

Report Number	TRN-13447
Customer	LED Roadway Lighting
Contact	Huw Convery
Product Type	Street Light
Test Purpose	UMS Energy Performance Test
Sales Order Ref	Q-LUX2014-1849
Works Order Number	WO-3601
Test Item Reference	TI-2995
LAB Test Method Reference	TES-2012
Test Standards	LM-79-08 and UMS charge code process v4.0
Lab Location Reference	LUX-EPC
Tested by	Steve Hunt
Date of Test	31/03/2014
Analysed by	Steve Hunt
Number of products tested	5

Address: LUX-TSI Ltd.,
Pencoed Technology Park,
Pencoed, Bridgend,
CF35 5HZ, UK
Telephone: +44 (0) 1656 864618
Authorised by: David Chan
Email: dchan@lux-tsi.com
Signed:




NXT - 36 - 69W

Date: 31/03/2014

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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

VBV - 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)

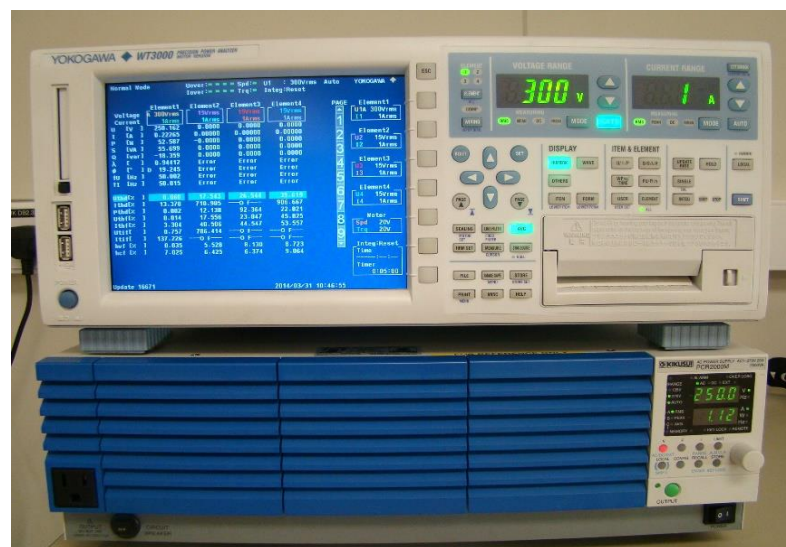
U - Universal Burn (burn can be operated in any position)

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.

Test Equipment

Yokogawa WT3000 Precision Power Analyzer. Kikusui PCR2000M Stable AC Power Supply



Product Name	NXT - 36 - 69W
Part/Serial Number	N36S0R3LB350GY1GULXXHPKH3
Type of Product	Street Light
Base Type	N/A
Driver Type	Mains
Driver Model	LRL-65634-SUB-NXTS-600-LF
Operating Orientation	Base Up
Test Orientation	Base Up
Ambient Temperature	25.0°C
Manufacturer	LED Roadway Lighting
Date of Manufacturer	2014
Thermal Management	Passive
Dimmable	Yes
Humidity	<65% RH

Dimension	Sample	Luminous Opening
Diameter/Width	285 mm	198 mm
Length	589 mm	215 mm
Height/Depth	155 mm	0 mm

Test Item	Identifier
TI-2995A	A133900729
TI-2995B	A133900723
TI-2995C	A133900722
TI-2995D	A133900730
TI-2995E	A133900728

