



Shenzhen Belling Efficiency Testing Lab Co., Ltd



Report No.: BL220426012-9

Date of issue 2022-06-01

Version 1.0

Total pages 20

Test report of

IES LM-79-08

**Approved Method: Electrical and Photometric
Measurements of Solid-State Lighting Products**

Applicant:

P.Q.L., Inc.

Address:

2285 Ward Avenue
Simi Valley, CA 93065

For Product:

High Bay Luminaires (Commercial and Industrial)

Model No.:

CHB3-240-D-MV-30K-170S, CHB3-240-D-MV-65K-170S

Test laboratory: Shenzhen Belling Efficiency Testing Lab Co., Ltd, 1Floor, No.1 Building, Meibaohe Industrial Park, Dalang Street, Longhua District, Shenzhen, Guangdong Prov.518101 China.

Complied by: Sam Chen

Review by: Jason Zhou

Project Engineer

Technical Manager

Note: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or use in part without prior written consent from Shenzhen Belling Efficiency Testing Lab Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement By NVLAP, NIST, or any agency of the U.S. Government.



1 General

1.1 Product Information

Manufacturer	P.Q.L., Inc.
Manufacturer Address	2285 Ward Avenue Simi Valley, CA 93065
Brand Name	PQL
Luminaire Type	High Bay Luminaires (Commercial and Industrial)
Model Number	CHB3-240-D-MV-30K-170S, CHB3-240-D-MV-65K-170S
Rated Inputs	AC 100-277V, 50/60Hz
Rated Power	240 W
Nominal CCT	3000K, 6500K
Dimming Capability	Continuous, 0-10V
Integral Control Sensors	No
Date of Receipt Samples	2022-04-26
Date of test	2022-04-27 to 2022-05-24
Burning Time Before Test	0hour(For New Products)

1.2 Standards or methods

- ANSI C78.377-2017:Specifications for the Chromaticity of Solid State Lighting Products
- ANSI C82.77-10:2014:Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment - Solid State
- CIE Publication No.13.3-1995:Method of Measuring and Specifying Color Rendering of Light Sources
- IESNA LM-79-08 Approved Method: Electric & Photometric Measurement of Solid-state Lighting Products



1.3 Equipment list

Device	Manufacture	Model No.	Serial No.	Calibration due date
Goniophotometric System	SENSING	GMS-3000	N.A	2023-04-08
AC Power Source	ALL POWER	APW-105N	970780	2023-04-10
Total Luminous Flux Standard Lamp	SENSING	110V/100W	S13100188	2023-03-30
Total Luminous Flux Standard Lamp	OSRAM	12V/20W	LSD1220173	2023-03-30
Digital Power Meter	YOKOGAWA	WT310	C2QM02030V	2023-04-10
Thermostatic stabilized photometric sphere	SENSING	SPR-600M	N.A	2023-04-08
Digital Power Meter	YOKOGAWA	WT210	91L929742	2023-04-10
Spectral radiometer	SENSING	SPR-3000	S1101108	2023-04-08
Environment Measurer	XUYAO	HS-1	N/A	2023-03-30
Environment Measurer	XUYAO	HS-1	N/A	2023-03-30
Stop watch	KISLO	K610	N/A	2023-04-14
Digital Anemometer	TECMAN	TD8901	026141	2022-09-08

Statement of Traceability: Shenzhen Belling Efficiency Testing Lab Co., Ltd attests that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit (SI).



2 Test conducted and method

2.1 Ambient Condition

The ambient temperature in which measurements are being taken was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, the air flow around the sample(s) being tested did not affect the performance.

2.2 Power Supply Characteristics

The AC power supply had a sinusoidal voltage wave shape at the prescribed frequency (60 Hz) such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item.

The voltage of AC power supply (RMS voltage) applied to the device under test was regulated to within ± 0.2 percent under load.

2.3 Seasoning and Stabilization

No seasoning was performed in accordance with IESNA LM-79-08. And before the measurement, the sample was stabilized until the light output and power variations were less than 0.5% in 30 minutes intervals (3 readings, 15 minutes apart).

2.4 Integrating Sphere System

The system includes AC power source, digital power meter, DC power supply, spectrophotometer, and integrating sphere. The integrating sphere system is calibrated by standard light source before measurement. The system and standard light source has been calibrated regularly and traceable to the National Primary Standards. 4π geometry was used during measurement. The product was operated in its intended orientation in application and was recorded in this report.

Integrating Sphere Uncertainty: The uncertainty of the light output (luminous flux) measurements is $U=1.8\%$ ($K=2$), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is $U=20\text{K}$ ($K=2$), at the 95% confidence level. The uncertainty of the CRI is $U=1.8(K=2)$, at the 95% confidence level. The uncertainty of power meter AC current $U=0.18\%$ of rdg, AC Voltage $U=0.16\%$ of rdg, Power $U=0.20\%$ ($K=2$), at the 95% confidence level.



2.5 Goniophotometer System

The goniophotometer system is calibrated by standard light source before measurement. The standard light source has been calibrated regularly and traceable to the National Primary Standards.

Type C goniophotometer was used for measuring total luminous flux, luminous intensity distribution, and color spatial uniformity. The product was operated in its intended orientation in application and was recorded in this report. The method according to IESNA LM-79-08 following chapter.

Goniophotometer Uncertainty :The uncertainty of the luminous intensity is $U=1.6\%$ ($K=2$), at the 95% confidence level.



