

Report Number	UMS-19053A
Customer	ASD Lighting plc
Contact	Paul Gledhill
Product Type	Street Light
Test Purpose	UMS Energy Performance Test
Sales Order Ref	Q-LUX16-21460
Works Order Number	WO-9700
Test Item Reference	TI-13348
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	20/03/2017
Reviewed by	Menno Schakel
Number of products tested	5

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28W 2D Light Engine with Photocell

Date: 23 March 2017

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Product Information		
Product	Street Light	
Product Name / Model	28W 2D Light Engine with Photocell	
Part/Serial Number	See (Identifier) below	
Product Brand	ASD Lighting plc	
Manufacturer	ASD Lighting plc	
Category	LITE	
Rated Input Voltage	220 - 240V	
Rated output:	250V	
Protection Class	I	
Driver Make/Model	Tridonic	PC 1x28-33 LO DD Combo
Light Engine Make/Model	ASD Lighting plc	28W 3500K
Dimmable	No	
Product Description		
The product is of a circular design with the light engine fitted to the top surface of the meatl bracket whilst the driver and emergency battery is situated underneath the bracket.		

Test Conditions			
Ambient Temperature	25		(°C)
Humidity	34		(%)
	Before Test		After Test
Voltage	249.92V		249.24V
Frequency	50Hz		50Hz
Total Harmonic Distortion	0.08%		0.07%
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	280 mm		275 mm
Length	0 mm		0 mm
Height / Depth	80 mm		35 mm
Product Test Number	Identifier		Serial Number (if applicable)
Test Item #1	13348A		N/A
Test Item #2	13348B		N/A
Test Item #3	13348C		N/A
Test Item #4	13348D		N/A
Test Item #5	13348E		N/A

Test Equipment and Description

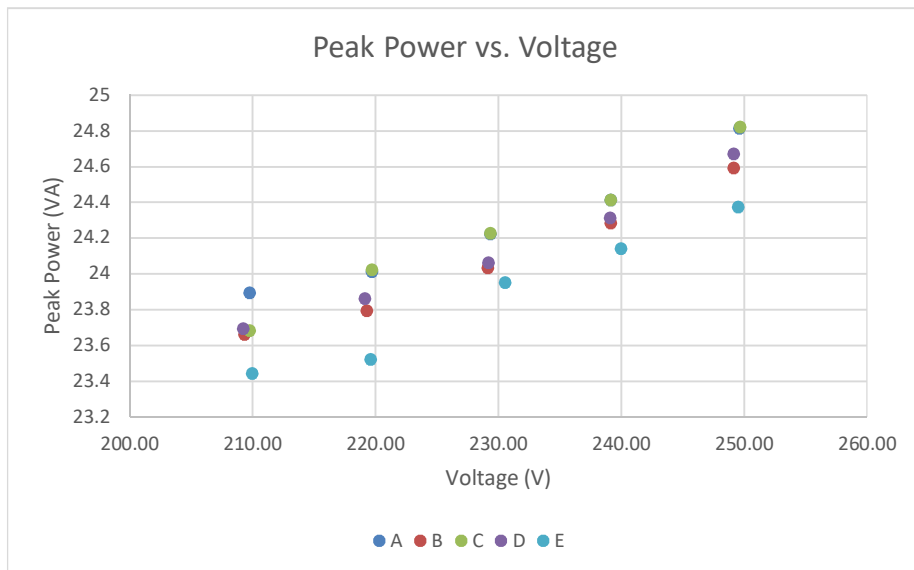
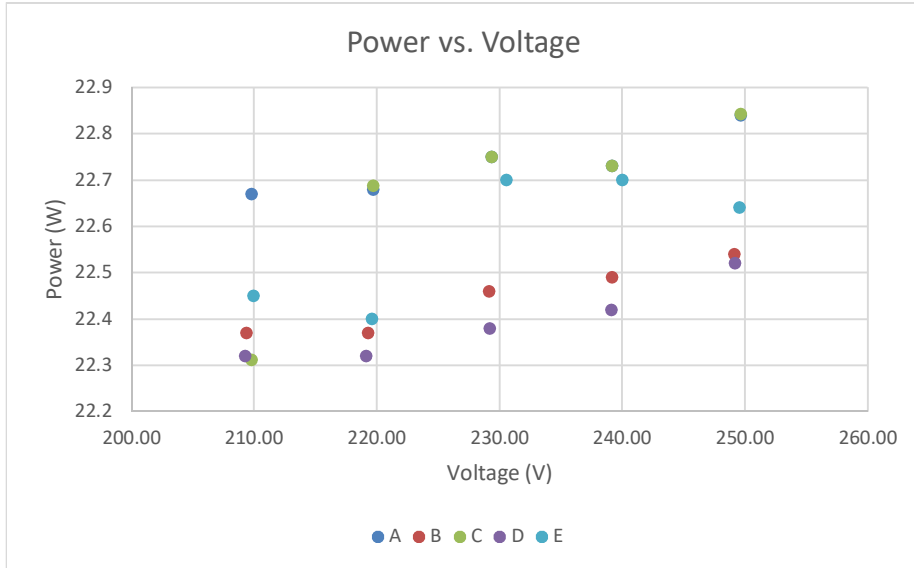
Yokogawa WT210 Power Analyser, Kikusui PCR2000M Stable AC Power Supply with PC control and data recording

