

# 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, China

**Test Model: 11PAR30/940FL40/277V/SL**

<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>	KS2230727-43640E-EE-1
<b>Test Date:</b>	2023-08-22 to 2023-08-23
<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: 11PAR30/940FL40/277V/SL  
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: AC 120-277V 60Hz  
Rated Power: 11W  
Nominal CCT: 4000K  
Nominal Lumen Output: 1030lm

## 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
1.5m temperature integrating sphere	SENSING	SPR-600	S09008	2022-11-10	2023-11-09
High-precision rapid spectral analysis system	EVERFINE	HAAS-2000	M112048CA1361125	2022-11-10	2023-11-09
Digital power meter	YOKOGAWA	WT310	13398	2022-11-10	2023-11-09
Programmable Precision DC Power Supply	EVERFINE	WY5015	11060010	2022-11-10	2023-11-09
thermometer	SENSING	NA	NA	2022-11-10	2023-11-09
Standard Light Source	EVERFINE	D204	N/A	2023-05-12	2025-05-11
Precision frequency power supply	ALL Power	APW-105N	970613	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

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
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 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  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$  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.

$4\pi$  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  $U=21\text{K}$  ( $K=2$ ), 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  $U=0.17\%$  of rdg, Power  $U=0.48\%$  ( $K=2$ ), 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 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  $U=0.15\%$  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**

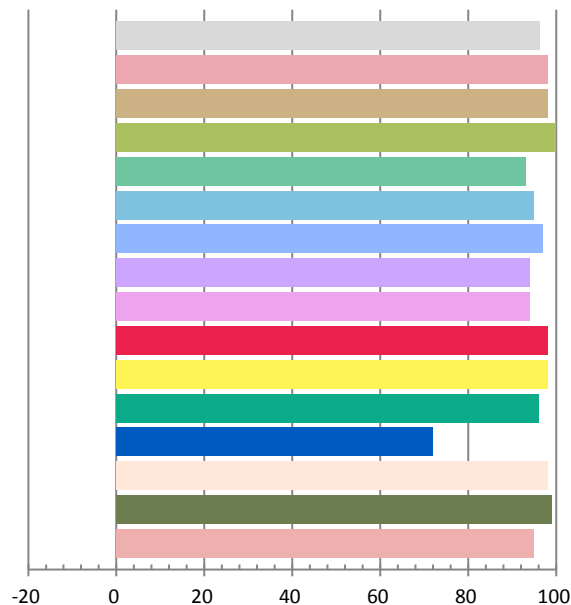
### Photometric and Electrical Measurement Result