3 Test Result Summary

3.1 Integrating Sphere System (Total operating time for integrating sphere test: 1.0 hour)

3.1.1 Model Number: CHB3-240-D-MV-30K-170S

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.00	60	1.996	238.64	0.998

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
37132.57	155.6	2903

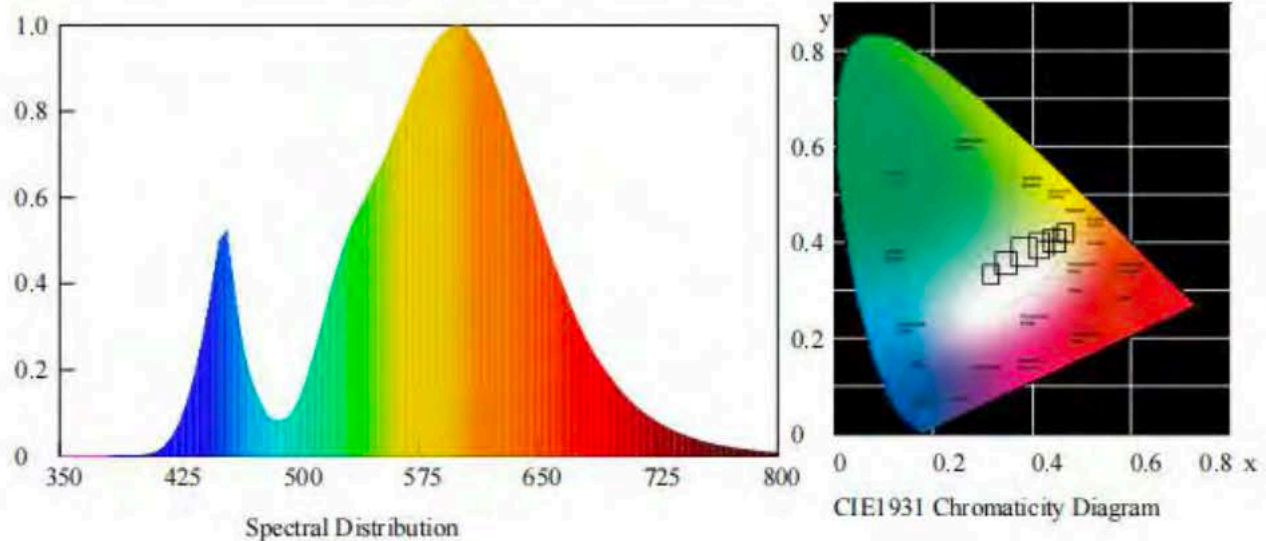
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00074	0.4429	0.4041	0.2544	0.5223

Color Rendering

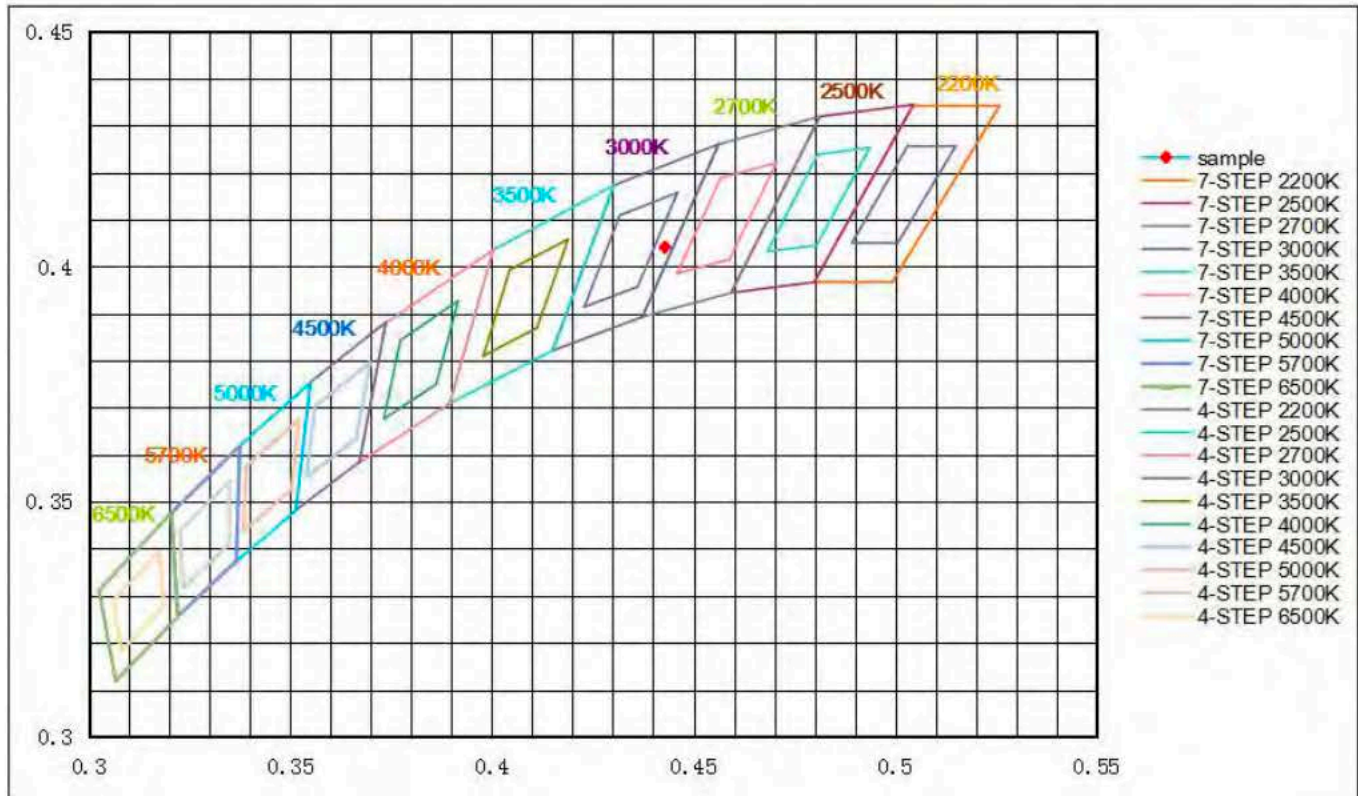
CRI	R9	Rf	Rg	Rcs,h1(%)
72.9	-17	75	96	-15

