

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: SLFTG3/8HO/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:	2502T63512E-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: SLFTG3/8HO/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: 30w/37w/42.5W
Nominal CCT: 2700K/3000K/3500K/4000K/5000K
Nominal Lumen Output: 2700K:3800lm
3000K:3800lm
3500K:4200lm
4000K:4200lm
5000K:4200lm

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**

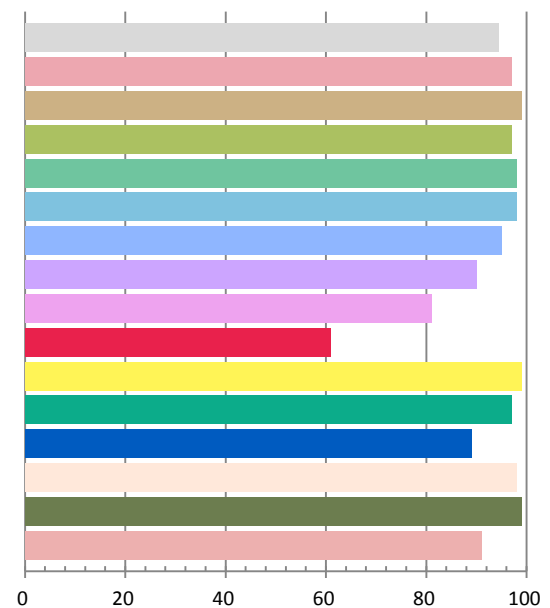
Photometric and Electrical Measurement Result

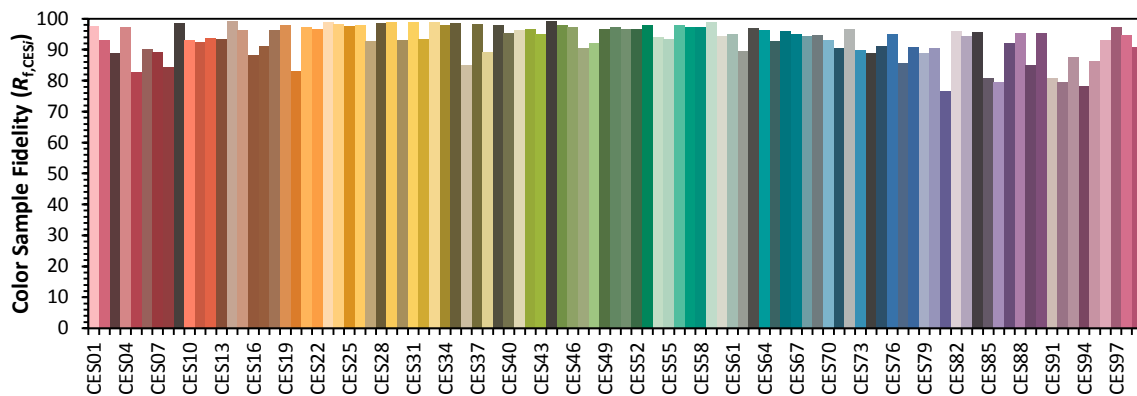
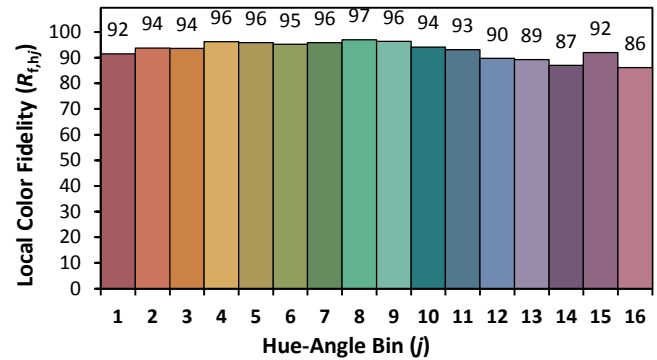
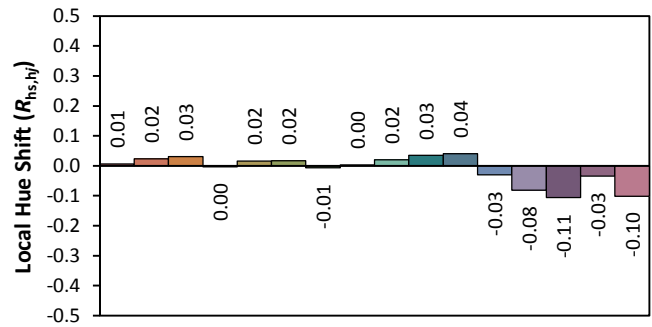
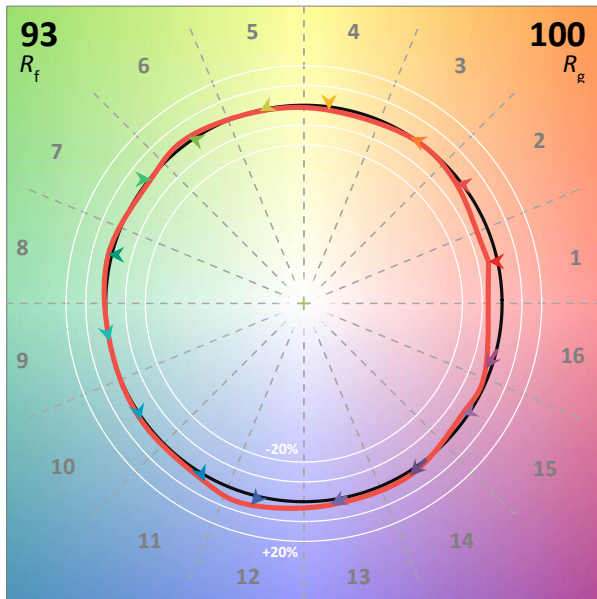
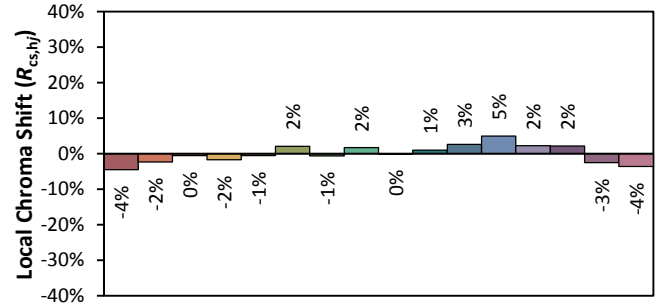
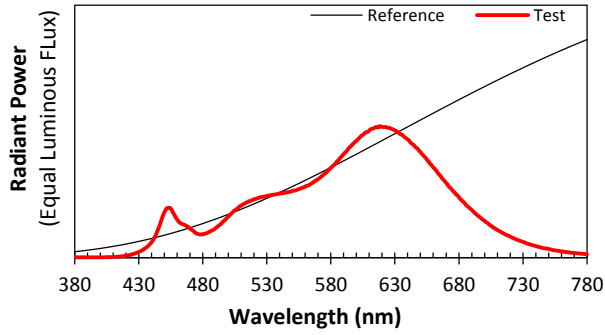
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.3423	40.63	0.989	4365.9	107.45

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
15.231	2692	-0.00131	0.4583	0.4067	0.2632	0.5256