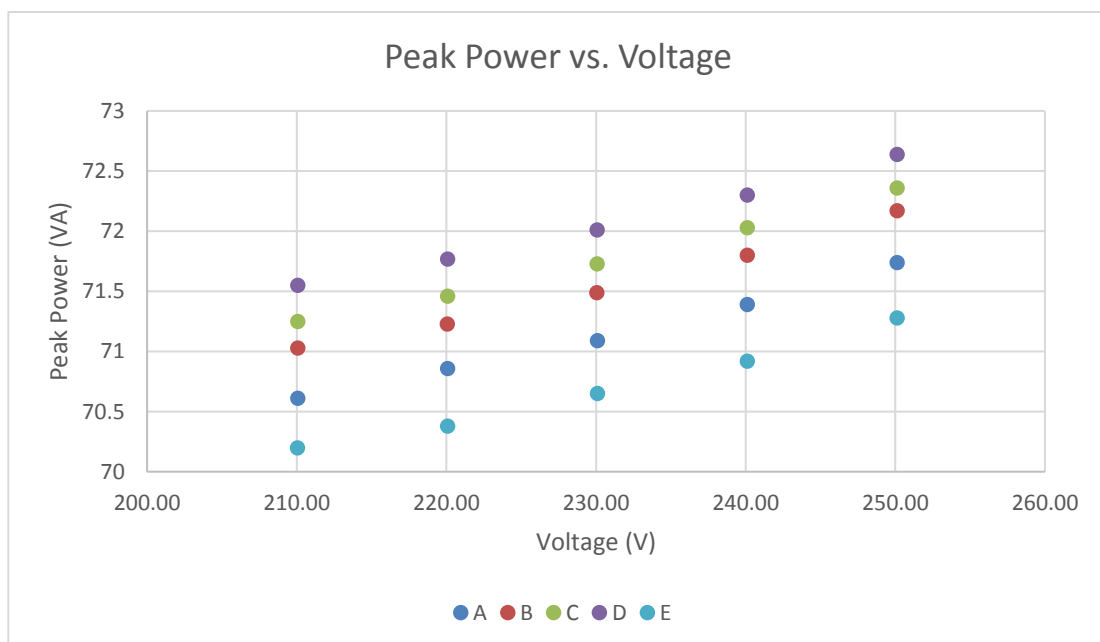
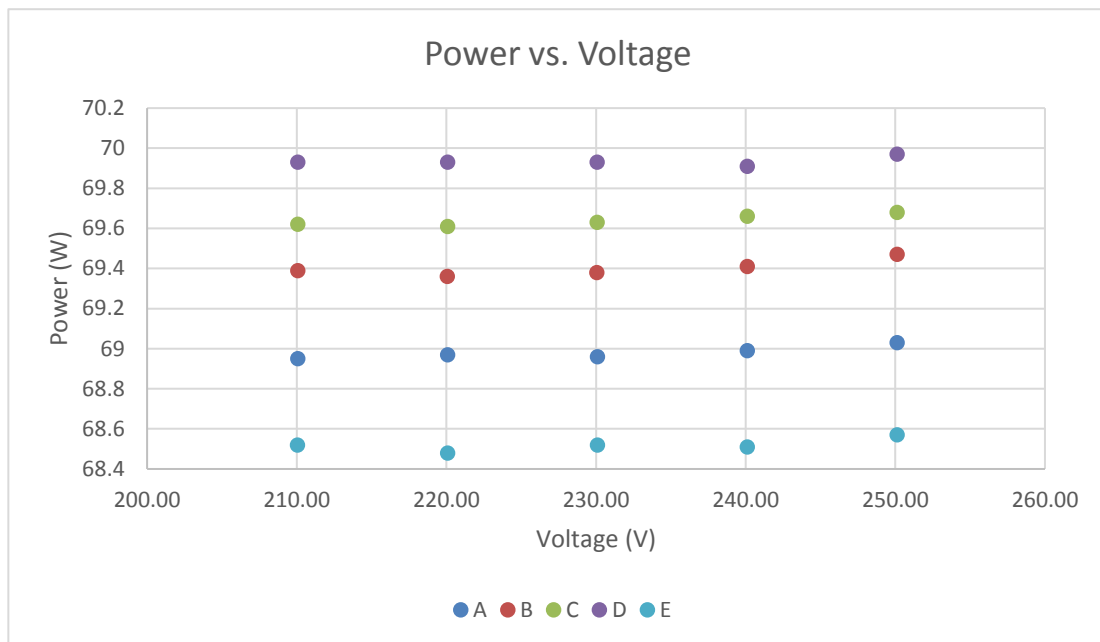
Test Conditions

