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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.:

CHB3-100-D-MV-30K-170S, CHB3-100-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.

Sam Chen

Jason zhou

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	CHB3-100-D-MV-30K-170S, CHB3-100-D-MV-65K-170S
Rated Inputs	AC 100-277V, 50/60Hz
Rated Power	100 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
Goniophotometeric 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°C ±1°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=20K (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: CHB3-100-D-MV-30K-170S

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.03	60	0.835	99.78	0.995

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
15685.24	157.2	2900

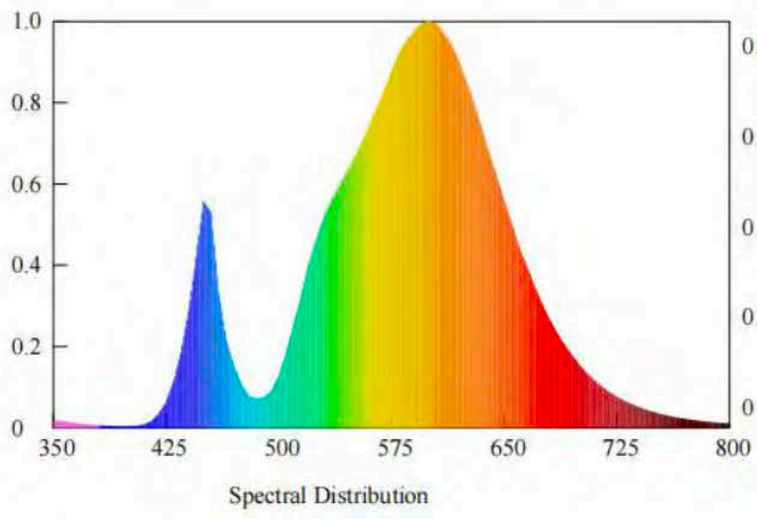
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00038	0.4437	0.4053	0.2544	0.5229

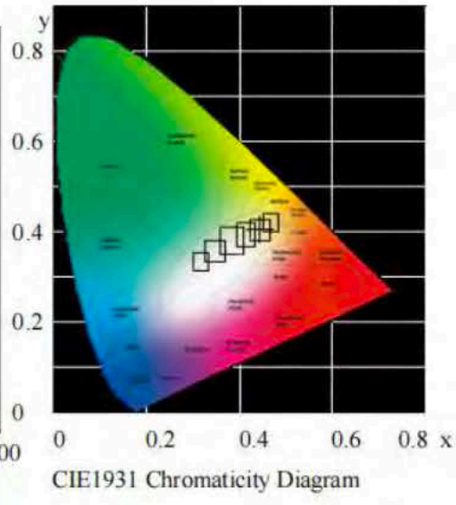
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
73.2	-16	75	96	-14

