

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

231016107GZU-001

ISSUE DATE

01-December-2023

REVISION DATE

None

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Report No.: 231016107GZU-001

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. CDCH17227XX

(Remark: "XX" are denoted finish color)

RENDERED TO

Visual Comfort and Company

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: QGZ231013030.

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
IES LM-79: 2019 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 CDCH17227XX. The sample was received in undamaged condition. The sample designation was S231016107-001.

DATES OF TESTS: 24-November-2023

ISSUED BY: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

TEST LOCATION: Room101/301/401/102/202/302/402/502/602/702/802, No. 7-2, Caipin Road, Huangpu Science City, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	CDCH17227XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For CDCH17227XX

Criteria	Result
Total Lumen Output	1506.4 lm
Total Power	43.1 W
Luminaire Efficacy	34.9 lm/W
S/MH(C0/180)	1.26
S/MH(C90/270)	1.75
Correlated Color Temperature (CCT)	2548 K
Color Rendering Index (CRI)	94
R9	63
Chromaticity Coordinate (x)	0.4710
Chromaticity Coordinate (y)	0.4101
Chromaticity Coordinate (u')	0.2700
Chromaticity Coordinate (v')	0.5288

Remark:

Measurement uncertainty for applicable tests has been established.

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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	RC-HT601A	SA047-62

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 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, 4π 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 EVERFINE - Digital Power Meter., model PLM3000.

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: 3.9480A DC

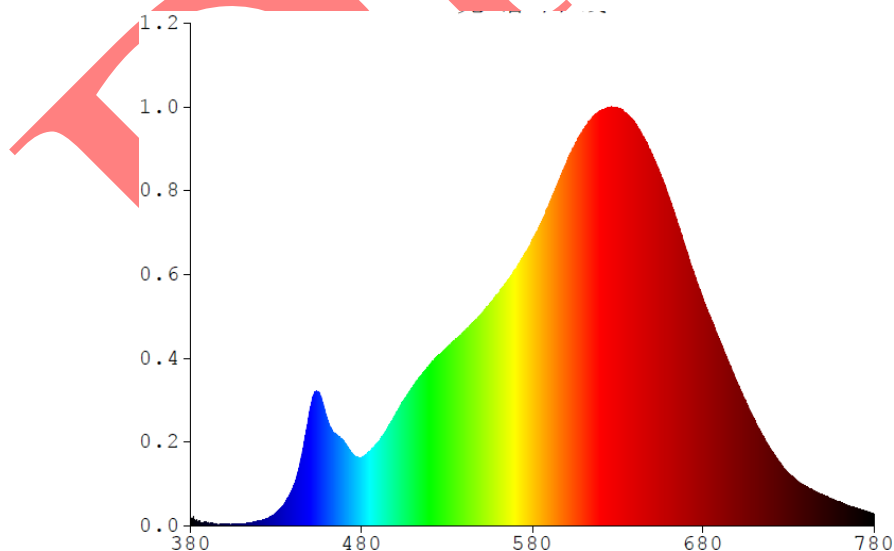
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RESULTS OF TESTS

Test Condition: 120V, 60Hz For CDCH17227XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.1795	480	1.3457	580	5.6234	680	4.4645	780	0.2358
385	0.0948	485	1.4762	585	5.9505	685	4.0367		
390	0.0463	490	1.6600	590	6.3462	690	3.6319		
395	0.0363	495	1.9079	595	6.7478	695	3.2131		
400	0.0332	500	2.2081	600	7.1324	700	2.8122		
405	0.0376	505	2.4859	605	7.4980	705	2.4412		
410	0.0418	510	2.7369	610	7.7924	710	2.0954		
415	0.0570	515	2.9575	615	8.0321	715	1.7715		
420	0.0998	520	3.1595	620	8.1537	720	1.4914		
425	0.1556	525	3.3516	625	8.2073	725	1.2387		
430	0.2613	530	3.5079	630	8.2080	730	1.0409		
435	0.4453	535	3.6705	635	8.1233	735	0.8914		
440	0.7664	540	3.8223	640	7.9437	740	0.7772		
445	1.3915	545	3.9947	645	7.6581	745	0.6938		
450	2.3185	550	4.1628	650	7.3221	750	0.6125		
455	2.6261	555	4.3587	655	6.9187	755	0.5384		
460	2.0895	560	4.5676	660	6.4725	760	0.4732		
465	1.8000	565	4.7916	665	5.9547	765	0.4041		
470	1.6411	570	5.0422	670	5.4337	770	0.3458		
475	1.4124	575	5.3103	675	4.8348	775	0.2957		



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RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDCH17227XX

