

# Visual Comfort and Company

## TEST REPORT

**SCOPE OF WORK**

LM-79 testing report

**REPORT NUMBER**

220706027GZU-008

**ISSUE DATE**

02 August 2022

**REVISION DATE**

None

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13

**DOCUMENT CONTROL NUMBER**

Report format for LM-79:2008\_F  
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Report No.: 220706027GZU-008

## TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700OWLYD9305xUNV

RENDERED TO

Visual Comfort and Company

Contact Name: Tess Gallagher

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TEST: Electrical and Photometric as required to the IES LM-79 test standard.

STATEMENT OF LIMITATION: The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

AUTHORIZATION: The testing performed was authorized by signed quote number: QGZ220704064.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

IES LM-79: 2008 Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI C78.377:2017 Specifications of the Chromaticity of Solid State Lighting Products

DESCRIPTION OF SAMPLE: The client submitted one sample of model 700OWLYD9305xUNV. The sample was received, in undamaged condition. The sample designation was S220706027-010.

DATES OF TESTS: 02 August 2022

ISSUED BY: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

TEST LOCATION: Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-8/F., No. 7-2. Caipin Road, Science City, GETDD, Guangzhou, Guangdong, China

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## TEST REPORT

### SUMMARY

Model Number:	700OWLYD9305xUNV (Remark: "X" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

#### Test Condition: 120V, 60Hz For 700OWLYD9305xUNV

Criteria	Result
Total Lumen Output	254.54 lm
Total Power	8.72 W
Luminaire Efficacy	29.19 lm/W
S/MH(C0/180)	0.55
S/MH(C90/270)	0.82
Correlated Color Temperature (CCT)	2907 K
Color Rendering Index (CRI)	92
R9	64
Chromaticity Coordinate (x)	0.4438
Chromaticity Coordinate (y)	0.4066
Chromaticity Coordinate (u')	0.2539
Chromaticity Coordinate (v')	0.5234

#### Remark:

Measurement uncertainty for applicable tests has been established.

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## TEST REPORT

### EQUIPMENT LIST

Equipment Used	Model Number	Control Number
Goniophotometer System	Go-R5000	SA063-16
KONICA MINOLTA - Illuminance meter	CX-2B_WL	SA063-16-01
Standard Lamp	DS215S	SA063-16-06
Digital Power Meter	PLM3000	SA063-16-09
AC power source for Goniophotometer	PCR-1000WH	SA063-16-10
Temperature Meter	RC-HT601A	SA047-62

### GENERAL REMARK

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When determining for test conclusion, measurement uncertainty of tests has been considered.

Throughout this report a ☐ comma ☒ point is used as the decimal separator.

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## TEST REPORT

### TEST METHOD

#### Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IES LM-79

#### Light Distribution and Output Measurements

Light Distribution and total light output (luminous flux) were measured using a Go-R5000 Type-C Rotating Mirror Goniophotometer. Temperature 25°C and relative humidity of 60% was measured at a position in the testing laboratory.

The lamp rotates only around the fixed vertical axle in the prescribed burning position. The lamp and mirror permit the measurement of luminous intensity at the direction of any horizontal or vertical angle without tilting the lamp. The lamp was allowed to stabilize before measurements were made.

#### Chromaticity Measurements

Chromaticity was measured using a 2 meters integrating sphere spectral lamp measurement system, 4 $\pi$  geometry, with an interior coating reflectance no less than 95 %. Temperature was measured at a position inside the sphere shielded from direct light. Relative humidity of 65% was measured at a position in the testing laboratory.

Spectral radiant flux measurements were made using spectroradiometer attached to the detector port of the integrating sphere. Each lamp was allowed to stabilise before measurements were made. The calibration of the integrating sphere spectroradiometer system is by the reference/standard lamps which are traceable to National Institute of Metrology P.R. CHINA. Lamp efficacy (lumens per watt) for each lamp model was then computed based on the luminous flux result. Electrical measurements including voltage, power and power factor were measured using YOKOGAWA - Digital Power Meter., model WT210.

Correction factor (self-absorption) has been considered when doing measurement.