Spectral Distribution

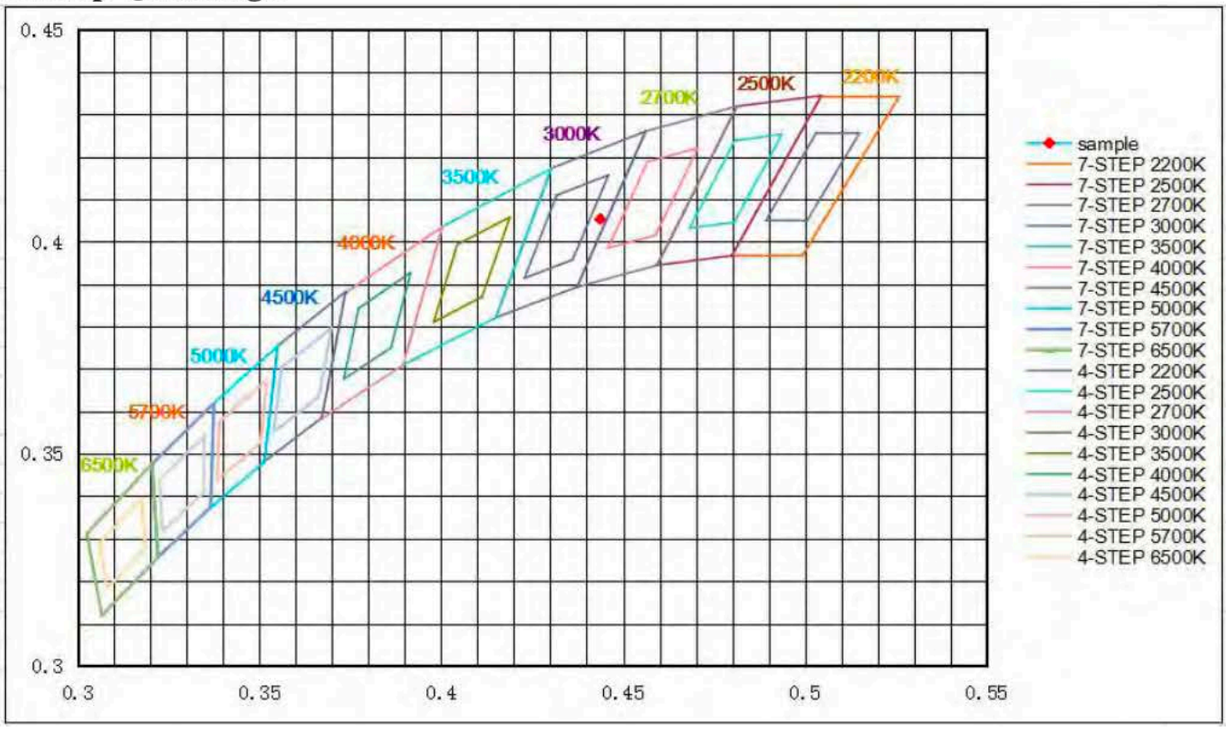


Spectral Distribution



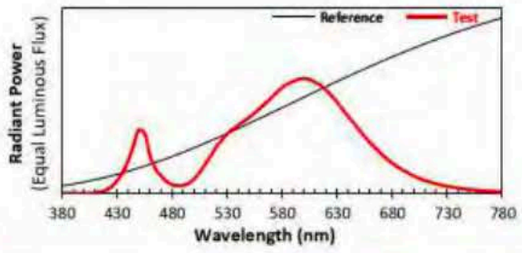
CIE1931 Chromaticity Diagram

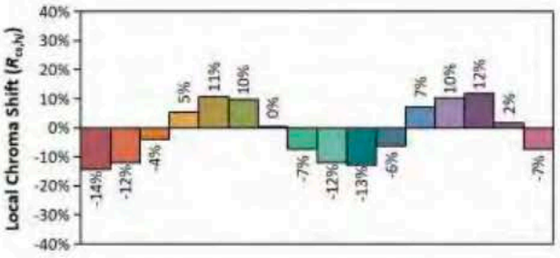
7/4 Step Quadrangle

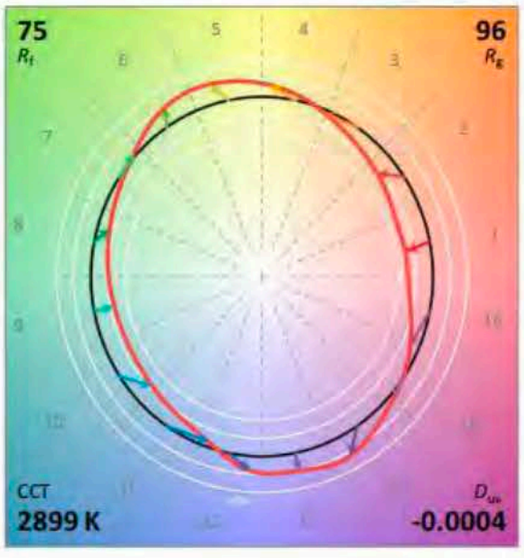


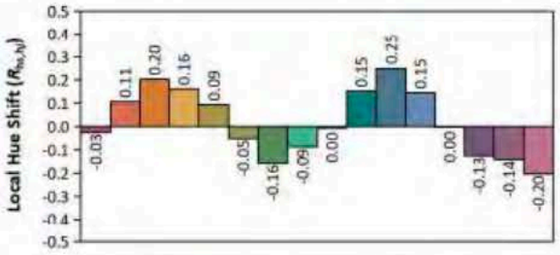
ANSI/IES TM-30-18 Color Rendition Report

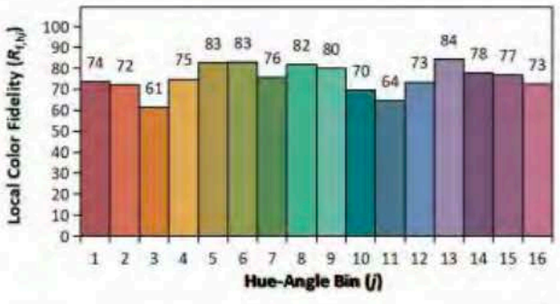
Source:	BL220426009-9	**Manufacturer:**	P.Q.L., Inc.
Date:	2022-05-31	**Model:**	CHB3-100-D-MV-30K-170S

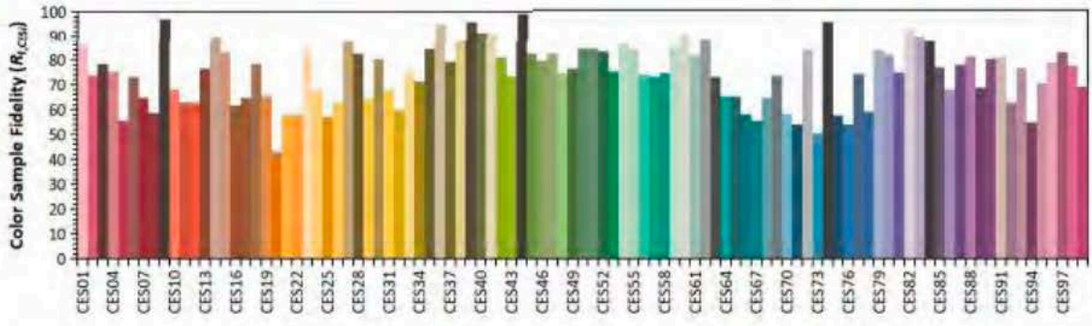












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	**0.4437**
y	**0.4053**
u'	**0.2544**
v'	**0.5229**

CIE 13.3-1995 (CRI)

