

# Visual Comfort and Company

## TEST REPORT

**SCOPE OF WORK**

LM-79 testing report

**REPORT NUMBER**

220722013GZU-002

**ISSUE DATE**

15 August 2022

**REVISION DATE**

None

**NUMBER OF PAGES**

13

**DOCUMENT CONTROL NUMBER**

Report format for LM-79:2008\_F  
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Report No.: 220722013GZU-002

## TEST REPORT

### TEST OF ONE LED LUMINAIRE

MODEL NO. 700OWANTN9279xUNV

#### RENDERED TO

Visual Comfort and Company

Contact Name: Tess Gallagher

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Phone No.: 8474104774

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: QGZ220719001.

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 700OWANTN9279xUNV. The sample was received, in undamaged condition. The sample designation was S220722013-003.

DATES OF TESTS: 09 August 2022 to 10 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:	700OWANTN9279xUNV (Remark: "X" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

### Test Condition: 120V, 60Hz For 700OWANTN9279xUNV

Criteria	Result
Total Lumen Output	87.92 lm
Total Power	10.38 W
Luminaire Efficacy	8.47 lm/W
S/MH(C0/180)	1.20
S/MH(C90/270)	1.35
Correlated Color Temperature (CCT)	2205 K
Color Rendering Index (CRI)	94
R9	64
Chromaticity Coordinate (x)	0.5124
Chromaticity Coordinate (y)	0.4258
Chromaticity Coordinate (u')	0.2893
Chromaticity Coordinate (v')	0.5409

### 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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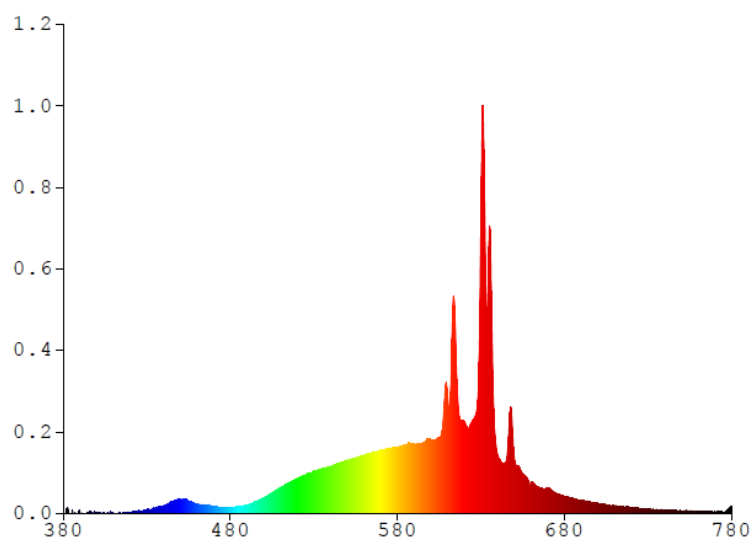
## TEST REPORT

### RESULTS OF TESTS

**Test Condition: 120V, 60Hz For 700OWANTN9279xUNV**

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0000	480	0.0023	580	0.0239	680	0.0061	780	0.0025
385	0.0000	485	0.0023	585	0.0246	685	0.0054		
390	0.0000	490	0.0031	590	0.0251	690	0.0046		
395	0.0000	495	0.0042	595	0.0248	695	0.0041		
400	0.0000	500	0.0057	600	0.0264	700	0.0037		
405	0.0001	505	0.0074	605	0.0272	705	0.0031		
410	0.0000	510	0.0093	610	0.0427	710	0.0027		
415	0.0001	515	0.0111	615	0.0604	715	0.0024		
420	0.0005	520	0.0124	620	0.0331	720	0.0019		
425	0.0011	525	0.0138	625	0.0337	725	0.0018		
430	0.0011	530	0.0153	630	0.1043	730	0.0014		
435	0.0018	535	0.0161	635	0.1013	735	0.0013		
440	0.0026	540	0.0169	640	0.0211	740	0.0012		
445	0.0040	545	0.0180	645	0.0185	745	0.0011		
450	0.0050	550	0.0192	650	0.0205	750	0.0009		
455	0.0044	555	0.0200	655	0.0143	755	0.0008		
460	0.0035	560	0.0209	660	0.0111	760	0.0008		
465	0.0030	565	0.0220	665	0.0092	765	0.0005		
470	0.0025	570	0.0228	670	0.0093	770	0.0007		
475	0.0022	575	0.0232	675	0.0070	775	0.0005		



