

ANSI/IES LM-79-19

MEASUREMENT AND TEST REPORT

For

GREEN CREATIVE LTD.

Room 3603, Level 36, Tower 1, Enterprise Square Five, 38 Wang Chiu Road, Kowloon Bay, KL,
Hong Kong

Test Model: SLFTG3/6HO/9CCT5S/DUALDIM

Report Type:	Electrical and Photometric tests including: Luminous Flux, Power Factor, Chromaticity, Luminous Intensity Distribution, THD
Reviewed By:	Ezer Pan <i>Ezer Pan</i>
Report Number:	2502T63510E-EE
Test Date:	2025-06-17
Report Date:	2025-06-25
Approved by:	Blake Zhang / EE Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 5F (B-West), 6F, 7F, the 3rd Phase of Wan Li Industrial Building D Shihua Road, Futian Free Trade Zone Shenzhen 518038 China Tel: +86-755-33320018 Fax: +86-755-33320008
Test Location 1:	Test facility was located at No.12, Pulong East 1 st Road, Tangxia Town, Dongguan, Guangdong, China.
Test Location 2:	Test facility was located at Room 301, No.113, Pingkang Road, Dalang, Dongguan, Guangdong, China.

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp.(Shenzhen). This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, or any agency of the U.S. Government. *This report contains data that are not covered by the NVLAP accreditation.

1. Product Description[#]

General Information:

One test sample was in good condition and received on 2025-06-05, and used for testing.

Model Tested: SLFTG3/6HO/9CCT5S/DUALDIM
Manufacturer: GREEN CREATIVE LTD.
Product Designation: Downlight
Burning Time Before Test: 0hour(For New Products)

Rated Values:

Rated Voltage/Frequency: AC 120-277V 50/60Hz
Rated Power: 18W/24W/30W
Nominal CCT: 2700K/3000K/3500K/4000K/5000K
Nominal Lumen Output: 2700K:2650lm
3000K:2800lm
3500K:2900lm
4000K:2900lm
5000K:2900lm

2. Standards Used

- ANSI/IES LM-79-19: Approved method :Optical and Electrical Measurements of Solid-State Lighting Products
- ANSI C82.77-10-2014: Harmonic Emission Limits – Related Power Quality Requirements for Lighting
- *IES TM-30-18: IES Method for Evaluating Light Source Color Rendition (This method is not in NVLAP accreditation scope)

3. Description of Test Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
1.5m temperature integrating sphere	SENSING	SPR-600	S09008	2024-07-25	2025-07-24
High-precision rapid spectral analysis system	EVERFINE	HAAS-2000	M112048CA1361125	2024-07-25	2025-07-24
Digital power meter	YOKOGAWA	WT310	13398	2024-07-25	2025-07-24
Digital CC&CV DC Power Supply	EVERFINE	WY5015	11060010	2024-07-25	2025-07-24
thermometer	SENSING	N/A	N/A	2024-07-25	2025-07-24
Standard Light Source	EVERFINE	D204	N/A	2023-05-12	2026-05-11
Precision frequency power supply	ALL Power	APW-105N	970613	2024-07-25	2025-07-24
AC POWER SUPPLY	EVERFINE	VPS1030 PWM	1012017	2024-08-30	2025-08-29
Digital CC&CV DC Power Supply	EVERFINE	WY12010	1009009	2024-08-30	2025-08-29
Digital power meter	YOKOGAWA	WT-210	91J926132	2024-08-30	2025-08-29
full-field speed goniophotometer	EVERFINE	GO-R5000	YG108492N10120001	2024-07-25	2025-07-24

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
wireless remote thermohygrometer	N/A	AOK-5017B	N/A	2024-09-06	2025-09-05
Standard Light Source	EVERFINE	D908	N/A	2023-05-12	2026-05-11

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attested that all calibration has been performed using suitable standards traceable to National Primary Standards and International System of Units (SI).

4. Test Method

Product was tested with no seasoning. All stabilization and measurements were made in compliance with ANSI/IES LM-79-19. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ during measurement. And relative humidity is maintained between 10% and 65%. The air flow around the SSL product is less than 0.2m/s.

Integrating Sphere System

The system includes AC power source, digital power meter, DC power supply, Spectroradiometer, and integrating sphere. The integrating sphere system is calibrated by standard spectrum light source before measurement.

4π geometry was used during measurement. The product was operated in its intended orientation in application and was recorded in this report.

The uncertainty of the light output (luminous flux) measurements is $U=2.1\%$ ($K=2$), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is $U=22\text{K}$ ($K=2$), at the 95% confidence level. The uncertainty of the CRI is $U=2.1(K=2)$, at the 95% confidence level.

The uncertainty of power meter AC current $U=0.39\%$ of rdg, AC Voltage $U=0.25\%$ of rdg, Power $U=0.42\%$ ($K=2$), at the 95% confidence level.

Goniophotometer System

The goniophotometer system is calibrated by standard light source before measurement.

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. For luminous intensity distribution, The vertical angle (γ) test intervals were set no more than 2.5 degree, The horizontal angle (C plane) test intervals were set no more than 22.5 degree. For color spatial uniformity, The vertical angle (γ) test intervals were set no more than 90 degree, The horizontal angle (C plane) test intervals were set no more than 10 degree

The uncertainty of the luminous intensity is $U=2.00\%$ ($K=2$), at the 95% confidence level.

Fidelity Index and Gamut Index Calculation

The R_i , R_g was calculated according to IES TM-30-18 by using calculation tools. The calculation was based on the measured SPD from 380nm to 780nm with 1nm intervals. All the colors in this report is for reference only.

5. Test Result

[Integrating Sphere System]

Test facility was located at Room 301, No.113, Pingkang Road, Dalang, Dongguan, Guangdong, China.

The diameter of the sphere: **1.5M**

The coating reflectance of sphere: **98%**

The Stabilization time: **30 minutes**

Total operating time for integrating sphere test: **1.0 hour**

Test orientation: **Downward**

Test CCT:**2700K**

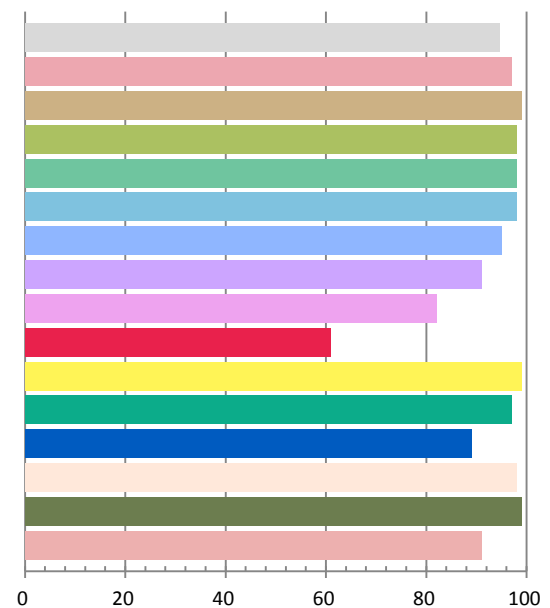
Photometric and Electrical Measurement Result

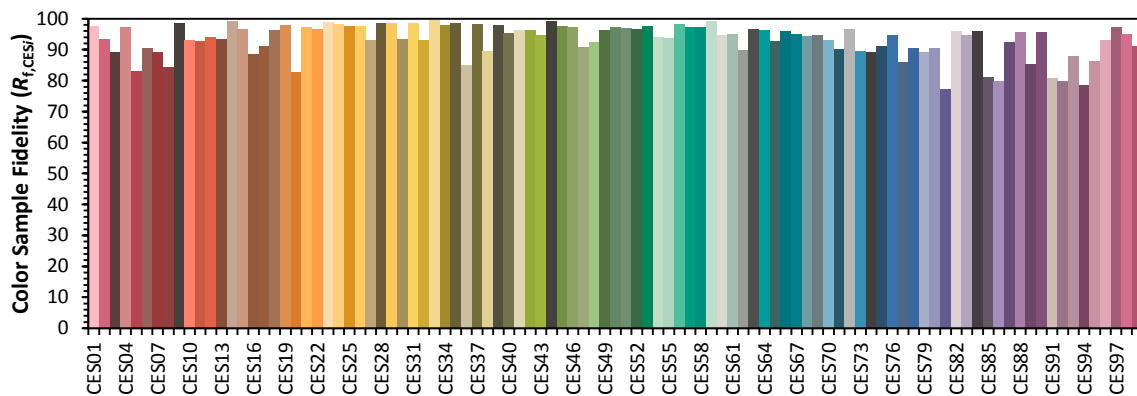
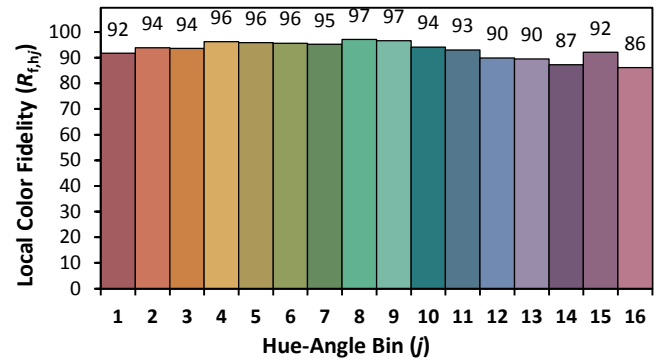
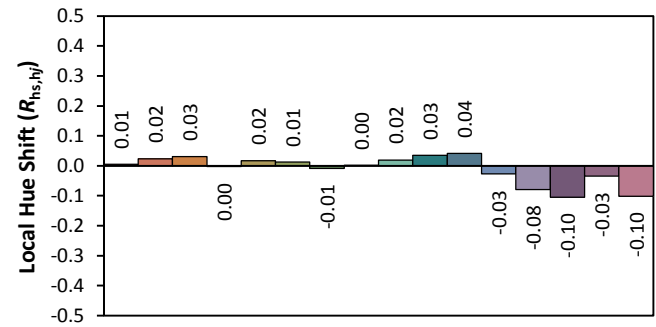
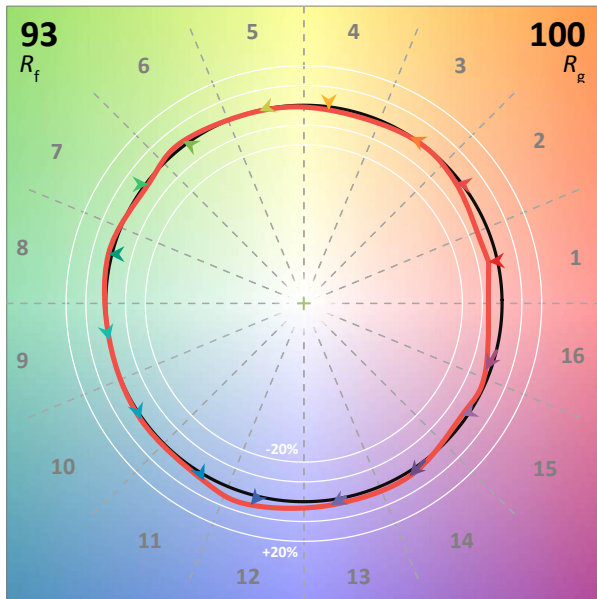
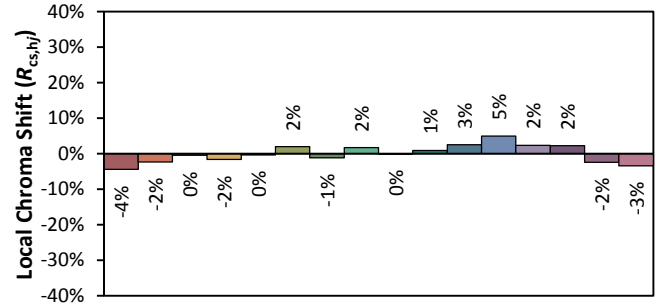
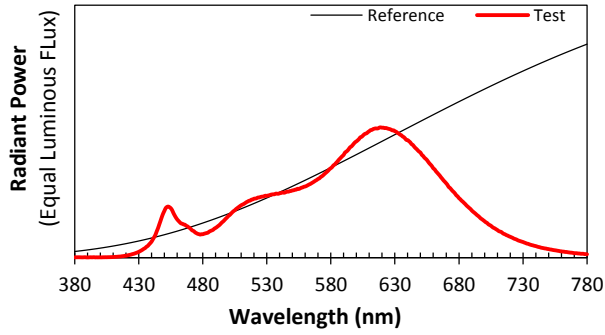
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.1	60	0.2452	29.07	0.987	3034.3	104.39

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
10.572	2715	-0.00133	0.4564	0.4062	0.2622	0.5251

