TEST REPORT

Reference No.	:	325-LU262-R01 ver. 0
Applicant	:	VALUXILLUMINACION
Address.	:	POL.OLIVERAL NORTE FASEIII NAVE 19, 46190 RIBA-ROJA DE TURIA VALENCIA ESPANA.
Manufacturer.	:	VALUXILLUMINACION
Address.	:	POL.OLIVERAL NORTE FASEIII NAVE 19, 46190 RIBA-ROJA DE TURIA VALENCIA ESPANA.
Product Name	:	Projector luminaire
Model No.	:	Lotus
Ratings	:	200-240V~, 50-60Hz,5W
Standards	:	IES LM-79-08 Electrical and Photometric Measurements of Solid-State Lighting Products
Date of Receipt sample	:	20-03-2017
Date of Test	:	21-03-2017 to 22-03-2017
Date of Issue	:	23-03-2017
Test Report Form No.	:	213-LU79081A-01B
Test Result	:	See the attached sheets

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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Ing. Feliciano Bertina

Test engineer

Approved by:

Ing. Michael Paschier
Reviewer

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C.I.F. B-98.329.097
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Measurement Point:
N

Characteristic data
(not shown on the marking plate)
N

Purpose of the product
(Description of intended use)
LED flood lighting for generally lighting purpose.
Other information refers to photos in end page.

Possible test case verdicts:

- test case does not apply to the test object:..... N(.A.) / not included in the order
- test object does meet the requirement.....P(ass)
- test object does not meet the requirement: ..... F(ail)

Possible suffixes to the verdicts:

- suffix for detailed information for the client ..... .: - C(omment)
- suffix for important information for factory inspection .. .: - M(anufacturing)

General remarks:

"(See Attachment #)" refers to additional information appended to the report.
“(See remark #)” refers to a remark appended to the report.
"(See appended table)" refers to a table appended to the report.
Throughout this report a comma is used as the decimal separator.

Remark:
1. Measurement was conducted at voltage 240VAC 50Hz and at a stable ambient temperature 25°C±1°C.

Test summary:

Testing is performed in accordance with the procedures outlined in IES LM-79-08. The sample is evaluated for photometric and electrical characteristics using an integrating sphere and a goniophotometer, located in an accredited, temperature and humidity-controlled, draft free photometric laboratory.

☒ Test No. 1 : Integrating Sphere Test

The sample was tested according to the IES LM-79-08.

Photometric paramters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25º C ± 1º C.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ±0.2 percent under load. The AC power supply, while operating the product, shall have a sinusoidal voltage waveshape at the prescribed frequency 50Hz or 60Hz such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item. It was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

☒ Test No.2: Goniophotometer Test

The sample was tested according to the IES LM-79-08.

Photometric paramters were measured using a type C goniophotometer and software.

The ambient temperature shall be maintained at 25° C ± 1° C, measured at a point not more than 1 m from the sample and at the same height as the sample.

The sample was operated at Rated Volts(see Table 1). The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ±0.2 percent under load. The AC power supply, while operating the product, shall have a sinusoidal voltage waveshape at the prescribed frequency 50Hz or 60Hz such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item. It was stabilized before measurement. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 15° horizontal intervals and chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm by center test position.

IES LM-79-08			
Clause	Requirement – Test	Measuring result – Remark	Verdict
2.0	Ambient Conditions		P
2.1	General		P
2.2	Air Temperature		P
2.3	Thermal Condition for Mounting SSL Products		P
2.4	Air Movement		P
3.0	Power Supply Characteristics		P
3.1	Waveshape of AC power supply		N
3.2	Voltage regulation		N
4.0	Seasoning of SSL Product		N
	No seasoning of SSL product		N
5.0	Stabilisation of SSL Product		P
	SSL product has sufficiently stabilized before measurement	Stabilized 30 minute	P
6.0	Operation Orientation		P
	SSL product shall be stabilized and measured in intended operating orientation	As normal working	P
7.0	Electrical Settings		P
	SSL product shall be operated at rated voltage		P
	SSL product with dimming capability are tested at maximum input power condition		N
	SSL product with different modes are measured in all relevant modes		N
8.0	Electrical Instrumentations		P
8.1	Circuits		P
8.2	Uncertainties		P
9.0	Test Methods for Luminous Flux measurement		P
9.1	Integrating sphere with a spectroradiometer (Sphere-spectroradiometer system)		P
9.2	Integrating sphere with a photometer head (Sphere-photometer system)		N
9.3	Goniophotometer		P
10.0	Luminous Intensity Distribution		P
	Reporting acc. to IES LM-63		P
11.0	Luminous Efficacy		P
	Calculation	See table 1	P
12.0	Test Methods for Color Characteristics of SSL Products		P
	Measurements	See table 1	P
13.0	Uncertainty statement		N

