



Light Emission Distribution Laboratory

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Test Report: 180640LCP

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

for Quantum 320W LED Floodlight Model No. PPH1A5740ET

Type of product: LED Floodlight

Prepared for: Gerard Lighting Pty Ltd, 96-112 Gow St, Padstow NSW 2211 Australia - Project Number: PTR 5769

Model numbers: PPH1A5740ET

Description: Quantum 320W LED Floodlight with symmetrical or asymmetrical distributions. Features die cast aluminium body with powder-coated finish, 4000K LED chips powered from an Inventronics LED driver (model number EUC-320S210DV-Y201).

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, 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 Watt-meter for their twenty readings.

Client: Gerard Lighting Pty Ltd, 96-112 Gow St, Padstow NSW 2211 Australia contact Vishal Galchar

Conclusion

The Average Load (W) is 312.75W at 0.96 Power Factor.

Tested by: David Orwin

On 28/06/2018

Authorised Signatory

Date: 02/07/2018

Alain Yetendje

Results

Time till stabilisation: 4h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.459	1.314	316.973	0.963
Min	249.560	1.311	316.930	0.962
Max	251.170	1.319	317.000	0.963
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.43	1.3140	316.86	0.963
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.509	1.305	314.402	0.962
Min	249.620	1.300	314.330	0.961
Max	251.430	1.309	314.440	0.962
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.48	1.3043	314.29	0.962
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.274	1.302	313.280	0.962
Min	249.610	1.298	313.220	0.961
Max	251.080	1.305	313.310	0.962
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.24	1.3015	313.17	0.962

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

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Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.169	1.308	315.285	0.963
Min	249.260	1.305	315.260	0.963
Max	250.820	1.312	315.310	0.964
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.14	1.3077	315.17	0.963
Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.958	1.290	310.089	0.962
Min	249.130	1.288	310.060	0.961
Max	250.380	1.295	310.160	0.962
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.93	1.2895	309.98	0.962
Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.175	1.297	312.022	0.962
Min	249.910	1.295	311.980	0.962
Max	250.470	1.298	312.070	0.962
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.14	1.2964	311.91	0.962

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	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 7				
Average	250.431	1.289	310.484	0.962
Min	249.740	1.286	310.460	0.961
Max	251.150	1.293	310.540	0.962
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.40	1.2890	310.37	0.962
Sample 8				
Average	250.418	1.294	311.437	0.961
Min	249.780	1.291	311.410	0.961
Max	251.000	1.297	311.470	0.962
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.39	1.2931	311.33	0.961
Sample 9				
Average	250.184	1.303	313.641	0.962
Min	249.510	1.301	313.610	0.961
Max	250.690	1.306	313.700	0.962
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.15	1.3028	313.53	0.962
Sample 10				
Average	250.406	1.291	311.008	0.962
Min	249.900	1.288	310.990	0.962
Max	251.120	1.293	311.050	0.962
Calibration correction (see Newton 4 th calibration report NC17.36115)	0.9999	0.9999	0.9998	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.37	1.2905	310.90	0.962

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Electrical operating parameters of Quantum 320W LED Floodlight

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.459	1.314	316.860	0.963
Sample 2	250.478	1.304	314.289	0.962
Sample 3	250.243	1.301	313.168	0.962
Sample 4	250.138	1.308	315.172	0.963
Sample 5	249.926	1.290	309.977	0.962
Sample 6	250.144	1.296	311.910	0.962
Sample 7	250.400	1.289	310.372	0.962
Sample 8	250.387	1.293	311.325	0.961
Sample 9	250.153	1.303	313.528	0.962
Sample 10	250.374	1.290	310.896	0.962
Average	250.27	1.30	312.75	0.96

Illustration 1: Electrical operating parameters of Quantum 320W LED Floodlight

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: Ausgrid NC17.36115

Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs

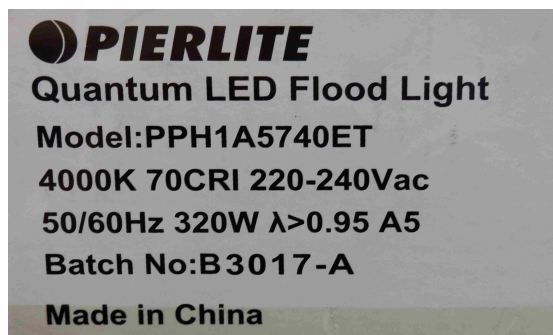


Illustration 2: Luminaire label



Illustration 3: LED driver



Illustration 4: Luminaire



Illustration 5: Setup