

Report Number	TRN-13457
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-3611
Test Item Reference	TI-3083
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	02/04/2014
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 - 60 - 133W

Date: 02/04/2014

Disclaimers

This report is for the exclusive use of LUX-TSI's Customer and is provided pursuant to the agreement between LUX-TSI and its Customer. LUX-TSI's responsibility and reliability are limited to the Terms and Conditions of the agreement. LUX-TSI assumes no liability to any other party, other than the Customer in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Customer is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the LUX-TSI name or one of its marks for the sale or advertisement of the tested material, product or service must be approved in writing by LUX-TSI.

The observations and test results in this report are relevant only to the sample tested. Opinions expressed and data supplied in this report, are given in good faith, and are based on the information provided by the Customer. This report does not remove the requirement for the Customer to obtain further independent advice and in particular to instruct a notified or competent body or person to carry out further evaluation work and/or testing. Accordingly, no warranty is given, nor is any term or condition to be implied, that the product, which is the subject of this report, complies with the requirements of any EU directives.

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)

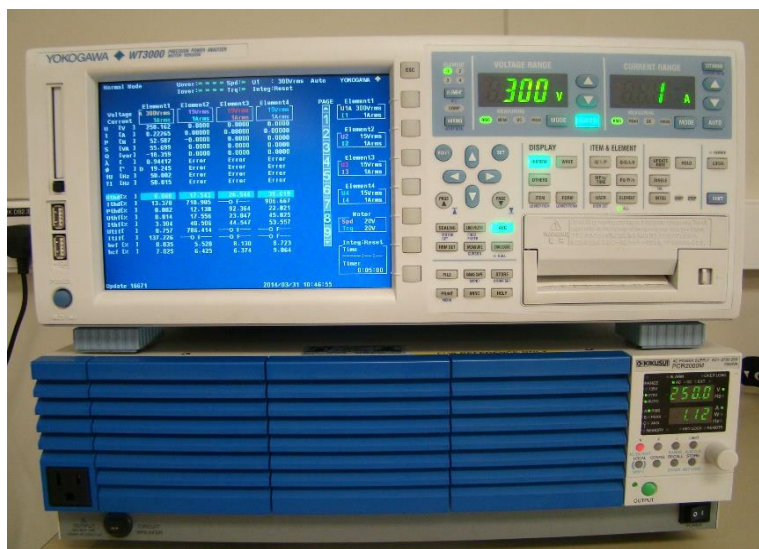
U - Universal Burn (burn can be operated in any position)

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 - 60 - 133W
Part/Serial Number	N72M2R3HB700GY1GCEXXHPRH3
Type of Product	Street Light
Base Type	N/A
Driver Type	Mains
Driver Model	LRL-66014-SUB-NXTS-700-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	300 mm	198 mm
Length	750 mm	372 mm
Height/Depth	135 mm	0 mm

Test Item	Identifier
TI-3083A	A141001038
TI-3083B	A141001037
TI-3083C	A141001036
TI-3083D	A141001040
TI-3083E	A141001039