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

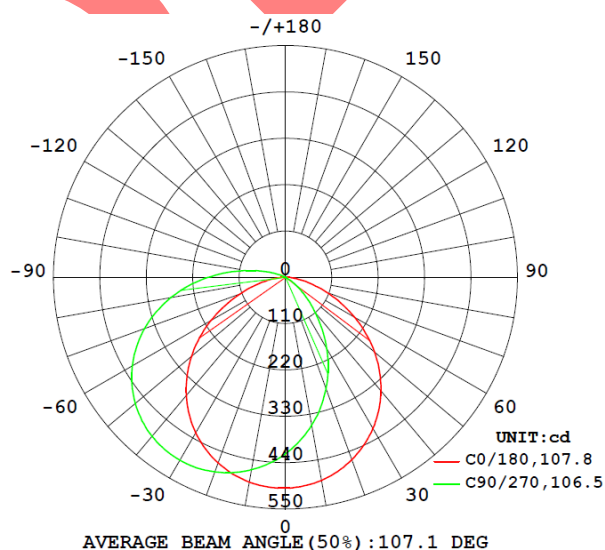
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit y Coordinate (x)	Chromaticit y Coordinate (y)	Chromaticit y Coordinate (u')	Chromaticit y Coordinate (v')
CDCH17227XX								
S2310161 07-001	--	2548	94	63	0.4710	0.4101	0.2700	0.5288

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)
						CDCH17227XX	
S2310161 07-001	--	120.1	368.5	43.1	0.975	1506.4	34.9

Intensity (Candlepower) Summary at 25°C – Candelas



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RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDCH17227XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	500.2	448.3	431.0	423.4	418.3
5	496.8	425.3	404.8	395.7	389.6
10	489.1	398.2	374.8	364.2	356.9
15	476.9	367.5	341.2	329.0	320.6
20	460.3	333.1	304.4	290.2	281.3
25	439.4	295.6	264.5	249.2	239.3
30	414.3	255.2	222.3	205.9	195.7
35	385.1	212.8	179.0	162.1	152.4
40	352.0	169.5	135.8	119.8	111.8
45	315.4	127.3	95.5	82.0	75.9
50	275.5	88.1	60.3	50.9	46.3
55	233.0	54.4	32.2	25.7	22.3
60	188.9	26.5	10.9	6.8	5.0
65	145.4	6.3	0.1	0.1	0.1
70	104.1	0.1	0.1	0.1	0.1
75	67.6	0.1	0.1	0.1	0.1
80	37.8	0.1	0.1	0.1	0.1
85	14.3	0.1	0.2	0.2	0.2
90	0.2	0.2	0.2	0.2	0.2
95	0.1	0.2	0.2	0.2	0.2
100	0.1	0.2	0.3	0.3	0.3
105	0.1	0.3	0.4	0.4	0.4
110	0.1	0.4	0.5	0.5	0.5
115	0.2	0.5	0.5	0.6	0.6
120	0.2	0.6	0.6	0.6	0.6
125	0.3	0.6	0.7	0.7	0.7
130	0.4	0.7	0.7	0.7	0.7
135	0.4	0.7	0.7	0.7	0.7
140	0.5	0.7	0.7	0.7	0.7
145	0.6	0.7	0.7	0.7	0.7
150	0.6	0.7	0.7	0.7	0.7
155	0.7	0.7	0.7	0.7	0.7
160	0.7	0.7	0.6	0.6	0.6
165	0.7	0.6	0.5	0.5	0.5
170	0.7	0.5	0.5	0.5	0.5
175	0.7	0.5	0.5	0.5	0.5
180	0.7	0.5	0.4	0.4	0.4

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RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDCH17227XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
CDCH17227XX		
0-30	338.1	22.5
0-40	551.7	36.6
0-60	983.0	65.3
0-90	1418.3	94.2
60-90	435.3	28.9
0-180	1506.4	100.0

Beam Angle

Total Beam Angle (°)