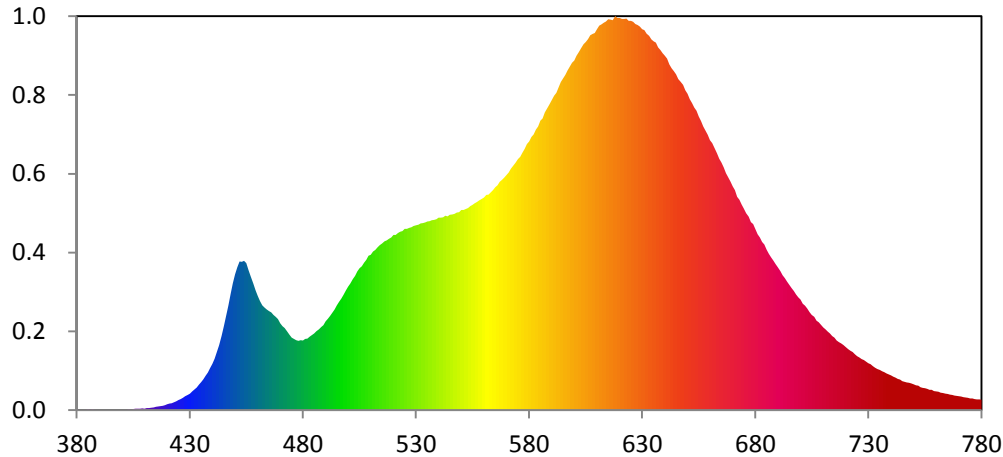
Color Rendering Index

Ra			
94.5			
R1	R2	R3	R4
97	99	97	98
R5	R6	R7	R8
98	95	90	81
R9	R10	R11	R12
61	99	97	89
R13	R14	R15	
98	99	91	





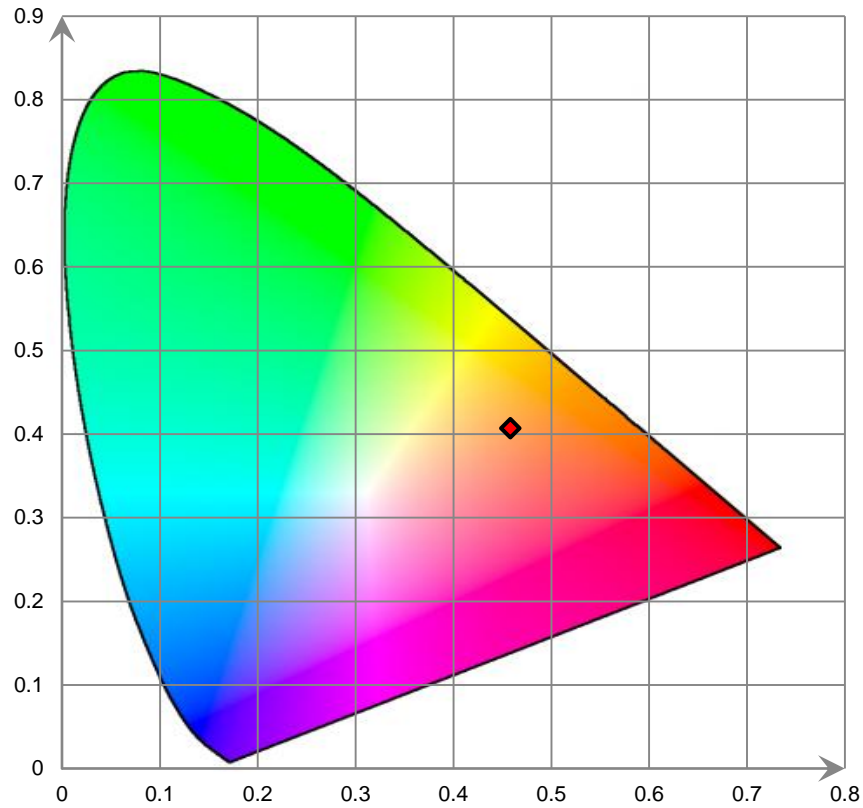
Relative Spectral Power Distribution



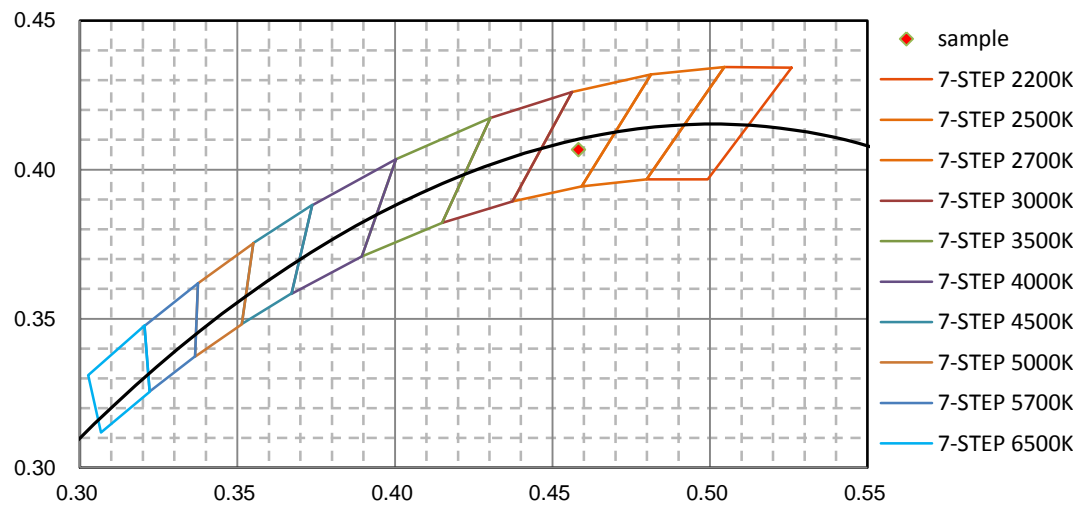
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	2.304E-01	421	1.600E+00	462	2.649E+01	503	3.396E+01	544	4.904E+01
381	1.619E-01	422	1.725E+00	463	2.594E+01	504	3.510E+01	545	4.948E+01
382	1.410E-01	423	1.918E+00	464	2.546E+01	505	3.590E+01	546	4.954E+01
383	1.693E-01	424	2.194E+00	465	2.507E+01	506	3.641E+01	547	4.970E+01
384	1.322E-01	425	2.491E+00	466	2.472E+01	507	3.734E+01	548	5.004E+01
385	2.106E-01	426	2.766E+00	467	2.411E+01	508	3.804E+01	549	5.009E+01
386	1.870E-01	427	3.108E+00	468	2.361E+01	509	3.910E+01	550	5.069E+01
387	2.314E-01	428	3.472E+00	469	2.300E+01	510	3.934E+01	551	5.071E+01
388	1.100E-01	429	3.779E+00	470	2.197E+01	511	4.015E+01	552	5.089E+01
389	1.394E-01	430	4.158E+00	471	2.121E+01	512	4.055E+01	553	5.116E+01
390	1.149E-01	431	4.716E+00	472	2.076E+01	513	4.123E+01	554	5.164E+01
391	1.764E-01	432	5.185E+00	473	1.985E+01	514	4.173E+01	555	5.199E+01
392	1.744E-01	433	5.650E+00	474	1.904E+01	515	4.220E+01	556	5.237E+01
393	1.572E-01	434	6.427E+00	475	1.829E+01	516	4.277E+01	557	5.268E+01
394	1.305E-01	435	7.069E+00	476	1.799E+01	517	4.296E+01	558	5.313E+01
395	1.141E-01	436	7.752E+00	477	1.769E+01	518	4.341E+01	559	5.344E+01
396	1.931E-01	437	8.655E+00	478	1.750E+01	519	4.373E+01	560	5.385E+01
397	9.742E-02	438	9.462E+00	479	1.769E+01	520	4.435E+01	561	5.446E+01
398	1.901E-01	439	1.062E+01	480	1.761E+01	521	4.438E+01	562	5.460E+01
399	1.308E-01	440	1.169E+01	481	1.803E+01	522	4.482E+01	563	5.510E+01
400	1.914E-01	441	1.299E+01	482	1.810E+01	523	4.520E+01	564	5.571E+01
401	1.917E-01	442	1.468E+01	483	1.857E+01	524	4.535E+01	565	5.640E+01
402	1.602E-01	443	1.638E+01	484	1.898E+01	525	4.586E+01	566	5.690E+01
403	2.499E-01	444	1.884E+01	485	1.941E+01	526	4.588E+01	567	5.778E+01
404	1.831E-01	445	2.124E+01	486	1.993E+01	527	4.617E+01	568	5.829E+01
405	2.706E-01	446	2.380E+01	487	2.042E+01	528	4.628E+01	569	5.890E+01
406	2.832E-01	447	2.645E+01	488	2.096E+01	529	4.659E+01	570	5.952E+01
407	2.878E-01	448	2.932E+01	489	2.147E+01	530	4.681E+01	571	6.021E+01
408	3.209E-01	449	3.213E+01	490	2.241E+01	531	4.698E+01	572	6.110E+01
409	3.725E-01	450	3.440E+01	491	2.308E+01	532	4.724E+01	573	6.189E+01
410	3.535E-01	451	3.615E+01	492	2.387E+01	533	4.736E+01	574	6.262E+01
411	4.685E-01	452	3.760E+01	493	2.463E+01	534	4.752E+01	575	6.361E+01
412	5.003E-01	453	3.757E+01	494	2.543E+01	535	4.776E+01	576	6.413E+01
413	5.841E-01	454	3.775E+01	495	2.649E+01	536	4.781E+01	577	6.518E+01
414	6.601E-01	455	3.719E+01	496	2.744E+01	537	4.806E+01	578	6.617E+01
415	7.646E-01	456	3.546E+01	497	2.819E+01	538	4.818E+01	579	6.735E+01
416	8.777E-01	457	3.384E+01	498	2.922E+01	539	4.832E+01	580	6.804E+01
417	9.746E-01	458	3.202E+01	499	3.026E+01	540	4.875E+01	581	6.920E+01
418	1.082E+00	459	3.030E+01	500	3.124E+01	541	4.872E+01	582	6.985E+01
419	1.240E+00	460	2.885E+01	501	3.206E+01	542	4.879E+01	583	7.101E+01
420	1.472E+00	461	2.756E+01	502	3.313E+01	543	4.919E+01	584	7.183E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	7.328E+01	626	9.839E+01	667	6.004E+01	708	2.219E+01	749	6.737E+00
586	7.387E+01	627	9.783E+01	668	5.892E+01	709	2.158E+01	750	6.519E+00
587	7.541E+01	628	9.754E+01	669	5.793E+01	710	2.093E+01	751	6.200E+00
588	7.636E+01	629	9.715E+01	670	5.668E+01	711	2.042E+01	752	6.125E+00
589	7.751E+01	630	9.653E+01	671	5.570E+01	712	1.990E+01	753	5.719E+00
590	7.856E+01	631	9.626E+01	672	5.400E+01	713	1.934E+01	754	5.579E+00
591	7.964E+01	632	9.537E+01	673	5.323E+01	714	1.873E+01	755	5.489E+00
592	8.037E+01	633	9.481E+01	674	5.210E+01	715	1.831E+01	756	5.309E+00
593	8.174E+01	634	9.392E+01	675	5.102E+01	716	1.761E+01	757	5.116E+00
594	8.311E+01	635	9.342E+01	676	4.990E+01	717	1.722E+01	758	5.071E+00
595	8.401E+01	636	9.309E+01	677	4.900E+01	718	1.683E+01	759	4.798E+00
596	8.491E+01	637	9.185E+01	678	4.763E+01	719	1.646E+01	760	4.658E+00
597	8.601E+01	638	9.123E+01	679	4.711E+01	720	1.588E+01	761	4.647E+00
598	8.702E+01	639	9.042E+01	680	4.581E+01	721	1.544E+01	762	4.403E+00
599	8.801E+01	640	8.975E+01	681	4.456E+01	722	1.496E+01	763	4.310E+00
600	8.858E+01	641	8.904E+01	682	4.372E+01	723	1.467E+01	764	4.131E+00
601	8.979E+01	642	8.756E+01	683	4.254E+01	724	1.412E+01	765	4.028E+00
602	9.067E+01	643	8.664E+01	684	4.192E+01	725	1.361E+01	766	3.870E+00
603	9.160E+01	644	8.591E+01	685	4.064E+01	726	1.333E+01	767	3.807E+00
604	9.269E+01	645	8.508E+01	686	3.955E+01	727	1.288E+01	768	3.666E+00
605	9.323E+01	646	8.389E+01	687	3.870E+01	728	1.262E+01	769	3.593E+00
606	9.395E+01	647	8.324E+01	688	3.785E+01	729	1.227E+01	770	3.453E+00
607	9.499E+01	648	8.235E+01	689	3.696E+01	730	1.185E+01	771	3.364E+00
608	9.528E+01	649	8.098E+01	690	3.613E+01	731	1.160E+01	772	3.245E+00
609	9.549E+01	650	8.009E+01	691	3.521E+01	732	1.113E+01	773	3.132E+00
610	9.651E+01	651	7.874E+01	692	3.413E+01	733	1.072E+01	774	3.064E+00
611	9.740E+01	652	7.777E+01	693	3.344E+01	734	1.039E+01	775	2.948E+00
612	9.771E+01	653	7.661E+01	694	3.251E+01	735	1.014E+01	776	2.910E+00
613	9.809E+01	654	7.579E+01	695	3.171E+01	736	9.802E+00	777	2.772E+00
614	9.847E+01	655	7.437E+01	696	3.092E+01	737	9.520E+00	778	2.675E+00
615	9.903E+01	656	7.325E+01	697	3.014E+01	738	9.256E+00	779	2.643E+00
616	9.895E+01	657	7.186E+01	698	2.928E+01	739	8.975E+00	780	2.561E+00
617	9.875E+01	658	7.078E+01	699	2.854E+01	740	8.709E+00		
618	9.981E+01	659	6.977E+01	700	2.794E+01	741	8.449E+00		
619	9.937E+01	660	6.836E+01	701	2.692E+01	742	8.169E+00		
620	9.935E+01	661	6.762E+01	702	2.641E+01	743	7.829E+00		
621	9.907E+01	662	6.624E+01	703	2.566E+01	744	7.702E+00		
622	9.910E+01	663	6.507E+01	704	2.483E+01	745	7.319E+00		
623	9.915E+01	664	6.363E+01	705	2.407E+01	746	7.130E+00		
624	9.864E+01	665	6.265E+01	706	2.359E+01	747	6.992E+00		
625	9.859E+01	666	6.149E+01	707	2.263E+01	748	6.919E+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**

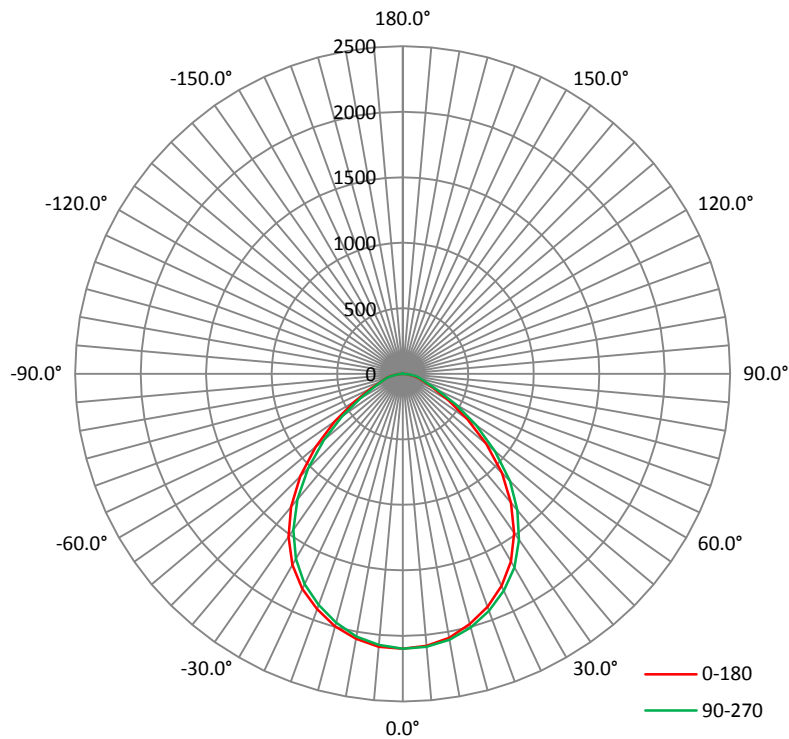
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.04	60	0.3423	40.650	0.9893

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I_{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
4368.35	107.46	2101	1.18	1.21

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I_{max}):	91.6	91.6	91.5	91.6	91.6
Field Angle (10% I_{max}):	135.3	135.5	135.4	135.4	135.4

Luminous Intensity (cd) Distribution Data

C y	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0°	2098	2098	2098	2098	2098	2098	2098	2098
1°	2098	2097	2097	2099	2095	2089	2093	2096
2°	2096	2093	2095	2093	2095	2088	2093	2092
3°	2092	2091	2097	2091	2091	2080	2090	2090
4°	2091	2089	2089	2085	2088	2076	2087	2082
5°	2091	2083	2084	2080	2078	2074	2078	2076
6°	2086	2080	2079	2074	2071	2067	2071	2069
7°	2079	2075	2071	2068	2066	2057	2063	2062
8°	2074	2067	2062	2060	2060	2046	2056	2055
9°	2063	2057	2053	2051	2050	2038	2046	2044
10°	2054	2047	2046	2038	2037	2028	2033	2035
11°	2048	2038	2035	2027	2025	2014	2023	2021
12°	2037	2027	2020	2014	2012	2005	2007	2008
13°	2025	2016	2008	2001	1998	1991	1996	1995
14°	2012	2001	1995	1988	1987	1976	1979	1983
15°	1995	1987	1982	1974	1966	1959	1967	1965
16°	1981	1971	1967	1958	1951	1944	1948	1951
17°	1962	1956	1946	1940	1936	1926	1928	1931
18°	1948	1939	1927	1922	1917	1906	1913	1913
19°	1928	1920	1911	1903	1899	1891	1891	1894
20°	1911	1902	1894	1885	1876	1867	1872	1871
21°	1895	1884	1870	1864	1857	1849	1847	1854
22°	1874	1862	1854	1845	1836	1827	1833	1833
23°	1853	1842	1830	1822	1818	1807	1808	1812
24°	1831	1821	1812	1803	1790	1784	1788	1790
25°	1811	1799	1786	1780	1771	1761	1762	1766
26°	1788	1776	1764	1754	1745	1737	1738	1742
27°	1765	1752	1740	1728	1720	1709	1713	1718
28°	1741	1725	1712	1703	1695	1682	1687	1691
29°	1712	1698	1682	1672	1663	1654	1658	1663
30°	1684	1669	1650	1644	1632	1624	1628	1630
31°	1653	1640	1617	1612	1600	1589	1590	1599
32°	1621	1605	1585	1577	1566	1555	1558	1565
33°	1588	1573	1552	1543	1530	1520	1522	1530
34°	1555	1538	1520	1507	1490	1484	1488	1493
35°	1519	1501	1482	1469	1456	1444	1450	1456
36°	1483	1464	1444	1431	1416	1407	1406	1415
37°	1445	1425	1404	1391	1375	1366	1365	1377
38°	1404	1385	1365	1350	1334	1327	1326	1338
39°	1363	1344	1323	1307	1291	1282	1286	1296
40°	1324	1302	1279	1267	1247	1242	1242	1256
41°	1280	1262	1236	1227	1203	1203	1198	1216
42°	1239	1221	1191	1187	1161	1163	1154	1176
43°	1194	1180	1148	1141	1115	1117	1106	1130
44°	1149	1139	1101	1095	1064	1070	1060	1083
45°	1103	1092	1055	1048	1021	1023	1010	1036
46°	1057	1044	1008	1001	972	974	967	989
47°	1011	998	959	951	924	926	918	940
48°	964	950	911	905	876	879	871	893

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°	915	902	865	856	830	831	822	845
50°	867	854	818	809	783	785	776	797
51°	820	806	773	761	737	738	731	751
52°	774	760	726	715	690	690	684	704
53°	726	713	680	670	647	646	640	659
54°	681	668	636	625	603	601	600	614
55°	635	623	588	582	562	558	557	571
56°	591	578	549	539	521	516	515	528
57°	549	535	511	499	480	477	475	488
58°	508	493	472	458	441	438	436	449
59°	467	453	434	421	406	402	401	413
60°	428	416	396	386	371	369	367	378
61°	390	380	362	353	340	337	336	346
62°	355	346	330	322	310	308	308	317
63°	323	316	303	295	284	282	282	291
64°	296	290	276	270	261	260	262	266
65°	268	264	253	248	240	238	242	245
66°	245	241	232	228	220	220	222	225
67°	224	222	214	210	203	203	202	208
68°	206	204	198	194	187	187	187	193
69°	189	189	183	180	176	175	175	178
70°	177	176	172	170	167	166	166	168
71°	168	167	164	162	159	159	159	160
72°	160	159	156	154	151	151	150	152
73°	152	150	147	146	143	142	142	143
74°	143	141	139	137	134	134	134	134
75°	134	132	130	128	126	125	125	125
76°	125	123	121	119	117	116	116	116
77°	116	114	112	110	108	107	106	107
78°	107	104	102	101	99	98	97	98
79°	97	95	93	92	89	89	87	88
80°	87	85	83	83	80	79	77	78
81°	77	75	73	73	71	69	67	68
82°	67	65	64	64	61	59	56	58
83°	58	55	54	54	51	49	46	47
84°	47	45	44	45	42	39	35	37
85°	36	35	33	35	32	29	25	26
86°	25	26	23	25	22	20	15	18
87°	14	18	14	17	12	12	6	9
88°	4	9	4	9	8	3	3	1
89°	2	1	2	0	4	0	0	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	1	1	1	0
113°	0	0	1	1	1	1	1	1
114°	1	1	1	1	1	1	1	1
115°	1	1	1	1	1	1	1	1
116°	1	1	1	1	1	1	1	1
117°	1	1	1	1	1	1	1	1
118°	1	1	1	1	1	1	1	1
119°	1	1	1	1	1	1	1	1
120°	1	1	1	1	1	1	1	1
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	2	1	1	1
133°	1	1	2	2	2	2	2	1
134°	1	2	2	2	2	2	2	2
135°	2	2	2	2	2	2	2	2
136°	2	2	2	2	2	2	2	2
137°	2	2	2	2	2	2	2	2
138°	2	2	2	2	2	2	2	2
139°	2	2	2	2	2	2	2	2
140°	2	2	2	2	2	2	2	2
141°	2	2	2	2	3	2	2	2
142°	2	2	3	3	3	3	3	2
143°	2	3	3	3	3	3	3	2
144°	2	3	3	3	3	3	3	3
145°	3	3	3	3	3	3	3	3
146°	3	3	3	3	3	3	3	3

Luminous Intensity (cd) Distribution Data

$\begin{matrix} \text{C} \\ \diagdown \\ \gamma \end{matrix}$	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
147°	3	3	3	3	3	3	3	3
148°	3	3	3	3	3	3	3	3
149°	3	3	3	3	3	3	3	3
150°	3	3	3	3	3	3	3	3
151°	3	3	3	4	4	4	3	3
152°	3	3	4	4	4	4	4	3
153°	3	4	4	4	4	4	4	3
154°	3	4	4	4	4	4	4	3
155°	3	4	4	4	4	4	4	4
156°	3	4	4	4	4	4	4	4
157°	4	4	4	4	4	4	4	4
158°	4	4	4	4	4	4	4	4
159°	4	4	4	4	4	4	4	4
160°	4	4	4	4	4	4	4	4
161°	4	4	4	4	4	4	4	4
162°	4	4	4	4	4	4	4	4
163°	4	4	4	4	4	4	4	4
164°	4	4	4	4	4	4	4	4
165°	4	4	4	4	4	4	4	4
166°	4	4	4	4	4	4	4	4
167°	4	4	4	4	4	4	4	4
168°	4	4	4	4	4	4	4	4
169°	4	4	4	4	4	4	4	4
170°	4	4	4	4	4	4	4	4
171°	3	4	4	4	3	4	4	3
172°	3	4	3	3	3	3	3	3
173°	3	3	3	3	3	3	3	3
174°	3	3	3	3	3	3	3	3
175°	3	3	3	3	3	3	3	3
176°	3	3	3	3	3	3	3	3
177°	3	3	3	3	3	3	3	3
178°	3	3	3	3	3	3	3	3
179°	3	3	3	3	3	3	3	3
180°	3	3	3	3	3	3	3	3

Luminous Intensity (cd) Distribution Data (cont.)

