

VC BRANDS LLC

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

211208061GZU-002

ISSUE DATE

7 January 2022

REVISION DATE

None

NUMBER OF PAGES

13

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Report No.: 211208061GZU-002

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700TDES5XX-LED927

RENDERED TO

VC BRANDS LLC

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: QGZ211208009.

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 700TDES5XX-LED927. The sample was received, in undamaged condition. The sample designation was S211208061-002.

DATES OF TESTS: 8 December 2021 to 7 January 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:	700TDESF5XX-LED927 (Remark: "XX" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For 700TDESF5XX-LED927

Criteria	Result
Total Lumen Output	658.3 lm
Total Power	7.8 W
Luminaire Efficacy	84.50 lm/W
S/MH(C0/180)	1.19
S/MH(C90/270)	1.13
Correlated Color Temperature (CCT)	2666 K
Color Rendering Index (CRI)	92
R9	71
Chromaticity Coordinate (x)	0.4631
Chromaticity Coordinate (y)	0.4120
Chromaticity Coordinate (u')	0.2640
Chromaticity Coordinate (v')	0.5284

Remark:

Measurement uncertainty for applicable tests has been established.

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TEST REPORT

EQUIPMENT LIST

Equipment Used	Model Number	Control Number
Temperature Meter	RS210	SA047-126
Sensing - DC Power Supply	IT6122	SA063-12-09
Sensing- AC power source for Integrating Sphere System	APW-105N	SA063-12-05
Everfine - AC power source for Goniophotometer System	DPS1060	SA063-16-03
Two meter integrating sphere unit	Sensing – 2M	SA063-12-01
YOKOGAWA – Digital Power Meter	WT-210	SA011-122
Everfine – Goniophotometer	Go-R5000	SA063-16
KONICA MINOLTA - Illuminance meter	CX-2B_WL	SA063-16-01
Standard lamp	S82134	SA063-12-13
Standard lamp	S1320039	SA063-12-24
Standard lamp	D908S	SA063-16-05
Standard lamp	D215S	SA063-16-06

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 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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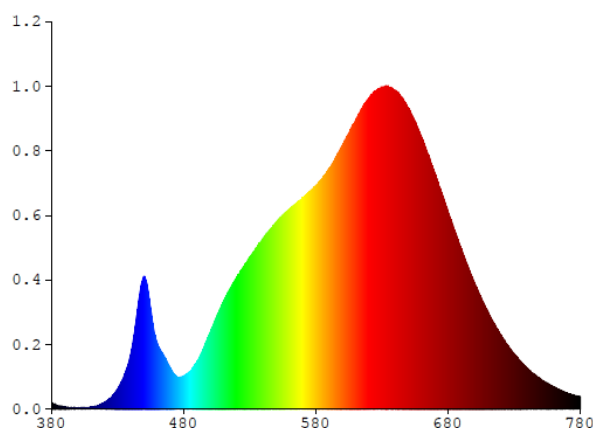
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For 700TDES F5XX-LED927

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0774	480	0.4254	580	2.8732	680	2.5347	780	0.1598
385	0.0362	485	0.4912	585	2.9743	685	2.2897		
390	0.0276	490	0.6097	590	3.0958	690	2.0603		
395	0.0193	495	0.0000	595	3.2489	695	1.8317		
400	0.0144	500	0.9871	600	3.3999	700	1.6199		
405	0.0206	505	1.1955	605	3.5560	705	1.4329		
410	0.0263	510	1.3823	610	3.7236	710	1.2571		
415	0.0498	515	1.5474	615	3.8740	715	1.0967		
420	0.0895	520	1.6951	620	4.0044	720	0.9487		
425	0.1493	525	1.8292	625	4.0929	725	0.8217		
430	0.2608	530	1.9559	630	4.1349	730	0.7107		
435	0.4297	535	2.0724	635	4.1460	735	0.6119		
440	0.7217	540	2.1938	640	4.0998	740	0.5245		
445	1.2750	545	2.3043	645	4.0166	745	0.4497		
450	1.7028	550	2.4083	650	3.8714	750	0.3884		
455	1.2834	555	2.5009	655	3.6999	755	0.3312		
460	0.8437	560	2.5747	660	3.4898	760	0.2840		
465	0.6864	565	2.6443	665	3.2740	765	0.2430		
470	0.5217	570	2.7198	670	3.0299	770	0.2064		
475	0.4166	575	2.8003	675	2.7862	775	0.1770		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700TDES F5XX-LED927

