

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

230531061GZU-002

ISSUE DATE

20-June-2023

REVISION DATE

None

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Report No.: 230531061GZU-002

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. CDWS11227WX

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 CDWS11227WX. The sample was received in undamaged condition. The sample designation was S230531061-002.

DATES OF TESTS: 16-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:	CDWS11227WX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For CDWS11227WX

Criteria	Result
Total Lumen Output	845.0 lm
Total Power	30.6 W
Luminaire Efficacy	27.6 lm/W
S/MH(C0/180)	1.47
S/MH(C90/270)	1.15
Correlated Color Temperature (CCT)	2572 K
Color Rendering Index (CRI)	92
R9	54
Chromaticity Coordinate (x)	0.4730
Chromaticity Coordinate (y)	0.4166
Chromaticity Coordinate (u')	0.2682
Chromaticity Coordinate (v')	0.5316

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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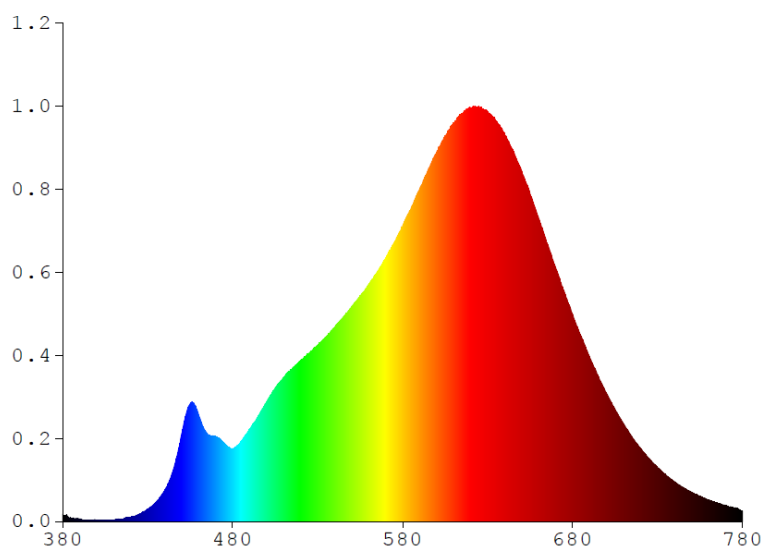
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For CDWS11227WX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0459	480	0.4506	580	1.8203	680	1.2727	780	0.0628
385	0.0167	485	0.4953	585	1.9324	685	1.1389		
390	0.0137	490	0.5721	590	2.0489	690	1.0136		
395	0.0087	495	0.6490	595	2.1702	695	0.8958		
400	0.0089	500	0.7381	600	2.2780	700	0.7886		
405	0.0087	505	0.8229	605	2.3783	705	0.6887		
410	0.0111	510	0.8904	610	2.4578	710	0.5985		
415	0.0169	515	0.9402	615	2.5173	715	0.5184		
420	0.0276	520	0.9921	620	2.5510	720	0.4501		
425	0.0453	525	1.0407	625	2.5564	725	0.3875		
430	0.0752	530	1.0883	630	2.5262	730	0.3311		
435	0.1200	535	1.1389	635	2.4692	735	0.2851		
440	0.1920	540	1.1985	640	2.3846	740	0.2438		
445	0.3157	545	1.2609	645	2.2862	745	0.2086		
450	0.5366	550	1.3232	650	2.1603	750	0.1792		
455	0.7253	555	1.3928	655	2.0140	755	0.1544		
460	0.6535	560	1.4618	660	1.8687	760	0.1318		
465	0.5419	565	1.5387	665	1.7129	765	0.1142		
470	0.5219	570	1.6250	670	1.5615	770	0.0982		
475	0.4814	575	1.7193	675	1.3842	775	0.0846		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDWS11227WX

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

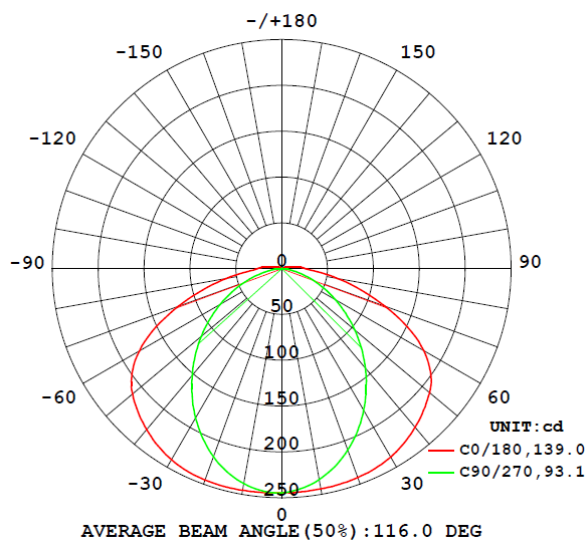
Photometric Measurements at 25°C – Integrating Sphere Method