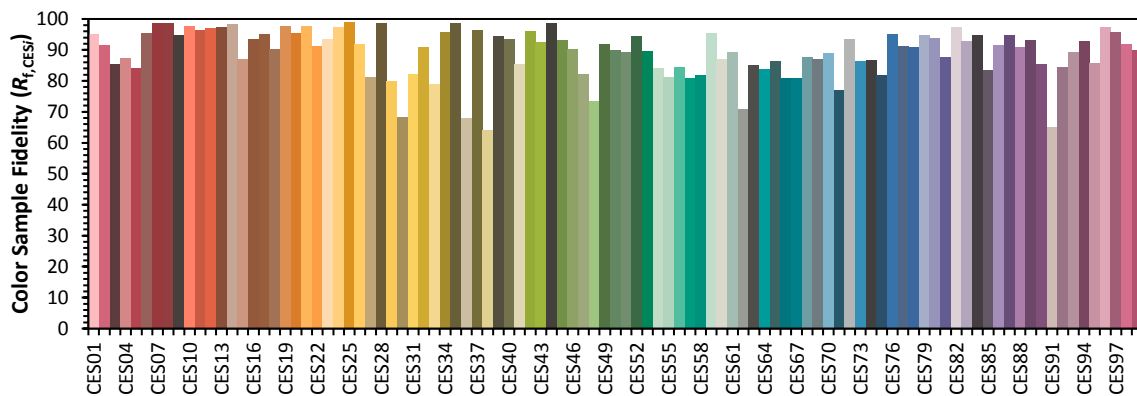
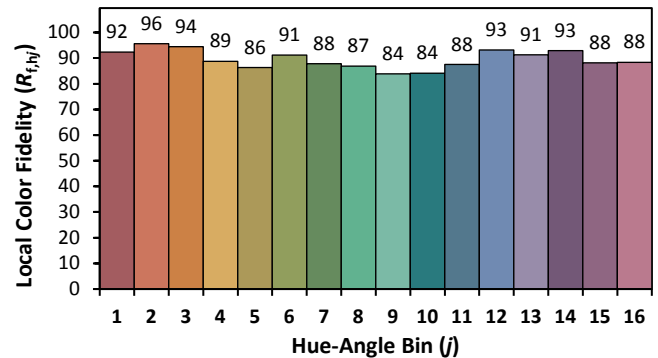
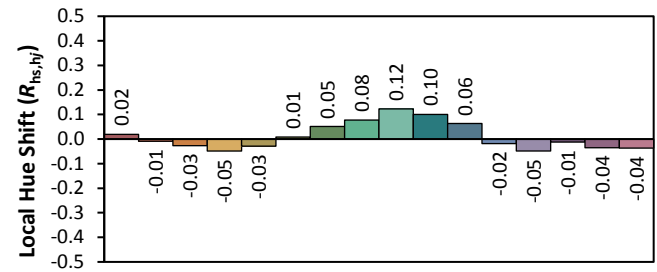
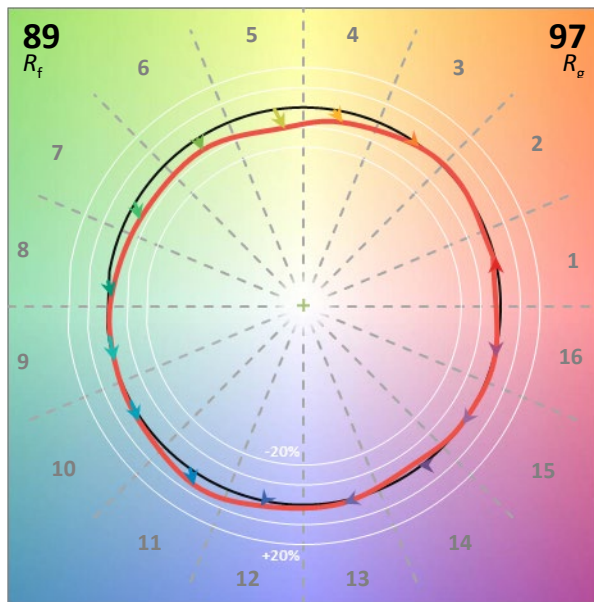
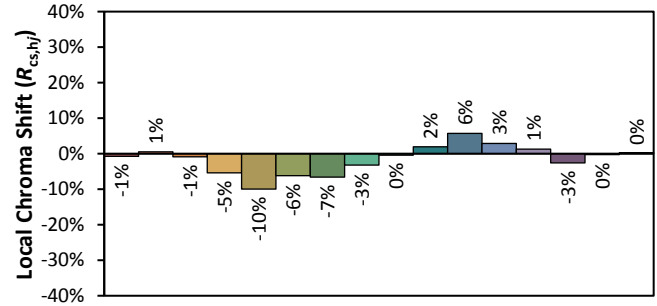
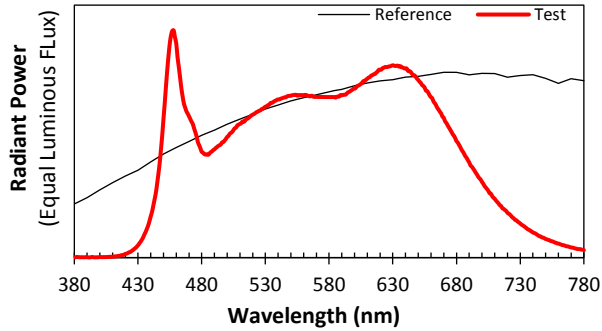
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.09059	10.5	0.966	1089.2	103.72