Spectral Distribution





7/4 Step Quadrangle



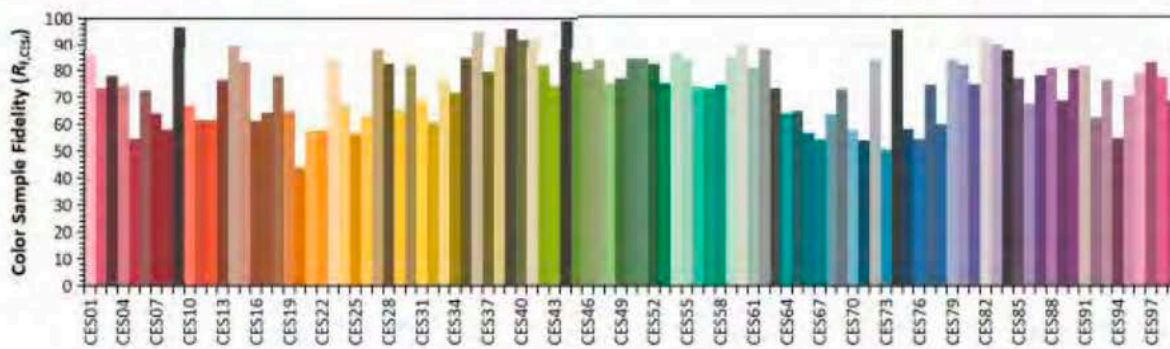
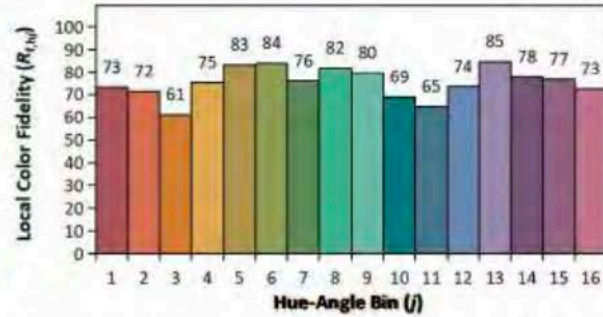
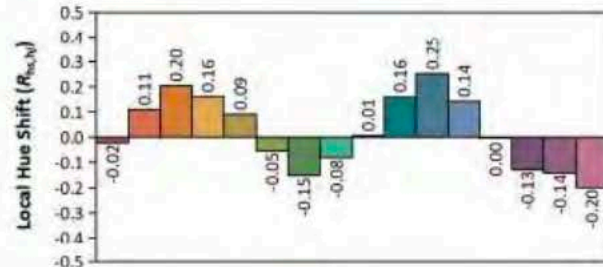
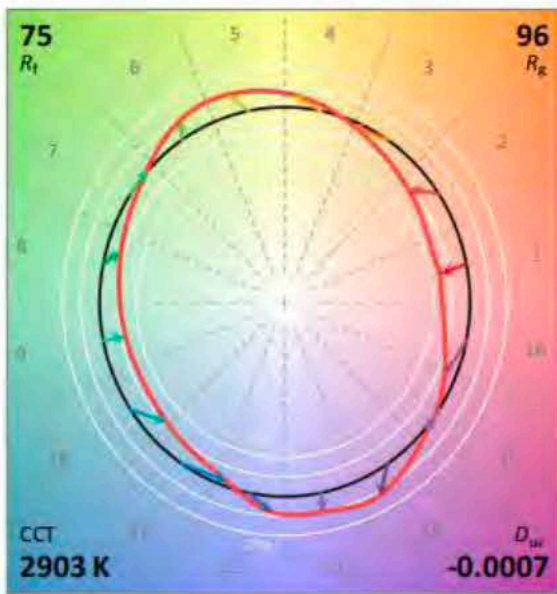
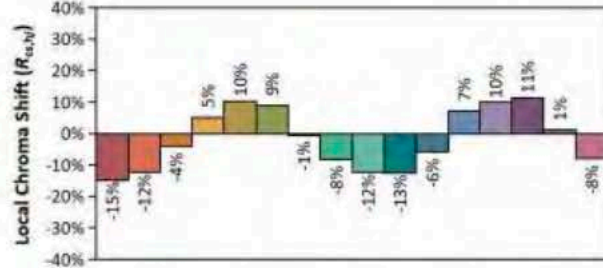
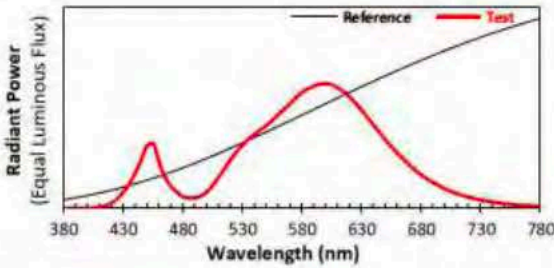
ANSI/IES TM-30-18 Color Rendition Report

Source: BL220426012-9

Manufacturer: P.Q.L., Inc.

