LIA Verified Schedule of Certification

Schedule No.	:	TSD004-0039 (Issue 2)
Certificate No.	:	004-0039
Certificate Holder:	:	LED Hero 2-7 Ebor Court Retford Nottinghamshire DN22 7WF
Web:	:	www.ledhero.co.uk
Date of Initial Registration	:	15/02/2017
Date of Issue	:	29/03/2017
Date of Expiry	:	14/02/2020

This Schedule is to be read in conjunction with the accompanying certificate. The data shown relates only to the unit(s) tested. This schedule and any subsequent schedule(s) may not be reproduced except in full without the written approval of the Testing Laboratory.

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Contents

1. INTRODUCTION

This Schedule of certification accompanies the certificate identified on page one as part of the LIA Verified scheme for LED products. Assessment is carried out in line with the requirements set out in LIA Laboratories Technical Scheme Document TSD-004.

2. CERTIFICATION STATUS

The products have passed the safety assessment and have achieved 2000 hours of operation as required by the scheme.

3. SCOPE

The products listed in Table 1, supplied by the certificate holder identified on page one have been assessed and are covered under certificate no. 004-0039.

Table 1. ***Products covered under scope***

Model No.	Product Name
HEROPS-204NWF	LED Hero Power Saver Panel

4. DOCUMENTATION

As part of the assessment process the following documents have been evaluated and form part of the Technical File held by the certificate holder and LIA Laboratories Ltd. It should be noted that in order to maintain certification the certificate holder is required to maintain up to date technical documentation related to all of the products identified in section three of this schedule.

All client documentation held by LIA Laboratories Ltd is maintained as strictly confidential.

Table 2. ***Critical Documents***

Document reference	Title/Description
40012386	Cable_VDE
U6160674050060	Controlgear - GIRxxxYS Series ENEC Certificate
E238824	Internal wiring UL
1007	Internal wiring UL 1007
Z1A 160174050045	Lifud Low Wattage Drivers
RSZ140110505-10-9000	IESNA Lumen Maintenance - Chips
B 14 05 74050 009	TUV - Drivers
E318553	UL - Wiring Cert
E238B24	UL - Wiring Material
40012386	VDE-TUV Cert Cable
E471762-20150116	(KJ-D)E471762-20150116-Certificate of Compliance - UL - PCB
E471762-20141204	(KJ-L)E471762-20141204-Certificate of Compliance – UL - Component Wiring
E471762-20150115	(KJ-M)E471762-20150115-Certificate of Compliance – Multilayered - PCB

5. OBSERVATIONS AND LIMITATIONS

When installed in accordance with the manufacturer's instructions, this product is deemed to comply with the specified end use.

APPENDIX A

PRODUCT TECHNICAL SPECIFICATIONS

A.1. *LED Hero Power Saver Panel*

A.1.1. PRODUCT DETAILS

Table A.1 ***Product Specifications***

Product Name	LED Hero Power Saver Panel
Model No.	HEROPS-204NWF
Product Description	600×600 LED panel
Nominal Dimensions	600mm x 600mm x 10mm
Product Supply Requirement	200-240V AC, 50/60Hz
Lamp Type and Power	LED 24W

Figure 1. ***Product Images***

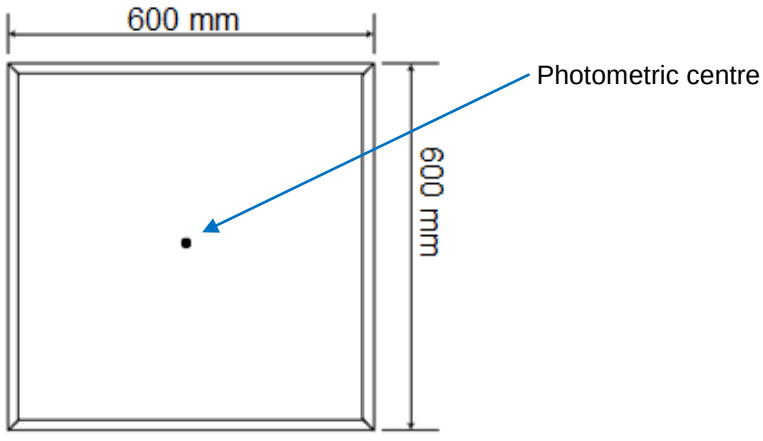

Figure 2. ***Product diagram***

A.1.2. SAFETY EVALUATION

Safety assessment was carried out in accordance with the requirements set in LIA Laboratories' technical scheme document TSD-004, the clauses verified are shown in Table 2 and have been evaluated against IEC 60598-1:2014 and IEC 60598-2-1:1989.

