

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241115147GZU-003

ISSUE DATE

22 January 2025

REVISION DATE

None

NUMBER OF PAGES

12

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

© 2024 INTERTEK



Report No.: 241115147GZU-003

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWTB32627XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

7400 LINDER AVE. SKOKIE, IL, 60077

Email: jrivero@visualcomfort.com

Phone No.: 847-410-4552

<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: QGZ241112051.
<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 KWTB32627XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241115147-006.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Shao Guan Weng Yuan Pearly Gates Furniture Manufacturing Co., Ltd. GuanYing Industrial Park, GuanDu Economic Development Experimental Zone, Weng Yuan County, Guang Dong Province, PRC. 512625.
<u>DATES OF TESTS:</u>	12 December 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

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

TEST REPORT

SUMMARY

Model Number:	KWTB32627XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWTB32627XX

Criteria	Result
Total Lumen Output	813.5 lm
Total Power	28.3 W
Luminaire Efficacy	28.7 lm/W
S/MH(C0/180)	1.14
S/MH(C90/270)	1.21
Correlated Color Temperature (CCT)	2563 K
Color Rendering Index (CRI)	93
R9	56
Chromaticity Coordinate (x)	0.4704
Chromaticity Coordinate (y)	0.4111
Chromaticity Coordinate (u')	0.2691
Chromaticity Coordinate (v')	0.5291

Remark:

N/A

***** 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

GENERAL REMARK

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

When determining for test conclusion, measurement uncertainty of tests has been considered.

Throughout this report a ☐ comma ☒ point is used as the decimal separator.

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

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

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

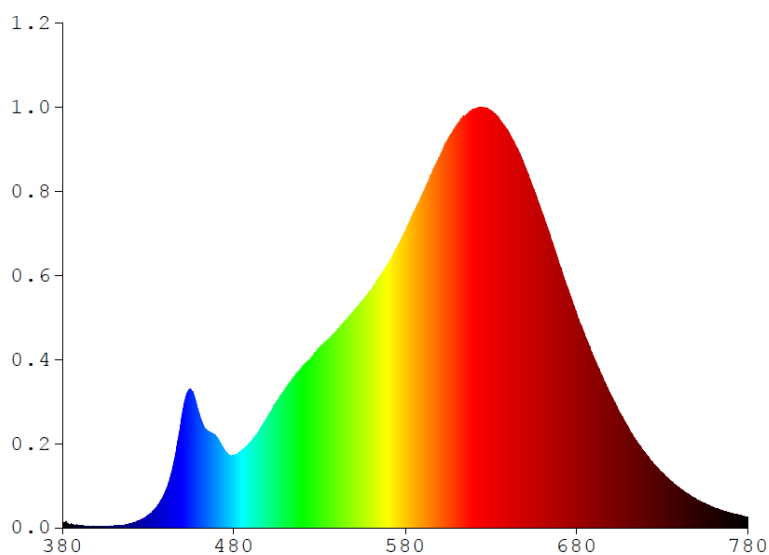
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWTB32627XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.7247	480	9.3166	580	38.2550	680	27.4870	780	1.3390
385	0.4917	485	10.0800	585	40.7370	685	24.5830		
390	0.2895	490	11.1130	590	43.0490	690	21.9330		
395	0.1927	495	12.6100	595	45.5670	695	19.3770		
400	0.1908	500	14.4560	600	47.8700	700	17.0510		
405	0.1825	505	16.2540	605	50.2320	705	14.8610		
410	0.2546	510	17.8850	610	52.0050	710	12.8700		
415	0.3600	515	19.4430	615	53.1320	715	11.1510		
420	0.5633	520	20.7560	620	53.9710	720	9.6085		
425	0.9294	525	21.9170	625	54.2260	725	8.2069		
430	1.6310	530	23.2340	630	53.7910	730	7.0134		
435	2.6482	535	24.2750	635	52.6730	735	5.9841		
440	4.6137	540	25.3960	640	51.1250	740	5.0738		
445	8.4064	545	26.7410	645	49.0650	745	4.3311		
450	14.7190	550	27.9480	650	46.5020	750	3.6292		
455	17.7340	555	29.2850	655	43.5710	755	3.0554		
460	14.4750	560	30.6260	660	40.4580	760	2.6040		
465	12.3720	565	32.4310	665	37.2070	765	2.2143		
470	11.6330	570	34.0600	670	33.8280	770	1.8559		
475	9.9200	575	36.0810	675	29.9900	775	1.6171		



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32627XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

