



Test Report: 210717LCP

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

For Sylvania Sirkel 50W

Type of product: LED Streetlight

Model Number: SK99K53C2L50

Prepared for: Sylvania Schröder

Description: Sylvania Sirkel 50W. Features die-cast aluminium housing with polyester powder coated finish, glass refractor, 1x LED module made of 24x CREE XP-G3 LED chips driven from 1x Philips Xitanium LED driver (model number Xi FP 75W 0.2-0.7A SNLDAE 230V S240 sXt) set at 650mA.

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_v1_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

Sylvania Schröder, Bldg 4A Parklands Estate 21-23 South St, Rydalmere, NSW, 2116 contact Swati Dhembre

Conclusions

The Average Load (W) is 53.81W at 0.969 Power Factor.

Tested by:
David Orwin

15/07/2021

Authorised Signatory

Date: 23/07/2021

Alain Yetendje



Results

Time till stabilisation: 3h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.978	0.222	53.844	0.970
Min	249.480	0.222	53.841	0.969
Max	250.720	0.223	53.847	0.970
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	250.04	0.222	53.85	0.970

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.978	0.222	53.844	0.970
Min	249.480	0.222	53.841	0.969
Max	250.720	0.223	53.847	0.970
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	250.04	0.222	53.85	0.970

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.030	0.223	54.052	0.969
Min	249.740	0.223	54.050	0.969
Max	250.230	0.223	54.055	0.969
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	250.09	0.223	54.06	0.969



Test Report: 210717LCP

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.285	0.222	53.770	0.969
Min	249.820	0.222	53.763	0.968
Max	250.570	0.222	53.775	0.969
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	250.35	0.222	53.77	0.969

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.184	0.221	53.515	0.968
Min	249.910	0.221	53.508	0.968
Max	250.420	0.221	53.523	0.969
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	53.52	0.968

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.062	0.223	53.959	0.969
Min	249.860	0.222	53.953	0.969
Max	250.280	0.223	53.964	0.969
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	250.12	0.223	53.96	0.969

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.133	0.222	53.850	0.968
Min	249.900	0.222	53.846	0.968
Max	250.440	0.223	53.854	0.968
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	53.86	0.968



Test Report: 210717LCP

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.078	0.222	53.823	0.969
Min	249.860	0.222	53.817	0.969
Max	250.460	0.222	53.828	0.970
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	250.14	0.222	53.83	0.969

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.208	0.219	53.034	0.969
Min	249.770	0.219	53.030	0.968
Max	250.530	0.219	53.040	0.969
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	250.27	0.219	53.04	0.969

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.437	0.224	54.367	0.969
Min	250.110	0.224	54.362	0.969
Max	251.000	0.224	54.373	0.969
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	250.50	0.224	54.37	0.969



Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.04	0.222	53.85	0.970
Sample 2	250.04	0.222	53.85	0.970
Sample 3	250.09	0.223	54.06	0.969
Sample 4	250.35	0.222	53.77	0.969
Sample 5	250.25	0.221	53.52	0.968
Sample 6	250.12	0.223	53.96	0.969
Sample 7	250.19	0.222	53.86	0.968
Sample 8	250.14	0.222	53.83	0.969
Sample 9	250.27	0.219	53.04	0.969
Sample 10	250.50	0.224	54.37	0.969
Average	250.20	0.222	53.81	0.969

Table 1. Electrical operating parameters of Sylvania Sirkel 50W

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. LED driver.



Photo 3. Luminaire geartray.



Photo 4. LED module.



Photo 5. Luminaire label.



Photo 6. Test setup.