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')
CDWS11227WX								
S2305310 61-002	--	2572	92	54	0.4730	0.4166	0.2682	0.5316

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 Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
CDWS11227WX							
S2305310 61-002	--	120.3	256.5	30.6	0.993	845.0	27.6

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDWS11227WX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	244.6	244.5	244.5	244.6	244.5
5	244.3	243.4	242.1	241.1	240.8
10	244.0	241.6	238.0	234.9	233.8
15	243.5	239.2	232.2	225.9	223.6
20	242.5	236.0	224.7	214.6	210.5
25	240.5	231.6	215.5	201.1	195.4
30	237.2	225.8	204.7	185.8	178.4
35	232.3	218.6	192.5	169.5	160.5
40	225.9	210.0	179.3	152.2	141.8
45	218.6	200.8	165.5	134.8	122.9
50	210.3	191.0	151.9	117.4	103.8
55	198.0	180.0	139.1	100.6	85.2
60	178.7	163.7	127.2	84.9	67.2
65	151.4	142.3	114.2	71.1	50.9
70	119.6	117.3	100.4	59.2	35.5
75	89.1	92.8	86.2	49.0	21.9
80	61.7	70.4	71.8	38.9	11.5
85	38.9	51.9	58.0	29.1	4.8
90	26.3	39.4	45.0	20.2	1.1
95	21.1	30.5	32.9	12.4	0.1
100	11.5	22.6	22.4	6.4	0.1
105	8.7	15.8	14.0	2.8	0.1
110	6.0	10.1	7.7	0.9	0.1
115	3.8	5.7	3.2	0.2	0.1
120	1.9	2.5	1.1	0.1	0.1
125	0.5	0.7	0.4	0.2	0.2
130	0.3	0.3	0.2	0.2	0.2
135	0.3	0.3	0.3	0.3	0.2
140	0.3	0.3	0.3	0.3	0.3
145	0.4	0.3	0.3	0.4	0.3
150	0.4	0.4	0.4	0.4	0.4
155	0.4	0.4	0.4	0.4	0.4
160	0.4	0.4	0.4	0.4	0.4
165	0.4	0.4	0.4	0.4	0.4
170	0.4	0.4	0.4	0.4	0.4
175	0.4	0.4	0.4	0.4	0.4
180	0.4	0.4	0.4	0.4	0.4

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDWS11227WX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
CDWS11227WX		
0-30	191.1	22.6
0-40	315.3	37.3
0-60	567.2	68.2
0-90	806.8	95.5
60-90	239.6	27.3
0-180	845.0	100.0

Beam Angle

Total Beam Angle (°)

