

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

230531061GZU-003

ISSUE DATE

20-June-2023

REVISION DATE

None

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Report No.: 230531061GZU-003

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. CDWS11327WX

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: QGZ230526090.

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
IES LM-79: 2019 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 CDWS11327WX. The sample was received in undamaged condition. The sample designation was S230531061-003.

DATES OF TESTS: 07-June-2023

ISSUED BY: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

TEST LOCATION: Room101/301/401/102/202/302/402/502/602/702/802, No. 7-2, Caipin Road, Huangpu Science City, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	CDWS11327WX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For CDWS11327WX

Criteria	Result
Total Lumen Output	1364.1 lm
Total Power	48.5 W
Luminaire Efficacy	28.1 lm/W
S/MH(C0/180)	1.51
S/MH(C90/270)	1.08
Correlated Color Temperature (CCT)	2573 K
Color Rendering Index (CRI)	92
R9	53
Chromaticity Coordinate (x)	0.4739
Chromaticity Coordinate (y)	0.4184
Chromaticity Coordinate (u')	0.2680
Chromaticity Coordinate (v')	0.5324

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	D215S	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 π 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 EVERFINE - Digital Power Meter., model PLM3000.

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

Standard lamp used for Goniophotometer method:

Model: D215S

Current: 4.809A DC

Standard lamp used for integrating sphere:

Model: D204

Current: 3.9480A DC

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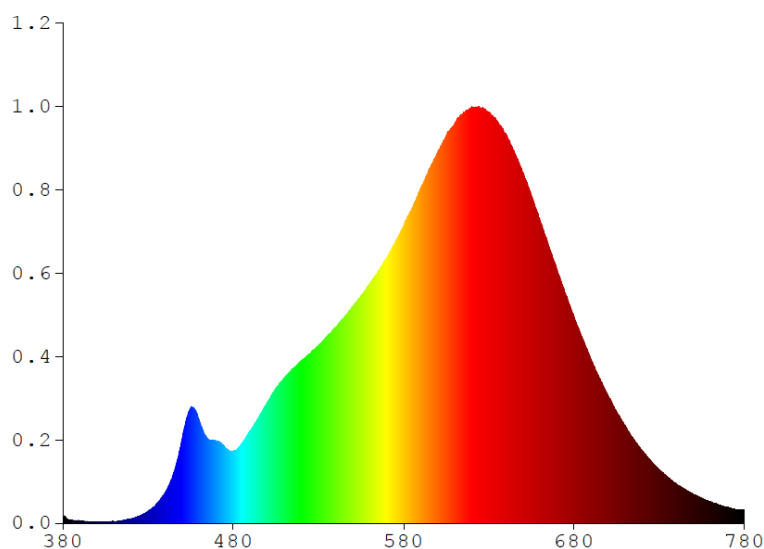
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For CDWS11327WX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0545	480	0.7527	580	3.1025	680	2.1484	780	0.1378
385	0.0261	485	0.8335	585	3.2923	685	1.9250		
390	0.0190	490	0.9623	590	3.5017	690	1.7057		
395	0.0132	495	1.1050	595	3.7022	695	1.5076		
400	0.0130	500	1.2635	600	3.8782	700	1.3261		
405	0.0116	505	1.4070	605	4.0445	705	1.1626		
410	0.0187	510	1.5226	610	4.1788	710	1.0115		
415	0.0284	515	1.6123	615	4.2813	715	0.8761		
420	0.0461	520	1.6954	620	4.3480	720	0.7559		
425	0.0746	525	1.7717	625	4.3378	725	0.6541		
430	0.1248	530	1.8554	630	4.2981	730	0.5597		
435	0.2017	535	1.9493	635	4.1914	735	0.4791		
440	0.3188	540	2.0467	640	4.0557	740	0.4092		
445	0.5230	545	2.1467	645	3.8688	745	0.3535		
450	0.8796	550	2.2625	650	3.6588	750	0.3008		
455	1.2045	555	2.3754	655	3.4153	755	0.2591		
460	1.0683	560	2.4960	660	3.1599	760	0.2217		
465	0.8751	565	2.6326	665	2.8961	765	0.1913		
470	0.8560	570	2.7711	670	2.6429	770	0.1658		
475	0.7892	575	2.9294	675	2.3453	775	0.1437		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDWS11327WX

