Light Emission Distribution Laboratory
Division of Photometry & Electrical Testing Pty. Ltd ABN 11 166 255 134
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Test Report: 220303LCP

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

For ewo LED Light engine

Type of product: LED engine for Streetlights

Brand: ewo

Model Numbers: IR2-4194007001.1-P (sample tested). See manufacturer declaration (page 8) for additional models

Prepared for: Insight Lighting

Description: Light engine used in ewo LED streetlight range. The light engine tested was fitted in a die-cast aluminium body with toughened glass cover and powered from a Philips Xitanium driver model number Xi SR 75W 0.2 – 0.7A SNEMP 230V C150 sXt. The sample tested is representative of the whole range as all the luminaires covered are equipped with the same light engine and control gear, the only difference being the body construction.

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 Wattmeter 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 Michael Cranendonk, Insight Lighting, 98 Fullarton Road Norwood SA 5067

Conclusions

The Average Load (W) is 49.79W at 0.946 Power Factor.

Tested by: 1/03/2022

Adrian Gagla

Authorized Signatory Date: 10/03/2022

Alain Yetendje

Results

Time till stabilisation: 2h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.051	0.211	49.932	0.946
Min	249.820	0.211	49.924	0.946
Max	250.350	0.211	49.939	0.947
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	**250.11**	**0.211**	**49.94**	**0.946**

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.984	0.211	49.818	0.946
Min	249.030	0.210	49.807	0.946
Max	250.500	0.211	49.834	0.947
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	**250.05**	**0.211**	**49.82**	**0.946**

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.080	0.210	49.671	0.945
Min	249.630	0.210	49.659	0.944
Max	250.830	0.210	49.683	0.946
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**	**0.210**	**49.68**	**0.945**

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.086	0.210	49.673	0.947
Min	249.620	0.209	49.668	0.947
Max	250.360	0.210	49.677	0.948
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	**250.15**	**0.210**	**49.68**	**0.947**

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.002	0.211	49.902	0.947
Min	249.670	0.211	49.892	0.946
Max	250.390	0.211	49.912	0.947
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	**250.06**	**0.211**	**49.91**	**0.947**

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.095	0.210	49.803	0.950
Min	249.840	0.209	49.795	0.950
Max	250.490	0.210	49.810	0.950
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	**250.16**	**0.210**	**49.81**	**0.950**

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.056	0.210	49.690	0.946
Min	249.760	0.210	49.676	0.945
Max	250.320	0.210	49.703	0.946
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**	**0.210**	**49.69**	**0.946**

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.926	0.211	49.722	0.944
Min	249.530	0.210	49.715	0.944
Max	250.230	0.211	49.730	0.945
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	**249.99**	**0.211**	**49.73**	**0.944**

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.100	0.211	50.011	0.946
Min	249.640	0.211	50.003	0.946
Max	251.000	0.212	50.022	0.947
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	**250.16**	**0.211**	**50.02**	**0.946**

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.027	0.210	49.647	0.947
Min	249.810	0.209	49.642	0.947
Max	250.290	0.210	49.654	0.947
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**	**0.210**	**49.65**	**0.947**

Table 1. Electrical operating parameters of ewo LED Light engine

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.11	0.211	49.94	0.946
Sample 2	250.05	0.211	49.82	0.946
Sample 3	250.14	0.210	49.68	0.945
Sample 4	250.15	0.210	49.68	0.947
Sample 5	250.06	0.211	49.91	0.947
Sample 6	250.16	0.210	49.81	0.950
Sample 7	250.12	0.210	49.69	0.946
Sample 8	249.99	0.211	49.73	0.944
Sample 9	250.16	0.211	50.02	0.946
Sample 10	250.09	0.210	49.65	0.947
Average	**250.10**	**0.210**	**49.79**	**0.946**

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.

Photo 3. LED module.

Photo 4. LED driver.

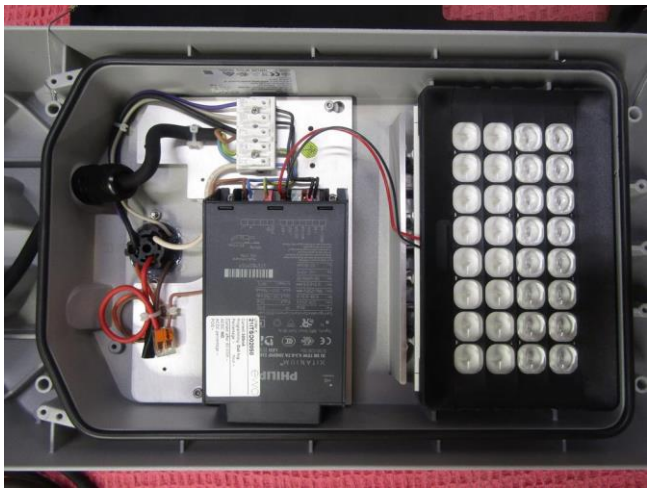

Photo 5. Gear tray.

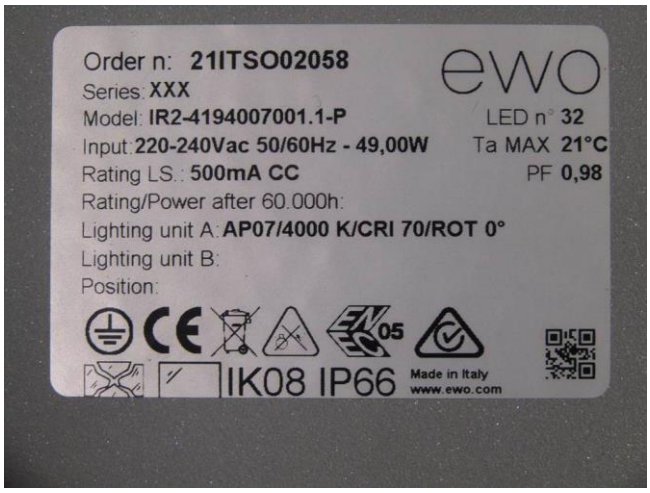

Photo 6. Luminaire label.

Photo 7. Luminaire during the test.

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Letter of declaration

Melbourne, Australia

10th March 2022

To whom it may concern,

This is to confirm that the following ewo luminaires are equipped with the same light engine fitted into the 10pcs. IR2 luminaires that have been submitted for testing.

- F-System XS
- F-System Small
- DA400
- FO420
- FO460
- FO600
- CO500
- CO600
- CN500
- CN600
- FA410
- FA770
- FN1000
- VIENNA-Small
- VIENNA-Medium
- AM620
- SM620
- P200

Yours faithfully,

Flavio Bonomi

Sales Director, Asia Pacific

MwSt.-Nr., Part. IVA: IT 01603000215 / Firmenregister. Nr., Nº Reg. Imprese: 01603000215
VWV Nr., REA Nº: BZ-132510 / Gesellschaftskapital, Capitale sociale: 55.000,00 €
Raiffeisenkasse Salurn Gen.m.b.H. Fil. Kurtatsch, Cassa Rurale di Salorno Fil. Cortaccia / BIC: RZSBIT21231 / IBAN: IT28 X 08220 58330 000 302 003 007
Südtiroler Sparkasse AG Fil. Neumarkt / Cassa di Risparmio BZ Fil. Egna / BIC: CRBZIT2B016 / IBAN: IT92 G 06045 58370 000 000 200 500
UniCredit Spa/BIC: UNCRITMMOTO / IBAN: IT73 O 02008 11758 000 103 602 137