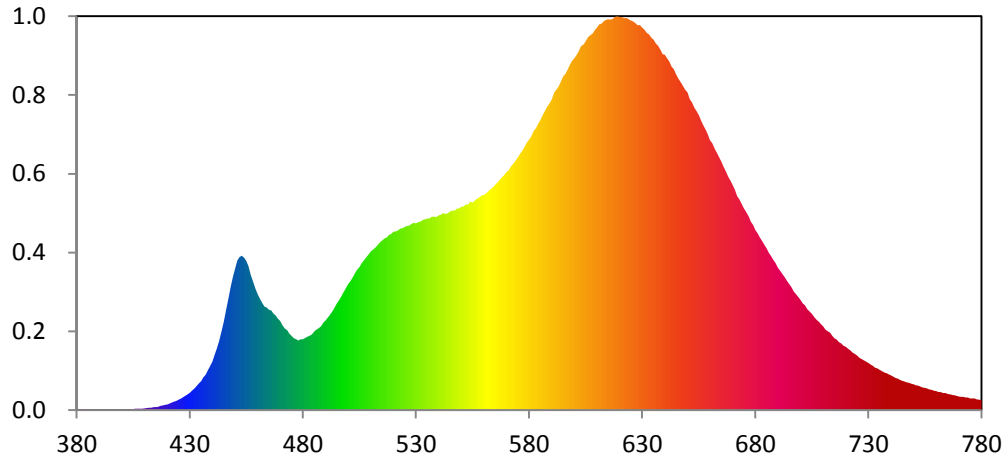
Color Rendering Index

Ra			
94.6			
R1	R2	R3	R4
97	99	98	98
R5	R6	R7	R8
98	95	91	82
R9	R10	R11	R12
61	99	97	89
R13	R14	R15	
98	99	91	





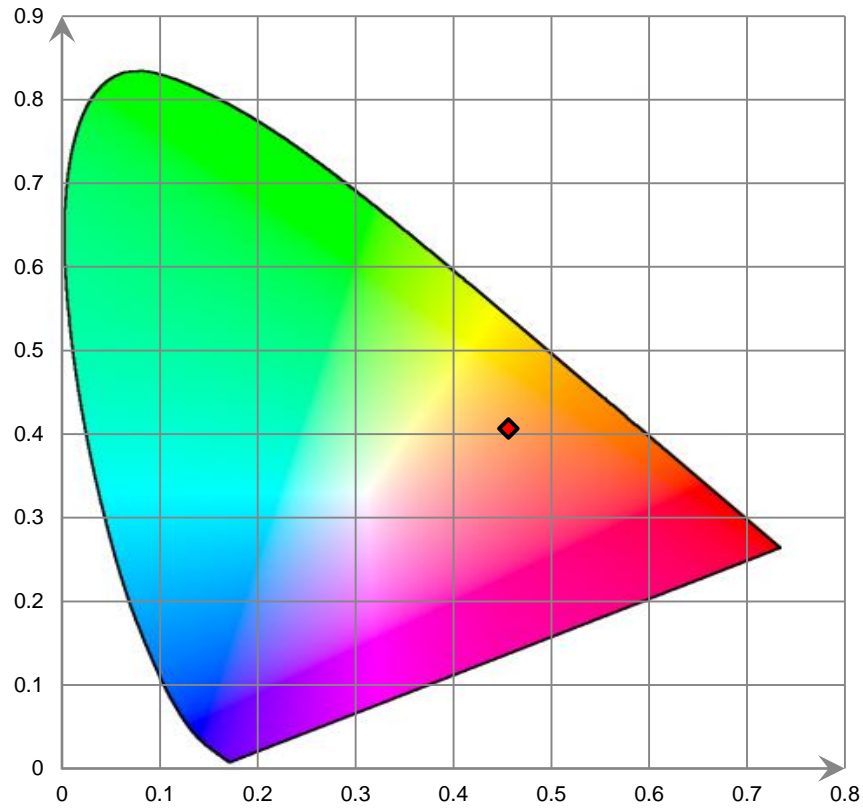
Relative Spectral Power Distribution



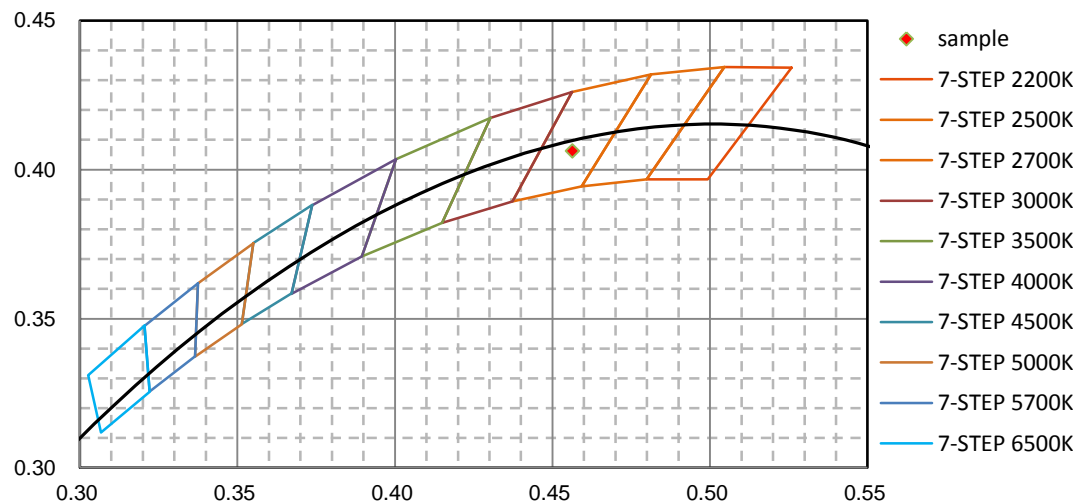
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	1.019E-01	421	1.118E+00	462	1.865E+01	503	2.387E+01	544	3.427E+01
381	1.325E-01	422	1.273E+00	463	1.803E+01	504	2.448E+01	545	3.460E+01
382	1.443E-01	423	1.427E+00	464	1.786E+01	505	2.496E+01	546	3.478E+01
383	1.543E-01	424	1.580E+00	465	1.747E+01	506	2.562E+01	547	3.478E+01
384	1.420E-01	425	1.807E+00	466	1.734E+01	507	2.612E+01	548	3.509E+01
385	1.110E-01	426	1.961E+00	467	1.678E+01	508	2.664E+01	549	3.515E+01
386	9.833E-02	427	2.203E+00	468	1.647E+01	509	2.713E+01	550	3.546E+01
387	1.224E-01	428	2.455E+00	469	1.592E+01	510	2.760E+01	551	3.550E+01
388	1.733E-01	429	2.721E+00	470	1.551E+01	511	2.795E+01	552	3.584E+01
389	8.635E-02	430	3.033E+00	471	1.476E+01	512	2.828E+01	553	3.584E+01
390	7.637E-02	431	3.374E+00	472	1.423E+01	513	2.873E+01	554	3.634E+01
391	8.965E-02	432	3.750E+00	473	1.391E+01	514	2.921E+01	555	3.619E+01
392	1.542E-01	433	4.173E+00	474	1.326E+01	515	2.954E+01	556	3.652E+01
393	1.292E-01	434	4.648E+00	475	1.288E+01	516	2.994E+01	557	3.685E+01
394	1.235E-01	435	5.029E+00	476	1.252E+01	517	3.007E+01	558	3.704E+01
395	1.877E-01	436	5.694E+00	477	1.235E+01	518	3.056E+01	559	3.738E+01
396	8.294E-02	437	6.125E+00	478	1.212E+01	519	3.068E+01	560	3.752E+01
397	1.302E-01	438	6.893E+00	479	1.232E+01	520	3.107E+01	561	3.781E+01
398	1.024E-01	439	7.622E+00	480	1.231E+01	521	3.114E+01	562	3.819E+01
399	1.241E-01	440	8.438E+00	481	1.257E+01	522	3.131E+01	563	3.855E+01
400	1.165E-01	441	9.602E+00	482	1.276E+01	523	3.167E+01	564	3.887E+01
401	9.253E-02	442	1.073E+01	483	1.295E+01	524	3.172E+01	565	3.929E+01
402	1.484E-01	443	1.200E+01	484	1.314E+01	525	3.194E+01	566	3.969E+01
403	1.473E-01	444	1.380E+01	485	1.367E+01	526	3.212E+01	567	4.013E+01
404	1.652E-01	445	1.545E+01	486	1.402E+01	527	3.218E+01	568	4.059E+01
405	1.579E-01	446	1.744E+01	487	1.431E+01	528	3.242E+01	569	4.097E+01
406	1.910E-01	447	1.938E+01	488	1.463E+01	529	3.265E+01	570	4.150E+01
407	1.927E-01	448	2.140E+01	489	1.525E+01	530	3.254E+01	571	4.180E+01
408	2.209E-01	449	2.317E+01	490	1.564E+01	531	3.275E+01	572	4.247E+01
409	2.437E-01	450	2.462E+01	491	1.611E+01	532	3.290E+01	573	4.291E+01
410	2.852E-01	451	2.604E+01	492	1.666E+01	533	3.316E+01	574	4.345E+01
411	3.133E-01	452	2.669E+01	493	1.717E+01	534	3.330E+01	575	4.412E+01
412	3.800E-01	453	2.690E+01	494	1.787E+01	535	3.338E+01	576	4.470E+01
413	4.015E-01	454	2.657E+01	495	1.857E+01	536	3.341E+01	577	4.529E+01
414	4.849E-01	455	2.603E+01	496	1.912E+01	537	3.374E+01	578	4.593E+01
415	5.250E-01	456	2.507E+01	497	1.982E+01	538	3.370E+01	579	4.669E+01
416	5.793E-01	457	2.358E+01	498	2.055E+01	539	3.366E+01	580	4.719E+01
417	6.986E-01	458	2.228E+01	499	2.120E+01	540	3.392E+01	581	4.777E+01
418	7.571E-01	459	2.112E+01	500	2.196E+01	541	3.404E+01	582	4.865E+01
419	8.962E-01	460	2.013E+01	501	2.245E+01	542	3.432E+01	583	4.911E+01
420	9.412E-01	461	1.937E+01	502	2.315E+01	543	3.424E+01	584	4.988E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	5.059E+01	626	6.779E+01	667	4.157E+01	708	1.540E+01	749	4.554E+00
586	5.144E+01	627	6.751E+01	668	4.070E+01	709	1.494E+01	750	4.469E+00
587	5.216E+01	628	6.711E+01	669	4.000E+01	710	1.454E+01	751	4.277E+00
588	5.287E+01	629	6.716E+01	670	3.924E+01	711	1.400E+01	752	4.217E+00
589	5.356E+01	630	6.668E+01	671	3.842E+01	712	1.372E+01	753	4.054E+00
590	5.420E+01	631	6.638E+01	672	3.729E+01	713	1.353E+01	754	3.931E+00
591	5.537E+01	632	6.583E+01	673	3.675E+01	714	1.297E+01	755	3.828E+00
592	5.588E+01	633	6.546E+01	674	3.596E+01	715	1.252E+01	756	3.730E+00
593	5.645E+01	634	6.490E+01	675	3.517E+01	716	1.227E+01	757	3.593E+00
594	5.727E+01	635	6.458E+01	676	3.454E+01	717	1.185E+01	758	3.496E+00
595	5.819E+01	636	6.392E+01	677	3.377E+01	718	1.161E+01	759	3.327E+00
596	5.863E+01	637	6.354E+01	678	3.282E+01	719	1.124E+01	760	3.273E+00
597	5.935E+01	638	6.285E+01	679	3.228E+01	720	1.098E+01	761	3.140E+00
598	6.019E+01	639	6.207E+01	680	3.139E+01	721	1.067E+01	762	3.113E+00
599	6.090E+01	640	6.198E+01	681	3.082E+01	722	1.037E+01	763	2.936E+00
600	6.136E+01	641	6.137E+01	682	3.006E+01	723	9.975E+00	764	2.944E+00
601	6.193E+01	642	6.079E+01	683	2.949E+01	724	9.750E+00	765	2.796E+00
602	6.259E+01	643	5.987E+01	684	2.882E+01	725	9.486E+00	766	2.706E+00
603	6.347E+01	644	5.944E+01	685	2.817E+01	726	9.113E+00	767	2.602E+00
604	6.372E+01	645	5.859E+01	686	2.741E+01	727	8.854E+00	768	2.559E+00
605	6.436E+01	646	5.782E+01	687	2.682E+01	728	8.646E+00	769	2.446E+00
606	6.501E+01	647	5.723E+01	688	2.619E+01	729	8.408E+00	770	2.328E+00
607	6.539E+01	648	5.649E+01	689	2.564E+01	730	8.212E+00	771	2.294E+00
608	6.563E+01	649	5.585E+01	690	2.485E+01	731	7.915E+00	772	2.275E+00
609	6.625E+01	650	5.538E+01	691	2.423E+01	732	7.678E+00	773	2.152E+00
610	6.669E+01	651	5.422E+01	692	2.368E+01	733	7.380E+00	774	2.142E+00
611	6.726E+01	652	5.366E+01	693	2.312E+01	734	7.247E+00	775	2.014E+00
612	6.737E+01	653	5.275E+01	694	2.247E+01	735	6.961E+00	776	1.991E+00
613	6.780E+01	654	5.215E+01	695	2.196E+01	736	6.743E+00	777	2.004E+00
614	6.802E+01	655	5.149E+01	696	2.136E+01	737	6.546E+00	778	1.836E+00
615	6.817E+01	656	5.055E+01	697	2.067E+01	738	6.387E+00	779	1.798E+00
616	6.812E+01	657	4.966E+01	698	2.022E+01	739	6.186E+00	780	1.729E+00
617	6.824E+01	658	4.896E+01	699	1.970E+01	740	6.042E+00		
618	6.863E+01	659	4.814E+01	700	1.917E+01	741	5.808E+00		
619	6.869E+01	660	4.708E+01	701	1.861E+01	742	5.602E+00		
620	6.853E+01	661	4.656E+01	702	1.825E+01	743	5.470E+00		
621	6.856E+01	662	4.557E+01	703	1.756E+01	744	5.236E+00		
622	6.831E+01	663	4.482E+01	704	1.716E+01	745	5.100E+00		
623	6.839E+01	664	4.404E+01	705	1.677E+01	746	4.963E+00		
624	6.817E+01	665	4.328E+01	706	1.617E+01	747	4.819E+00		
625	6.795E+01	666	4.236E+01	707	1.571E+01	748	4.741E+00		

CIE 1931 x y Chromaticity Diagram



7-Step Chromaticity Quadrangles



[Goniophotometer System]

Test facility was located at No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

The photometric distance: **2.519m**

The Stabilization time: **30 minutes**

Total operating time for luminous intensity distribution: **1.0 hour**

Test orientation: **Downward**

Test CCT:**2700K**

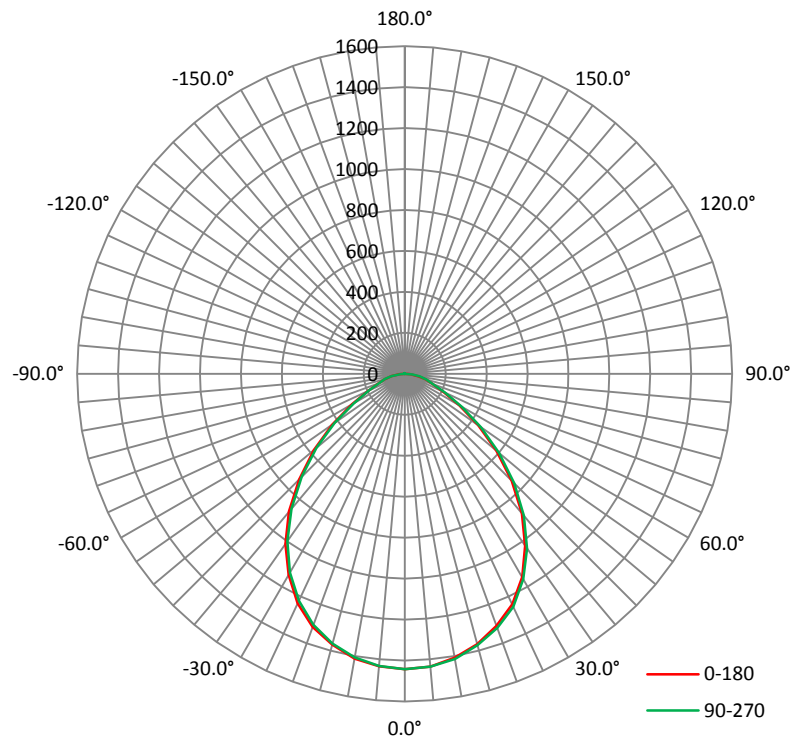
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.08	60	0.2451	29.050	0.9870

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I_{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
3033.82	104.43	1446	1.19	1.20

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I_{max}):	90.8	90.8	90.7	90.8	90.8
Field Angle (10% I_{max}):	139.0	139.0	139.3	139.2	139.1

Luminous Intensity (cd) Distribution Data

$\gamma \backslash C$	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0°	1442	1442	1442	1442	1442	1442	1442	1442
1°	1443	1442	1446	1441	1442	1442	1440	1441
2°	1441	1440	1442	1439	1441	1439	1441	1439
3°	1439	1440	1441	1438	1440	1437	1437	1438
4°	1436	1436	1442	1435	1436	1434	1434	1434
5°	1435	1433	1435	1433	1432	1432	1432	1432
6°	1432	1429	1430	1429	1429	1429	1425	1427
7°	1425	1424	1428	1423	1422	1424	1424	1422
8°	1421	1421	1423	1418	1419	1419	1418	1418
9°	1416	1414	1416	1412	1413	1414	1412	1411
10°	1412	1407	1409	1405	1406	1406	1405	1404
11°	1403	1401	1402	1398	1398	1397	1397	1397
12°	1395	1393	1394	1391	1392	1389	1389	1390
13°	1387	1384	1386	1383	1382	1381	1380	1381
14°	1379	1375	1377	1373	1374	1373	1371	1373
15°	1369	1365	1369	1365	1364	1363	1361	1361
16°	1358	1357	1358	1357	1354	1354	1352	1352
17°	1349	1346	1346	1344	1342	1343	1340	1342
18°	1339	1335	1336	1333	1329	1330	1330	1330
19°	1327	1324	1323	1319	1316	1318	1317	1319
20°	1315	1311	1311	1306	1305	1304	1303	1306
21°	1299	1298	1296	1293	1292	1291	1290	1292
22°	1287	1283	1282	1280	1276	1276	1274	1278
23°	1270	1267	1266	1265	1258	1263	1258	1265
24°	1252	1254	1248	1251	1241	1250	1240	1252
25°	1236	1240	1231	1236	1224	1237	1223	1239
26°	1217	1227	1213	1221	1203	1218	1203	1220
27°	1196	1208	1193	1201	1185	1196	1185	1199
28°	1178	1187	1172	1179	1163	1176	1162	1178
29°	1157	1165	1151	1159	1143	1153	1142	1157
30°	1134	1143	1127	1136	1121	1131	1119	1136
31°	1114	1120	1106	1112	1095	1108	1097	1112
32°	1090	1097	1082	1088	1072	1084	1073	1089
33°	1065	1073	1058	1064	1048	1057	1049	1064
34°	1041	1048	1033	1039	1023	1033	1022	1038
35°	1014	1022	1007	1013	998	1007	997	1013
36°	989	995	980	985	970	981	971	986
37°	963	969	953	958	944	953	944	958
38°	936	941	926	930	915	926	916	931
39°	907	912	899	902	888	898	888	902
40°	878	883	870	874	859	869	860	874
41°	850	854	841	844	831	840	830	846
42°	820	824	810	813	800	810	800	814
43°	791	794	780	783	771	779	771	785
44°	760	763	750	753	742	749	740	754
45°	730	732	720	722	710	717	711	723
46°	699	702	689	693	681	687	679	692
47°	668	670	657	661	649	656	648	662
48°	637	639	627	630	620	627	620	631

Luminous Intensity (cd) Distribution Data

$\begin{matrix} \text{C} \\ \backslash \\ \gamma \end{matrix}$	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
49°	606	608	598	599	591	597	591	600
50°	578	577	568	569	563	567	562	570
51°	550	546	539	538	535	538	534	540
52°	520	516	509	508	505	508	505	510
53°	490	485	479	479	475	479	477	481
54°	460	455	449	449	446	450	449	453
55°	431	427	420	421	418	422	421	425
56°	402	399	392	392	389	394	394	397
57°	374	371	364	364	363	367	367	371
58°	347	344	338	338	336	341	341	345
59°	322	318	313	313	312	316	317	321
60°	296	293	288	288	287	292	293	297
61°	272	269	265	265	264	269	270	275
62°	250	248	243	244	243	248	249	253
63°	230	228	224	225	224	228	229	234
64°	212	209	206	207	207	211	212	217
65°	195	193	190	191	191	194	195	200
66°	180	178	176	177	176	180	181	185
67°	167	165	163	164	164	167	168	172
68°	155	154	152	153	153	155	156	160
69°	144	144	141	143	142	145	145	150
70°	135	135	132	134	133	136	136	140
71°	127	125	125	125	126	126	128	129
72°	121	119	119	119	119	120	122	123
73°	115	113	113	112	113	114	115	116
74°	108	106	106	106	106	107	109	109
75°	101	100	99	99	99	101	102	102
76°	94	93	92	92	92	94	95	95
77°	87	86	85	85	86	87	87	88
78°	80	79	78	78	78	80	80	80
79°	73	72	71	71	71	73	72	73
80°	65	64	64	64	64	66	65	65
81°	57	57	56	57	56	58	57	57
82°	49	49	48	49	48	51	49	49
83°	41	41	41	40	39	43	41	41
84°	33	33	32	30	29	36	33	33
85°	25	25	24	22	19	28	24	24
86°	16	17	15	13	11	20	16	16
87°	8	9	7	5	7	13	9	9
88°	5	2	4	2	3	5	6	1
89°	3	0	0	0	0	0	3	0
90°	0	0	0	0	0	0	0	0
91°	0	0	0	0	0	0	0	0
92°	0	0	0	0	0	0	0	0
93°	0	0	0	0	0	0	0	0
94°	0	0	0	0	0	0	0	0
95°	0	0	0	0	0	0	0	0
96°	0	0	0	0	0	0	0	0
97°	0	0	0	0	0	0	0	0