R_a	73
R_9	-16

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

3.1.2 Model Number: CHB3-100-D-MV-65K-170S

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.01	60	0.836	100.01	0.997

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
17331.54	173.3	6366

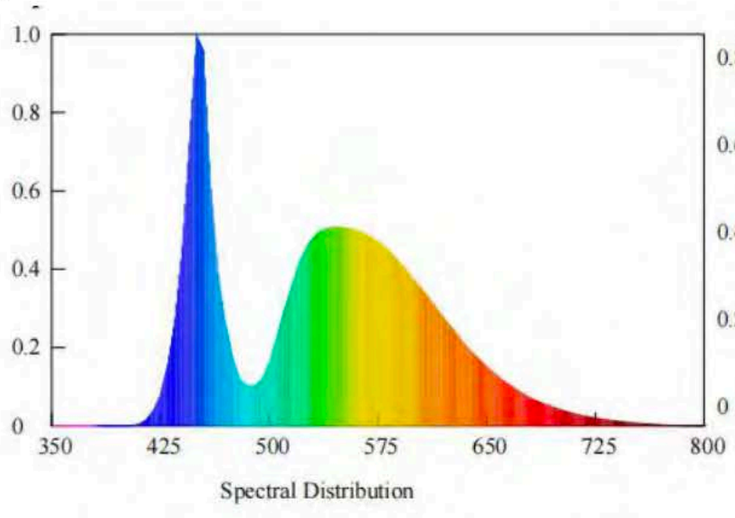
Chromaticity Coordinate

Duv	x	y	u'	v'
+0.00624	0.3144	0.3367	0.1962	0.4726

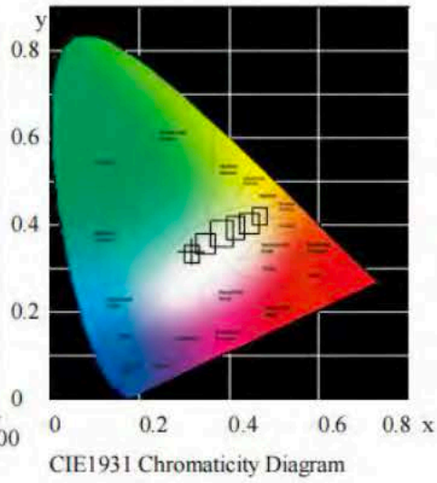
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
71.4	-32	73	92	-18