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

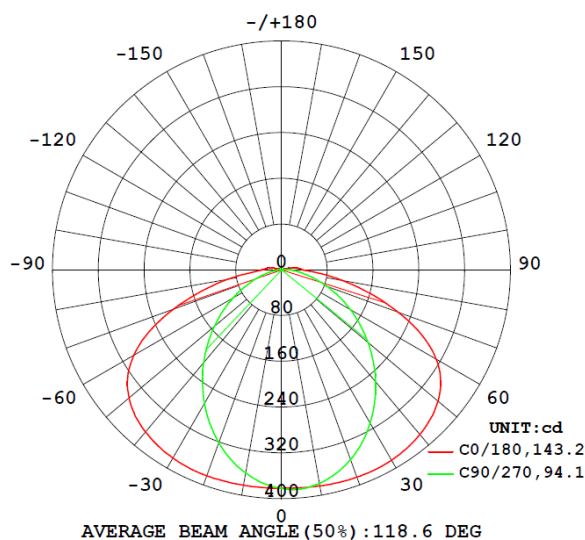
Photometric Measurements at 25°C – Integrating Sphere Method

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')
CDWS11327WX								
S2305310 61-003	--	2573	92	53	0.4739	0.4184	0.2680	0.5324

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)
CDWS11327WX							
S2305310 61-003	--	120.0	407.9	48.5	0.993	1364.1	28.1

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDWS11327WX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	382.0	382.1	382.2	382.3	382.2
5	382.5	384.4	385.0	384.8	384.5
10	383.5	386.0	383.7	380.6	379.0
15	384.6	386.3	379.4	371.8	368.3
20	385.5	385.1	372.4	358.7	352.7
25	385.5	382.6	362.5	341.6	332.7
30	384.2	378.1	349.6	321.1	309.3
35	380.9	371.2	333.9	297.9	283.3
40	375.9	361.8	315.4	272.7	255.6
45	368.3	350.3	294.9	246.0	226.7
50	356.6	335.9	273.1	218.2	197.2
55	339.2	317.7	250.7	190.5	167.7
60	312.1	294.5	228.0	163.8	138.8
65	270.9	262.8	205.0	138.6	110.7
70	217.5	223.1	181.9	115.6	84.1
75	160.5	179.4	158.1	94.6	59.9
80	107.8	137.8	133.8	75.5	39.9
85	62.6	101.4	110.0	58.7	23.6
90	37.6	72.9	86.9	43.2	12.4
95	29.9	55.9	65.2	28.9	5.3
100	21.2	40.9	46.1	17.6	1.4
105	10.8	28.0	29.8	9.6	0.1
110	6.7	17.5	16.9	4.6	0.1
115	3.4	9.5	8.3	1.8	0.1
120	0.9	3.8	3.8	0.6	0.2
125	0.3	1.8	1.6	0.2	0.2
130	0.4	0.9	0.6	0.3	0.3
135	0.4	0.5	0.4	0.4	0.4
140	0.5	0.5	0.4	0.4	0.5
145	0.5	0.5	0.5	0.5	0.5
150	0.5	0.5	0.5	0.6	0.6
155	0.5	0.5	0.6	0.6	0.6
160	0.5	0.6	0.6	0.6	0.7
165	0.5	0.6	0.6	0.7	0.7
170	0.6	0.6	0.6	0.7	0.7
175	0.6	0.6	0.6	0.6	0.7
180	0.6	0.6	0.6	0.6	0.7

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDWS11327WX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
CDWS11327WX		
0-30	301.1	22.1
0-40	499.7	36.6
0-60	925.5	67.8
0-90	1305.6	95.7
60-90	380.1	27.9
0-180	1364.1	100.0

Beam Angle

Total Beam Angle (°)

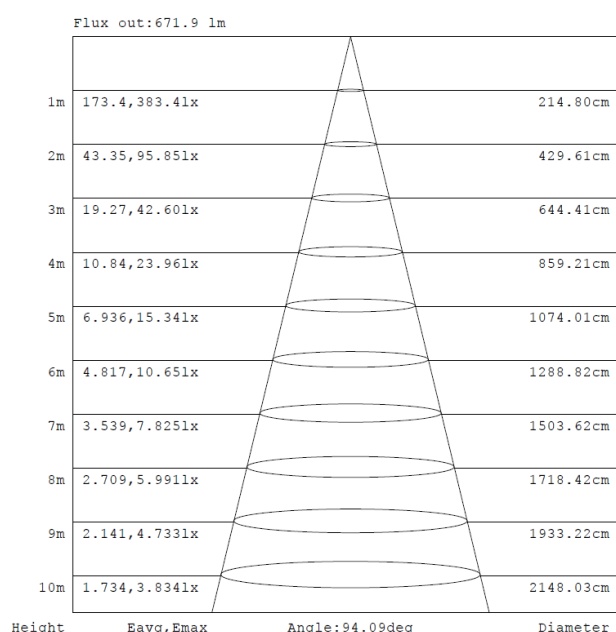
118.6

Illumination Plots

Model No.: CDWS11327WX

Mount Height: 2.5 m

Illuminance - Cone of Light



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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TEST REPORT

