

Report Number	SAF-19338
Customer	Marshall's Street Furniture
Contact	Jon Scott
Product Type	Street Light (Gear Tray)
Test Purpose	UMS Energy Performance Test
Sales Order Ref	Q-LUX16-21573
Works Order Number	WO-9985
Test Item Reference	TI-13515
LAB Test Method Reference	TES1012
Test Standards (if applicable)	LM-79-08 and Elexon UMS Charge Code process V4.0
Lab Location Reference	Safety
Tested by	Steve Hunt
Date of Test	01/06/2017
Reviewed by	Menno Schakel
Number of products tested	5

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Streetlight LED

Date: 1 June 2017

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Product Information		
Product	Street Light (Gear Tray)	
Product Name / Model	Streetlight LED	
Part/Serial Number	See (Identifier) below	
Product Brand	Eclatec	
Manufacturer	Eclatec	
Category	LITE	
Rated Input Voltage	220-240V	
Rated output:	60 - 200V	
Protection Class	I	
Driver Make/Model	Philips	Xitanium Full Prog 110W 0.3-1.0A
Light Engine Make/Model	ECLATEC	unknown
Dimmable / Level Tested	Yes	Minimum
Product Description		
The Streetlight Gear tray are made from a sheet metal frame, of which on the outside fits the LED modules and on the inner side sits the driver and the electrical connections for termination.		

Test Conditions		
Ambient Temperature	23	(°C)
Humidity	39	(%)
	Before Test	After Test
Voltage	250.17V	250.21V
Frequency	50Hz	50Hz
Total Harmonic Distortion	0.08%	0.08%
The test items were stabilised according to the electrical power stability of LM79-08. Stabilization is achieved when the difference in electrical power measurement is less than 0.5%. Each test item was stabilised at 250V. Measurements were made with an ambient temperature of 23°C +/- 2°C. Measurements were taken only after sufficient time for thermal stabilisation has been allowed.		

Product Specifications / TI Ref Numbers		
Dimension	Sample	Luminous opening
Diameter / Width	470 mm	336 mm
Length	0 mm	0 mm
Height / Depth	95 mm	0 mm
Product Test Number	Identifier	Serial Number (if applicable)
Test Item #1	13515A	N/A
Test Item #2	13515B	N/A
Test Item #3	13515C	N/A
Test Item #4	13515D	N/A
Test Item #5	13515E	N/A

### Test Equipment and Description

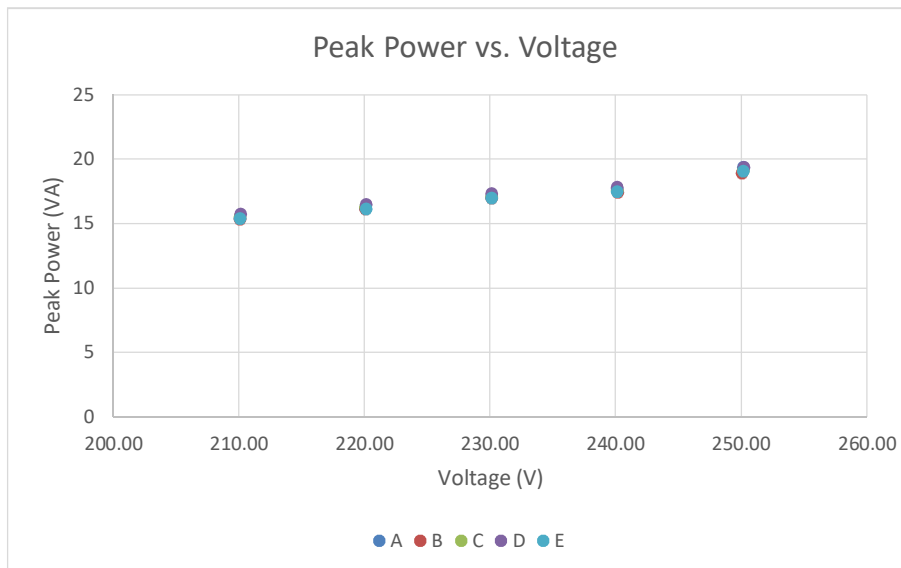
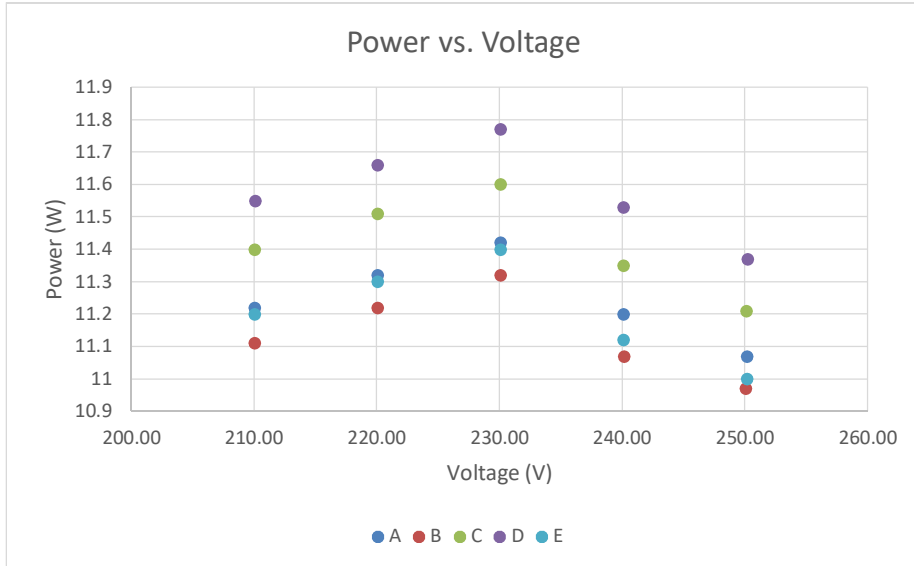
Yokogawa WT210 Power Analyser, Kikusui PCR2000M Stable AC Power Supply with PC control and data recording