Standard lamp used for Goniophotometer method:

Model: D908S

Current: 7.255A

Standard lamp used for integrating sphere:

Model: S82134

Current: 1.830

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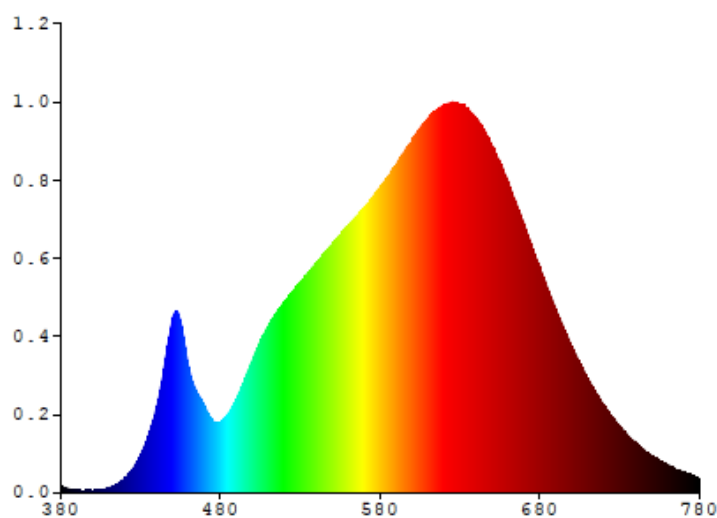
## TEST REPORT

### RESULTS OF TESTS

**Test Condition: 120V, 60Hz For 700OWLYD9305xUNV**

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0503	480	0.4959	580	2.1524	680	1.5884	780	0.0953
385	0.0238	485	0.5576	585	2.2338	685	1.4340		
390	0.0171	490	0.6562	590	2.3127	690	1.2943		
395	0.0128	495	0.7896	595	2.3970	695	1.1601		
400	0.0142	500	0.9300	600	2.4874	700	1.0318		
405	0.0189	505	1.0640	605	2.5693	705	0.9123		
410	0.0318	510	1.1755	610	2.6405	710	0.8072		
415	0.0580	515	1.2655	615	2.6997	715	0.7070		
420	0.0985	520	1.3505	620	2.7435	720	0.6180		
425	0.1652	525	1.4151	625	2.7576	725	0.5374		
430	0.2619	530	1.4809	630	2.7452	730	0.4675		
435	0.4009	535	1.5518	635	2.7155	735	0.4033		
440	0.5984	540	1.6215	640	2.6481	740	0.3500		
445	0.8908	545	1.6885	645	2.5627	745	0.3033		
450	1.2195	550	1.7530	650	2.4516	750	0.2614		
455	1.2035	555	1.8205	655	2.3316	755	0.2253		
460	0.8851	560	1.8810	660	2.2000	760	0.1941		
465	0.7113	565	1.9454	665	2.0517	765	0.1663		
470	0.6115	570	2.0146	670	1.8963	770	0.1435		
475	0.5081	575	2.0836	675	1.7111	775	0.1249		



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# TEST REPORT

## RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 700OWLYD9305xUNV**

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

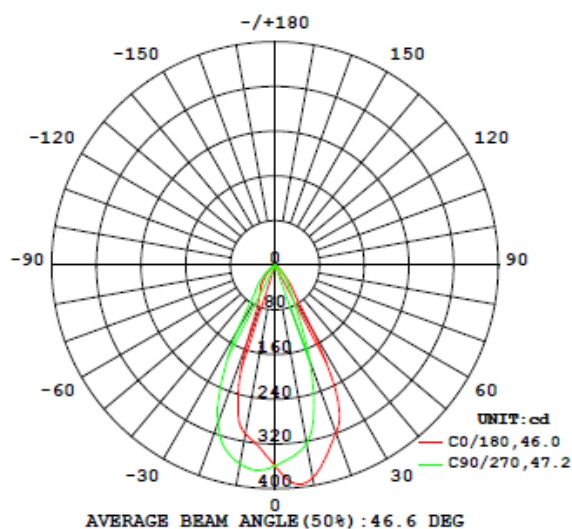
### Photometric Measurements at 25°C – Integrating Sphere Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit	Chromaticit	Chromaticit	Chromaticit
					y	y	y	y
					Coordinate	Coordinate	Coordinate	Coordinate
					(x)	(y)	(u')	(v')
700OWLYD9305xUNV								
S2207060 27-010	--	2907	92	64	0.4438	0.4066	0.2539	0.5234