Luminous Intensity (cd) Distribution Data

C γ	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
98°	0	0	0	0	0	0	0	0
99°	0	0	0	0	0	0	0	0
100°	0	0	0	0	0	0	0	0
101°	0	0	0	0	0	0	0	0
102°	0	0	0	0	0	0	0	0
103°	0	0	0	0	0	0	0	0
104°	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0
106°	0	0	0	0	0	0	0	0
107°	0	0	0	0	0	0	0	0
108°	0	0	0	0	0	0	0	0
109°	0	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0	0
111°	0	0	0	0	0	0	0	0
112°	0	0	0	0	0	0	0	0
113°	0	0	0	0	0	0	0	0
114°	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0
116°	0	0	0	0	0	0	0	0
117°	0	0	0	0	0	0	0	0
118°	0	0	0	0	0	0	0	0
119°	0	0	0	0	0	0	0	0
120°	0	0	1	1	1	1	1	0
121°	1	1	1	1	1	1	1	1
122°	1	1	1	1	1	1	1	1
123°	1	1	1	1	1	1	1	1
124°	1	1	1	1	1	1	1	1
125°	1	1	1	1	1	1	1	1
126°	1	1	1	1	1	1	1	1
127°	1	1	1	1	1	1	1	1
128°	1	1	1	1	1	1	1	1
129°	1	1	1	1	1	1	1	1
130°	1	1	1	1	1	1	1	1
131°	1	1	1	1	1	1	1	1
132°	1	1	1	1	1	1	1	1
133°	1	1	1	1	1	1	1	1
134°	1	1	1	1	1	1	1	1
135°	1	1	1	1	1	1	1	1
136°	1	1	1	1	1	1	1	1
137°	1	1	1	1	1	1	1	1
138°	1	1	1	1	1	1	1	1
139°	1	1	2	1	2	2	1	1
140°	1	2	2	2	2	2	2	1
141°	2	2	2	2	2	2	2	2
142°	2	2	2	2	2	2	2	2
143°	2	2	2	2	2	2	2	2
144°	2	2	2	2	2	2	2	2
145°	2	2	2	2	2	2	2	2
146°	2	2	2	2	2	2	2	2

Luminous Intensity (cd) Distribution Data

$\begin{matrix} \text{C} \\ \backslash \\ \gamma \end{matrix}$	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
147°	2	2	2	2	2	2	2	2
148°	2	2	2	2	2	2	2	2
149°	2	2	2	2	2	2	2	2
150°	2	2	2	2	2	2	2	2
151°	2	2	2	2	2	2	2	2
152°	2	2	2	2	3	2	2	2
153°	2	2	3	3	3	3	2	2
154°	2	2	3	3	3	3	3	2
155°	2	3	3	3	3	3	3	2
156°	2	3	3	3	3	3	3	2
157°	2	3	3	3	3	3	3	3
158°	2	3	3	3	3	3	3	3
159°	3	3	3	3	3	3	3	3
160°	3	3	3	3	3	3	3	3
161°	3	3	3	3	3	3	3	3
162°	3	3	3	3	3	3	3	3
163°	3	3	3	3	3	3	3	3
164°	3	3	3	3	3	3	3	3
165°	3	3	3	3	3	3	3	3
166°	3	3	3	3	3	3	3	3
167°	2	3	3	3	3	3	3	3
168°	2	2	3	3	3	3	3	3
169°	2	2	2	3	3	3	2	2
170°	2	2	2	2	2	2	2	2
171°	2	2	2	2	2	2	2	2
172°	2	2	2	2	2	2	2	2
173°	2	2	2	2	2	2	2	2
174°	2	2	2	2	2	2	2	2
175°	2	2	2	2	2	2	2	2
176°	2	2	2	2	2	2	2	2
177°	2	2	2	2	2	2	2	2
178°	2	2	2	2	2	2	2	2
179°	2	2	2	2	2	2	2	2
180°	2	2	2	2	2	2	2	2

Luminous Intensity (cd) Distribution Data (cont.)

$\begin{matrix} \diagup \\ C \\ \diagdown \\ Y \end{matrix}$	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0°	1442	1442	1442	1442	1442	1442	1442	1442
1°	1444	1443	1445	1443	1442	1442	1442	1442
2°	1441	1441	1445	1442	1443	1441	1441	1441
3°	1439	1439	1443	1441	1440	1442	1441	1439
4°	1437	1437	1440	1437	1437	1441	1439	1439
5°	1435	1434	1436	1435	1436	1438	1435	1435
6°	1430	1429	1431	1424	1432	1434	1433	1433
7°	1424	1425	1429	1430	1429	1431	1429	1427
8°	1422	1419	1426	1423	1427	1426	1424	1425
9°	1414	1414	1420	1417	1420	1418	1421	1418
10°	1408	1407	1411	1411	1414	1414	1413	1411
11°	1402	1400	1406	1404	1404	1405	1407	1407
12°	1394	1392	1398	1398	1400	1398	1399	1398
13°	1384	1384	1390	1388	1391	1392	1390	1391
14°	1375	1376	1382	1381	1383	1385	1383	1382
15°	1367	1365	1373	1371	1373	1375	1374	1372
16°	1356	1357	1363	1361	1364	1366	1366	1364
17°	1347	1345	1352	1350	1353	1354	1353	1354
18°	1334	1334	1341	1340	1344	1342	1343	1342
19°	1322	1324	1330	1329	1333	1331	1333	1332
20°	1310	1311	1318	1318	1322	1319	1322	1319
21°	1297	1298	1306	1303	1309	1308	1310	1306
22°	1286	1283	1291	1289	1296	1295	1295	1293
23°	1271	1269	1276	1276	1280	1282	1280	1277
24°	1257	1253	1264	1261	1268	1265	1267	1261
25°	1243	1236	1251	1243	1256	1248	1254	1242
26°	1229	1219	1238	1224	1243	1228	1240	1225
27°	1209	1198	1218	1204	1222	1209	1220	1206
28°	1190	1178	1198	1185	1202	1190	1201	1187
29°	1170	1157	1177	1164	1183	1168	1180	1167
30°	1147	1136	1155	1144	1159	1146	1157	1146
31°	1124	1114	1134	1123	1138	1123	1136	1123
32°	1099	1091	1110	1099	1114	1101	1112	1098
33°	1076	1068	1087	1074	1091	1077	1089	1075
34°	1051	1044	1063	1050	1067	1053	1064	1052
35°	1027	1020	1037	1026	1041	1028	1039	1027
36°	1000	993	1011	1000	1016	1002	1014	1000
37°	974	966	985	976	989	976	988	975
38°	947	940	959	948	962	950	962	948
39°	918	913	931	920	934	922	932	920
40°	890	884	901	892	905	895	904	892
41°	860	855	872	863	876	866	876	863
42°	831	826	843	835	847	837	845	834
43°	801	797	812	804	817	808	817	805
44°	770	767	783	777	787	778	786	774
45°	740	736	752	745	757	748	755	745
46°	708	705	720	715	725	719	725	715
47°	677	675	690	684	695	687	695	684
48°	647	645	660	653	663	656	664	654

Luminous Intensity (cd) Distribution Data (cont.)

C y	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
49°	616	613	628	622	632	625	634	623
50°	585	584	598	593	603	597	604	594
51°	555	556	567	565	572	568	573	566
52°	525	527	536	536	543	540	543	537
53°	495	497	506	506	512	512	513	507
54°	466	469	477	478	483	482	484	477
55°	438	440	448	449	455	453	456	447
56°	410	412	420	420	427	425	427	418
57°	383	385	392	393	400	398	400	391
58°	356	358	365	366	373	371	373	363
59°	332	332	340	340	347	345	346	337
60°	307	307	315	316	322	320	320	311
61°	284	285	291	293	298	296	295	287
62°	263	263	269	270	275	273	272	263
63°	243	243	248	250	254	251	250	242
64°	224	224	229	230	234	231	230	223
65°	207	207	213	213	216	212	212	205
66°	192	192	196	197	200	196	195	189
67°	178	179	183	183	185	182	180	175
68°	166	166	169	169	171	169	167	162
69°	154	155	158	157	159	156	155	150
70°	145	144	148	146	149	145	146	140
71°	135	135	138	137	139	136	136	132
72°	126	128	129	129	129	128	127	125
73°	120	122	123	123	123	122	120	119
74°	113	115	116	117	117	115	114	112
75°	106	108	110	110	110	109	107	105
76°	99	101	103	103	103	102	100	98
77°	92	94	96	96	96	95	93	91
78°	84	86	89	89	89	88	86	84
79°	76	79	82	82	82	81	79	77
80°	69	71	74	75	75	73	72	70
81°	61	63	66	68	68	66	65	62
82°	53	54	59	61	60	59	57	54
83°	45	46	51	53	53	51	50	46
84°	36	38	42	44	45	44	42	38
85°	27	29	34	36	38	36	34	30
86°	19	20	25	28	30	28	26	22
87°	11	11	17	20	22	20	18	13
88°	3	7	10	11	14	12	11	5
89°	1	4	2	7	6	5	3	2
90°	0	0	0	4	0	3	0	0
91°	0	0	0	0	0	2	0	0
92°	0	0	0	0	0	0	0	0
93°	0	0	0	0	0	0	0	0
94°	0	0	0	0	0	0	0	0
95°	0	0	0	0	0	0	0	0
96°	0	0	0	0	0	0	0	0
97°	0	0	0	0	0	0	0	0

Luminous Intensity (cd) Distribution Data (cont.)

C y	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
98°	0	0	0	0	0	0	0	0
99°	0	0	0	0	0	0	0	0
100°	0	0	0	0	0	0	0	0
101°	0	0	0	0	0	0	0	0
102°	0	0	0	0	0	0	0	0
103°	0	0	0	0	0	0	0	0
104°	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0
106°	0	0	0	0	0	0	0	0
107°	0	0	0	0	0	0	0	0
108°	0	0	0	0	0	0	0	0
109°	0	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0	0
111°	0	0	0	0	0	0	0	0
112°	0	0	0	0	0	0	0	0
113°	0	0	0	0	0	0	0	0
114°	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0
116°	0	0	0	0	0	0	0	0
117°	0	0	0	0	0	0	0	0
118°	0	0	0	0	0	0	0	0
119°	0	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0	0
121°	0	0	0	0	0	0	0	0
122°	0	0	0	0	0	0	0	0
123°	0	0	0	0	0	0	0	0
124°	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0
126°	0	0	0	0	0	0	0	0
127°	0	0	0	0	0	0	0	0
128°	0	0	0	0	0	0	0	0
129°	0	0	0	0	0	0	0	0
130°	0	0	0	0	0	0	0	0
131°	0	0	0	0	0	0	0	0
132°	0	0	0	0	0	0	0	0
133°	0	0	0	0	0	0	0	0
134°	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0
136°	0	0	0	0	0	0	0	0
137°	0	0	0	0	0	0	0	0
138°	0	0	0	0	0	0	0	0
139°	0	0	0	0	0	0	0	0
140°	0	0	0	0	0	0	0	0
141°	1	0	0	0	0	0	0	0
142°	1	0	1	1	0	0	0	1
143°	1	1	1	1	1	1	1	1
144°	1	1	1	1	1	1	1	1
145°	1	1	1	1	1	1	1	1
146°	1	1	1	1	1	1	1	1

Luminous Intensity (cd) Distribution Data (cont.)

C γ	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
147°	1	1	1	1	1	1	1	1
148°	1	1	1	1	1	1	1	1
149°	1	1	1	1	1	1	1	1
150°	1	1	1	1	1	1	1	1
151°	1	1	1	1	1	1	1	1
152°	1	1	1	1	1	1	1	1
153°	1	1	1	1	1	1	1	1
154°	1	1	1	1	1	1	1	1
155°	1	1	1	1	1	1	1	1
156°	1	1	1	1	1	1	1	1
157°	1	1	1	1	1	1	1	1
158°	1	1	1	1	1	1	1	1
159°	1	1	1	1	1	1	1	1
160°	1	1	1	1	1	1	1	1
161°	1	1	1	1	1	1	1	1
162°	1	1	1	1	1	1	1	1
163°	1	1	1	1	1	1	1	1
164°	1	1	1	1	1	1	1	1
165°	1	1	1	1	1	1	1	1
166°	1	1	1	1	1	1	1	1
167°	1	1	1	1	1	1	1	1
168°	1	1	1	1	1	1	1	1
169°	1	1	1	1	1	1	1	1
170°	1	1	1	1	1	1	1	1
171°	1	1	1	1	1	1	1	1
172°	1	1	1	1	1	1	1	1
173°	2	1	1	1	1	1	1	2
174°	2	2	1	1	1	1	2	2
175°	2	2	2	2	1	2	2	2
176°	2	2	2	2	2	2	2	2
177°	2	2	2	2	2	2	2	2
178°	2	2	2	2	2	2	2	2
179°	2	2	2	2	2	2	2	2
180°	2	2	2	2	2	2	2	2

Zonal Lumen Density Measurement

Deg	Flux (lm)	%	Deg	Flux (lm)	%
0-5	34.4	1.13	0-5	34.4	1.13
5-10	101.7	3.36	0-10	136.1	4.49
10-15	164.7	5.43	0-15	300.8	9.92
15-20	220.9	7.28	0-20	521.7	17.20
20-25	267.7	8.82	0-25	789.4	26.02
25-30	301.4	9.93	0-30	1090.8	35.95
30-35	318.0	10.49	0-35	1408.8	46.44
35-40	317.5	10.46	0-40	1726.3	56.90
40-45	299.3	9.87	0-45	2025.5	66.77
45-50	265.3	8.74	0-50	2290.8	75.51
50-55	220.7	7.28	0-55	2511.6	82.79
55-60	169.7	5.59	0-60	2681.3	88.38
60-65	121.1	3.99	0-65	2802.4	92.37
65-70	85.2	2.81	0-70	2887.6	95.18
70-75	63.3	2.09	0-75	2951.0	97.27
75-80	46.3	1.53	0-80	2997.3	98.80
80-85	26.5	0.87	0-85	3023.8	99.67
85-90	6.1	0.20	0-90	3029.9	99.87
90-95	0.1	0.00	0-95	3030.0	99.87
95-100	0.1	0.01	0-100	3030.1	99.88
100-105	0.1	0.00	0-105	3030.2	99.88
105-110	0.1	0.00	0-110	3030.3	99.88
110-115	0.1	0.01	0-115	3030.4	99.89
115-120	0.2	0.00	0-120	3030.5	99.89
120-125	0.2	0.01	0-125	3030.7	99.90
125-130	0.2	0.01	0-130	3031.0	99.91
130-135	0.3	0.00	0-135	3031.2	99.91
135-140	0.3	0.02	0-140	3031.6	99.93
140-145	0.4	0.01	0-145	3031.9	99.94
145-150	0.4	0.01	0-150	3032.3	99.95
150-155	0.4	0.01	0-155	3032.7	99.96
155-160	0.4	0.02	0-160	3033.1	99.98
160-165	0.3	0.01	0-165	3033.4	99.99
165-170	0.2	0.00	0-170	3033.6	99.99
170-175	0.1	0.01	0-175	3033.8	100.00
175-180	0.0	0.00	0-180	3033.8	100.00

[Integrating Sphere System]

Test facility was located at Room 301, No.113, Pingkang Road, Dalang, Dongguan, Guangdong, China.

