Light Emission Distribution Laboratory
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Test Report: 211024LCP

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

For BVP383 LED260/NW 200W

Type of product: LED Floodlight

Model Number: BVP383 LED260/NW 200W

Prepared for: Signify

Description: 200W LED Floodlight. Features die-cast aluminium housing, polycarbonate diffuser and lenses, 3x LED modules driven from 2x Philips LED drivers (model number XiFP 150W 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

Conclusions

The Average Load (W) is 205.94W at 0.989 Power Factor.

Tested by: David Orwin — On 19/10/2021

Authorized Signatory: Alain Yetendje — Date: 20/10/2021

Results

Time till stabilisation: 2h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.378	0.840	207.969	0.989
Min	249.980	0.839	207.950	0.989
Max	250.620	0.841	207.990	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	**250.44**	**0.840**	**207.99**	**0.989**

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.170	0.835	206.666	0.989
Min	249.980	0.835	206.660	0.989
Max	250.300	0.836	206.680	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	**250.23**	**0.835**	**206.69**	**0.989**

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.358	0.832	205.940	0.989
Min	249.910	0.829	205.910	0.989
Max	251.040	0.833	205.980	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	**250.42**	**0.831**	**205.96**	**0.989**

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.403	0.830	205.616	0.989
Min	250.140	0.829	205.600	0.989
Max	250.660	0.831	205.630	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	**250.46**	**0.830**	**205.64**	**0.989**

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.468	0.827	204.773	0.989
Min	250.160	0.826	204.750	0.989
Max	250.720	0.828	204.800	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	**250.53**	**0.827**	**204.79**	**0.989**

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.113	0.834	206.160	0.989
Min	249.920	0.832	206.140	0.989
Max	250.410	0.834	206.190	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	**250.17**	**0.833**	**206.18**	**0.989**

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.322	0.832	206.063	0.989
Min	249.940	0.831	206.030	0.989
Max	250.590	0.833	206.090	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	**250.38**	**0.832**	**206.08**	**0.989**

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.220	0.829	205.184	0.989
Min	249.940	0.827	205.150	0.989
Max	250.660	0.830	205.220	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	**250.28**	**0.828**	**205.20**	**0.989**

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.108	0.830	205.212	0.989
Min	249.950	0.829	205.200	0.989
Max	250.260	0.830	205.220	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	**250.17**	**0.829**	**205.23**	**0.989**

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.111	0.832	205.611	0.989
Min	249.670	0.830	205.600	0.989
Max	250.610	0.833	205.630	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	**250.17**	**0.831**	**205.63**	**0.989**

Table 1. Electrical operating parameters of BVP383 LED260/NW 200W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.44	0.840	207.99	0.989
Sample 2	250.23	0.835	206.69	0.989
Sample 3	250.42	0.831	205.96	0.989
Sample 4	250.46	0.830	205.64	0.989
Sample 5	250.53	0.827	204.79	0.989
Sample 6	250.17	0.833	206.18	0.989
Sample 7	250.38	0.832	206.08	0.989
Sample 8	250.28	0.828	205.20	0.989
Sample 9	250.17	0.829	205.23	0.989
Sample 10	250.17	0.831	205.63	0.989
Average	**250.33**	**0.832**	**205.94**	**0.989**

Uncertainties

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

Supply Voltage: ± 0.07%
Supply Current: ± 0.14%
Supply Power: ± 0.19%
Power Factor: ± 0.005
Ambient Temperature: ± 1°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.