

IES LM-79-08


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: 11PAR30SNDIM/927FL40/SL+SL15D

Report Type:	Electrical and Photometric tests including: Luminous Flux, Chromaticity, Luminous Intensity Distribution, THD
Reviewed By:	Hill Liu 
Report Number:	KS2220221-43642E-EE-1
Test Date:	2022-02-21 to 2023-07-28
Report Date:	2023-08-25
Approved by:	Blake Zhang / EE Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 5/F(B-West) -7/F, the 3rd Phase of Wan Li Industrial Building D, Shihua Road, Futian Free Trade Zone Shenzhen, Guangdong, China. Tel: +86-755-33320018 Fax: +86-755-33320008
Test Facility:	Test facility was located at No.12, Pulong East 1 st Road, Tangxia Town, 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.

1. Product Description#

General Information:

Two test samples were in good condition and received on 2022-02-21. One was tested in integrating sphere and the other was tested in goniophotometer

Model Tested: 11PAR30SNDIM/927FL40/SL+SL15D
Manufacturer: GREEN CREATIVE LTD
Brand Name: GREEN CREATIVE
Product Designation: Directional LED Lamp
Burning Time Before Test: 0hour(For New Products)

Rated Values:

Rated Voltage/Frequency: 120V AC 60Hz
Rated Power: 11W
Nominal CCT: 2700K
Nominal Lumen Output: 950lm

Family Declaration

The Model	Multiple Models	Differences Items	Details
11PAR30SNDIM/927FL40/SL+SL15D	11PAR30SNDIM/927SP15/SL	Model Number & Finishing color	11PAR30SNDIM/927FL40/SL+S L15D & 11PAR30SNDIM/927SP15/SL are the same product except for the model number.
	11PAR30SNDIM/927FL40/B/SL+SL15D		11PAR30SNDIM/927FL40/B/SL+S L15D & 11PAR30SNDIM/927SP15/B/SL are the same product except for the model number.
	11PAR30SNDIM/927SP15/B/SL		The finishing color of model 11PAR30SNDIM/927FL40/SL+S L15D & 11PAR30SNDIM/927SP15/SL is White; The finishing color of model 11PAR30SNDIM/927FL40/B/SL+S L15D & 11PAR30SNDIM/927SP15/B/SL is Black.

2. Standards Used

- IES LM-79-08: Approved Method: Electrical & Photometric Measurement 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
2.0m integrating sphere	EVERFINE	R98	11010018	2021-09-27	2022-09-26
spectroradiometer	EVERFINE	HAAS-2000	G112048TS81331121	2021-09-27	2022-09-26
Digital Power Meter	EVERFINE	PF2010A	1011004	2022-01-12	2023-01-11
Digital CC&CV DC Power Supply	EVERFINE	WY305-V1	1101047	2022-01-06	2023-01-05
Standard Light Source	EVERFINE	D204	N/A	2021-10-15	2022-10-14
Special zero-voltage synchronous switching AC	EVERFINE	DPS1010-YF	1011001T	2022-01-06	2023-01-05
AC POWER SUPPLY	EVERFINE	VPS1030 PWM	1012017	2022-01-06	2023-01-05
Digital CC&CV DC Power Supply	EVERFINE	WY12010	1009009	2022-01-06	2023-01-05
Digital power meter	YOKOGAWA	WT-210	91j926132	2022-01-06	2023-01-05
full-field speed goniophotometer	EVERFINE	GO-R5000	YG108492N10120001	2021-10-26	2022-10-25
wireless remote thermohygrometer	N/A	433MHz	N/A	2022-01-10	2023-01-09
Standard Light Source	EVERFINE	D908	1012003	2021-10-15	2022-10-14

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 IES LM-79-08. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at 25°C±1°C during measurement. And relative humidity is less than 65%.

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.

4 π 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=22K (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=0.19 % of rdg, AC Voltage U=0.18% of rdg, Power U=0.46% (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. The vertical angle (γ) test intervals were set no more than 1 degree while data for 5 degree intervals is reported. The horizontal angle (C plane) test intervals were set no more than 22.5 degree.

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

Additional Test

The Additional Test item may not be covered by IESNA LM-79-2008. Additional test including power factor, off-state power and THD, was measured by Digital Power Meter after stabilized at $25^{\circ}\text{C}\pm 1^{\circ}\text{C}$. Test voltage for THD and power factor test would be equal to rated voltage or, in case of a voltage range, maximum value of that range.

The uncertainty of power meter AC current $U=0.19\%$ of rdg, AC Voltage $U=0.18\%$ of rdg, Power $U=0.46\%$ ($K=2$), 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

Model: 11PAR30SNDIM/927FL40/SL+SL15D

[Integrating Sphere System]

The Stabilization time: **30 minutes**

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

Test orientation: **Base up**

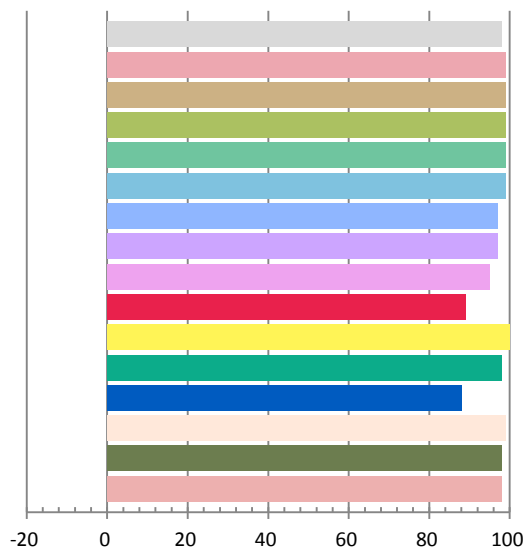
Photometric and Electrical Measurement Result

