

# 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, Kowloon,  
Hong Kong, China

**Test Model: 15.5PAR38DIM/935FL40/SL+SL15D**

<b>Report Type:</b>	Electrical and Photometric tests including: Luminous Flux, Chromaticity, Luminous Intensity Distribution, THD
<b>Reviewed By:</b>	Hill Liu 
<b>Report Number:</b>	KS2230727-43678E-EE
<b>Test Date:</b>	2023-07-26 to 2023-07-27
<b>Report Date:</b>	2023-08-25
<b>Approved by:</b>	Blake Zhang / EE Engineer
<b>Prepared By:</b>	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
<b>Test Facility:</b>	Test facility was located at No.12, Pulong East 1 <sup>st</sup> 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 2023-07-27. One was tested in integrating sphere and the other was tested in goniophotometer

Model Tested: 15.5PAR38DIM/935FL40/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: 15.5W  
Nominal CCT: 3500K  
Nominal Lumen Output: 1370lm

### Family Declaration

The Model	Multiple Models	Differences Items	Details
15.5PAR38DIM/935FL40/SL+SL15D	15.5PAR38DIM/935SP15/SL	Model Number	15.5PAR38DIM/935FL40/SL+SL15D & 15.5PAR38DIM/935SP15/SL are the same product except for the model number.

## 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
2.0m integrating sphere	EVERFINE	R98	11010018	2022-11-10	2023-11-09
spectroradiometer	EVERFINE	HAAS-2000	G112048TS81331121	2022-11-10	2023-11-09
Digital Power Meter	EVERFINE	PF2010A	1011004	2022-11-10	2023-11-09
Digital CC&CV DC Power Supply	EVERFINE	WY305-V1	1101047	2022-11-10	2023-11-09
Standard Light Source	EVERFINE	D204	N/A	2023-05-12	2025-05-11
Special zero-voltage synchronous switching AC	EVERFINE	DPS1010-YF	1011001T	2022-11-10	2023-11-09
AC POWER SUPPLY	EVERFINE	VPS1030 PWM	1012017	2022-11-16	2023-11-15
Digital CC&CV DC Power Supply	EVERFINE	WY12010	1009009	2022-11-10	2023-11-09
Digital power meter	YOKOGAWA	WT-210	91j926132	2022-11-10	2023-11-09
full-field speed goniophotometer	EVERFINE	GO-R5000	YG108492N10120001	2022-11-10	2023-11-09
wireless remote thermohygrometer	N/A	AOK-5017B	N/A	2022-11-10	2023-11-09
Standard Light Source	EVERFINE	D908	1012003	2023-05-12	2025-05-11

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.

$4\pi$  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  $U=0.19\%$  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 ( $\gamma$ ) 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 ANSI/IES LM-79-2019. Additional test including power factor, off-state power and THD, was measured by Digital Power Meter after stabilized at  $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ . 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

### [Integrating Sphere System]

The Stabilization time: **30 minutes**

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

Test orientation: **Base Up**

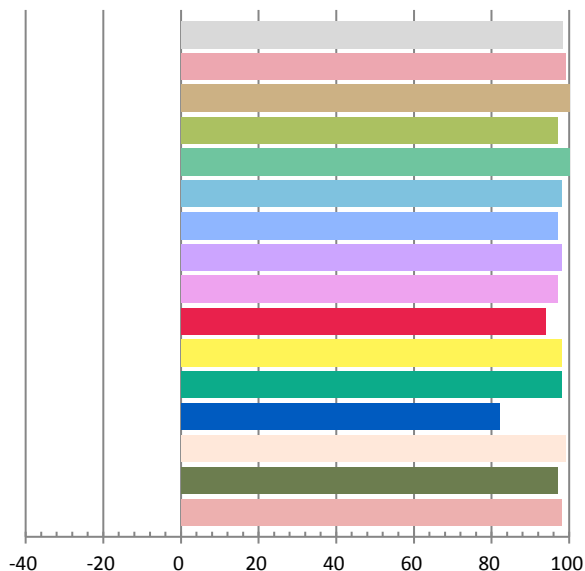
### Photometric and Electrical Measurement Result

