

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240729032GZU-009

ISSUE DATE

09 October 2024

REVISION DATE

Modification 1: 28 November 2024

NUMBER OF PAGES

14

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240729032GZU-009
Modification 1: 28 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLPD31727CXX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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<u>TEST:</u>	Electrical and Photometric as required to the IES LM-79 test standard.
<u>AUTHORIZATION:</u>	The testing performed was authorized by signed quote number: QGZ240726006.
<u>STANDARDS USED:</u>	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-79-19	Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI C78.377-2017 (R2022)	Specifications of the Chromaticity of Solid State Lighting Products
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model SLPD31727CXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240729032-009.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Guangzhou Xiongyi Precision Metalworking Co., Ltd Hantang Industrial Zone, Langbian Village, Shiji Town, Panyu District, Guangzhou City, Guangdong Province, China 511450
<u>DATES OF TESTS:</u>	06 September 2024, 09 September 2024
<u>ISSUED BY:</u>	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
<u>TEST LOCATION:</u>	Room101/301/401/102/202/302/402/502/602/702/802, No. 7-2, Caipin Road, Huangpu District, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	SLPD31727CXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLPD31727CXX

Criteria	Result
Total Lumen Output	532.8 lm
Total Power	7.0 W
Luminaire Efficacy	75.8 lm/W
S/MH(C0/180)	0.59
S/MH(C90/270)	0.74
Correlated Color Temperature (CCT)	2614 K
Color Rendering Index (CRI)	91
R9	66
Chromaticity Coordinate (x)	0.4683
Chromaticity Coordinate (y)	0.4143
Chromaticity Coordinate (u')	0.2663
Chromaticity Coordinate (v')	0.5300

Remark:

Modification 1: Based on and superseded the previous report 240729032GZU-009 issued on 09 October 2024, correct the manufacturer information on page 2 of the report, Correct the applicant information on page 1 and 2 of the report.

***** End of Page *****

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	S500-TH	SA047-182
Two Meter Integrating Sphere System	Sensing – 2M	SA063-12
Integration Sphere	Φ2m	SA063-12-01
Frequency power supply	APW-105N	SA063-12-05
High Accuracy Plant Spectroradiometer	PMS-2000P	SA063-12-25
Standard Lamp	D204	SA063-12-27
Power Meter	WT-310E	SA011-234
Temperature Meter	S500-TH	SA047-230

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 WT310E.

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: 3.948A DC

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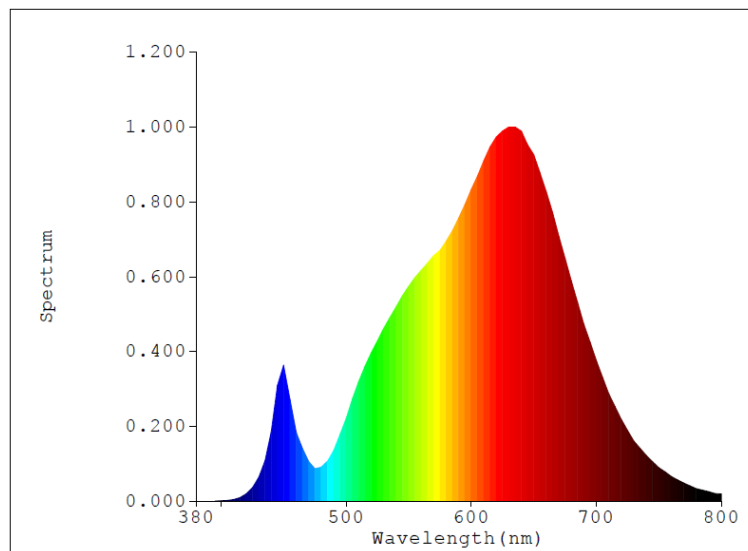
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLPD31727CXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0003	480	1.2822	580	9.9034	680	8.3867	780	0.4685
385	0.0002	485	1.5268	585	10.2910	685	7.5731		
390	0.0002	490	1.9385	590	10.7740	690	6.7493		
395	0.0017	495	2.5379	595	11.2810	695	6.0385		
400	0.0063	500	3.1554	600	11.8480	700	5.3456		
405	0.0206	505	3.8917	605	12.3840	705	4.7138		
410	0.0547	510	4.5415	610	12.9580	710	4.0817		
415	0.1254	515	5.1431	615	13.4720	715	3.5969		
420	0.2673	520	5.6505	620	13.8560	720	3.1175		
425	0.5136	525	6.0975	625	14.0720	725	2.6762		
430	0.9137	530	6.5704	630	14.2290	730	2.2813		
435	1.5388	535	6.9799	635	14.2280	735	2.0010		
440	2.6434	540	7.3830	640	14.0760	740	1.7355		
445	4.4003	545	7.8240	645	13.5580	745	1.5000		
450	5.1662	550	8.1777	650	13.1800	750	1.2721		
455	3.8507	555	8.5039	655	12.4970	755	1.1033		
460	2.6018	560	8.7801	660	11.7890	760	0.9349		
465	1.9943	565	9.0487	665	10.9780	765	0.7984		
470	1.5037	570	9.3298	670	10.0760	770	0.6791		
475	1.2257	575	9.5506	675	9.2371	775	0.5761		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31727CXX