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# TEST REPORT

## RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 700OWANTN9279xUNV**

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

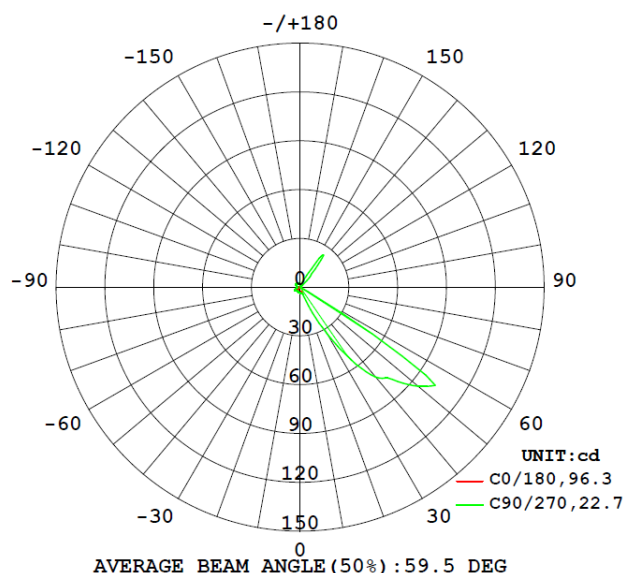
### Photometric Measurements at 25°C – Integrating Sphere Method

Intertek Sample No.	Base Orientation	Correlated Color Temperatur e (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit y	Chromaticit y	Chromaticit y	Chromaticit y
					Coordinate (x)	Coordinate (y)	Coordinate (u')	Coordinate (v')
700OWANTN9279xUNV								
S2207220 13-003	--	2205	94	64	0.5124	0.4258	0.2893	0.5409

### 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)
700OWANTN9279xUNV							
S2207220 13-003	--	120.0	88.3	10.38	0.980	87.92	8.47

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



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## TEST REPORT

### RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 7000WANTN9279xUNV**

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	3.6	3.6	3.6	3.6	3.6
5	3.5	3.6	3.7	3.7	3.8
10	3.4	3.6	3.7	3.8	3.9
15	3.3	3.5	3.7	4.0	4.1
20	3.1	3.3	3.7	4.2	4.5
25	2.9	3.2	3.8	9.2	15.1
30	2.6	3.0	5.6	23.6	32.8
35	2.4	2.8	15.1	42.2	54.4
40	2.1	2.7	28.1	61.7	72.0
45	1.8	2.8	43.2	72.4	80.2
50	1.6	6.1	56.3	82.6	94.7
55	1.3	12.5	60.7	92.9	94.3
60	1.0	20.2	68.7	38.0	5.7
65	0.8	27.4	62.8	0.2	0.1
70	0.6	31.5	22.4	0.1	0.0
75	0.5	29.8	16.7	0.1	0.0
80	0.3	21.0	6.6	0.1	0.0
85	0.2	5.1	0.2	0.1	0.0
90	0.1	0.0	0.0	0.0	0.0
95	0.1	0.2	0.1	0.0	0.0
100	0.2	0.1	0.9	0.0	0.0
105	0.2	0.6	0.1	0.0	0.0
110	0.2	2.0	0.1	0.1	0.0
115	0.3	15.0	0.3	0.1	0.0
120	0.4	13.2	0.5	0.1	0.0
125	0.5	6.1	4.7	0.1	0.1
130	0.5	0.8	16.0	0.3	1.0
135	0.6	0.5	22.3	9.1	6.0
140	0.6	0.4	12.3	19.9	10.8
145	0.6	0.4	4.2	18.3	24.6
150	0.7	0.4	0.5	7.0	10.6
155	0.6	0.4	0.4	0.7	2.1
160	0.4	0.4	0.4	0.4	0.4
165	0.4	0.3	0.3	0.4	0.3
170	0.4	0.3	0.3	0.3	0.2
175	0.2	0.1	0.2	0.2	0.1
180	0.0	0.0	0.0	0.0	0.0