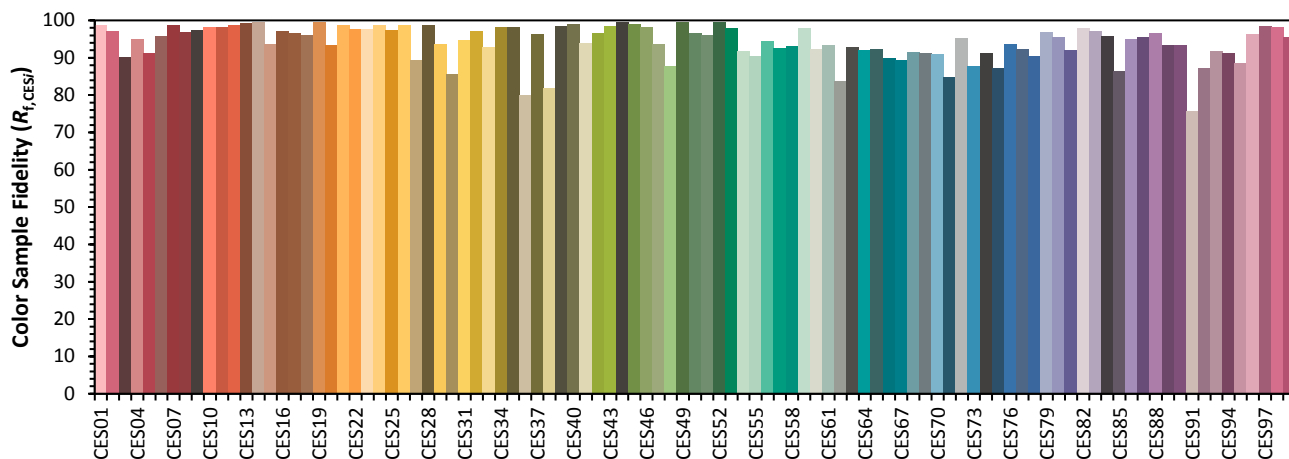
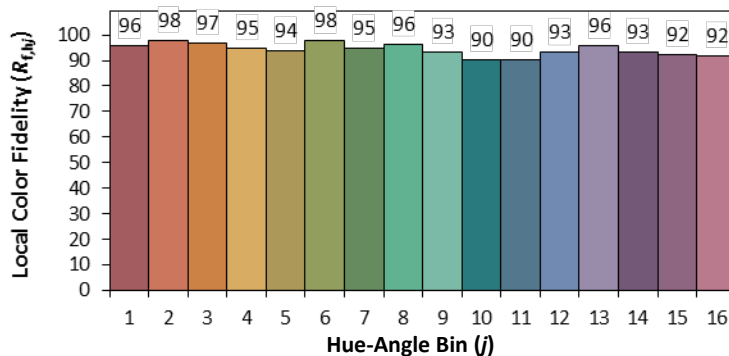
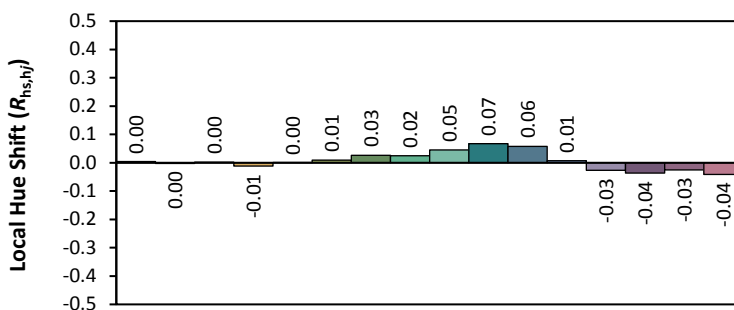
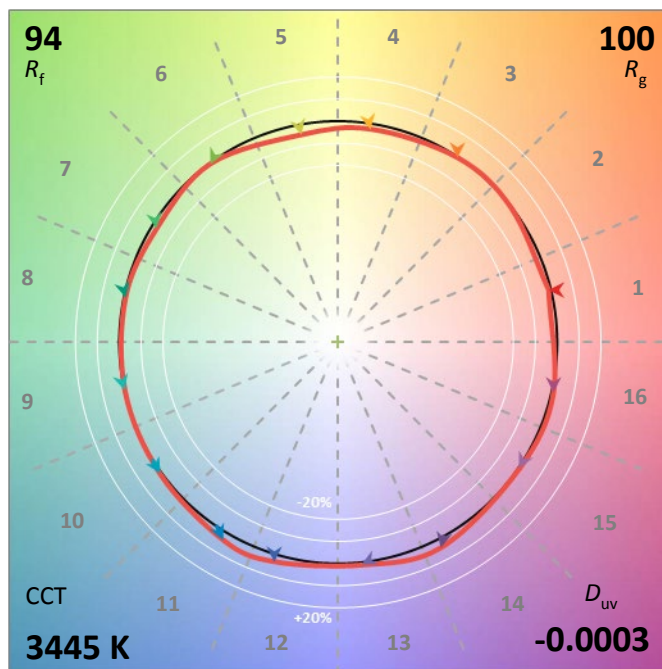
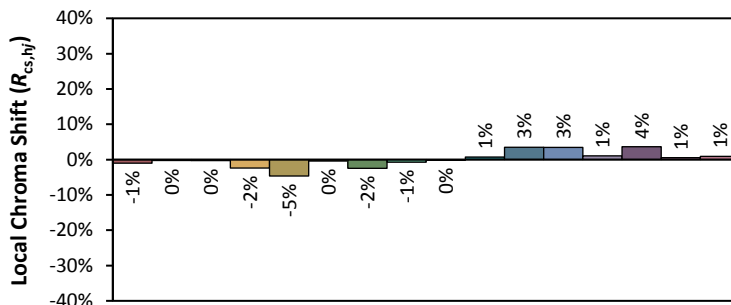
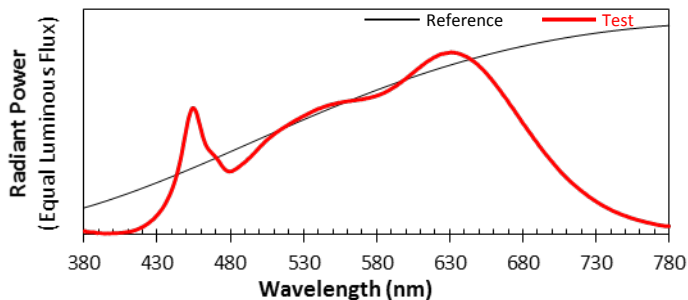
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1323	15.26	0.9611	1403.9	92.03