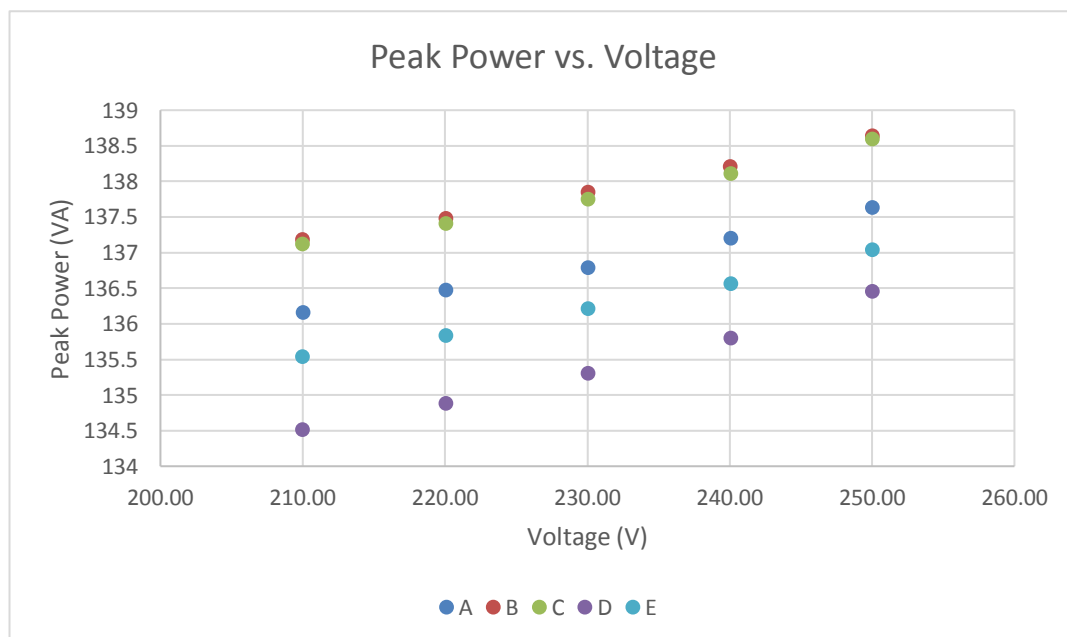
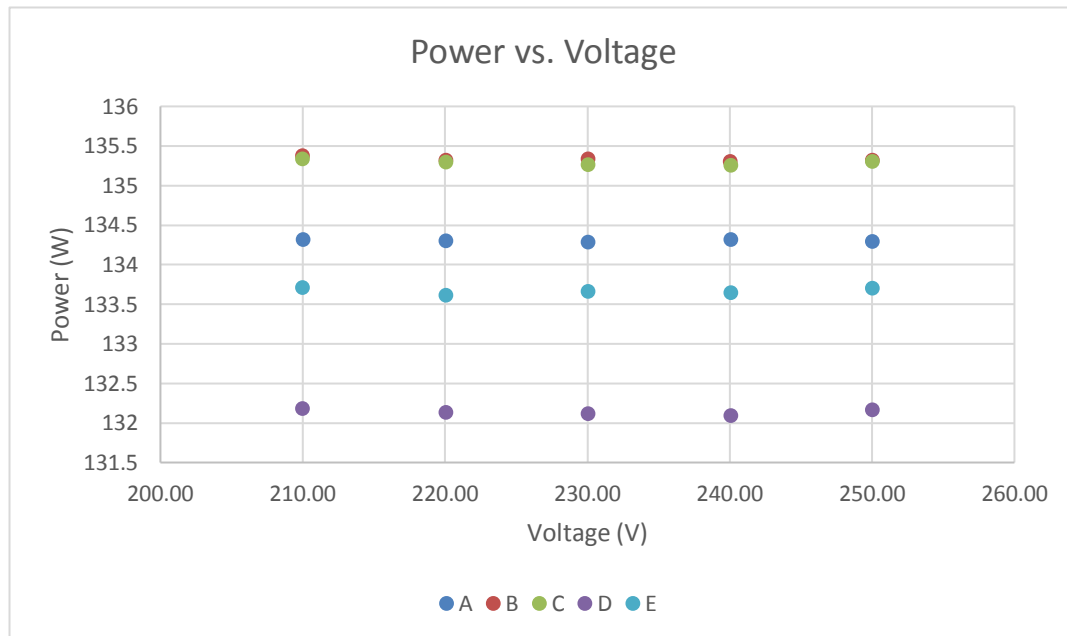
Test Conditions