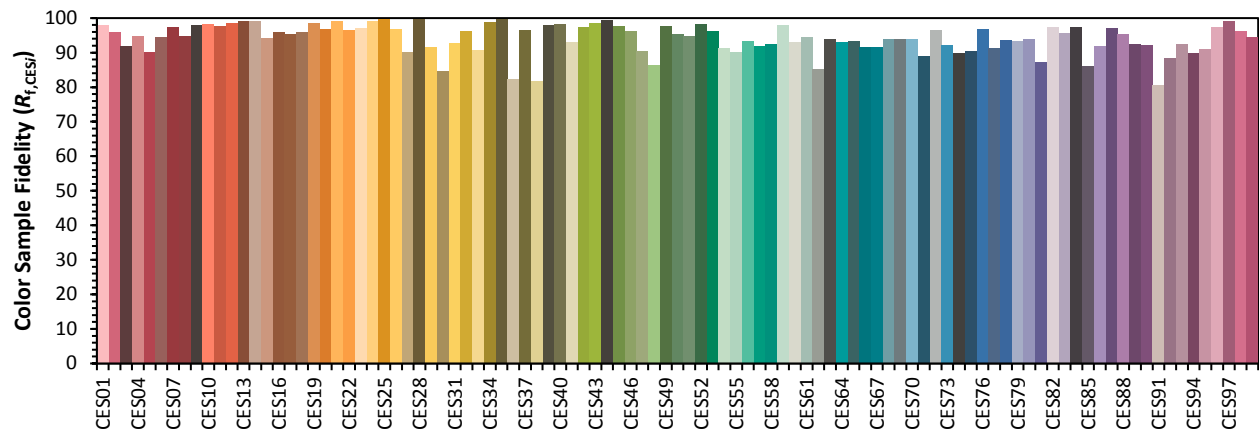
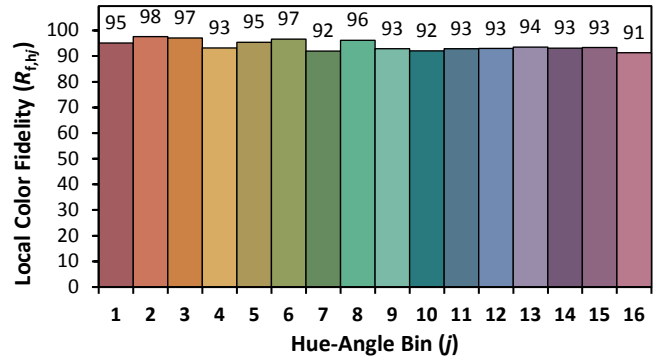
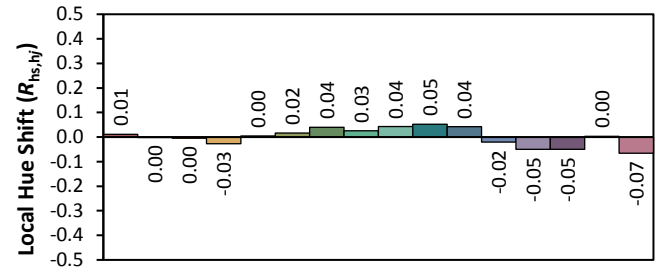
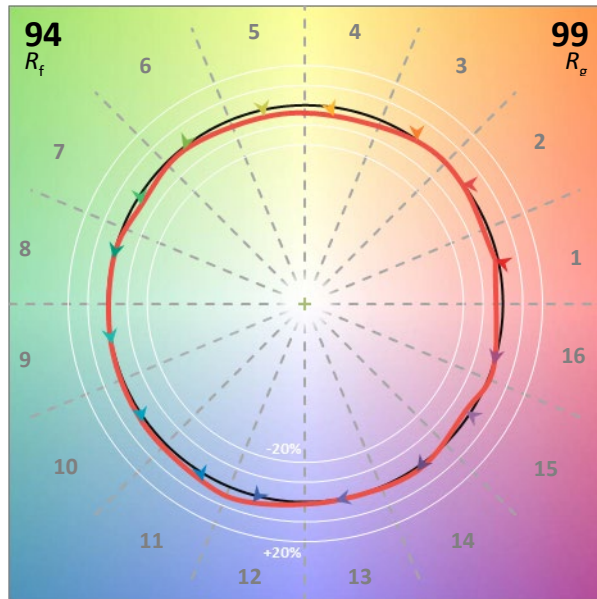
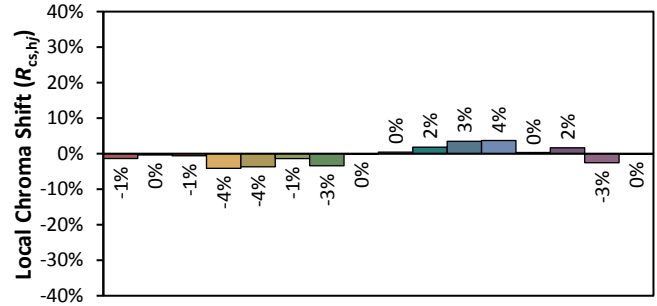
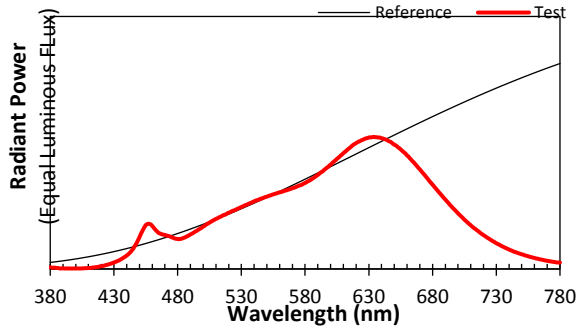
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.1	60	0.09117	10.45	0.9545	993.57	95.09

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
3.8038	2757	0.000133	0.4555	0.4099	0.2600	0.5264