Total operation burning time: 60 minutes
Stabilization time: 30 minutes

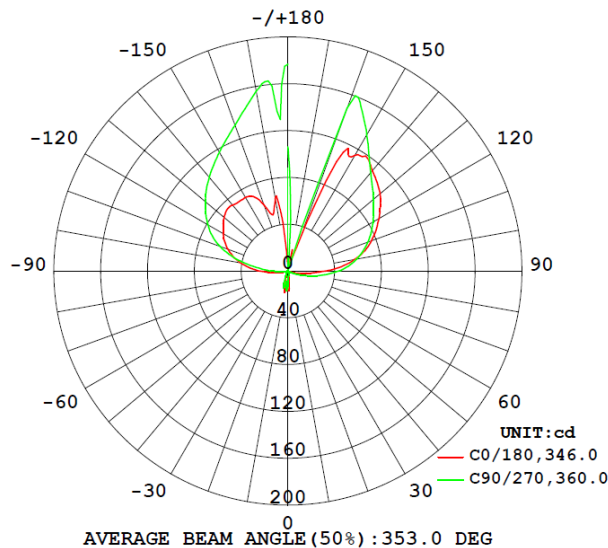
Photometric Measurements at 25°C –Integral Sphere Method

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')
SLPD31727CXX								
S2407290 32-009	base-up	2614	91	66	0.4683	0.4143	0.2663	0.5300

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)
SLPD31727CXX							
S2407290 32-009	base-up	120.2	59.5	7.0	0.983	532.8	75.8

Intensity (Candlepower) Summary at 25°C - Candelas



***** End of Page *****

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31727CXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	13.9	12.2	10.3	10.2	11.2
5	14.9	6.3	5.5	5.4	5.8
10	7.6	3.8	3.3	3.2	3.4
15	4.5	2.5	2.3	2.2	2.3
20	3.0	1.8	1.7	1.6	1.6
25	2.2	1.4	1.3	1.2	1.2
30	1.7	1.1	1.0	1.0	1.0
35	1.4	0.9	0.8	0.8	0.8
40	1.2	0.8	0.7	0.7	0.7
45	1.0	0.7	0.6	0.6	0.6
50	0.9	0.6	0.5	0.6	0.6
55	0.8	0.8	1.0	0.7	1.1
60	0.8	2.1	2.5	1.7	2.3
65	1.7	4.7	5.0	4.1	4.9
70	3.6	8.8	9.1	7.9	9.1
75	6.9	15.0	16.1	13.4	15.3
80	12.0	25.0	27.3	20.2	23.7
85	19.9	38.7	41.5	28.0	33.5
90	31.9	52.6	54.4	35.5	43.1
95	45.7	64.5	65.0	42.3	52.0
100	57.9	73.7	72.9	48.2	59.6
105	68.1	81.2	79.6	53.7	66.4
110	76.0	88.2	85.9	58.8	72.6
115	83.1	94.7	92.2	63.7	78.3
120	89.8	101.3	98.4	68.4	83.9
125	96.4	108.0	104.9	72.9	89.5
130	102.8	115.0	111.6	77.5	95.4
135	107.7	122.6	119.2	82.3	102.0
140	112.2	131.1	128.6	87.7	110.1
145	118.1	140.9	141.1	94.3	120.7
150	114.3	152.0	157.0	102.3	134.8
155	112.2	168.5	173.6	109.4	150.1
160	22.2	155.2	69.3	42.3	147.8
165	13.2	17.5	0.1	0.1	0.2
170	7.2	0.1	0.1	0.1	0.0
175	0.1	0.0	4.7	4.9	3.4
180	0.0	20.6	213.1	217.7	106.2

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31727CXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLPD31727CXX		
0-30	4.7	0.9
0-40	5.7	1.1
0-60	7.4	1.4
0-90	45.4	8.5
60-90	38.0	7.1
0-180	532.8	100.0