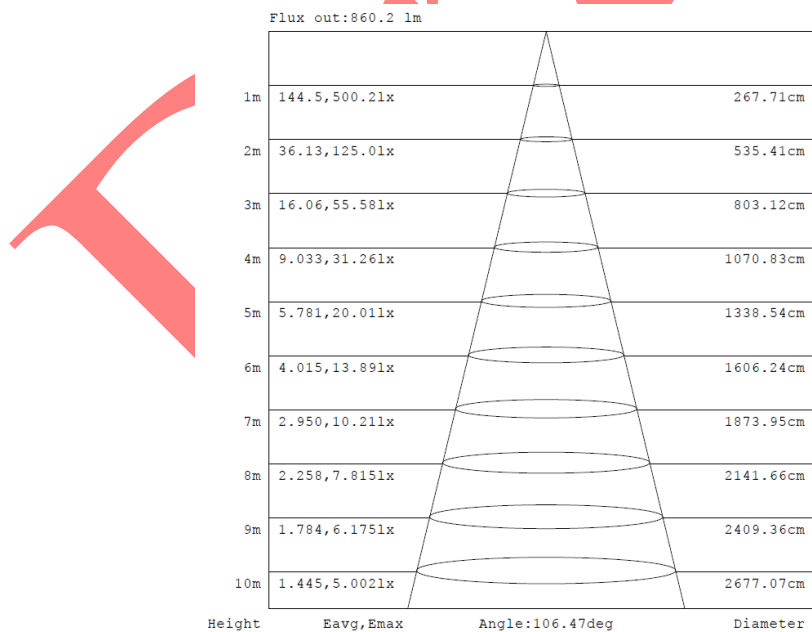
107.1

Illumination Plots

Model No.: CDCH17227XX

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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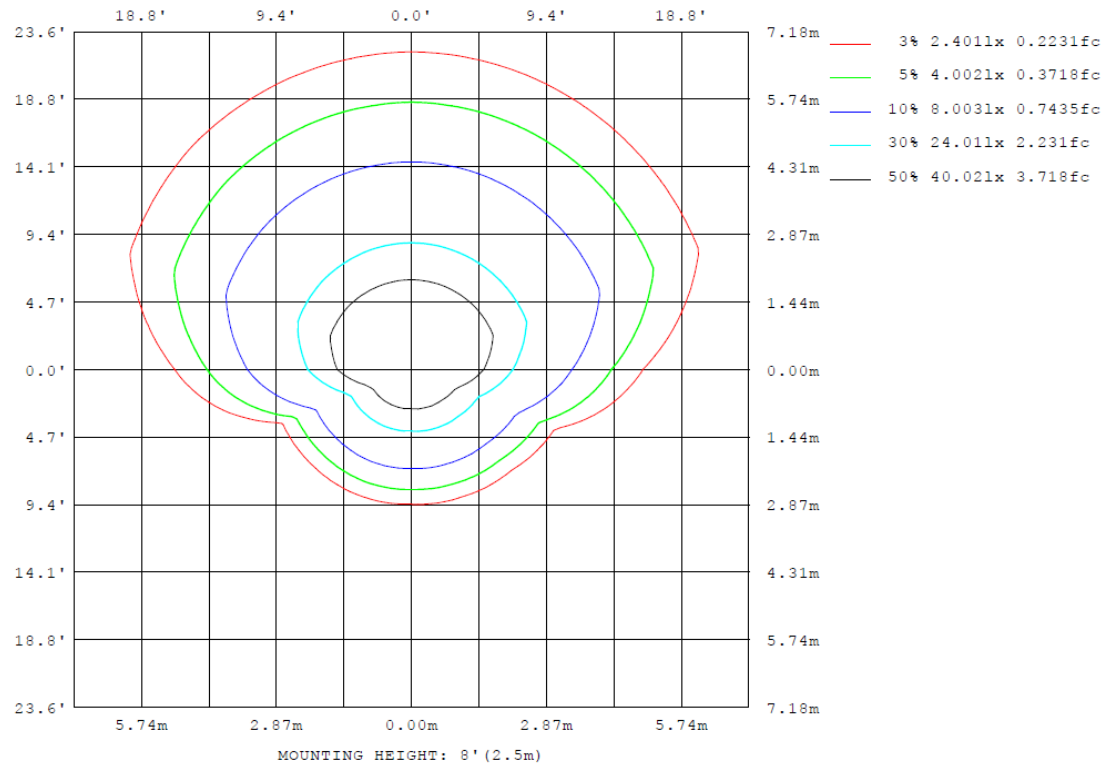
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDCH17227XX

Model No.: CDCH17227XX

Mount Height: 2.5 m

Isoillumination Plot



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RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For CDCH17227XX

