

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241111186GZU-008

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None

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Report format for LM-79_G

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Report No.: 241111186GZU-008

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWCH70427XXXALB

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 KWCH70427XXXALB. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241111186-001.
<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:	KWCH70427XXXALB
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWCH70427XXXALB

Criteria	Result
Total Lumen Output	2285.4 lm
Total Power	67.8 W
Luminaire Efficacy	33.7 lm/W
S/MH(C0/180)	1.97
S/MH(C90/270)	1.47
Correlated Color Temperature (CCT)	2401 K
Color Rendering Index (CRI)	92
R9	58
Chromaticity Coordinate (x)	0.4856
Chromaticity Coordinate (y)	0.4139
Chromaticity Coordinate (u')	0.2776
Chromaticity Coordinate (v')	0.5325

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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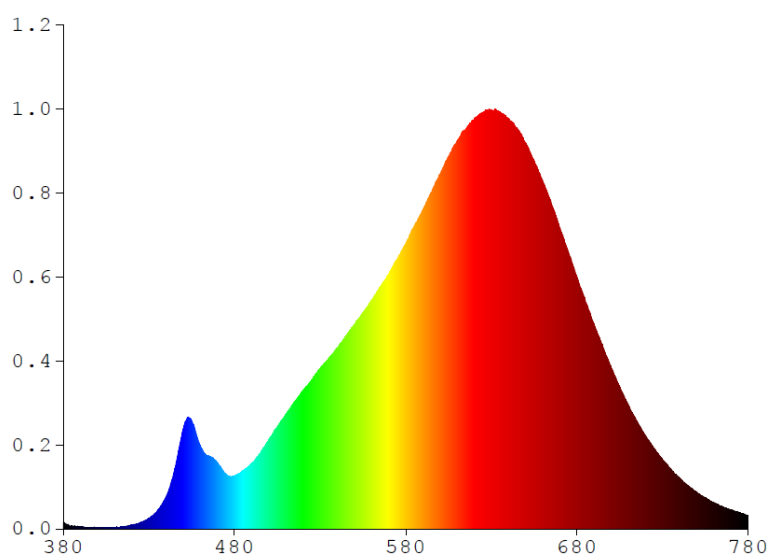
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWCH70427XXXALB

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	1.2243	480	10.3970	580	55.8220	680	49.0950	780	2.5466
385	0.5202	485	11.3960	585	59.3090	685	44.2570		
390	0.3575	490	12.8270	590	62.4280	690	39.8810		
395	0.2055	495	14.7810	595	65.9230	695	35.5130		
400	0.1994	500	17.4390	600	69.4770	700	31.4030		
405	0.2666	505	19.9630	605	72.8520	705	27.6490		
410	0.2939	510	22.5010	610	75.9800	710	24.0900		
415	0.4547	515	24.8870	615	78.2010	715	20.9980		
420	0.7537	520	27.0990	620	80.1730	720	18.2100		
425	1.2031	525	29.1980	625	81.3580	725	15.6850		
430	2.0549	530	31.2850	630	81.9620	730	13.5010		
435	3.5751	535	33.4290	635	81.5160	735	11.5850		
440	6.2708	540	35.3820	640	80.3250	740	9.8317		
445	11.5640	545	37.7840	645	78.3580	745	8.3287		
450	19.4100	550	39.9920	650	75.5090	750	7.1637		
455	20.9630	555	42.3100	655	71.8470	755	6.0382		
460	16.1330	560	44.7450	660	67.9700	760	5.1076		
465	14.2440	565	47.3290	665	63.6060	765	4.3206		
470	12.9470	570	49.7830	670	58.7680	770	3.7185		
475	10.6600	575	52.8060	675	53.1910	775	3.1983		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70427XXXALB

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

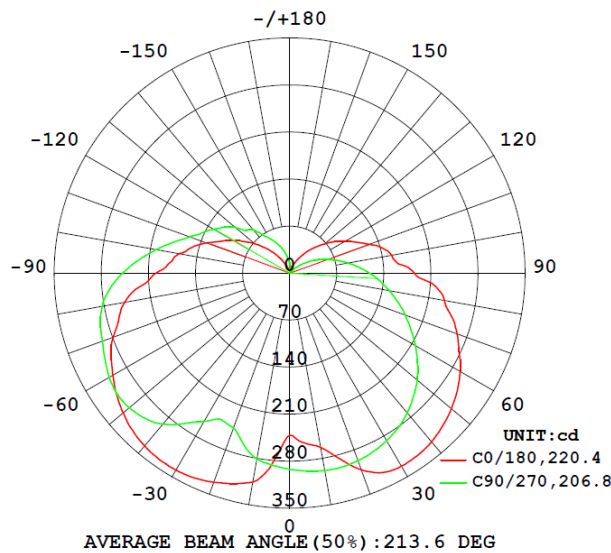
Photometric Measurements at 25°C – Distribution Method