Beam Angle

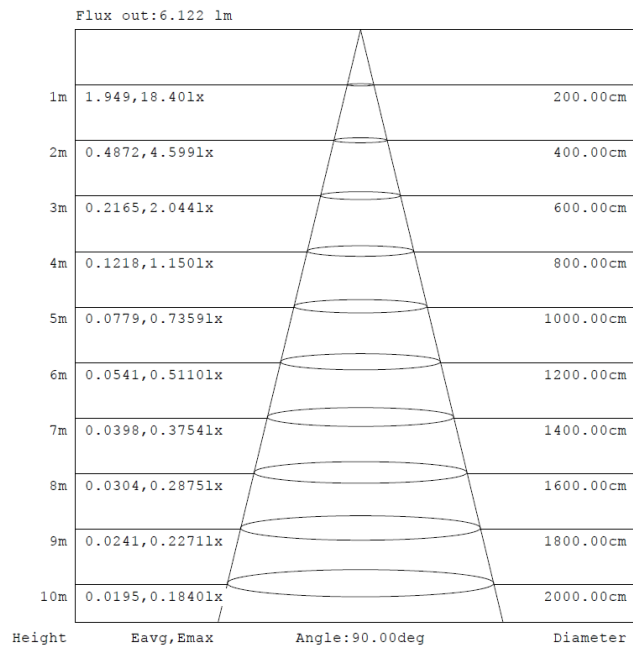
Total Beam Angle(°)
353.0

Illumination Plots

Model No.: SLPD31727CXX

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.

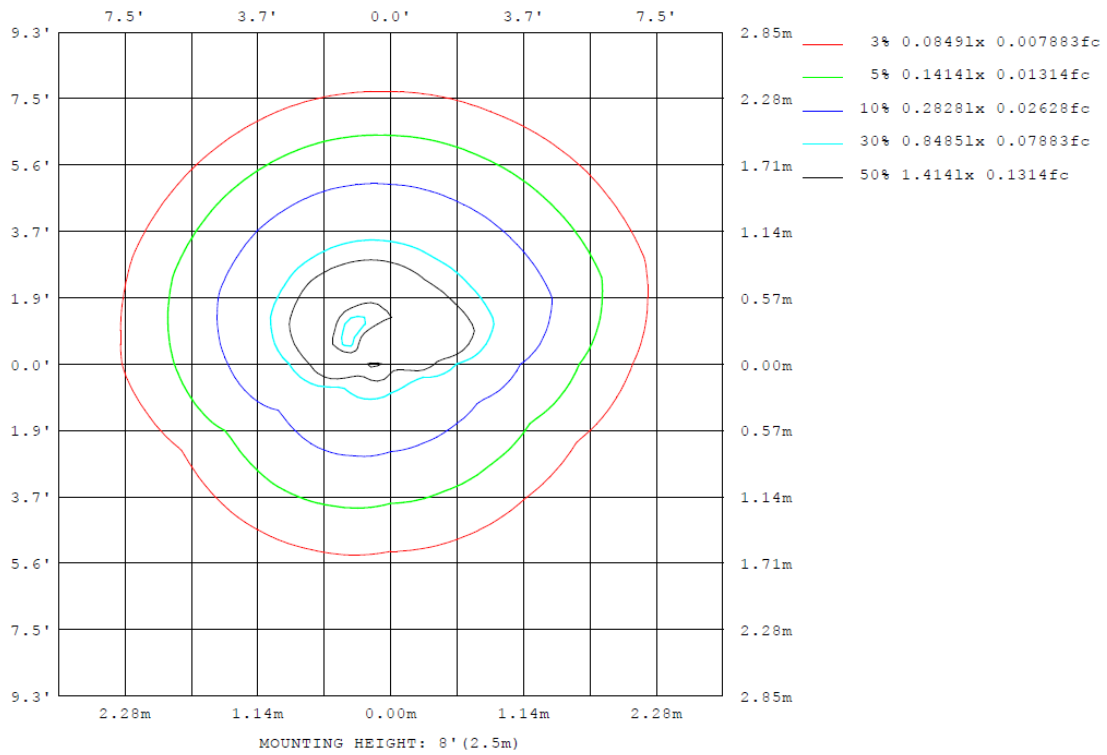
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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31727CXX

Model No.: SLPD31727CXX
Mount Height: 2.5 m
Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31727CXX