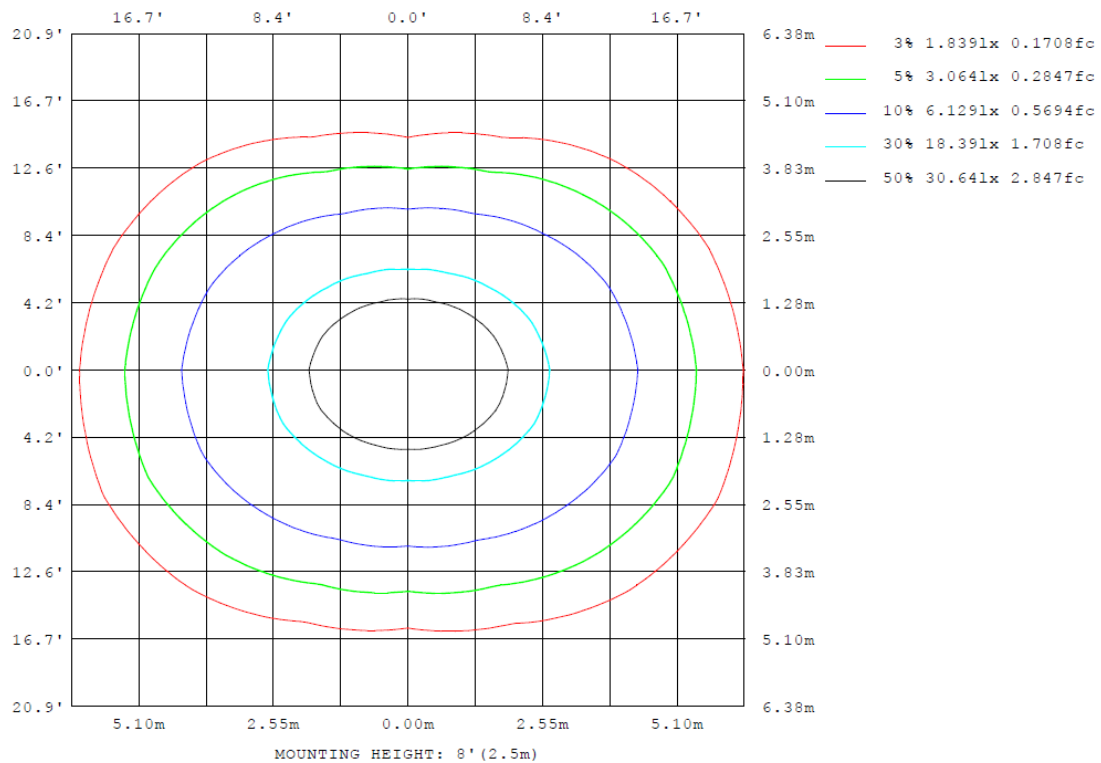
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDWS11327WX