Date: 2022-06-01

Model: CHB3-240-D-MV-30K-170S



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

x 0.4429
 y 0.4041
 u' 0.2544
 v' 0.5223

CIE 13.3-1995	
(CRI)	
R _a	73
R _g	-17

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



3.1.2 Model Number: CHB3-240-D-MV-65K-170S

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.06	60	1.988	238.05	0.997

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
40825.37	171.5	6352

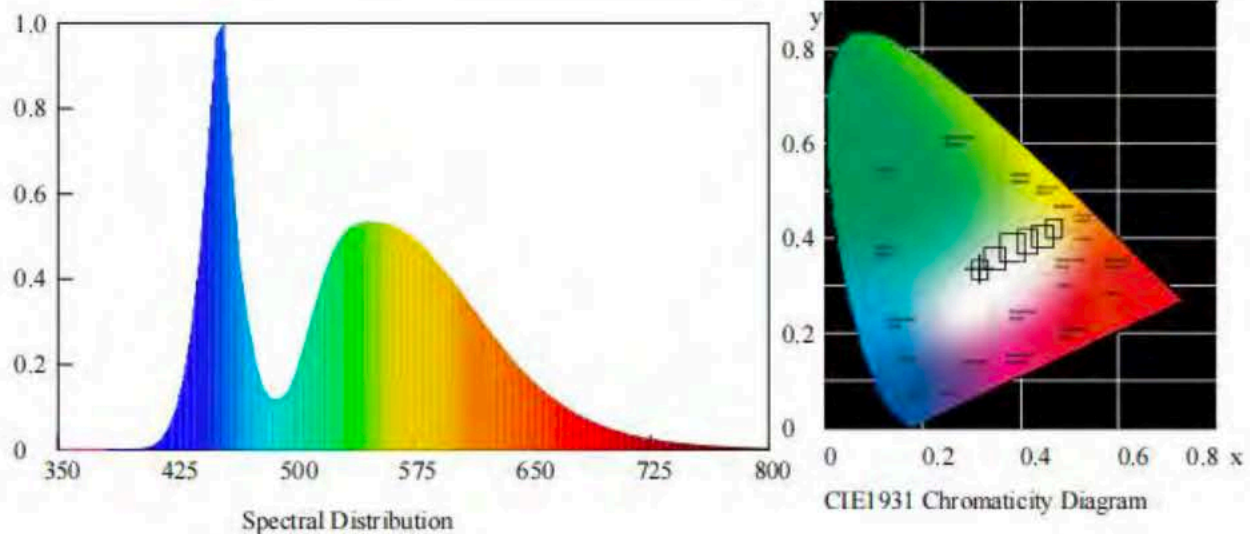
Chromaticity Coordinate

Duv	x	y	u'	v'
+0.00621	0.3146	0.3368	0.1963	0.4727

Color Rendering

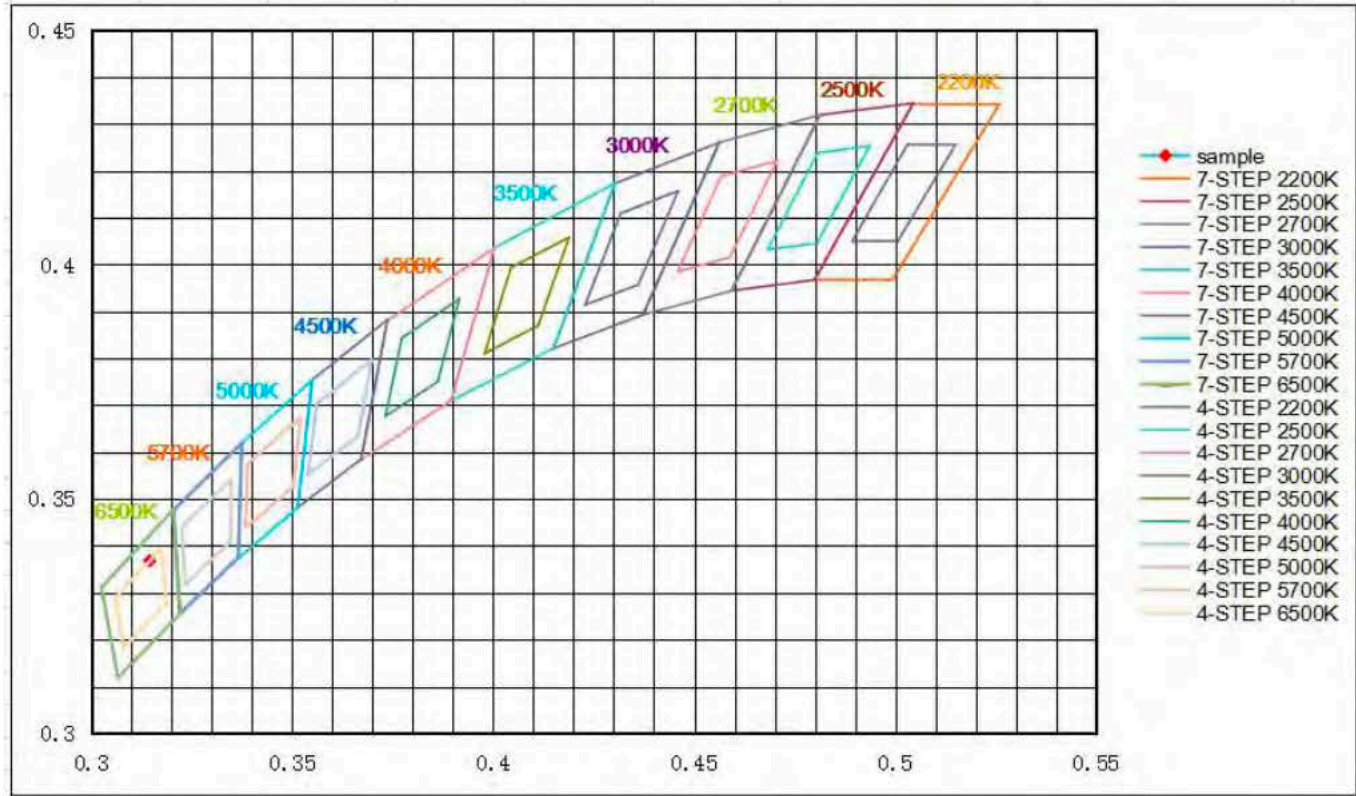
CRI	R9	Rf	Rg	Rcs,h1(%)
71.9	-30	73	91	-18

Spectral Distribution





7/4 Step Quadrangle



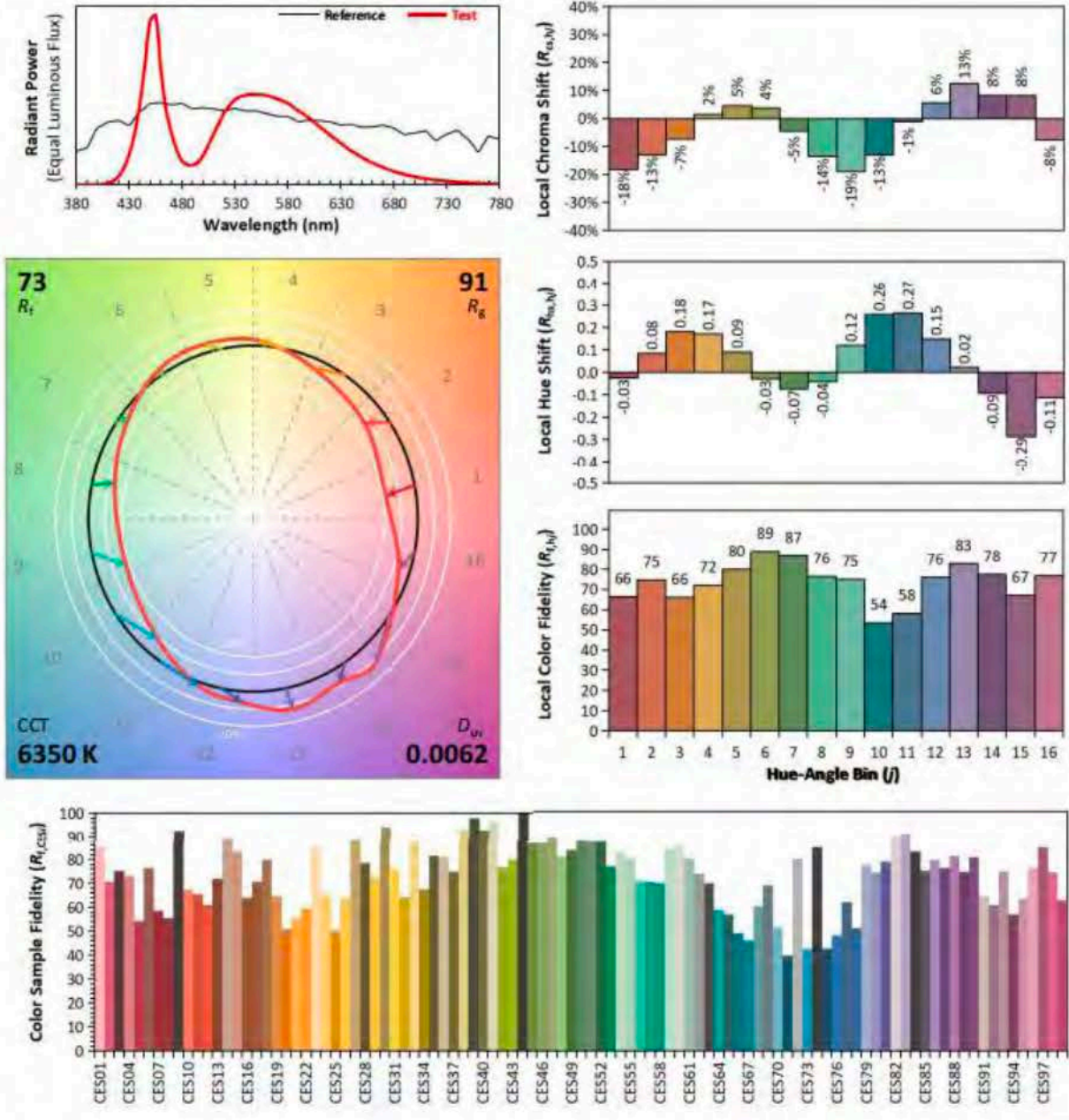
ANSI/IES TM-30-18 Color Rendition Report

Source: BL220426012-9

Manufacturer: P.Q.L., Inc.