C Y	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0°	2098	2098	2098	2098	2098	2098	2098	2098
1°	2095	2095	2095	2099	2096	2095	2100	2097
2°	2094	2094	2095	2097	2101	2091	2101	2097
3°	2088	2091	2094	2097	2099	2093	2098	2097
4°	2086	2086	2090	2094	2096	2087	2095	2093
5°	2083	2084	2084	2093	2092	2087	2094	2091
6°	2078	2078	2081	2087	2086	2083	2090	2089
7°	2068	2070	2077	2078	2085	2075	2089	2082
8°	2062	2062	2070	2073	2077	2072	2079	2075
9°	2052	2053	2059	2070	2071	2064	2071	2069
10°	2046	2042	2049	2057	2062	2060	2063	2057
11°	2034	2034	2042	2047	2051	2046	2057	2049
12°	2020	2022	2029	2035	2041	2039	2048	2038
13°	2008	2009	2019	2022	2031	2027	2035	2028
14°	1991	1994	2003	2012	2015	2012	2023	2016
15°	1977	1980	1991	1997	2006	2000	2007	2004
16°	1962	1965	1975	1984	1993	1987	1996	1990
17°	1946	1951	1960	1969	1977	1972	1981	1975
18°	1928	1933	1945	1956	1959	1958	1968	1959
19°	1912	1913	1925	1934	1946	1940	1948	1942
20°	1892	1897	1910	1917	1926	1921	1933	1923
21°	1869	1876	1892	1898	1906	1903	1914	1905
22°	1850	1855	1870	1879	1888	1886	1891	1885
23°	1833	1835	1846	1860	1869	1863	1872	1864
24°	1808	1813	1828	1837	1847	1845	1854	1843
25°	1785	1790	1808	1817	1826	1823	1832	1823
26°	1760	1768	1786	1793	1805	1801	1810	1804
27°	1733	1743	1762	1770	1782	1780	1784	1780
28°	1712	1718	1733	1746	1760	1753	1763	1755
29°	1684	1692	1710	1722	1732	1731	1737	1729
30°	1652	1662	1680	1692	1705	1708	1711	1702
31°	1621	1631	1650	1661	1676	1675	1683	1674
32°	1590	1599	1616	1630	1644	1646	1654	1644
33°	1556	1563	1584	1599	1616	1613	1619	1608
34°	1520	1530	1550	1567	1582	1579	1587	1576
35°	1484	1495	1516	1530	1547	1546	1554	1542
36°	1447	1458	1480	1494	1512	1509	1516	1506
37°	1406	1419	1443	1457	1476	1474	1481	1469
38°	1365	1381	1403	1419	1435	1433	1442	1432
39°	1324	1340	1363	1377	1397	1398	1405	1392
40°	1286	1299	1324	1340	1360	1358	1363	1351
41°	1245	1257	1286	1299	1318	1319	1325	1312
42°	1204	1214	1246	1257	1276	1275	1284	1269
43°	1163	1168	1205	1213	1237	1232	1245	1225
44°	1117	1124	1164	1169	1198	1190	1205	1180
45°	1072	1078	1117	1123	1157	1145	1160	1136
46°	1023	1032	1069	1077	1111	1099	1116	1090
47°	976	985	1025	1032	1062	1052	1070	1042
48°	928	937	975	985	1014	1006	1022	996

Luminous Intensity (cd) Distribution Data (cont.)

$\begin{matrix} \text{C} \\ \backslash \\ \text{Y} \end{matrix}$	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
49°	878	890	929	937	967	958	973	949
50°	832	844	880	890	919	910	925	901
51°	784	798	835	844	872	863	877	854
52°	738	751	787	798	823	817	829	806
53°	693	705	742	752	777	769	781	759
54°	647	661	695	705	728	722	734	713
55°	603	616	650	659	683	676	687	666
56°	560	575	605	614	636	630	640	621
57°	520	535	563	573	592	588	596	578
58°	479	495	520	531	551	546	550	536
59°	440	455	478	489	511	504	509	494
60°	405	418	439	450	470	464	467	454
61°	370	382	403	412	430	424	428	415
62°	338	349	368	376	389	387	390	378
63°	311	318	335	343	356	353	359	345
64°	283	291	306	313	324	322	327	314
65°	260	266	279	285	295	293	295	286
66°	238	244	255	261	269	268	270	261
67°	218	224	234	239	247	245	247	238
68°	200	206	215	219	226	224	226	218
69°	185	189	198	201	208	206	207	200
70°	173	176	183	186	191	190	191	185
71°	164	167	172	174	177	176	178	174
72°	157	159	163	164	167	166	168	164
73°	149	151	156	157	159	159	160	157
74°	140	142	148	149	151	151	152	148
75°	131	134	139	140	143	142	143	140
76°	121	125	129	132	134	134	134	131
77°	112	116	120	124	125	126	125	122
78°	103	107	112	115	116	117	116	113
79°	94	97	103	106	108	108	107	103
80°	84	88	94	97	99	99	97	94
81°	74	78	84	88	90	89	87	83
82°	64	68	74	78	81	80	78	73
83°	54	57	65	69	72	70	67	63
84°	44	47	55	59	62	60	57	52
85°	33	37	45	49	53	50	47	41
86°	23	26	35	40	44	40	37	31
87°	13	15	24	30	34	30	27	20
88°	3	5	14	20	23	20	18	9
89°	1	2	3	5	11	7	9	6
90°	0	0	0	2	0	4	0	3
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 (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°	1	1	0	0	0	0	0	0
133°	1	1	1	1	0	1	0	0
134°	1	1	1	1	1	1	0	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	1	1	1	1	1	1
140°	1	1	1	1	1	1	1	1
141°	1	1	1	1	1	1	1	1
142°	1	1	1	1	1	1	1	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.)

$\begin{matrix} \text{C} \\ \backslash \\ \gamma \end{matrix}$	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	2
160°	2	1	1	1	1	1	1	2
161°	2	2	2	1	1	1	2	2
162°	2	2	2	2	1	1	2	2
163°	2	2	2	2	1	2	2	2
164°	2	2	2	2	2	2	2	2
165°	2	2	2	2	2	2	2	2
166°	2	2	2	2	2	2	2	2
167°	2	2	2	2	2	2	2	2
168°	2	2	2	2	2	2	2	2
169°	2	2	2	2	2	2	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°	3	3	2	2	2	2	2	3
177°	3	3	2	2	2	2	3	3
178°	3	3	3	2	2	3	3	3
179°	3	3	3	3	3	3	3	3
180°	3	3	3	3	3	3	3	3

Zonal Lumen Density Measurement

Deg	Flux (lm)	%
0-5	50.0	1.14
5-10	147.8	3.39
10-15	239.2	5.47
15-20	320.2	7.33
20-25	387.6	8.87
25-30	438.6	10.04
30-35	466.4	10.68
35-40	467.4	10.70
40-45	442.6	10.13
45-50	390.6	8.94
50-55	318.4	7.29
55-60	238.0	5.45
60-65	163.2	3.74
65-70	109.7	2.51
70-75	81.0	1.85
75-80	59.3	1.36
80-85	34.2	0.78
85-90	8.6	0.20
90-95	0.1	0.00
95-100	0.1	0.01
100-105	0.1	0.00
105-110	0.1	0.00
110-115	0.2	0.01
115-120	0.2	0.00
120-125	0.3	0.01
125-130	0.3	0.00
130-135	0.4	0.01
135-140	0.5	0.01
140-145	0.5	0.02
145-150	0.6	0.01
150-155	0.6	0.01
155-160	0.5	0.02
160-165	0.5	0.01
165-170	0.3	0.00
170-175	0.2	0.01
175-180	0.1	0.00

Deg	Flux (lm)	%
0-5	50.0	1.14
0-10	197.8	4.53
0-15	437.0	10.00
0-20	757.1	17.33
0-25	1144.7	26.20
0-30	1583.3	36.24
0-35	2049.7	46.92
0-40	2517.1	57.62
0-45	2959.6	67.75
0-50	3350.2	76.69
0-55	3668.7	83.98
0-60	3906.7	89.43
0-65	4069.9	93.17
0-70	4179.6	95.68
0-75	4260.6	97.53
0-80	4319.9	98.89
0-85	4354.1	99.67
0-90	4362.7	99.87
0-95	4362.8	99.87
0-100	4362.9	99.88
0-105	4363.0	99.88
0-110	4363.2	99.88
0-115	4363.3	99.89
0-120	4363.6	99.89
0-125	4363.8	99.90
0-130	4364.2	99.90
0-135	4364.6	99.91
0-140	4365.0	99.92
0-145	4365.6	99.94
0-150	4366.2	99.95
0-155	4366.8	99.96
0-160	4367.3	99.98
0-165	4367.8	99.99
0-170	4368.1	99.99
0-175	4368.3	100.00
0-180	4368.3	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**

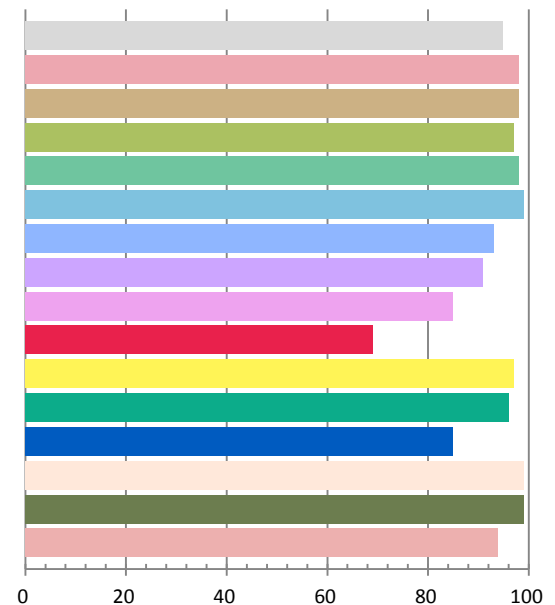
Photometric and Electrical Measurement Result

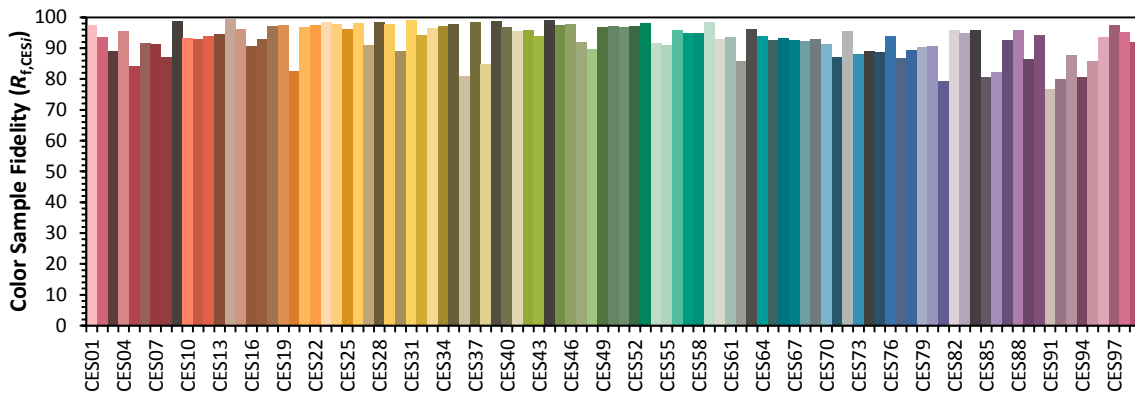
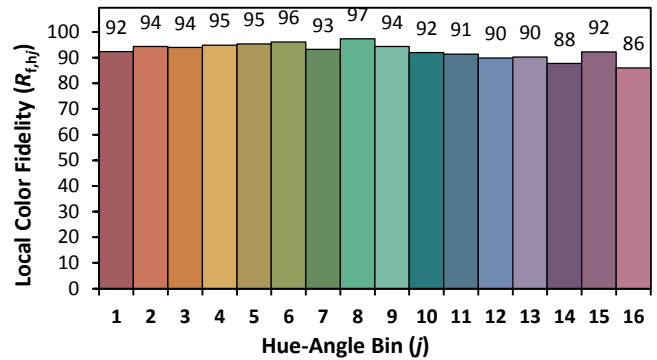
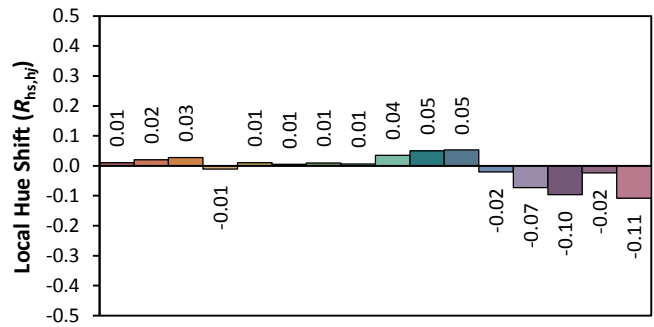
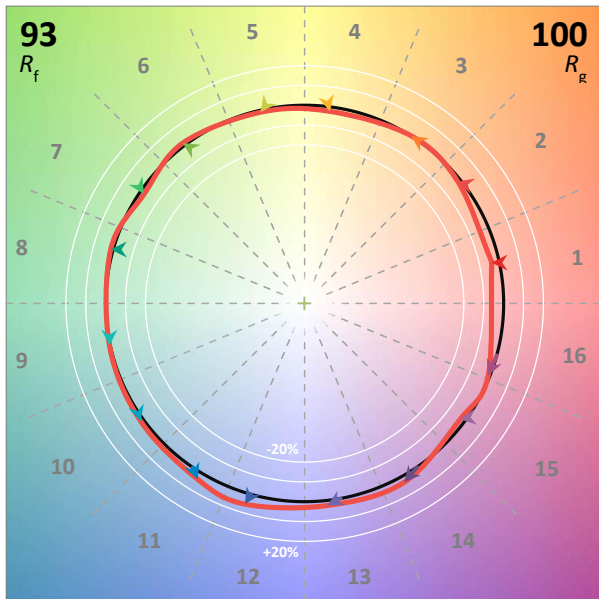
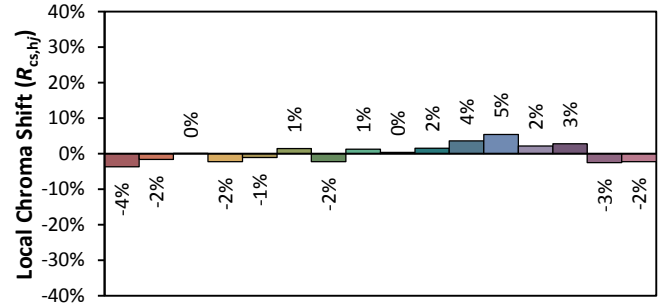
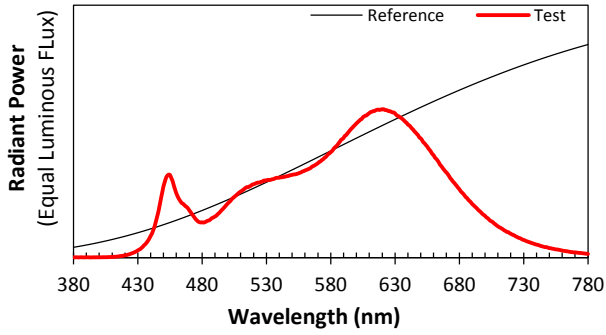
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.3375	40.07	0.9893	4454.4	111.16

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
15.58	2931	-0.00352	0.4367	0.3953	0.2543	0.5178

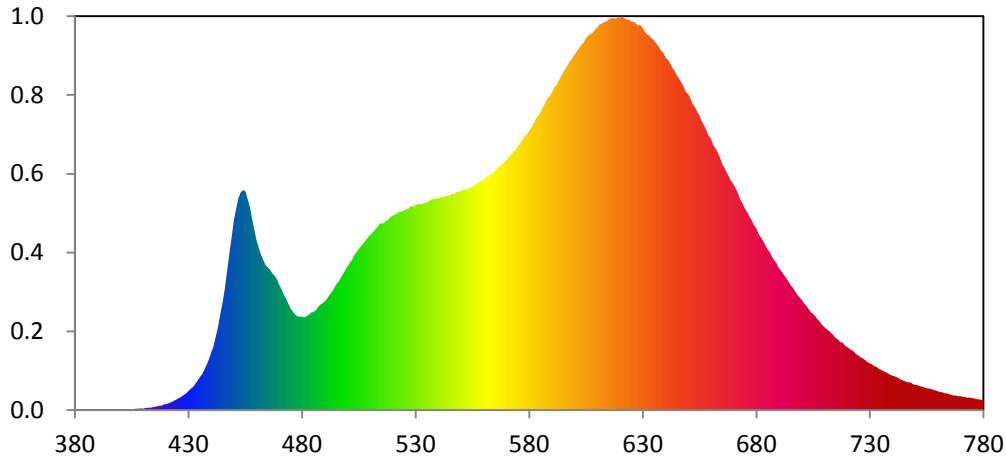
Color Rendering Index

Ra			
94.9			
R1	R2	R3	R4
98	98	97	98
R5	R6	R7	R8
99	93	91	85
R9	R10	R11	R12
69	97	96	85
R13	R14	R15	
99	99	94	





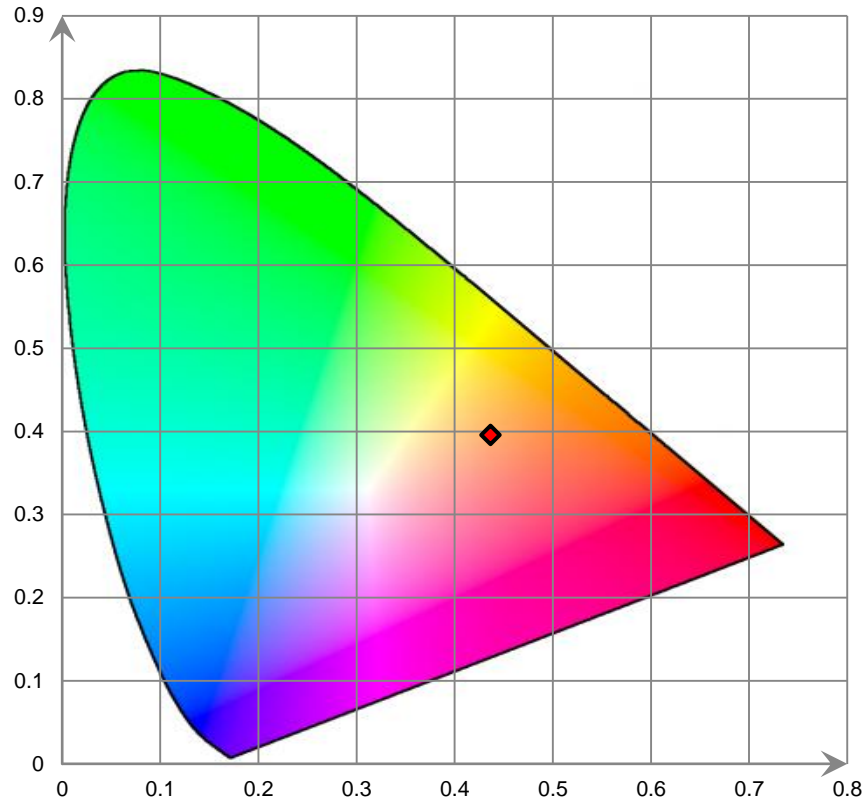
Relative Spectral Power Distribution



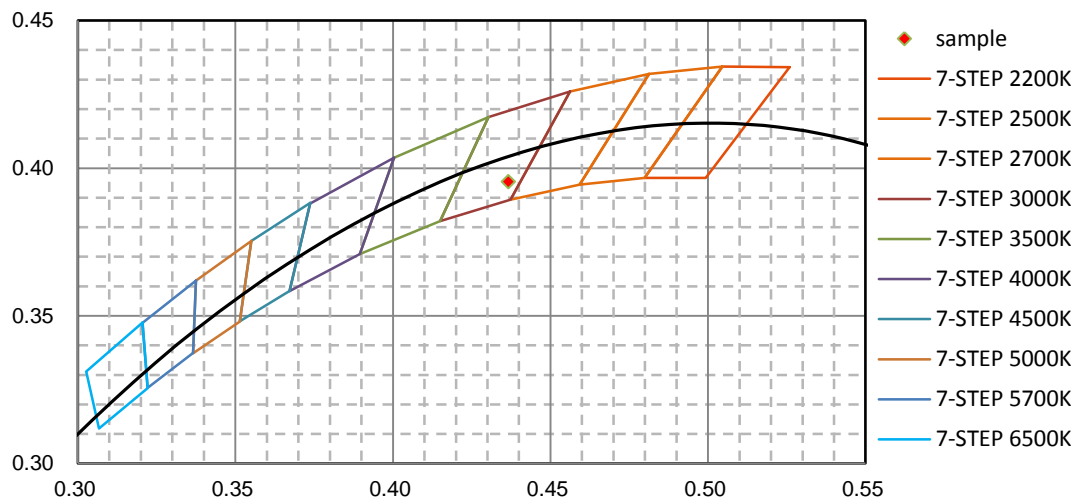
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	1.845E-01	421	1.586E+00	462	3.778E+01	503	3.767E+01	544	5.212E+01
381	1.385E-01	422	1.799E+00	463	3.658E+01	504	3.843E+01	545	5.234E+01
382	1.363E-01	423	1.997E+00	464	3.531E+01	505	3.915E+01	546	5.259E+01
383	1.686E-01	424	2.295E+00	465	3.480E+01	506	3.984E+01	547	5.265E+01
384	7.761E-02	425	2.631E+00	466	3.407E+01	507	4.058E+01	548	5.307E+01
385	1.587E-01	426	2.916E+00	467	3.323E+01	508	4.136E+01	549	5.319E+01
386	1.722E-01	427	3.246E+00	468	3.262E+01	509	4.204E+01	550	5.341E+01
387	1.640E-01	428	3.656E+00	469	3.177E+01	510	4.265E+01	551	5.360E+01
388	6.617E-02	429	4.070E+00	470	3.052E+01	511	4.316E+01	552	5.372E+01
389	1.611E-01	430	4.600E+00	471	2.941E+01	512	4.380E+01	553	5.382E+01
390	1.197E-01	431	5.113E+00	472	2.815E+01	513	4.445E+01	554	5.414E+01
391	2.054E-01	432	5.540E+00	473	2.711E+01	514	4.512E+01	555	5.436E+01
392	1.422E-01	433	6.306E+00	474	2.592E+01	515	4.549E+01	556	5.478E+01
393	6.373E-02	434	7.072E+00	475	2.481E+01	516	4.549E+01	557	5.503E+01
394	1.158E-01	435	8.033E+00	476	2.395E+01	517	4.605E+01	558	5.555E+01
395	1.280E-01	436	8.750E+00	477	2.322E+01	518	4.640E+01	559	5.581E+01
396	1.729E-01	437	9.808E+00	478	2.281E+01	519	4.711E+01	560	5.621E+01
397	1.388E-01	438	1.099E+01	479	2.266E+01	520	4.731E+01	561	5.658E+01
398	1.914E-01	439	1.235E+01	480	2.276E+01	521	4.766E+01	562	5.688E+01
399	1.150E-01	440	1.398E+01	481	2.256E+01	522	4.797E+01	563	5.730E+01
400	1.901E-01	441	1.547E+01	482	2.282E+01	523	4.837E+01	564	5.763E+01
401	1.577E-01	442	1.768E+01	483	2.313E+01	524	4.836E+01	565	5.835E+01
402	1.643E-01	443	1.998E+01	484	2.370E+01	525	4.862E+01	566	5.894E+01
403	2.398E-01	444	2.306E+01	485	2.388E+01	526	4.891E+01	567	5.928E+01
404	2.016E-01	445	2.628E+01	486	2.429E+01	527	4.912E+01	568	5.982E+01
405	2.291E-01	446	2.964E+01	487	2.503E+01	528	4.975E+01	569	6.033E+01
406	1.983E-01	447	3.380E+01	488	2.563E+01	529	4.962E+01	570	6.089E+01
407	3.204E-01	448	3.809E+01	489	2.597E+01	530	4.991E+01	571	6.170E+01
408	2.838E-01	449	4.204E+01	490	2.652E+01	531	5.011E+01	572	6.205E+01
409	3.662E-01	450	4.612E+01	491	2.701E+01	532	5.011E+01	573	6.292E+01
410	3.317E-01	451	4.897E+01	492	2.793E+01	533	5.013E+01	574	6.339E+01
411	4.588E-01	452	5.154E+01	493	2.860E+01	534	5.042E+01	575	6.428E+01
412	5.164E-01	453	5.292E+01	494	2.948E+01	535	5.063E+01	576	6.482E+01
413	5.156E-01	454	5.352E+01	495	3.047E+01	536	5.081E+01	577	6.575E+01
414	6.259E-01	455	5.330E+01	496	3.123E+01	537	5.126E+01	578	6.676E+01
415	7.382E-01	456	5.139E+01	497	3.215E+01	538	5.148E+01	579	6.727E+01
416	8.811E-01	457	4.948E+01	498	3.308E+01	539	5.150E+01	580	6.801E+01
417	1.001E+00	458	4.659E+01	499	3.407E+01	540	5.156E+01	581	6.878E+01
418	1.022E+00	459	4.386E+01	500	3.496E+01	541	5.177E+01	582	6.987E+01
419	1.300E+00	460	4.134E+01	501	3.580E+01	542	5.183E+01	583	7.094E+01
420	1.386E+00	461	3.947E+01	502	3.655E+01	543	5.200E+01	584	7.166E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	7.250E+01	626	9.454E+01	667	5.786E+01	708	2.147E+01	749	6.324E+00
586	7.361E+01	627	9.410E+01	668	5.680E+01	709	2.075E+01	750	6.071E+00
587	7.472E+01	628	9.375E+01	669	5.576E+01	710	2.016E+01	751	6.060E+00
588	7.593E+01	629	9.369E+01	670	5.486E+01	711	1.962E+01	752	5.774E+00
589	7.650E+01	630	9.302E+01	671	5.388E+01	712	1.923E+01	753	5.654E+00
590	7.725E+01	631	9.210E+01	672	5.262E+01	713	1.868E+01	754	5.438E+00
591	7.858E+01	632	9.146E+01	673	5.122E+01	714	1.819E+01	755	5.279E+00
592	7.906E+01	633	9.116E+01	674	5.031E+01	715	1.750E+01	756	5.215E+00
593	8.021E+01	634	9.050E+01	675	4.907E+01	716	1.713E+01	757	5.067E+00
594	8.112E+01	635	9.003E+01	676	4.827E+01	717	1.649E+01	758	4.892E+00
595	8.226E+01	636	8.923E+01	677	4.719E+01	718	1.645E+01	759	4.713E+00
596	8.314E+01	637	8.854E+01	678	4.623E+01	719	1.578E+01	760	4.499E+00
597	8.400E+01	638	8.761E+01	679	4.508E+01	720	1.538E+01	761	4.335E+00
598	8.492E+01	639	8.701E+01	680	4.417E+01	721	1.487E+01	762	4.260E+00
599	8.573E+01	640	8.582E+01	681	4.285E+01	722	1.459E+01	763	4.078E+00
600	8.664E+01	641	8.536E+01	682	4.206E+01	723	1.414E+01	764	4.041E+00
601	8.741E+01	642	8.452E+01	683	4.117E+01	724	1.360E+01	765	3.812E+00
602	8.815E+01	643	8.344E+01	684	4.018E+01	725	1.322E+01	766	3.685E+00
603	8.900E+01	644	8.267E+01	685	3.902E+01	726	1.278E+01	767	3.525E+00
604	8.941E+01	645	8.157E+01	686	3.843E+01	727	1.253E+01	768	3.493E+00
605	9.058E+01	646	8.073E+01	687	3.723E+01	728	1.216E+01	769	3.330E+00
606	9.113E+01	647	7.981E+01	688	3.650E+01	729	1.162E+01	770	3.348E+00
607	9.161E+01	648	7.887E+01	689	3.567E+01	730	1.137E+01	771	3.221E+00
608	9.186E+01	649	7.747E+01	690	3.456E+01	731	1.106E+01	772	3.146E+00
609	9.266E+01	650	7.697E+01	691	3.386E+01	732	1.064E+01	773	2.987E+00
610	9.325E+01	651	7.585E+01	692	3.300E+01	733	1.040E+01	774	2.992E+00
611	9.392E+01	652	7.445E+01	693	3.228E+01	734	1.001E+01	775	2.868E+00
612	9.412E+01	653	7.373E+01	694	3.142E+01	735	9.790E+00	776	2.766E+00
613	9.455E+01	654	7.262E+01	695	3.051E+01	736	9.429E+00	777	2.668E+00
614	9.463E+01	655	7.172E+01	696	2.986E+01	737	9.185E+00	778	2.544E+00
615	9.508E+01	656	7.037E+01	697	2.903E+01	738	8.883E+00	779	2.485E+00
616	9.543E+01	657	6.941E+01	698	2.813E+01	739	8.592E+00	780	2.333E+00
617	9.551E+01	658	6.820E+01	699	2.754E+01	740	8.347E+00		
618	9.527E+01	659	6.684E+01	700	2.688E+01	741	8.164E+00		
619	9.566E+01	660	6.609E+01	701	2.596E+01	742	7.922E+00		
620	9.561E+01	661	6.459E+01	702	2.544E+01	743	7.583E+00		
621	9.587E+01	662	6.376E+01	703	2.465E+01	744	7.306E+00		
622	9.534E+01	663	6.275E+01	704	2.382E+01	745	7.118E+00		
623	9.522E+01	664	6.149E+01	705	2.337E+01	746	6.847E+00		
624	9.505E+01	665	5.999E+01	706	2.285E+01	747	6.739E+00		
625	9.453E+01	666	5.901E+01	707	2.207E+01	748	6.692E+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**

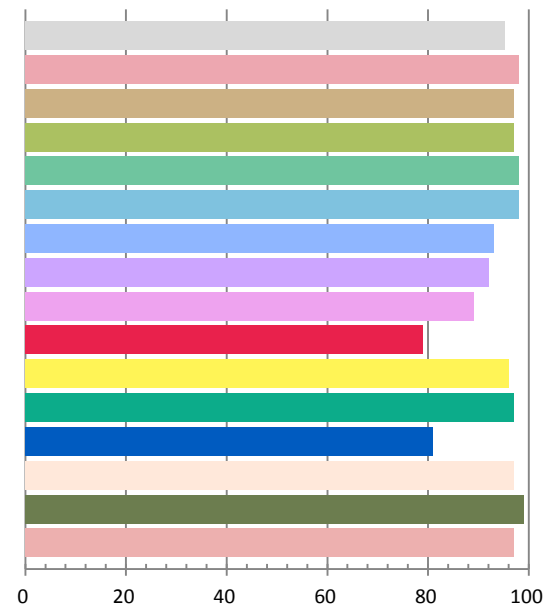
Photometric and Electrical Measurement Result

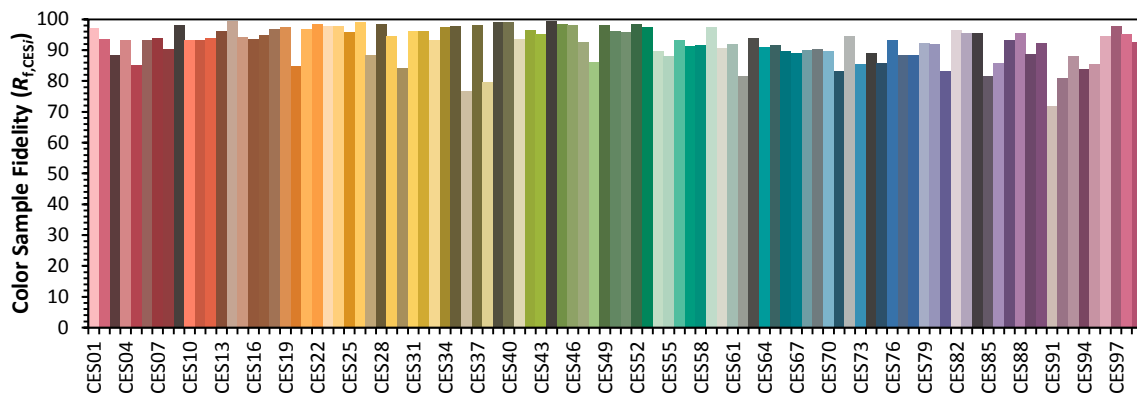
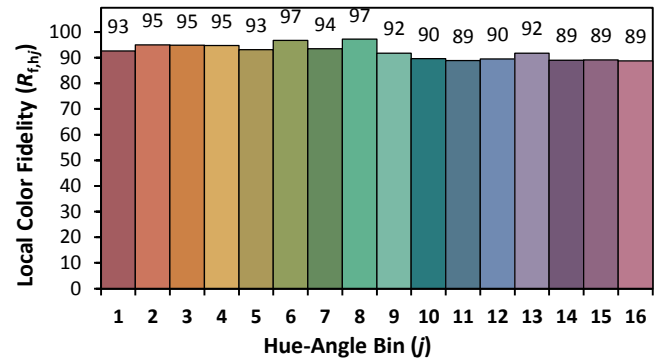
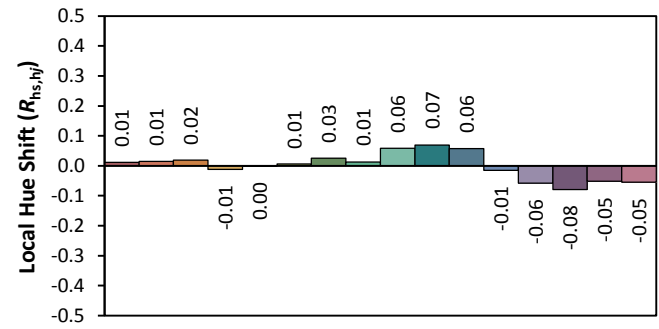
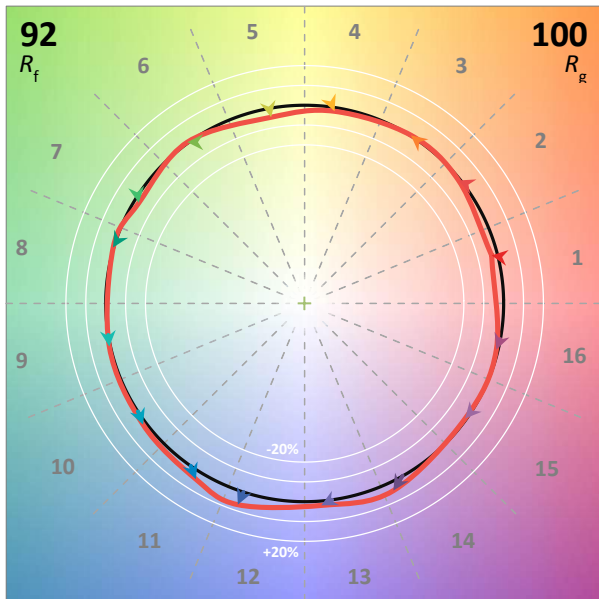
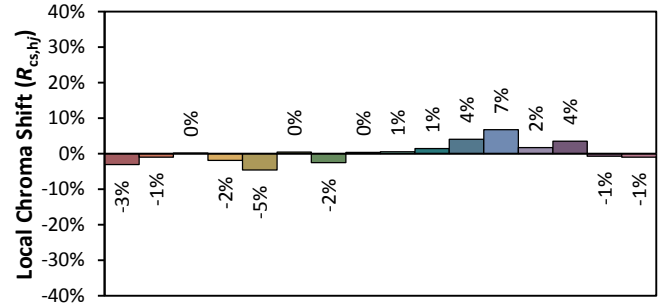
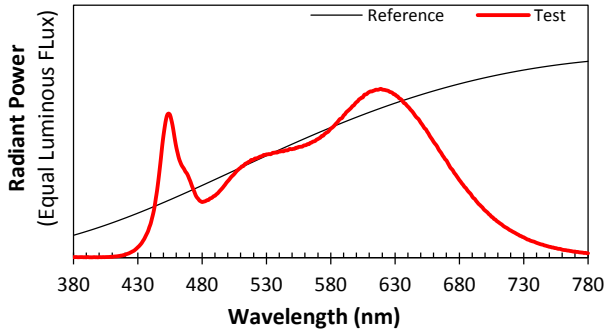
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.1	60	0.3335	39.62	0.989	4548.8	114.81

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
15.941	3368	-0.00505	0.4073	0.3803	0.2414	0.5071

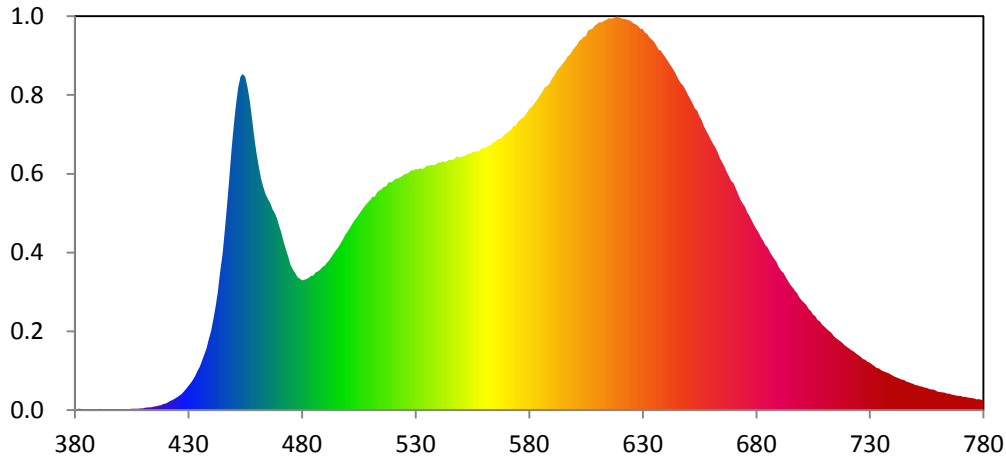
Color Rendering Index

Ra			
95.3			
R1	R2	R3	R4
98	97	97	98
R5	R6	R7	R8
98	93	92	89
R9	R10	R11	R12
79	96	97	81
R13	R14	R15	
97	99	97	





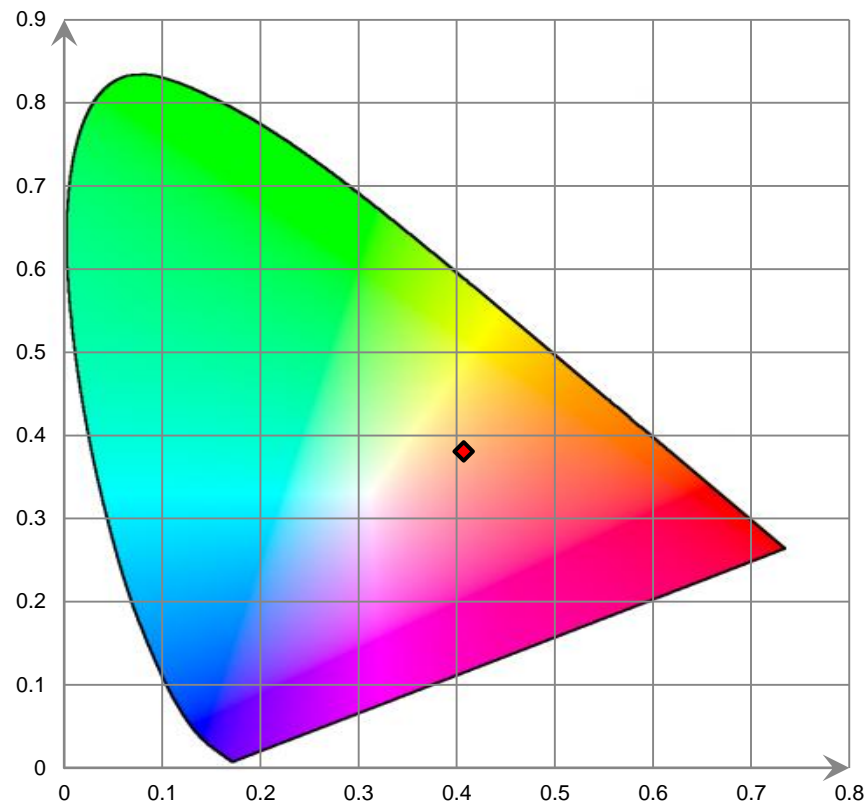
Relative Spectral Power Distribution



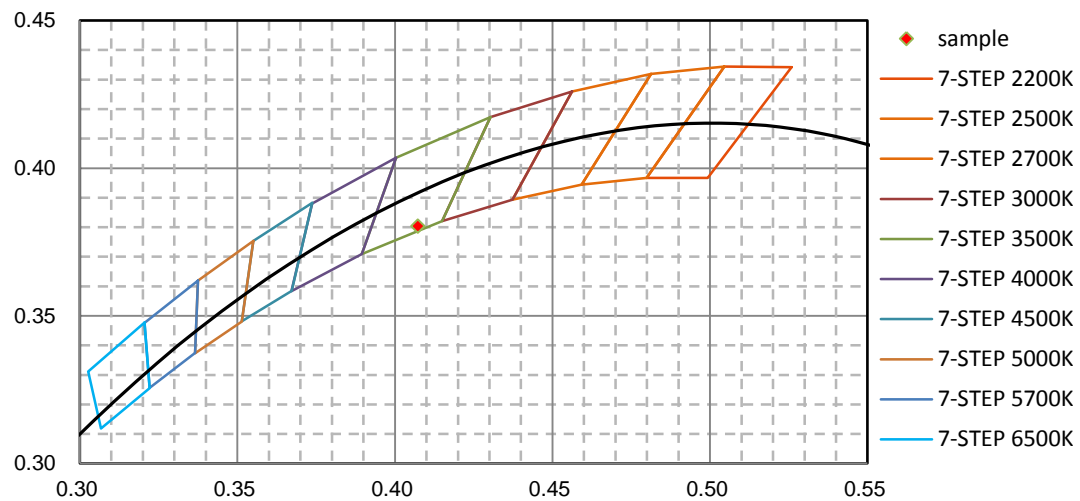
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	2.260E-01	421	1.727E+00	462	5.229E+01	503	4.277E+01	544	5.629E+01
381	2.103E-01	422	1.990E+00	463	5.043E+01	504	4.339E+01	545	5.658E+01
382	2.728E-01	423	2.199E+00	464	4.880E+01	505	4.409E+01	546	5.652E+01
383	1.801E-01	424	2.558E+00	465	4.771E+01	506	4.490E+01	547	5.673E+01
384	1.767E-01	425	2.893E+00	466	4.671E+01	507	4.571E+01	548	5.730E+01
385	2.094E-01	426	3.265E+00	467	4.537E+01	508	4.631E+01	549	5.718E+01
386	2.299E-01	427	3.601E+00	468	4.451E+01	509	4.693E+01	550	5.718E+01
387	2.059E-01	428	4.158E+00	469	4.323E+01	510	4.742E+01	551	5.735E+01
388	1.540E-01	429	4.764E+00	470	4.155E+01	511	4.817E+01	552	5.742E+01
389	1.875E-01	430	5.411E+00	471	3.994E+01	512	4.820E+01	553	5.796E+01
390	1.155E-01	431	6.042E+00	472	3.794E+01	513	4.911E+01	554	5.789E+01
391	3.004E-01	432	6.808E+00	473	3.625E+01	514	4.962E+01	555	5.831E+01
392	1.382E-01	433	7.657E+00	474	3.465E+01	515	4.985E+01	556	5.840E+01
393	1.380E-01	434	8.761E+00	475	3.287E+01	516	5.042E+01	557	5.847E+01
394	1.166E-01	435	9.808E+00	476	3.171E+01	517	5.054E+01	558	5.856E+01
395	1.380E-01	436	1.118E+01	477	3.094E+01	518	5.145E+01	559	5.909E+01
396	2.186E-01	437	1.256E+01	478	3.004E+01	519	5.145E+01	560	5.922E+01
397	1.541E-01	438	1.399E+01	479	2.966E+01	520	5.164E+01	561	5.935E+01
398	1.724E-01	439	1.605E+01	480	2.927E+01	521	5.224E+01	562	5.989E+01
399	1.112E-01	440	1.787E+01	481	2.947E+01	522	5.230E+01	563	5.977E+01
400	2.084E-01	441	2.057E+01	482	2.961E+01	523	5.249E+01	564	6.048E+01
401	2.029E-01	442	2.333E+01	483	2.991E+01	524	5.283E+01	565	6.062E+01
402	1.771E-01	443	2.668E+01	484	3.029E+01	525	5.322E+01	566	6.110E+01
403	2.364E-01	444	3.112E+01	485	3.037E+01	526	5.340E+01	567	6.130E+01
404	1.956E-01	445	3.543E+01	486	3.111E+01	527	5.368E+01	568	6.155E+01
405	2.461E-01	446	4.079E+01	487	3.133E+01	528	5.417E+01	569	6.221E+01
406	2.636E-01	447	4.655E+01	488	3.173E+01	529	5.412E+01	570	6.249E+01
407	2.768E-01	448	5.260E+01	489	3.236E+01	530	5.443E+01	571	6.293E+01
408	3.156E-01	449	5.906E+01	490	3.261E+01	531	5.442E+01	572	6.330E+01
409	3.839E-01	450	6.450E+01	491	3.331E+01	532	5.461E+01	573	6.415E+01
410	3.384E-01	451	6.923E+01	492	3.381E+01	533	5.449E+01	574	6.421E+01
411	4.876E-01	452	7.308E+01	493	3.457E+01	534	5.477E+01	575	6.501E+01
412	5.512E-01	453	7.539E+01	494	3.535E+01	535	5.528E+01	576	6.558E+01
413	5.921E-01	454	7.594E+01	495	3.607E+01	536	5.523E+01	577	6.601E+01
414	6.611E-01	455	7.526E+01	496	3.683E+01	537	5.544E+01	578	6.640E+01
415	7.720E-01	456	7.285E+01	497	3.770E+01	538	5.536E+01	579	6.720E+01
416	8.787E-01	457	6.979E+01	498	3.856E+01	539	5.558E+01	580	6.799E+01
417	1.022E+00	458	6.579E+01	499	3.955E+01	540	5.592E+01	581	6.845E+01
418	1.103E+00	459	6.155E+01	500	4.030E+01	541	5.594E+01	582	6.906E+01
419	1.338E+00	460	5.794E+01	501	4.107E+01	542	5.618E+01	583	6.976E+01
420	1.437E+00	461	5.503E+01	502	4.196E+01	543	5.601E+01	584	7.056E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	7.123E+01	626	8.737E+01	667	5.383E+01	708	2.004E+01	749	5.902E+00
586	7.207E+01	627	8.720E+01	668	5.291E+01	709	1.932E+01	750	5.666E+00
587	7.298E+01	628	8.684E+01	669	5.183E+01	710	1.886E+01	751	5.595E+00
588	7.332E+01	629	8.616E+01	670	5.119E+01	711	1.834E+01	752	5.333E+00
589	7.378E+01	630	8.605E+01	671	4.995E+01	712	1.786E+01	753	5.302E+00
590	7.496E+01	631	8.532E+01	672	4.873E+01	713	1.743E+01	754	5.029E+00
591	7.555E+01	632	8.501E+01	673	4.750E+01	714	1.680E+01	755	4.976E+00
592	7.656E+01	633	8.420E+01	674	4.673E+01	715	1.630E+01	756	4.770E+00
593	7.718E+01	634	8.373E+01	675	4.595E+01	716	1.591E+01	757	4.591E+00
594	7.776E+01	635	8.326E+01	676	4.469E+01	717	1.556E+01	758	4.590E+00
595	7.839E+01	636	8.240E+01	677	4.389E+01	718	1.509E+01	759	4.422E+00
596	7.907E+01	637	8.147E+01	678	4.290E+01	719	1.458E+01	760	4.139E+00
597	7.993E+01	638	8.123E+01	679	4.191E+01	720	1.425E+01	761	4.016E+00
598	8.030E+01	639	8.033E+01	680	4.090E+01	721	1.384E+01	762	3.947E+00
599	8.125E+01	640	7.963E+01	681	4.007E+01	722	1.347E+01	763	3.868E+00
600	8.197E+01	641	7.895E+01	682	3.908E+01	723	1.313E+01	764	3.700E+00
601	8.246E+01	642	7.805E+01	683	3.829E+01	724	1.273E+01	765	3.658E+00
602	8.340E+01	643	7.736E+01	684	3.728E+01	725	1.233E+01	766	3.488E+00
603	8.379E+01	644	7.652E+01	685	3.671E+01	726	1.201E+01	767	3.409E+00
604	8.438E+01	645	7.552E+01	686	3.573E+01	727	1.151E+01	768	3.251E+00
605	8.450E+01	646	7.454E+01	687	3.484E+01	728	1.132E+01	769	3.141E+00
606	8.578E+01	647	7.377E+01	688	3.414E+01	729	1.091E+01	770	3.157E+00
607	8.605E+01	648	7.322E+01	689	3.340E+01	730	1.069E+01	771	2.937E+00
608	8.625E+01	649	7.229E+01	690	3.224E+01	731	1.028E+01	772	2.975E+00
609	8.693E+01	650	7.114E+01	691	3.140E+01	732	9.914E+00	773	2.789E+00
610	8.734E+01	651	7.026E+01	692	3.092E+01	733	9.502E+00	774	2.719E+00
611	8.765E+01	652	6.921E+01	693	2.994E+01	734	9.403E+00	775	2.650E+00
612	8.762E+01	653	6.815E+01	694	2.914E+01	735	8.991E+00	776	2.583E+00
613	8.796E+01	654	6.765E+01	695	2.829E+01	736	8.750E+00	777	2.407E+00
614	8.817E+01	655	6.643E+01	696	2.772E+01	737	8.541E+00	778	2.474E+00
615	8.853E+01	656	6.546E+01	697	2.701E+01	738	8.381E+00	779	2.321E+00
616	8.850E+01	657	6.415E+01	698	2.640E+01	739	8.085E+00	780	2.259E+00
617	8.854E+01	658	6.315E+01	699	2.546E+01	740	7.778E+00		
618	8.879E+01	659	6.218E+01	700	2.483E+01	741	7.537E+00		
619	8.900E+01	660	6.106E+01	701	2.426E+01	742	7.306E+00		
620	8.864E+01	661	6.013E+01	702	2.370E+01	743	7.058E+00		
621	8.851E+01	662	5.934E+01	703	2.288E+01	744	6.887E+00		
622	8.843E+01	663	5.827E+01	704	2.238E+01	745	6.761E+00		
623	8.823E+01	664	5.693E+01	705	2.152E+01	746	6.434E+00		
624	8.809E+01	665	5.598E+01	706	2.118E+01	747	6.297E+00		
625	8.785E+01	666	5.504E+01	707	2.033E+01	748	6.080E+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**

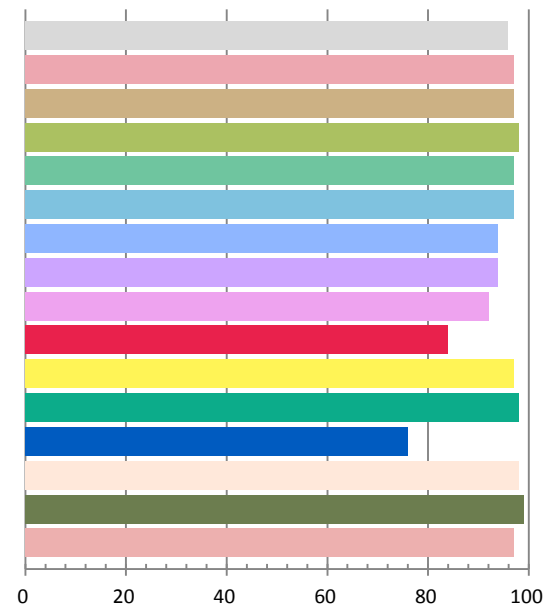
Photometric and Electrical Measurement Result

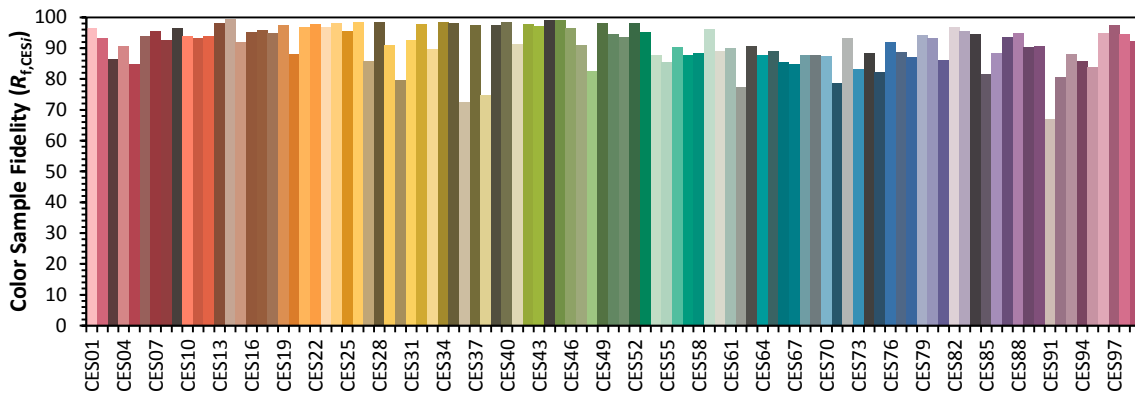
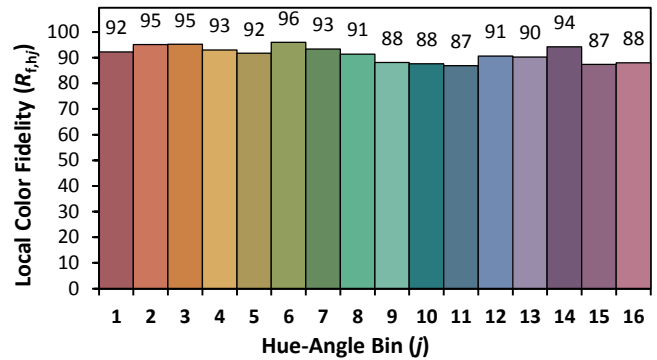
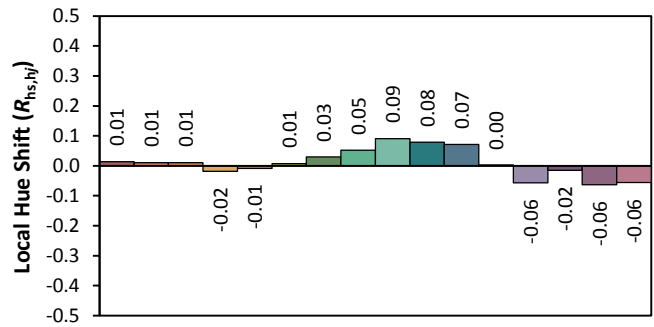
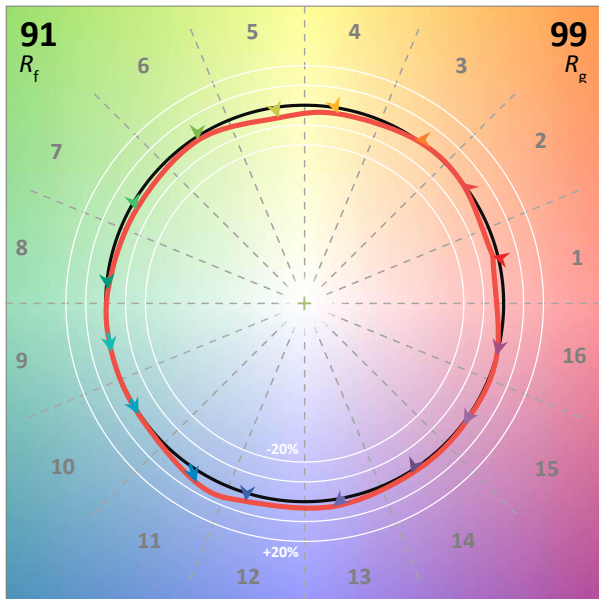
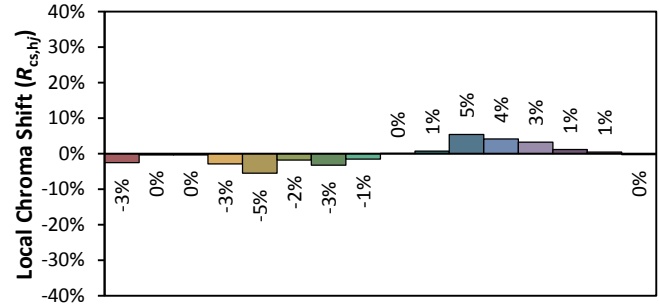
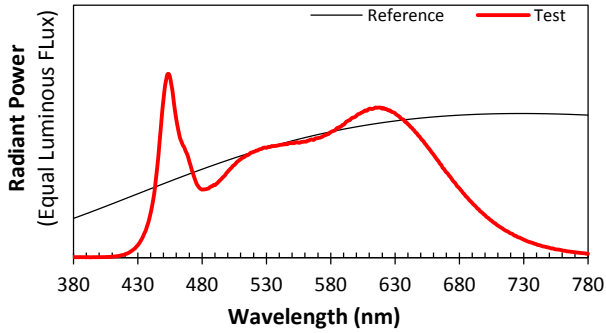
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.1	60	0.3343	39.71	0.9893	4619.9	116.34

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
16.175	3981	-0.00437	0.3783	0.3662	0.2279	0.4965