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
5.152	3445	-0.000245	0.4081	0.3916	0.2372	0.5120

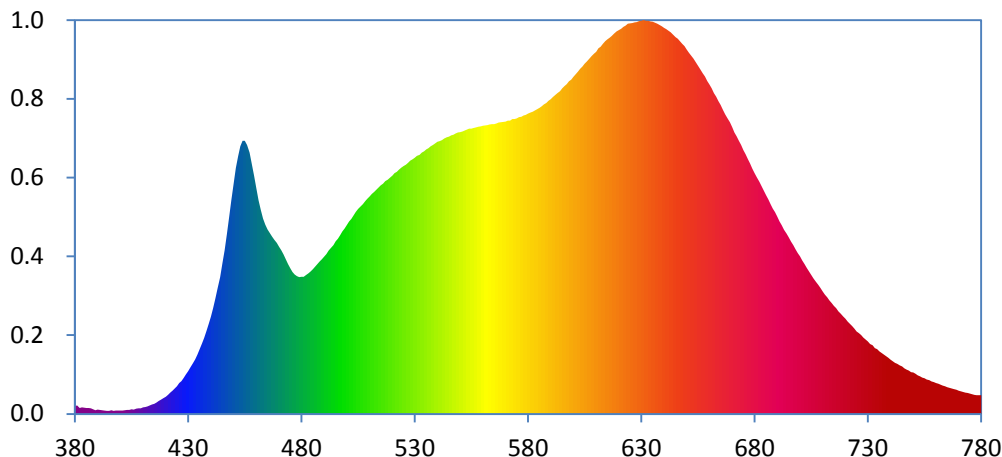
### Color Rendering Index

<b>Ra</b>			
<b>98.4</b>			
<b>R1</b>	<b>R2</b>	<b>R3</b>	<b>R4</b>
99	100	97	100
<b>R5</b>	<b>R6</b>	<b>R7</b>	<b>R8</b>
98	97	98	97
<b>R9</b>	<b>R10</b>	<b>R11</b>	<b>R12</b>
94	98	98	82
<b>R13</b>	<b>R14</b>	<b>R15</b>	
99	97	98	