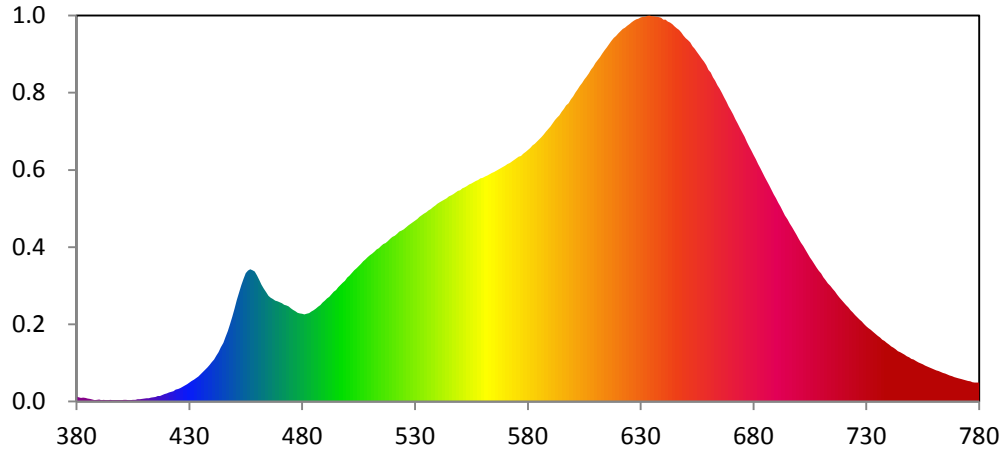
Color Rendering Index

Ra			
97.9			
R1	R2	R3	R4
99	99	99	99
R5	R6	R7	R8
99	97	97	95
R9	R10	R11	R12
89	100	98	88
R13	R14	R15	
99	98	98	





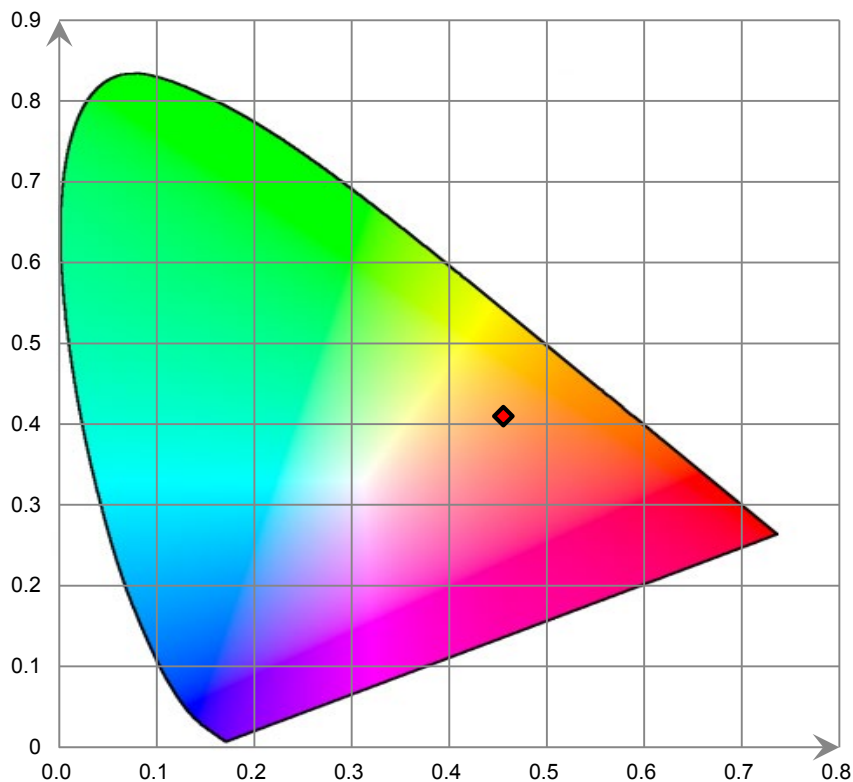
Relative Spectral Power Distribution



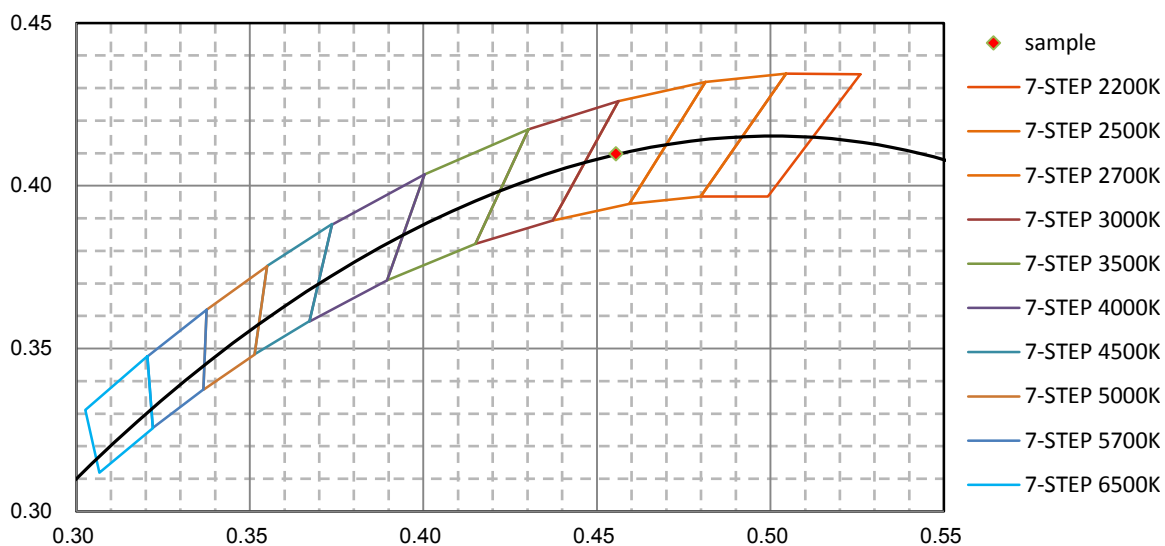
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	2.896E-01	421	5.221E-01	462	6.907E+00	503	7.755E+00	544	1.202E+01
381	2.526E-01	422	5.628E-01	463	6.673E+00	504	7.867E+00	545	1.213E+01
382	2.074E-01	423	6.143E-01	464	6.445E+00	505	8.011E+00	546	1.219E+01
383	2.374E-01	424	6.979E-01	465	6.243E+00	506	8.142E+00	547	1.226E+01
384	2.036E-01	425	7.348E-01	466	6.133E+00	507	8.285E+00	548	1.236E+01
385	1.678E-01	426	8.022E-01	467	6.059E+00	508	8.402E+00	549	1.244E+01
386	1.599E-01	427	8.774E-01	468	5.955E+00	509	8.525E+00	550	1.249E+01
387	1.143E-01	428	9.501E-01	469	5.929E+00	510	8.643E+00	551	1.259E+01
388	7.924E-02	429	1.032E+00	470	5.865E+00	511	8.735E+00	552	1.266E+01
389	1.031E-01	430	1.108E+00	471	5.807E+00	512	8.863E+00	553	1.273E+01
390	1.133E-01	431	1.204E+00	472	5.723E+00	513	8.981E+00	554	1.282E+01
391	6.801E-02	432	1.289E+00	473	5.682E+00	514	9.061E+00	555	1.289E+01
392	9.509E-02	433	1.390E+00	474	5.617E+00	515	9.191E+00	556	1.296E+01
393	8.115E-02	434	1.477E+00	475	5.505E+00	516	9.317E+00	557	1.303E+01
394	8.043E-02	435	1.610E+00	476	5.418E+00	517	9.372E+00	558	1.309E+01
395	9.381E-02	436	1.735E+00	477	5.337E+00	518	9.475E+00	559	1.319E+01
396	7.326E-02	437	1.881E+00	478	5.249E+00	519	9.611E+00	560	1.323E+01
397	7.079E-02	438	2.007E+00	479	5.211E+00	520	9.720E+00	561	1.329E+01
398	8.322E-02	439	2.154E+00	480	5.179E+00	521	9.794E+00	562	1.336E+01
399	7.935E-02	440	2.323E+00	481	5.143E+00	522	9.912E+00	563	1.343E+01
400	7.321E-02	441	2.490E+00	482	5.191E+00	523	1.004E+01	564	1.351E+01
401	9.687E-02	442	2.707E+00	483	5.223E+00	524	1.010E+01	565	1.357E+01
402	8.760E-02	443	2.913E+00	484	5.311E+00	525	1.018E+01	566	1.364E+01
403	8.106E-02	444	3.200E+00	485	5.396E+00	526	1.030E+01	567	1.372E+01
404	8.089E-02	445	3.456E+00	486	5.483E+00	527	1.041E+01	568	1.378E+01
405	1.055E-01	446	3.829E+00	487	5.608E+00	528	1.050E+01	569	1.387E+01
406	1.002E-01	447	4.173E+00	488	5.701E+00	529	1.060E+01	570	1.395E+01
407	1.367E-01	448	4.575E+00	489	5.840E+00	530	1.070E+01	571	1.403E+01
408	1.378E-01	449	5.014E+00	490	5.956E+00	531	1.079E+01	572	1.409E+01
409	1.427E-01	450	5.494E+00	491	6.088E+00	532	1.092E+01	573	1.419E+01
410	1.712E-01	451	5.997E+00	492	6.196E+00	533	1.101E+01	574	1.429E+01
411	1.816E-01	452	6.431E+00	493	6.344E+00	534	1.110E+01	575	1.438E+01
412	1.929E-01	453	6.862E+00	494	6.487E+00	535	1.118E+01	576	1.447E+01
413	2.325E-01	454	7.255E+00	495	6.593E+00	536	1.130E+01	577	1.451E+01
414	2.520E-01	455	7.585E+00	496	6.749E+00	537	1.138E+01	578	1.465E+01
415	2.744E-01	456	7.740E+00	497	6.884E+00	538	1.148E+01	579	1.476E+01
416	3.162E-01	457	7.816E+00	498	7.021E+00	539	1.158E+01	580	1.487E+01
417	3.312E-01	458	7.766E+00	499	7.142E+00	540	1.169E+01	581	1.498E+01
418	3.889E-01	459	7.678E+00	500	7.324E+00	541	1.179E+01	582	1.513E+01
419	4.359E-01	460	7.445E+00	501	7.437E+00	542	1.187E+01	583	1.523E+01
420	4.659E-01	461	7.198E+00	502	7.608E+00	543	1.193E+01	584	1.536E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	1.550E+01	626	2.241E+01	667	1.797E+01	708	7.918E+00	749	2.607E+00
586	1.564E+01	627	2.251E+01	668	1.772E+01	709	7.723E+00	750	2.524E+00
587	1.578E+01	628	2.258E+01	669	1.745E+01	710	7.560E+00	751	2.479E+00
588	1.595E+01	629	2.263E+01	670	1.722E+01	711	7.335E+00	752	2.386E+00
589	1.610E+01	630	2.271E+01	671	1.696E+01	712	7.170E+00	753	2.319E+00
590	1.625E+01	631	2.275E+01	672	1.668E+01	713	6.991E+00	754	2.258E+00
591	1.644E+01	632	2.274E+01	673	1.644E+01	714	6.839E+00	755	2.195E+00
592	1.662E+01	633	2.280E+01	674	1.618E+01	715	6.665E+00	756	2.123E+00
593	1.677E+01	634	2.281E+01	675	1.590E+01	716	6.505E+00	757	2.063E+00
594	1.691E+01	635	2.278E+01	676	1.564E+01	717	6.320E+00	758	2.013E+00
595	1.713E+01	636	2.277E+01	677	1.535E+01	718	6.148E+00	759	1.951E+00
596	1.730E+01	637	2.273E+01	678	1.507E+01	719	5.996E+00	760	1.901E+00
597	1.750E+01	638	2.272E+01	679	1.483E+01	720	5.845E+00	761	1.833E+00
598	1.763E+01	639	2.269E+01	680	1.457E+01	721	5.703E+00	762	1.790E+00
599	1.786E+01	640	2.258E+01	681	1.432E+01	722	5.555E+00	763	1.739E+00
600	1.803E+01	641	2.256E+01	682	1.404E+01	723	5.399E+00	764	1.676E+00
601	1.825E+01	642	2.246E+01	683	1.379E+01	724	5.269E+00	765	1.637E+00
602	1.844E+01	643	2.240E+01	684	1.353E+01	725	5.117E+00	766	1.599E+00
603	1.865E+01	644	2.231E+01	685	1.325E+01	726	4.983E+00	767	1.539E+00
604	1.882E+01	645	2.217E+01	686	1.301E+01	727	4.836E+00	768	1.487E+00
605	1.904E+01	646	2.206E+01	687	1.276E+01	728	4.729E+00	769	1.445E+00
606	1.921E+01	647	2.197E+01	688	1.250E+01	729	4.581E+00	770	1.405E+00
607	1.940E+01	648	2.182E+01	689	1.224E+01	730	4.451E+00	771	1.372E+00
608	1.961E+01	649	2.163E+01	690	1.201E+01	731	4.338E+00	772	1.324E+00
609	1.979E+01	650	2.148E+01	691	1.175E+01	732	4.236E+00	773	1.289E+00
610	2.001E+01	651	2.137E+01	692	1.152E+01	733	4.112E+00	774	1.257E+00
611	2.019E+01	652	2.122E+01	693	1.125E+01	734	3.986E+00	775	1.217E+00
612	2.036E+01	653	2.101E+01	694	1.099E+01	735	3.876E+00	776	1.186E+00
613	2.057E+01	654	2.086E+01	695	1.077E+01	736	3.776E+00	777	1.140E+00
614	2.076E+01	655	2.066E+01	696	1.052E+01	737	3.653E+00	778	1.116E+00
615	2.093E+01	656	2.046E+01	697	1.031E+01	738	3.570E+00	779	1.109E+00
616	2.111E+01	657	2.026E+01	698	1.009E+01	739	3.461E+00	780	1.111E+00
617	2.131E+01	658	2.009E+01	699	9.849E+00	740	3.361E+00		
618	2.149E+01	659	1.988E+01	700	9.618E+00	741	3.257E+00		
619	2.161E+01	660	1.961E+01	701	9.384E+00	742	3.175E+00		
620	2.176E+01	661	1.945E+01	702	9.186E+00	743	3.085E+00		
621	2.188E+01	662	1.917E+01	703	8.970E+00	744	2.977E+00		
622	2.201E+01	663	1.895E+01	704	8.746E+00	745	2.913E+00		
623	2.209E+01	664	1.868E+01	705	8.516E+00	746	2.835E+00		
624	2.222E+01	665	1.848E+01	706	8.325E+00	747	2.758E+00		
625	2.230E+01	666	1.823E+01	707	8.125E+00	748	2.676E+00		