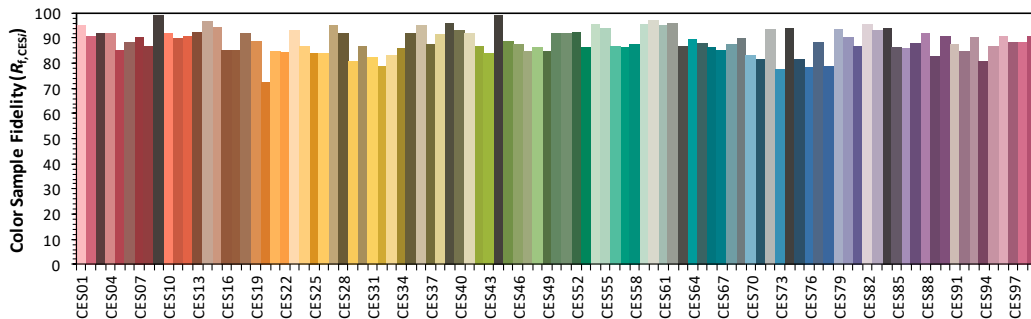
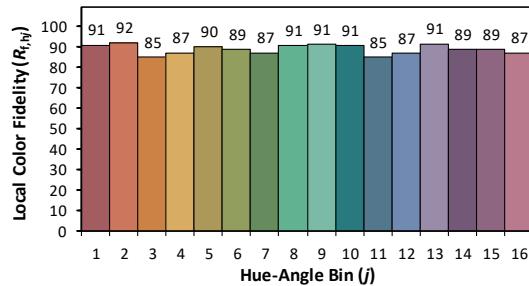
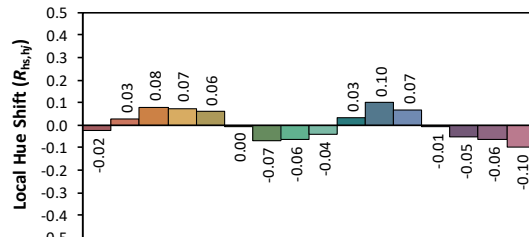
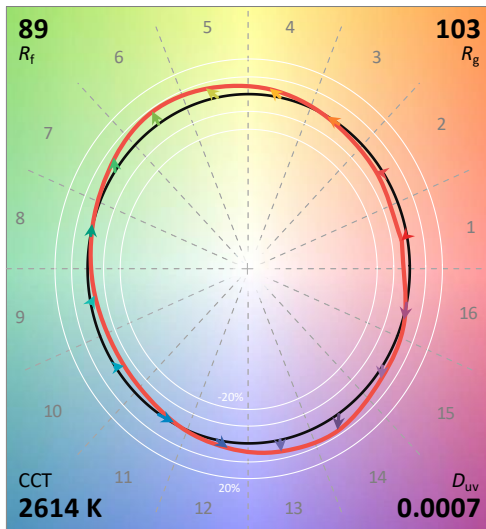
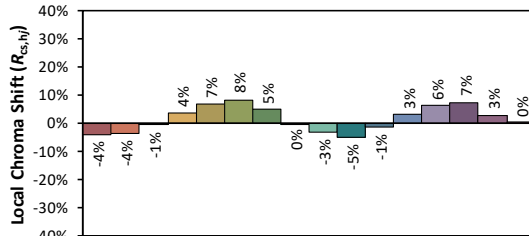
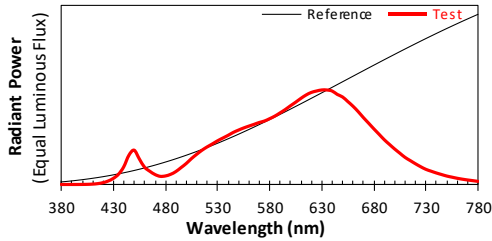
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/9/6

Model: SLPD31727CXX



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

x 0.4683
 y 0.4143
 u' 0.2663
 v' 0.5300

CIE 13.3-1995
(CRI)

R_a 91
 R_g 66

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

***** End of Page *****

TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLPD31727CXX

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TEST REPORT

PRODUCT PICTURE (not to scale)

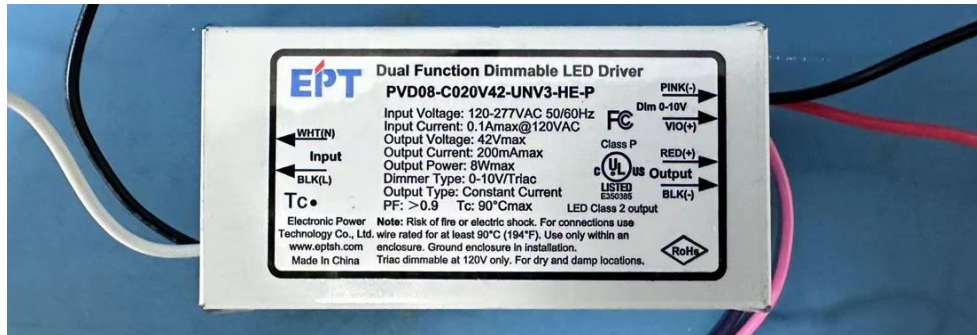


Internal view of SLPD31727CXX

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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PVD08-C020V42-UNV3-HE-P



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 *****