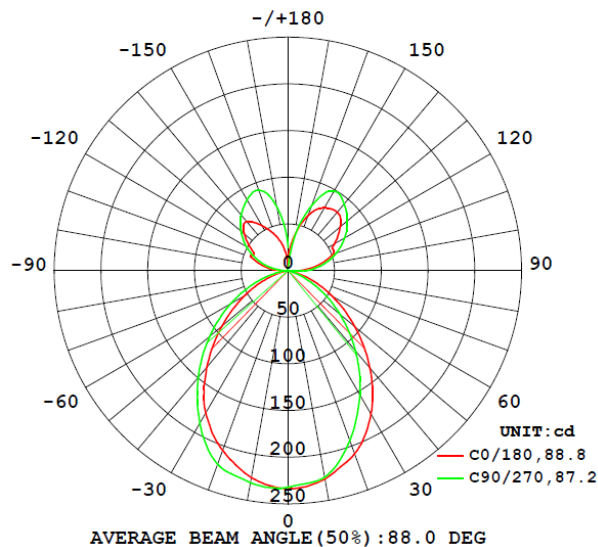
Photometric Measurements at 25°C – Distribution Method

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')
KWTB32627XX								
S2411151 47-006	base-up	2563	93	56	0.4704	0.4111	0.2691	0.5291

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)
KWTB32627XX							
S2411151 47-006	base-up	120.0	240.6	28.3	0.980	813.5	28.7

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32627XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	233.7	232.9	233.2	233.1	232.1
5	232.0	229.0	229.7	229.9	228.9
10	226.7	221.5	225.0	227.0	225.0
15	217.6	214.1	218.3	218.1	211.7
20	208.8	201.6	203.1	201.6	193.6
25	195.0	183.6	184.2	182.7	173.9
30	177.7	163.0	164.4	162.7	153.8
35	158.1	141.9	143.9	142.2	133.3
40	136.4	120.8	123.1	121.5	112.6
45	115.0	100.1	102.4	100.8	92.2
50	93.6	79.8	82.2	80.7	72.4
55	73.4	60.5	62.8	61.5	54.1
60	54.7	42.9	45.1	44.0	37.0
65	37.4	26.6	28.7	27.8	21.6
70	21.8	12.7	14.6	13.9	8.8
75	8.7	2.2	3.7	3.5	1.0
80	0.6	0.6	0.8	1.2	2.0
85	1.0	7.1	6.0	6.6	10.2
90	10.4	17.5	16.0	16.3	19.6
95	21.1	27.9	26.1	26.1	28.9
100	31.6	38.0	35.9	35.7	38.0
105	41.7	47.6	45.4	44.9	46.7
110	51.4	56.8	54.4	53.7	55.0
115	53.7	65.5	62.9	61.9	62.7
120	57.3	73.4	70.8	69.6	70.0
125	65.4	80.8	78.2	76.8	76.7
130	73.0	87.6	84.9	83.5	82.9
135	79.6	93.6	91.0	89.6	88.6
140	82.0	98.6	96.5	95.0	93.7
145	80.8	98.6	101.4	99.9	98.2
150	77.7	89.3	103.3	102.9	98.3
155	72.3	79.9	96.5	98.7	91.0
160	62.8	68.1	81.8	84.5	73.9
165	50.4	50.8	63.6	66.1	54.5
170	36.3	30.9	40.0	42.0	31.1
175	23.1	12.5	16.0	15.5	1.8
180	7.4	0.0	4.1	2.7	0.0

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32627XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWTB32627XX		
0-30	171.5	21.1
0-40	267.2	32.9
0-60	418.1	51.4
0-90	470.9	57.9
60-90	52.8	6.5
0-180	813.5	100.0

Beam Angle

Total Beam Angle(°)

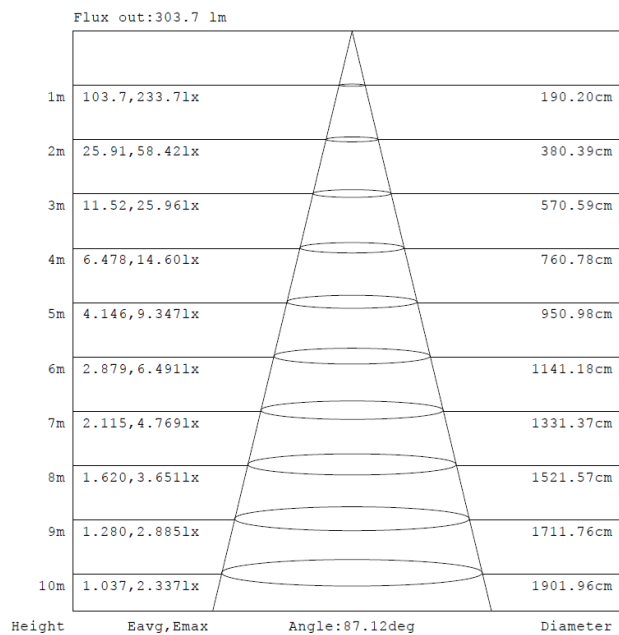
88.0

Illumination Plots

Model No.: KWTB32627XX

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.