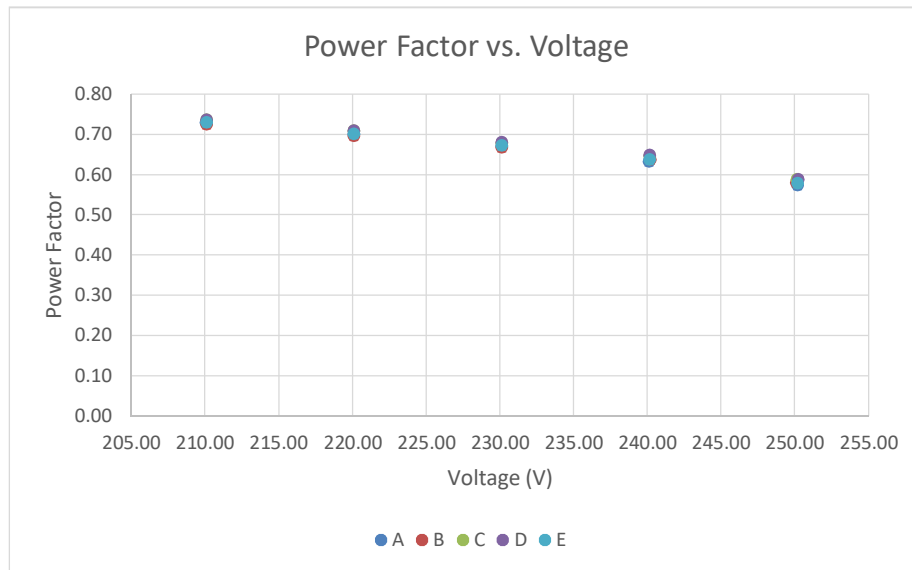


The products under test are connected to the UMS Test system which has full data control and recording using Labview software. This allows full integration of the test equipment used - Kikusui AC Stable Power Supply, Yokogawa Power Analyser, Pico Temperature Logger and a LUX-TSI distribution control panel

### Test Results Summary

These are the summary graphs of the test results for all products tested. The raw results are on page 6 of this test report.





Power factors measured have a Leading phase angle and therefore the driver has capacitive properties.

#### Measurement Uncertainty

Parameter	Uncertainty
Voltage (300 V, 50/60 Hz)	$\pm 0.061 V_{rms}$
Current (200 mA, 50/60Hz)	$\pm 0.07 mA_{rms}$
Current (0.5 A, 50/60Hz)	$\pm 0.16 mA_{rms}$
Current (5 A, 50/60Hz)	$\pm 0.0016 A_{rms}$
Power (300 V, 200 mA, 50/60)	$\pm 0.032 W_{rms}$
Power (300 V, 0.5 A, 50/60 Hz)	$\pm 0.09 W_{rms}$
Power (300 V, 5 A, 50/60 Hz)	$\pm 0.0009 kW_{rms}$
Frequency (50/60 Hz)	$\pm 0.001 Hz$
Power Factor	$\pm 0.0006 PF$

Measurements of power of 0.50W or greater are made with an uncertainty of less than or equal to 2% at the 95% confidence level. Measurements of power less than 0.50W are made with an uncertainty of less than or equal to 0.01W at the 95% confidence level.