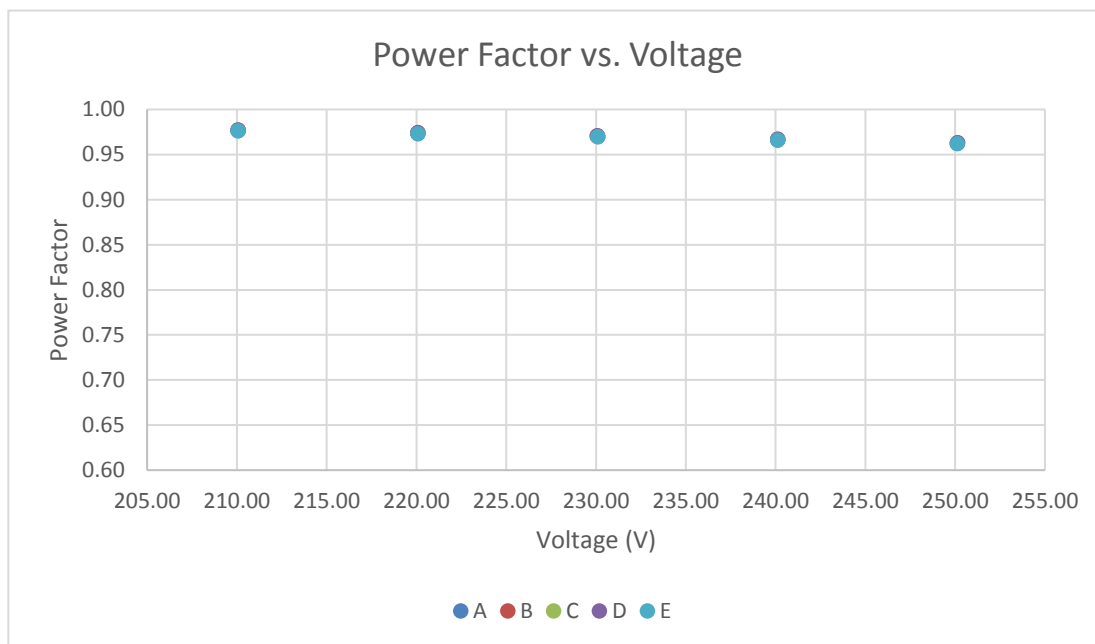
	Before Test	After Test
AC Supply Voltage (V)	250.17	250.11V
AC Supply Frequency (Hz)	50Hz	50Hz
Voltage RMS Summation of the Harmonic Components (THD)	0.06%	0.06%

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 and therefore the driver has capacitive properties.

Measurement Uncertainty

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

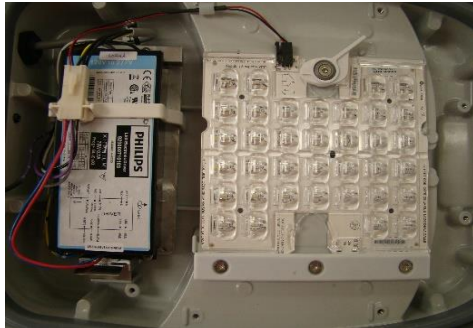
Measurements of power of 0.50W or greater are made with an uncertainty of less than or equal to 2% at the 95% confidence level. Measurements of power less than 0.50W are made with an uncertainty of less than or equal to 0.01W at the 95% confidence level.