The diameter of the sphere: **1.5M**

The coating reflectance of sphere: **98%**

The Stabilization time: **30 minutes**

Total operating time for integrating sphere test: **1.0 hour**

Test orientation: **Downward**

Test CCT: **3000K**

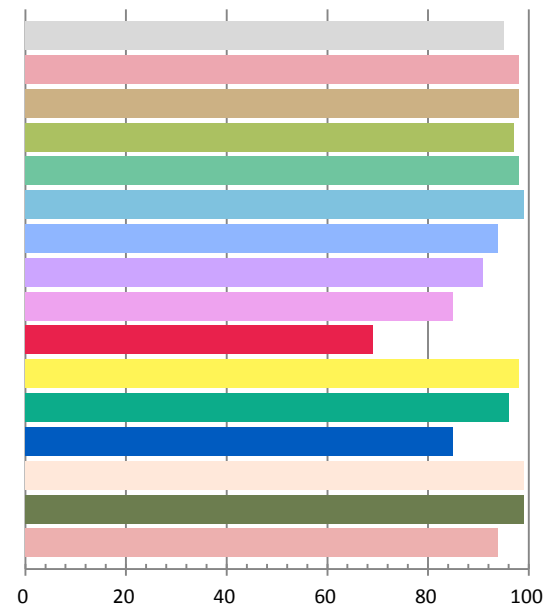
Photometric and Electrical Measurement Result

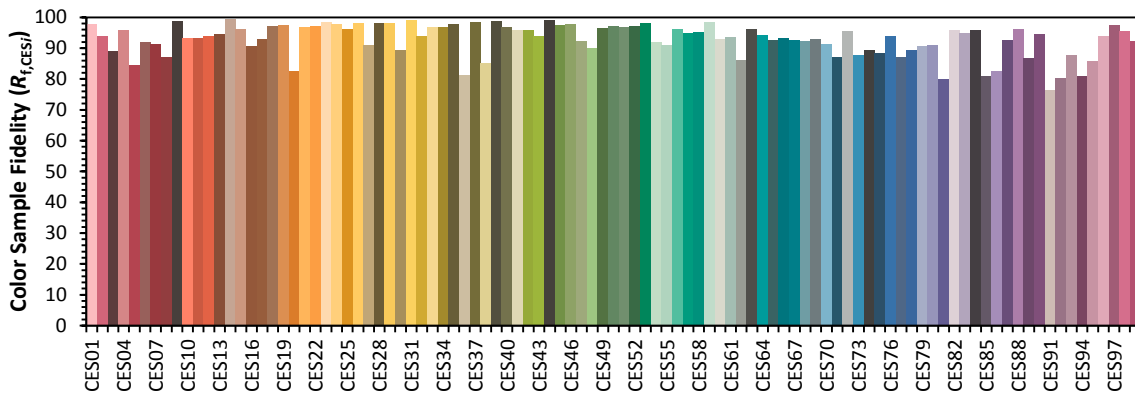
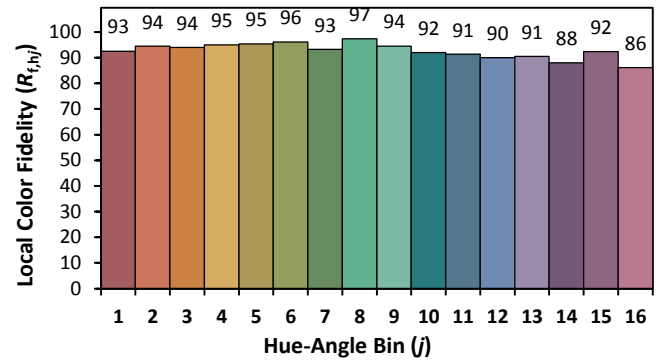
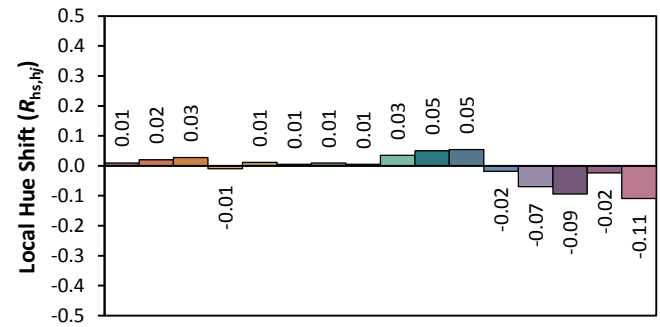
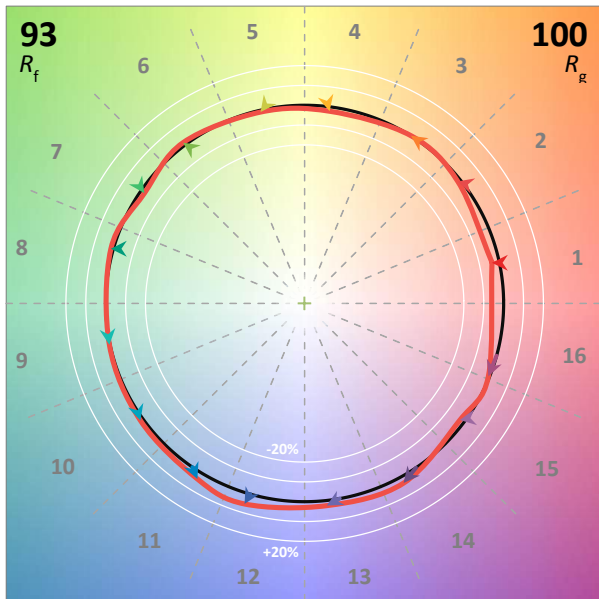
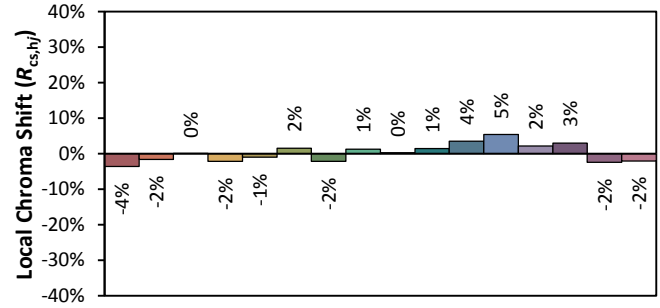
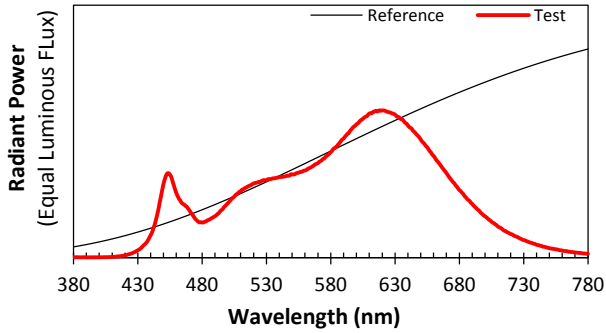
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.1	60	0.2425	28.76	0.9875	3095.6	107.63

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
10.821	2958	-0.00349	0.4349	0.3947	0.2533	0.5173

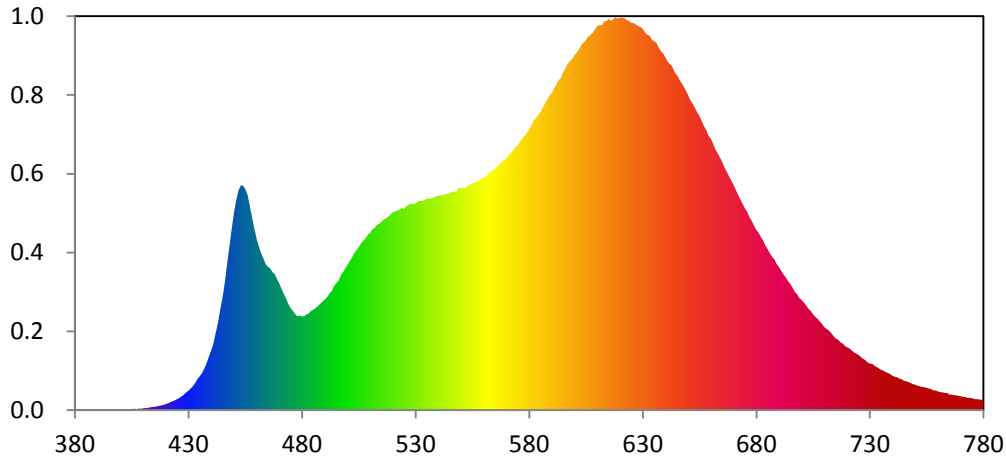
Color Rendering Index

Ra			
95.1			
R1	R2	R3	R4
98	98	97	98
R5	R6	R7	R8
99	94	91	85
R9	R10	R11	R12
69	98	96	85
R13	R14	R15	
99	99	94	





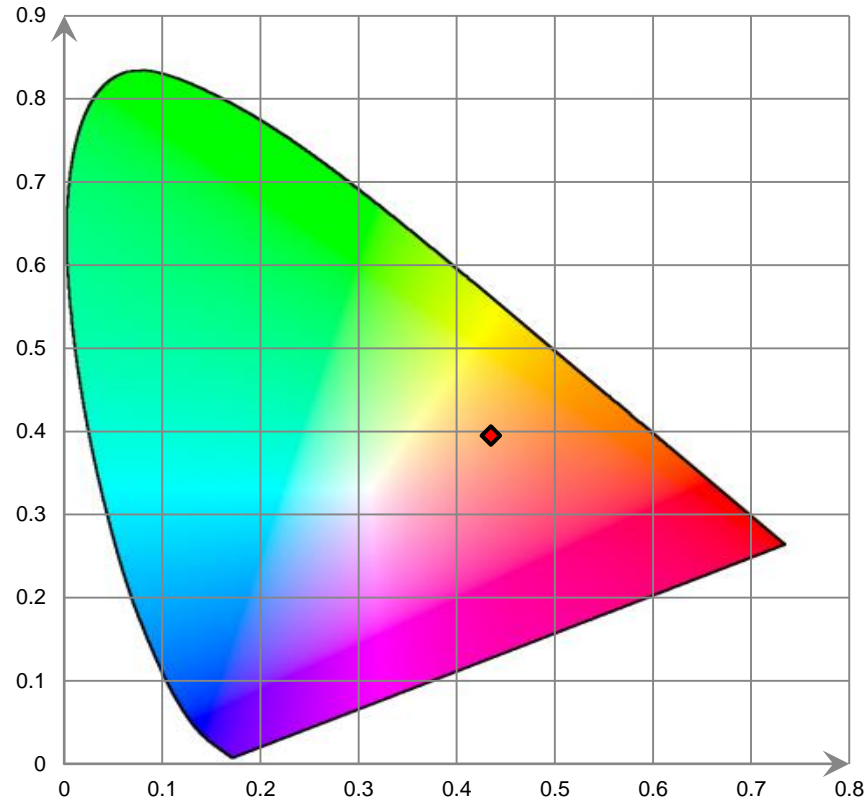
Relative Spectral Power Distribution



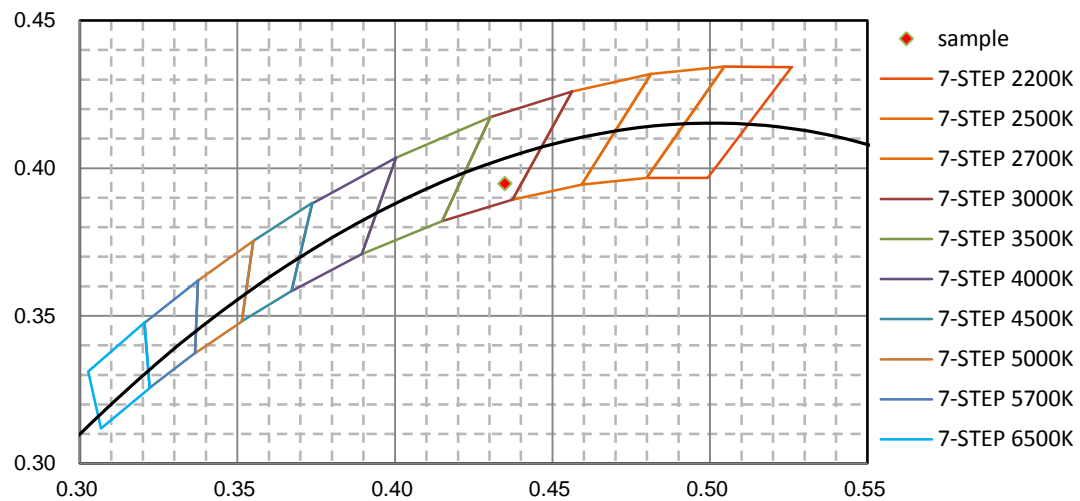
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	1.348E-01	421	1.126E+00	462	2.640E+01	503	2.640E+01	544	3.637E+01
381	7.479E-02	422	1.295E+00	463	2.560E+01	504	2.688E+01	545	3.647E+01
382	1.678E-01	423	1.461E+00	464	2.463E+01	505	2.737E+01	546	3.671E+01
383	1.336E-01	424	1.627E+00	465	2.410E+01	506	2.800E+01	547	3.672E+01
384	1.470E-01	425	1.824E+00	466	2.378E+01	507	2.849E+01	548	3.680E+01
385	8.452E-02	426	2.038E+00	467	2.318E+01	508	2.891E+01	549	3.737E+01
386	1.227E-01	427	2.321E+00	468	2.286E+01	509	2.952E+01	550	3.732E+01
387	1.152E-01	428	2.561E+00	469	2.202E+01	510	2.976E+01	551	3.731E+01
388	1.734E-01	429	2.943E+00	470	2.129E+01	511	3.042E+01	552	3.738E+01
389	8.893E-02	430	3.251E+00	471	2.039E+01	512	3.064E+01	553	3.776E+01
390	8.613E-02	431	3.628E+00	472	1.957E+01	513	3.110E+01	554	3.793E+01
391	9.630E-02	432	3.997E+00	473	1.882E+01	514	3.133E+01	555	3.810E+01
392	9.615E-02	433	4.527E+00	474	1.789E+01	515	3.170E+01	556	3.835E+01
393	1.117E-01	434	5.179E+00	475	1.716E+01	516	3.203E+01	557	3.841E+01
394	7.330E-02	435	5.727E+00	476	1.663E+01	517	3.225E+01	558	3.861E+01
395	1.281E-01	436	6.258E+00	477	1.608E+01	518	3.253E+01	559	3.896E+01
396	9.853E-02	437	6.982E+00	478	1.576E+01	519	3.288E+01	560	3.907E+01
397	1.268E-01	438	7.838E+00	479	1.591E+01	520	3.326E+01	561	3.928E+01
398	8.626E-02	439	8.983E+00	480	1.573E+01	521	3.339E+01	562	3.972E+01
399	1.288E-01	440	1.004E+01	481	1.575E+01	522	3.359E+01	563	4.005E+01
400	8.338E-02	441	1.115E+01	482	1.611E+01	523	3.364E+01	564	4.028E+01
401	1.053E-01	442	1.290E+01	483	1.618E+01	524	3.397E+01	565	4.061E+01
402	1.336E-01	443	1.454E+01	484	1.668E+01	525	3.389E+01	566	4.099E+01
403	1.421E-01	444	1.673E+01	485	1.685E+01	526	3.432E+01	567	4.140E+01
404	1.729E-01	445	1.901E+01	486	1.719E+01	527	3.454E+01	568	4.182E+01
405	1.249E-01	446	2.156E+01	487	1.751E+01	528	3.479E+01	569	4.208E+01
406	2.076E-01	447	2.461E+01	488	1.788E+01	529	3.461E+01	570	4.235E+01
407	1.738E-01	448	2.743E+01	489	1.822E+01	530	3.477E+01	571	4.296E+01
408	2.231E-01	449	3.040E+01	490	1.856E+01	531	3.506E+01	572	4.323E+01
409	2.177E-01	450	3.308E+01	491	1.893E+01	532	3.525E+01	573	4.367E+01
410	2.696E-01	451	3.521E+01	492	1.955E+01	533	3.519E+01	574	4.426E+01
411	2.901E-01	452	3.684E+01	493	1.992E+01	534	3.533E+01	575	4.448E+01
412	3.404E-01	453	3.777E+01	494	2.074E+01	535	3.555E+01	576	4.519E+01
413	4.219E-01	454	3.782E+01	495	2.129E+01	536	3.555E+01	577	4.564E+01
414	4.668E-01	455	3.717E+01	496	2.174E+01	537	3.566E+01	578	4.614E+01
415	5.439E-01	456	3.620E+01	497	2.259E+01	538	3.577E+01	579	4.670E+01
416	5.650E-01	457	3.428E+01	498	2.315E+01	539	3.590E+01	580	4.726E+01
417	6.837E-01	458	3.243E+01	499	2.378E+01	540	3.611E+01	581	4.789E+01
418	7.379E-01	459	3.054E+01	500	2.438E+01	541	3.616E+01	582	4.869E+01
419	8.707E-01	460	2.885E+01	501	2.502E+01	542	3.616E+01	583	4.913E+01
420	9.585E-01	461	2.758E+01	502	2.565E+01	543	3.630E+01	584	4.959E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	5.013E+01	626	6.514E+01	667	4.012E+01	708	1.490E+01	749	4.333E+00
586	5.086E+01	627	6.488E+01	668	3.935E+01	709	1.449E+01	750	4.239E+00
587	5.152E+01	628	6.465E+01	669	3.865E+01	710	1.392E+01	751	4.066E+00
588	5.232E+01	629	6.446E+01	670	3.787E+01	711	1.360E+01	752	3.998E+00
589	5.301E+01	630	6.417E+01	671	3.700E+01	712	1.334E+01	753	3.889E+00
590	5.338E+01	631	6.354E+01	672	3.619E+01	713	1.292E+01	754	3.811E+00
591	5.418E+01	632	6.314E+01	673	3.541E+01	714	1.244E+01	755	3.704E+00
592	5.476E+01	633	6.301E+01	674	3.469E+01	715	1.198E+01	756	3.621E+00
593	5.552E+01	634	6.236E+01	675	3.391E+01	716	1.187E+01	757	3.484E+00
594	5.584E+01	635	6.207E+01	676	3.338E+01	717	1.141E+01	758	3.291E+00
595	5.686E+01	636	6.182E+01	677	3.248E+01	718	1.117E+01	759	3.272E+00
596	5.745E+01	637	6.107E+01	678	3.188E+01	719	1.083E+01	760	3.137E+00
597	5.820E+01	638	6.045E+01	679	3.105E+01	720	1.056E+01	761	2.992E+00
598	5.873E+01	639	6.001E+01	680	3.028E+01	721	1.036E+01	762	2.944E+00
599	5.916E+01	640	5.930E+01	681	2.984E+01	722	1.003E+01	763	2.869E+00
600	5.978E+01	641	5.861E+01	682	2.910E+01	723	9.669E+00	764	2.837E+00
601	6.017E+01	642	5.823E+01	683	2.856E+01	724	9.477E+00	765	2.577E+00
602	6.078E+01	643	5.778E+01	684	2.766E+01	725	9.237E+00	766	2.583E+00
603	6.143E+01	644	5.689E+01	685	2.707E+01	726	8.938E+00	767	2.466E+00
604	6.185E+01	645	5.641E+01	686	2.637E+01	727	8.618E+00	768	2.471E+00
605	6.228E+01	646	5.572E+01	687	2.582E+01	728	8.378E+00	769	2.373E+00
606	6.278E+01	647	5.509E+01	688	2.538E+01	729	8.036E+00	770	2.289E+00
607	6.315E+01	648	5.453E+01	689	2.460E+01	730	7.813E+00	771	2.220E+00
608	6.343E+01	649	5.379E+01	690	2.407E+01	731	7.743E+00	772	2.167E+00
609	6.407E+01	650	5.294E+01	691	2.339E+01	732	7.430E+00	773	2.062E+00
610	6.462E+01	651	5.207E+01	692	2.279E+01	733	7.209E+00	774	2.062E+00
611	6.479E+01	652	5.153E+01	693	2.227E+01	734	6.971E+00	775	2.002E+00
612	6.473E+01	653	5.086E+01	694	2.163E+01	735	6.729E+00	776	1.834E+00
613	6.539E+01	654	5.007E+01	695	2.124E+01	736	6.630E+00	777	1.842E+00
614	6.546E+01	655	4.948E+01	696	2.059E+01	737	6.357E+00	778	1.798E+00
615	6.588E+01	656	4.863E+01	697	1.989E+01	738	6.224E+00	779	1.706E+00
616	6.551E+01	657	4.776E+01	698	1.950E+01	739	6.040E+00	780	1.655E+00
617	6.578E+01	658	4.712E+01	699	1.885E+01	740	5.737E+00		
618	6.607E+01	659	4.618E+01	700	1.854E+01	741	5.614E+00		
619	6.586E+01	660	4.560E+01	701	1.804E+01	742	5.515E+00		
620	6.601E+01	661	4.478E+01	702	1.756E+01	743	5.271E+00		
621	6.602E+01	662	4.385E+01	703	1.701E+01	744	5.155E+00		
622	6.591E+01	663	4.318E+01	704	1.663E+01	745	4.898E+00		
623	6.561E+01	664	4.247E+01	705	1.609E+01	746	4.836E+00		
624	6.547E+01	665	4.174E+01	706	1.565E+01	747	4.690E+00		
625	6.519E+01	666	4.088E+01	707	1.536E+01	748	4.529E+00		

CIE 1931 x y Chromaticity Diagram



7-Step Chromaticity Quadrangles



[Integrating Sphere System]

Test facility was located at Room 301, No.113, Pingkang Road, Dalang, Dongguan, Guangdong, China.