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## TEST REPORT

### RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 700OWANTN9279xUNV**

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

Zone	Lumens (lm)	% Luminaire (%)
700OWANTN9279xUNV		
0-30	3.80	4.32
0-40	12.16	13.83
0-60	52.85	60.11
0-90	72.95	82.98
60-90	20.10	22.87
0-180	87.92	100

#### Beam Angle

**Total Beam Angle (°)**

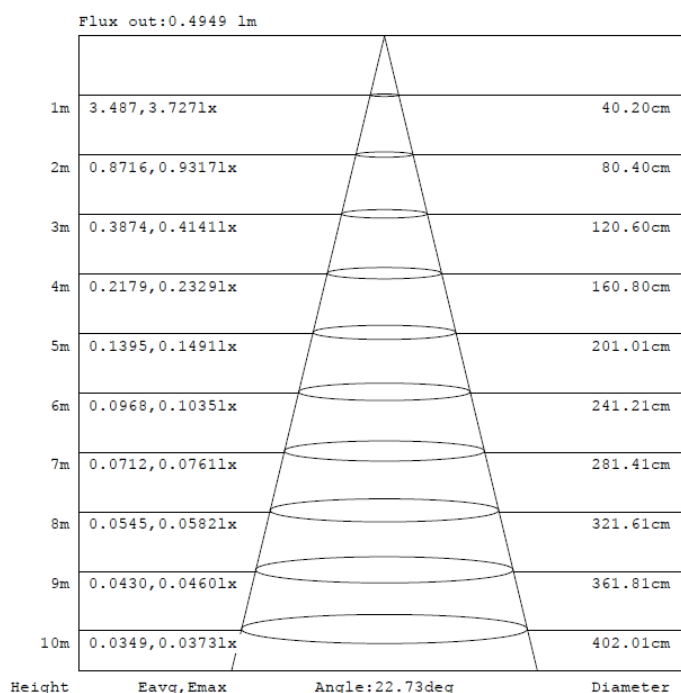
59.5

#### Illumination Plots

Model No.: 700OWANTN9279xUNV

Mount Height: 2.5 m

#### Illuminance - Cone of Light



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# TEST REPORT

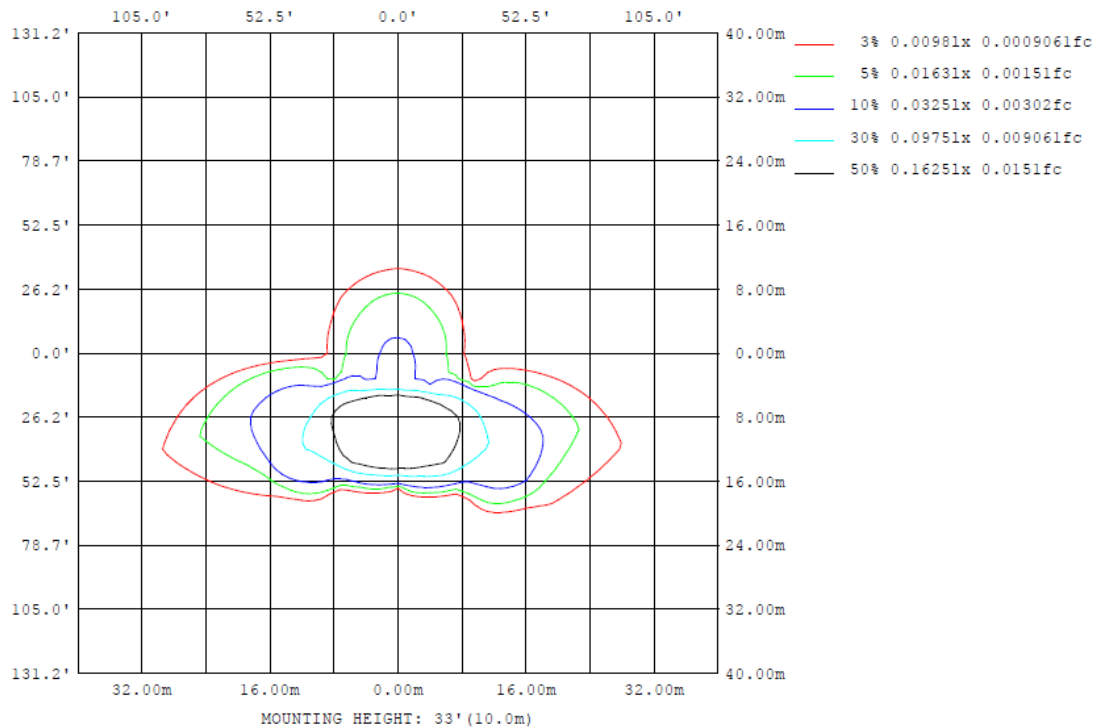
## RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 7000WANTN9279xUNV**