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
3.9501	4107	0.00176	0.3769	0.3783	0.2222	0.5017

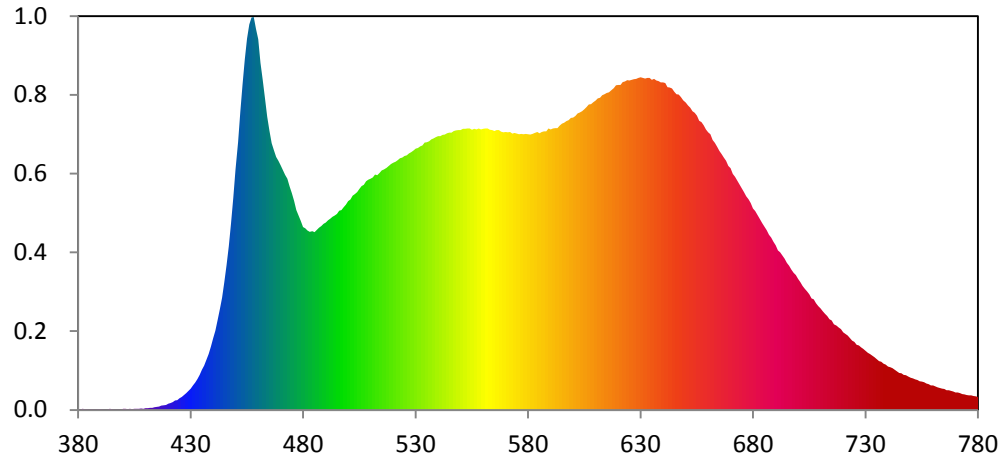
### Color Rendering Index

<b>Ra</b>			
96.2			
<b>R1</b>	<b>R2</b>	<b>R3</b>	<b>R4</b>
98	98	100	93
<b>R5</b>	<b>R6</b>	<b>R7</b>	<b>R8</b>
95	97	94	94
<b>R9</b>	<b>R10</b>	<b>R11</b>	<b>R12</b>
98	98	96	72
<b>R13</b>	<b>R14</b>	<b>R15</b>	
98	99	95	





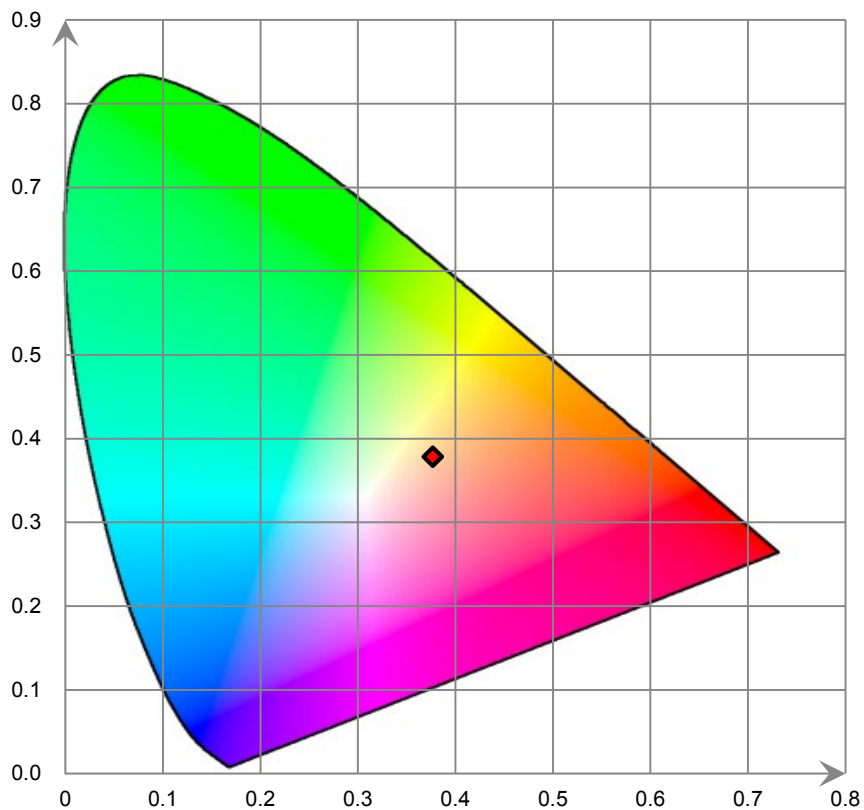
### Relative Spectral Power Distribution