Date: 2022-06-01

Model: CHB3-240-D-MV-65K-170S



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

x 0.3146
 y 0.3368
 u' 0.1963
 v' 0.4727

CIE 13.3-1995 (CRI)	
R_a	72
R_g	-30

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



3.2 Goniophotometer System (Total operating time for luminous intensity distribution: 1.0 hour)

3.2.1 Model Number: CHB3-240-D-MV-30K-170S

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.18	60	1.988	238.17	0.997

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 20-50°(%lm)
37123.92	155.87	54.01

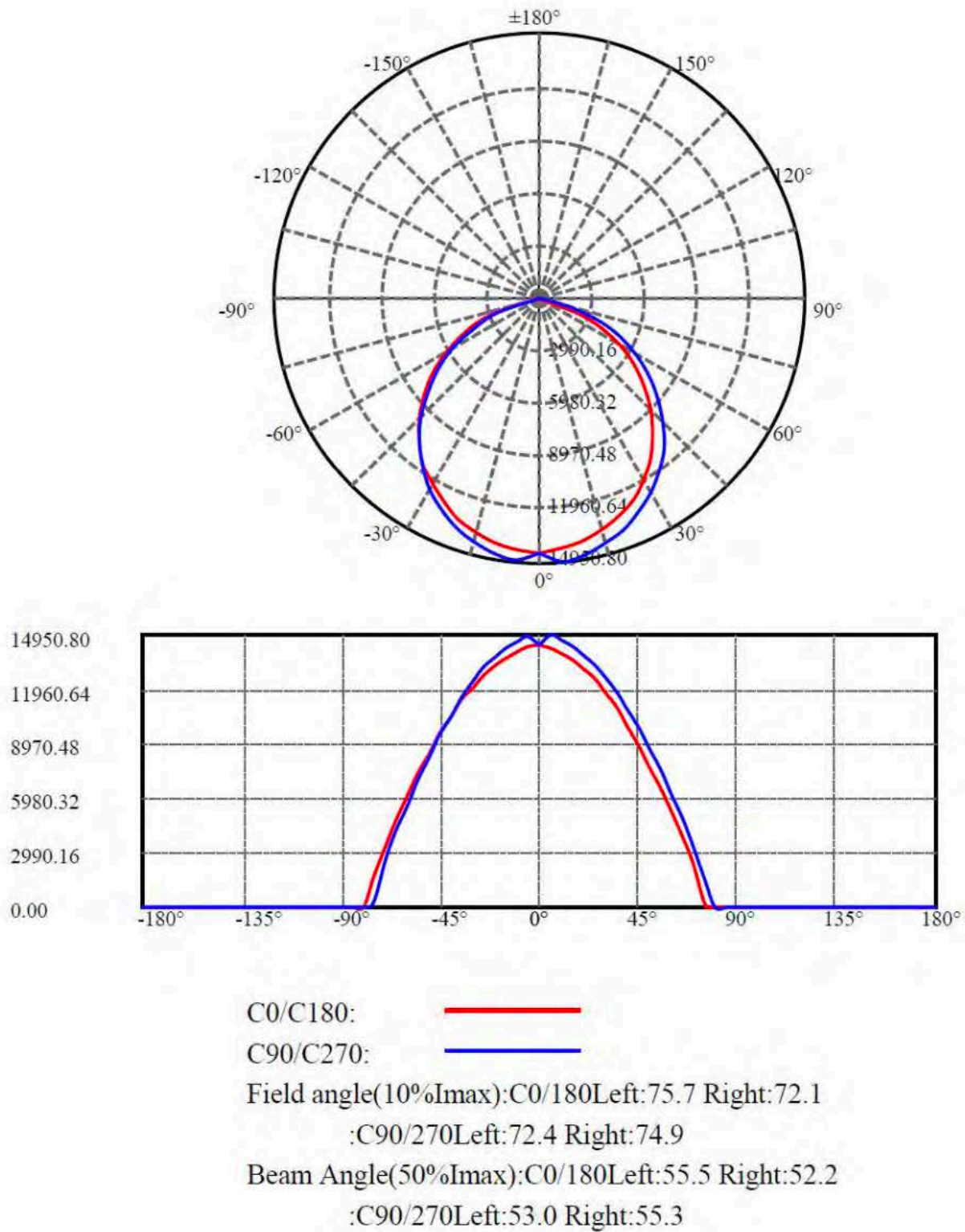
**Zonal Flux Diagram**

Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	14420.200	0.000	0	0.00%	0.00%
5.0	14342.279	343.847	343.847	0.00%	0.93%
10.0	14089.834	1017.106	1360.953	0.00%	3.67%
15.0	13725.146	1649.966	3010.919	0.00%	8.11%
20.0	13274.755	2225.171	5236.09	0.00%	14.10%
25.0	12717.768	2726.136	7962.226	0.00%	21.45%
30.0	12036.678	3132.696	11094.922	0.00%	29.89%
35.0	11240.658	3427.751	14522.673	0.00%	39.12%
40.0	10309.382	3595.461	18118.134	0.00%	48.80%
45.0	9302.712	3631.338	21749.472	0.00%	58.59%
50.0	8194.244	3535.516	25284.988	0.00%	68.11%
55.0	6983.698	3300.190	28585.178	0.00%	77.00%
60.0	5698.887	2931.544	31516.722	0.00%	84.90%
65.0	4342.055	2440.972	33957.694	0.00%	91.47%
70.0	2874.801	1827.354	35785.048	0.00%	96.39%
75.0	973.407	1005.860	36790.908	0.00%	99.10%
80.0	30.737	268.681	37059.589	0.00%	99.83%
85.0	7.695	10.443	37070.031	0.00%	99.85%
90.0	2.386	2.760	37072.792	0.00%	99.86%
95.0	1.553	1.078	37073.87	0.00%	99.87%
100.0	1.948	0.951	37074.821	0.00%	99.87%
105.0	2.810	1.273	37076.095	0.00%	99.87%
110.0	3.939	1.764	37077.859	0.00%	99.88%
115.0	5.436	2.374	37080.233	0.00%	99.88%
120.0	7.116	3.051	37083.284	0.00%	99.89%
125.0	8.923	3.707	37086.991	0.00%	99.90%
130.0	10.660	4.258	37091.249	0.00%	99.91%
135.0	12.241	4.627	37095.877	0.00%	99.92%
140.0	13.596	4.784	37100.661	0.00%	99.94%
145.0	14.754	4.730	37105.391	0.00%	99.95%
150.0	15.954	4.522	37109.913	0.00%	99.96%
155.0	16.703	4.133	37114.046	0.00%	99.97%
160.0	16.816	3.515	37117.561	0.00%	99.98%
165.0	16.660	2.759	37120.32	0.00%	99.99%
170.0	16.689	1.978	37122.298	0.00%	100.00%
175.0	17.126	1.210	37123.508	0.00%	100.00%
180.0	17.713	0.416	37123.924	0.00%	100.00%