### Relative Spectral Power Distribution

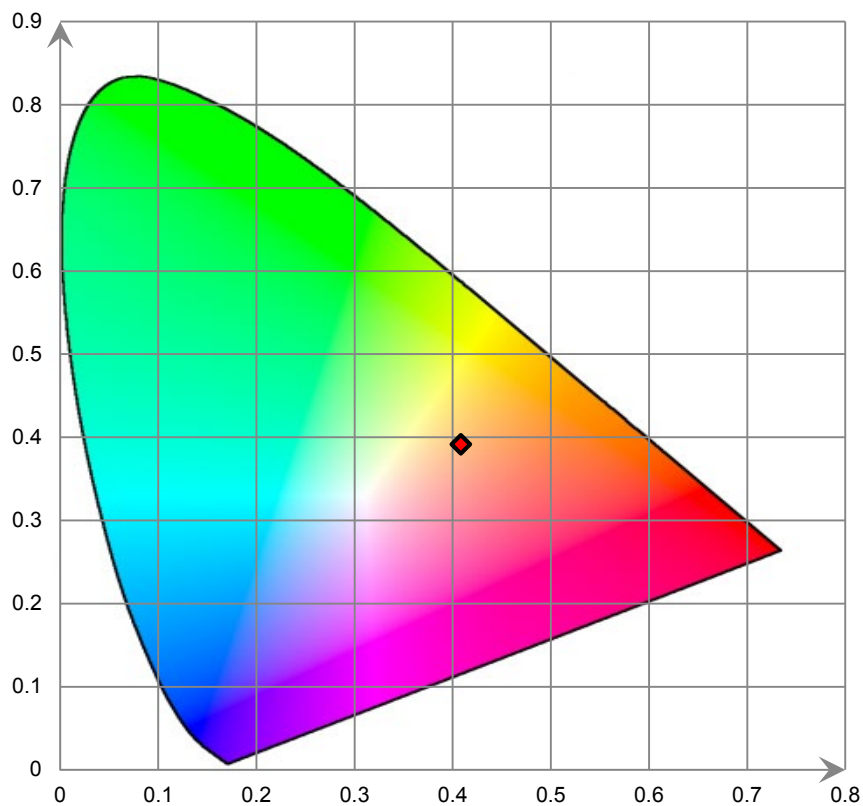


nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	5.339E-01	421	1.277E+00	462	1.378E+01	503	1.340E+01	544	1.866E+01
381	5.638E-01	422	1.433E+00	463	1.319E+01	504	1.363E+01	545	1.872E+01
382	4.062E-01	423	1.563E+00	464	1.279E+01	505	1.383E+01	546	1.880E+01
383	4.489E-01	424	1.710E+00	465	1.245E+01	506	1.399E+01	547	1.886E+01
384	4.174E-01	425	1.873E+00	466	1.221E+01	507	1.416E+01	548	1.893E+01
385	4.063E-01	426	2.076E+00	467	1.198E+01	508	1.434E+01	549	1.899E+01
386	4.024E-01	427	2.222E+00	468	1.176E+01	509	1.452E+01	550	1.901E+01
387	3.841E-01	428	2.423E+00	469	1.155E+01	510	1.467E+01	551	1.907E+01
388	3.177E-01	429	2.669E+00	470	1.130E+01	511	1.485E+01	552	1.914E+01
389	2.590E-01	430	2.882E+00	471	1.104E+01	512	1.498E+01	553	1.918E+01
390	2.806E-01	431	3.137E+00	472	1.076E+01	513	1.512E+01	554	1.925E+01
391	2.688E-01	432	3.418E+00	473	1.044E+01	514	1.529E+01	555	1.926E+01
392	2.401E-01	433	3.691E+00	474	1.012E+01	515	1.543E+01	556	1.930E+01
393	2.327E-01	434	4.004E+00	475	9.837E+00	516	1.554E+01	557	1.935E+01
394	2.099E-01	435	4.364E+00	476	9.585E+00	517	1.571E+01	558	1.938E+01
395	2.117E-01	436	4.733E+00	477	9.414E+00	518	1.581E+01	559	1.940E+01
396	2.409E-01	437	5.141E+00	478	9.298E+00	519	1.595E+01	560	1.945E+01
397	2.120E-01	438	5.593E+00	479	9.228E+00	520	1.608E+01	561	1.947E+01
398	2.271E-01	439	6.052E+00	480	9.259E+00	521	1.625E+01	562	1.949E+01
399	2.303E-01	440	6.560E+00	481	9.259E+00	522	1.634E+01	563	1.954E+01