CIE 1931 x y Chromaticity Diagram



7-Step Chromaticity Quadrangles



Model: 11PAR30SNDIM/927FL40/B/SL+SL15D

[Integrating Sphere System]

The Stabilization time: **30 minutes**

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

Test orientation: **Base Up**

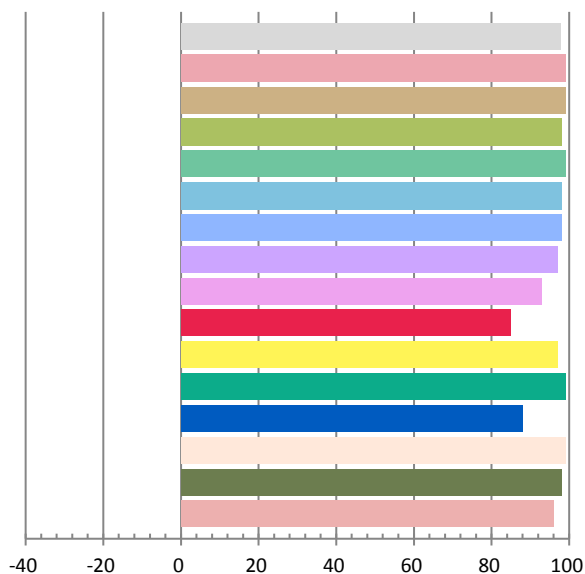
Photometric and Electrical Measurement Result