Model No.: 7000WANTN9279xUNV

Mount Height: 2.5 m

Isoillumination Plot



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## TEST REPORT

### RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 7000WANTN9279xUNV

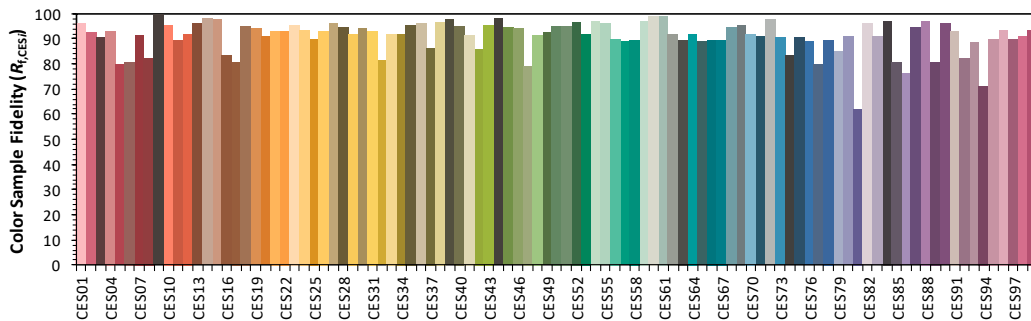
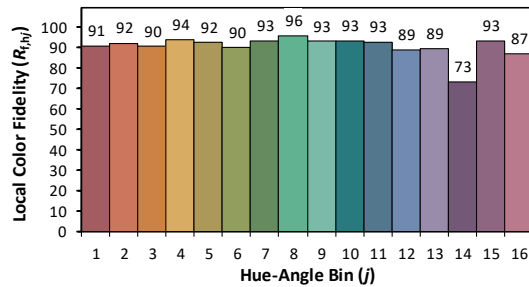
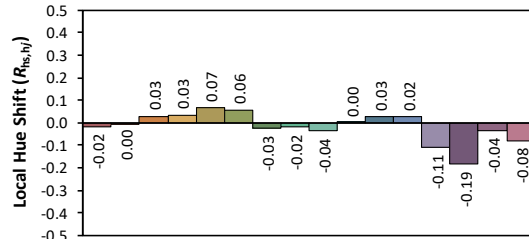
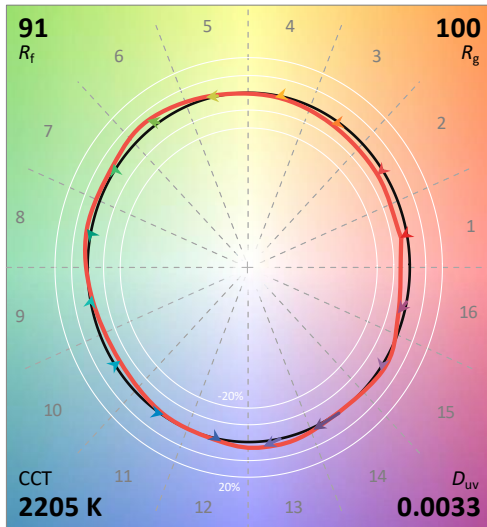
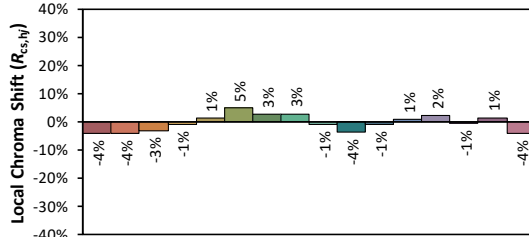
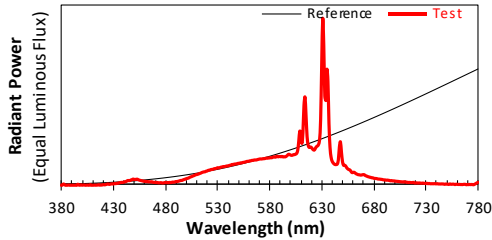
#### ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2022/8/9