Full Test Results

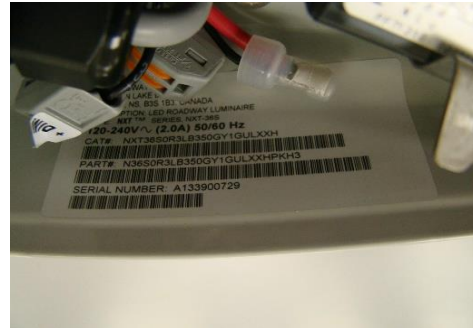
Test Item	Voltage (V)	Current (mA)	Electrical Power (W)	Ambient Temp (°C)	Peak Power (VA)	Power Factor	Leading / Lagging
A	250.12	286.00	69.03	25	71.74	0.962	Leading
B	250.12	288.00	69.47	25	72.17	0.963	Leading
C	250.13	289.00	69.68	25	72.36	0.963	Leading
D	250.13	290.00	69.97	25	72.64	0.963	Leading
E	250.12	284.00	68.57	25	71.28	0.962	Leading
A	240.11	297.00	68.99	25	71.39	0.966	Leading
B	240.11	299.00	69.41	25	71.80	0.967	Leading
C	240.11	300.00	69.66	25	72.03	0.967	Leading
D	240.11	301.00	69.91	25	72.30	0.967	Leading
E	240.11	295.00	68.51	25	70.92	0.966	Leading
A	230.09	308.00	68.96	25	71.09	0.970	Leading
B	230.06	310.00	69.38	25	71.49	0.970	Leading
C	230.08	311.00	69.63	25	71.73	0.971	Leading
D	230.08	313.00	69.93	25	72.01	0.971	Leading
E	230.09	307.00	68.52	25	70.65	0.970	Leading
A	220.08	321.00	68.97	25	70.86	0.973	Leading
B	220.07	323.00	69.36	25	71.23	0.974	Leading
C	220.08	324.00	69.61	25	71.46	0.974	Leading
D	220.08	326.00	69.93	25	71.77	0.974	Leading
E	220.08	319.00	68.48	25	70.38	0.973	Leading
A	210.07	336.00	68.95	25	70.61	0.977	Leading
B	210.07	338.00	69.39	25	71.03	0.977	Leading
C	210.07	339.00	69.62	25	71.25	0.977	Leading
D	210.06	340.00	69.93	25	71.55	0.977	Leading
E	210.05	334.00	68.52	25	70.20	0.976	Leading

Test Item Photographs

Product Details



(Driver and LED Module)



(Label fixture)

TI-2995A



TI-2995B



TI-2995C



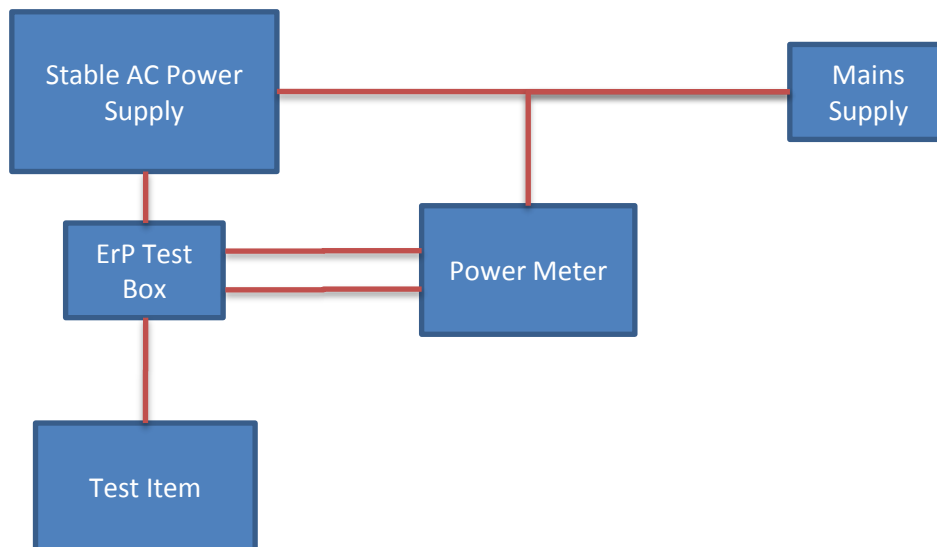
TI-2995D



TI-2995E



Appendix 1: Test item set-up



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