



Light Emission Distribution Laboratory

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Accreditation No. 19541

Test Report: 216223

Testing of Road Light Power for AEMO's NEM Load Table and other tests on optical systems

for GreenVision Road Lighting LED luminaire 90W 4000K (BRP371 type)

Type of product: Category V Luminaire

Prepared for: Philips Lighting Australia

Model number: BRP371 LED109/NW 90W220-240VDW1PSRP1ANZ

Description: 90W 4000K Category V LED luminaire. Features an integral LED module made off 120 individual LEDs, a glass flat visor, high-pressure die-cast aluminium and powered from a Philips Xitanium driver model number 9290 009 628.

Test objective and Method

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_v1_0.

Test configuration

The ten luminaires were operated at 25°C ambient temperature in their normal operational orientation at 250VAC 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 Watt-meter for their twenty readings.

Client:

Philips Lighting Australia contact Jacek Lipiec, 65 Epping Road, North Ryde NSW, 2113

Tested by: Alain Yetendje On 06/09/2016 Authorised Signatory

Date: 12/09/2016

Alain Yetendje

Conclusions

Test results are given in following Tables.

The Average Load (Watts) is 89.57W at 0.967 Power Factor.

Results

Time till stabilisation: 5h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.074	0.373	89.961	0.965
Min	249.910	0.372	89.974	0.965
Max	250.210	0.373	89.949	0.966
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.02	0.3723	89.90	0.966
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.343	0.370	89.541	0.966
Min	250.040	0.370	89.549	0.966
Max	250.540	0.371	89.534	0.966
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.29	0.3699	89.48	0.966
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.265	0.369	89.334	0.968
Min	250.140	0.368	89.342	0.968
Max	250.420	0.369	89.325	0.968
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.21	0.3684	89.27	0.968

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.036	0.371	89.793	0.968
Min	249.940	0.371	89.807	0.968
Max	250.120	0.371	89.785	0.968
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.99	0.3706	89.73	0.968
Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.005	0.369	89.240	0.967
Min	249.890	0.369	89.244	0.967
Max	250.090	0.369	89.236	0.967
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.96	0.3689	89.18	0.967
Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.890	0.370	89.484	0.968
Min	249.770	0.370	89.501	0.968
Max	250.060	0.370	89.471	0.968
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.84	0.3697	89.42	0.968
Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.067	0.373	90.087	0.966
Min	249.860	0.371	90.092	0.966
Max	251.130	0.373	90.082	0.967
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.02	0.3725	90.02	0.967

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.169	0.371	89.755	0.967
Min	249.780	0.371	89.773	0.967
Max	250.360	0.372	89.737	0.967
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.12	0.3708	89.69	0.967

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.068	0.371	89.701	0.966
Min	249.920	0.371	89.717	0.966
Max	250.210	0.371	89.689	0.966
Calibration correction (see Newton 4 th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.02	0.3709	89.64	0.966

Electrical operating parameters of GreenVision Road Lighting LED luminaire 90W 4000K (BRP371 type)

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.02	0.372	89.896	0.965
Sample 2	250.29	0.370	89.476	0.966
Sample 3	250.21	0.368	89.269	0.968
Sample 4	249.99	0.371	89.728	0.968
Sample 5	249.96	0.369	89.175	0.967
Sample 6	249.84	0.370	89.419	0.968
Sample 7	250.02	0.372	90.022	0.966
Sample 8	250.12	0.371	89.690	0.967
Sample 9	250.02	0.371	89.636	0.966
Sample 10	250.21	0.369	89.373	0.969
Average	250.07	0.370	89.568	0.967

Illustration 1: Electrical operating parameters of GreenVision LED Luminaire BRP371 90W 4000K

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: ± 0.05

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: Ausgrid 221983

Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs

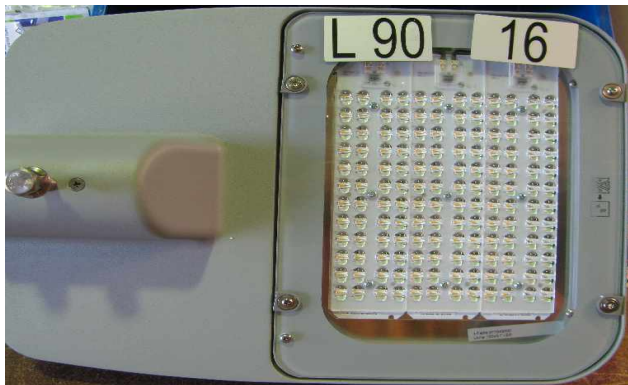


Illustration 2: Optical opening

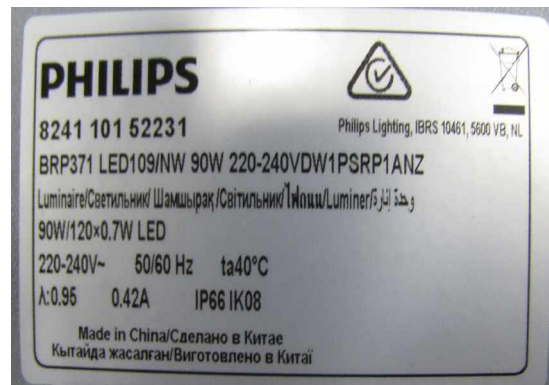


Illustration 3: Luminaire label

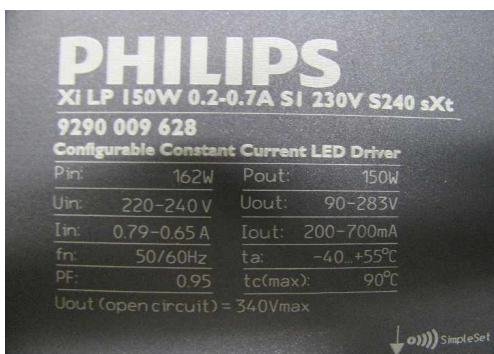


Illustration 5: LED driver marking



Illustration 4: Setup

The tests and measurements covered by this document are traceable to Australian national standards of measurement.

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