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

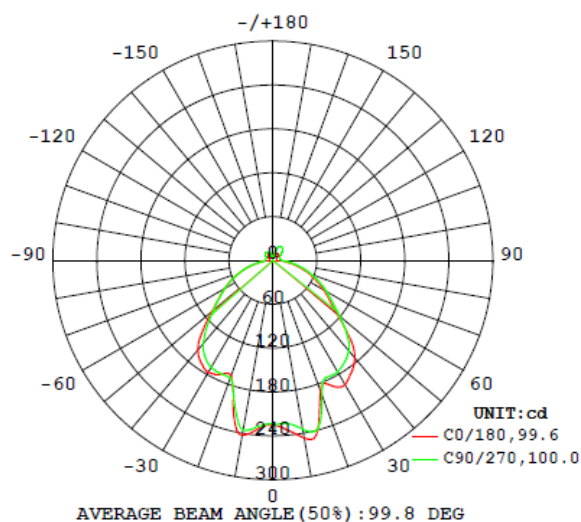
Photometric Measurements at 25°C – Integrating Sphere Method

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')
700TDES F5XX-LED927								
S2112080 61-002	--	2666	92	71	0.4631	0.4120	0.2640	0.5284

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)
700TDES F5XX-LED927							
S2112080 61-002	--	120.0	66.1	7.8	0.982	658.3	84.50

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700TDES5XX-LED927

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	224.4	224.3	224.3	224.2	224.1
5	232.9	229.4	224.4	222.1	224.0
10	246.6	239.0	234.1	232.7	234.3
15	237.9	236.3	239.9	239.9	237.9
20	190.0	190.6	201.3	203.5	196.4
25	189.1	173.6	177.9	179.1	176.0
30	195.9	172.4	175.4	177.7	176.4
35	186.8	163.1	167.8	170.7	170.2
40	173.9	152.2	158.9	160.1	161.4
45	147.1	133.5	140.8	141.8	142.7
50	115.1	111.5	119.7	121.4	118.9
55	94.6	93.7	100.4	102.3	99.5
60	80.0	79.4	84.3	86.0	84.0
65	66.2	66.2	69.9	71.2	69.8
70	52.4	52.8	56.1	57.3	56.2
75	38.9	39.7	43.2	44.3	43.3
80	25.8	27.2	30.6	31.7	30.6
85	14.9	16.5	19.2	20.0	18.9
90	9.2	10.4	11.7	11.9	10.9
95	6.6	10.1	11.1	11.2	10.5
100	4.6	9.8	11.0	11.2	10.6
105	5.2	9.6	10.6	10.8	10.3
110	5.4	9.6	10.5	10.7	10.2
115	5.9	9.8	10.8	11.0	10.5
120	6.4	10.2	11.3	11.5	11.1
125	7.4	11.7	13.0	13.3	12.9
130	8.8	13.5	15.1	15.6	15.2
135	10.3	15.4	17.6	18.2	17.9
140	11.2	16.8	19.6	20.4	20.1
145	11.8	17.6	21.0	22.0	21.7
150	11.7	17.5	21.4	22.6	22.4
155	11.0	16.3	20.6	22.0	21.6
160	9.5	13.9	18.1	19.5	18.9
165	7.3	10.4	13.9	15.1	14.0
170	4.1	6.2	8.5	9.1	8.2
175	1.3	2.3	3.1	3.4	3.0
180	0.3	0.0	0.0	0.0	0.0

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700TDESF5XX-LED927

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700TDESF5XX-LED927		
0-30	166.6	25.3
0-40	275.0	41.8
0-60	465.8	70.8
0-90	587.0	89.2
60-90	121.2	18.4
0-180	658.3	100

Beam Angle

Total Beam Angle(°)