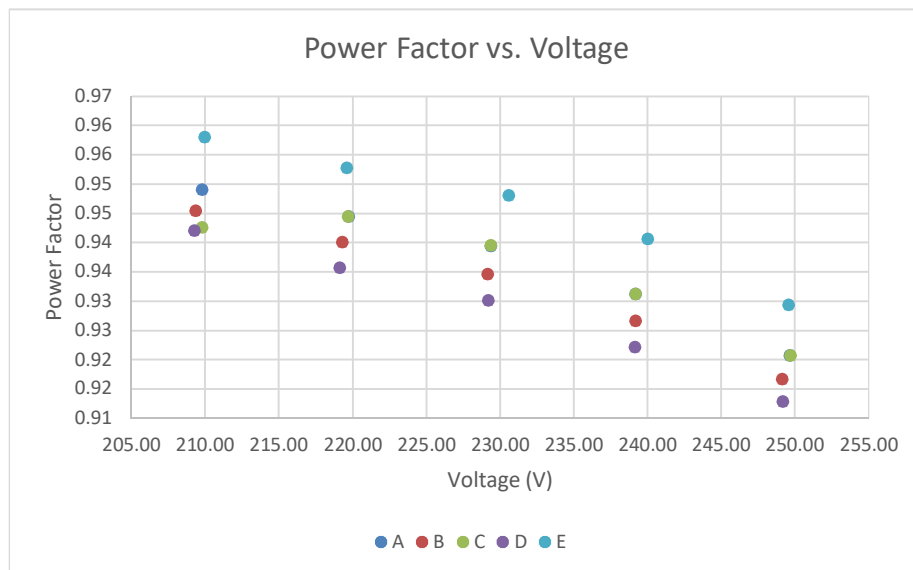


The products under test are connected to the UMS Test system which has full data control and recording using Labview software. This allows full integration of the test equipment used - Kikusui AC Stable Power Supply, Yokogawa Power Analyser, Pico Temperature Logger and a LUX-TSI distribution control 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	249.70	99.35	22.84	23.06	24.81	0.921	Leading
B	249.19	98.67	22.54	23.01	24.59	0.917	Leading
C	249.72	99.37	22.84	23.06	24.82	0.921	Leading
D	249.22	99.00	22.52	23.01	24.67	0.913	Leading
E	249.59	97.63	22.64	22.42	24.37	0.929	Leading
A	239.22	102.05	22.73	23.15	24.41	0.931	Lagging
B	239.22	101.48	22.49	23.18	24.28	0.927	Leading
C	239.23	102.05	22.73	23.15	24.41	0.931	Lagging
D	239.17	101.64	22.42	23.16	24.31	0.922	Leading
E	240.04	100.55	22.70	22.29	24.14	0.941	Leading
A	229.40	105.56	22.75	22.97	24.22	0.939	Lagging
B	229.22	104.84	22.46	23.00	24.03	0.934	Leading
C	229.40	105.56	22.75	22.99	24.22	0.939	Lagging
D	229.26	104.95	22.38	23.01	24.06	0.930	Leading
E	230.62	103.83	22.70	22.12	23.95	0.948	Leading
A	219.76	109.27	22.68	22.91	24.01	0.944	Lagging
B	219.34	108.48	22.37	23.12	23.79	0.940	Lagging
C	219.75	109.26	22.69	22.91	24.02	0.944	Lagging
D	219.19	108.85	22.32	23.13	23.86	0.936	Lagging
E	219.64	107.07	22.40	22.73	23.52	0.953	Leading
A	209.82	113.83	22.67	23.04	23.89	0.949	Lagging
B	209.40	112.98	22.37	22.91	23.66	0.945	Leading
C	209.82	113.83	22.31	23.04	23.68	0.942	Lagging
D	209.31	113.20	22.32	23.01	23.69	0.942	Leading
E	210.00	111.63	22.45	22.75	23.44	0.958	Leading