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

TEST REPORT

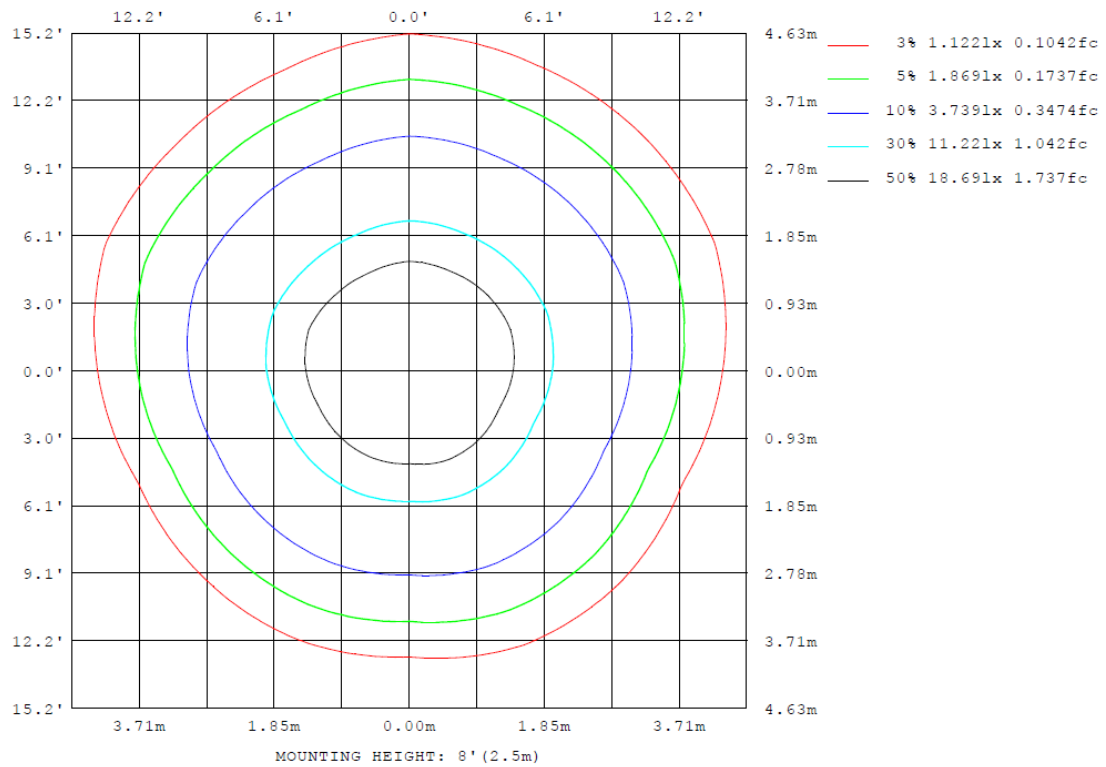
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32627XX