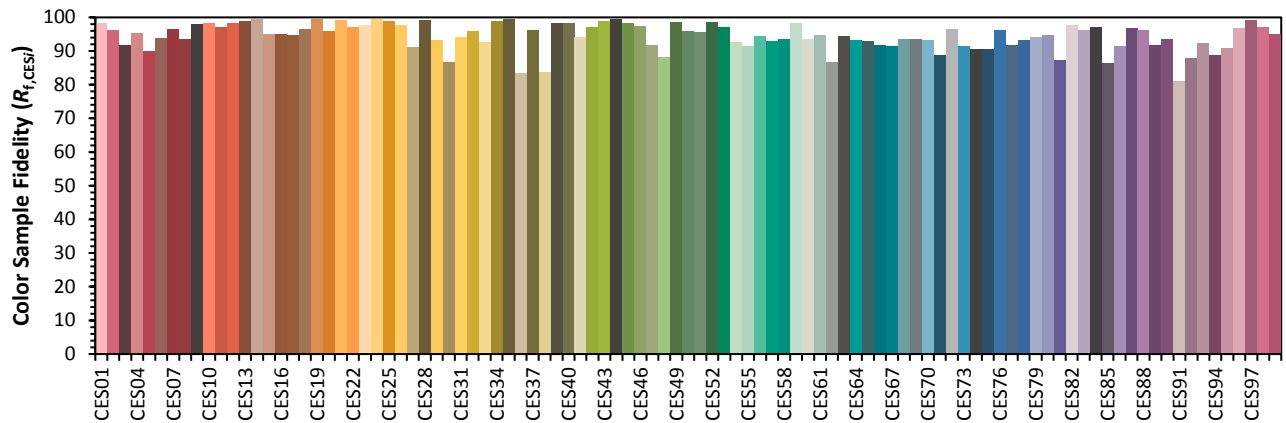
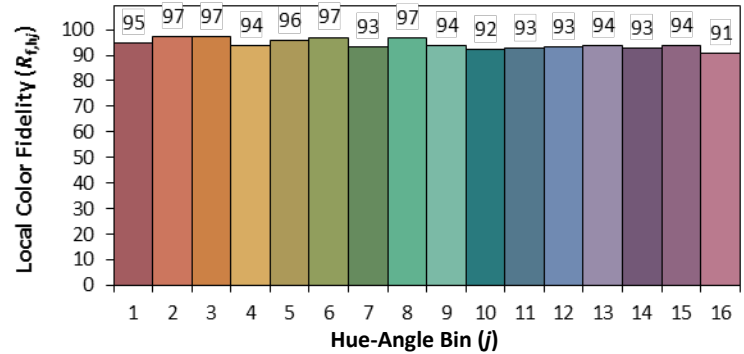
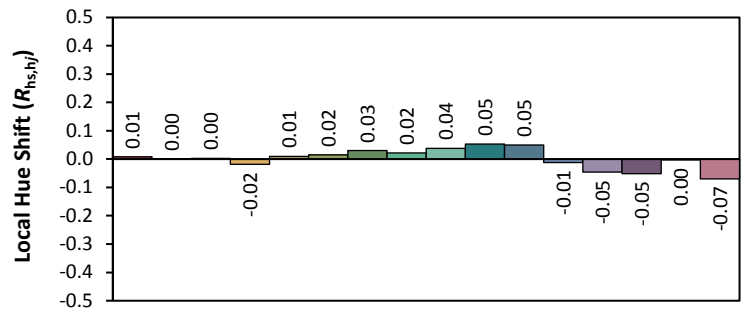
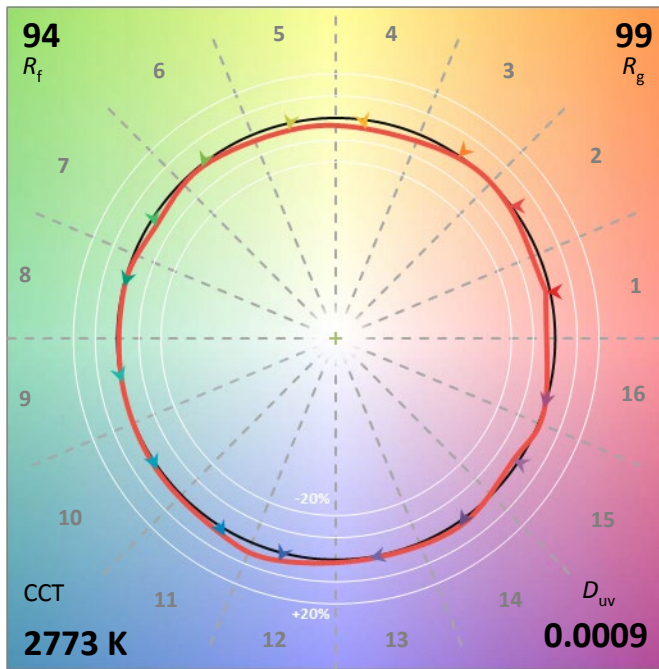
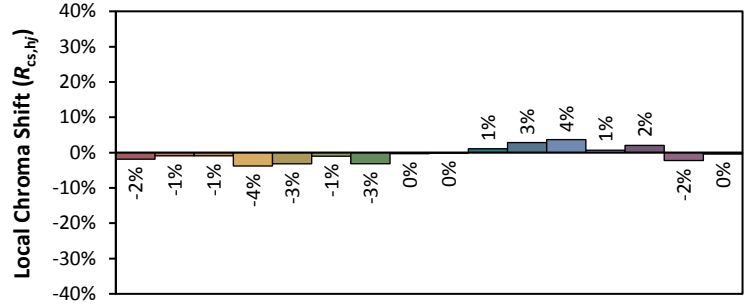
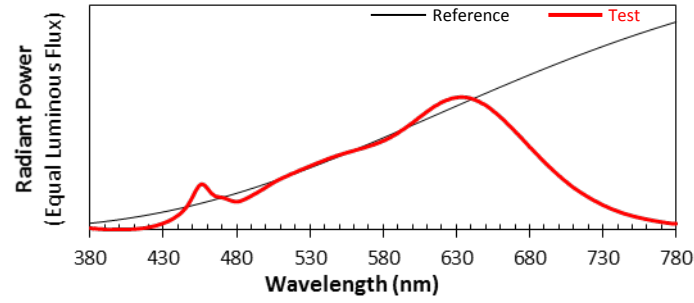
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.09043	10.4	0.9588	952.8	91.6

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
3.587	2774	0.000874	0.4554	0.4119	0.2590	0.5272

