



Test Report: 211023LCP

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

For BVP381 LED65/NW 50W

Type of product: LED Floodlight

Model Number: BVP381 LED65/NW 50W

Prepared for: Signify

Description: 50W LED Floodlight. Features die-cast aluminium housing, polycarbonate diffuser and lenses, 1x LED module driven from a Philips LED driver (model number XiFP 75W 0.2 – 0.7A SNLDAE 230V S240 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, 65 Epping Rd, North Ryde, NSW 2113

Conclusions

The Average Load (W) is 53.79W at 0.975 Power Factor.

Tested by:
David Orwin

On 19/10/2021

Authorized Signatory

Date: 20/10/2021

Alain Yetendje



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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	250.066	0.222	54.112	0.976
Min	249.850	0.221	54.108	0.976
Max	250.490	0.222	54.116	0.976
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.13	0.222	54.12	0.976

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.102	0.220	53.667	0.975
Min	250.020	0.220	53.661	0.975
Max	250.210	0.220	53.673	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.16	0.220	53.67	0.975

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.070	0.219	53.507	0.975
Min	249.750	0.219	53.501	0.975
Max	250.300	0.220	53.515	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.13	0.219	53.51	0.975



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Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.185	0.221	53.828	0.975
Min	249.760	0.220	53.818	0.975
Max	250.720	0.221	53.841	0.976
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.25	0.221	53.83	0.975

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.365	0.220	53.745	0.976
Min	250.000	0.220	53.738	0.976
Max	250.620	0.220	53.752	0.976
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.43	0.220	53.75	0.976

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.308	0.221	53.831	0.975
Min	249.980	0.220	53.823	0.975
Max	250.510	0.221	53.839	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.37	0.221	53.84	0.975



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Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.281	0.220	53.679	0.975
Min	250.040	0.220	53.674	0.975
Max	250.620	0.220	53.682	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.34	0.220	53.68	0.975

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.125	0.222	54.033	0.975
Min	249.860	0.221	54.028	0.975
Max	250.270	0.222	54.039	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.19	0.222	54.04	0.975

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.189	0.221	53.798	0.975
Min	249.820	0.220	53.789	0.975
Max	250.590	0.221	53.808	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.25	0.221	53.80	0.975



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Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.101	0.220	53.652	0.975
Min	249.870	0.220	53.649	0.975
Max	250.360	0.220	53.660	0.975
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00009	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.16	0.220	53.66	0.975



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Table 1. Electrical operating parameters of BVP381 LED65/NW 50W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.13	0.222	54.12	0.976
Sample 2	250.16	0.220	53.67	0.975
Sample 3	250.13	0.219	53.51	0.975
Sample 4	250.25	0.221	53.83	0.975
Sample 5	250.43	0.220	53.75	0.976
Sample 6	250.37	0.221	53.84	0.975
Sample 7	250.34	0.220	53.68	0.975
Sample 8	250.19	0.222	54.04	0.975
Sample 9	250.25	0.221	53.80	0.975
Sample 10	250.16	0.220	53.66	0.975
Average	250.24	0.220	53.79	0.975

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.

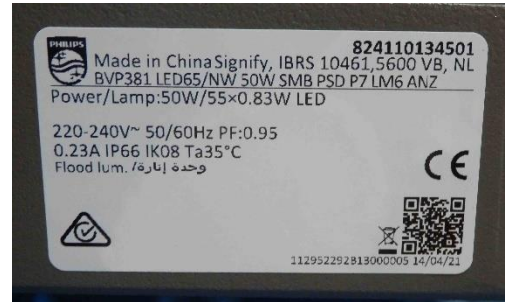


Photo 2. Luminaire label.

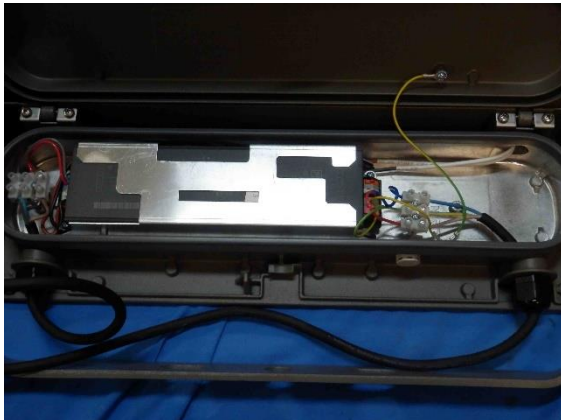


Photo 3. Geartray.



Photo 4. LED driver.



Photo 5. Setup.