The diameter of the sphere: **1.5M**

The coating reflectance of sphere: **98%**

The Stabilization time: **30 minutes**

Total operating time for integrating sphere test: **1.0 hour**

Test orientation: **Downward**

Test CCT: **3500K**

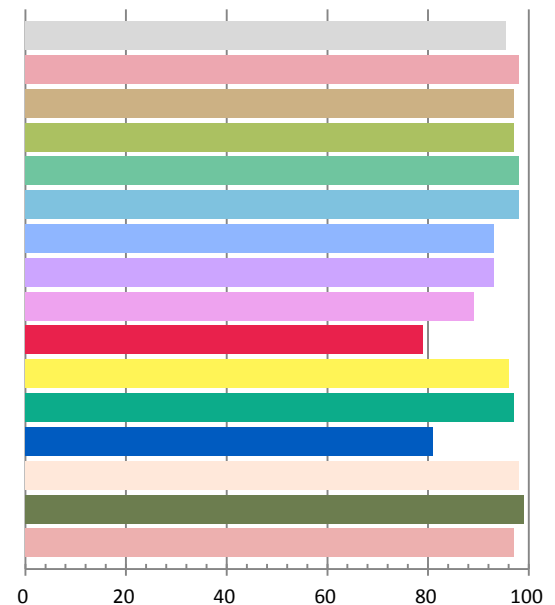
Photometric and Electrical Measurement Result

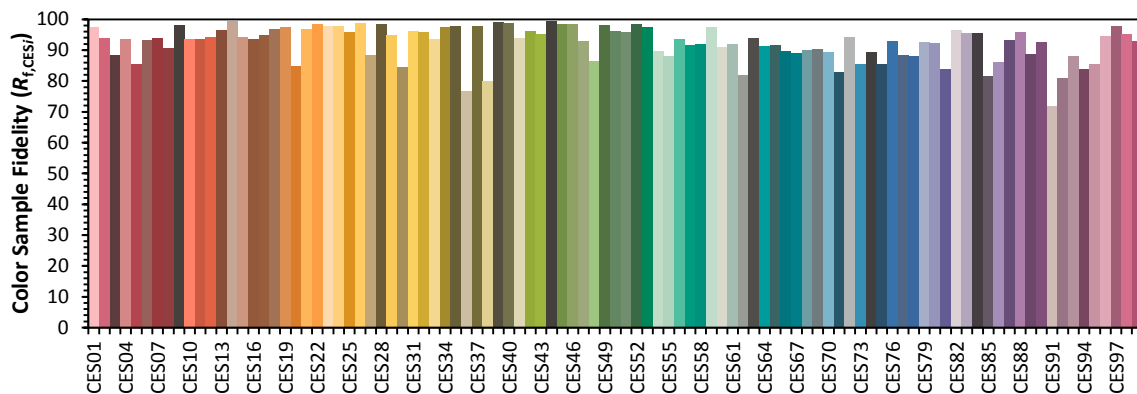
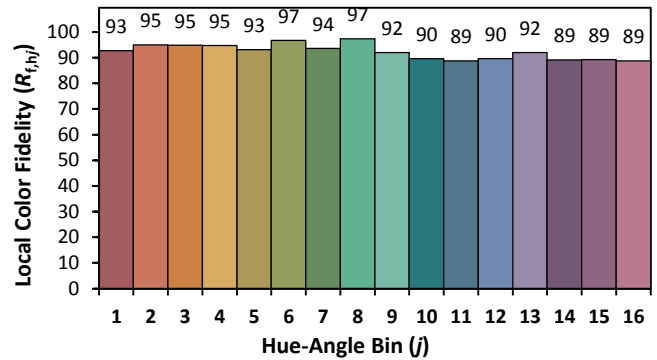
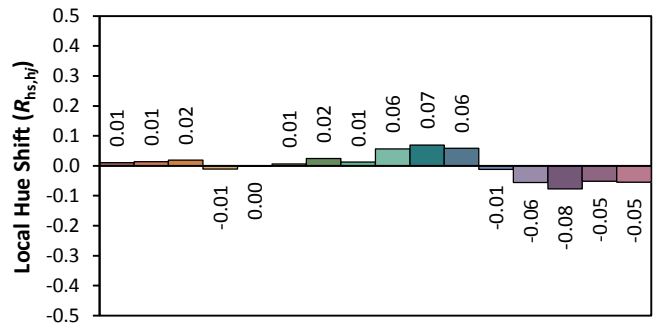
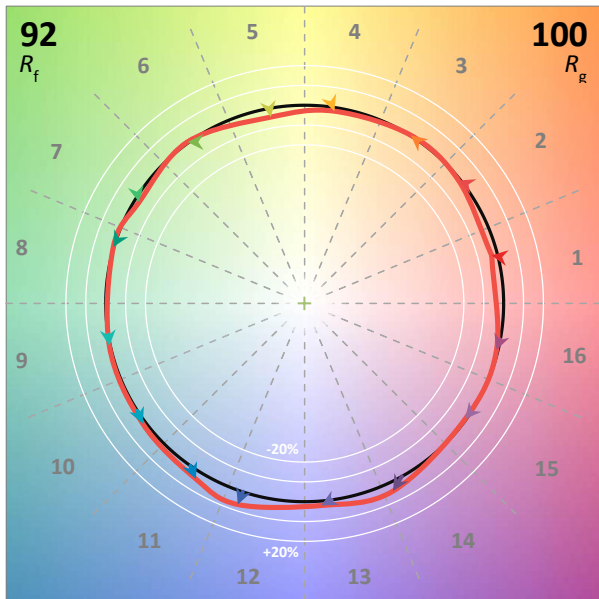
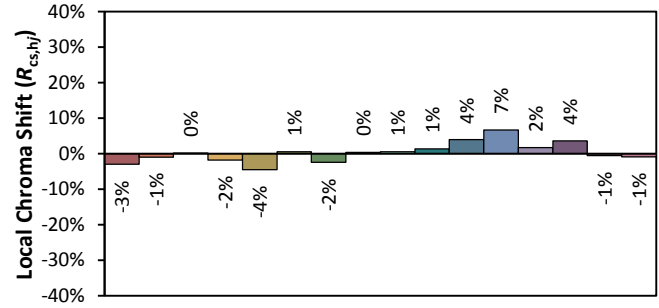
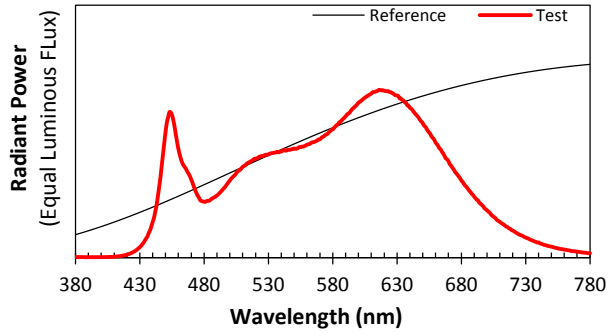
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.2399	28.43	0.9872	3182.6	111.94

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
11.144	3393	-0.00487	0.4061	0.3801	0.2407	0.5069

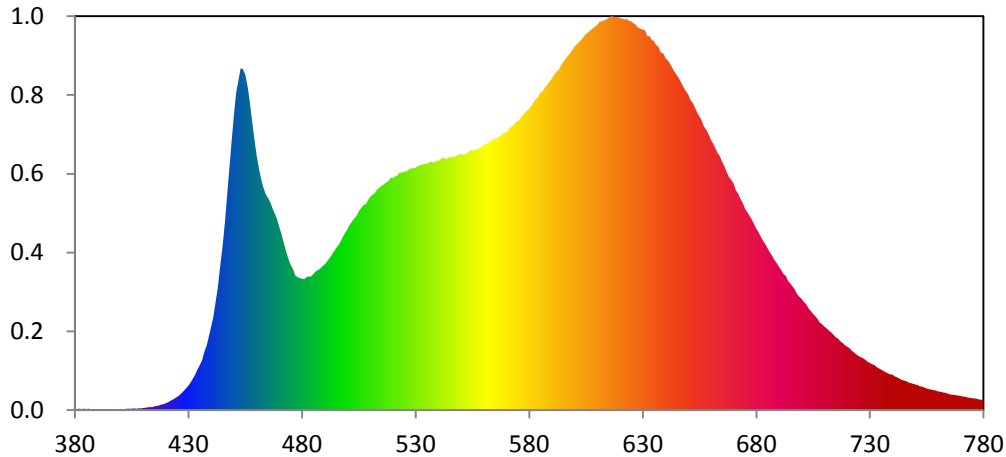
Color Rendering Index

Ra			
95.5			
R1	R2	R3	R4
98	97	97	98
R5	R6	R7	R8
98	93	93	89
R9	R10	R11	R12
79	96	97	81
R13	R14	R15	
98	99	97	





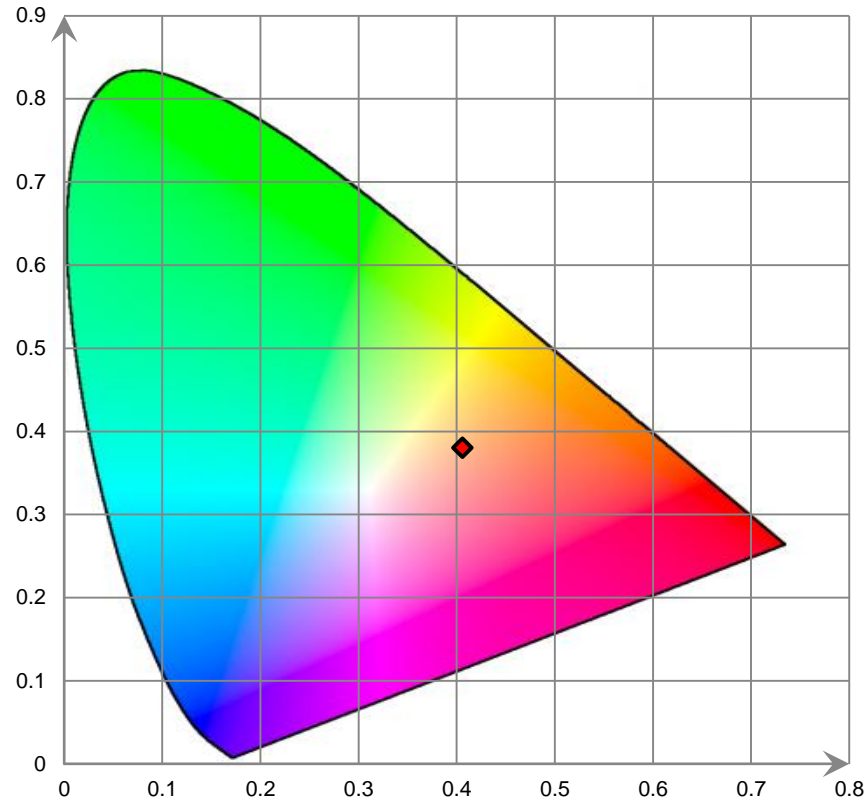
Relative Spectral Power Distribution



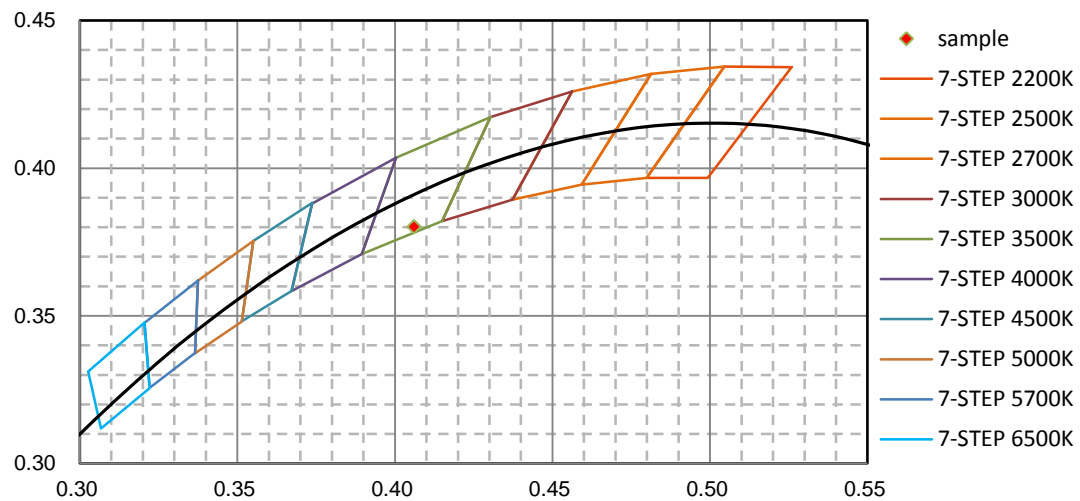
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
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381	1.568E-01	422	1.395E+00	463	3.499E+01	504	3.047E+01	545	3.973E+01
382	2.053E-01	423	1.586E+00	464	3.399E+01	505	3.117E+01	546	3.979E+01
383	1.619E-01	424	1.790E+00	465	3.339E+01	506	3.169E+01	547	3.977E+01
384	1.974E-01	425	2.049E+00	466	3.263E+01	507	3.220E+01	548	4.000E+01
385	1.399E-01	426	2.325E+00	467	3.168E+01	508	3.235E+01	549	4.008E+01
386	1.741E-01	427	2.657E+00	468	3.086E+01	509	3.292E+01	550	4.028E+01
387	1.359E-01	428	3.002E+00	469	2.999E+01	510	3.346E+01	551	4.006E+01
388	9.917E-02	429	3.427E+00	470	2.877E+01	511	3.378E+01	552	4.025E+01
389	1.615E-01	430	3.828E+00	471	2.761E+01	512	3.404E+01	553	4.041E+01
390	1.147E-01	431	4.295E+00	472	2.622E+01	513	3.459E+01	554	4.077E+01
391	1.611E-01	432	4.898E+00	473	2.499E+01	514	3.491E+01	555	4.073E+01
392	1.313E-01	433	5.538E+00	474	2.383E+01	515	3.519E+01	556	4.094E+01
393	1.623E-01	434	6.319E+00	475	2.287E+01	516	3.537E+01	557	4.095E+01
394	9.029E-02	435	7.102E+00	476	2.210E+01	517	3.576E+01	558	4.115E+01
395	1.606E-01	436	7.833E+00	477	2.114E+01	518	3.597E+01	559	4.137E+01
396	1.113E-01	437	9.159E+00	478	2.089E+01	519	3.645E+01	560	4.163E+01
397	1.635E-01	438	1.010E+01	479	2.072E+01	520	3.643E+01	561	4.181E+01
398	1.450E-01	439	1.156E+01	480	2.059E+01	521	3.665E+01	562	4.188E+01
399	1.337E-01	440	1.307E+01	481	2.057E+01	522	3.684E+01	563	4.224E+01
400	1.640E-01	441	1.463E+01	482	2.088E+01	523	3.730E+01	564	4.251E+01
401	1.607E-01	442	1.693E+01	483	2.097E+01	524	3.728E+01	565	4.259E+01
402	1.550E-01	443	1.924E+01	484	2.095E+01	525	3.750E+01	566	4.274E+01
403	1.706E-01	444	2.246E+01	485	2.135E+01	526	3.744E+01	567	4.296E+01
404	2.019E-01	445	2.583E+01	486	2.174E+01	527	3.779E+01	568	4.324E+01
405	1.867E-01	446	2.942E+01	487	2.199E+01	528	3.795E+01	569	4.360E+01
406	2.291E-01	447	3.373E+01	488	2.224E+01	529	3.796E+01	570	4.361E+01
407	2.166E-01	448	3.794E+01	489	2.258E+01	530	3.807E+01	571	4.408E+01
408	2.454E-01	449	4.217E+01	490	2.290E+01	531	3.833E+01	572	4.450E+01
409	2.465E-01	450	4.623E+01	491	2.331E+01	532	3.847E+01	573	4.468E+01
410	2.987E-01	451	4.977E+01	492	2.381E+01	533	3.856E+01	574	4.518E+01
411	3.645E-01	452	5.171E+01	493	2.429E+01	534	3.866E+01	575	4.543E+01
412	3.818E-01	453	5.365E+01	494	2.486E+01	535	3.873E+01	576	4.565E+01
413	4.495E-01	454	5.361E+01	495	2.540E+01	536	3.884E+01	577	4.621E+01
414	4.725E-01	455	5.263E+01	496	2.590E+01	537	3.907E+01	578	4.666E+01
415	5.574E-01	456	5.085E+01	497	2.648E+01	538	3.880E+01	579	4.708E+01
416	6.298E-01	457	4.837E+01	498	2.720E+01	539	3.913E+01	580	4.729E+01
417	7.189E-01	458	4.546E+01	499	2.783E+01	540	3.912E+01	581	4.781E+01
418	8.378E-01	459	4.262E+01	500	2.843E+01	541	3.939E+01	582	4.836E+01
419	9.104E-01	460	4.006E+01	501	2.909E+01	542	3.973E+01	583	4.885E+01
420	1.058E+00	461	3.808E+01	502	2.956E+01	543	3.947E+01	584	4.912E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	4.988E+01	626	6.075E+01	667	3.742E+01	708	1.374E+01	749	4.110E+00
586	5.006E+01	627	6.056E+01	668	3.658E+01	709	1.346E+01	750	4.005E+00
587	5.067E+01	628	6.010E+01	669	3.620E+01	710	1.313E+01	751	3.908E+00
588	5.114E+01	629	5.988E+01	670	3.557E+01	711	1.277E+01	752	3.716E+00
589	5.161E+01	630	5.981E+01	671	3.448E+01	712	1.246E+01	753	3.645E+00
590	5.211E+01	631	5.964E+01	672	3.398E+01	713	1.215E+01	754	3.502E+00
591	5.270E+01	632	5.873E+01	673	3.320E+01	714	1.179E+01	755	3.385E+00
592	5.313E+01	633	5.873E+01	674	3.258E+01	715	1.138E+01	756	3.269E+00
593	5.342E+01	634	5.815E+01	675	3.170E+01	716	1.123E+01	757	3.193E+00
594	5.409E+01	635	5.796E+01	676	3.114E+01	717	1.080E+01	758	3.094E+00
595	5.471E+01	636	5.732E+01	677	3.056E+01	718	1.057E+01	759	3.060E+00
596	5.513E+01	637	5.705E+01	678	2.995E+01	719	1.018E+01	760	2.911E+00
597	5.561E+01	638	5.618E+01	679	2.927E+01	720	9.951E+00	761	2.873E+00
598	5.600E+01	639	5.603E+01	680	2.844E+01	721	9.693E+00	762	2.777E+00
599	5.656E+01	640	5.528E+01	681	2.790E+01	722	9.321E+00	763	2.684E+00
600	5.713E+01	641	5.496E+01	682	2.722E+01	723	9.060E+00	764	2.624E+00
601	5.748E+01	642	5.443E+01	683	2.656E+01	724	8.765E+00	765	2.469E+00
602	5.782E+01	643	5.374E+01	684	2.605E+01	725	8.497E+00	766	2.389E+00
603	5.818E+01	644	5.317E+01	685	2.541E+01	726	8.299E+00	767	2.381E+00
604	5.865E+01	645	5.262E+01	686	2.479E+01	727	8.131E+00	768	2.318E+00
605	5.901E+01	646	5.212E+01	687	2.425E+01	728	7.892E+00	769	2.263E+00
606	5.934E+01	647	5.145E+01	688	2.360E+01	729	7.595E+00	770	2.195E+00
607	5.962E+01	648	5.072E+01	689	2.311E+01	730	7.396E+00	771	2.113E+00
608	5.995E+01	649	5.014E+01	690	2.251E+01	731	7.172E+00	772	2.034E+00
609	6.025E+01	650	4.959E+01	691	2.193E+01	732	7.030E+00	773	1.943E+00
610	6.050E+01	651	4.870E+01	692	2.132E+01	733	6.744E+00	774	1.903E+00
611	6.104E+01	652	4.828E+01	693	2.107E+01	734	6.547E+00	775	1.833E+00
612	6.107E+01	653	4.754E+01	694	2.025E+01	735	6.336E+00	776	1.816E+00
613	6.124E+01	654	4.670E+01	695	1.985E+01	736	6.134E+00	777	1.776E+00
614	6.135E+01	655	4.618E+01	696	1.938E+01	737	5.946E+00	778	1.645E+00
615	6.159E+01	656	4.546E+01	697	1.893E+01	738	5.757E+00	779	1.613E+00
616	6.188E+01	657	4.456E+01	698	1.822E+01	739	5.566E+00	780	1.588E+00
617	6.184E+01	658	4.406E+01	699	1.782E+01	740	5.587E+00		
618	6.170E+01	659	4.341E+01	700	1.744E+01	741	5.258E+00		
619	6.176E+01	660	4.244E+01	701	1.696E+01	742	5.111E+00		
620	6.155E+01	661	4.184E+01	702	1.660E+01	743	4.932E+00		
621	6.150E+01	662	4.116E+01	703	1.595E+01	744	4.733E+00		
622	6.136E+01	663	4.032E+01	704	1.551E+01	745	4.613E+00		
623	6.146E+01	664	3.986E+01	705	1.505E+01	746	4.498E+00		
624	6.114E+01	665	3.899E+01	706	1.474E+01	747	4.332E+00		
625	6.103E+01	666	3.833E+01	707	1.426E+01	748	4.209E+00		

CIE 1931 x y Chromaticity Diagram



7-Step Chromaticity Quadrangles



[Integrating Sphere System]

Test facility was located at Room 301, No.113, Pingkang Road, Dalang, Dongguan, Guangdong, China.

The diameter of the sphere: **1.5M**

The coating reflectance of sphere: **98%**

The Stabilization time: **30 minutes**

Total operating time for integrating sphere test: **1.0 hour**

Test orientation: **Downward**

Test CCT: **4000K**

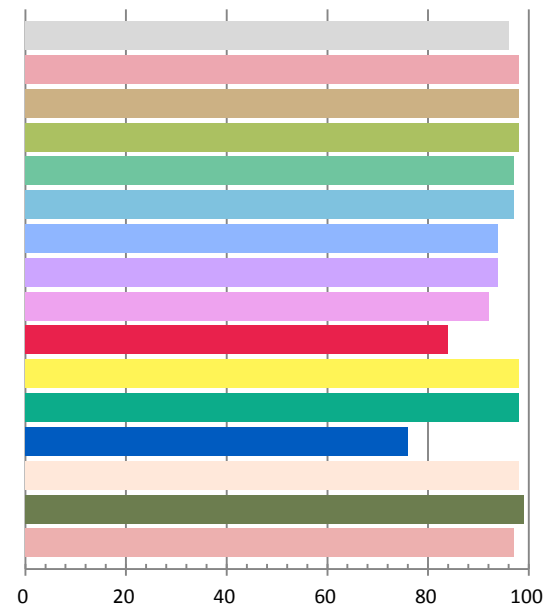
Photometric and Electrical Measurement Result

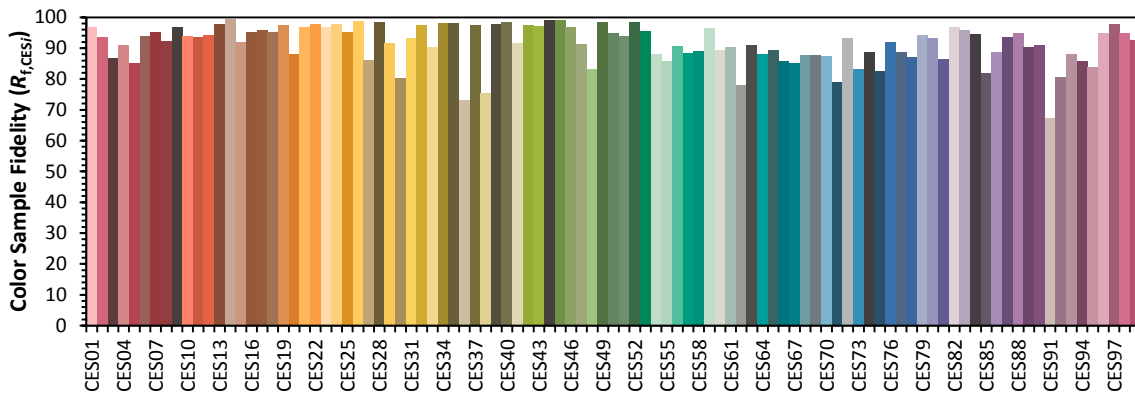
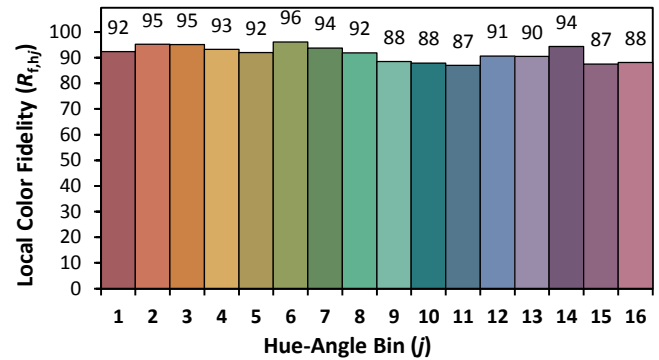
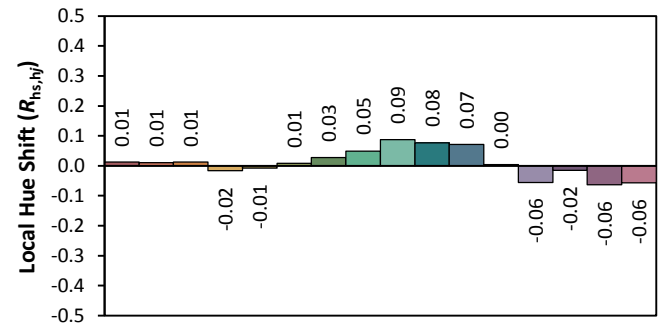
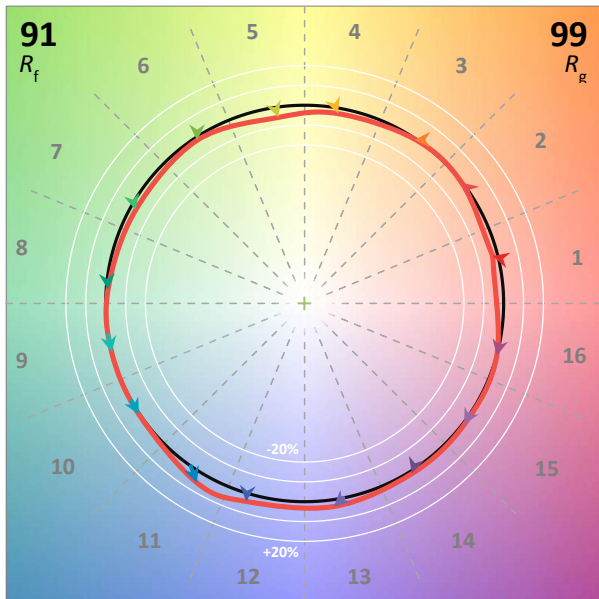
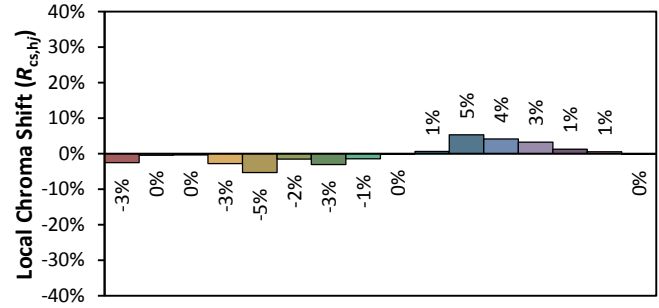
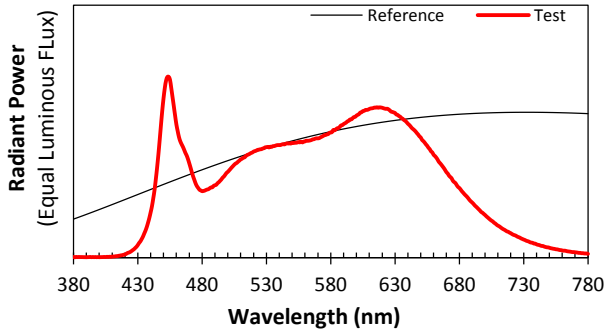
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
119.9	60	0.2403	28.45	0.9874	3223.5	113.3

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
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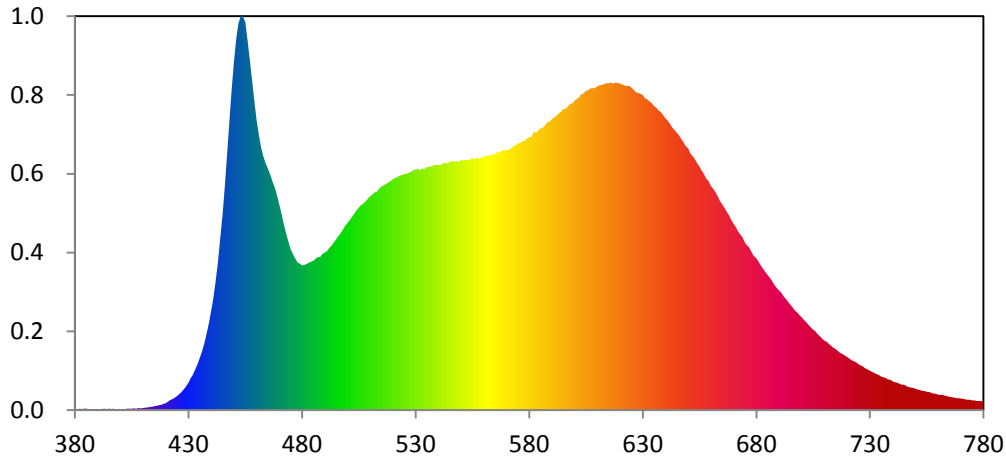
Color Rendering Index