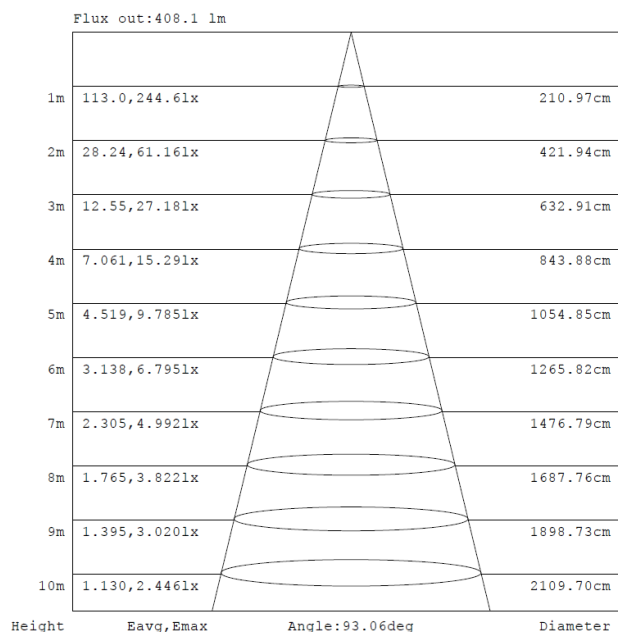
116.0

Illumination Plots

Model No.: CDWS11227WX

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

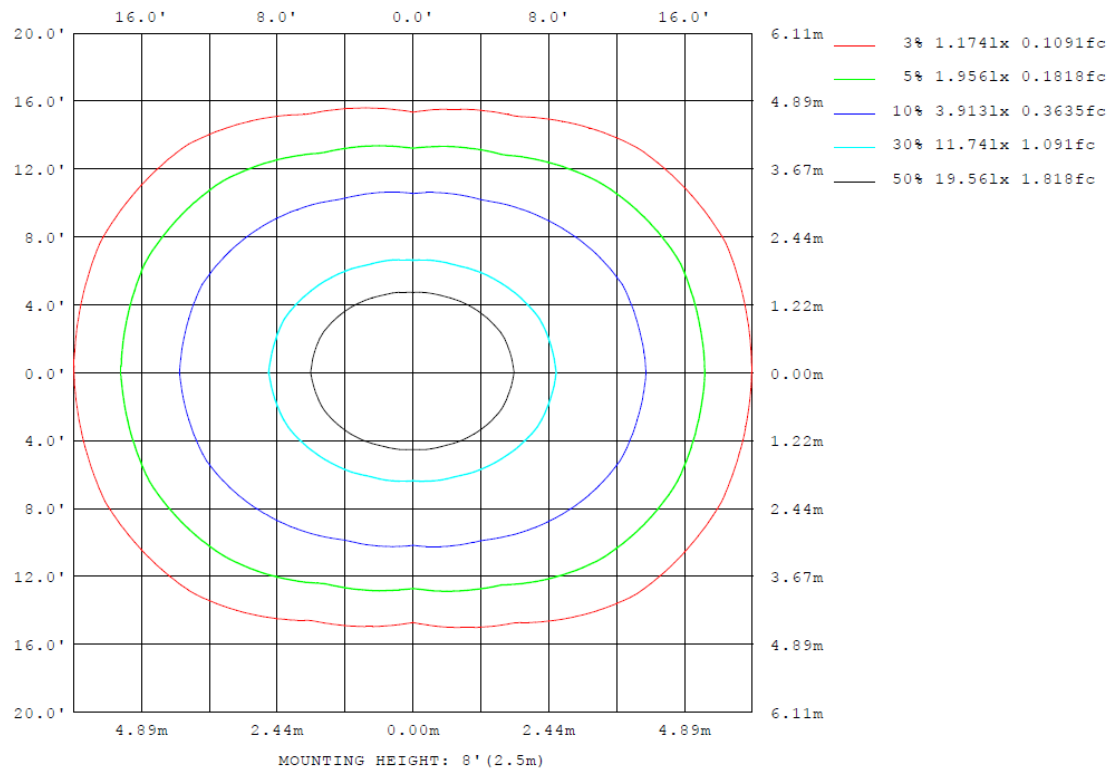
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDWS11227WX

Model No.: CDWS11227WX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDWS11227WX