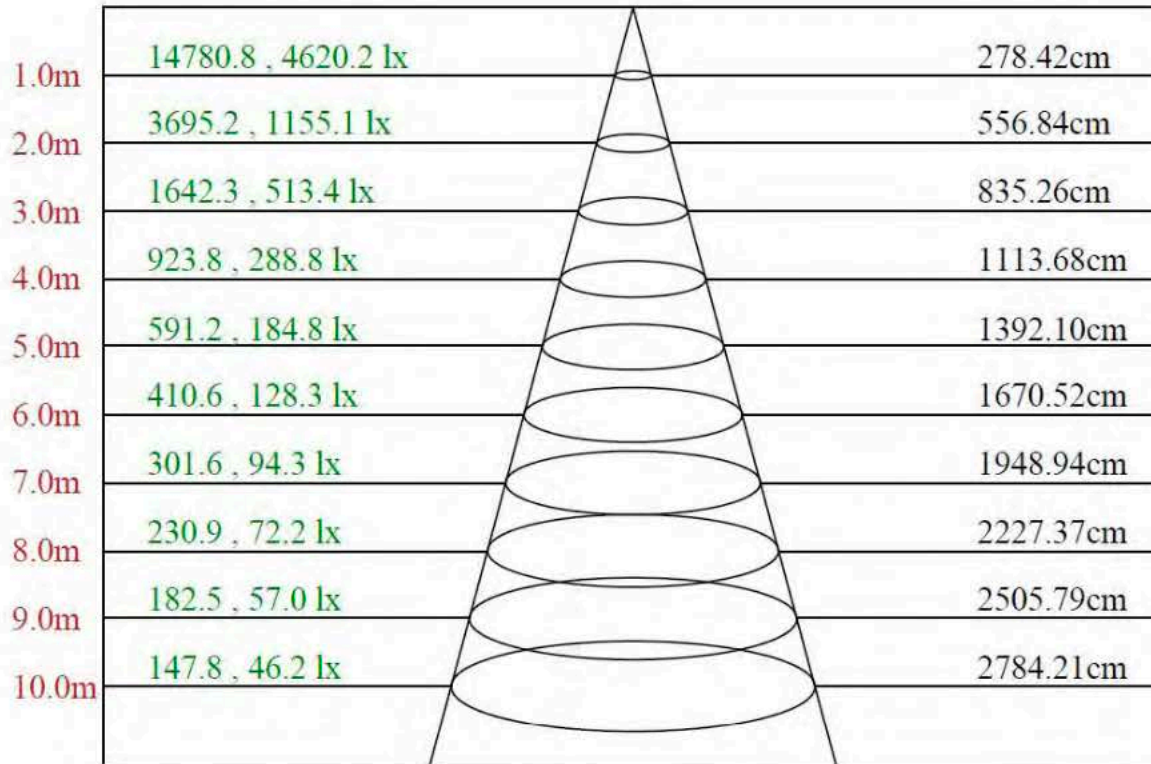


Luminous Intensity Distribution Diagram Light Distribution Curve [Unit:cd]





Lux distance Curve



Max , Ave Beam angle of C90 plane 108.62



UGR Glare

Illumination assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	22.85	24.42	23.21	24.74	25.05	22.93	24.51	23.30	24.82	25.14
	3H	23.96	25.38	24.35	25.72	26.06	24.34	25.75	24.72	26.09	26.44
	4H	23.94	25.27	24.34	25.62	25.99	24.51	25.83	24.90	26.18	26.55
	6H	23.90	25.12	24.31	25.49	25.89	24.50	25.72	24.91	26.09	26.49
	8H	23.84	25.02	24.25	25.39	25.80	24.44	25.62	24.85	26.00	26.40
	12H	23.78	24.91	24.20	25.30	25.71	24.39	25.51	24.80	25.90	26.31
4H	2H	23.26	24.59	23.66	24.94	25.30	23.34	24.66	23.73	25.01	25.38
	3H	24.43	25.54	24.85	25.93	26.34	24.73	25.84	25.14	26.22	26.64
	4H	24.45	25.42	24.88	25.84	26.28	24.90	25.88	25.34	26.29	26.74
	6H	24.36	25.23	24.83	25.67	26.11	24.85	25.71	25.32	26.16	26.60
	8H	24.33	25.13	24.80	25.58	26.04	24.82	25.62	25.29	26.07	26.53
	12H	24.30	25.04	24.78	25.48	25.99	24.79	25.53	25.27	25.97	26.48
8H	4H	24.37	25.17	24.85	25.62	26.09	24.82	25.62	25.30	26.07	26.54
	6H	24.27	24.94	24.77	25.40	25.91	24.76	25.42	25.25	25.89	26.39
	8H	24.28	24.86	24.80	25.37	25.86	24.77	25.34	25.28	25.85	26.35
	12H	24.25	24.73	24.77	25.24	25.75	24.73	25.21	25.26	25.73	26.24
12H	4H	24.34	25.09	24.82	25.53	26.04	24.79	25.54	25.27	25.98	26.49
	6H	24.28	24.86	24.80	25.37	25.86	24.77	25.34	25.28	25.85	26.35
	8H	24.25	24.73	24.77	25.24	25.75	24.73	25.21	25.26	25.73	26.24
Variation with the observer position at spacings:											
S = 1.0H	0.5/-0.3					0.6/-0.4					
S = 1.5H	0.9/-1.0					0.9/-1.2					
S = 2.0H	2.1/-2.2					1.9/-1.7					
Standard tables:	BK2					BK2					
Uncorrected UGR	7.4					7.0					

