224.690	0.990
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.98	0.908	224.68	0.990

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.973	0.914	226.214	0.990
Min	249.810	0.914	226.190	0.990
Max	250.110	0.915	226.240	0.990
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.03	0.914	226.24	0.990

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.061	0.915	226.385	0.990
Min	249.910	0.914	226.370	0.990
Max	250.200	0.915	226.410	0.990
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.12	0.914	226.41	0.990



Test Report: 230112LCP

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.915	0.912	225.607	0.990
Min	249.790	0.911	225.600	0.990
Max	250.030	0.912	225.620	0.990
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.98	0.911	225.63	0.990

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.891	0.922	228.134	0.990
Min	249.710	0.922	228.120	0.990
Max	250.000	0.923	228.150	0.990
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.95	0.922	228.16	0.990

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.063	0.924	228.523	0.989
Min	249.800	0.923	228.510	0.989
Max	250.260	0.925	228.540	0.989
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.12	0.923	228.54	0.989



Test Report: 230112LCP

Table 1. Electrical operating parameters of BRP394 LED324/WW 225W DWV PSD P7

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	249.97	0.913	226.27	0.991
Sample 2	249.97	0.909	225.04	0.990
Sample 3	249.94	0.907	224.59	0.990
Sample 4	249.96	0.910	225.24	0.990
Sample 5	249.98	0.908	224.68	0.990
Sample 6	250.03	0.914	226.24	0.990
Sample 7	250.12	0.914	226.41	0.990
Sample 8	249.98	0.911	225.63	0.990
Sample 9	249.95	0.922	228.16	0.990
Sample 10	250.12	0.923	228.54	0.989
Average	250.00	0.913	226.08	0.990

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.

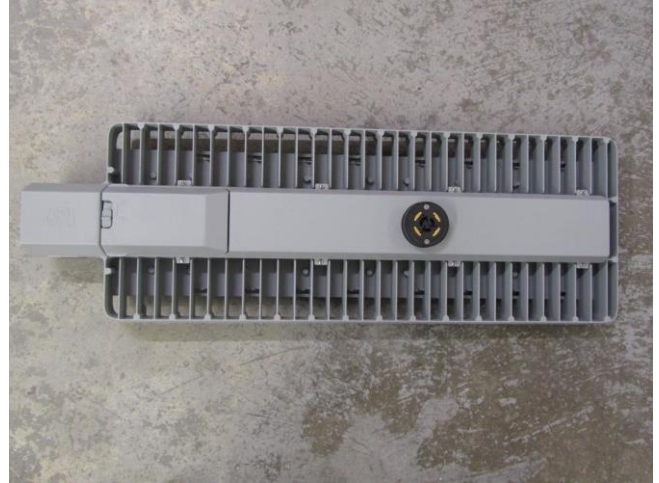


Photo 2. Luminaire.



Photo 3. LED boards.

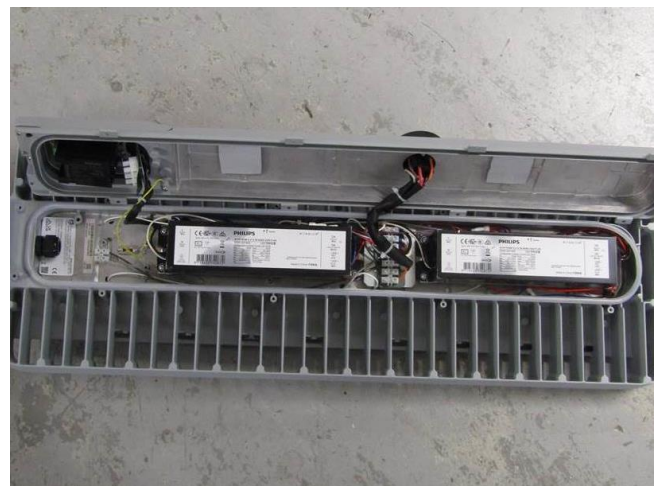


Photo 4. Gear tray.

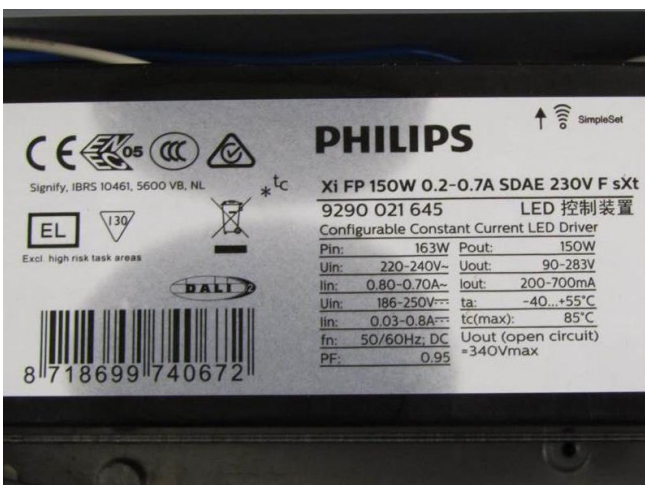


Photo 5. LED driver.

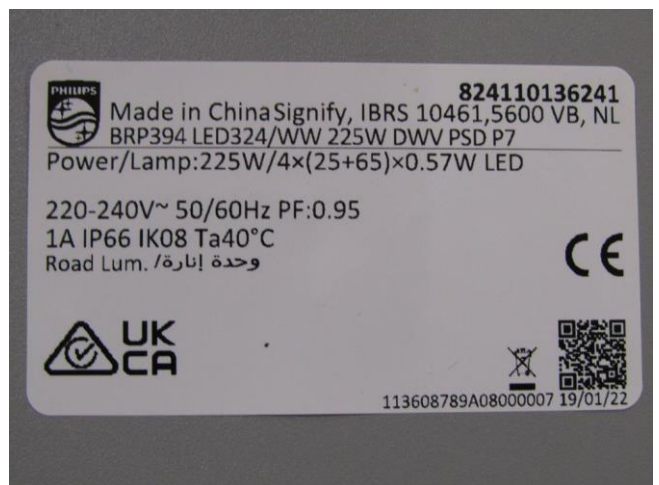


Photo 6. Luminaire label.



Photo 7. Luminaire during test.



Photo 8. Marking.