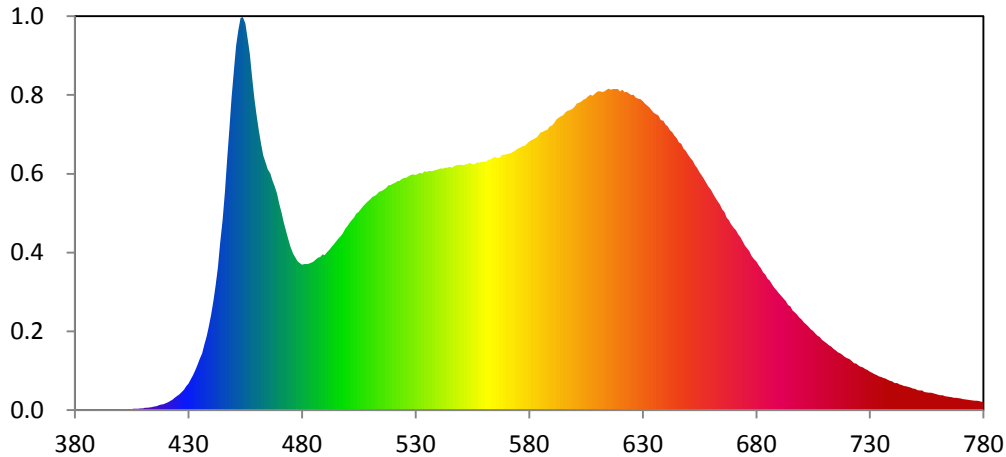
Color Rendering Index

Ra			
95.8			
R1	R2	R3	R4
97	97	98	97
R5	R6	R7	R8
97	94	94	92
R9	R10	R11	R12
84	97	98	76
R13	R14	R15	
98	99	97	





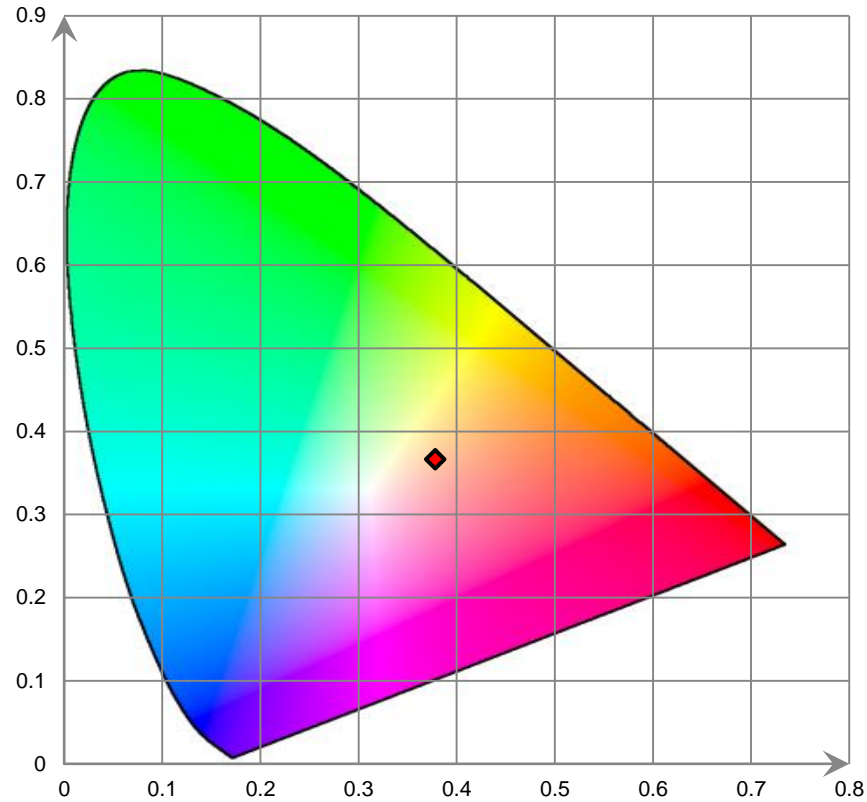
Relative Spectral Power Distribution



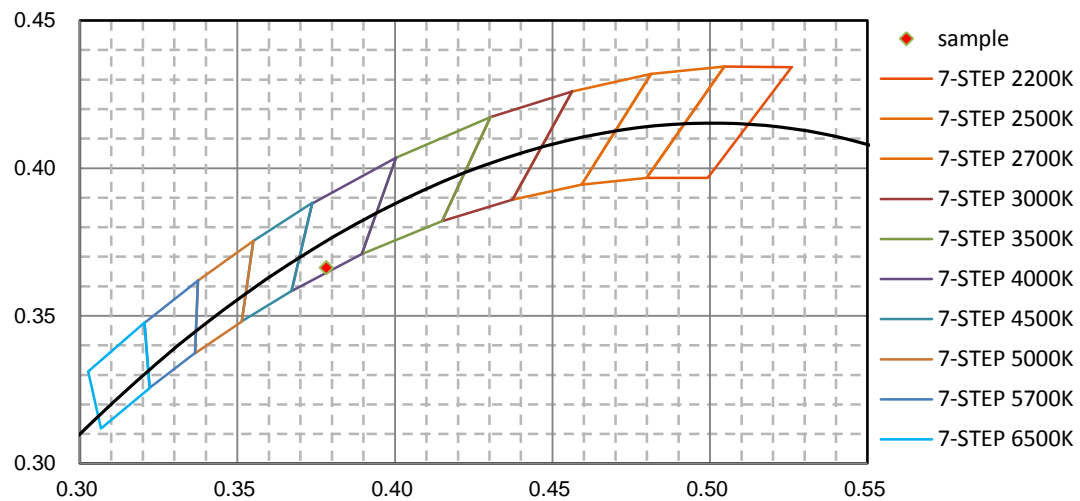
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381	1.806E-01	422	2.258E+00	463	6.370E+01	504	4.915E+01	545	6.089E+01
382	1.758E-01	423	2.557E+00	464	6.202E+01	505	4.953E+01	546	6.063E+01
383	2.361E-01	424	3.058E+00	465	6.021E+01	506	5.028E+01	547	6.106E+01
384	1.618E-01	425	3.488E+00	466	5.920E+01	507	5.111E+01	548	6.131E+01
385	2.650E-01	426	3.957E+00	467	5.737E+01	508	5.166E+01	549	6.131E+01
386	2.166E-01	427	4.508E+00	468	5.587E+01	509	5.222E+01	550	6.132E+01
387	1.990E-01	428	5.056E+00	469	5.418E+01	510	5.268E+01	551	6.125E+01
388	1.806E-01	429	5.953E+00	470	5.155E+01	511	5.335E+01	552	6.143E+01
389	2.125E-01	430	6.584E+00	471	4.943E+01	512	5.356E+01	553	6.161E+01
390	1.236E-01	431	7.590E+00	472	4.694E+01	513	5.398E+01	554	6.184E+01
391	2.600E-01	432	8.643E+00	473	4.483E+01	514	5.458E+01	555	6.151E+01
392	1.755E-01	433	9.860E+00	474	4.277E+01	515	5.475E+01	556	6.153E+01
393	1.147E-01	434	1.116E+01	475	4.082E+01	516	5.508E+01	557	6.190E+01
394	1.544E-01	435	1.287E+01	476	3.914E+01	517	5.560E+01	558	6.192E+01
395	2.151E-01	436	1.419E+01	477	3.822E+01	518	5.624E+01	559	6.208E+01
396	2.046E-01	437	1.639E+01	478	3.725E+01	519	5.630E+01	560	6.212E+01
397	1.920E-01	438	1.838E+01	479	3.672E+01	520	5.665E+01	561	6.212E+01
398	2.158E-01	439	2.096E+01	480	3.640E+01	521	5.685E+01	562	6.262E+01
399	1.745E-01	440	2.389E+01	481	3.651E+01	522	5.729E+01	563	6.268E+01
400	2.253E-01	441	2.723E+01	482	3.654E+01	523	5.731E+01	564	6.308E+01
401	2.105E-01	442	3.114E+01	483	3.663E+01	524	5.778E+01	565	6.332E+01
402	2.345E-01	443	3.552E+01	484	3.683E+01	525	5.804E+01	566	6.309E+01
403	2.459E-01	444	4.162E+01	485	3.706E+01	526	5.816E+01	567	6.307E+01
404	2.292E-01	445	4.765E+01	486	3.763E+01	527	5.858E+01	568	6.384E+01
405	2.584E-01	446	5.449E+01	487	3.810E+01	528	5.887E+01	569	6.388E+01
406	2.885E-01	447	6.268E+01	488	3.826E+01	529	5.892E+01	570	6.401E+01
407	3.437E-01	448	7.032E+01	489	3.891E+01	530	5.878E+01	571	6.415E+01
408	3.145E-01	449	7.836E+01	490	3.876E+01	531	5.909E+01	572	6.433E+01
409	3.993E-01	450	8.484E+01	491	3.948E+01	532	5.936E+01	573	6.461E+01
410	4.108E-01	451	9.113E+01	492	4.001E+01	533	5.920E+01	574	6.496E+01
411	5.648E-01	452	9.505E+01	493	4.077E+01	534	5.977E+01	575	6.544E+01
412	5.878E-01	453	9.810E+01	494	4.143E+01	535	5.962E+01	576	6.557E+01
413	6.488E-01	454	9.838E+01	495	4.212E+01	536	5.980E+01	577	6.598E+01
414	7.381E-01	455	9.676E+01	496	4.293E+01	537	5.976E+01	578	6.610E+01
415	8.431E-01	456	9.296E+01	497	4.349E+01	538	5.990E+01	579	6.663E+01
416	9.713E-01	457	8.906E+01	498	4.426E+01	539	6.009E+01	580	6.722E+01
417	1.184E+00	458	8.333E+01	499	4.533E+01	540	6.023E+01	581	6.754E+01
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419	1.434E+00	460	7.374E+01	501	4.687E+01	542	6.042E+01	583	6.807E+01
420	1.696E+00	461	7.000E+01	502	4.757E+01	543	6.061E+01	584	6.866E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	6.940E+01	626	7.893E+01	667	4.811E+01	708	1.827E+01	749	5.391E+00
586	6.963E+01	627	7.821E+01	668	4.751E+01	709	1.755E+01	750	5.291E+00
587	6.995E+01	628	7.795E+01	669	4.647E+01	710	1.712E+01	751	4.955E+00
588	7.016E+01	629	7.773E+01	670	4.553E+01	711	1.668E+01	752	4.874E+00
589	7.098E+01	630	7.730E+01	671	4.504E+01	712	1.620E+01	753	4.884E+00
590	7.116E+01	631	7.661E+01	672	4.393E+01	713	1.588E+01	754	4.505E+00
591	7.182E+01	632	7.614E+01	673	4.322E+01	714	1.532E+01	755	4.405E+00
592	7.270E+01	633	7.573E+01	674	4.217E+01	715	1.486E+01	756	4.300E+00
593	7.310E+01	634	7.500E+01	675	4.116E+01	716	1.439E+01	757	4.277E+00
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601	7.671E+01	642	6.999E+01	683	3.447E+01	724	1.161E+01	765	3.256E+00
602	7.692E+01	643	6.956E+01	684	3.390E+01	725	1.110E+01	766	3.192E+00
603	7.721E+01	644	6.865E+01	685	3.281E+01	726	1.079E+01	767	3.049E+00
604	7.772E+01	645	6.804E+01	686	3.231E+01	727	1.067E+01	768	3.008E+00
605	7.795E+01	646	6.699E+01	687	3.142E+01	728	1.026E+01	769	2.921E+00
606	7.847E+01	647	6.659E+01	688	3.062E+01	729	9.967E+00	770	2.847E+00
607	7.889E+01	648	6.541E+01	689	2.997E+01	730	9.578E+00	771	2.703E+00
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609	7.918E+01	650	6.384E+01	691	2.848E+01	732	8.981E+00	773	2.577E+00
610	7.973E+01	651	6.302E+01	692	2.785E+01	733	8.700E+00	774	2.478E+00
611	7.974E+01	652	6.239E+01	693	2.719E+01	734	8.427E+00	775	2.425E+00
612	7.958E+01	653	6.129E+01	694	2.627E+01	735	8.258E+00	776	2.327E+00
613	7.973E+01	654	6.054E+01	695	2.591E+01	736	8.002E+00	777	2.321E+00
614	8.009E+01	655	5.953E+01	696	2.494E+01	737	7.824E+00	778	2.214E+00
615	8.040E+01	656	5.870E+01	697	2.445E+01	738	7.516E+00	779	2.072E+00
616	8.021E+01	657	5.784E+01	698	2.386E+01	739	7.283E+00	780	2.024E+00
617	8.032E+01	658	5.684E+01	699	2.318E+01	740	7.109E+00		
618	8.036E+01	659	5.592E+01	700	2.267E+01	741	6.705E+00		
619	8.030E+01	660	5.513E+01	701	2.184E+01	742	6.687E+00		
620	7.972E+01	661	5.407E+01	702	2.140E+01	743	6.440E+00		
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622	7.955E+01	663	5.224E+01	704	2.020E+01	745	5.972E+00		
623	7.963E+01	664	5.139E+01	705	1.977E+01	746	5.891E+00		
624	7.918E+01	665	5.019E+01	706	1.912E+01	747	5.728E+00		
625	7.879E+01	666	4.958E+01	707	1.857E+01	748	5.555E+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**

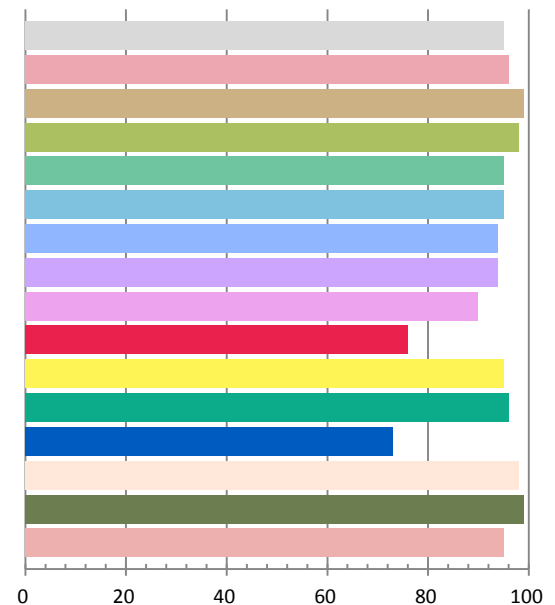
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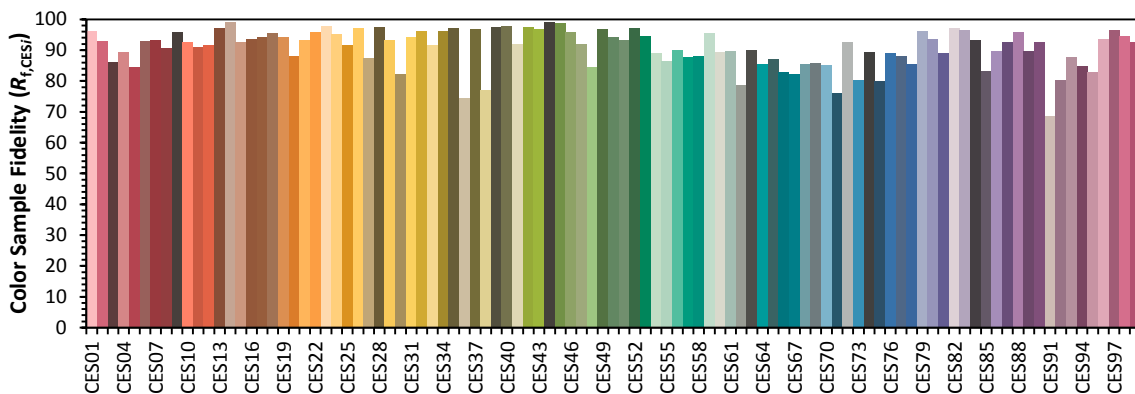
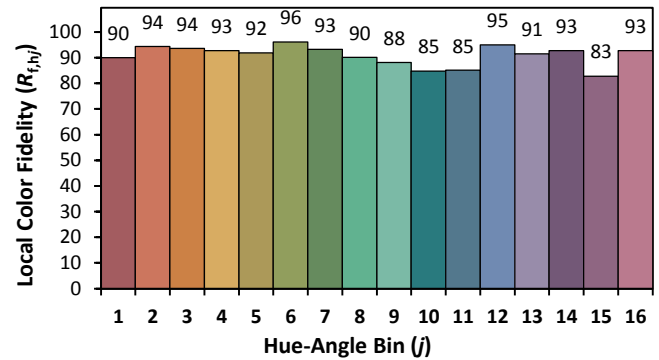
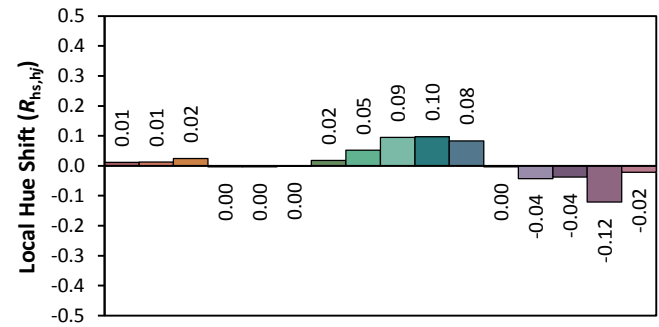
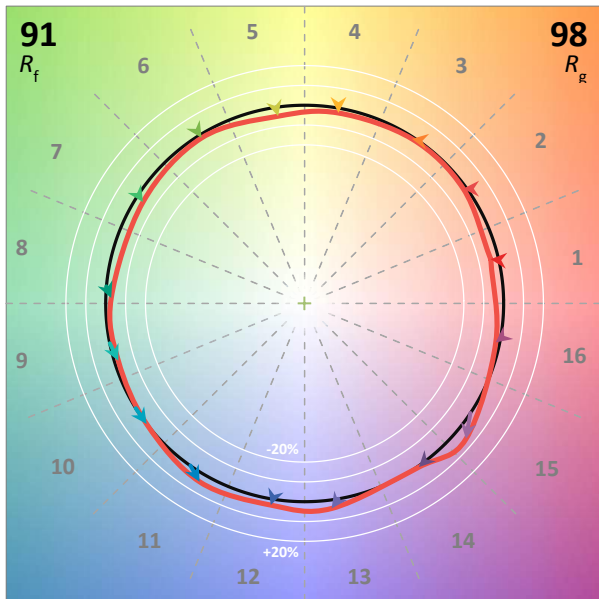
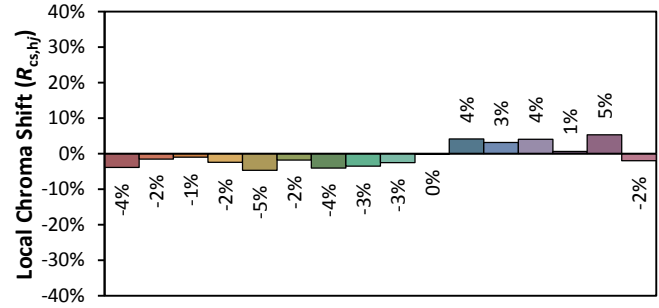
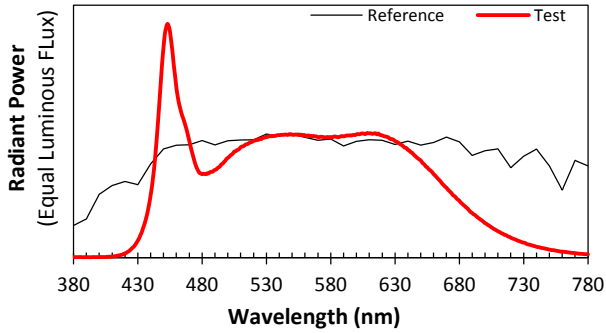
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.1	60	0.3399	40.39	0.9893	4602.7	113.96

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
16.028	5139	0.00046	0.3413	0.3495	0.2097	0.4831