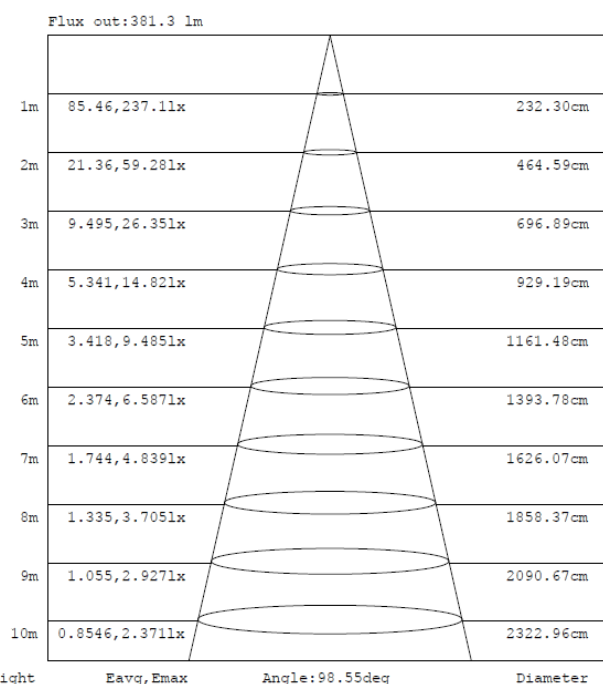
99.8

Illumination Plots

Model No.: 700TDESF5XX-LED927

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

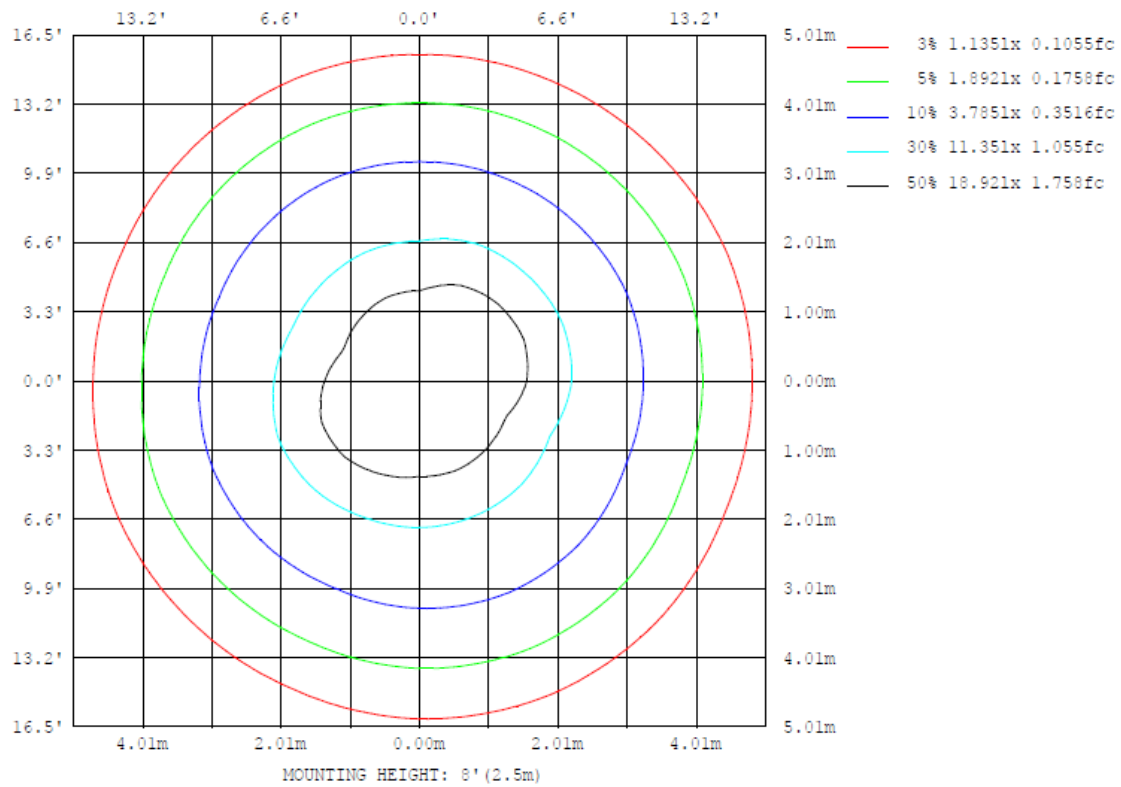
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700TDESF5XX-LED927