Ra			
96.0			
R1	R2	R3	R4
98	98	98	97
R5	R6	R7	R8
97	94	94	92
R9	R10	R11	R12
84	98	98	76
R13	R14	R15	
98	99	97	





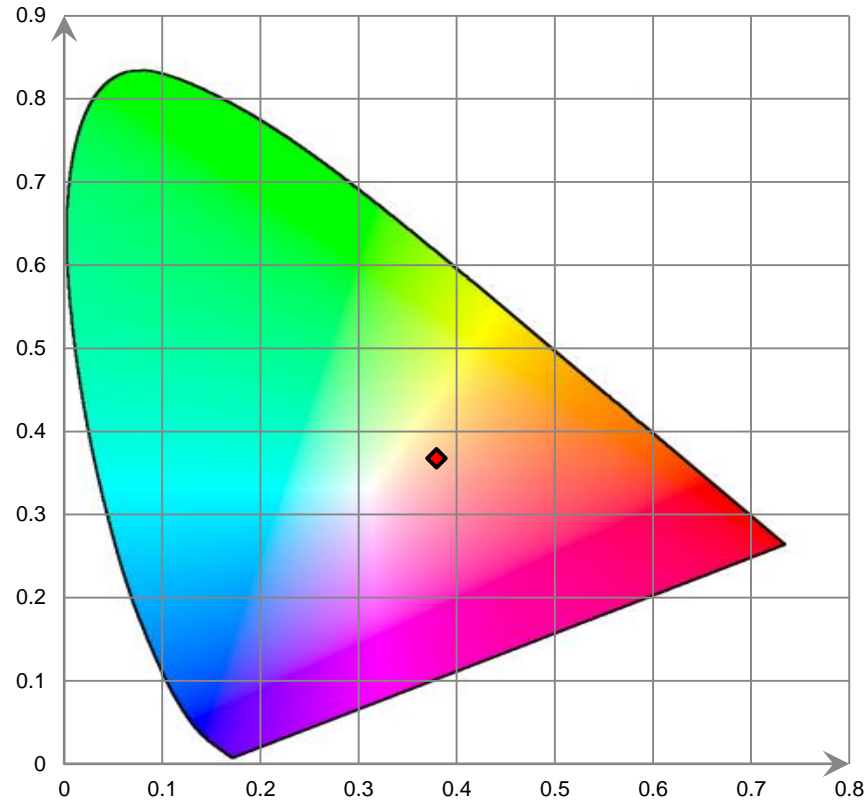
Relative Spectral Power Distribution



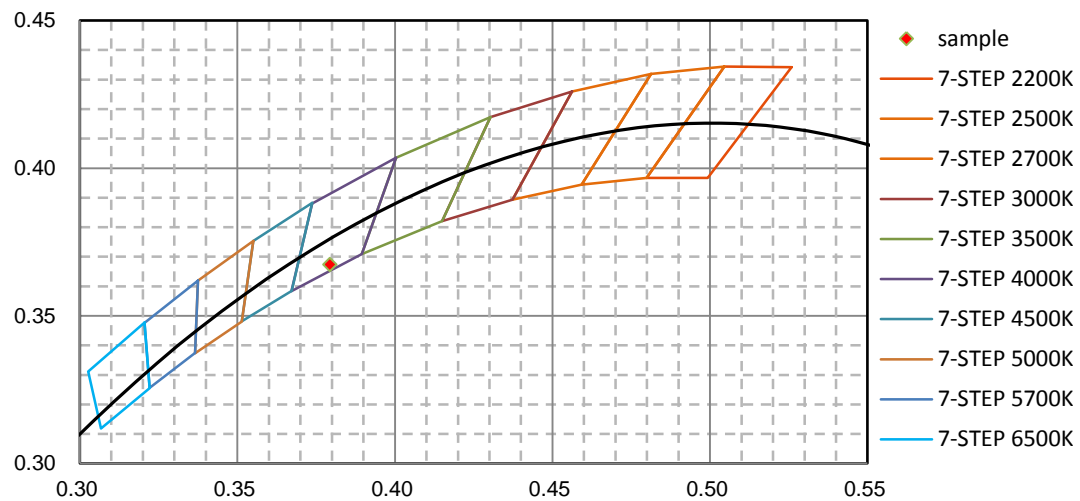
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380	2.413E-01	421	1.399E+00	462	4.506E+01	503	3.368E+01	544	4.230E+01
381	9.200E-02	422	1.694E+00	463	4.351E+01	504	3.419E+01	545	4.253E+01
382	2.324E-01	423	1.857E+00	464	4.240E+01	505	3.470E+01	546	4.270E+01
383	1.685E-01	424	2.086E+00	465	4.145E+01	506	3.512E+01	547	4.262E+01
384	2.091E-01	425	2.393E+00	466	4.034E+01	507	3.540E+01	548	4.271E+01
385	1.913E-01	426	2.762E+00	467	3.913E+01	508	3.587E+01	549	4.260E+01
386	1.798E-01	427	3.105E+00	468	3.813E+01	509	3.625E+01	550	4.286E+01
387	1.710E-01	428	3.575E+00	469	3.681E+01	510	3.670E+01	551	4.281E+01
388	1.477E-01	429	4.063E+00	470	3.526E+01	511	3.693E+01	552	4.290E+01
389	1.493E-01	430	4.683E+00	471	3.364E+01	512	3.735E+01	553	4.291E+01
390	1.211E-01	431	5.447E+00	472	3.191E+01	513	3.744E+01	554	4.301E+01
391	1.571E-01	432	6.044E+00	473	3.034E+01	514	3.795E+01	555	4.318E+01
392	1.661E-01	433	6.905E+00	474	2.899E+01	515	3.831E+01	556	4.303E+01
393	2.150E-01	434	7.816E+00	475	2.765E+01	516	3.853E+01	557	4.331E+01
394	1.379E-01	435	8.975E+00	476	2.667E+01	517	3.878E+01	558	4.303E+01
395	1.982E-01	436	1.009E+01	477	2.598E+01	518	3.908E+01	559	4.335E+01
396	1.427E-01	437	1.147E+01	478	2.533E+01	519	3.926E+01	560	4.341E+01
397	1.897E-01	438	1.310E+01	479	2.508E+01	520	3.960E+01	561	4.370E+01
398	1.284E-01	439	1.487E+01	480	2.481E+01	521	3.980E+01	562	4.364E+01
399	1.846E-01	440	1.694E+01	481	2.489E+01	522	3.995E+01	563	4.369E+01
400	1.280E-01	441	1.915E+01	482	2.502E+01	523	4.022E+01	564	4.379E+01
401	1.649E-01	442	2.209E+01	483	2.526E+01	524	4.032E+01	565	4.394E+01
402	1.652E-01	443	2.521E+01	484	2.544E+01	525	4.045E+01	566	4.417E+01
403	1.907E-01	444	2.923E+01	485	2.558E+01	526	4.051E+01	567	4.424E+01
404	2.226E-01	445	3.359E+01	486	2.594E+01	527	4.074E+01	568	4.447E+01
405	1.909E-01	446	3.854E+01	487	2.622E+01	528	4.087E+01	569	4.457E+01
406	2.694E-01	447	4.392E+01	488	2.626E+01	529	4.119E+01	570	4.456E+01
407	2.324E-01	448	4.949E+01	489	2.681E+01	530	4.125E+01	571	4.464E+01
408	2.976E-01	449	5.484E+01	490	2.703E+01	531	4.137E+01	572	4.492E+01
409	2.689E-01	450	5.950E+01	491	2.722E+01	532	4.115E+01	573	4.517E+01
410	3.301E-01	451	6.346E+01	492	2.780E+01	533	4.147E+01	574	4.542E+01
411	3.981E-01	452	6.621E+01	493	2.818E+01	534	4.134E+01	575	4.572E+01
412	4.127E-01	453	6.751E+01	494	2.871E+01	535	4.165E+01	576	4.581E+01
413	5.065E-01	454	6.757E+01	495	2.923E+01	536	4.166E+01	577	4.606E+01
414	5.366E-01	455	6.651E+01	496	2.988E+01	537	4.183E+01	578	4.615E+01
415	6.387E-01	456	6.339E+01	497	3.033E+01	538	4.199E+01	579	4.661E+01
416	7.160E-01	457	5.999E+01	498	3.098E+01	539	4.205E+01	580	4.676E+01
417	8.253E-01	458	5.658E+01	499	3.164E+01	540	4.204E+01	581	4.689E+01
418	8.981E-01	459	5.303E+01	500	3.204E+01	541	4.207E+01	582	4.771E+01
419	1.044E+00	460	4.973E+01	501	3.257E+01	542	4.227E+01	583	4.753E+01
420	1.169E+00	461	4.729E+01	502	3.311E+01	543	4.238E+01	584	4.795E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	4.831E+01	626	5.498E+01	667	3.407E+01	708	1.271E+01	749	3.794E+00
586	4.845E+01	627	5.454E+01	668	3.343E+01	709	1.227E+01	750	3.672E+00
587	4.883E+01	628	5.443E+01	669	3.268E+01	710	1.193E+01	751	3.505E+00
588	4.940E+01	629	5.423E+01	670	3.189E+01	711	1.168E+01	752	3.415E+00
589	4.949E+01	630	5.404E+01	671	3.138E+01	712	1.133E+01	753	3.287E+00
590	4.989E+01	631	5.348E+01	672	3.061E+01	713	1.096E+01	754	3.233E+00
591	5.019E+01	632	5.333E+01	673	3.011E+01	714	1.064E+01	755	3.099E+00
592	5.047E+01	633	5.292E+01	674	2.962E+01	715	1.040E+01	756	3.058E+00
593	5.091E+01	634	5.265E+01	675	2.870E+01	716	1.009E+01	757	2.952E+00
594	5.112E+01	635	5.215E+01	676	2.821E+01	717	9.785E+00	758	2.814E+00
595	5.164E+01	636	5.187E+01	677	2.782E+01	718	9.627E+00	759	2.769E+00
596	5.163E+01	637	5.140E+01	678	2.706E+01	719	9.326E+00	760	2.655E+00
597	5.207E+01	638	5.110E+01	679	2.639E+01	720	9.089E+00	761	2.561E+00
598	5.251E+01	639	5.060E+01	680	2.601E+01	721	8.775E+00	762	2.573E+00
599	5.259E+01	640	5.004E+01	681	2.543E+01	722	8.512E+00	763	2.462E+00
600	5.307E+01	641	4.961E+01	682	2.477E+01	723	8.342E+00	764	2.346E+00
601	5.335E+01	642	4.908E+01	683	2.424E+01	724	8.159E+00	765	2.273E+00
602	5.364E+01	643	4.847E+01	684	2.367E+01	725	7.844E+00	766	2.216E+00
603	5.421E+01	644	4.804E+01	685	2.319E+01	726	7.648E+00	767	2.127E+00
604	5.431E+01	645	4.762E+01	686	2.270E+01	727	7.446E+00	768	2.036E+00
605	5.477E+01	646	4.713E+01	687	2.211E+01	728	7.155E+00	769	2.046E+00
606	5.483E+01	647	4.652E+01	688	2.148E+01	729	6.948E+00	770	1.965E+00
607	5.518E+01	648	4.597E+01	689	2.099E+01	730	6.727E+00	771	1.919E+00
608	5.519E+01	649	4.530E+01	690	2.056E+01	731	6.554E+00	772	1.832E+00
609	5.529E+01	650	4.487E+01	691	2.007E+01	732	6.294E+00	773	1.740E+00
610	5.554E+01	651	4.400E+01	692	1.948E+01	733	6.137E+00	774	1.748E+00
611	5.572E+01	652	4.354E+01	693	1.904E+01	734	5.987E+00	775	1.617E+00
612	5.579E+01	653	4.299E+01	694	1.857E+01	735	5.713E+00	776	1.641E+00
613	5.588E+01	654	4.233E+01	695	1.808E+01	736	5.579E+00	777	1.549E+00
614	5.607E+01	655	4.178E+01	696	1.760E+01	737	5.498E+00	778	1.521E+00
615	5.604E+01	656	4.105E+01	697	1.705E+01	738	5.226E+00	779	1.513E+00
616	5.618E+01	657	4.051E+01	698	1.675E+01	739	5.202E+00	780	1.384E+00
617	5.600E+01	658	3.970E+01	699	1.631E+01	740	4.941E+00		
618	5.615E+01	659	3.930E+01	700	1.591E+01	741	4.773E+00		
619	5.609E+01	660	3.842E+01	701	1.542E+01	742	4.685E+00		
620	5.600E+01	661	3.796E+01	702	1.501E+01	743	4.495E+00		
621	5.583E+01	662	3.740E+01	703	1.459E+01	744	4.338E+00		
622	5.568E+01	663	3.670E+01	704	1.417E+01	745	4.321E+00		
623	5.559E+01	664	3.584E+01	705	1.379E+01	746	4.100E+00		
624	5.563E+01	665	3.529E+01	706	1.349E+01	747	3.956E+00		
625	5.537E+01	666	3.470E+01	707	1.302E+01	748	3.840E+00		

CIE 1931 x y Chromaticity Diagram



7-Step Chromaticity Quadrangles



[Integrating Sphere System]

Test facility was located at Room 301, No.113, Pingkang Road, Dalang, Dongguan, Guangdong, China.

The diameter of the sphere: **1.5M**

The coating reflectance of sphere: **98%**

The Stabilization time: **30 minutes**

Total operating time for integrating sphere test: **1.0 hour**

Test orientation: **Downward**

Test CCT: **5000K**

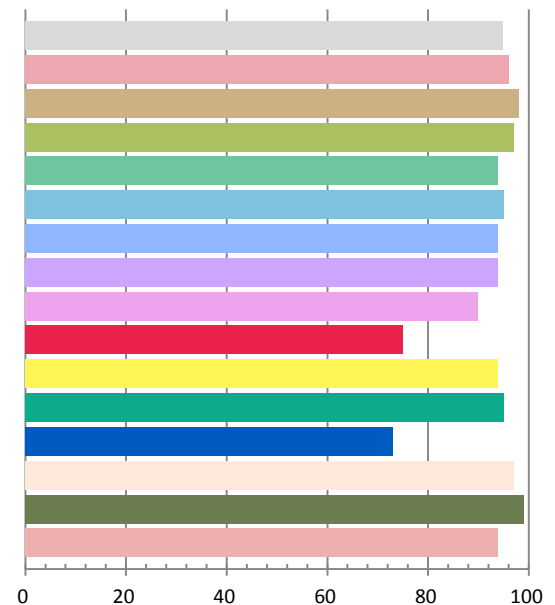
Photometric and Electrical Measurement Result

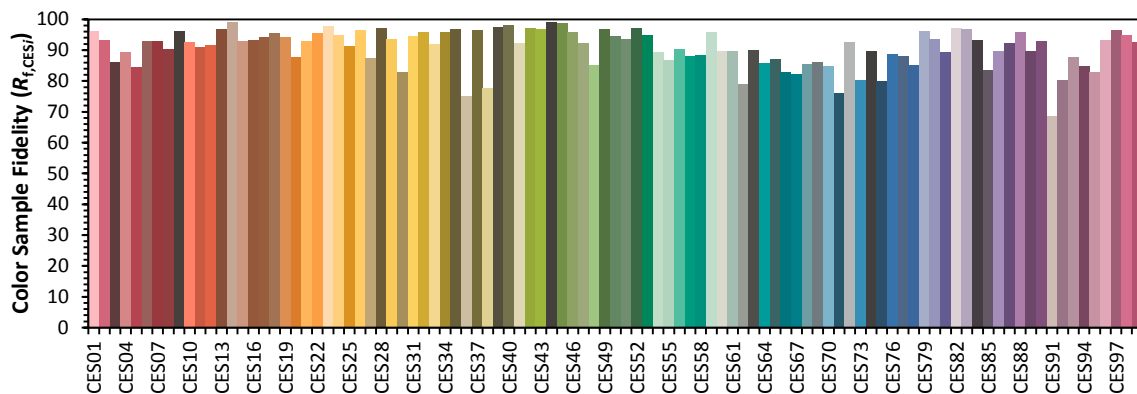
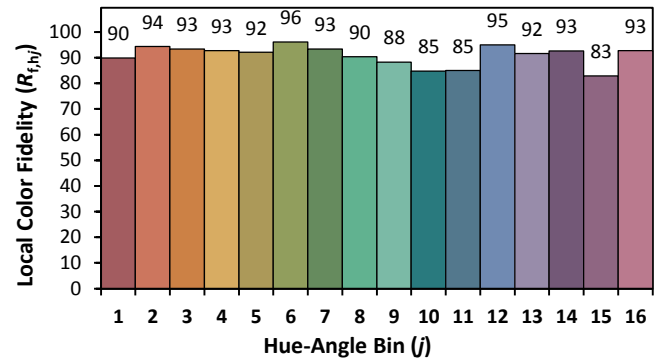
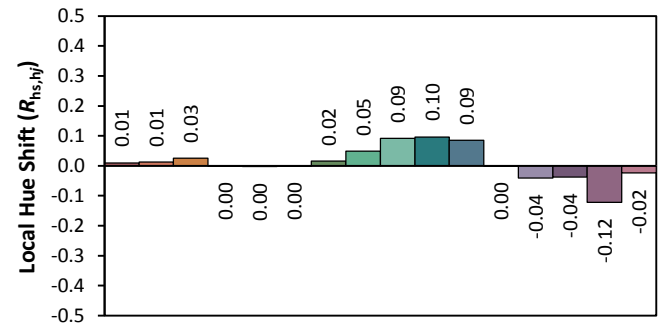
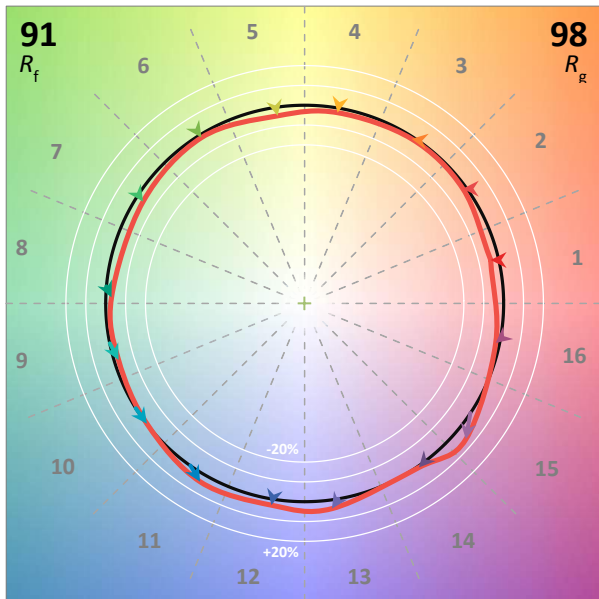
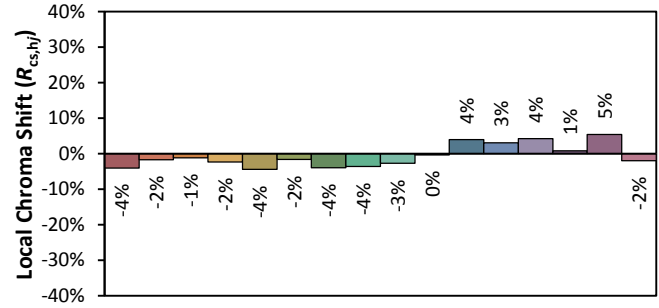
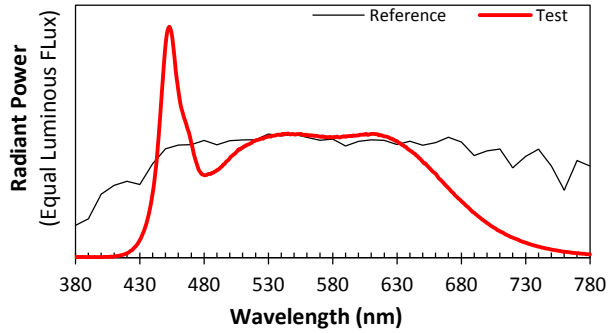
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.1	60	0.2445	29.01	0.988	3193.6	110.09