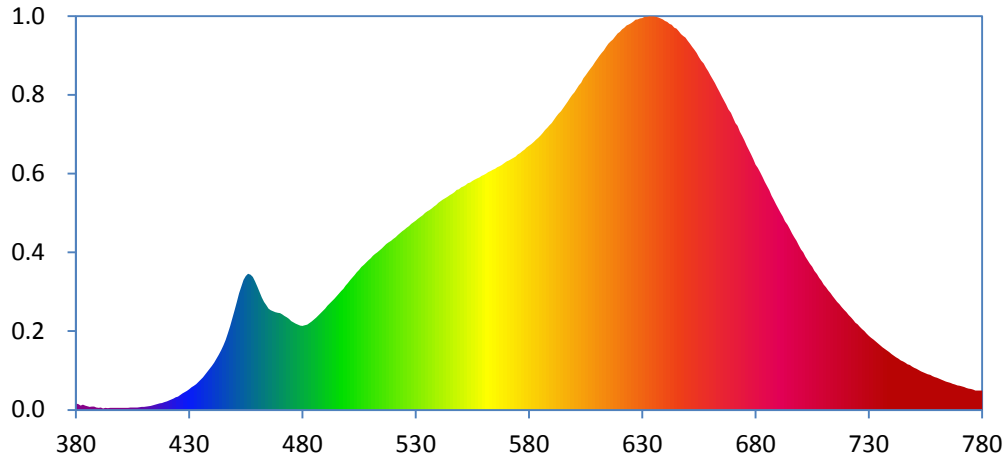
Color Rendering Index

Ra			
97.7			
R1	R2	R3	R4
99	99	98	99
R5	R6	R7	R8
98	98	97	93
R9	R10	R11	R12
85	97	99	88
R13	R14	R15	
99	98	96	





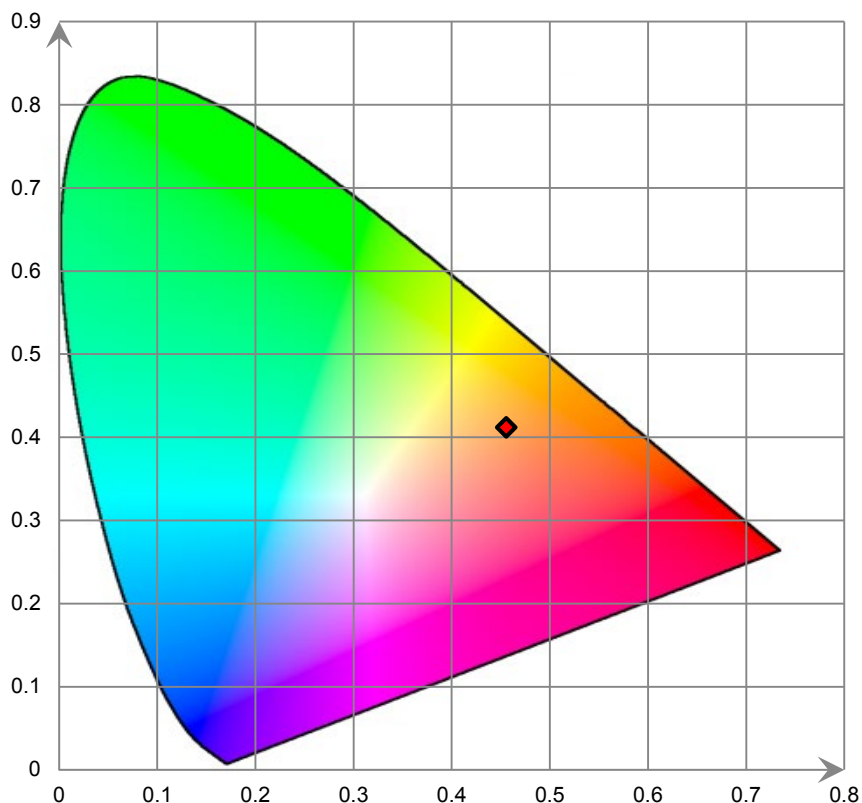
Relative Spectral Power Distribution



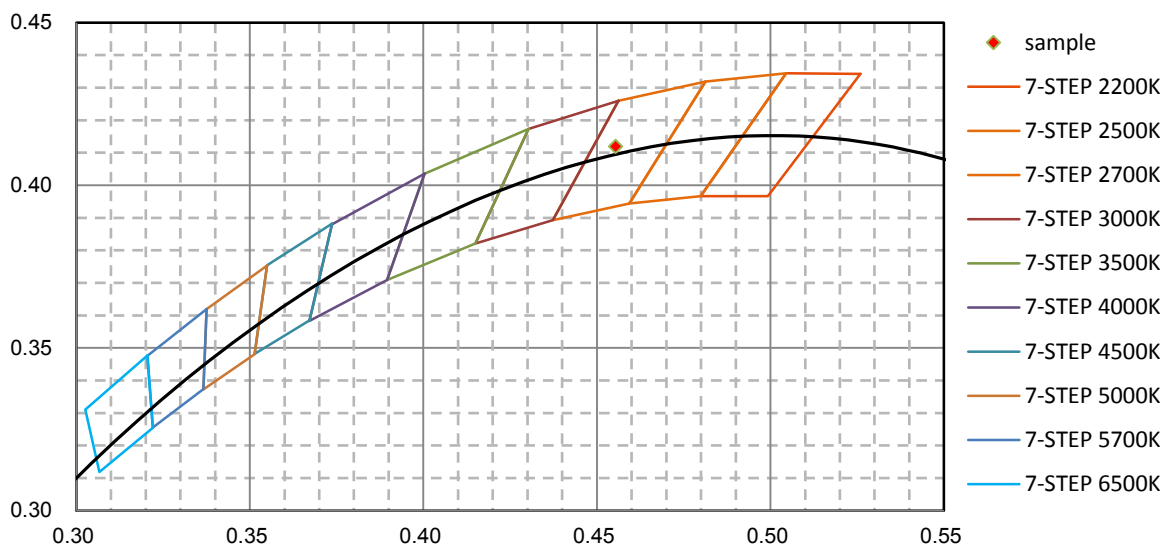
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	3.358E-01	421	5.190E-01	462	6.134E+00	503	7.349E+00	544	1.162E+01
381	3.209E-01	422	5.617E-01	463	5.877E+00	504	7.508E+00	545	1.171E+01
382	2.406E-01	423	6.222E-01	464	5.715E+00	505	7.624E+00	546	1.178E+01
383	2.840E-01	424	6.810E-01	465	5.515E+00	506	7.784E+00	547	1.186E+01
384	2.306E-01	425	7.320E-01	466	5.436E+00	507	7.904E+00	548	1.197E+01
385	2.067E-01	426	8.090E-01	467	5.377E+00	508	8.022E+00	549	1.202E+01
386	1.716E-01	427	8.914E-01	468	5.328E+00	509	8.154E+00	550	1.211E+01
387	1.772E-01	428	9.619E-01	469	5.289E+00	510	8.251E+00	551	1.218E+01
388	1.795E-01	429	1.039E+00	470	5.267E+00	511	8.392E+00	552	1.225E+01
389	1.284E-01	430	1.122E+00	471	5.198E+00	512	8.492E+00	553	1.235E+01
390	1.228E-01	431	1.221E+00	472	5.122E+00	513	8.586E+00	554	1.239E+01
391	1.246E-01	432	1.323E+00	473	5.039E+00	514	8.684E+00	555	1.248E+01
392	8.673E-02	433	1.402E+00	474	4.954E+00	515	8.792E+00	556	1.254E+01
393	1.088E-01	434	1.533E+00	475	4.837E+00	516	8.911E+00	557	1.261E+01
394	9.838E-02	435	1.643E+00	476	4.762E+00	517	9.029E+00	558	1.267E+01
395	1.075E-01	436	1.771E+00	477	4.691E+00	518	9.128E+00	559	1.275E+01
396	1.163E-01	437	1.918E+00	478	4.640E+00	519	9.204E+00	560	1.280E+01
397	1.157E-01	438	2.080E+00	479	4.598E+00	520	9.319E+00	561	1.288E+01
398	1.106E-01	439	2.234E+00	480	4.581E+00	521	9.409E+00	562	1.295E+01
399	1.100E-01	440	2.389E+00	481	4.606E+00	522	9.532E+00	563	1.301E+01
400	1.111E-01	441	2.563E+00	482	4.647E+00	523	9.631E+00	564	1.308E+01
401	1.178E-01	442	2.772E+00	483	4.738E+00	524	9.740E+00	565	1.314E+01
402	1.167E-01	443	2.996E+00	484	4.812E+00	525	9.821E+00	566	1.321E+01
403	1.148E-01	444	3.252E+00	485	4.931E+00	526	9.927E+00	567	1.328E+01
404	1.297E-01	445	3.510E+00	486	5.027E+00	527	1.002E+01	568	1.335E+01
405	1.285E-01	446	3.809E+00	487	5.147E+00	528	1.013E+01	569	1.344E+01
406	1.318E-01	447	4.173E+00	488	5.271E+00	529	1.022E+01	570	1.353E+01
407	1.388E-01	448	4.561E+00	489	5.397E+00	530	1.030E+01	571	1.359E+01
408	1.493E-01	449	4.996E+00	490	5.519E+00	531	1.042E+01	572	1.366E+01
409	1.583E-01	450	5.437E+00	491	5.665E+00	532	1.052E+01	573	1.373E+01
410	1.691E-01	451	5.886E+00	492	5.803E+00	533	1.060E+01	574	1.380E+01
411	1.909E-01	452	6.353E+00	493	5.914E+00	534	1.072E+01	575	1.392E+01
412	2.068E-01	453	6.717E+00	494	6.051E+00	535	1.081E+01	576	1.399E+01
413	2.209E-01	454	7.083E+00	495	6.190E+00	536	1.088E+01	577	1.409E+01
414	2.593E-01	455	7.288E+00	496	6.331E+00	537	1.098E+01	578	1.417E+01
415	2.912E-01	456	7.413E+00	497	6.477E+00	538	1.108E+01	579	1.430E+01
416	3.148E-01	457	7.359E+00	498	6.593E+00	539	1.116E+01	580	1.439E+01
417	3.532E-01	458	7.249E+00	499	6.768E+00	540	1.128E+01	581	1.446E+01
418	3.661E-01	459	6.989E+00	500	6.906E+00	541	1.136E+01	582	1.460E+01
419	4.266E-01	460	6.711E+00	501	7.061E+00	542	1.147E+01	583	1.472E+01
420	4.612E-01	461	6.423E+00	502	7.205E+00	543	1.153E+01	584	1.483E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	1.495E+01	626	2.115E+01	667	1.663E+01	708	7.190E+00	749	2.361E+00
586	1.509E+01	627	2.125E+01	668	1.638E+01	709	7.026E+00	750	2.287E+00
587	1.524E+01	628	2.127E+01	669	1.618E+01	710	6.831E+00	751	2.232E+00
588	1.535E+01	629	2.132E+01	670	1.590E+01	711	6.685E+00	752	2.167E+00
589	1.550E+01	630	2.135E+01	671	1.563E+01	712	6.514E+00	753	2.105E+00
590	1.563E+01	631	2.140E+01	672	1.546E+01	713	6.363E+00	754	2.054E+00
591	1.580E+01	632	2.141E+01	673	1.516E+01	714	6.190E+00	755	1.998E+00
592	1.598E+01	633	2.143E+01	674	1.493E+01	715	6.042E+00	756	1.945E+00
593	1.612E+01	634	2.143E+01	675	1.468E+01	716	5.884E+00	757	1.901E+00
594	1.627E+01	635	2.142E+01	676	1.440E+01	717	5.764E+00	758	1.831E+00
595	1.644E+01	636	2.140E+01	677	1.416E+01	718	5.605E+00	759	1.791E+00
596	1.662E+01	637	2.137E+01	678	1.391E+01	719	5.450E+00	760	1.749E+00
597	1.680E+01	638	2.132E+01	679	1.366E+01	720	5.316E+00	761	1.692E+00
598	1.697E+01	639	2.128E+01	680	1.335E+01	721	5.172E+00	762	1.651E+00
599	1.715E+01	640	2.119E+01	681	1.319E+01	722	5.044E+00	763	1.599E+00
600	1.729E+01	641	2.112E+01	682	1.292E+01	723	4.910E+00	764	1.545E+00
601	1.748E+01	642	2.103E+01	683	1.268E+01	724	4.756E+00	765	1.513E+00
602	1.767E+01	643	2.097E+01	684	1.241E+01	725	4.657E+00	766	1.472E+00
603	1.782E+01	644	2.081E+01	685	1.220E+01	726	4.527E+00	767	1.425E+00
604	1.807E+01	645	2.077E+01	686	1.196E+01	727	4.407E+00	768	1.383E+00
605	1.821E+01	646	2.063E+01	687	1.168E+01	728	4.290E+00	769	1.341E+00
606	1.840E+01	647	2.047E+01	688	1.145E+01	729	4.155E+00	770	1.308E+00
607	1.858E+01	648	2.036E+01	689	1.120E+01	730	4.032E+00	771	1.278E+00
608	1.875E+01	649	2.027E+01	690	1.098E+01	731	3.925E+00	772	1.247E+00
609	1.894E+01	650	2.011E+01	691	1.074E+01	732	3.831E+00	773	1.189E+00
610	1.911E+01	651	1.995E+01	692	1.053E+01	733	3.724E+00	774	1.167E+00
611	1.927E+01	652	1.977E+01	693	1.027E+01	734	3.619E+00	775	1.143E+00
612	1.944E+01	653	1.961E+01	694	1.008E+01	735	3.516E+00	776	1.104E+00
613	1.959E+01	654	1.943E+01	695	9.859E+00	736	3.403E+00	777	1.062E+00
614	1.977E+01	655	1.920E+01	696	9.608E+00	737	3.313E+00	778	1.051E+00
615	1.994E+01	656	1.902E+01	697	9.409E+00	738	3.228E+00	779	1.053E+00
616	2.006E+01	657	1.886E+01	698	9.204E+00	739	3.151E+00	780	1.055E+00
617	2.017E+01	658	1.863E+01	699	8.975E+00	740	3.043E+00		
618	2.032E+01	659	1.844E+01	700	8.735E+00	741	2.955E+00		
619	2.050E+01	660	1.822E+01	701	8.589E+00	742	2.871E+00		
620	2.059E+01	661	1.800E+01	702	8.346E+00	743	2.797E+00		
621	2.072E+01	662	1.780E+01	703	8.154E+00	744	2.698E+00		
622	2.081E+01	663	1.757E+01	704	7.949E+00	745	2.641E+00		
623	2.093E+01	664	1.733E+01	705	7.798E+00	746	2.574E+00		
624	2.098E+01	665	1.708E+01	706	7.577E+00	747	2.490E+00		
625	2.107E+01	666	1.685E+01	707	7.395E+00	748	2.440E+00		