Table 1	**Test data**		
Model:	Lotus		
Rated Voltage:	200-240VAC	Rated Power (W):	20
Rated luminous flux (lm):	N	Ambient temperature 25 ±1 (°C):	Refer to below table
Test item		**Measured Value**	
		Integrating Sphere	**Goniophotometer**
Key Photometric Results			
Luminous Efficacy (Lumens/Watt)		---	100,0
Total Luminous Flux (Lumens)		---	2000,6
Peak Intensity (cd)		---	8116
Total Radiant Flux (Watts)		---	---
Correlated Color Temperature (CCT)		3034K	---
Color Rendering Index (CRI)		85,2	---
Chromaticity (Chroma x / Chroma y)		0,4345/0,4032	---
Chromaticity (Chroma u' / Chroma v')		0,2494/0,5207	---
Duv Value		-2,99e-05	---
Stabilization Time (Light and Power) (Minutes)		30	30
Total Run Time (Minutes)		35	90
Electrical Input Results			
Input Power (Watts)		---	59,8
Input Voltage (Volts AC)		---	239,9
Input Current (Amps)		---	0,256
Input Frequency (Hertz)		---	50
Power Factor		---	0,976
Additional Information			
Test Geometry Configuration		4π	Type C
Ambient Temperature (°C):		25,1	24,9
ISTMT (In-Situ Temperature Measurement) (°C):		N	

Supplementary Information:

- Absorbtion Correction used: NO
- Stabilisation was considered reached by: the variation (maximum-minimum) of at least 3 readings of the light output and electrical power over a period of 30 minutes is less than 0,5%.

Lightsource Test Report

Product Infomation

Product Type: SP　　Product Number: VN-193

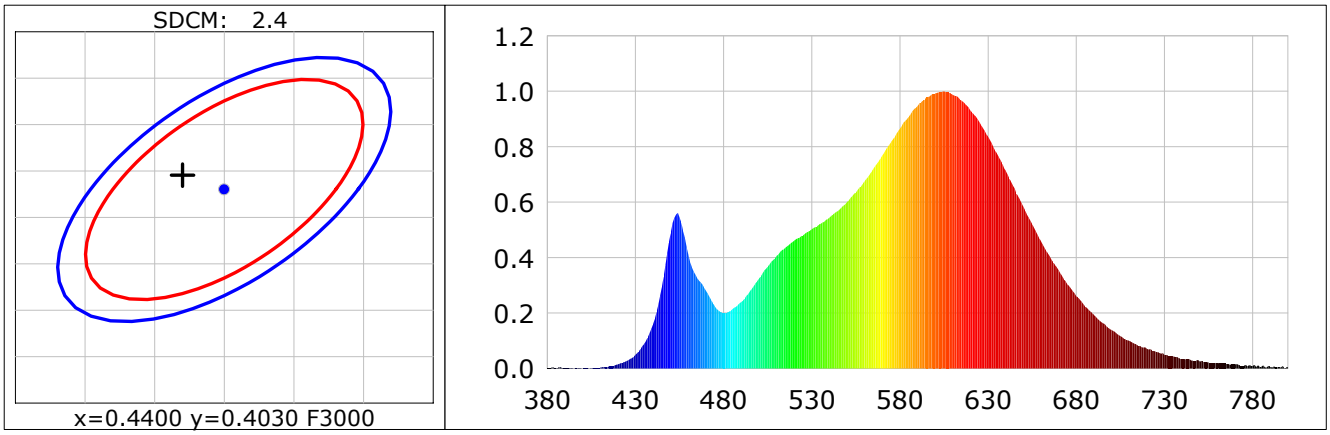
CIE Colorimetric Parameters

Chromaticity coordinates: x=0.4370 y=0.4045　u(u')=0.2504 v=0.3477 v'=0.5216
CCT: Tc=3003K (duv=0.00017)　　Color Ratio: R=0.230 G=0.743 B=0.027
Peak Wavelength: 604.9nm　　Half Bandwidth: 127.3nm
Dominant Wavelength: 582.7nm　　Color Purity: 0.526
CRI: Ra= 83.0　　TM30: Rf= 83, Rg= 95

R1 =82	R2 =92	R3 =96	R4 =81	R5 =82	R6 =91	R7 =82	R8 =59
R9 =8	R10=82	R11=80	R12=71	R13=84	R14=98	R15=74	

Color Quality Scale: Qa= 83.0, Qf= 84.8, Qp= 83.5, Qg= 90.5

Q1 =79	Q2 =94	Q3 =84	Q4 =80	Q5 =83	Q6 =84	Q7 =84	Q8 =87
Q9 =95	Q10=91	Q11=87	Q12=85	Q13=83	Q14=72	Q15=75	



Photometric Parameters

Luminous Flux: 2207.87 lm　　Efficiency: 111.64 lm/W　　Radiant Power: 4.978 W
EEI: 0.12　　Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 221.20V　　Current: 0.1170A　　Power: 19.77W
Power Factor: 0.5730　　Frequency: 49.99Hz

Test Infomation
Scan Range: 380~800:1nm　　Photometric Method: sphere-spectroradiometer
Stabilization Time: 5 Sec　　Photometric Condition: Sphere diameter: 1.50m, 4∏
Max of Signal: 44915 (3403)　　CCD Integration Time: 393.28 ms

Condition: Tx:26.8'C, Ti:25.8'C, R.H.:60%　　Test Device: Inventfine CMS-2
Test Lab:　　Test Time: 2024-09-23 14:15:23
Operator: Insen　　Inspector: