

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241111186GZU-009

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None

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Report format for LM-79_G

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Report No.: 241111186GZU-009

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWCH70527XXXALB

Remark: "XXX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

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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: QGZ241106002.
<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 KWCH70527XXXALB. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241111186-002.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Union Star Collection-Dongguan Denghuang HomeFurnishing Co., Ltd. No.5, Central Road, Yayuan Industrial Zone, Nancheng District, Dongguan City, Guangdong Province, 523000
<u>DATES OF TESTS:</u>	02 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

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TEST REPORT

SUMMARY

Model Number:	KWCH70527XXXALB
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWCH70527XXXALB

Criteria	Result
Total Lumen Output	2666.1 lm
Total Power	74.5 W
Luminaire Efficacy	35.8 lm/W
S/MH(C0/180)	2.23
S/MH(C90/270)	1.96
Correlated Color Temperature (CCT)	2432 K
Color Rendering Index (CRI)	93
R9	61
Chromaticity Coordinate (x)	0.4826
Chromaticity Coordinate (y)	0.4134
Chromaticity Coordinate (u')	0.2759
Chromaticity Coordinate (v')	0.5319

Remark:

N/A

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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	S500-TH	SA047-182

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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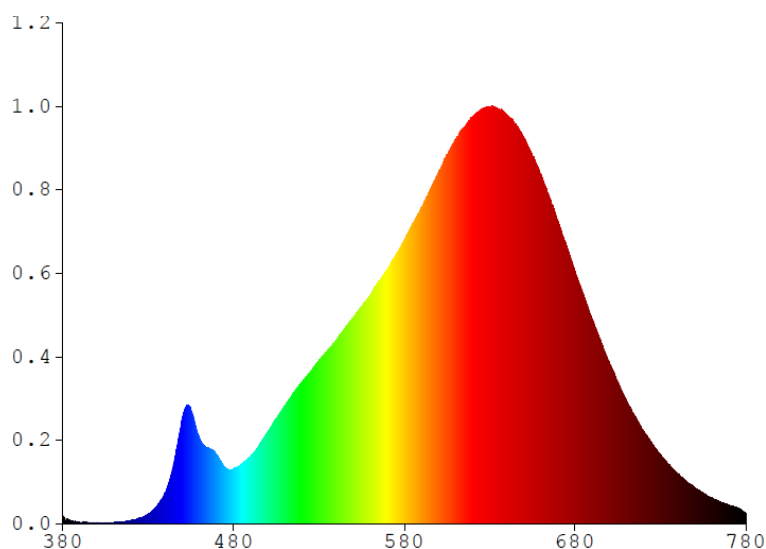
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWCH70527XXXALB

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	1.5410	480	12.9890	580	66.6470	680	59.2050	780	2.4449
385	0.4908	485	14.1710	585	70.4690	685	53.6570		
390	0.3869	490	15.8690	590	74.2740	690	48.0880		
395	0.2784	495	18.4340	595	78.2870	695	42.8520		
400	0.2748	500	21.6510	600	82.4270	700	37.8880		
405	0.2241	505	24.6950	605	86.6110	705	33.3360		
410	0.3643	510	27.6900	610	90.3000	710	29.0470		
415	0.5528	515	30.6810	615	93.0740	715	25.2710		
420	0.8623	520	33.3350	620	95.4930	720	21.9390		
425	1.3828	525	35.8080	625	97.2750	725	18.9030		
430	2.3581	530	38.4700	630	97.7800	730	16.2840		
435	4.1258	535	40.6720	635	97.4070	735	13.9620		
440	7.4238	540	43.1160	640	96.0720	740	11.9190		
445	14.2110	545	45.8920	645	93.9660	745	10.0830		
450	24.8320	550	48.3640	650	90.7550	750	8.5624		
455	26.6940	555	50.9430	655	86.3620	755	7.2622		
460	20.1230	560	53.6880	660	82.0370	760	6.2103		
465	17.7910	565	56.9930	665	76.7300	765	5.2282		
470	16.3030	570	59.7350	670	71.0120	770	4.4383		
475	13.2490	575	63.1210	675	64.1140	775	3.7936		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70527XXXALB

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

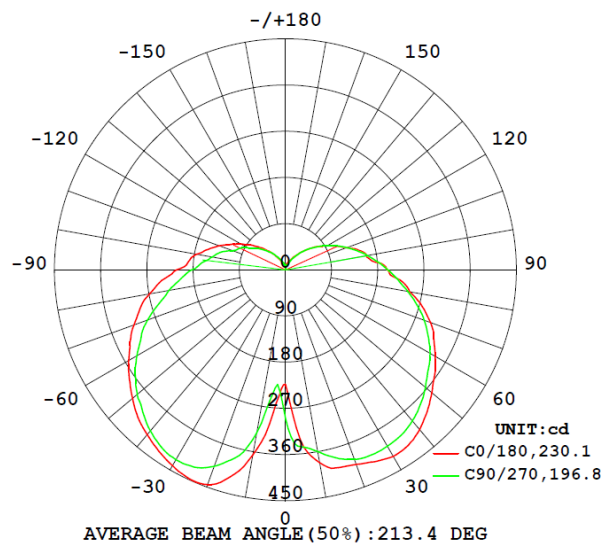
Photometric Measurements at 25°C – Distribution Method

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')
KWCH70527XXXALB								
S2411111 86-002	base-up	2432	93	61	0.4826	0.4134	0.2759	0.5319

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	Lumen Efficacy
						Flux (Lumens)	(Lumens Per Watt)
KWCH70527XXXALB							
S2411111 86-002	base-up	120.0	625.4	74.5	0.993	2666.1	35.8

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70527XXXALB

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	223.6	310.8	310.7	300.3	289.4
5	332.6	357.1	386.6	379.7	345.8
10	381.0	369.6	424.9	412.5	359.3
15	399.3	380.7	444.6	439.0	379.0
20	403.3	387.7	443.5	443.4	393.2
25	412.1	386.0	437.1	437.7	397.8
30	419.5	380.3	427.9	430.0	396.9
35	417.2	371.2	413.6	419.7	393.2
40	406.5	360.5	396.4	403.7	384.2
45	390.1	347.2	378.8	386.1	371.8
50	372.3	330.4	361.2	368.8	355.8
55	355.3	308.2	338.6	352.9	339.8
60	337.0	283.7	316.8	336.8	325.1
65	319.1	259.3	297.0	314.6	306.9
70	300.3	234.4	271.8	293.6	287.6
75	275.9	208.7	248.8	271.7	265.3
80	245.3	185.2	221.4	246.4	242.1
85	223.3	165.9	192.1	220.5	219.5
90	198.8	148.6	178.5	197.0	199.4
95	176.7	124.5	152.5	176.6	180.7
100	160.1	114.0	138.9	159.9	162.3
105	148.4	101.9	121.5	141.1	144.6
110	127.4	89.7	105.6	123.7	127.5
115	110.3	79.4	90.4	107.5	111.1
120	94.5	69.7	76.3	91.2	95.4
125	80.5	60.1	63.2	75.9	80.5
130	66.8	51.6	52.8	62.4	66.4
135	54.0	43.0	43.1	50.5	54.0
140	42.9	34.8	34.1	39.0	41.9
145	33.7	26.4	26.1	28.9	30.9
150	25.9	19.3	19.5	20.7	21.7
155	19.8	13.6	14.5	14.8	14.0
160	15.1	10.7	11.9	11.2	10.6
165	13.1	11.0	10.6	9.5	10.2
170	12.0	8.3	7.7	8.7	9.0
175	5.5	4.0	3.5	4.5	4.8
180	3.8	6.4	5.7	4.1	2.4

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70527XXXALB

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWCH70527XXXALB		
0-30	333.5	12.5
0-40	590.4	22.1
0-60	1208.4	45.3
0-90	2056.2	77.1
60-90	847.8	31.8
0-180	2666.1	100.0

Beam Angle

Total Beam Angle(°)

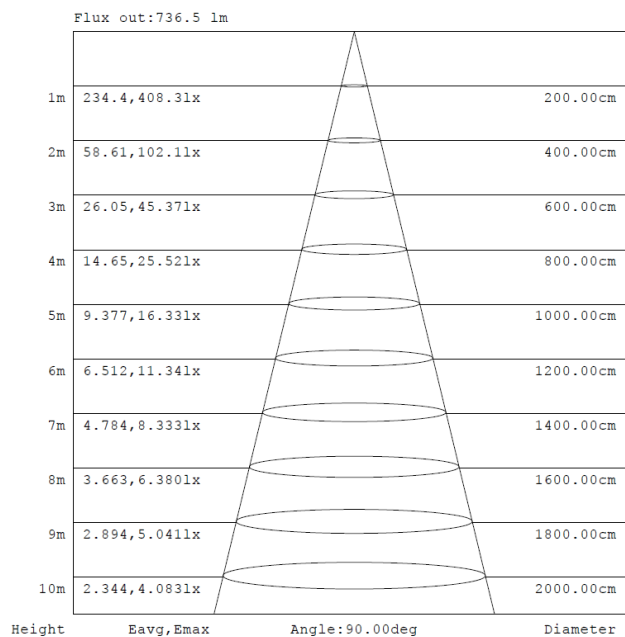
213.4

Illumination Plots

Model No.: KWCH70527XXXALB

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

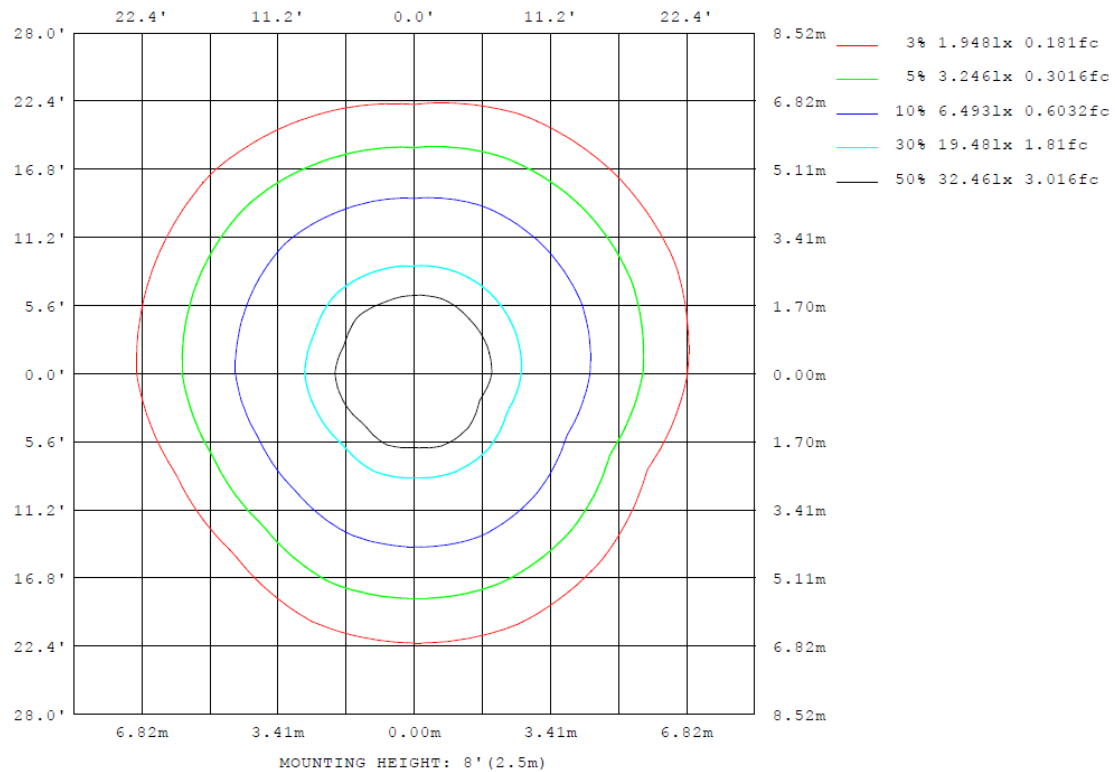
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70527XXXALB

Model No.: KWCH70527XXXALB

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70527XXXALB

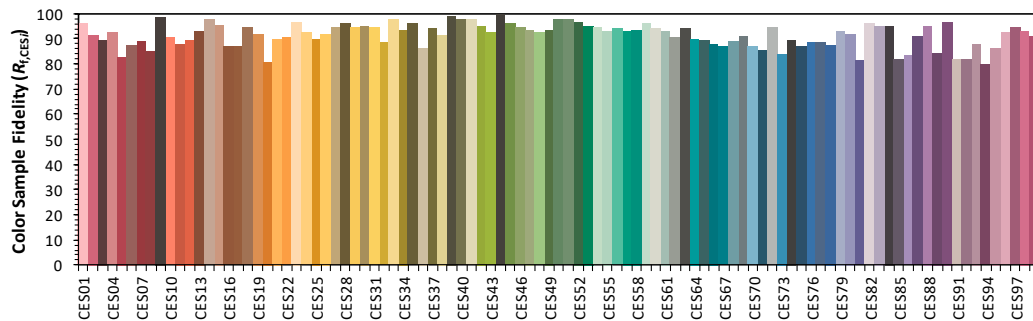
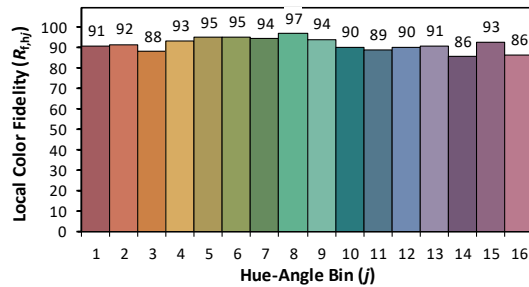
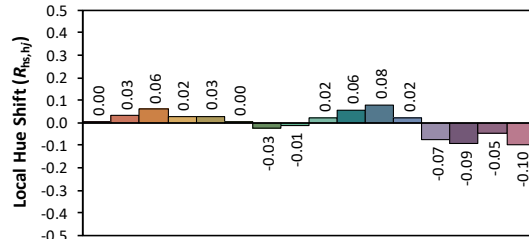
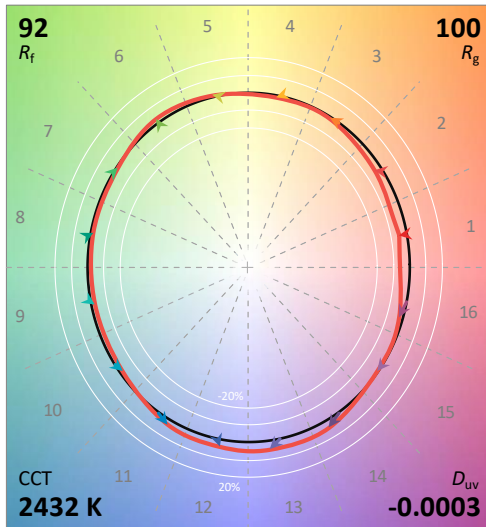
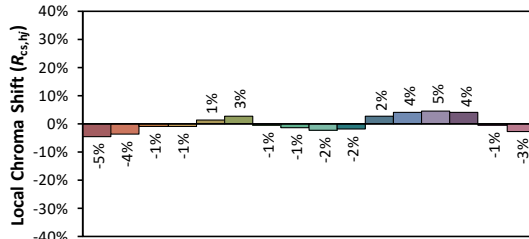
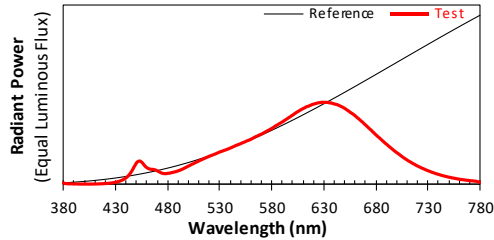
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/2

Model: KWCH70527XXXALB



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

x 0.4826
 y 0.4134
 u' 0.2759
 v' 0.5319

CIE 13.3-1995
(CRI)

R_a 93

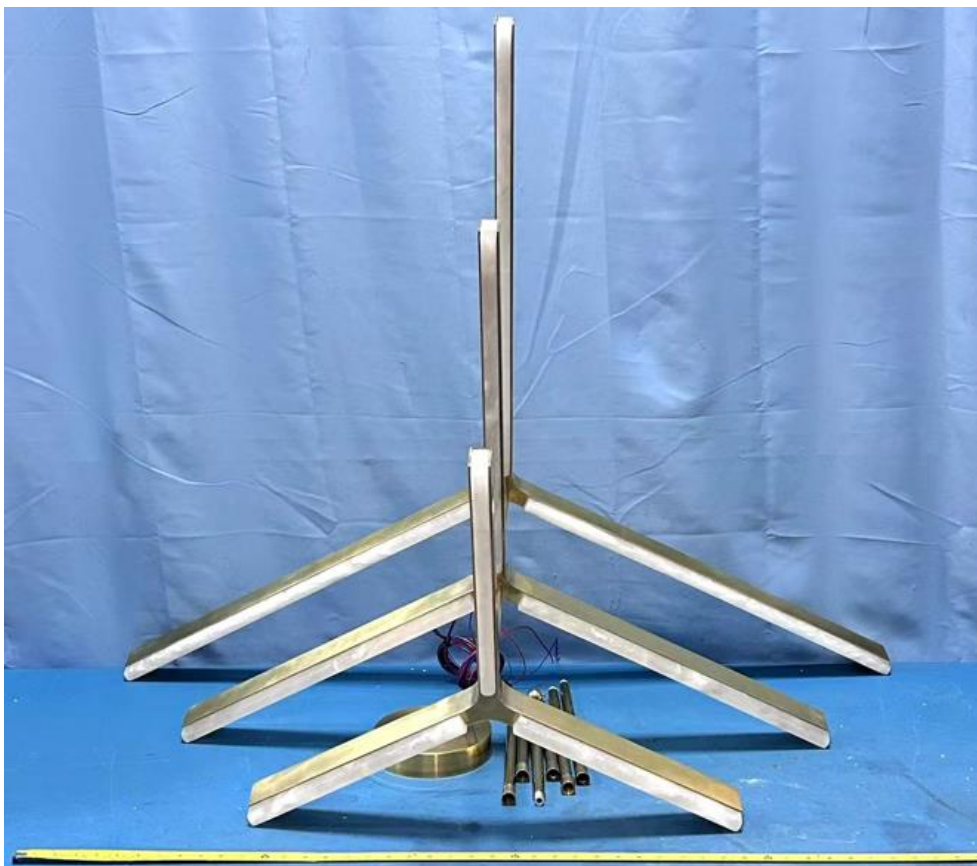
R_g 61

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 KWCH70527XXXALB

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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWCH70527XXXALB

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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PVD40-C100V40-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 *****