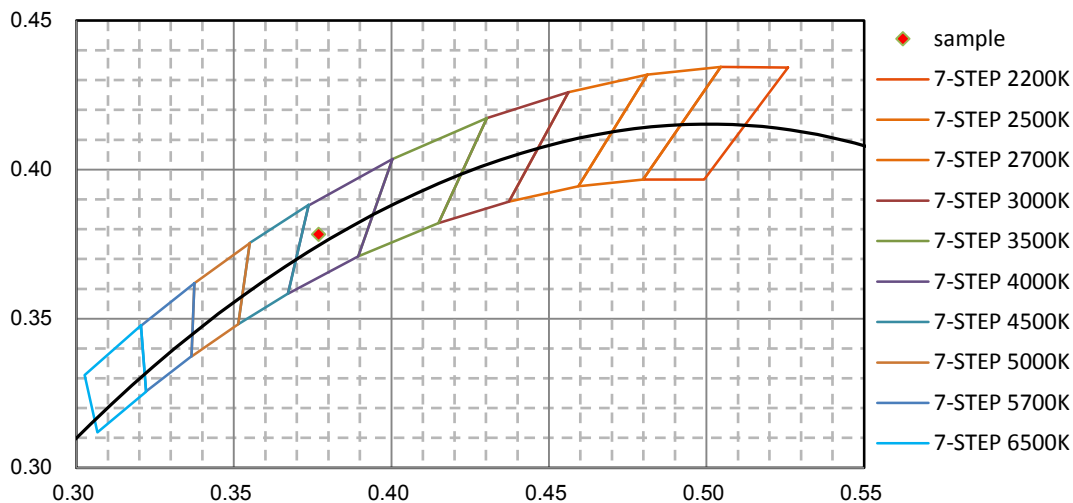
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	2.266E-02	421	3.752E-01	462	1.808E+01	503	1.182E+01	544	1.514E+01
381	3.508E-02	422	4.368E-01	463	1.708E+01	504	1.192E+01	545	1.518E+01
382	6.565E-02	423	5.094E-01	464	1.607E+01	505	1.210E+01	546	1.519E+01
383	5.007E-02	424	5.337E-01	465	1.528E+01	506	1.226E+01	547	1.528E+01
384	3.993E-02	425	6.333E-01	466	1.460E+01	507	1.233E+01	548	1.531E+01
385	3.090E-02	426	7.145E-01	467	1.422E+01	508	1.253E+01	549	1.533E+01
386	3.799E-02	427	8.227E-01	468	1.386E+01	509	1.260E+01	550	1.533E+01
387	3.257E-02	428	9.116E-01	469	1.364E+01	510	1.267E+01	551	1.539E+01
388	2.825E-02	429	1.037E+00	470	1.340E+01	511	1.273E+01	552	1.540E+01
389	4.977E-02	430	1.170E+00	471	1.314E+01	512	1.290E+01	553	1.542E+01
390	3.708E-02	431	1.339E+00	472	1.288E+01	513	1.286E+01	554	1.542E+01
391	2.439E-02	432	1.502E+00	473	1.266E+01	514	1.297E+01	555	1.534E+01
392	1.545E-02	433	1.692E+00	474	1.225E+01	515	1.312E+01	556	1.540E+01
393	3.489E-02	434	1.912E+00	475	1.188E+01	516	1.317E+01	557	1.536E+01
394	6.498E-02	435	2.193E+00	476	1.146E+01	517	1.326E+01	558	1.541E+01
395	3.619E-02	436	2.433E+00	477	1.094E+01	518	1.336E+01	559	1.536E+01
396	2.515E-02	437	2.745E+00	478	1.065E+01	519	1.347E+01	560	1.540E+01
397	2.985E-02	438	3.054E+00	479	1.035E+01	520	1.355E+01	561	1.541E+01
398	3.108E-02	439	3.463E+00	480	1.002E+01	521	1.360E+01	562	1.541E+01
399	3.420E-02	440	3.916E+00	481	9.947E+00	522	1.369E+01	563	1.534E+01
400	5.804E-02	441	4.341E+00	482	9.819E+00	523	1.378E+01	564	1.533E+01
401	5.490E-02	442	4.921E+00	483	9.759E+00	524	1.383E+01	565	1.527E+01
402	4.146E-02	443	5.515E+00	484	9.796E+00	525	1.391E+01	566	1.533E+01
403	5.382E-02	444	6.138E+00	485	9.738E+00	526	1.395E+01	567	1.532E+01
404	4.515E-02	445	7.007E+00	486	9.855E+00	527	1.406E+01	568	1.523E+01
405	5.716E-02	446	7.940E+00	487	9.984E+00	528	1.412E+01	569	1.521E+01