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')
KWCH70427XXXALB								
S2411111 86-001	base-up	2401	92	58	0.4856	0.4139	0.2776	0.5325

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	Lumen Efficacy
						(Lumens)	(Lumens Per Watt)
KWCH70427XXXALB							
S2411111 86-001	base-up	120.1	568.1	67.8	0.994	2285.4	33.7

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70427XXXALB

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	241.3	276.2	319.7	323.0	292.1
5	253.9	292.1	321.9	324.3	295.6
10	263.1	296.6	321.6	323.6	298.2
15	286.1	297.8	319.3	320.5	298.8
20	311.4	296.9	314.8	315.9	297.2
25	327.7	293.4	307.9	309.5	293.4
30	331.9	288.6	299.2	300.5	287.8
35	331.3	282.5	288.3	290.2	280.8
40	327.8	274.6	275.4	278.2	271.8
45	321.7	264.6	261.5	264.3	260.0
50	313.8	254.0	245.0	252.0	247.5
55	304.2	242.0	228.0	236.4	231.9
60	292.3	225.4	215.5	211.0	215.7
65	278.0	208.2	193.8	191.6	198.9
70	264.8	189.7	162.1	172.3	182.7
75	249.4	170.4	145.1	160.7	166.5
80	233.2	152.1	140.3	144.4	150.4
85	216.4	130.8	120.2	127.5	134.6
90	185.3	116.1	107.9	111.2	118.9
95	161.7	106.3	94.7	94.6	103.5
100	154.0	94.8	80.8	80.1	88.2
105	143.7	84.3	67.6	65.9	73.7
110	125.7	76.5	57.0	53.1	60.1
115	109.9	66.9	47.1	41.2	47.7
120	96.0	57.9	37.6	30.3	36.0
125	82.0	50.0	29.6	21.0	25.4
130	68.4	41.5	21.6	13.3	16.1
135	55.4	32.7	14.3	8.3	8.1
140	44.1	25.0	8.3	4.8	4.2
145	33.1	17.4	4.7	3.7	4.1
150	24.0	10.4	3.3	3.7	3.9
155	16.2	6.2	3.6	1.7	1.9
160	10.1	5.8	2.3	2.2	1.3
165	6.7	2.8	3.2	4.5	2.8
170	6.9	2.4	4.4	5.7	2.9
175	5.0	3.2	4.5	9.5	6.5
180	2.5	3.2	8.3	15.2	12.2

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70427XXXALB

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWCH70427XXXALB		
0-30	244.4	10.7
0-40	428.5	18.8
0-60	909.0	39.8
0-90	1645.7	72.0
60-90	736.7	32.2
0-180	2285.4	100.0