Spectral Distribution

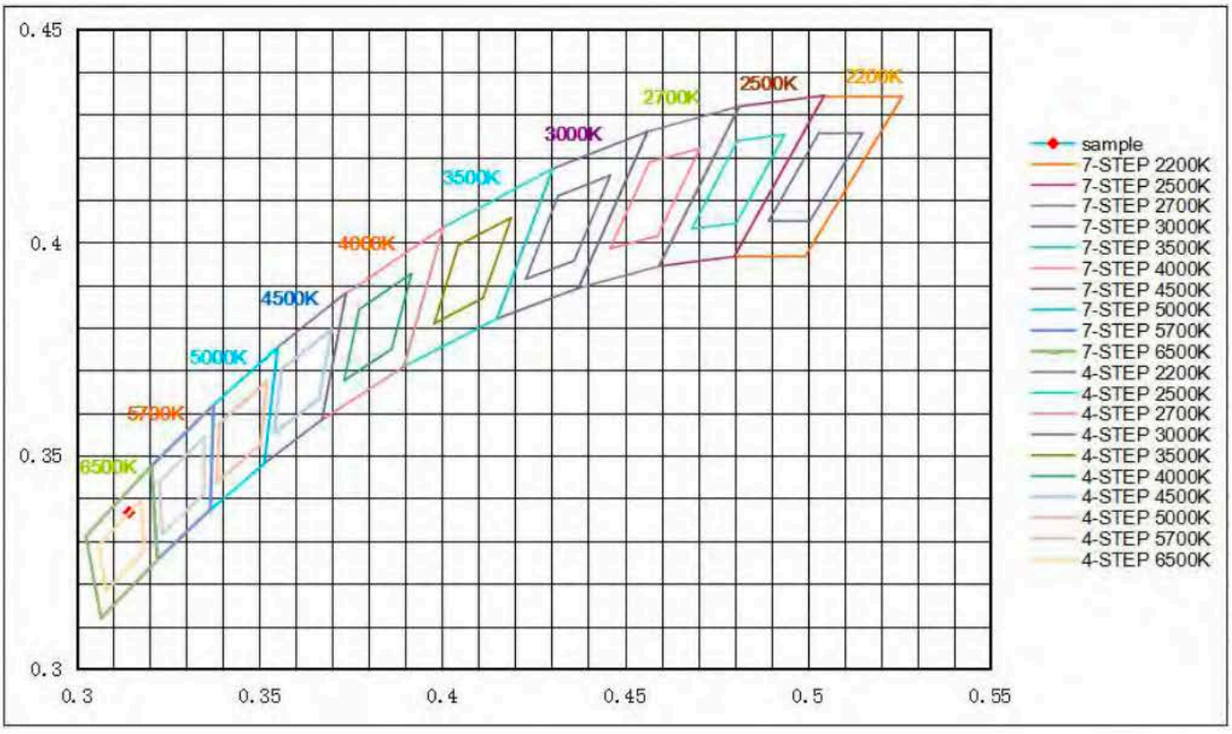


Spectral Distribution



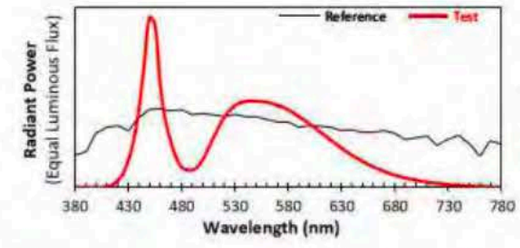
CIE1931 Chromaticity Diagram

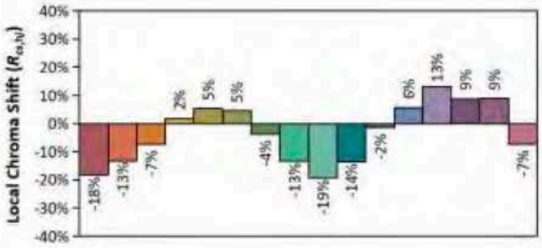
7/4 Step Quadrangle

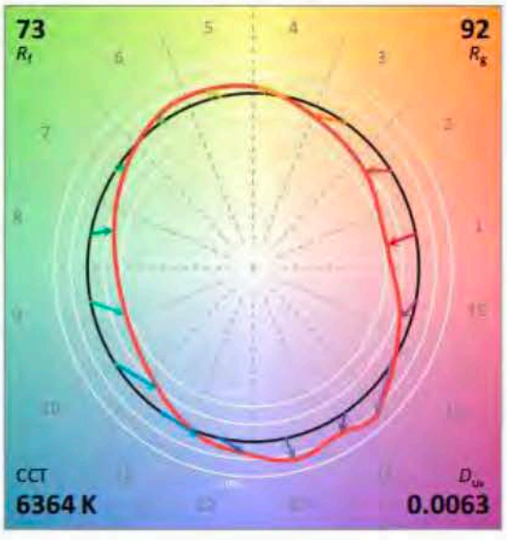


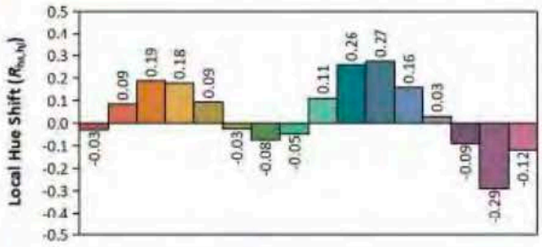
ANSI/IES TM-30-18 Color Rendition Report

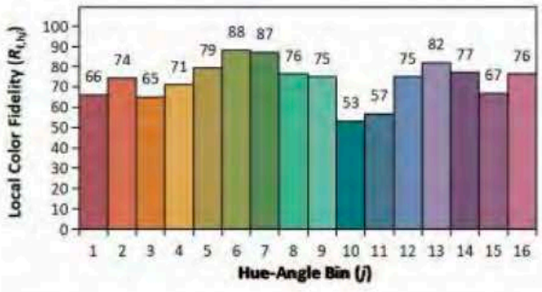
Source:	BL220426009-9	**Manufacturer:**	P.Q.L., Inc.
Date:	2022-05-31	**Model:**	CHB3-100-D-MV-65K-170S

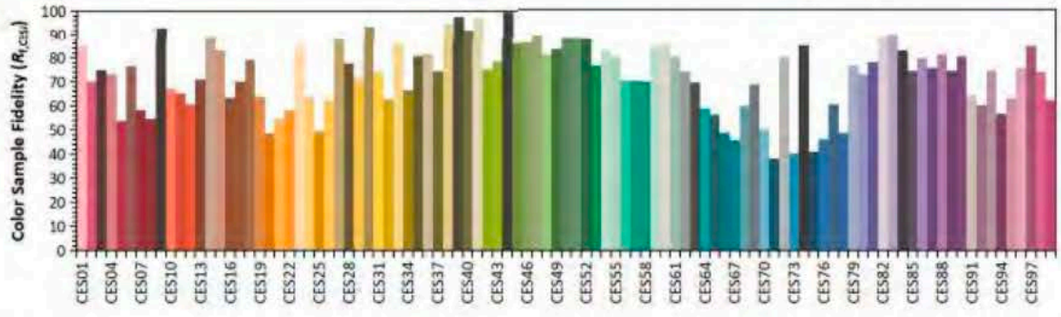












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	**0.3144**
y	**0.3367**
u'	**0.1962**
v'	**0.4726**

CIE 13.3-1995 (CRI)

R_a	71
R_9	-32

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: CHB3-100-D-MV-30K-170S

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.08	60	0.831	99.45	0.9961

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 20-50°(%lm)
15672.96	157.60	52.92