CIE 1931 x y Chromaticity Diagram



7-Step Chromaticity Quadrangles



Model: 11PAR30SNDIM/927FL40/SL+SL15D

[Goniophotometer System]

The Stabilization time: **30 minutes**

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

Test orientation: **Base up**

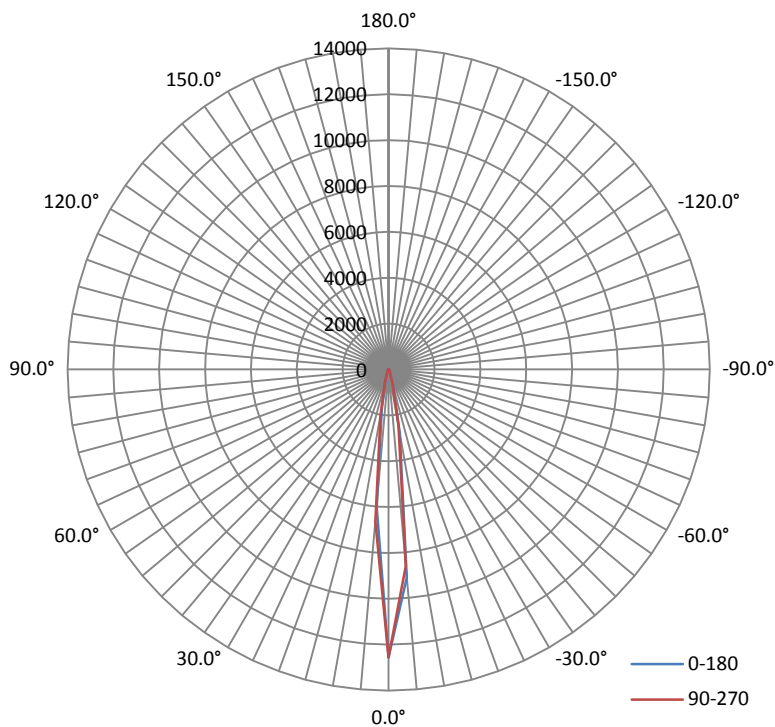
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.05	60	0.0916	10.470	0.9521