400	2.286E-01	441	7.137E+00	482	9.388E+00	523	1.648E+01	564	1.955E+01
401	2.379E-01	442	7.790E+00	483	9.496E+00	524	1.662E+01	565	1.957E+01
402	2.475E-01	443	8.484E+00	484	9.623E+00	525	1.673E+01	566	1.961E+01
403	2.680E-01	444	9.233E+00	485	9.780E+00	526	1.682E+01	567	1.966E+01
404	2.683E-01	445	1.016E+01	486	9.940E+00	527	1.694E+01	568	1.969E+01
405	3.022E-01	446	1.105E+01	487	1.011E+01	528	1.709E+01	569	1.972E+01
406	2.975E-01	447	1.212E+01	488	1.029E+01	529	1.718E+01	570	1.972E+01
407	3.554E-01	448	1.328E+01	489	1.044E+01	530	1.730E+01	571	1.980E+01
408	3.748E-01	449	1.444E+01	490	1.062E+01	531	1.741E+01	572	1.979E+01
409	3.831E-01	450	1.552E+01	491	1.079E+01	532	1.749E+01	573	1.991E+01
410	4.352E-01	451	1.659E+01	492	1.104E+01	533	1.763E+01	574	1.990E+01
411	4.580E-01	452	1.737E+01	493	1.120E+01	534	1.772E+01	575	1.994E+01
412	5.079E-01	453	1.807E+01	494	1.140E+01	535	1.785E+01	576	2.003E+01
413	5.630E-01	454	1.844E+01	495	1.164E+01	536	1.794E+01	577	2.006E+01
414	6.317E-01	455	1.845E+01	496	1.183E+01	537	1.806E+01	578	2.014E+01
415	6.922E-01	456	1.815E+01	497	1.206E+01	538	1.814E+01	579	2.017E+01
416	7.767E-01	457	1.764E+01	498	1.231E+01	539	1.825E+01	580	2.027E+01
417	8.690E-01	458	1.685E+01	499	1.252E+01	540	1.836E+01	581	2.033E+01
418	9.691E-01	459	1.607E+01	500	1.276E+01	541	1.840E+01	582	2.041E+01
419	1.068E+00	460	1.523E+01	501	1.299E+01	542	1.848E+01	583	2.049E+01
420	1.158E+00	461	1.442E+01	502	1.317E+01	543	1.858E+01	584	2.059E+01