The product has been found to conform to the requirements laid out in the identified clauses.

Table A.2 ***Safety Test Results***

Clause No.	Title
1.3	Marking
1.4	Construction
1.8	Protection against Electric Shock
1.10	Insulation Resistance and Electric Strength, Touch Current and Protective Conductor Current
1.11	Creepage Distances and Clearances
1.12	Thermal Test Only (Normal Operation)

A.1.3. CENTRE BEAM INTENSITY AND BEAM ANGLE

Table A.3 ***Beam Angle value for LED Hero Power Saver Panel***

Centre Beam Intensity (cd)	Beam Angle *(Lamp orientation)*	Beam Angle Result (°)
1064	0° - 180°	112.7
	90° - 270°	113.9

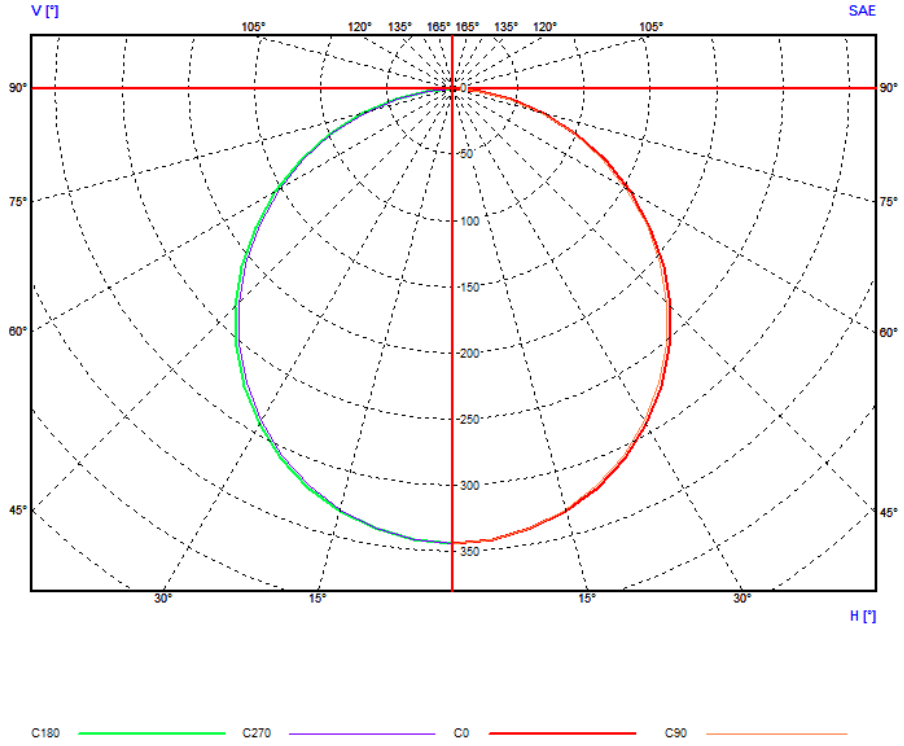

Figure 3. ***Polar Diagram for LED Hero Power Saver Panel***

A.1.4. COLORIMETRY

Table A.4 ***Colorimetry values for LED Hero Power Saver Panel***

COLORIMETRY & LUMINOUS FLUX	x coordinate	0.3506
	y coordinate	0.3646
	u coordinate	0.2101
	v coordinate	0.3278
	u' coordinate	0.2101
	v' coordinate	0.4917
	Dominant Wavelength (nm)	578.0
	Purity (%)	20.3
	Correlated Colour Temperature (K)	4849
	Ra (%)	80.9
	R1 (%)	78.1
	R2 (%)	88.0
	R3 (%)	94.4
	R4 (%)	78.0
	R5 (%)	78.1
	R6 (%)	82.5
	R7 (%)	85.7
	R8 (%)	62.0
	R9 (%)	-5.3
	R10 (%)	71.4
	R11 (%)	76.5
	R12 (%)	52.8
	R13 (%)	80.9
	R14 (%)	97.3
	Lumen Output (lm)	3203

