Light Emission Distribution Laboratory
Division of Photometry & Electrical Testing Pty. Ltd ABN 11 166 255 134
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Accredited for compliance with ISO/IEC 17025 – Testing. Accreditation No. 19541

Test Report: 221221LCP

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

For GreenVision Xceed Gen2 70W LED Streetlight

Type of product: LED Streetlight

Model Number: BRP381 LED91/NW 70W 220-240V DWV P7 HP

Prepared for: Signify

Description: 70W LED Streetlight. 220-240V~, 50/60Hz, PF: 0.95, 0.32A, IP66, IK08, Ta 40°C, Class I luminaire. Features die-cast aluminium housing and polycarbonate optical cover and lens. 1x custom LED board driven from 1x Philips LED driver (model no. Xi SR 75W 0.2-0.7A SNEMP 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 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 69.90W at 0.975 Power Factor.

Tested by:	10/01/2023	Authorised Signatory	Date: 10/01/2023
Adrian Gagla		David Ford	

The data specified in this report relates to the sample measured as received from the client under standard conditions specified in the Test Specification and may not necessarily relate to other similar luminaires or other operating conditions. The tests and measurements covered by this document are traceable to Australian national standards of measurement. This report shall only be reproduced in full unless approved in writing by Light Emission Distribution Laboratory (LEDLab). The test was performed at Hornsby Laboratory, Unit 4, 140 George St., Hornsby, NSW 2077, Australia.

Results

Time till stabilisation: 3h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.927	0.287	70.032	0.976
Min	249.730	0.287	70.009	0.976
Max	250.160	0.287	70.061	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	**249.99**	**0.287**	**70.04**	**0.976**

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.974	0.286	69.689	0.976
Min	249.900	0.286	69.677	0.976
Max	250.100	0.286	69.720	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	**250.04**	**0.286**	**69.70**	**0.976**

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.929	0.285	69.361	0.975
Min	249.770	0.284	69.352	0.975
Max	250.060	0.285	69.386	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	**249.99**	**0.285**	**69.37**	**0.975**

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Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.953	0.288	70.081	0.975
Min	249.680	0.287	70.074	0.975
Max	250.120	0.288	70.102	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	**250.01**	**0.288**	**70.09**	**0.975**

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.980	0.286	69.623	0.974
Min	249.760	0.286	69.611	0.974
Max	250.140	0.286	69.643	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	**250.04**	**0.286**	**69.63**	**0.974**

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.809	0.287	69.987	0.976
Min	249.600	0.287	69.976	0.976
Max	249.980	0.287	70.003	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	**249.87**	**0.287**	**69.99**	**0.976**

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.063	0.287	69.988	0.975
Min	249.930	0.287	69.982	0.975
Max	250.250	0.287	69.997	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	**250.12**	**0.287**	**70.00**	**0.975**

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Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.937	0.288	70.260	0.975
Min	249.820	0.288	70.252	0.975
Max	250.060	0.288	70.267	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	**250.00**	**0.288**	**70.27**	**0.975**

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.942	0.286	69.845	0.976
Min	249.790	0.286	69.836	0.976
Max	250.100	0.287	69.858	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	**250.00**	**0.286**	**69.85**	**0.976**

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.959	0.287	70.048	0.976
Min	249.810	0.287	70.038	0.975
Max	250.070	0.287	70.058	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	**250.02**	**0.287**	**70.05**	**0.976**

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Table 1. Electrical operating parameters of BRP381 LED91/NW 70W 220-240V DWV P7 HP

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	249.99	0.287	70.04	0.976
Sample 2	250.04	0.286	69.70	0.976
Sample 3	249.99	0.285	69.37	0.975
Sample 4	250.01	0.288	70.09	0.975
Sample 5	250.04	0.286	69.63	0.974
Sample 6	249.87	0.287	69.99	0.976
Sample 7	250.12	0.287	70.00	0.975
Sample 8	250.00	0.288	70.27	0.975
Sample 9	250.00	0.286	69.85	0.976
Sample 10	250.02	0.287	70.05	0.976
Average	**250.01**	**0.287**	**69.90**	**0.975**

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

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General Photographs

Photo 1. Luminaire.

Photo 2. Luminaire.

Photo 3. LED board.

Photo 4. Gear tray.

Photo 5. LED driver.

Photo 6. Luminaire label.

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Photo 7. Luminaire during test.

Photo 8. Marking.

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