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I _{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
995.336	95.07	12891	0.23	0.22

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I _{max}):	11.6	11.7	11.7	11.3	11.6
Field Angle (10% I _{max}):	24.7	24.9	24.5	24.3	24.6

Luminous Intensity (cd) Distribution Data

C y	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	12557	12557	12557	12557	12557	12557	12557	12557
5.0°	6026	6058	6105	6025	6666	6892	9334	10027
10.0°	1732	1752	1798	1845	2015	2049	2951	3239
15.0°	616	607	607	605	638	630	863	923
20.0°	246	253	247	236	236	228	301	329
25.0°	131	132	126	123	126	120	140	151
30.0°	101	97	95	94	98	94	101	107
35.0°	77	75	74	75	79	76	85	92
40.0°	66	63	62	63	65	65	74	77
45.0°	52	51	49	49	52	50	55	58
50.0°	41	41	40	40	42	41	44	46
55.0°	37	37	36	36	38	36	38	39
60.0°	29	29	28	28	29	28	32	33
65.0°	22	22	21	21	22	21	23	24
70.0°	16	16	16	16	17	16	18	18
75.0°	12	11	11	11	12	11	12	13
80.0°	7	7	7	7	8	7	8	8
85.0°	3	3	3	3	3	3	4	4
90.0°	1	1	1	1	1	1	1	1
95.0°	0	0	0	0	0	0	0	0
100.0°	0	0	0	0	0	0	0	0
105.0°	0	0	0	0	0	0	0	0
110.0°	0	0	0	0	0	0	0	0
115.0°	0	0	0	0	0	0	0	0
120.0°	0	0	0	0	0	0	0	0
125.0°	0	0	0	0	0	0	0	0
130.0°	0	0	0	0	0	0	0	0
135.0°	0	0	0	0	0	0	0	0
140.0°	1	1	1	1	1	1	1	1
145.0°	2	2	2	2	2	2	1	1
150.0°	3	3	3	3	3	3	3	3
155.0°	3	4	4	4	4	3	3	3
160.0°	4	4	4	4	4	4	4	4
165.0°	4	4	4	4	4	4	4	4
170.0°	3	3	3	3	3	3	3	3
175.0°	1	2	2	2	2	2	2	2
180.0°	1	1	1	1	1	1	1	1

Luminous Intensity (cd) Distribution Data (cont.)

$\begin{matrix} C \\ \backslash \\ \gamma \end{matrix}$	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	12557	12557	12557	12557	12557	12557	12557	12557
5.0°	9113	9360	9250	8848	8595	7563	5702	5410
10.0°	2796	2890	2858	2641	2456	2110	1654	1618
15.0°	820	833	799	726	692	620	506	524
20.0°	298	303	286	262	247	225	202	217
25.0°	148	150	145	130	131	124	122	126
30.0°	106	107	105	102	105	101	104	103
35.0°	89	91	90	85	86	82	81	81
40.0°	75	73	73	71	73	67	65	66
45.0°	56	57	58	56	57	53	51	52
50.0°	45	44	45	44	46	44	42	41
55.0°	37	37	38	38	40	37	37	37
60.0°	31	31	31	30	31	29	28	28
65.0°	23	23	23	23	24	22	22	22
70.0°	17	18	18	18	18	17	16	16
75.0°	12	13	13	13	13	12	12	11
80.0°	8	8	9	9	9	9	8	7
85.0°	3	4	4	5	5	4	3	3
90.0°	1	1	1	1	2	1	1	1
95.0°	0	0	0	0	0	0	0	0
100.0°	0	0	0	0	0	0	0	0
105.0°	0	0	0	0	0	0	0	0
110.0°	0	0	0	0	0	0	0	0
115.0°	0	0	0	0	0	0	0	0
120.0°	0	0	0	0	0	0	0	0
125.0°	0	0	0	0	0	0	0	0
130.0°	0	0	0	0	0	0	0	0
135.0°	0	0	0	0	0	0	0	0
140.0°	0	0	0	0	0	0	0	0
145.0°	0	0	0	0	0	0	1	1
150.0°	1	1	1	1	1	1	1	1
155.0°	1	1	1	1	1	1	1	1
160.0°	1	1	1	1	1	1	1	1
165.0°	1	1	1	1	1	1	1	1
170.0°	1	1	1	1	1	1	1	1
175.0°	1	1	1	1	1	1	1	1
180.0°	1	1	1	1	1	1	1	1

Zonal Lumen Density Measurement

Deg	Flux (lm)	%	Deg	Flux (lm)	%
0-5	234.5	23.56	0-5	234.5	23.56
5-10	303.7	30.51	0-10	538.2	54.07
10-15	151.1	15.19	0-15	689.3	69.26
15-20	70.3	7.06	0-20	759.7	76.32
20-25	37.7	3.79	0-25	797.4	80.11
25-30	28.4	2.85	0-30	825.8	82.96
30-35	27.2	2.74	0-35	853.0	85.70
35-40	25.3	2.54	0-40	878.3	88.24
40-45	22.4	2.26	0-45	900.7	90.50
45-50	19.3	1.93	0-50	920.0	92.43
50-55	17.2	1.74	0-55	937.3	94.17
55-60	15.7	1.57	0-60	953.0	95.74
60-65	12.5	1.26	0-65	965.5	97.00
65-70	9.9	1.00	0-70	975.4	98.00
70-75	7.6	0.76	0-75	983.0	98.76
75-80	5.4	0.54	0-80	988.3	99.30
80-85	3.1	0.30	0-85	991.4	99.60
85-90	1.1	0.12	0-90	992.5	99.72
90-95	0.2	0.02	0-95	992.7	99.74
95-100	0.0	0.00	0-100	992.7	99.74
100-105	0.0	0.00	0-105	992.8	99.74
105-110	0.0	0.00	0-110	992.8	99.74
110-115	0.0	0.00	0-115	992.8	99.74
115-120	0.0	0.00	0-120	992.8	99.74
120-125	0.0	0.01	0-125	992.8	99.75
125-130	0.0	0.00	0-130	992.8	99.75
130-135	0.0	0.00	0-135	992.9	99.75
135-140	0.1	0.01	0-140	993.0	99.76
140-145	0.2	0.03	0-145	993.2	99.79
145-150	0.4	0.04	0-150	993.6	99.83
150-155	0.5	0.05	0-155	994.1	99.88
155-160	0.5	0.05	0-160	994.6	99.93
160-165	0.4	0.03	0-165	995.0	99.96
165-170	0.2	0.03	0-170	995.2	99.99
170-175	0.1	0.01	0-175	995.3	100.00
175-180	0.0	0.00	0-180	995.3	100.00

[Additional Test]

Model: 11PAR30SNDIM/927FL40/SL+SL15D

Test Item	Test Voltage (V)	Frequency (Hz)	Test Result
Total Harmonic Distortion:	120.0	60	16.98%

Model: 11PAR30SNDIM/927FL40/B/SL+SL15D

Test Item	Test Voltage (V)	Frequency (Hz)	Test Result
Total Harmonic Distortion:	120.0	60	14.75%

6. Product Photo

Photo for 11PAR30SNDIM/927FL40/SL+SL15D



Photo for 11PAR30SNDIM/927FL40/B/SL+SL15D



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*****