

UMS SUMMARY TEST REPORT

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ISSUED BY:
CRANAGE EMC TESTING LIMITED
STABLE COURT
OAKLEY
MARKET DRAYTON
SHROPSHIRE, TF9 4AG



Report No: **U0033R** Date of Issue: **24th February, 2014**

This document summarises the results of testing to ascertain the appropriate Elexon Charge Codes for inclusion in BSCP520.

Tested & Inspected for: **ASD Lighting PLC
Mangham Rd
Barbot Hall Ind. Est.
Rotherham
S61 4RJ**

Test Dates: **20th – 24th February, 2014**
Receipt Date of Test Item: **20th February, 2014**

Sample 1

Test Item Description: **Street Lighting (12 LED Version)**
Manufacturer: **ASD Lighting PLC.**
Model Name: **Highway Crystal 12 LED**
Serial Number: **Production Sample**
PCB Reference: **PG 02-14 Rev. 1 PCB049**

Incorporates LED Driver

Manufacturer: **Roal Living Energy**
Model Number: **RSOZ070-60-Full**
Serial Number: **346A013013T008781**

Sample 2

Test Item Description: **Street Lighting (12 LED Version)**
Manufacturer: **ASD Lighting PLC.**
Model Name: **Highway Crystal 12 LED**
Serial Number: **Production Sample**
PCB Reference: **PG 02-14 Rev. 1 PCB049**

Incorporates LED Driver

Manufacturer: **Roal Living Energy**
Model Number: **RSOZ070-60-Full**
Serial Number: **346A013013T008767**

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Sample 3

Test Item Description: **Street Lighting (12 LED Version)**
Manufacturer: **ASD Lighting PLC.**
Model Name: **Highway Crystal 12 LED**
Serial Number: **Production Sample**
PCB Reference: **PG 02-14 Rev. 1 PCB049**

Incorporates LED Driver

Manufacturer: **Roal Living Energy**
Model Number: **RSOZ070-60-Full**
Serial Number: **346A013013T008769**

Sample 4

Test Item Description: **Street Lighting (12 LED Version)**
Manufacturer: **ASD Lighting PLC.**
Model Name: **Highway Crystal 12 LED**
Serial Number: **Production Sample**
PCB Reference: **PG 02-14 Rev. 1 PCB049**

Incorporates LED Driver

Manufacturer: **Roal Living Energy**
Model Number: **RSOZ070-60-Full**
Serial Number: **346A013013T008754**

Sample 5

Test Item Description: **Street Lighting (12 LED Version)**
Manufacturer: **ASD Lighting PLC.**
Model Name: **Highway Crystal 12 LED**
Serial Number: **Production Sample**
PCB Reference: **PG 02-14 Rev. 1 PCB049**

Incorporates LED Driver

Manufacturer: **Roal Living Energy**
Model Number: **RSOZ070-60-Full**
Serial Number: **346A013013T008750**

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Sample 6

Test Item Description: **Street Lighting (12 LED Version)**
Manufacturer: **ASD Lighting PLC.**
Model Name: **Highway Crystal 12 LED**
Serial Number: **Production Sample**
PCB Reference: **PG 02-14 Rev. 1 PCB049**

Incorporates LED Driver

Manufacturer: **Roal Living Energy**
Model Number: **RSOZ070-60-Full**
Serial Number: **346A013013T008725**

Sample 7

Test Item Description: **Street Lighting (12 LED Version)**
Manufacturer: **ASD Lighting PLC.**
Model Name: **Highway Crystal 12 LED**
Serial Number: **Production Sample**
PCB Reference: **PG 02-14 Rev. 1 PCB049**

Incorporates LED Driver

Manufacturer: **Roal Living Energy**
Model Number: **RSOZ070-60-Full**
Serial Number: **346A013013T008636**

Sample 8

Test Item Description: **Street Lighting (12 LED Version)**
Manufacturer: **ASD Lighting PLC.**
Model Name: **Highway Crystal 12 LED**
Serial Number: **Production Sample**
PCB Reference: **PG 02-14 Rev. 1 PCB049**

Incorporates LED Driver

Manufacturer: **Roal Living Energy**
Model Number: **RSOZ070-60-Full**
Serial Number: **346A013013T008910**

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Sample 9

Test Item Description: **Street Lighting (12 LED Version)**
Manufacturer: **ASD Lighting PLC.**
Model Name: **Highway Crystal 12 LED**
Serial Number: **Production Sample**
PCB Reference: **PG 02-14 Rev. 1 PCB049**

Incorporates LED Driver

Manufacturer: **Roal Living Energy**
Model Number: **RSOZ070-60-Full**
Serial Number: **346A013013T008751**

Sample 10

Test Item Description: **Street Lighting (12 LED Version)**
Manufacturer: **ASD Lighting PLC.**
Model Name: **Highway Crystal 12 LED**
Serial Number: **Production Sample**
PCB Reference: **PG 02-14 Rev. 1 PCB049**

Incorporates LED Driver

Manufacturer: **Roal Living Energy**
Model Number: **RSOZ070-60-Full**
Serial Number: **346A013013T008787**

Approved Signatories: K.G. Richens - Managing Director

K.G. Richens

APPROVED SIGNATORY

Mark Hill

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Verification Signatories: M. Richens - Test Engineer

VERIFICATION SIGNATORY

Mode of Operation: The test item was powered 'On' and gave a constant 100% light output (Mode 1 – Samples 1 - 5) and the test item was powered 'On' and gave a constant 70% light output (Mode 2 – Samples 6 - 10). A photograph showing the test item can be found on page 4. Figures rounded to 1 D.P.

Test Condition: - 15 minutes stabilisation period given prior to measurements. Measurements were subsequently taken after 15 minutes at each voltage level. This was found to be an adequate time window for the purpose of the test measurements.

Mode 1

Watts					
Voltage (Vrms)	Sample No.				
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
210	15.7	15.9	15.8	15.8	15.9
220	15.7	15.9	15.8	15.8	15.9
230	15.5	15.9	15.7	15.7	15.8
240	15.4	15.7	15.6	15.6	15.8
250	15.3	15.8	15.6	15.4	15.7

VA					
Voltage (Vrms)	Sample No.				
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
210	22.5	22.6	22.8	22.7	22.9
220	24.2	24.3	24.4	24.3	24.6
230	25.5	25.4	25.6	25.6	26.0
240	27.5	27.4	27.7	27.6	27.9
250	29.1	29.3	29.5	29.3	29.7

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Mode 2

Watts					
Voltage (Vrms)	Sample No.				
	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10
210	10.9	12.4	10.8	11.0	11.0
220	10.6	12.3	10.6	10.9	10.9
230	10.6	11.9	10.5	10.7	10.7
240	10.3	12.0	10.3	10.6	10.6
250	10.3	12.0	10.3	10.6	10.4

VA					
Voltage (Vrms)	Sample No.				
	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10
210	20.3	20.8	20.1	19.9	19.9
220	21.3	22.5	21.4	21.4	21.5
230	23.3	23.7	23.1	22.9	22.9
240	24.0	25.7	24.1	24.1	24.0
250	23.4	27.2	25.5	25.3	24.9

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Ambient temperature range recorded during test period:
 19.0°C - 20.0°C

Test Equipment

Asset Number	Description	Calibration Date	Calibration Due
AN874	Power Source	-	-
AN1162	Power Analyser	14/05/2013	13/05/2013
AN452	Timer	-	-

Photographs of the Test Item



Above: Incorporated LED Driver

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Above: Unit under test

Measurement Uncertainty

The 95 % confidence measurement uncertainty for AC Power (Analyser) is 0.17%.