406	5.575E-02	447	8.962E+00	488	1.006E+01	529	1.420E+01	570	1.523E+01
407	6.515E-02	448	1.023E+01	489	1.018E+01	530	1.430E+01	571	1.520E+01
408	8.611E-02	449	1.160E+01	490	1.026E+01	531	1.434E+01	572	1.523E+01
409	6.843E-02	450	1.318E+01	491	1.038E+01	532	1.444E+01	573	1.513E+01
410	9.227E-02	451	1.467E+01	492	1.048E+01	533	1.449E+01	574	1.516E+01
411	8.822E-02	452	1.633E+01	493	1.058E+01	534	1.465E+01	575	1.513E+01
412	1.207E-01	453	1.784E+01	494	1.065E+01	535	1.466E+01	576	1.510E+01
413	1.231E-01	454	1.920E+01	495	1.073E+01	536	1.472E+01	577	1.512E+01
414	1.447E-01	455	2.035E+01	496	1.092E+01	537	1.482E+01	578	1.510E+01
415	1.717E-01	456	2.111E+01	497	1.095E+01	538	1.487E+01	579	1.511E+01
416	1.813E-01	457	2.150E+01	498	1.110E+01	539	1.494E+01	580	1.509E+01
417	2.322E-01	458	2.152E+01	499	1.125E+01	540	1.499E+01	581	1.509E+01
418	2.479E-01	459	2.086E+01	500	1.144E+01	541	1.499E+01	582	1.511E+01
419	2.782E-01	460	2.030E+01	501	1.153E+01	542	1.506E+01	583	1.518E+01
420	3.478E-01	461	1.901E+01	502	1.173E+01	543	1.509E+01	584	1.521E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	1.516E+01	626	1.807E+01	667	1.382E+01	708	5.838E+00	749	1.837E+00
586	1.523E+01	627	1.811E+01	668	1.365E+01	709	5.679E+00	750	1.760E+00
587	1.526E+01	628	1.813E+01	669	1.336E+01	710	5.571E+00	751	1.730E+00
588	1.526E+01	629	1.818E+01	670	1.325E+01	711	5.410E+00	752	1.677E+00
589	1.541E+01	630	1.822E+01	671	1.292E+01	712	5.269E+00	753	1.645E+00
590	1.537E+01	631	1.819E+01	672	1.277E+01	713	5.138E+00	754	1.573E+00
591	1.542E+01	632	1.815E+01	673	1.255E+01	714	4.965E+00	755	1.546E+00
592	1.543E+01	633	1.818E+01	674	1.234E+01	715	4.893E+00	756	1.509E+00
593	1.544E+01	634	1.818E+01	675	1.214E+01	716	4.687E+00	757	1.438E+00
594	1.557E+01	635	1.809E+01	676	1.193E+01	717	4.619E+00	758	1.411E+00
595	1.567E+01	636	1.814E+01	677	1.170E+01	718	4.512E+00	759	1.345E+00
596	1.572E+01	637	1.804E+01	678	1.154E+01	719	4.422E+00	760	1.336E+00