UGR calculation is based on CIE Publ. 117 ,S/H = 1

**Luminous Intensity Distribution Data**

$C/\gamma(^{\circ})$	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	14420.20	14171.44	13918.43	13529.88	13082.60	12508.81	11776.89	10929.76	9940.32
22.5	14420.20	14076.56	13787.41	13387.57	12922.21	12375.53	11657.16	10819.07	9852.22
45.0	14420.20	14020.09	13730.93	13324.31	12888.32	12312.28	11573.58	10771.63	9798.00
67.5	14420.20	13959.09	13690.27	13288.17	12843.14	12285.17	11539.70	10715.16	9734.75
90.0	14420.20	14950.80	14695.53	14336.35	13859.70	13279.13	12603.69	11833.37	10893.62
112.5	14420.20	14663.91	14435.75	14069.79	13581.84	13030.64	12361.97	11571.32	10647.39
135.0	14420.20	14453.82	14248.25	13861.96	13419.19	12879.29	12219.66	11438.04	10550.25
157.5	14420.20	14343.13	14126.26	13733.19	13315.28	12782.15	12151.89	11370.27	10527.66
180.0	14420.20	14259.54	14008.79	13672.20	13263.32	12705.34	12093.15	11383.82	10500.55
202.5	14420.20	14203.07	13945.54	13620.24	13184.25	12682.75	12099.93	11336.38	10471.18
225.0	14420.20	14110.45	13870.99	13568.29	13139.07	12635.31	12068.30	11361.23	10502.81
247.5	14420.20	14108.19	13861.96	13568.29	13143.59	12633.06	12050.23	11343.16	10498.29
270.0	14420.20	14853.66	14607.43	14209.84	13744.49	13145.85	12398.12	11503.55	10489.26
292.5	14420.20	14609.69	14336.35	13999.76	13496.00	12899.62	12131.56	11307.02	10297.24
315.0	14420.20	14419.93	14155.63	13796.45	13308.50	12730.19	11984.72	11142.11	10161.70
337.5	14420.20	14273.10	14017.83	13636.05	13204.58	12599.17	11876.29	11024.64	10084.89
360.0	14420.20	14171.44	13918.43	13529.88	13082.60	12508.81	11776.89	10929.76	9940.32
$C/\gamma(^{\circ})$	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	8849.22	7746.82	6542.77	5252.87	3832.86	2371.73	205.80	13.55	4.52
22.5	8822.11	7690.34	6436.59	5160.25	3789.04	2312.55	138.03	12.65	4.52
45.0	8727.23	7586.43	6364.31	5097.00	3655.08	2164.81	119.95	12.88	4.29
67.5	8706.90	7548.03	6305.57	5036.01	3609.90	2168.42	97.59	12.43	4.52
90.0	9872.55	8763.37	7554.80	6217.47	4789.78	3346.27	1466.78	32.76	9.71
112.5	9666.98	8605.24	7337.94	6029.97	4685.86	3199.43	1491.62	37.27	9.26
135.0	9587.91	8490.03	7306.31	6007.38	4622.61	3249.13	1640.72	39.76	9.94
157.5	9556.29	8494.55	7299.54	6018.68	4728.78	3258.17	1597.80	39.76	10.17
180.0	9542.73	8483.26	7346.98	6084.19	4769.45	3339.49	1656.53	42.02	11.30
202.5	9581.13	8514.88	7344.72	6133.89	4819.14	3386.93	1936.65	58.06	11.30
225.0	9581.13	8530.70	7403.45	6156.48	4846.25	3463.74	1981.83	64.38	11.97
247.5	9572.10	8544.25	7419.26	6185.84	4909.50	3490.85	1972.79	60.77	11.52
270.0	9427.52	8243.80	6942.61	5596.24	4221.64	2628.13	252.56	18.07	5.20
292.5	9210.66	8040.49	6789.00	5474.26	4126.53	2573.24	355.79	17.62	5.20
315.0	9127.07	7961.43	6696.38	5377.12	4063.05	2565.11	345.85	15.59	4.97
337.5	9011.87	7864.29	6648.94	5354.53	4003.42	2478.81	314.23	14.23	4.74
360.0	8849.22	7746.82	6542.77	5252.87	3832.86	2371.73	205.80	13.55	4.52
$C/\gamma(^{\circ})$	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	2.26	1.58	2.26	3.16	4.52	5.65	7.46	9.26	10.84
22.5	2.03	1.36	2.49	2.94	4.52	5.87	7.46	9.26	10.84
45.0	2.26	1.58	2.03	3.16	4.52	6.10	8.13	9.71	11.07
67.5	2.03	1.58	2.26	3.16	4.52	6.10	7.91	9.71	11.30
90.0	2.26	1.36	1.58	2.49	3.61	5.42	7.00	8.58	10.62
112.5	2.26	1.81	1.81	2.49	3.61	5.20	7.00	8.58	10.39
135.0	2.49	1.58	1.81	2.71	3.61	5.42	6.78	8.36	10.39
157.5	2.49	1.81	1.81	2.49	3.61	4.97	6.55	8.13	10.17
180.0	2.71	1.58	1.58	2.49	3.39	4.74	6.33	8.13	9.71
202.5	2.94	1.58	1.58	2.26	3.39	4.52	6.10	8.13	9.94
225.0	2.71	1.58	1.81	2.71	3.16	4.97	6.33	8.58	9.94
247.5	2.94	1.58	1.58	2.49	3.16	4.97	6.10	8.36	10.17
270.0	2.26	1.36	2.03	2.94	4.29	6.10	7.91	9.71	11.52
292.5	2.03	1.58	2.26	3.16	4.52	5.65	7.91	9.71	11.75
315.0	2.26	1.58	2.03	3.16	4.29	5.65	7.46	9.26	11.07
337.5	2.26	1.36	2.26	3.16	4.29	5.65	7.46	9.26	10.84
360.0	2.26	1.58	2.26	3.16	4.52	5.65	7.46	9.26	10.84



<i>C/γ(°)</i>	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	12.20	13.10	14.68	15.59	16.49	16.49	16.49	16.72	17.17
22.5	12.20	13.55	14.46	16.04	16.27	16.72	16.49	16.72	17.39
45.0	12.43	14.01	14.91	15.81	16.94	16.72	17.17	16.94	17.62
67.5	12.88	14.23	15.36	16.72	16.94	16.94	16.94	16.49	17.62
90.0	12.43	13.78	15.14	16.27	17.17	17.85	17.17	17.17	16.72
112.5	12.43	13.78	15.14	16.27	17.17	17.39	16.94	16.72	16.72
135.0	11.97	13.33	14.46	15.81	16.94	16.94	16.94	16.72	16.72
157.5	11.75	12.88	14.23	15.59	16.27	16.72	16.49	16.49	16.49
180.0	11.30	12.88	13.78	15.14	16.04	16.27	16.04	16.27	16.27
202.5	11.52	12.88	14.23	15.36	15.81	16.04	16.04	16.04	16.27
225.0	11.52	13.10	14.23	15.36	16.04	16.27	16.27	16.27	16.27
247.5	11.97	13.33	14.46	15.81	16.49	16.72	16.27	16.72	16.49
270.0	13.33	15.14	16.04	16.94	18.07	17.85	17.39	17.39	18.75
292.5	13.10	14.23	15.59	16.72	17.17	17.17	17.17	16.94	18.07
315.0	12.43	13.78	14.91	16.04	16.94	16.72	16.49	16.94	17.85
337.5	12.43	13.55	14.46	15.81	16.49	16.27	16.27	16.49	17.62
360.0	12.20	13.10	14.68	15.59	16.49	16.49	16.49	16.72	17.17
<i>C/γ(°)</i>	180.0								
0.0	17.71								
22.5	17.71								
45.0	17.71								
67.5	17.71								
90.0	17.71								
112.5	17.71								
135.0	17.71								
157.5	17.71								
180.0	17.71								
202.5	17.71								
225.0	17.71								
247.5	17.71								
270.0	17.71								
292.5	17.71								
315.0	17.71								
337.5	17.71								
360.0	17.71								