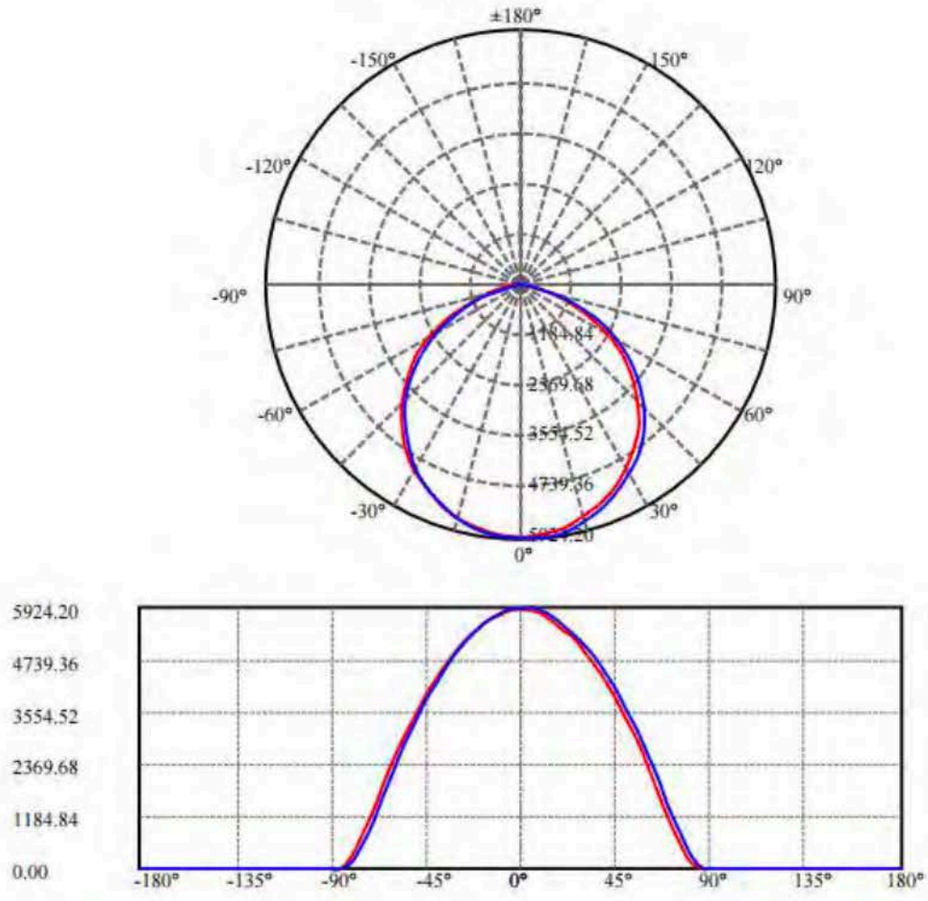
Zonal Flux Diagram

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5891.651	0.000	0	0.00%	0.00%
5.0	5857.211	140.454	140.454	0.00%	0.90%
10.0	5766.391	415.813	556.267	0.00%	3.55%
15.0	5615.389	675.160	1231.427	0.00%	7.86%
20.0	5433.886	910.615	2142.042	0.00%	13.67%
25.0	5214.394	1116.808	3258.85	0.00%	20.79%
30.0	4951.740	1286.533	4545.383	0.00%	29.00%
35.0	4639.795	1412.421	5957.804	0.00%	38.01%
40.0	4288.636	1489.641	7447.445	0.00%	47.52%
45.0	3881.583	1512.782	8960.227	0.00%	57.17%
50.0	3426.846	1476.775	10437.002	0.00%	66.59%
55.0	2942.426	1384.892	11821.893	0.00%	75.43%
60.0	2411.711	1237.594	13059.487	0.00%	83.32%
65.0	1808.259	1025.883	14085.37	0.00%	89.87%
70.0	1200.995	761.962	14847.332	0.00%	94.73%
75.0	665.106	487.769	15335.101	0.00%	97.84%
80.0	245.566	243.670	15578.771	0.00%	99.40%
85.0	7.761	68.835	15647.606	0.00%	99.84%
90.0	1.307	2.483	15650.089	0.00%	99.85%
95.0	1.144	0.671	15650.76	0.00%	99.86%
100.0	1.144	0.621	15651.382	0.00%	99.86%
105.0	1.525	0.714	15652.096	0.00%	99.87%
110.0	1.893	0.893	15652.989	0.00%	99.87%
115.0	2.600	1.138	15654.127	0.00%	99.88%
120.0	3.241	1.420	15655.547	0.00%	99.89%
125.0	4.017	1.678	15657.224	0.00%	99.90%
130.0	4.684	1.892	15659.116	0.00%	99.91%
135.0	5.324	2.022	15661.138	0.00%	99.92%
140.0	5.800	2.060	15663.198	0.00%	99.94%
145.0	6.223	2.006	15665.204	0.00%	99.95%
150.0	6.658	1.897	15667.101	0.00%	99.96%
155.0	6.958	1.723	15668.824	0.00%	99.97%
160.0	7.053	1.469	15670.293	0.00%	99.98%
165.0	6.998	1.158	15671.451	0.00%	99.99%
170.0	6.971	0.829	15672.28	0.00%	100.00%
175.0	7.080	0.503	15672.783	0.00%	100.00%
180.0	7.381	0.173	15672.955	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]