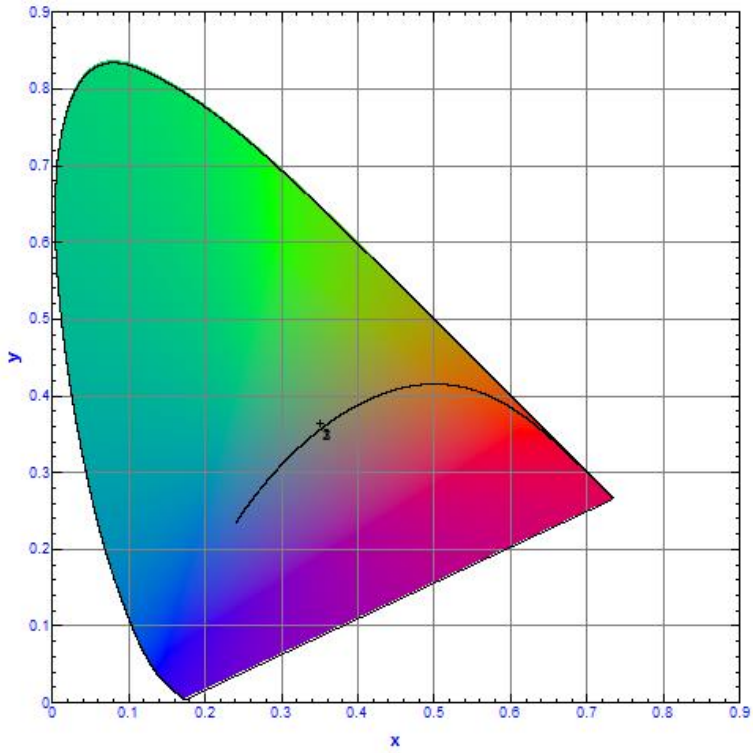

Figure 4. ***CIE 1931 diagram for LED Hero Power Saver Panel***

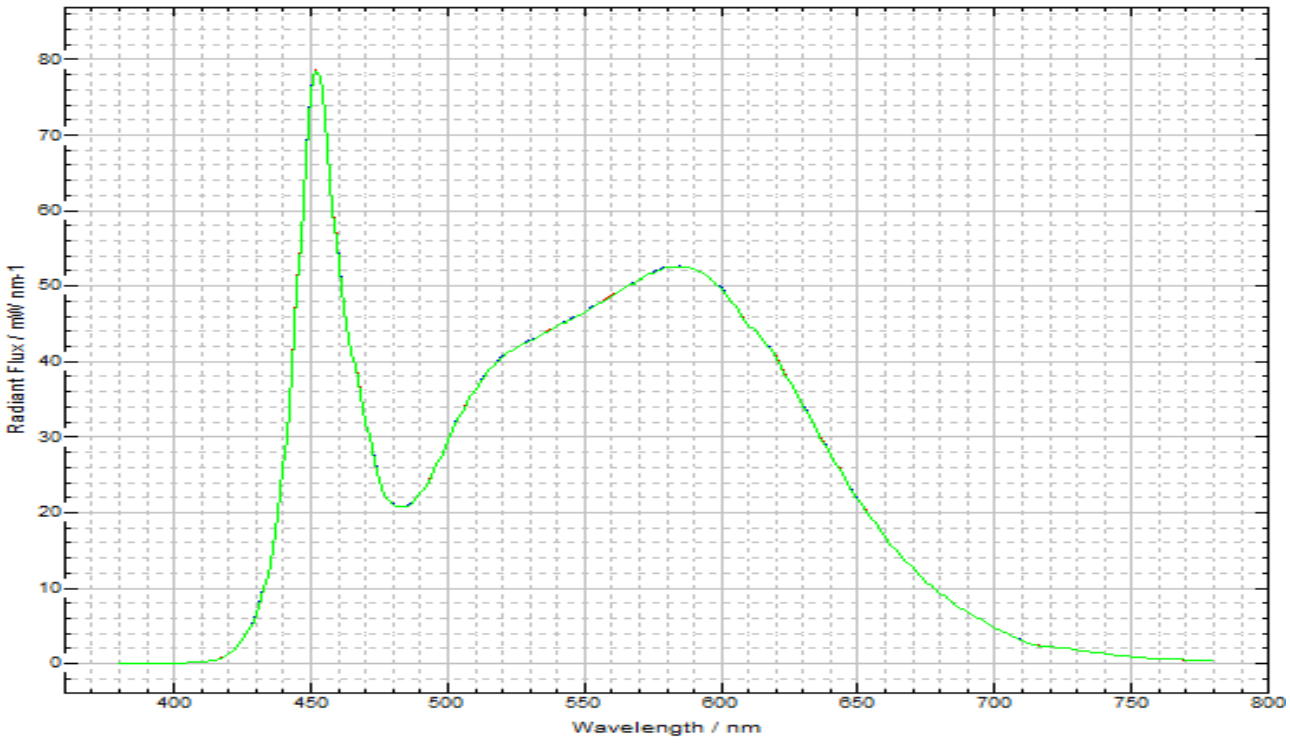

Figure 5. ***Total Spectral Flux for LED Hero Power Saver Panel***

A.1.5. LIFE TEST

Table A.5 ***Colorimetry depreciation of LED Hero Power Saver Panel***

Measured Value	0 hours	100 hours	% Maintained (0-100hrs)	2000 hours	% Maintained (0-2000hrs)