4 Additional Test

Electrical data at 277V

Model Number	Test Voltage (V)	Frequency(Hz)	Power Factor	THD
CHB3-240-D-MV-30K-170S	277	60	0.964	9.7%
CHB3-240-D-MV-65K-170S	277	60	0.971	6.6%

5 Performance Assessment

Model name	CCT(K)	Total Luminous(lm)	Power(W)	Luminous Efficacy(lm/W)
CHB3-240-D-MV-30K-170S	3000	37132.57	238.64	155.6
CHB3-240-D-MV-35K-170S	3500	37748.04 * ¹	238.35 * ²	158.4 * ³
CHB3-240-D-MV-40K-170S	4000	38363.50 * ¹	238.35 * ²	161.0 * ³
CHB3-240-D-MV-45K-170S	4500	38978.97 * ¹	238.35 * ²	163.5 * ³
CHB3-240-D-MV-50K-170S	5000	39594.44 * ¹	238.35 * ²	166.1 * ³
CHB3-240-D-MV-57K-170S	5700	40209.90 * ¹	238.35 * ²	168.7 * ³
CHB3-240-D-MV-65K-170S	6500	40825.37	238.05	171.5

*1: This value is calculated and the calculation formula is as below:

$$37748.04=(40825.37-37132.57) /6+37132.57$$

$$38363.50=(40825.37-37132.57) /6+37748.04$$

$$38978.97=(40825.37-37132.57) /6+38363.50$$

$$39594.44=(40825.37-37132.57) /6+38978.97$$

$$40209.90=(40825.37-37132.57) /6+39594.44$$

*2: This value is calculated and the calculation formula is as below:

$$238.35=(238.64+238.05)/2$$

*3: This value is calculated and the calculation formula is as below:

$$158.4=37748.04 /238.35$$

$$161.0=38363.50 /238.35$$

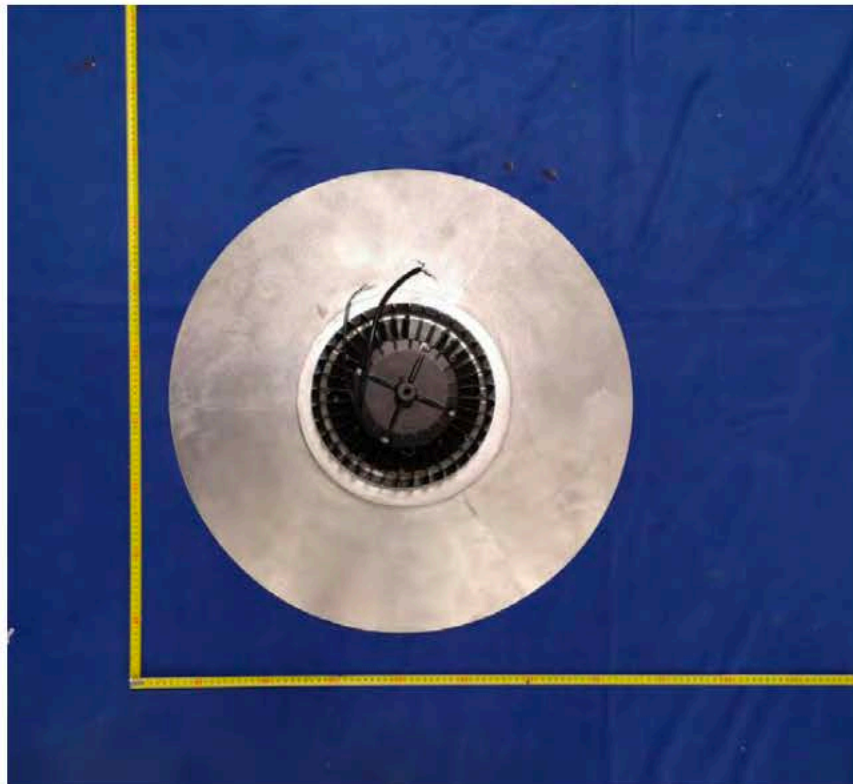
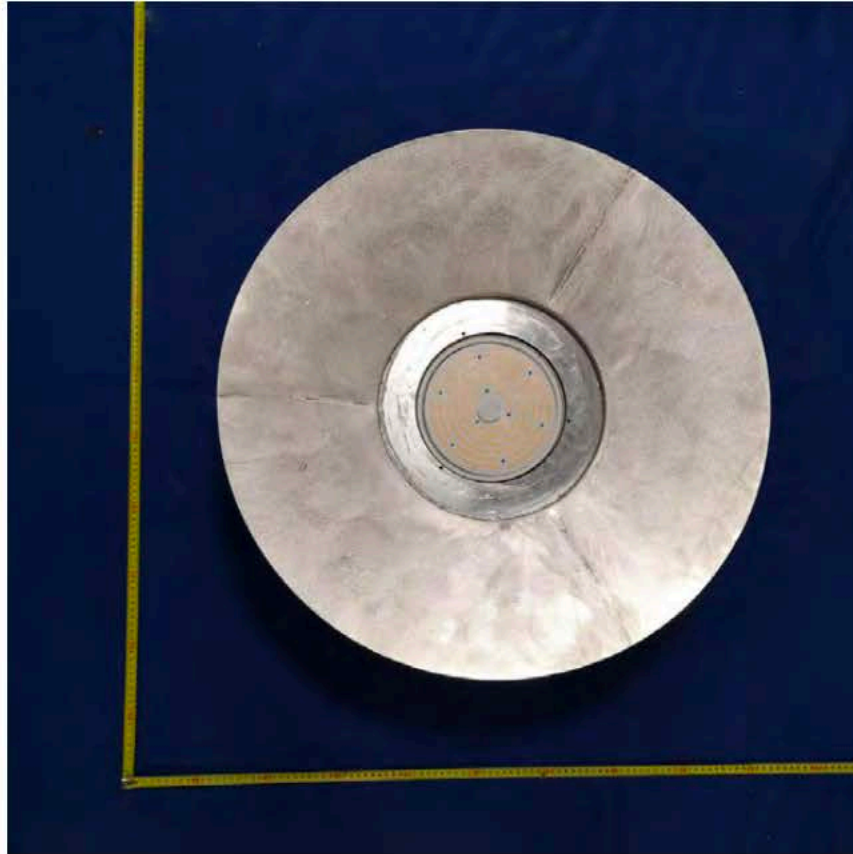
$$163.5=38978.97 /238.35$$

$$166.1=39594.44 /238.35$$

$$168.7=40209.90 /238.35$$



Photo Document



****End of test report****