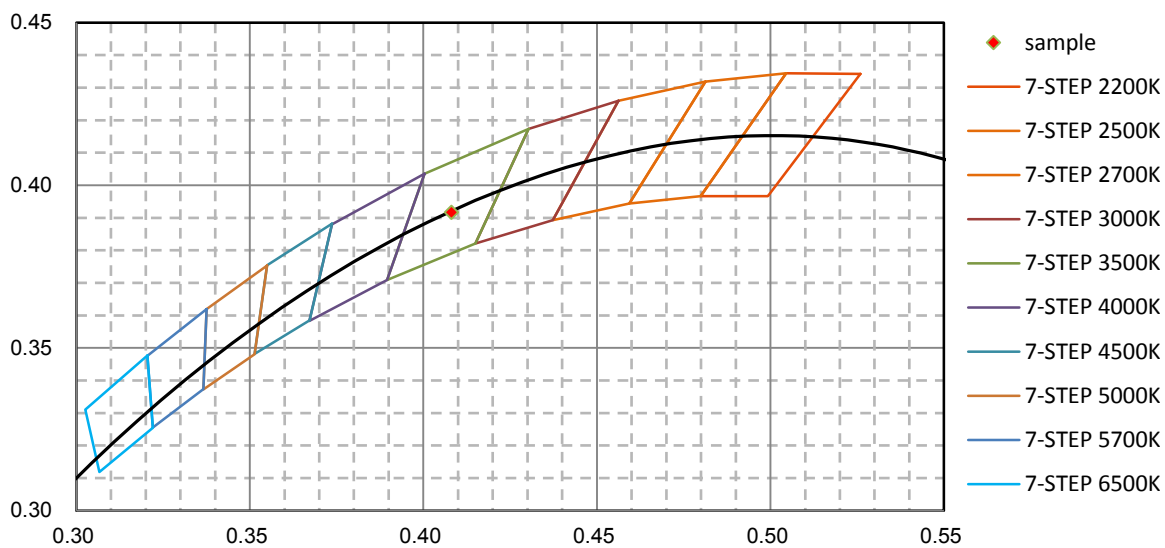
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	2.066E+01	626	2.638E+01	667	2.024E+01	708	8.707E+00	749	2.822E+00
586	2.077E+01	627	2.643E+01	668	1.997E+01	709	8.501E+00	750	2.794E+00
587	2.090E+01	628	2.646E+01	669	1.970E+01	710	8.269E+00	751	2.706E+00
588	2.099E+01	629	2.650E+01	670	1.936E+01	711	8.052E+00	752	2.595E+00
589	2.113E+01	630	2.654E+01	671	1.900E+01	712	7.883E+00	753	2.544E+00
590	2.125E+01	631	2.658E+01	672	1.874E+01	713	7.665E+00	754	2.453E+00
591	2.139E+01	632	2.653E+01	673	1.844E+01	714	7.478E+00	755	2.401E+00
592	2.151E+01	633	2.654E+01	674	1.815E+01	715	7.290E+00	756	2.331E+00
593	2.165E+01	634	2.648E+01	675	1.781E+01	716	7.130E+00	757	2.276E+00
594	2.178E+01	635	2.647E+01	676	1.752E+01	717	6.931E+00	758	2.190E+00
595	2.198E+01	636	2.640E+01	677	1.720E+01	718	6.772E+00	759	2.139E+00
596	2.212E+01	637	2.634E+01	678	1.690E+01	719	6.578E+00	760	2.083E+00
597	2.226E+01	638	2.625E+01	679	1.656E+01	720	6.424E+00	761	2.034E+00
598	2.246E+01	639	2.616E+01	680	1.625E+01	721	6.230E+00	762	1.978E+00
599	2.256E+01	640	2.605E+01	681	1.597E+01	722	6.090E+00	763	1.917E+00
600	2.275E+01	641	2.598E+01	682	1.568E+01	723	5.936E+00	764	1.857E+00
601	2.293E+01	642	2.586E+01	683	1.536E+01	724	5.754E+00	765	1.806E+00
602	2.310E+01	643	2.575E+01	684	1.506E+01	725	5.571E+00	766	1.758E+00
603	2.329E+01	644	2.560E+01	685	1.477E+01	726	5.443E+00	767	1.723E+00
604	2.345E+01	645	2.543E+01	686	1.449E+01	727	5.318E+00	768	1.674E+00
605	2.363E+01	646	2.532E+01	687	1.417E+01	728	5.155E+00	769	1.623E+00
606	2.379E+01	647	2.515E+01	688	1.385E+01	729	5.015E+00	770	1.576E+00
607	2.398E+01	648	2.497E+01	689	1.362E+01	730	4.882E+00	771	1.515E+00
608	2.416E+01	649	2.482E+01	690	1.333E+01	731	4.729E+00	772	1.488E+00
609	2.430E+01	650	2.459E+01	691	1.299E+01	732	4.626E+00	773	1.437E+00
610	2.445E+01	651	2.438E+01	692	1.274E+01	733	4.443E+00	774	1.413E+00
611	2.467E+01	652	2.418E+01	693	1.244E+01	734	4.367E+00	775	1.369E+00
612	2.479E+01	653	2.399E+01	694	1.218E+01	735	4.218E+00	776	1.335E+00
613	2.498E+01	654	2.374E+01	695	1.191E+01	736	4.110E+00	777	1.287E+00
614	2.515E+01	655	2.351E+01	696	1.163E+01	737	4.015E+00	778	1.258E+00
615	2.529E+01	656	2.327E+01	697	1.139E+01	738	3.889E+00	779	1.261E+00
616	2.540E+01	657	2.300E+01	698	1.112E+01	739	3.788E+00	780	1.263E+00
617	2.552E+01	658	2.278E+01	699	1.086E+01	740	3.670E+00		
618	2.567E+01	659	2.248E+01	700	1.063E+01	741	3.544E+00		
619	2.582E+01	660	2.223E+01	701	1.036E+01	742	3.443E+00		
620	2.590E+01	661	2.198E+01	702	1.011E+01	743	3.371E+00		
621	2.600E+01	662	2.166E+01	703	9.870E+00	744	3.272E+00		
622	2.613E+01	663	2.141E+01	704	9.622E+00	745	3.205E+00		
623	2.622E+01	664	2.112E+01	705	9.385E+00	746	3.081E+00		
624	2.633E+01	665	2.085E+01	706	9.139E+00	747	2.997E+00		
625	2.636E+01	666	2.052E+01	707	8.912E+00	748	2.924E+00		



