



Test Report: 220509LCP

Testing of Road Light Power for AEMO's NEM Load Table for Unmetered Loads on Road lighting luminaires for Philips BRP393 LED288/NW 204W DWV PSD P7 ANZ

Type of product: LED Streetlight

Model Number: BRP393 LED288/NW 204W DWV PSD P7 ANZ

Prepared for: Philips

Description: 220-240V LED Streetlight. IP66, IK08, Ta 40°C, Class I luminaire. Features die-cast aluminium housing and polycarbonate optical cover and lens. 4x custom LED boards driven from 2x Philips LED driver (model no. Xi FP 150W 0.2-0.7A SDAE 230V F 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 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 Jacek Lipiec, Signify Australia Ltd, 65 Epping Rd, North Ryde NSW 2113, Australia.

Conclusions

The Average Load (W) is 207.50W at 0.989 Power Factor.

Tested by:
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11/05/2022

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Date: 11/05/2022



Results

Time till stabilisation: 2h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.972	0.839	207.394	0.989
Min	249.440	0.838	207.370	0.989
Max	250.340	0.841	207.410	0.989
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.03	0.839	207.41	0.989

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.032	0.837	207.000	0.989
Min	249.700	0.836	206.970	0.989
Max	250.330	0.838	207.020	0.989
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.09	0.837	207.02	0.989

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.976	0.835	206.442	0.989
Min	249.710	0.834	206.400	0.989
Max	250.300	0.836	206.470	0.989
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.04	0.835	206.46	0.989



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Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.061	0.836	206.743	0.989
Min	249.490	0.834	206.700	0.989
Max	250.620	0.838	206.790	0.989
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.12	0.835	206.76	0.989

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.090	0.840	207.671	0.989
Min	249.700	0.836	207.640	0.989
Max	251.340	0.841	207.700	0.989
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.15	0.839	207.69	0.989

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.988	0.840	207.703	0.989
Min	249.630	0.839	207.650	0.989
Max	250.310	0.841	207.770	0.989
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.05	0.840	207.72	0.989

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.999	0.839	207.725	0.990
Min	249.640	0.838	207.670	0.990
Max	250.550	0.841	207.760	0.990
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.06	0.839	207.74	0.990

The tests and measurements covered by this document are traceable to Australian national standards of measurement.
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Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.994	0.839	207.511	0.989
Min	249.650	0.838	207.480	0.989
Max	250.320	0.841	207.550	0.989
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.06	0.839	207.53	0.989

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.037	0.841	208.003	0.989
Min	249.750	0.839	207.940	0.989
Max	250.590	0.842	208.080	0.989
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.10	0.841	208.02	0.989

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.971	0.844	208.624	0.989
Min	249.790	0.843	208.600	0.989
Max	250.080	0.844	208.660	0.989
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	0.99962	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.03	0.843	208.64	0.989



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Table 1. Electrical operating parameters of Philips BRP393 LED288/NW 204W DWV PSD P7 ANZ

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.03	0.839	207.41	0.989
Sample 2	250.09	0.837	207.02	0.989
Sample 3	250.04	0.835	206.46	0.989
Sample 4	250.12	0.835	206.76	0.989
Sample 5	250.15	0.839	207.69	0.989
Sample 6	250.05	0.840	207.72	0.989
Sample 7	250.06	0.839	207.74	0.990
Sample 8	250.06	0.839	207.53	0.989
Sample 9	250.10	0.841	208.02	0.989
Sample 10	250.03	0.843	208.64	0.989
Average	250.07	0.839	207.50	0.989

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.

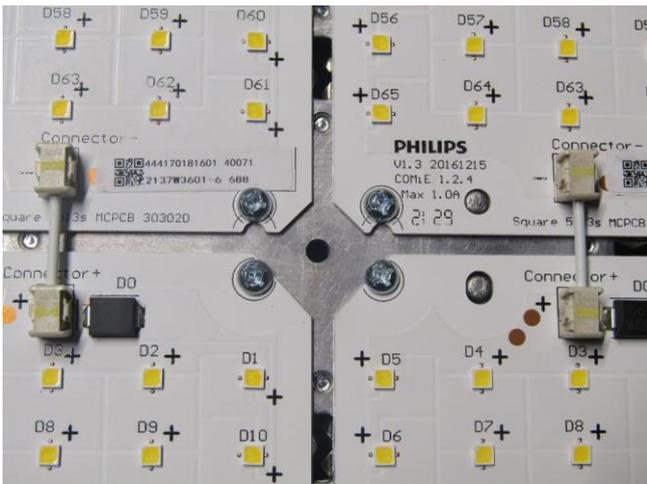


Photo 3. LED board marking.



Photo 4. LED driver.



Photo 5. Diffuser.

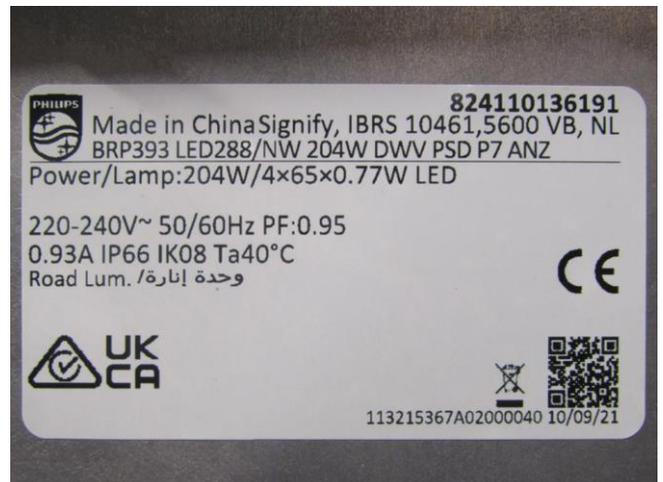


Photo 6. Luminaire label.



Photo 7. Gear tray.



Photo 8. Gear tray.



Photo 9. Luminaire during test.



Photo 10. Label.