### Photometric and Electrical Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute	Lumen
						Luminous Flux (Lumens)	Efficacy (Lumens Per Watt)
700OWLYD9305xUNV							
S2207060 27-010	--	120.0	73.8	8.72	0.984	254.54	29.19

### Intensity (Candlepower) Summary at 25°C – Candelas



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## TEST REPORT

### RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 700OWLYD9305xUNV**  
Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	359.1	359.1	359.1	359.1	359.1
5	391.6	382.1	369.5	355.9	344.5
10	386.6	371.1	354.0	338.3	324.1
15	354.0	338.4	319.1	292.6	269.1
20	319.3	298.2	263.2	219.7	180.6
25	266.8	222.2	174.7	130.0	98.7
30	137.2	103.3	78.6	64.3	57.3
35	61.7	53.7	47.9	43.8	41.4
40	36.8	32.2	29.7	28.3	27.6
45	22.7	19.9	18.4	17.6	17.3
50	13.4	11.5	10.5	8.4	5.6
55	6.9	5.6	4.9	0.0	0.0
60	2.4	1.8	0.1	0.0	0.0
65	0.1	0.1	0.0	0.0	0.0
70	0.0	0.0	0.0	0.0	0.0
75	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0
85	0.0	0.0	0.0	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0
105	0.0	0.0	0.0	0.0	0.0
110	0.0	0.0	0.0	0.0	0.0
115	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	0.1
130	0.0	0.1	0.1	0.1	0.1
135	0.1	0.1	0.1	0.1	0.1
140	0.1	0.1	0.2	0.2	0.2
145	0.2	0.2	0.2	0.2	0.2
150	0.2	0.2	0.2	0.3	0.3
155	0.3	0.3	0.3	0.3	0.3
160	0.3	0.3	0.3	0.3	0.3
165	0.3	0.3	0.3	0.3	0.3
170	0.3	0.3	0.3	0.3	0.3
175	0.3	0.3	0.3	0.2	0.2
180	0.3	0.2	0.2	0.2	0.2

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# TEST REPORT

## RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700OWLYD9305xUNV

### Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700OWLYD9305xUNV		
0-30	192.08	75.46
0-40	228.18	89.64
0-60	253.39	99.55
0-90	254.15	99.84
60-90	0.76	0.29
0-180	254.54	100.00

### Beam Angle

Total Beam Angle (°)