### CIE 1931 x y Chromaticity Diagram



### 7-Step Chromaticity Quadrangles



**[Goniophotometer System]**

The Stabilization time: **30 minutes**

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

Test orientation: **Base up**

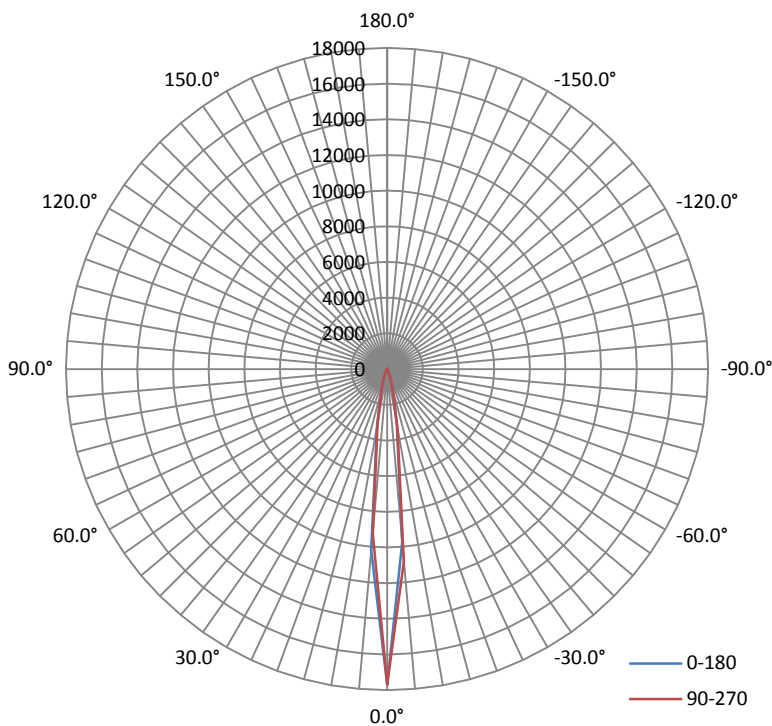
**Electrical Measurement**

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.01	60	0.1333	15.310	0.9570

**Photometric Measurement**

Luminous Flux (lm)	Efficacy (lm/W)	I <sub>max</sub> (cd)	S/MH (C0/180)	S/MH (C90/270)
1387.8	90.65	17922	0.19	0.21

**Luminous Intensity Distribution**



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I <sub>max</sub> ):	11.1	11.1	11.1	11.0	11.1
Field Angle (10% I <sub>max</sub> ):	26.2	25.9	26.1	26.4	26.2

**Luminous Intensity (cd) Distribution Data**

C y	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	17696	17696	17696	17696	17696	17696	17696	17696
5.0°	10198	10033	9886	9611	9264	8994	8959	9085
10.0°	3278	3235	3210	3134	3063	3026	3019	3039
15.0°	1278	1260	1252	1246	1246	1252	1255	1246
20.0°	556	550	544	545	545	554	564	569
25.0°	230	221	215	211	213	220	230	234
30.0°	111	110	109	107	107	107	108	110
35.0°	78	78	77	78	78	79	79	78
40.0°	64	65	63	63	64	64	64	63
45.0°	52	52	52	53	52	52	52	51
50.0°	41	41	41	41	42	42	42	41
55.0°	33	32	32	32	32	32	32	33
60.0°	26	26	26	26	26	25	26	25
65.0°	21	21	20	20	20	20	20	20
70.0°	16	16	16	16	16	16	16	15
75.0°	12	12	12	12	11	11	11	11
80.0°	8	8	7	7	7	7	7	7
85.0°	4	4	4	4	3	3	3	3
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	3	3	3	3
150.0°	4	4	4	4	4	4	4	4
155.0°	5	5	5	5	5	5	5	5
160.0°	5	5	5	5	5	5	5	5
165.0°	5	5	5	5	5	5	5	5
170.0°	4	4	4	4	4	4	4	4
175.0°	3	3	3	3	3	3	3	3
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°	17696	17696	17696	17696	17696	17696	17696	17696
5.0°	9742	9958	10193	10439	10848	11193	11250	11177
10.0°	3185	3165	3181	3210	3342	3483	3571	3566
15.0°	1315	1293	1267	1269	1289	1370	1416	1418
20.0°	568	544	522	514	534	564	590	597
25.0°	239	226	218	218	226	241	254	252
30.0°	111	109	107	109	111	112	114	116
35.0°	78	78	78	79	79	80	80	80
40.0°	63	64	64	65	65	65	65	66
45.0°	52	52	53	53	53	54	53	53
50.0°	41	42	42	43	43	44	43	43
55.0°	33	33	33	33	34	35	35	34
60.0°	26	26	26	26	27	27	27	27
65.0°	20	21	21	21	22	22	22	21
70.0°	16	16	16	17	17	17	17	17
75.0°	12	12	12	12	13	13	13	12
80.0°	7	7	8	8	8	9	8	8
85.0°	4	4	4	4	4	4	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°	0	0	0	0	0	0	0	0
145.0°	1	1	1	1	1	1	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