C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:76.6 Right:75.0

:C90/270Left:74.2 Right:77.5

Beam Angle(50%Imax):C0/180Left:55.5 Right:54.4

:C90/270Left:53.5 Right:56.7

Lux distance Curve

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	20.22	21.81	20.58	22.13	22.45	20.18	21.77	20.54	22.09	22.41
	3H	21.42	22.86	21.80	23.20	23.54	21.58	23.01	21.96	23.35	23.70
	4H	21.70	23.04	22.09	23.39	23.76	21.97	23.32	22.37	23.67	24.03
	6H	21.79	23.04	22.20	23.41	23.80	22.17	23.42	22.58	23.79	24.18
	8H	21.75	22.95	22.16	23.33	23.73	22.17	23.37	22.58	23.75	24.15
	12H	21.70	22.85	22.12	23.24	23.65	22.14	23.29	22.55	23.67	24.09
4H	2H	20.65	21.99	21.04	22.34	22.71	20.61	21.96	21.01	22.31	22.68
	3H	21.98	23.12	22.40	23.50	23.92	22.08	23.22	22.50	23.60	24.02
	4H	22.37	23.37	22.80	23.79	24.23	22.54	23.54	22.97	23.95	24.39
	6H	22.46	23.35	22.92	23.79	24.24	22.72	23.60	23.18	24.05	24.49
	8H	22.46	23.28	22.93	23.73	24.19	22.75	23.58	23.22	24.02	24.49
	12H	22.43	23.20	22.91	23.64	24.15	22.74	23.51	23.22	23.95	24.46
8H	4H	22.42	23.24	22.89	23.69	24.15	22.58	23.40	23.05	23.85	24.32
	6H	22.52	23.21	23.02	23.68	24.18	22.76	23.45	23.25	23.92	24.42
	8H	22.57	23.17	23.09	23.68	24.17	22.84	23.44	23.36	23.95	24.44
	12H	22.55	23.05	23.07	23.56	24.07	22.84	23.34	23.36	23.85	24.36
12H	4H	22.40	23.16	22.88	23.60	24.11	22.56	23.33	23.04	23.77	24.27
	6H	22.55	23.14	23.06	23.65	24.15	22.78	23.38	23.30	23.89	24.38
	8H	22.56	23.06	23.08	23.57	24.08	22.83	23.33	23.35	23.84	24.35
Variation with the observer position at spacings:											
S = 1.0H		0.4/-0.4					0.5/-0.4				
S = 1.5H		0.8/-0.7					0.7/-0.9				
S = 2.0H		1.6/-1.7					1.6/-1.4				
Standard tables:		BK2					BK2				
Uncorrected UGR		4.8					4.5				

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

Luminous Intensity Distribution Data

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	5891.65	5837.06	5765.17	5599.59	5423.13	5213.99	4926.41	4612.70	4274.80
22.5	5891.65	5847.95	5760.81	5588.70	5420.95	5207.45	4917.70	4617.06	4261.95
45.0	5891.65	5823.99	5743.38	5588.70	5399.17	5185.66	4917.70	4601.81	4234.72
67.5	5891.65	5806.56	5712.88	5558.20	5353.42	5137.74	4882.84	4540.81	4190.93
90.0	5891.65	5924.20	5850.13	5712.88	5534.24	5309.84	5074.56	4780.45	4436.24
112.5	5891.65	5900.24	5815.27	5667.13	5475.42	5257.56	5026.63	4721.63	4370.88
135.0	5891.65	5858.84	5765.17	5625.74	5457.99	5240.13	4976.52	4684.59	4340.38
157.5	5891.65	5841.42	5749.92	5619.20	5442.74	5220.52	4969.99	4664.99	4314.23
180.0	5891.65	5850.13	5749.92	5614.84	5449.27	5218.34	4952.56	4654.09	4298.98
202.5	5891.65	5852.31	5767.34	5625.74	5438.38	5222.70	4956.91	4651.91	4320.77
225.0	5891.65	5876.27	5771.70	5627.92	5438.38	5220.52	4974.34	4673.70	4329.48
247.5	5891.65	5863.20	5765.17	5617.02	5436.20	5224.88	4965.63	4678.06	4340.38
270.0	5891.65	5884.99	5778.24	5617.02	5429.67	5185.66	4917.70	4569.13	4196.37
292.5	5891.65	5858.84	5756.45	5590.88	5407.88	5185.66	4913.34	4588.74	4218.60
315.0	5891.65	5839.24	5754.27	5584.34	5405.70	5192.20	4919.88	4590.91	4236.02
337.5	5891.65	5850.13	5756.45	5608.31	5429.67	5207.45	4935.13	4606.16	4253.45
360.0	5891.65	5837.06	5765.17	5599.59	5423.13	5213.99	4926.41	4612.70	4274.80

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	3839.74	3375.49	2890.97	2341.75	1707.79	1122.62	589.74	195.20	2.40
22.5	3827.98	3375.49	2870.27	2320.84	1716.06	1097.57	577.76	191.06	2.61
45.0	3797.04	3339.32	2848.05	2293.82	1646.35	1079.05	542.03	166.66	2.61
67.5	3770.03	3286.38	2780.95	2257.22	1596.24	1034.61	502.38	151.85	2.61
90.0	4046.27	3597.48	3144.34	2612.77	2024.55	1397.12	835.70	357.94	51.85
112.5	3993.98	3547.38	3061.55	2545.23	1963.55	1329.59	802.37	332.23	13.51
135.0	3935.16	3497.27	3035.41	2506.02	1928.69	1299.09	761.19	303.04	3.92
157.5	3919.91	3492.91	3004.91	2492.95	1909.09	1279.48	745.29	299.55	4.14
180.0	3911.20	3460.23	2991.84	2484.23	1887.30	1290.37	732.87	293.02	4.79
202.5	3928.63	3479.84	3000.55	2477.70	1913.44	1283.84	744.20	301.52	4.58
225.0	3928.63	3488.55	3022.34	2510.37	1943.94	1323.05	774.92	318.73	5.01
247.5	3946.06	3514.70	3052.84	2547.41	1998.41	1360.09	816.53	351.19	16.56
270.0	3797.48	3315.79	2807.97	2248.73	1613.89	1033.30	512.40	136.82	2.18
292.5	3802.92	3339.98	2831.93	2295.35	1659.42	1065.32	542.47	163.39	2.40
315.0	3822.09	3352.61	2851.10	2313.21	1710.84	1103.01	570.57	177.12	2.40
337.5	3838.22	3366.12	2883.78	2339.79	1712.58	1117.83	591.27	189.75	2.61
360.0	3839.74	3375.49	2890.97	2341.75	1707.79	1122.62	589.74	195.20	2.40

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1.53	1.53	1.31	1.74	1.96	2.61	3.49	3.92	4.79
22.5	1.31	1.31	1.31	1.74	2.18	2.83	3.27	4.14	4.79
45.0	1.31	1.31	1.31	1.74	2.18	3.05	3.49	4.14	5.01
67.5	1.53	1.09	1.53	1.74	2.18	2.83	3.49	4.36	5.23
90.0	1.53	1.09	0.87	1.31	1.53	2.18	2.83	3.70	4.58
112.5	1.31	1.09	0.87	1.31	1.74	2.61	2.83	3.92	4.36
135.0	1.31	0.87	0.87	1.31	1.74	2.40	3.05	3.92	4.58
157.5	1.09	1.09	1.09	1.31	1.74	2.40	3.05	3.70	4.58
180.0	1.31	1.09	0.87	1.53	1.74	2.40	3.05	3.70	4.36
202.5	1.09	0.87	0.87	1.53	1.74	2.40	3.05	3.92	4.58
225.0	1.31	1.09	1.09	1.31	1.53	2.61	3.05	3.92	4.36
247.5	1.31	1.09	0.87	1.53	1.74	2.40	3.27	3.92	4.58
270.0	0.87	1.09	1.53	1.74	1.96	2.61	3.70	4.36	5.01
292.5	1.31	1.31	1.09	1.74	1.96	2.83	3.49	4.36	5.01
315.0	1.31	1.09	1.31	1.31	1.96	2.83	3.27	4.14	4.58
337.5	1.53	1.31	1.53	1.53	2.40	2.61	3.49	4.14	4.58
360.0	1.53	1.53	1.31	1.74	1.96	2.61	3.49	3.92	4.79

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	5.45	5.66	6.10	6.54	6.97	6.97	7.19	6.97	7.41
22.5	5.23	5.88	6.10	6.75	6.97	6.97	6.97	6.97	7.19
45.0	5.45	5.88	6.32	6.75	7.19	7.41	7.19	6.97	7.63
67.5	5.88	6.10	6.54	6.97	7.19	7.19	7.19	7.19	7.41
90.0	5.23	5.66	5.88	6.54	6.75	6.97	6.75	6.97	6.75
112.5	5.23	5.88	6.32	6.54	6.75	7.19	6.97	6.97	6.75
135.0	5.01	5.66	6.10	6.54	6.97	6.97	6.97	6.97	6.75
157.5	5.01	5.66	5.88	6.32	6.75	6.97	6.75	6.54	6.97
180.0	4.79	5.66	6.10	6.54	6.97	6.97	6.97	6.75	6.75
202.5	5.45	5.45	5.88	6.54	6.75	6.97	6.75	6.75	6.75
225.0	5.45	5.45	6.32	6.54	6.97	7.19	6.97	6.97	6.97
247.5	5.23	5.88	6.32	6.54	7.19	6.97	6.97	7.19	6.75
270.0	5.66	6.10	6.75	7.19	7.19	7.19	6.97	7.19	7.41
292.5	5.45	5.88	6.54	6.97	6.97	7.19	7.41	6.97	7.41
315.0	5.45	6.10	6.32	6.75	6.97	6.97	6.97	7.19	7.19
337.5	5.23	5.88	6.10	6.54	6.75	6.75	6.97	6.97	7.19
360.0	5.45	5.66	6.10	6.54	6.97	6.97	7.19	6.97	7.41

C/γ(°)	180.0
0.0	7.38
22.5	7.38
45.0	7.38
67.5	7.38
90.0	7.38
112.5	7.38
135.0	7.38
157.5	7.38
180.0	7.38
202.5	7.38
225.0	7.38
247.5	7.38
270.0	7.38
292.5	7.38
315.0	7.38
337.5	7.38
360.0	7.38

4 Additional Test

Electrical data at 277V

Model Number	Test Voltage (V)	Frequency(Hz)	Power Factor	THD
CHB3-100-D-MV-30K-170S	277	60	0.951	7.1%
CHB3-100-D-MV-65K-170S	277	60	0.964	5.9%

5 Performance Assessment

Model name	CCT(K)	Total Luminous(lm)	Power(W)	Luminous Efficacy(lm/W)
CHB3-100-D-MV-30K-170S	3000	15685.24	99.78	157.2
CHB3-100-D-MV-35K-170S	3500	15959.62 *1	99.90*2	159.8 *3
CHB3-100-D-MV-40K-170S	4000	16234.01 *1	99.90*2	162.5 *3
CHB3-100-D-MV-45K-170S	4500	16508.39 *1	99.90*2	165.3 *3
CHB3-100-D-MV-50K-170S	5000	16782.77 *1	99.90*2	168.0 *3
CHB3-100-D-MV-57K-170S	5700	17057.16 *1	99.90*2	170.8 *3
CHB3-100-D-MV-65K-170S	6500	17331.54	100.01	173.3

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

15959.62=(17331.54 -15685.24) /6+15685.24

16234.01=(17331.54 -15685.24) /6+15959.62

16508.39=(17331.54 -15685.24) /6+16234.01

16782.77=(17331.54 -15685.24) /6+16508.39

17057.16=(17331.54 -15685.24) /6+16782.77

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

99.90=(99.78+100.01)/2

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

159.8=15959.62 /8.04

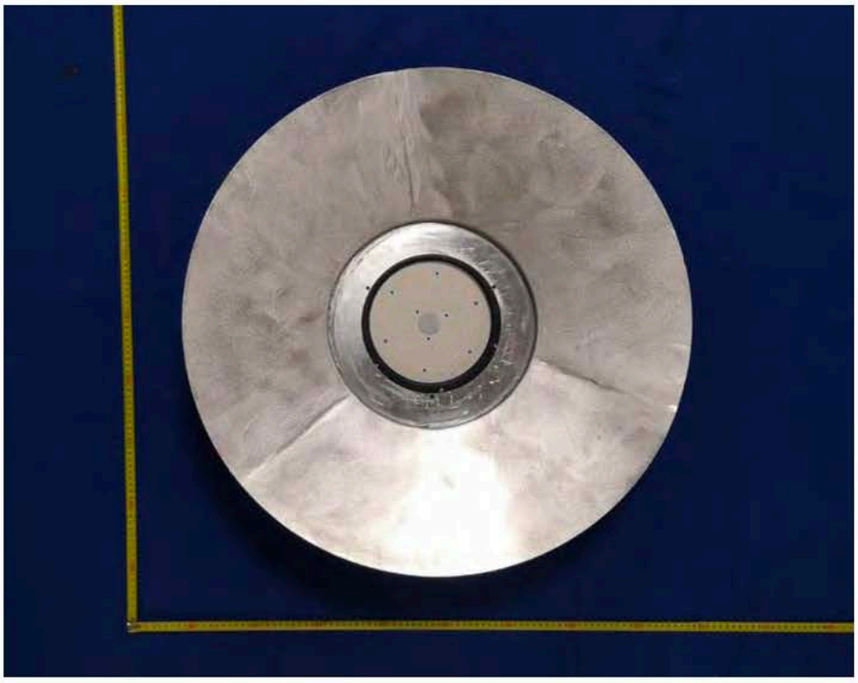
162.5=16234.01 /8.04

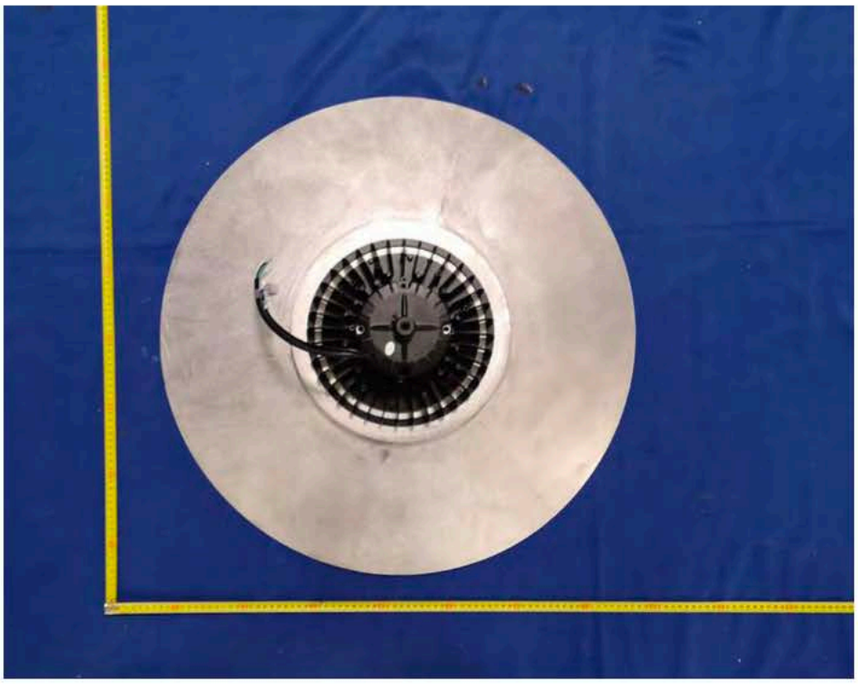
165.3=16508.39 /8.04

168.0=16782.77 /8.04

170.8=17057.16 /8.04

Photo Document





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