Beam Angle

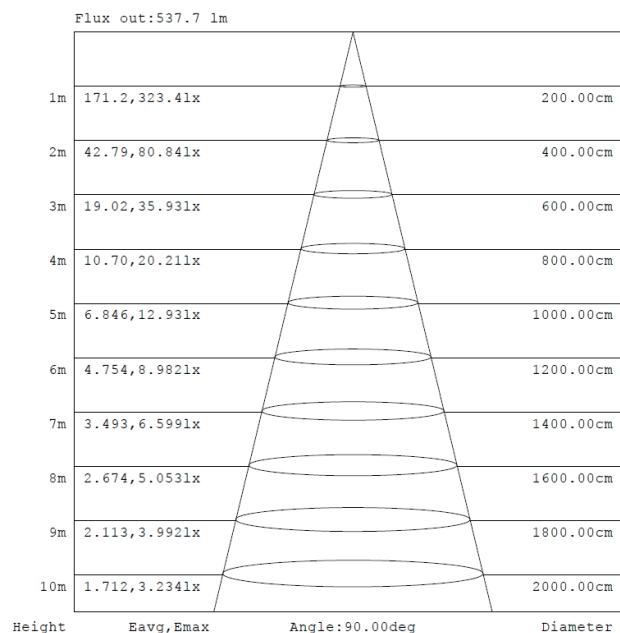
Total Beam Angle(°)
213.6

Illumination Plots

Model No.: KWCH70427XXXALB

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

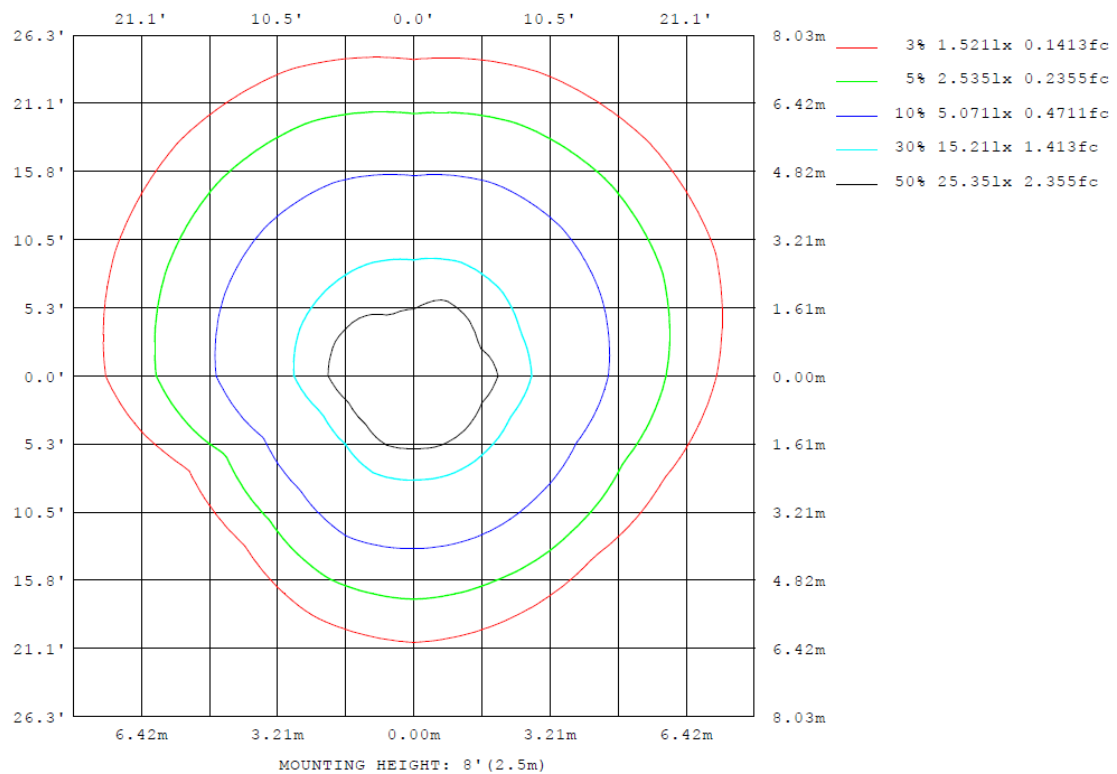
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70427XXXALB

Model No.: KWCH70427XXXALB

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70427XXXALB

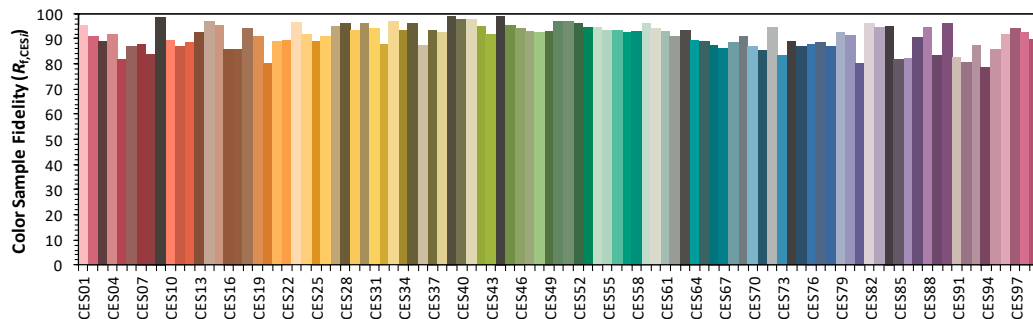
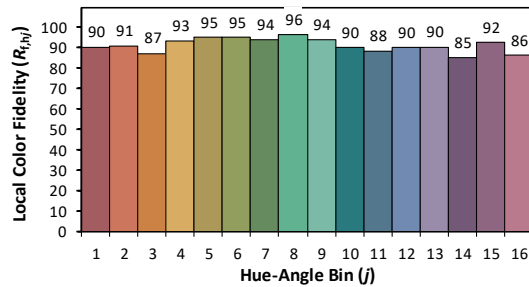
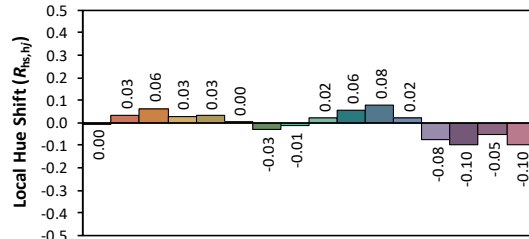
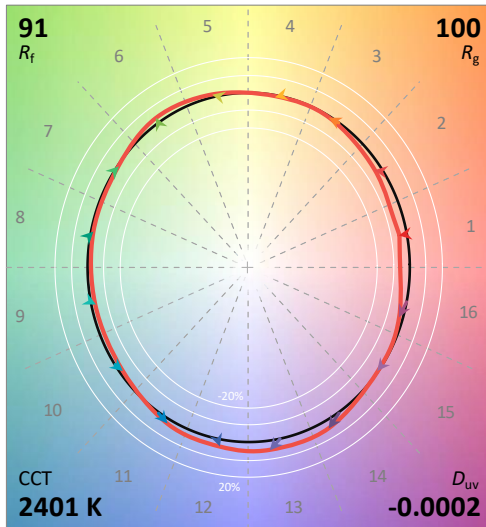
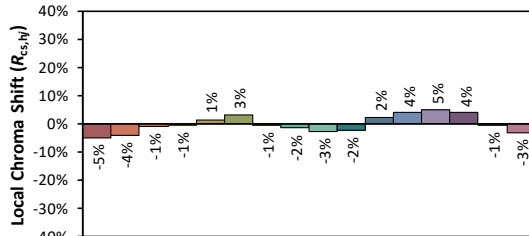
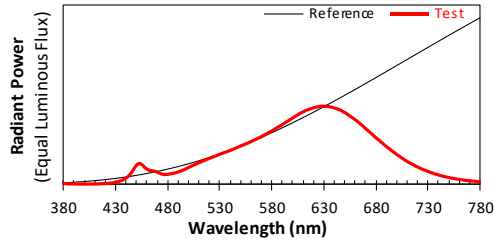
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/2