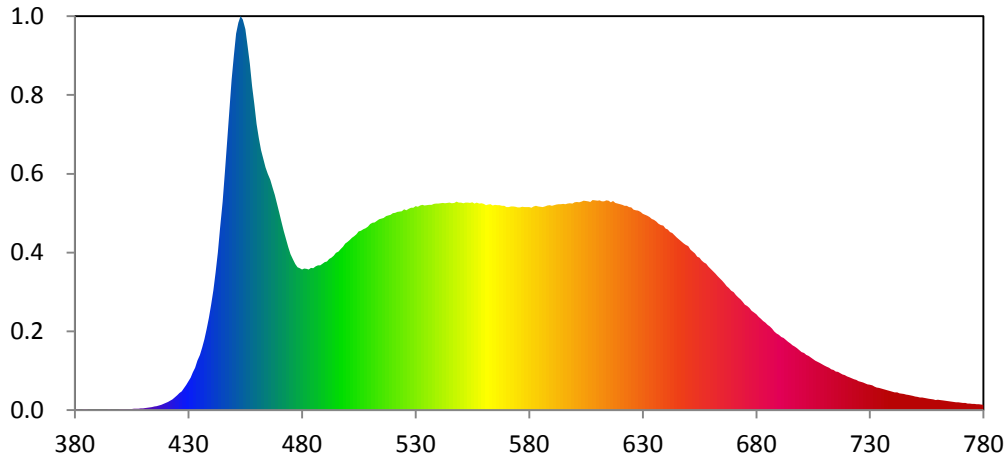
Color Rendering Index

Ra			
95.0			
R1	R2	R3	R4
96	99	98	95
R5	R6	R7	R8
95	94	94	90
R9	R10	R11	R12
76	95	96	73
R13	R14	R15	
98	99	95	





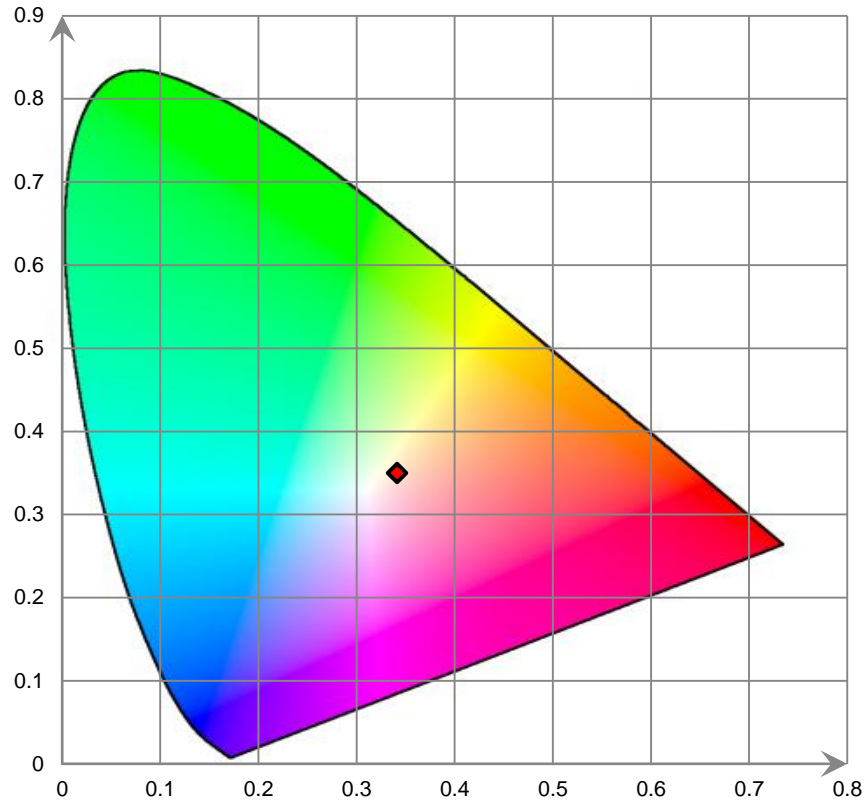
Relative Spectral Power Distribution



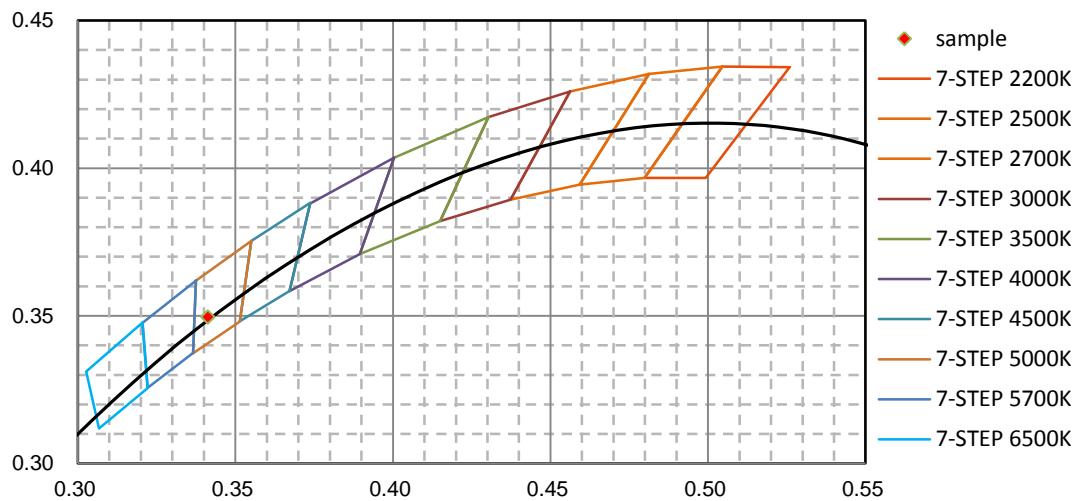
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	1.728E-01	421	2.506E+00	462	8.234E+01	503	5.498E+01	544	6.560E+01
381	2.614E-01	422	2.963E+00	463	7.958E+01	504	5.562E+01	545	6.569E+01
382	2.058E-01	423	3.356E+00	464	7.685E+01	505	5.654E+01	546	6.549E+01
383	1.989E-01	424	3.975E+00	465	7.479E+01	506	5.671E+01	547	6.553E+01
384	2.477E-01	425	4.634E+00	466	7.282E+01	507	5.729E+01	548	6.595E+01
385	2.598E-01	426	5.328E+00	467	7.046E+01	508	5.753E+01	549	6.564E+01
386	2.332E-01	427	5.896E+00	468	6.810E+01	509	5.810E+01	550	6.571E+01
387	1.975E-01	428	6.861E+00	469	6.524E+01	510	5.886E+01	551	6.544E+01
388	1.629E-01	429	7.867E+00	470	6.241E+01	511	5.927E+01	552	6.563E+01
389	2.161E-01	430	9.061E+00	471	5.943E+01	512	5.937E+01	553	6.565E+01
390	1.966E-01	431	1.024E+01	472	5.664E+01	513	5.987E+01	554	6.560E+01
391	2.171E-01	432	1.193E+01	473	5.409E+01	514	6.038E+01	555	6.574E+01
392	1.905E-01	433	1.336E+01	474	5.154E+01	515	6.057E+01	556	6.537E+01
393	1.606E-01	434	1.556E+01	475	4.935E+01	516	6.082E+01	557	6.564E+01
394	1.875E-01	435	1.745E+01	476	4.759E+01	517	6.137E+01	558	6.533E+01
395	2.460E-01	436	1.979E+01	477	4.625E+01	518	6.160E+01	559	6.542E+01
396	2.396E-01	437	2.244E+01	478	4.516E+01	519	6.179E+01	560	6.531E+01
397	2.338E-01	438	2.566E+01	479	4.491E+01	520	6.228E+01	561	6.480E+01
398	2.352E-01	439	2.915E+01	480	4.445E+01	521	6.244E+01	562	6.506E+01
399	2.280E-01	440	3.337E+01	481	4.474E+01	522	6.268E+01	563	6.515E+01
400	2.441E-01	441	3.787E+01	482	4.464E+01	523	6.278E+01	564	6.472E+01
401	2.864E-01	442	4.361E+01	483	4.450E+01	524	6.290E+01	565	6.491E+01
402	2.940E-01	443	4.982E+01	484	4.499E+01	525	6.353E+01	566	6.483E+01
403	2.687E-01	444	5.764E+01	485	4.484E+01	526	6.325E+01	567	6.485E+01
404	2.559E-01	445	6.597E+01	486	4.550E+01	527	6.370E+01	568	6.467E+01
405	2.648E-01	446	7.524E+01	487	4.577E+01	528	6.406E+01	569	6.463E+01
406	3.640E-01	447	8.499E+01	488	4.575E+01	529	6.407E+01	570	6.429E+01
407	4.232E-01	448	9.482E+01	489	4.634E+01	530	6.454E+01	571	6.429E+01
408	4.223E-01	449	1.045E+02	490	4.685E+01	531	6.438E+01	572	6.447E+01
409	4.681E-01	450	1.122E+02	491	4.701E+01	532	6.476E+01	573	6.447E+01
410	5.002E-01	451	1.192E+02	492	4.779E+01	533	6.491E+01	574	6.434E+01
411	6.245E-01	452	1.226E+02	493	4.820E+01	534	6.474E+01	575	6.416E+01
412	7.081E-01	453	1.247E+02	494	4.882E+01	535	6.482E+01	576	6.413E+01
413	7.884E-01	454	1.236E+02	495	4.977E+01	536	6.493E+01	577	6.434E+01
414	9.456E-01	455	1.206E+02	496	5.014E+01	537	6.493E+01	578	6.426E+01
415	1.134E+00	456	1.152E+02	497	5.097E+01	538	6.525E+01	579	6.429E+01
416	1.231E+00	457	1.096E+02	498	5.166E+01	539	6.534E+01	580	6.429E+01
417	1.426E+00	458	1.026E+02	499	5.267E+01	540	6.537E+01	581	6.408E+01
418	1.597E+00	459	9.686E+01	500	5.319E+01	541	6.545E+01	582	6.445E+01
419	1.931E+00	460	9.058E+01	501	5.376E+01	542	6.554E+01	583	6.465E+01
420	2.215E+00	461	8.609E+01	502	5.448E+01	543	6.550E+01	584	6.450E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	6.437E+01	626	6.338E+01	667	3.917E+01	708	1.486E+01	749	4.420E+00
586	6.421E+01	627	6.325E+01	668	3.856E+01	709	1.446E+01	750	4.228E+00
587	6.448E+01	628	6.314E+01	669	3.779E+01	710	1.404E+01	751	4.124E+00
588	6.472E+01	629	6.274E+01	670	3.726E+01	711	1.371E+01	752	3.957E+00
589	6.485E+01	630	6.217E+01	671	3.640E+01	712	1.332E+01	753	3.972E+00
590	6.464E+01	631	6.185E+01	672	3.567E+01	713	1.287E+01	754	3.826E+00
591	6.482E+01	632	6.153E+01	673	3.503E+01	714	1.268E+01	755	3.692E+00
592	6.508E+01	633	6.108E+01	674	3.429E+01	715	1.214E+01	756	3.553E+00
593	6.518E+01	634	6.053E+01	675	3.332E+01	716	1.203E+01	757	3.436E+00
594	6.512E+01	635	6.017E+01	676	3.289E+01	717	1.167E+01	758	3.290E+00
595	6.525E+01	636	5.964E+01	677	3.231E+01	718	1.121E+01	759	3.140E+00
596	6.514E+01	637	5.900E+01	678	3.141E+01	719	1.104E+01	760	3.192E+00
597	6.537E+01	638	5.858E+01	679	3.090E+01	720	1.060E+01	761	3.111E+00
598	6.550E+01	639	5.839E+01	680	3.032E+01	721	1.028E+01	762	3.007E+00
599	6.536E+01	640	5.745E+01	681	2.947E+01	722	1.003E+01	763	2.943E+00
600	6.579E+01	641	5.720E+01	682	2.885E+01	723	9.746E+00	764	2.816E+00
601	6.589E+01	642	5.636E+01	683	2.818E+01	724	9.541E+00	765	2.745E+00
602	6.580E+01	643	5.607E+01	684	2.762E+01	725	9.133E+00	766	2.632E+00
603	6.594E+01	644	5.537E+01	685	2.693E+01	726	8.898E+00	767	2.537E+00
604	6.623E+01	645	5.460E+01	686	2.641E+01	727	8.671E+00	768	2.457E+00
605	6.621E+01	646	5.402E+01	687	2.570E+01	728	8.383E+00	769	2.444E+00
606	6.610E+01	647	5.335E+01	688	2.488E+01	729	8.070E+00	770	2.352E+00
607	6.586E+01	648	5.282E+01	689	2.420E+01	730	7.966E+00	771	2.212E+00
608	6.643E+01	649	5.228E+01	690	2.378E+01	731	7.818E+00	772	2.203E+00
609	6.635E+01	650	5.188E+01	691	2.313E+01	732	7.419E+00	773	1.989E+00
610	6.629E+01	651	5.080E+01	692	2.281E+01	733	7.073E+00	774	2.034E+00
611	6.636E+01	652	5.013E+01	693	2.216E+01	734	6.963E+00	775	1.958E+00
612	6.607E+01	653	4.952E+01	694	2.156E+01	735	6.822E+00	776	1.941E+00
613	6.611E+01	654	4.858E+01	695	2.102E+01	736	6.546E+00	777	1.811E+00
614	6.632E+01	655	4.818E+01	696	2.051E+01	737	6.396E+00	778	1.801E+00
615	6.623E+01	656	4.736E+01	697	2.004E+01	738	6.169E+00	779	1.747E+00
616	6.574E+01	657	4.670E+01	698	1.955E+01	739	6.016E+00	780	1.653E+00
617	6.620E+01	658	4.626E+01	699	1.898E+01	740	5.747E+00		
618	6.558E+01	659	4.544E+01	700	1.835E+01	741	5.594E+00		
619	6.538E+01	660	4.459E+01	701	1.805E+01	742	5.542E+00		
620	6.519E+01	661	4.387E+01	702	1.744E+01	743	5.287E+00		
621	6.492E+01	662	4.318E+01	703	1.716E+01	744	5.132E+00		
622	6.462E+01	663	4.238E+01	704	1.659E+01	745	5.024E+00		
623	6.461E+01	664	4.166E+01	705	1.615E+01	746	4.891E+00		
624	6.430E+01	665	4.097E+01	706	1.563E+01	747	4.742E+00		
625	6.412E+01	666	4.009E+01	707	1.525E+01	748	4.572E+00		

CIE 1931 x y Chromaticity Diagram



7-Step Chromaticity Quadrangles

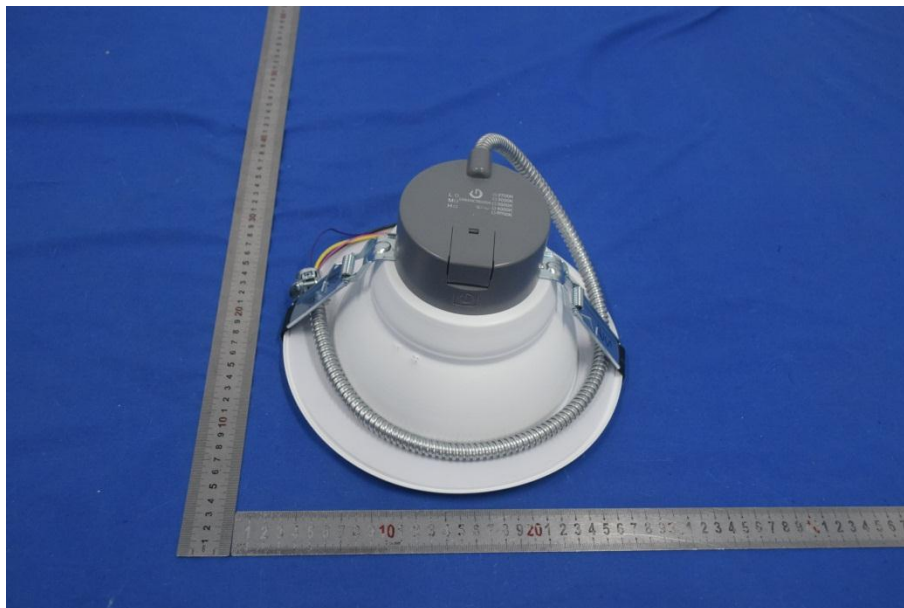
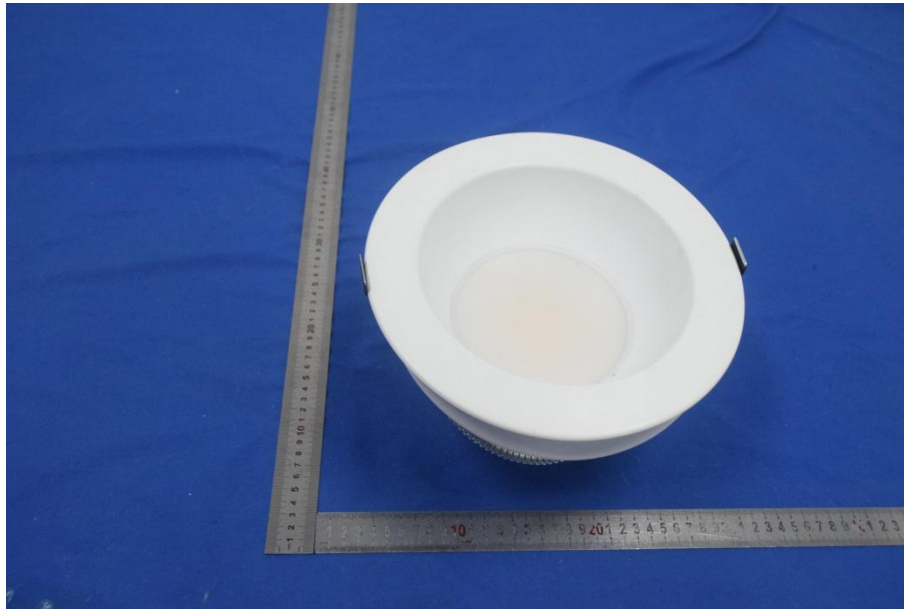


[Additional Test]

Test CCT:2700K

Test Item	Test Voltage (V)	Frequency (Hz)	Test Result
Total Harmonic Distortion:	120.0	60	11.96%

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*****