### Full Test Results

Test Item	Voltage (V)	Current (mA)	Electrical Power (W)	Ambient Temp (°C)	Peak Power (VA)	Power Factor	Leading / Lagging
A	250.21	77.25	11.07	24.80	19.33	0.573	Leading
B	250.12	75.66	10.97	24.92	18.92	0.580	Leading
C	250.19	76.34	11.21	24.92	19.10	0.587	Leading
D	250.26	77.34	11.37	24.68	19.35	0.587	Leading
E	250.21	76.07	11.00	24.83	19.03	0.578	Leading
A	240.14	73.80	11.20	24.65	17.72	0.632	Leading
B	240.21	72.44	11.07	24.79	17.40	0.636	Leading
C	240.17	73.16	11.35	24.76	17.57	0.646	Leading
D	240.17	74.14	11.53	24.84	17.81	0.647	Leading
E	240.17	72.64	11.12	24.95	17.45	0.637	Leading
A	230.14	74.01	11.42	24.88	17.03	0.670	Leading
B	230.16	73.76	11.32	24.75	16.98	0.667	Leading
C	230.16	74.31	11.60	24.78	17.10	0.678	Leading
D	230.15	75.28	11.77	24.92	17.33	0.679	Leading
E	230.16	73.76	11.40	24.87	16.98	0.672	Leading
A	220.12	73.50	11.32	24.68	16.18	0.700	Leading
B	220.12	73.20	11.22	25.01	16.11	0.696	Leading
C	220.13	73.87	11.51	24.85	16.26	0.708	Leading
D	220.14	74.82	11.66	24.89	16.47	0.708	Leading
E	220.14	73.20	11.30	24.94	16.11	0.701	Leading
A	210.11	73.34	11.22	24.98	15.41	0.728	Leading
B	210.13	72.97	11.11	24.86	15.33	0.725	Leading
C	210.12	73.75	11.40	24.77	15.50	0.736	Leading
D	210.15	74.71	11.55	24.83	15.70	0.736	Leading
E	210.12	73.06	11.20	24.81	15.35	0.729	Leading

### Test Item Photographs

#### TI-13515

Images of Product(s) under test includes (where possible) labelling, Driver and Light engine details



Led Module fitment



Driver and terminal fitment



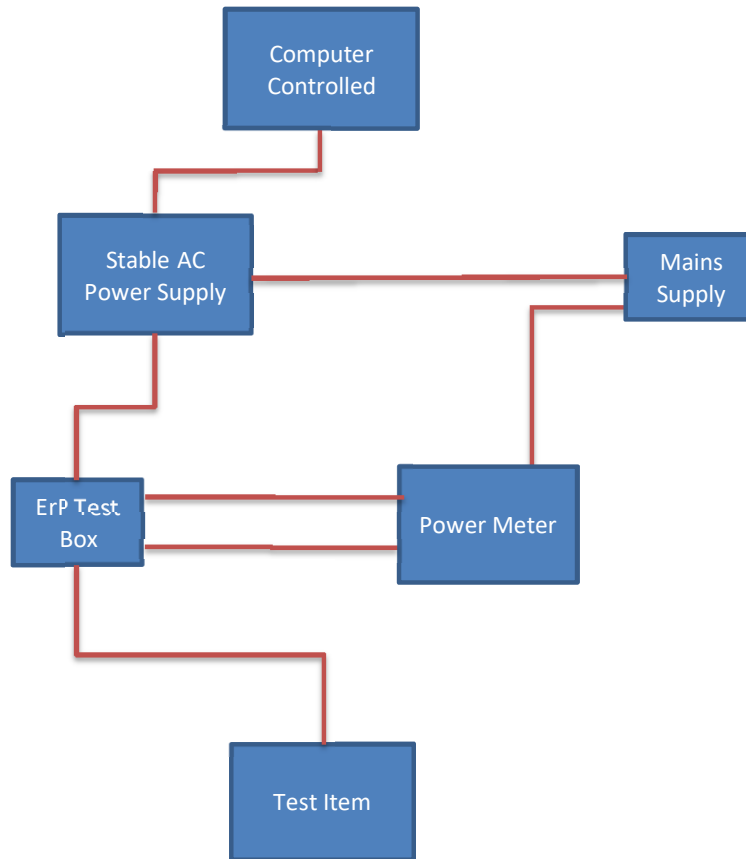
Driver fitted



LED Module(s) fitted



#### Appendix 1: Test item set-up



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