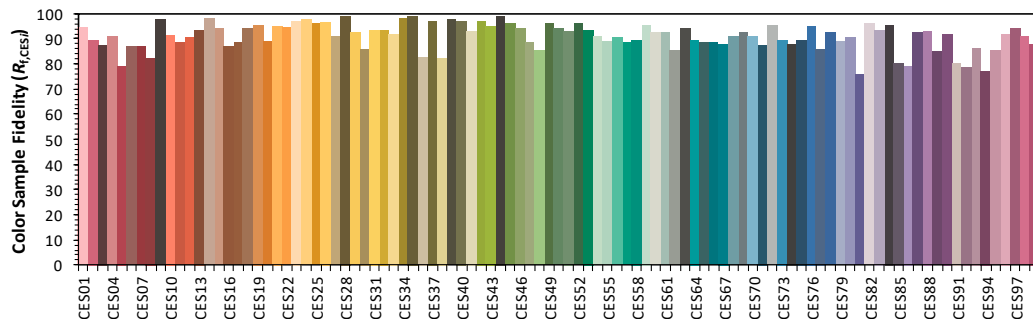
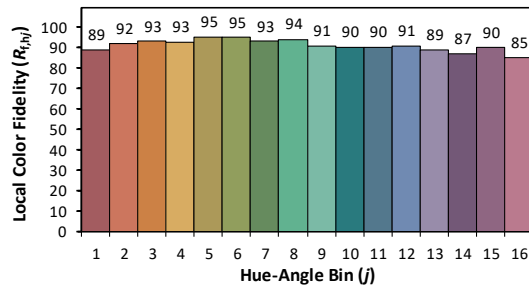
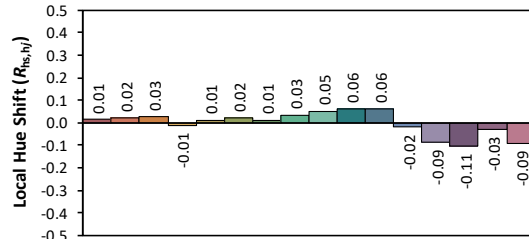
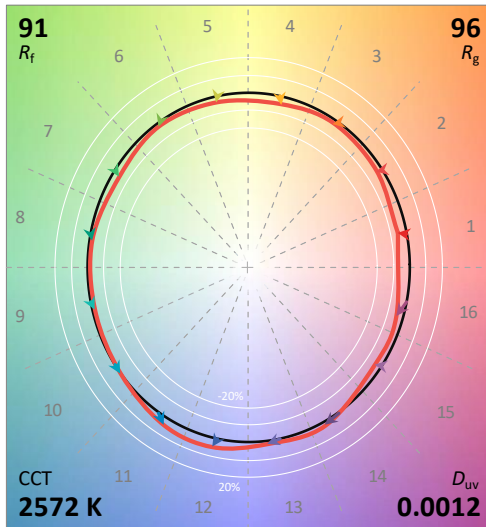
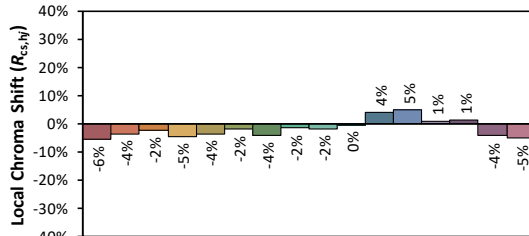
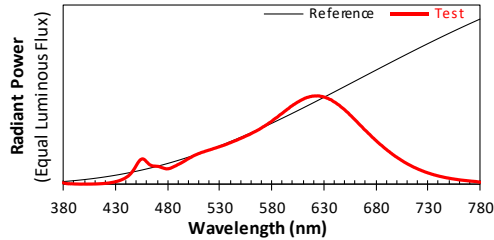
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/6/16

Model: CDWS11227WX



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

x 0.4730
 y 0.4166
 u' 0.2682
 v' 0.5316

CIE 13.3-1995
 (CRI)

R_a 92

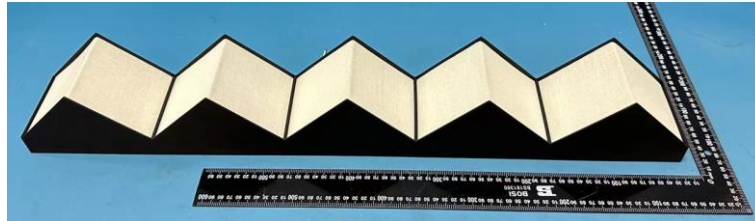
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Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

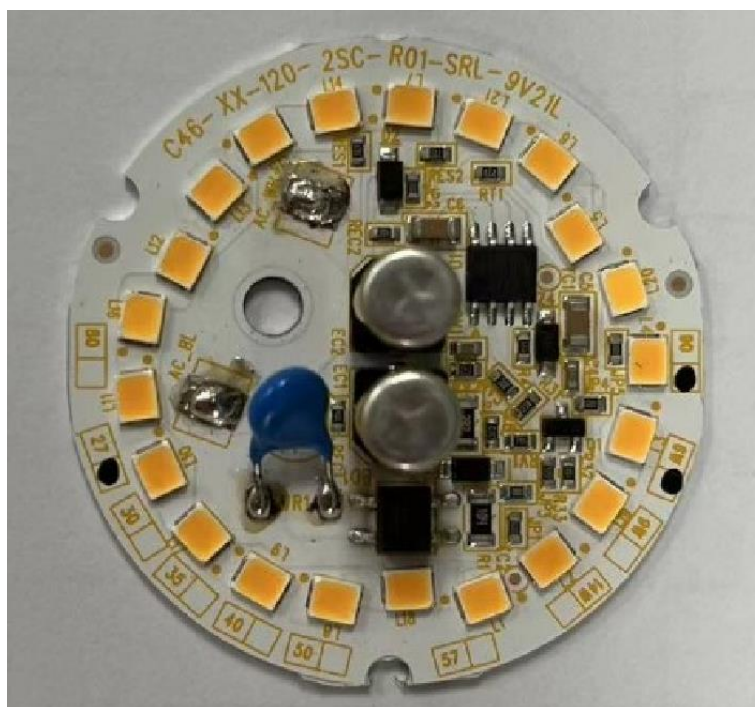
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of CDWS11227WX



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 *****