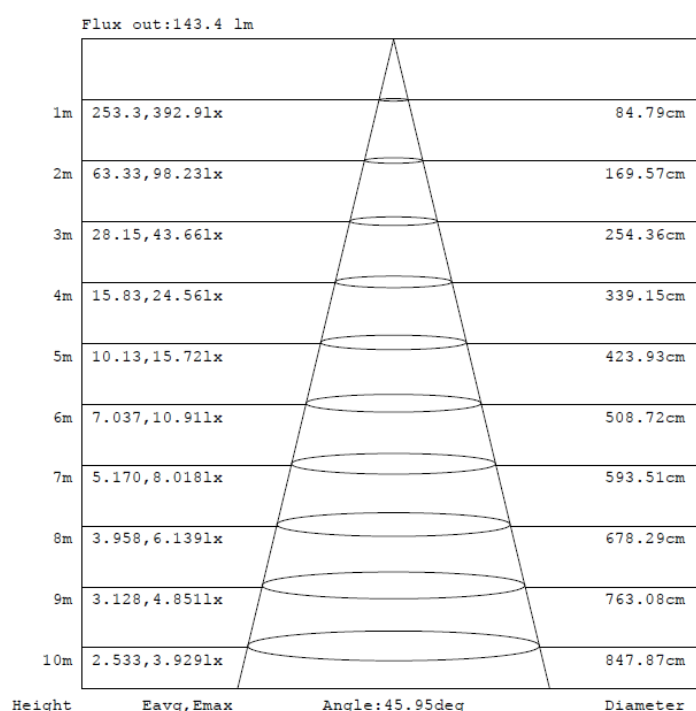
46.6

### Illumination Plots

Model No.: 700OWLYD9305xUNV

Mount Height: 2.5 m

#### Illuminance - Cone of Light



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# TEST REPORT

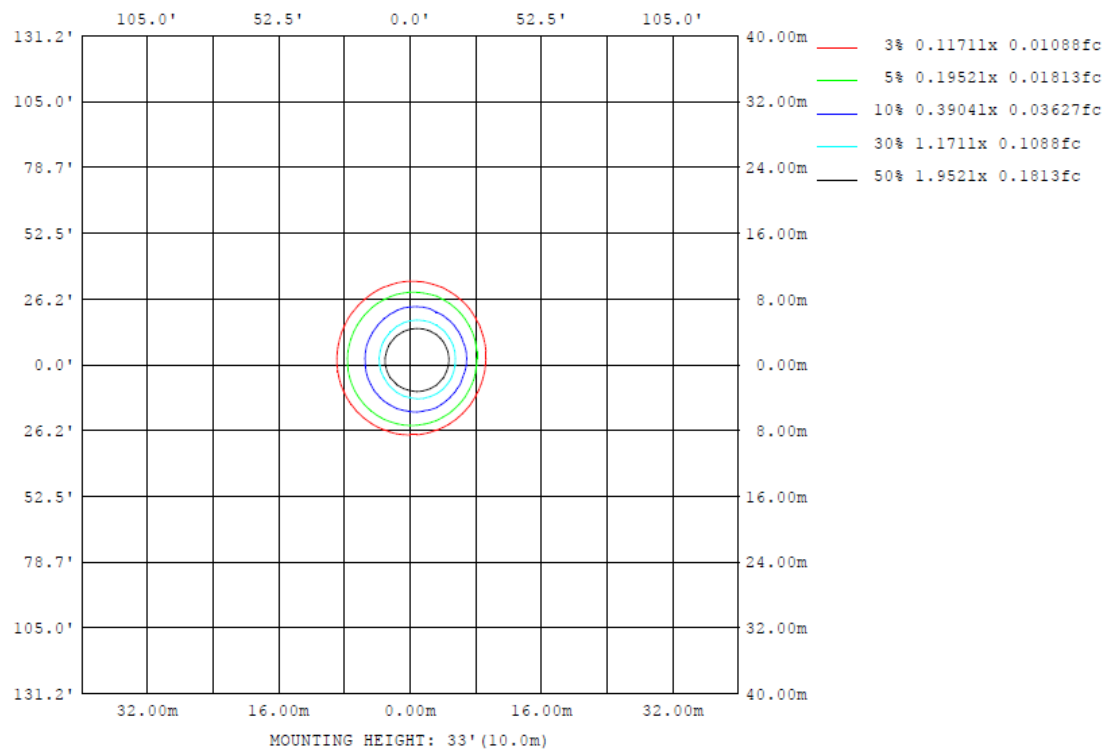
## RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 700OWLYD9305xUNV**