Model No.: 700TDESF5XX-LED927

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700TDES5XX-LED927

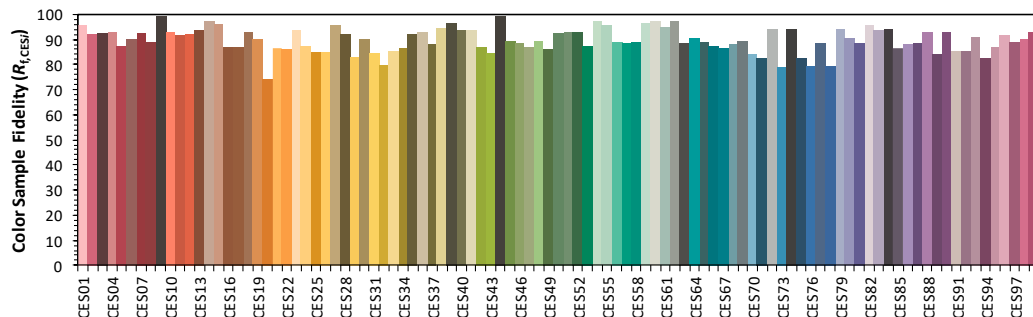
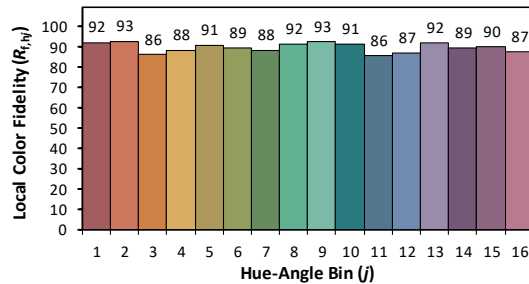
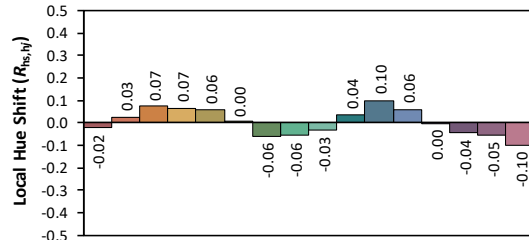
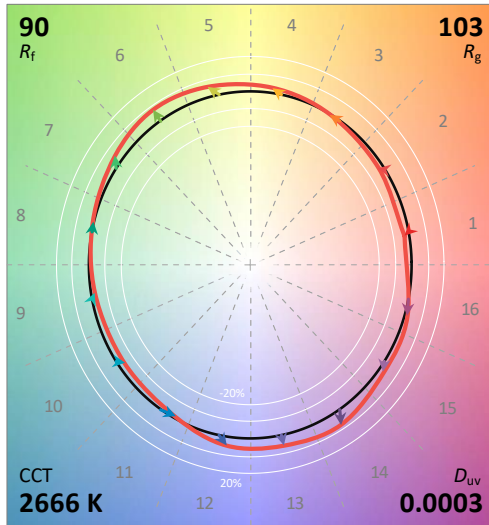
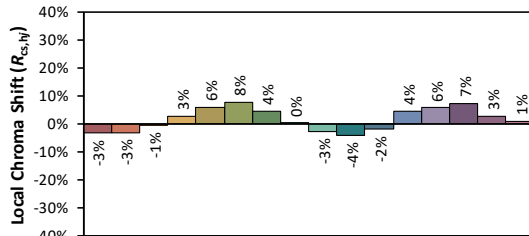
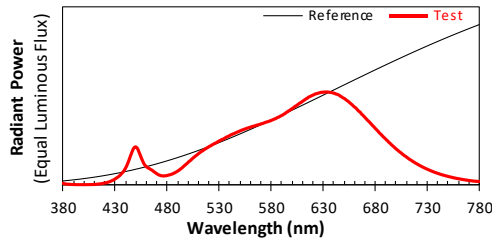
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: VC BRANDS LLC

Date: 2021/12/28

Model: 700TDES5XX-LED927



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

x 0.4631
 y 0.4120
 u' 0.2640
 v' 0.5284

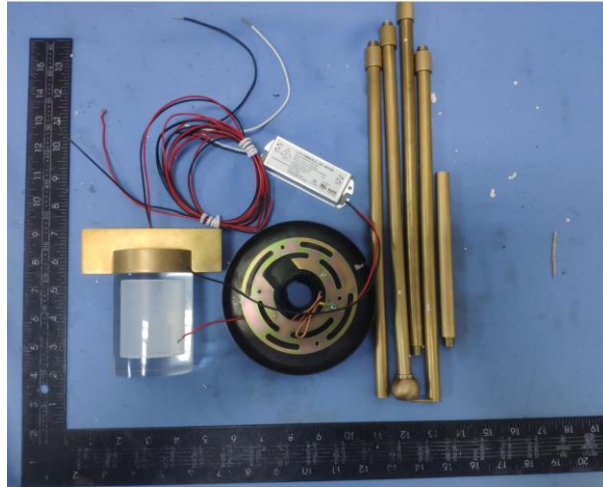
CIE 13.3-1995
(CRI)

R_a 92
 R_g 71

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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of 700TDES F5XX-LED927



External view of 700TDES F5XX-LED927

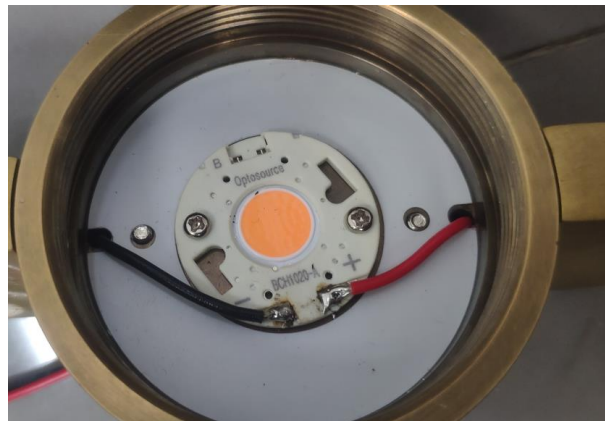
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED Driver DA8W200C2542-3001



View of LED

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

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

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