

<b>Report Number</b>	TRN-13322
<b>Customer</b>	LED Roadway Lighting
<b>Contact</b>	Huw Convery
<b>Product Type</b>	Street Light
<b>Test Purpose</b>	UMS Energy Performance Test
<b>Sales Order Ref</b>	Q-LUX2014-1813
<b>Works Order Number</b>	WO-3476
<b>Test Item Reference</b>	TI-2922
<b>LAB Test Method Reference</b>	TES-2012
<b>Test Standards</b>	LM-79-08 and UMS charge code process v4.0
<b>Lab Location Reference</b>	LUX-EPC
<b>Tested by</b>	Steve Hunt
<b>Date of Test</b>	25/02/2014
<b>Analysed by</b>	Steve Hunt
<b>Number of products tested</b>	5

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LED streetlamp

Date: 27/02/2014

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Test Report Number: TRN-13322  
Test Item: TI-2922

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### **Nomenclature**

Lamp Orientation described below relates to the position in which a lamp is designed to operate for maximum performance and safety, these include:

BD - Base Down (bulb is vertically positioned with the metal base at the bottom, glass up)

BU - Base Up (bulb is vertically positioned with the metal base at the top, glass hanging down)

HBD - Horizontal +15° to Base Down

H45 - Horizontal to -45° only

VBU - Vertical Base Up ±15°

VBD - Vertical Base Down ±15°

HBU - Base Up +/- 90° (bulb can be operated in a base up or horizontal position)

HOR - Horizontal Burn (bulb is positioned with the metal base parallel to the ground)

H75 - Horizontal +/- 75° (bulb should not be operated within 15° of vertical)

U - Universal Burn (burn can be operated in any position)

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### **Test Conditions**

Measurements were made with an ambient temperature of 25°C +/- 1°C. Measurements were taken only after sufficient time for thermal stabilisation has been allowed.

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### **Test Equipment**

Yokogawa WT3000 Power Analyzer. Kikusui PCR2000M Stable AC Power Supply



<b>Product Name</b>	LED streetlamp
<b>Part/Serial Number</b>	N36SOR3LB350GY1GULXXHPKH3
<b>Type of Product</b>	Street Light
<b>Base Type</b>	N/A
<b>Driver Type</b>	Mains
<b>Driver Model</b>	LRL-65634-SUB-NXTS-350-LF
<b>Operating Orientation</b>	Base Up
<b>Test Orientation</b>	Base Up
<b>Ambient Temperature</b>	24.8°C
<b>Manufacturer</b>	led roadway lighting
<b>Date of Manufacturer</b>	2014
<b>Thermal Management</b>	Passive
<b>Dimmable</b>	No
<b>Humidity</b>	<65% RH

Dimension	Sample	Luminous Opening
Diameter/Width	280 mm	196 mm
Length	575 mm	215 mm
Height/Depth	160 mm	0 mm

Test Item	Identifier
TI-2922A	A133900729
TI-2922B	A133900723
TI-2922C	A133900722
TI-2922D	A133900730
TI-2922E	A133900728

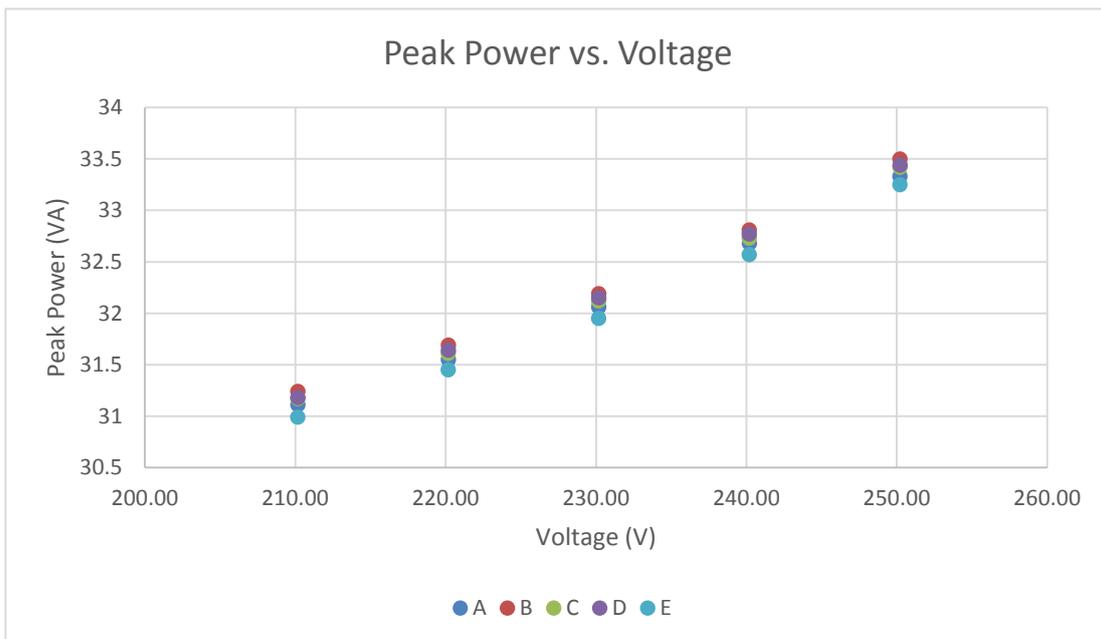
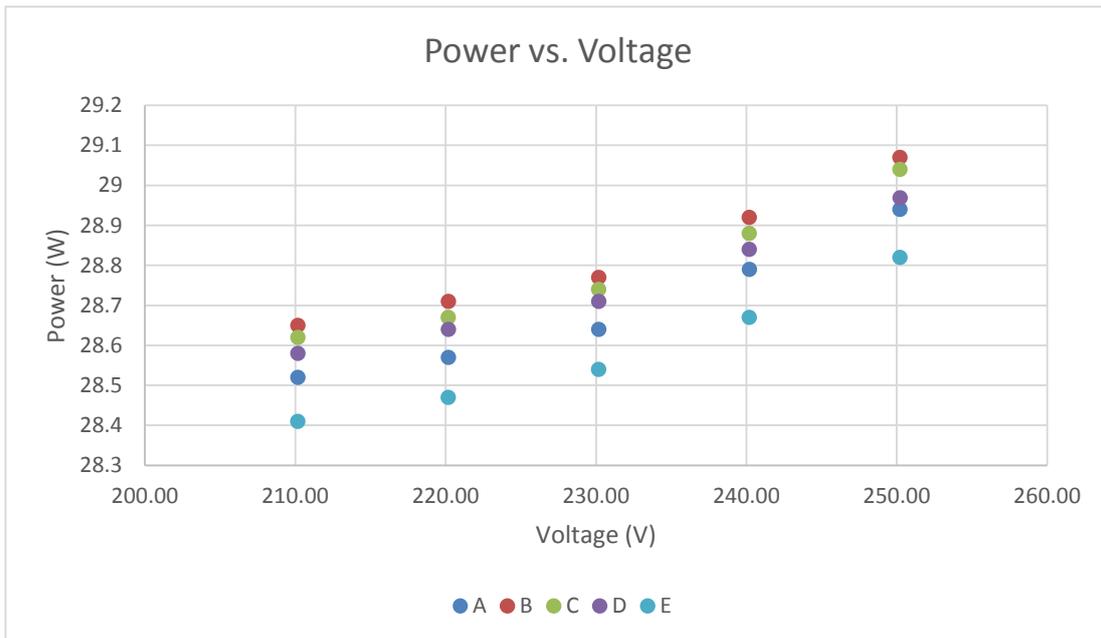
### Test Conditions

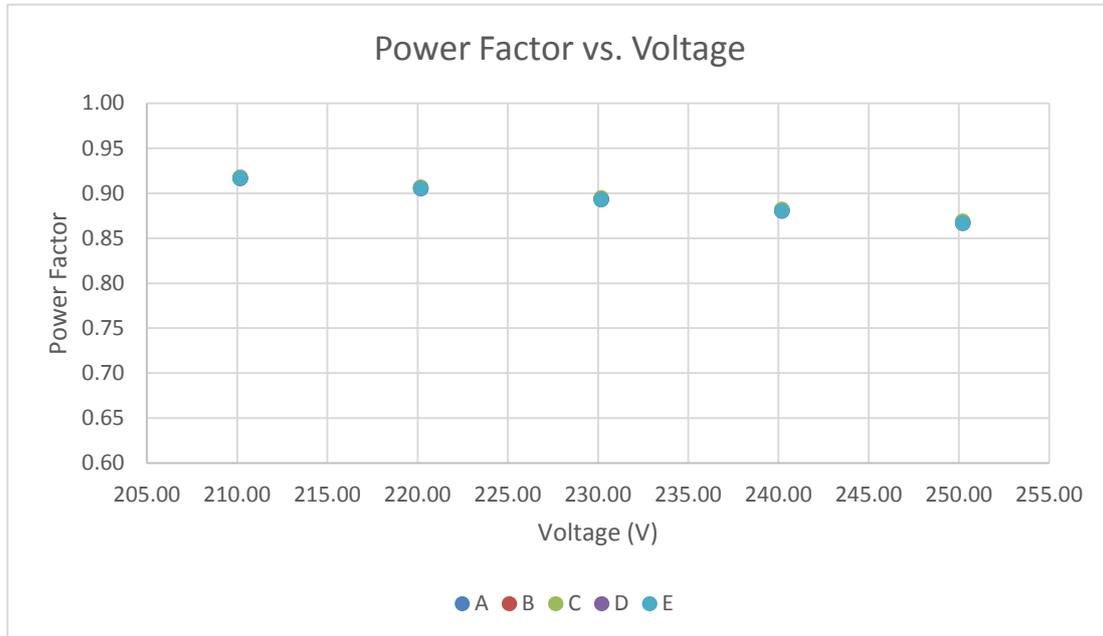
	Before Test	After Test
AC Supply Voltage (V)	250.25V	250.24V
AC Supply Frequency (Hz)	50Hz	50Hz
Voltage RMS Summation of the Harmonic Components (THD)	0.06%	0.06%