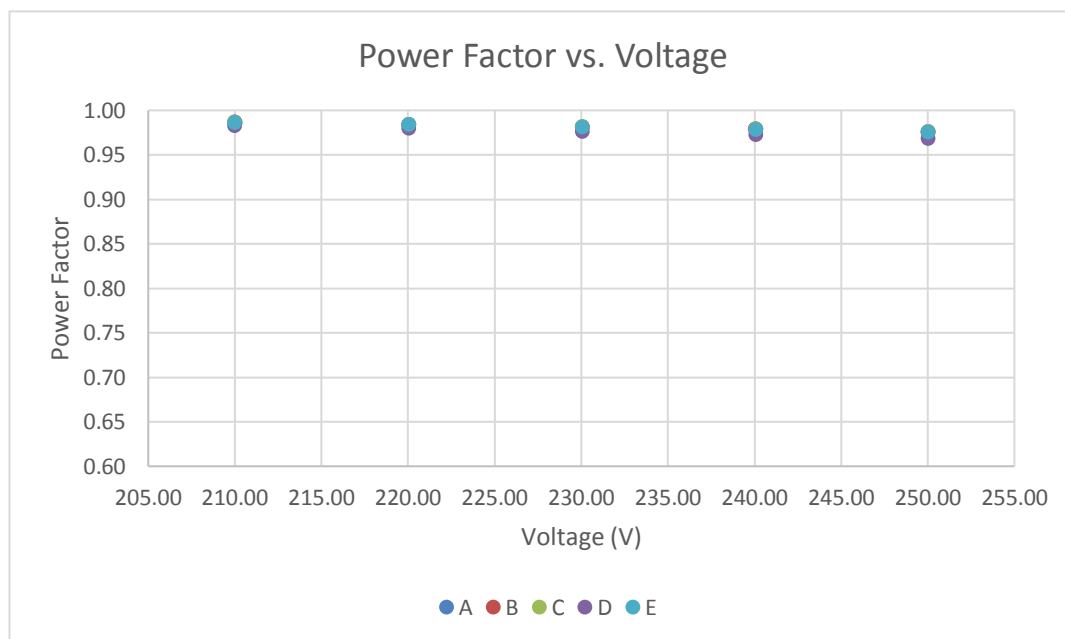
	Before Test	After Test
AC Supply Voltage (V)	250.00V	250.02V
AC Supply Frequency (Hz)	50Hz	50Hz
Voltage RMS Summation of the Harmonic Components (THD)	0.08%	0.06%

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)	$\pm 0.061 \text{ V}_{\text{rms}}$
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	$\pm 0.0006 \text{ PF}$

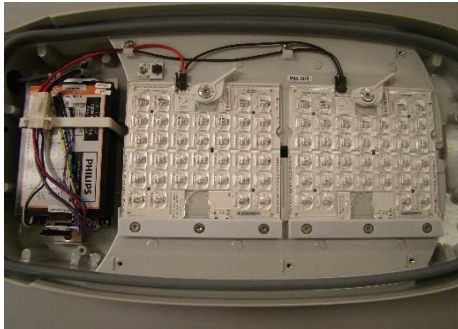
Measurements of power of 0.50W or greater are made with an uncertainty of less than or equal to 2% at the 95% confidence level. Measurements of power less than 0.50W are made with an uncertainty of less than or equal to 0.01W at the 95% confidence level.

Full Test Results

Test Item	Voltage (V)	Current (mA)	Electrical Power (W)	Ambient Temp (°C)	Peak Power (VA)	Power Factor	Leading / Lagging
A	250.00	550.00	134.29	25	137.63	0.976	Leading
B	250.00	554.00	135.32	25	138.64	0.976	Leading
C	250.00	554.00	135.30	25	138.59	0.976	Leading
D	250.00	545.00	132.16	25	136.45	0.969	Leading
E	250.00	548.00	133.70	25	137.04	0.976	Leading
A	240.07	571.00	134.31	25	137.20	0.979	Leading
B	240.04	575.00	135.30	25	138.21	0.979	Leading
C	240.07	575.00	135.25	25	138.11	0.979	Leading
D	240.07	565.00	132.09	25	135.80	0.973	Leading
E	240.07	568.00	133.64	25	136.56	0.979	Leading
A	230.06	594.00	134.28	25.2	136.79	0.982	Leading
B	230.06	599.00	135.33	25.2	137.85	0.982	Leading
C	230.05	598.00	135.26	25.2	137.75	0.982	Leading
D	230.05	588.00	132.11	25.2	135.30	0.976	Leading
E	230.05	592.00	133.66	25.2	136.21	0.981	Leading
A	220.04	620.00	134.30	25.2	136.47	0.984	Leading
B	220.04	624.00	135.32	25.2	137.48	0.984	Leading
C	220.04	624.00	135.29	25.2	137.41	0.985	Leading
D	220.04	612.00	132.13	25.2	134.88	0.980	Leading
E	220.04	617.00	133.61	25.2	135.83	0.984	Leading
A	210.01	648.00	134.31	25.2	136.16	0.986	Leading
B	210.00	653.00	135.37	25.2	137.18	0.987	Leading
C	210.00	652.00	135.33	25.2	137.12	0.987	Leading
D	210.00	640.00	132.18	25.2	134.51	0.983	Leading
E	210.00	645.00	133.71	25.2	135.54	0.986	Leading