Model: KWCH70427XXXALB



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

x 0.4856
 y 0.4139
 u' 0.2776
 v' 0.5325

CIE 13.3-1995
(CRI)

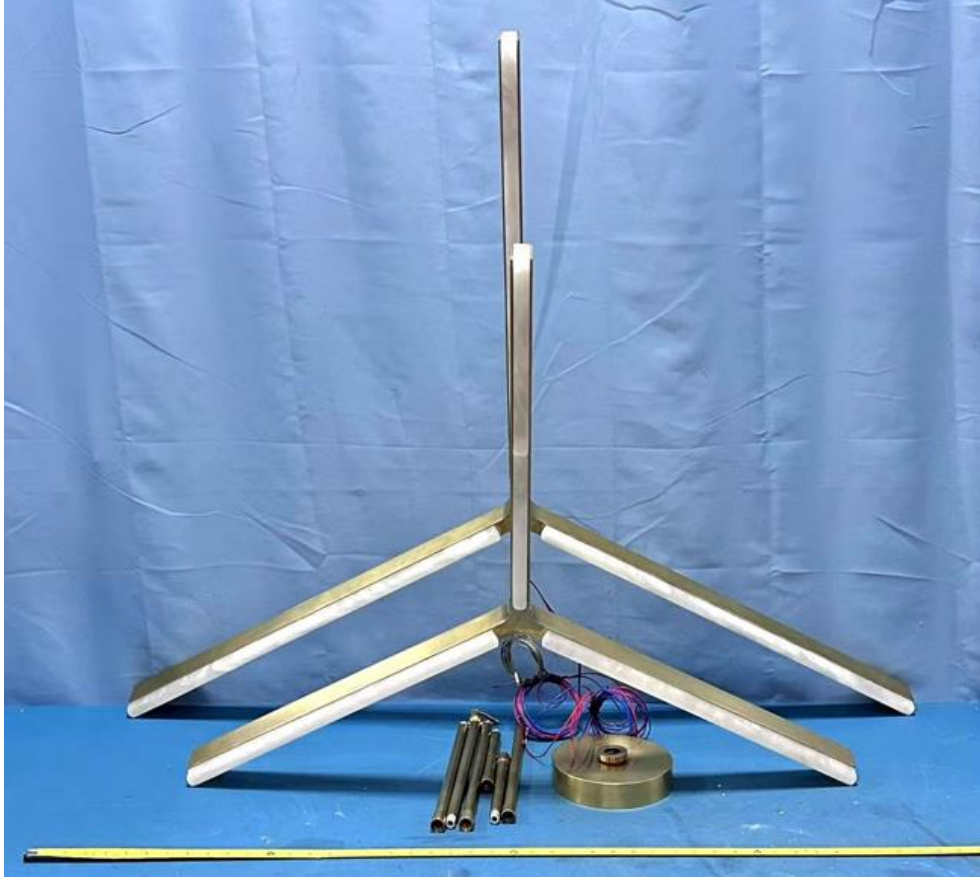
R_a 92
 R_g 58

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 KWCH70427XXXALB

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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWCH70427XXXALB

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PVD36-C090V40-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 *****