Model No.: CDWS11327WX

Mount Height: 2.5 m

Isoillumination Plot



TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDWS11327WX

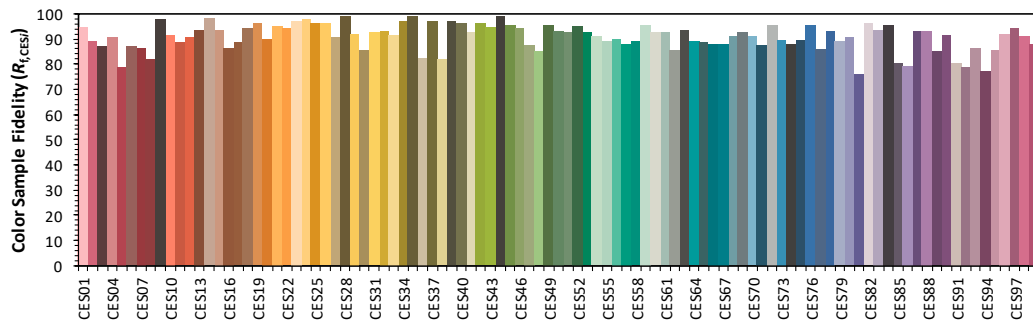
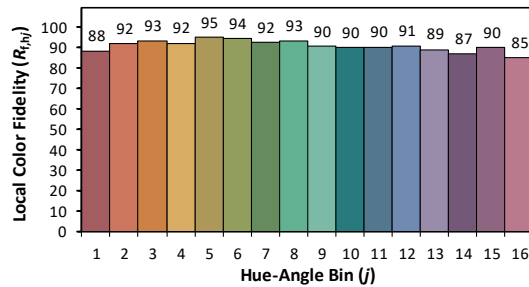
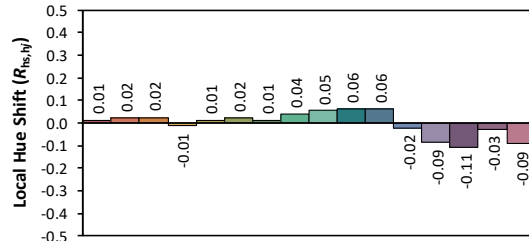
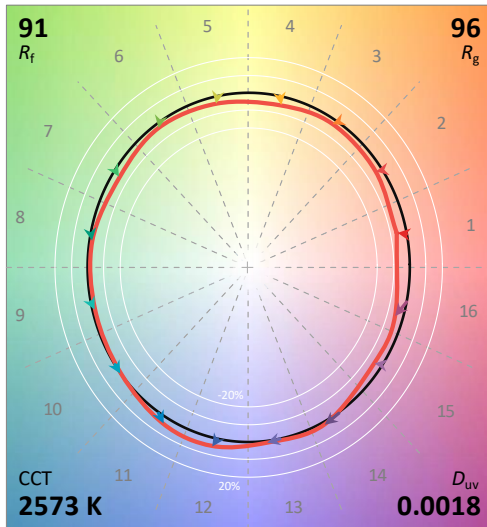
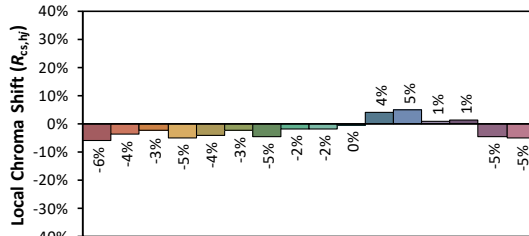
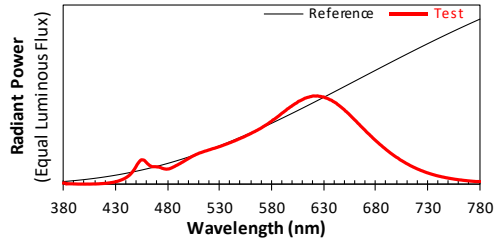
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/6/7

Model: CDWS11327WX



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

x 0.4739
 y 0.4184
 u' 0.2680
 v' 0.5324

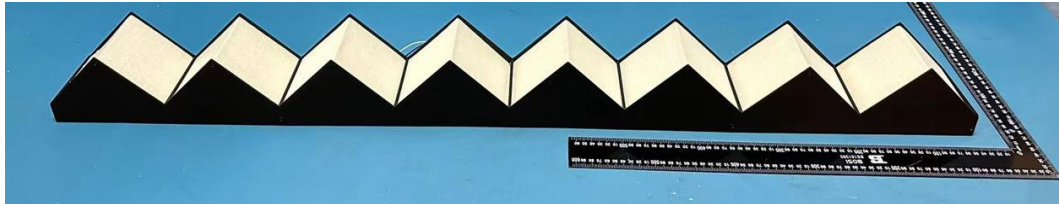
CIE 13.3-1995
(CRI)
 R_a 92
 R_g 53

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

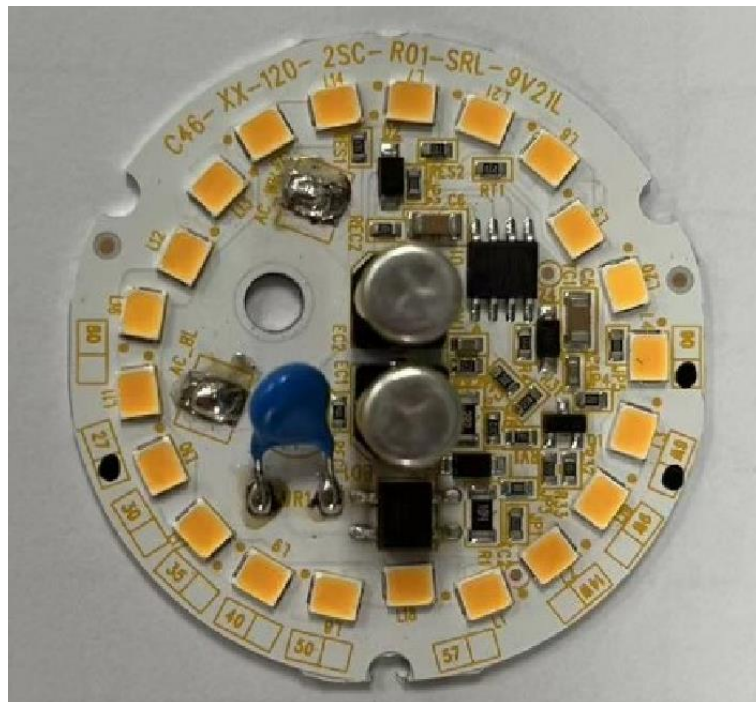
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of CDWS11327WX



View of LED board

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

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