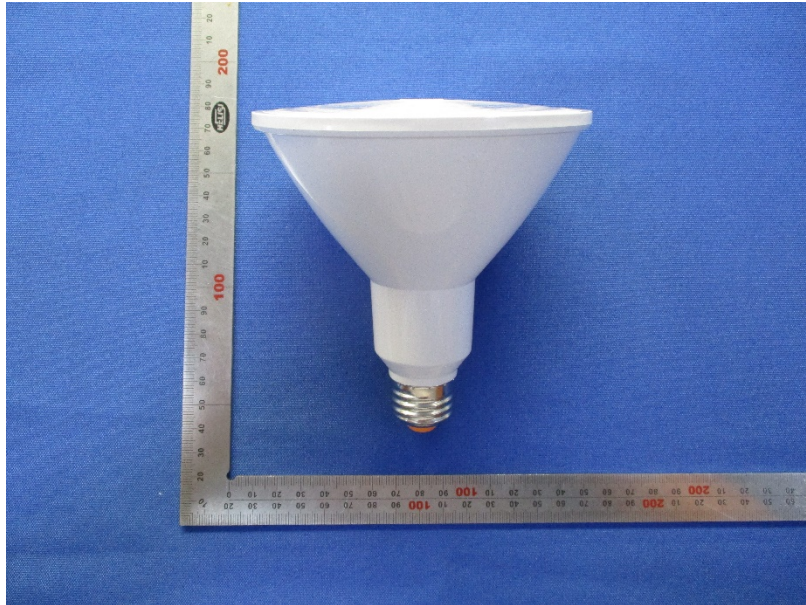
### Zonal Lumen Density Measurement

Deg	Flux (lm)	%
0-5	322.5	23.24
5-10	407.7	29.38
10-15	239.7	17.27
15-20	139.8	10.07
20-25	76.3	5.50
25-30	39.7	2.86
30-35	26.8	1.93
35-40	23.6	1.70
40-45	21.6	1.56
45-50	19.0	1.37
50-55	16.2	1.17
55-60	13.6	0.97
60-65	11.4	0.82
65-70	9.3	0.68
70-75	7.3	0.52
75-80	5.2	0.38
80-85	3.1	0.22
85-90	1.2	0.09
90-95	0.2	0.01
95-100	0.0	0.00
100-105	0.0	0.00
105-110	0.0	0.00
110-115	0.0	0.00
115-120	0.0	0.00
120-125	0.0	0.00
125-130	0.0	0.01
130-135	0.1	0.00
135-140	0.1	0.01
140-145	0.3	0.02
145-150	0.6	0.05
150-155	0.7	0.05
155-160	0.7	0.05
160-165	0.5	0.03
165-170	0.3	0.03
170-175	0.2	0.01
175-180	0.0	0.00

Deg	Flux (lm)	%
0-5	322.5	23.24
0-10	730.2	52.62
0-15	969.9	69.89
0-20	1109.7	79.96
0-25	1186.0	85.46
0-30	1225.7	88.32
0-35	1252.5	90.25
0-40	1276.1	91.95
0-45	1297.7	93.51
0-50	1316.7	94.88
0-55	1332.9	96.05
0-60	1346.5	97.02
0-65	1357.8	97.84
0-70	1367.2	98.52
0-75	1374.5	99.04
0-80	1379.7	99.42
0-85	1382.8	99.64
0-90	1384.0	99.73
0-95	1384.2	99.74
0-100	1384.2	99.74
0-105	1384.2	99.74
0-110	1384.2	99.74
0-115	1384.2	99.74
0-120	1384.2	99.74
0-125	1384.3	99.74
0-130	1384.3	99.75
0-135	1384.3	99.75
0-140	1384.5	99.76
0-145	1384.8	99.78
0-150	1385.4	99.83
0-155	1386.1	99.88
0-160	1386.8	99.93
0-165	1387.3	99.96
0-170	1387.6	99.99
0-175	1387.8	100.00
0-180	1387.8	100.00

Test Item	Test Voltage (V)	Frequency (Hz)	Test Result
Total Harmonic Distortion:	120.0	60	16.66%

## 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\*\*\*\*\*