Test Item Photographs

Product Details

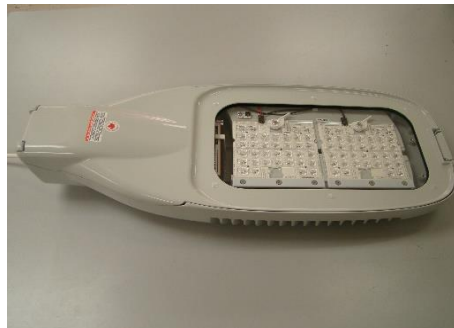


(Driver and LED Module)

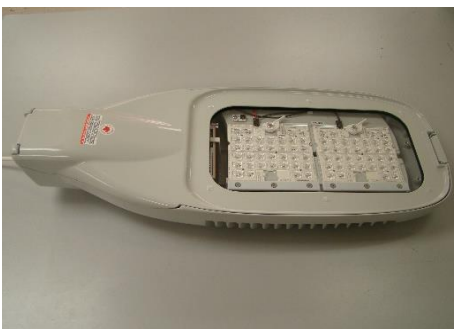


(Label fixture)

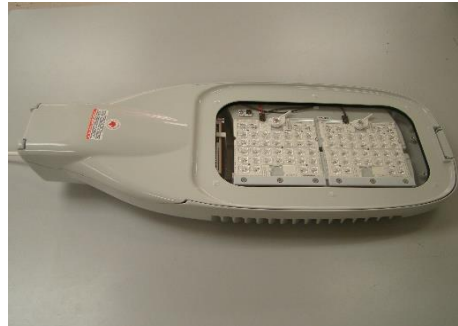
TI-3083A



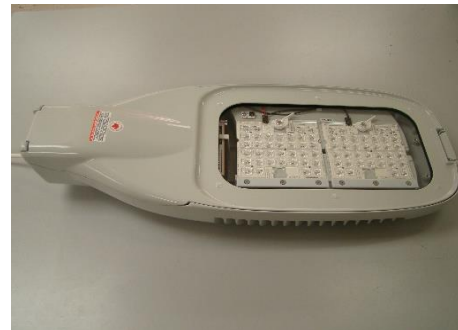
TI-3083B



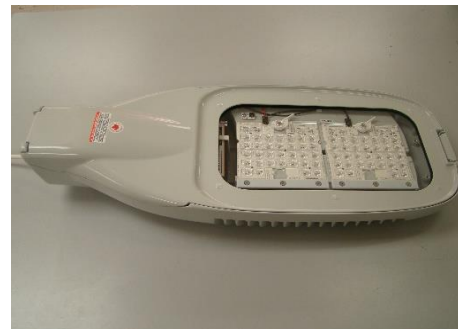
TI-3083C



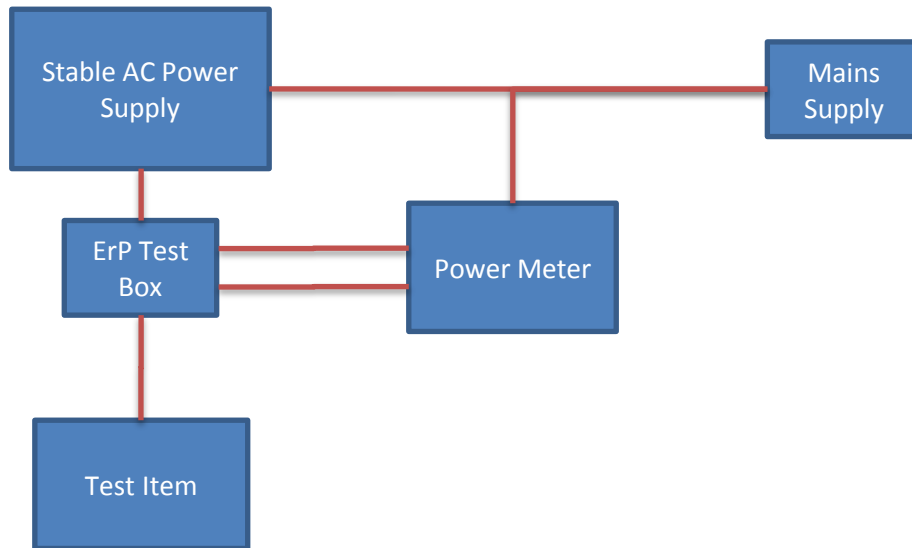
TI-3083D



TI-3083E



Appendix 1: Test item set-up



----- END OF REPORT -----