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.

### Test Results Summary

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





All power factors measured have a leading phase angle.

#### 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 Hz)	$\pm 0.032 W_{rms}$
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.

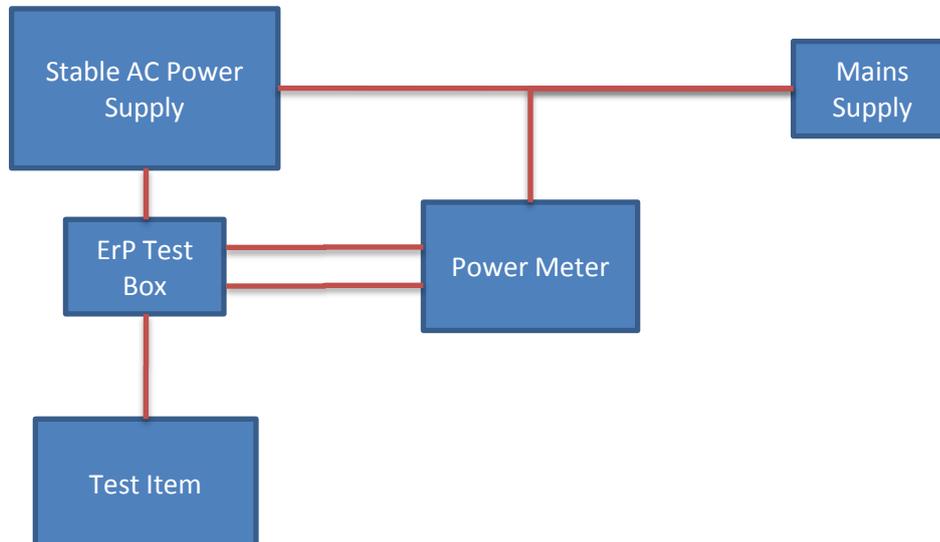


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**Full Test Results**

Test Item	Voltage (V)	Current (mA)	Electrical Power (W)	Ambient Temp (°C)	Peak Power (VA)	Power Factor	Leading / Lagging
A	250.21	133.00	28.94	24.7	33.33	0.868	Leading
B	250.21	133.00	29.07	24.7	33.50	0.868	Leading
C	250.21	133.00	29.04	24.7	33.42	0.869	Leading
D	250.22	133.60	28.97	24.7	33.44	0.866	Leading
E	250.21	133.00	28.82	24.7	33.25	0.867	Leading
A	240.20	136.00	28.79	25.2	32.68	0.881	Leading
B	240.19	137.00	28.92	25.2	32.81	0.881	Leading
C	240.19	136.00	28.88	25.2	32.73	0.882	Leading
D	240.19	136.00	28.84	25.2	32.77	0.880	Leading
E	240.19	136.00	28.67	25.2	32.57	0.880	Leading
A	230.18	139.00	28.64	24.6	32.06	0.893	Leading
B	230.18	140.00	28.77	24.8	32.19	0.894	Leading
C	230.17	139.00	28.74	24.8	32.12	0.895	Leading
D	230.18	140.00	28.71	24.8	32.15	0.893	Leading
E	230.17	139.00	28.54	24.8	31.95	0.893	Leading
A	220.18	143.00	28.57	24.5	31.55	0.905	Leading
B	220.18	144.00	28.71	24.5	31.69	0.906	Leading
C	220.17	144.00	28.67	24.5	31.61	0.907	Leading
D	220.18	143.75	28.64	24.5	31.64	0.905	Leading
E	220.17	142.83	28.47	24.5	31.45	0.905	Leading
A	210.17	148.00	28.52	24.5	31.11	0.917	Leading
B	210.17	149.00	28.65	24.5	31.24	0.917	Leading
C	210.17	148.00	28.62	24.5	31.17	0.918	Leading
D	210.17	148.00	28.58	24.5	31.18	0.917	Leading
E	210.16	147.00	28.41	24.5	30.99	0.917	Leading

### Appendix 1: Test item set-up



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