Correlated Colour Temperature (K)	4849	4896	100.1	4923	101.5
Ra (%)	80.9	80.9	100.0	81.0	100.1
Luminous Flux (lm)	3203	3237	101.0	3226	100.7
Luminous Efficacy (lm/W)	132	134	101.5	133	100.8

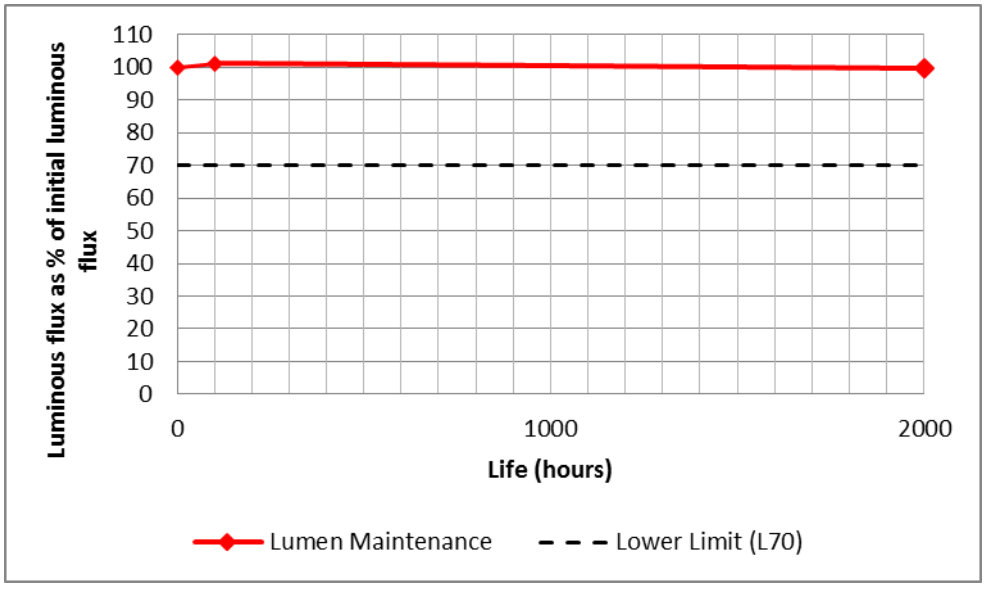

Figure 6. ***Luminous flux depreciation curve for LED Hero Power Saver Panel***

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