597	1.581E+01	638	1.800E+01	679	1.132E+01	720	4.247E+00	761	1.286E+00
598	1.588E+01	639	1.793E+01	680	1.104E+01	721	4.168E+00	762	1.241E+00
599	1.599E+01	640	1.793E+01	681	1.090E+01	722	4.071E+00	763	1.197E+00
600	1.601E+01	641	1.791E+01	682	1.068E+01	723	3.937E+00	764	1.172E+00
601	1.609E+01	642	1.768E+01	683	1.047E+01	724	3.798E+00	765	1.143E+00
602	1.624E+01	643	1.767E+01	684	1.022E+01	725	3.723E+00	766	1.081E+00
603	1.630E+01	644	1.760E+01	685	1.004E+01	726	3.571E+00	767	1.072E+00
604	1.637E+01	645	1.743E+01	686	9.834E+00	727	3.537E+00	768	1.042E+00
605	1.646E+01	646	1.729E+01	687	9.597E+00	728	3.420E+00	769	1.001E+00
606	1.658E+01	647	1.727E+01	688	9.445E+00	729	3.333E+00	770	9.609E-01
607	1.673E+01	648	1.713E+01	689	9.212E+00	730	3.238E+00	771	9.506E-01
608	1.674E+01	649	1.696E+01	690	9.023E+00	731	3.126E+00	772	9.164E-01
609	1.686E+01	650	1.683E+01	691	8.736E+00	732	3.056E+00	773	8.728E-01
610	1.695E+01	651	1.667E+01	692	8.625E+00	733	2.973E+00	774	8.489E-01
611	1.706E+01	652	1.655E+01	693	8.452E+00	734	2.880E+00	775	8.116E-01
612	1.710E+01	653	1.635E+01	694	8.274E+00	735	2.786E+00	776	8.054E-01
613	1.724E+01	654	1.626E+01	695	8.061E+00	736	2.679E+00	777	8.053E-01
614	1.729E+01	655	1.611E+01	696	7.889E+00	737	2.639E+00	778	7.584E-01
615	1.737E+01	656	1.583E+01	697	7.679E+00	738	2.535E+00	779	7.536E-01
616	1.740E+01	657	1.577E+01	698	7.517E+00	739	2.484E+00	780	7.024E-01
617	1.753E+01	658	1.559E+01	699	7.391E+00	740	2.375E+00		
618	1.762E+01	659	1.536E+01	700	7.179E+00	741	2.331E+00		
619	1.779E+01	660	1.520E+01	701	7.004E+00	742	2.286E+00		
620	1.780E+01	661	1.509E+01	702	6.787E+00	743	2.192E+00		
621	1.781E+01	662	1.478E+01	703	6.639E+00	744	2.120E+00		
622	1.795E+01	663	1.463E+01	704	6.492E+00	745	2.029E+00		
623	1.799E+01	664	1.442E+01	705	6.328E+00	746	2.010E+00		
624	1.806E+01	665	1.418E+01	706	6.105E+00	747	1.917E+00		
625	1.805E+01	666	1.401E+01	707	6.057E+00	748	1.893E+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**

