



Test Report: 230314LCP

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

for Avenue MK2 24W / Bourke Hill MK2 24W

Type of product: LED StreetLight

Model Number: Sylvania Schröder, Bldg 4A, Parklands Estate, 21-23 South Street, Rydalmere NSW 2116 Australia

Prepared for: Avenue MK2 24W S1T3Z0001L24 / Bourke Hill MK2 24W S2T3Z0001L24

Description: Avenue MK2 24W S1T3Z0001L24 / Bourke Hill MK2 24W S2T3Z0001L24 LED Streetlight. Features die-cast aluminium housing with powder coated finish, a tempered glass visor, 1x individual lens, a custom 48V LED board made of 15x Samsung LH351C LED chips (model no. ESC74001546V10R15) driven from 1x Samsung LED driver (model number SL-LU70140D1WW) programmed at 485mA.

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

Conclusions

The Average Load (W) is 23.61W at 0.957 Power Factor.

Tested by: 11/04/2023
Adrian Gagla

Authorised Signatory

David Ford

Date: 11/04/2023



Results

Time till stabilisation: 2h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.706	0.098	23.315	0.957
Min	249.444	0.098	23.310	0.956
Max	250.024	0.098	23.319	0.957
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.77	0.098	23.32	0.957

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.776	0.098	23.485	0.956
Min	249.534	0.098	23.481	0.955
Max	250.224	0.099	23.490	0.956
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.84	0.098	23.49	0.956

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.681	0.098	23.488	0.956
Min	249.135	0.098	23.483	0.956
Max	250.094	0.099	23.494	0.957
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.74	0.098	23.49	0.956



Test Report: 230314LCP

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.822	0.098	23.350	0.957
Min	249.494	0.097	23.347	0.957
Max	250.324	0.098	23.353	0.958
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.88	0.098	23.35	0.957

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.723	0.098	23.504	0.956
Min	249.284	0.098	23.501	0.956
Max	250.154	0.099	23.510	0.957
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.78	0.098	23.51	0.956

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.761	0.101	24.254	0.960
Min	249.224	0.101	24.250	0.959
Max	250.453	0.101	24.258	0.960
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	249.82	0.101	24.26	0.960

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.789	0.099	23.484	0.954
Min	249.324	0.098	23.480	0.954
Max	250.234	0.099	23.488	0.955
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.85	0.099	23.49	0.954



Test Report: 230314LCP

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.635	0.101	24.152	0.958
Min	249.204	0.101	24.146	0.958
Max	250.034	0.101	24.155	0.958
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	249.70	0.101	24.15	0.958

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.725	0.098	23.388	0.957
Min	249.454	0.098	23.384	0.956
Max	250.164	0.098	23.397	0.957
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	249.79	0.098	23.39	0.957

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.064	0.099	23.682	0.956
Min	249.814	0.099	23.679	0.956
Max	250.393	0.099	23.685	0.957
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
Final value	250.13	0.099	23.68	0.956



Table 1. Electrical operating parameters of

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	249.77	0.098	23.32	0.957
Sample 2	249.84	0.098	23.49	0.956
Sample 3	249.74	0.098	23.49	0.956
Sample 4	249.88	0.098	23.35	0.957
Sample 5	249.78	0.098	23.51	0.956
Sample 6	249.82	0.101	24.26	0.960
Sample 7	249.85	0.099	23.49	0.954
Sample 8	249.70	0.101	24.15	0.958
Sample 9	249.79	0.098	23.39	0.957
Sample 10	250.13	0.099	23.68	0.956
Average	249.83	0.099	23.61	0.957

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.



Photo 3. LED driver.



Photo 4. LED board.



Photo 5. Luminaire during test.