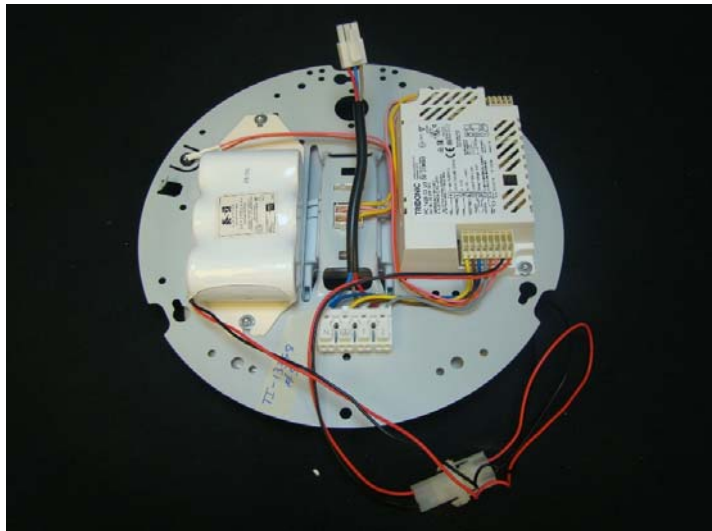
Test Item Photographs

TI-13348

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

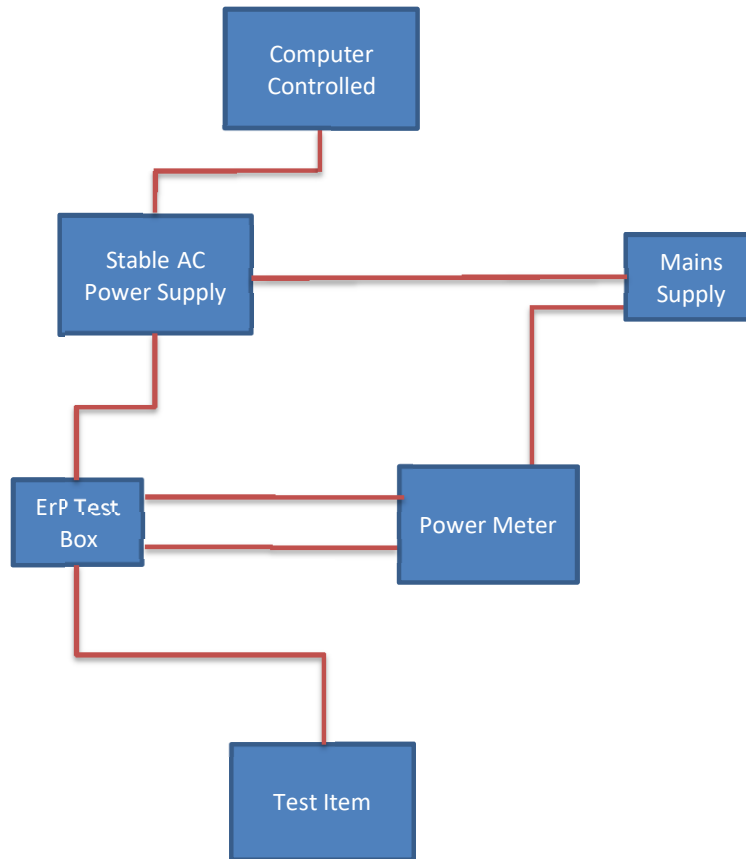


28W 2D Light Engine with Photocell



Driver and Emergency Battery

Appendix 1: Test item set-up



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