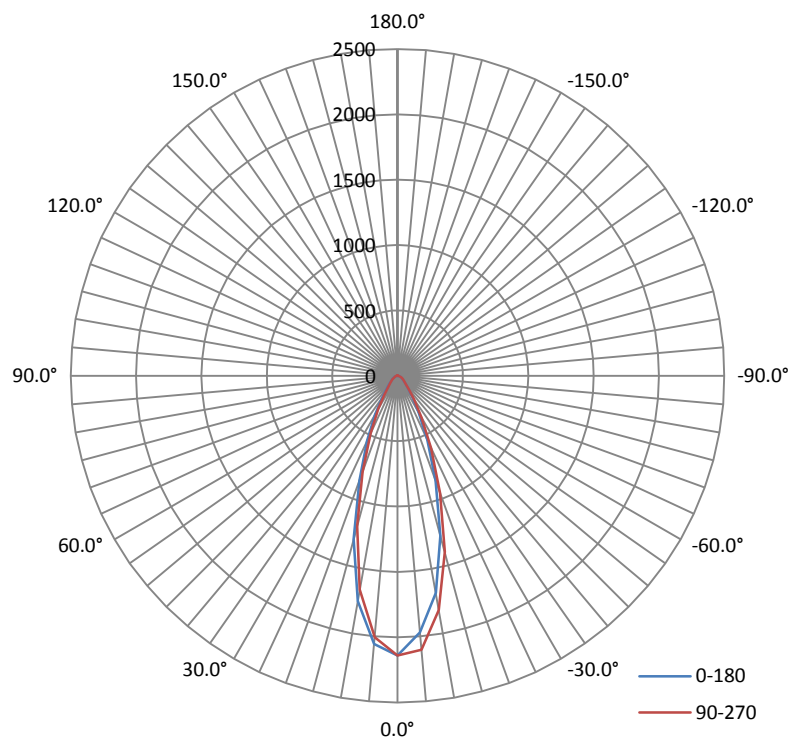
**Electrical Measurement**

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.08	60	0.0906	10.510	0.9661

**Photometric Measurement**

Luminous Flux (lm)	Efficacy (lm/W)	I <sub>max</sub> (cd)	S/MH (C0/180)	S/MH (C90/270)
1091.16	103.82	2177	0.57	0.61

**Luminous Intensity Distribution**



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I <sub>max</sub> ):	34.5	34.6	34.8	34.6	34.6
Field Angle (10% I <sub>max</sub> ):	68.6	68.5	68.2	68.4	68.4

**Luminous Intensity (cd) Distribution Data**

C y	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	2139	2139	2139	2139	2139	2139	2139	2139
5.0°	2058	2057	2015	2015	2007	1974	1937	1925
10.0°	1751	1755	1675	1672	1661	1642	1625	1616
15.0°	1294	1294	1194	1195	1190	1184	1177	1166
20.0°	855	851	788	785	781	777	774	767
25.0°	550	546	502	496	488	485	482	479
30.0°	342	340	306	299	292	288	288	288
35.0°	207	205	185	179	175	175	176	176
40.0°	131	131	121	116	112	112	115	114
45.0°	89	89	82	81	80	80	80	80
50.0°	64	64	61	61	61	61	61	61
55.0°	51	51	49	49	49	50	51	51
60.0°	40	40	38	38	38	38	38	38
65.0°	30	30	29	28	29	28	28	28
70.0°	23	23	21	21	21	21	21	21
75.0°	16	16	15	15	15	14	14	14
80.0°	10	10	9	9	9	9	9	9
85.0°	5	5	4	4	4	4	4	4
90.0°	2	2	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	1	1	1
140.0°	1	1	1	1	1	1	1	1
145.0°	1	1	1	1	1	1	1	1
150.0°	2	2	2	2	2	2	2	2
155.0°	2	2	2	2	2	2	2	2
160.0°	3	3	3	3	3	3	3	3
165.0°	3	3	3	2	3	3	3	3
170.0°	2	2	2	2	2	2	2	2
175.0°	2	2	2	2	2	2	2	2
180.0°	2	2	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°	2139	2139	2139	2139	2139	2139	2139	2139
5.0°	1970	1991	2057	2080	2104	2117	2135	2147
10.0°	1684	1687	1774	1794	1819	1833	1855	1862
15.0°	1267	1262	1358	1375	1394	1409	1423	1445
20.0°	852	850	924	934	954	962	968	974
25.0°	538	535	593	596	610	617	618	628
30.0°	322	319	355	357	369	376	384	390
35.0°	196	193	213	215	222	228	233	237
40.0°	124	123	134	136	138	141	144	148
45.0°	85	85	90	90	90	92	95	98
50.0°	64	64	67	67	67	66	68	70
55.0°	51	51	53	52	52	53	54	54
60.0°	40	40	43	42	42	43	43	44
65.0°	30	30	32	32	32	32	32	33
70.0°	22	22	23	24	24	24	24	25
75.0°	15	15	17	17	17	17	18	18
80.0°	10	10	11	11	11	11	12	12
85.0°	5	5	6	6	6	6	6	7
90.0°	1	1	2	2	2	2	2	2
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	0	0
150.0°	1	1	1	1	1	0	0	0
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°	2	2	1	1	1	1	1	1