Model: 7000WANTN9279xUNV



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

$x$  0.5124  
 $y$  0.4258  
 $u'$  0.2893  
 $v'$  0.5409

CIE 13.3-1995  
(CRI)

$R_a$  94

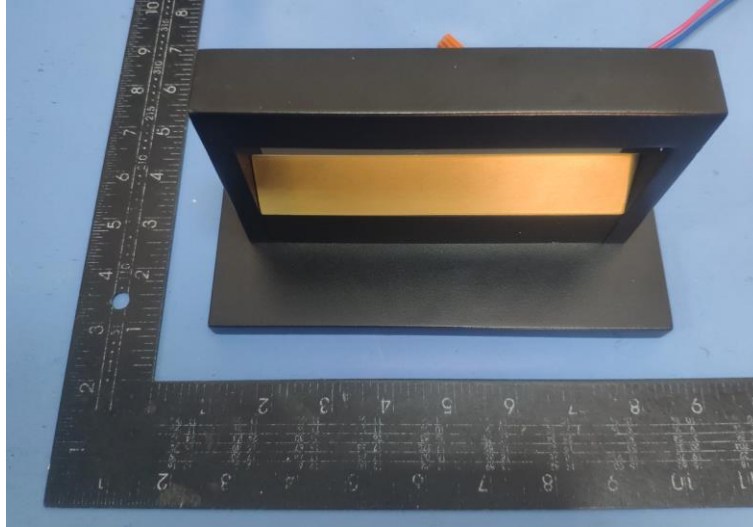
$R_g$  64

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

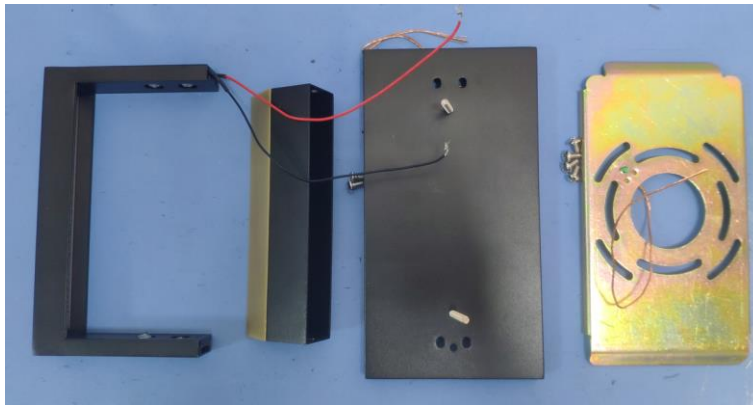
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## TEST REPORT

### PRODUCT PICTURE (not to scale)



**External view of 700WANTN9279xUNV**



**External view of 700WANTN9279xUNV**

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## TEST REPORT

### PRODUCT PICTURE (not to scale)



View of LED Driver DS6W24VMB1UD-0000



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 \*\*\*\*\*