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
11.1	5146	0.00091	0.3412	0.3503	0.2093	0.4834

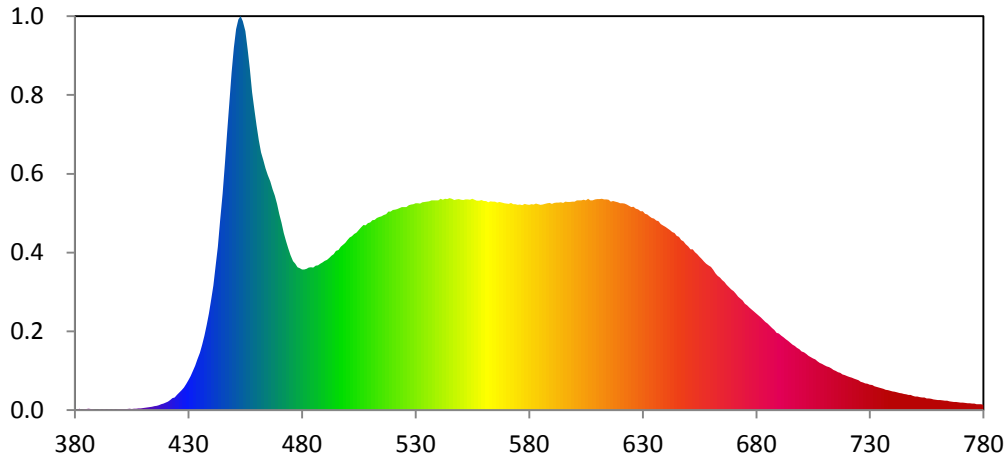
Color Rendering Index

Ra			
94.8			
R1	R2	R3	R4
96	98	97	94
R5	R6	R7	R8
95	94	94	90
R9	R10	R11	R12
75	94	95	73
R13	R14	R15	
97	99	94	





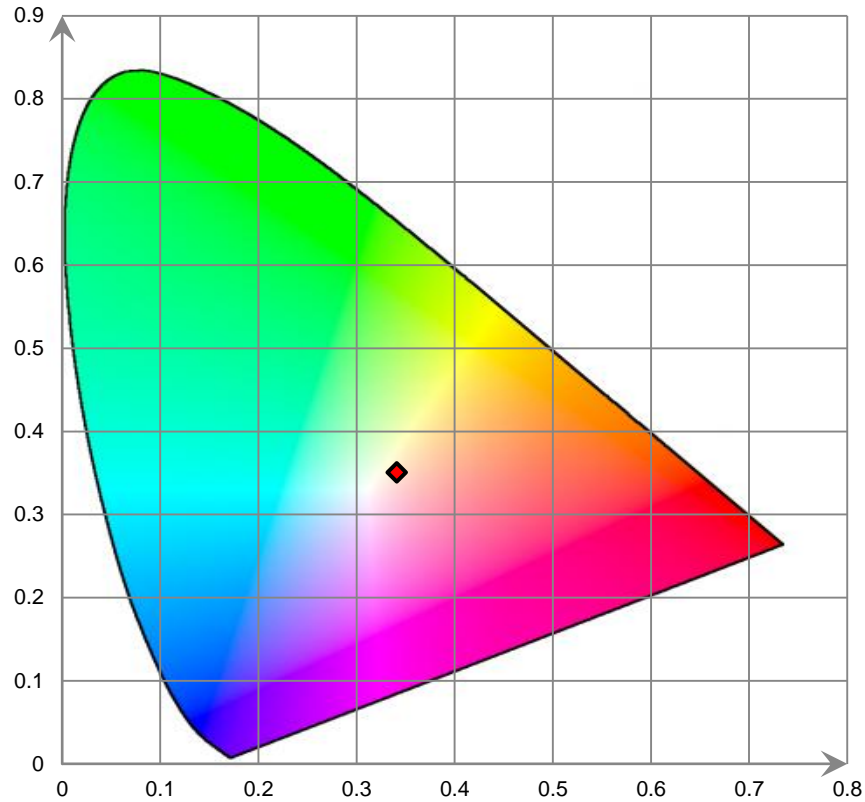
Relative Spectral Power Distribution



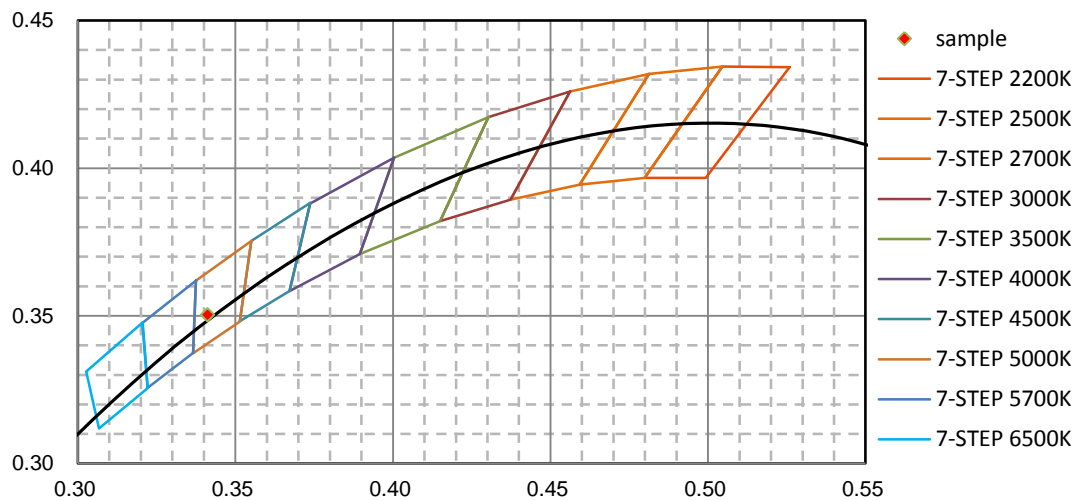
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	2.218E-01	421	1.802E+00	462	5.588E+01	503	3.821E+01	544	4.577E+01
381	1.295E-01	422	2.139E+00	463	5.424E+01	504	3.848E+01	545	4.594E+01
382	2.624E-01	423	2.538E+00	464	5.246E+01	505	3.902E+01	546	4.581E+01
383	1.479E-01	424	2.735E+00	465	5.096E+01	506	3.958E+01	547	4.559E+01
384	2.268E-01	425	3.325E+00	466	4.958E+01	507	4.011E+01	548	4.571E+01
385	1.668E-01	426	3.787E+00	467	4.788E+01	508	4.003E+01	549	4.579E+01
386	2.535E-01	427	4.279E+00	468	4.651E+01	509	4.053E+01	550	4.563E+01
387	1.903E-01	428	4.870E+00	469	4.475E+01	510	4.071E+01	551	4.553E+01
388	2.125E-01	429	5.605E+00	470	4.252E+01	511	4.115E+01	552	4.571E+01
389	1.369E-01	430	6.466E+00	471	4.063E+01	512	4.127E+01	553	4.573E+01
390	1.653E-01	431	7.330E+00	472	3.837E+01	513	4.166E+01	554	4.564E+01
391	2.144E-01	432	8.487E+00	473	3.664E+01	514	4.184E+01	555	4.583E+01
392	1.550E-01	433	9.590E+00	474	3.508E+01	515	4.199E+01	556	4.564E+01
393	1.841E-01	434	1.093E+01	475	3.364E+01	516	4.229E+01	557	4.539E+01
394	1.395E-01	435	1.242E+01	476	3.230E+01	517	4.247E+01	558	4.538E+01
395	2.268E-01	436	1.415E+01	477	3.170E+01	518	4.304E+01	559	4.555E+01
396	1.634E-01	437	1.613E+01	478	3.095E+01	519	4.306E+01	560	4.533E+01
397	1.827E-01	438	1.839E+01	479	3.073E+01	520	4.339E+01	561	4.533E+01
398	1.424E-01	439	2.091E+01	480	3.052E+01	521	4.350E+01	562	4.510E+01
399	1.858E-01	440	2.386E+01	481	3.048E+01	522	4.360E+01	563	4.529E+01
400	1.777E-01	441	2.701E+01	482	3.061E+01	523	4.378E+01	564	4.519E+01
401	1.719E-01	442	3.124E+01	483	3.090E+01	524	4.401E+01	565	4.522E+01
402	2.169E-01	443	3.542E+01	484	3.095E+01	525	4.401E+01	566	4.502E+01
403	2.234E-01	444	4.104E+01	485	3.093E+01	526	4.404E+01	567	4.513E+01
404	2.359E-01	445	4.699E+01	486	3.134E+01	527	4.444E+01	568	4.503E+01
405	2.234E-01	446	5.343E+01	487	3.140E+01	528	4.457E+01	569	4.483E+01
406	2.678E-01	447	6.031E+01	488	3.175E+01	529	4.466E+01	570	4.482E+01
407	2.737E-01	448	6.673E+01	489	3.200E+01	530	4.489E+01	571	4.470E+01
408	3.418E-01	449	7.324E+01	490	3.237E+01	531	4.483E+01	572	4.492E+01
409	3.172E-01	450	7.861E+01	491	3.260E+01	532	4.481E+01	573	4.469E+01
410	4.256E-01	451	8.267E+01	492	3.298E+01	533	4.509E+01	574	4.469E+01
411	4.861E-01	452	8.473E+01	493	3.348E+01	534	4.513E+01	575	4.449E+01
412	5.232E-01	453	8.547E+01	494	3.381E+01	535	4.520E+01	576	4.461E+01
413	5.890E-01	454	8.441E+01	495	3.448E+01	536	4.529E+01	577	4.447E+01
414	6.749E-01	455	8.225E+01	496	3.472E+01	537	4.551E+01	578	4.469E+01
415	8.163E-01	456	7.833E+01	497	3.541E+01	538	4.549E+01	579	4.455E+01
416	8.930E-01	457	7.403E+01	498	3.581E+01	539	4.549E+01	580	4.450E+01
417	1.033E+00	458	6.896E+01	499	3.622E+01	540	4.551E+01	581	4.466E+01
418	1.216E+00	459	6.526E+01	500	3.684E+01	541	4.582E+01	582	4.458E+01
419	1.369E+00	460	6.176E+01	501	3.742E+01	542	4.563E+01	583	4.477E+01
420	1.606E+00	461	5.854E+01	502	3.773E+01	543	4.585E+01	584	4.466E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	4.448E+01	626	4.407E+01	667	2.715E+01	708	1.020E+01	749	3.073E+00
586	4.457E+01	627	4.366E+01	668	2.667E+01	709	1.002E+01	750	2.941E+00
587	4.473E+01	628	4.351E+01	669	2.620E+01	710	9.685E+00	751	2.879E+00
588	4.483E+01	629	4.315E+01	670	2.574E+01	711	9.468E+00	752	2.789E+00
589	4.493E+01	630	4.311E+01	671	2.519E+01	712	9.291E+00	753	2.686E+00
590	4.470E+01	631	4.256E+01	672	2.461E+01	713	9.040E+00	754	2.668E+00
591	4.492E+01	632	4.246E+01	673	2.418E+01	714	8.644E+00	755	2.522E+00
592	4.499E+01	633	4.204E+01	674	2.377E+01	715	8.485E+00	756	2.474E+00
593	4.497E+01	634	4.168E+01	675	2.306E+01	716	8.175E+00	757	2.408E+00
594	4.506E+01	635	4.149E+01	676	2.271E+01	717	8.062E+00	758	2.289E+00
595	4.492E+01	636	4.108E+01	677	2.222E+01	718	7.715E+00	759	2.203E+00
596	4.522E+01	637	4.094E+01	678	2.177E+01	719	7.532E+00	760	2.141E+00
597	4.516E+01	638	4.036E+01	679	2.141E+01	720	7.378E+00	761	2.115E+00
598	4.513E+01	639	3.999E+01	680	2.089E+01	721	7.135E+00	762	2.081E+00
599	4.523E+01	640	3.971E+01	681	2.045E+01	722	6.975E+00	763	1.996E+00
600	4.521E+01	641	3.937E+01	682	2.006E+01	723	6.816E+00	764	1.971E+00
601	4.549E+01	642	3.902E+01	683	1.956E+01	724	6.620E+00	765	1.868E+00
602	4.547E+01	643	3.860E+01	684	1.908E+01	725	6.434E+00	766	1.767E+00
603	4.551E+01	644	3.837E+01	685	1.877E+01	726	6.111E+00	767	1.738E+00
604	4.559E+01	645	3.777E+01	686	1.827E+01	727	5.977E+00	768	1.707E+00
605	4.547E+01	646	3.754E+01	687	1.775E+01	728	5.762E+00	769	1.649E+00
606	4.582E+01	647	3.690E+01	688	1.733E+01	729	5.687E+00	770	1.610E+00
607	4.546E+01	648	3.661E+01	689	1.676E+01	730	5.482E+00	771	1.604E+00
608	4.550E+01	649	3.599E+01	690	1.658E+01	731	5.391E+00	772	1.493E+00
609	4.571E+01	650	3.549E+01	691	1.612E+01	732	5.108E+00	773	1.460E+00
610	4.575E+01	651	3.489E+01	692	1.574E+01	733	5.002E+00	774	1.437E+00
611	4.579E+01	652	3.487E+01	693	1.533E+01	734	4.839E+00	775	1.400E+00
612	4.581E+01	653	3.424E+01	694	1.500E+01	735	4.704E+00	776	1.379E+00
613	4.570E+01	654	3.378E+01	695	1.460E+01	736	4.587E+00	777	1.234E+00
614	4.569E+01	655	3.323E+01	696	1.416E+01	737	4.390E+00	778	1.243E+00
615	4.563E+01	656	3.279E+01	697	1.388E+01	738	4.332E+00	779	1.211E+00
616	4.523E+01	657	3.220E+01	698	1.346E+01	739	4.144E+00	780	1.136E+00
617	4.538E+01	658	3.175E+01	699	1.319E+01	740	4.042E+00		
618	4.524E+01	659	3.142E+01	700	1.273E+01	741	3.953E+00		
619	4.508E+01	660	3.101E+01	701	1.252E+01	742	3.808E+00		
620	4.487E+01	661	3.041E+01	702	1.212E+01	743	3.649E+00		
621	4.485E+01	662	2.965E+01	703	1.174E+01	744	3.597E+00		
622	4.477E+01	663	2.910E+01	704	1.148E+01	745	3.435E+00		
623	4.459E+01	664	2.874E+01	705	1.115E+01	746	3.368E+00		
624	4.434E+01	665	2.821E+01	706	1.093E+01	747	3.238E+00		
625	4.403E+01	666	2.775E+01	707	1.058E+01	748	3.259E+00		

CIE 1931 x y Chromaticity Diagram



7-Step Chromaticity Quadrangles

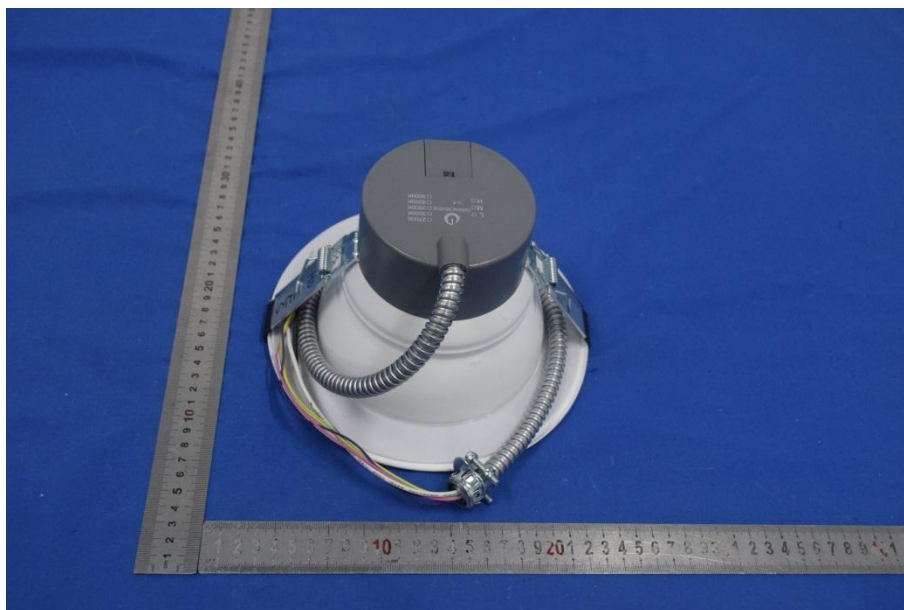


[Additional Test]

Test CCT: **2700K**

Test Item	Test Voltage (V)	Frequency (Hz)	Test Result
Total Harmonic Distortion:	120.1	60	11.86%

6. Product Photo



Directions

1. The information marked "superscript #" is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report.
2. This report includes some test methods are not in NVLAP accreditation scope marked *.
3. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
4. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
5. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor $K=2$ with the 95% confidence interval.
6. This report cannot be reproduced except in full, without prior written approval of the Company.
7. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

*****END OF REPORT*****