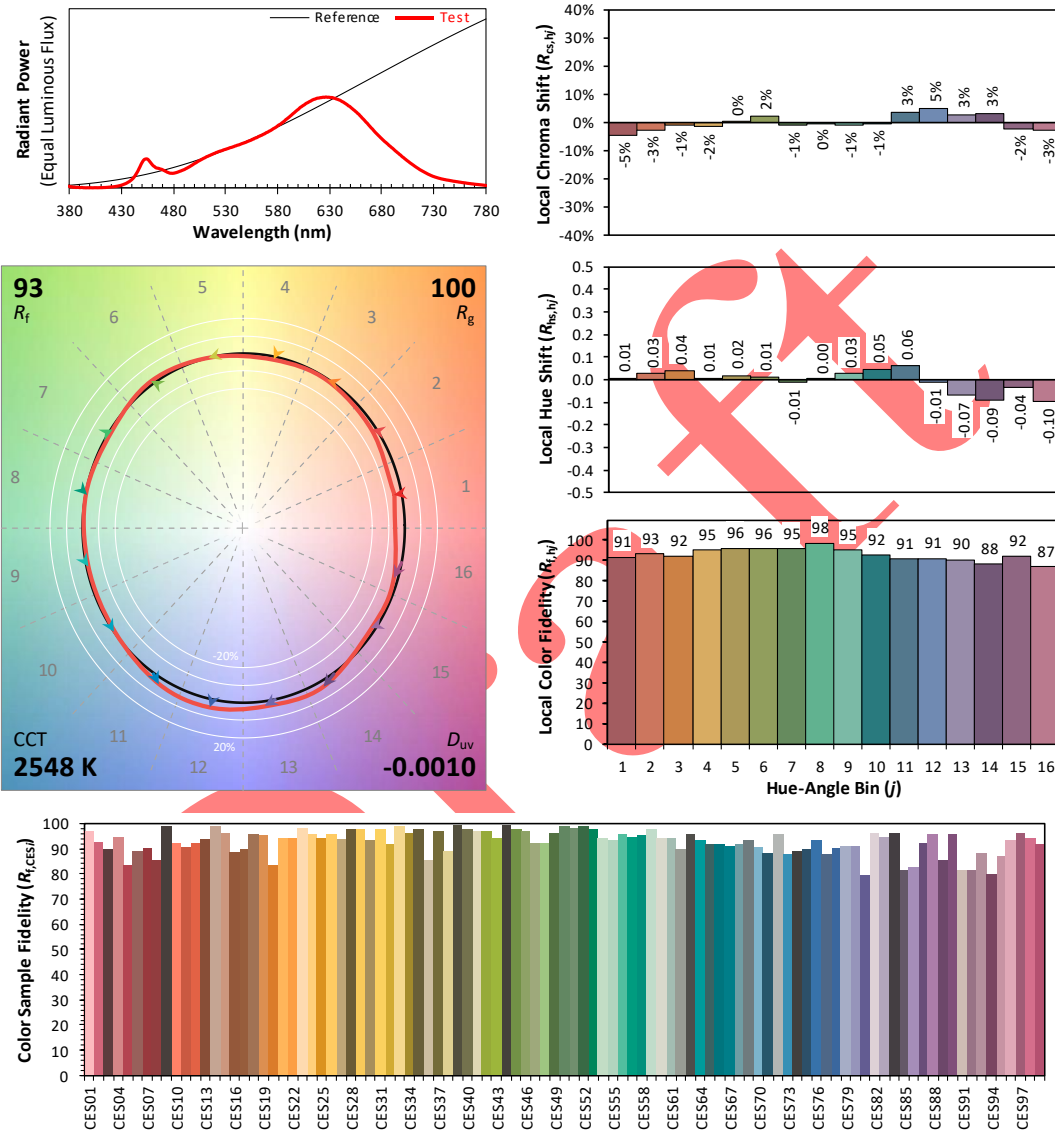
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/11/24

Model: CDCH17227xx



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

x 0.4710
 y 0.4101
 u' 0.2700
 v' 0.5288

CIE 13.3-1995
(CRI)
 R_a 94
 R_g 63

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

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PRODUCT PICTURE (not to scale)



External view of CDCH17227XX



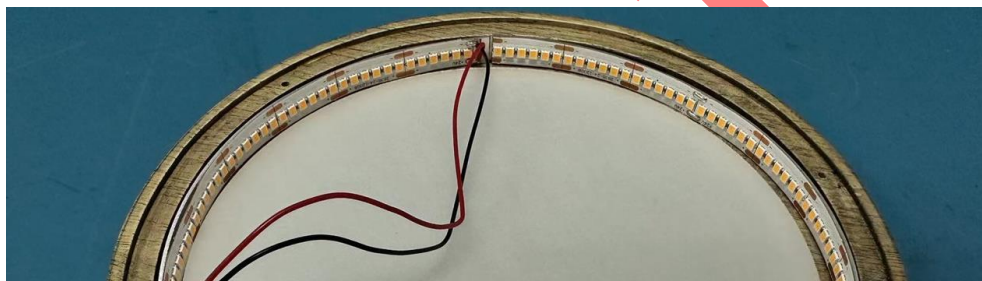
External view of CDCH17227XX

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PRODUCT PICTURE (not to scale)



View of LED driver GBLD001



View of LED board

In Charge Of Tests:

Report Reviewed By

Done Ye
Engineer

Shelley Ying
Reviewer

Attachment: None

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