Model No.: KWTB32627XX

Mount Height: 2.5 m

Isoillumination Plot



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32627XX

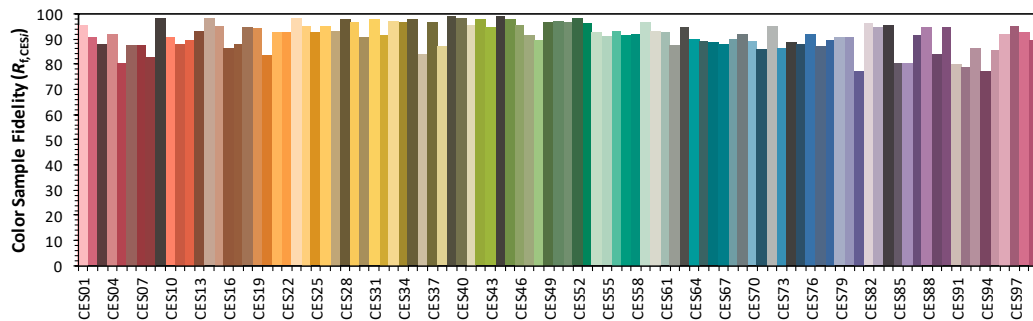
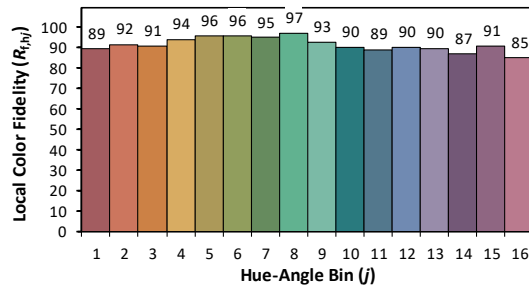
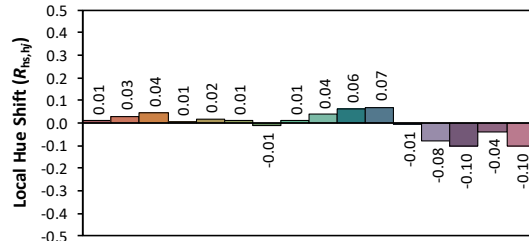
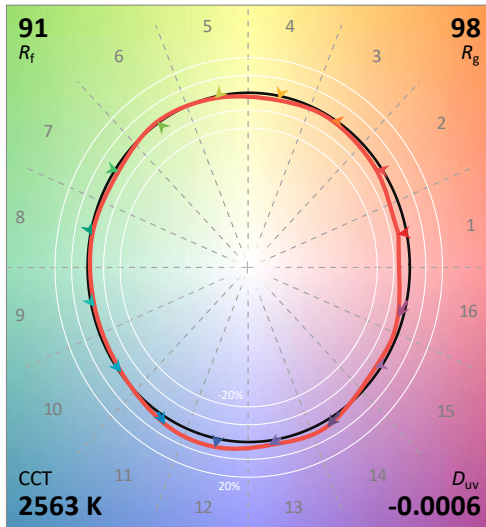
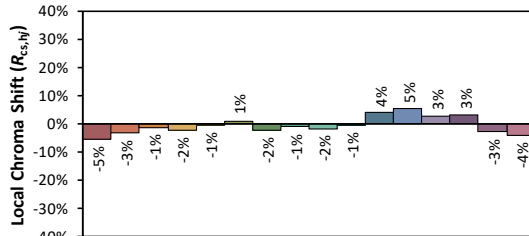
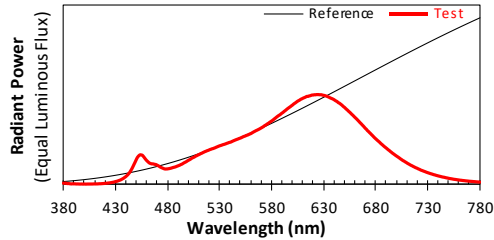
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/12

Model: KWTB32627XX



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

x 0.4704
 y 0.4111
 u' 0.2691
 v' 0.5291

CIE 13.3-1995
(CRI)

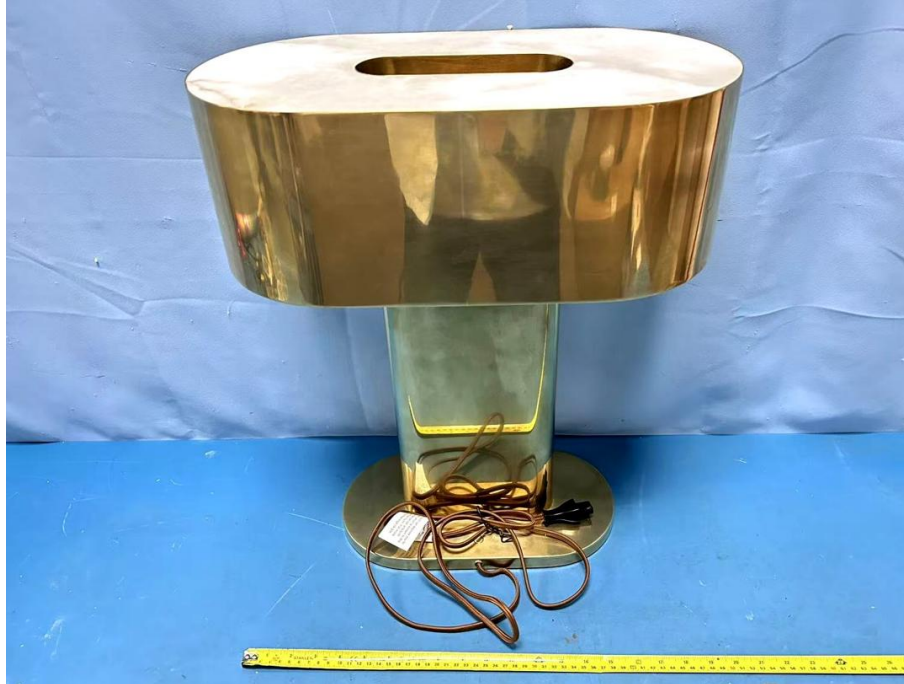
R_a 93
 R_g 56

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 KWTB32627XX



Internal view of KWTB32627XX

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

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