Model No.: 700OWLYD9305xUNV

Mount Height: 2.5 m

Isoillumination Plot



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## TEST REPORT

### RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 7000WLYD9305xUNV

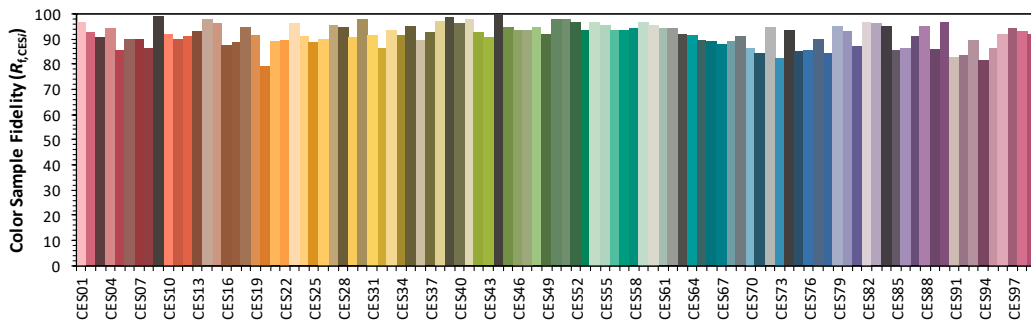
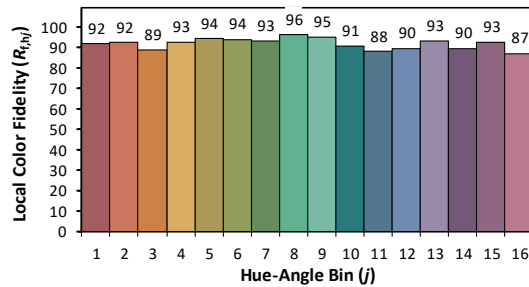
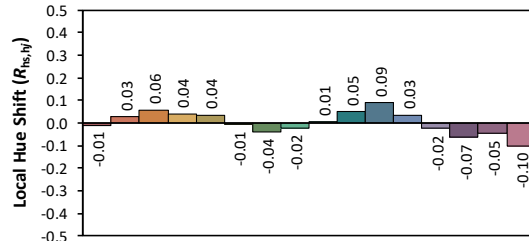
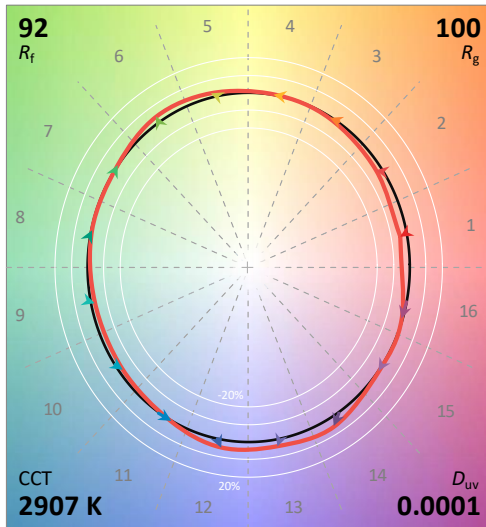
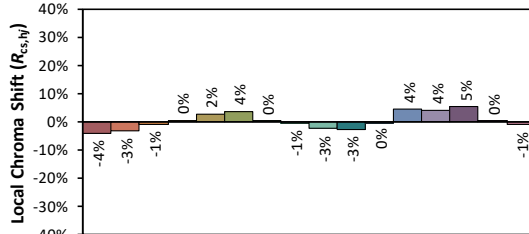
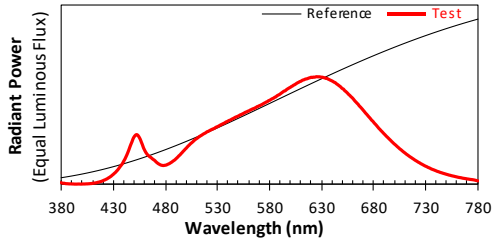
#### ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2022/8/2

Model: 7000WLYD9305xUNV



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

$x$  0.4438  
 $y$  0.4066  
 $u'$  0.2539  
 $v'$  0.5234

CIE 13.3-1995  
(CRI)

$R_a$  92

$R_g$  64

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

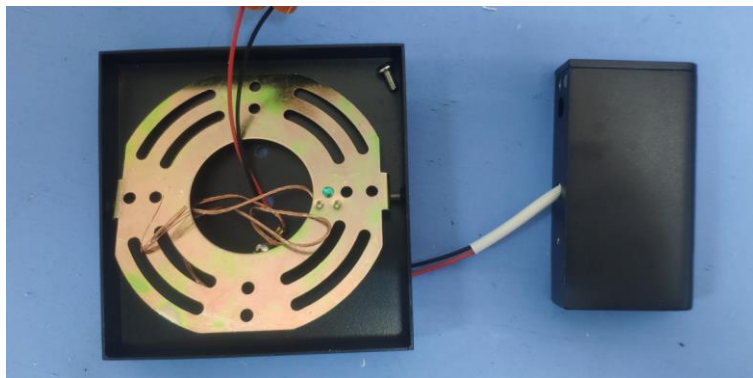
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## TEST REPORT

### PRODUCT PICTURE (not to scale)



**External view of 700OWLYD9305xUNV**



**External view of 700OWLYD9305xUNV**

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## TEST REPORT

### PRODUCT PICTURE (not to scale)



View of LED Driver ESS010W-0200-42



View of LED

In Charge Of Tests:

*Done Ye*

Done Ye  
Engineer

Report Reviewed By

*Shelley Ying*

Shelley Ying  
Reviewer

Attachment: None

\*\*\*\*\* End of Report \*\*\*\*\*