### Zonal Lumen Density Measurement

Deg	Flux (lm)	%	Deg	Flux (lm)	%
0-5	50.0	4.58	0-5	50.0	4.58
5-10	134.6	12.34	0-10	184.6	16.92
10-15	178.4	16.34	0-15	363.0	33.26
15-20	174.7	16.01	0-20	537.6	49.27
20-25	144.8	13.27	0-25	682.5	62.54
25-30	108.7	9.96	0-30	791.1	72.50
30-35	76.4	7.01	0-35	867.6	79.51
35-40	53.4	4.89	0-40	920.9	84.40
40-45	38.7	3.55	0-45	959.7	87.95
45-50	30.0	2.75	0-50	989.7	90.70
50-55	24.9	2.28	0-55	1014.5	92.98
55-60	21.2	1.94	0-60	1035.8	94.92
60-65	17.0	1.56	0-65	1052.7	96.48
65-70	13.2	1.21	0-70	1066.0	97.69
70-75	9.9	0.91	0-75	1075.9	98.60
75-80	6.9	0.63	0-80	1082.8	99.23
80-85	4.1	0.37	0-85	1086.8	99.60
85-90	1.7	0.16	0-90	1088.5	99.76
90-95	0.4	0.03	0-95	1088.9	99.79
95-100	0.0	0.00	0-100	1088.9	99.79
100-105	0.0	0.00	0-105	1088.9	99.79
105-110	0.0	0.01	0-110	1088.9	99.80
110-115	0.0	0.00	0-115	1088.9	99.80
115-120	0.0	0.00	0-120	1089.0	99.80
120-125	0.0	0.00	0-125	1089.0	99.80
125-130	0.1	0.01	0-130	1089.1	99.81
130-135	0.1	0.01	0-135	1089.1	99.82
135-140	0.2	0.01	0-140	1089.3	99.83
140-145	0.2	0.02	0-145	1089.5	99.85
145-150	0.3	0.03	0-150	1089.9	99.88
150-155	0.3	0.03	0-155	1090.2	99.91
155-160	0.3	0.03	0-160	1090.5	99.94
160-165	0.3	0.03	0-165	1090.8	99.97
165-170	0.2	0.02	0-170	1091.0	99.99
170-175	0.1	0.01	0-175	1091.1	100.00
175-180	0.0	0.00	0-180	1091.2	100.00

Test Item	Test Voltage (V)	Frequency (Hz)	Test Result
Total Harmonic Distortion:	120.0	60	14.25%

## 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.
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\*\*\*\*\*END OF REPORT\*\*\*\*\*