

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:
15.5PAR38DIM/940FL40/SL+SL15D

Report Type:	Electrical and Photometric tests including: Luminous Flux, Chromaticity, Luminous Intensity Distribution, THD
Reviewed By:	Hill Liu <i>Hill Liu</i>
Report Number:	KS2230727-43681E-EE-1
Test Date:	2023-08-08 to 2023-08-09
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 2023-07-27, and used for testing. One was tested in integrating sphere and the other was tested in goniophotometer

Model Tested: 15.5PAR38DIM/940FL40/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 60Hz
Rated Power: 15.5W
Nominal CCT: 4000K
Nominal Lumen Output: 1420lm

Family Declaration

The Model	Multiple Models	Differences Items	Details
15.5PAR38DIM/940FL40/SL+SL15D	15.5PAR38DIM/940SP15/SL	Model Number	15.5PAR38DIM/940FL40/SL+SL15D & 15.5PAR38DIM/940SP15/SL are the same product except for the model number.

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	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

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
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 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.

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 $U=0.19\%$ 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

[Integrating Sphere System]

The Stabilization time: **30 minutes**

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

Test orientation: **Base Up**

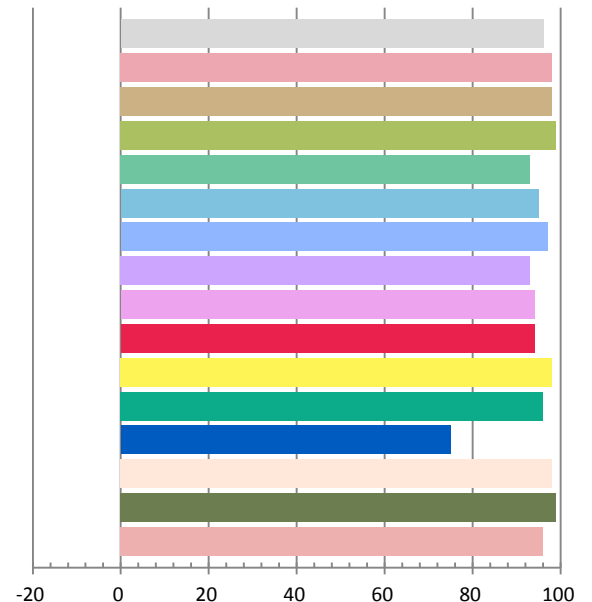
Photometric and Electrical Measurement Result

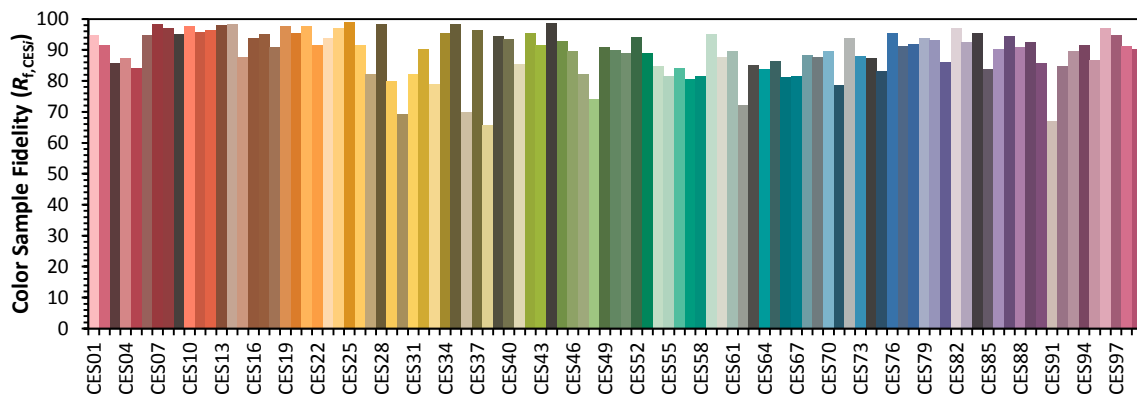
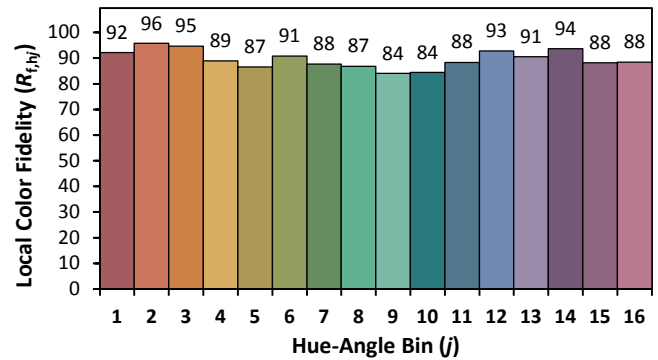
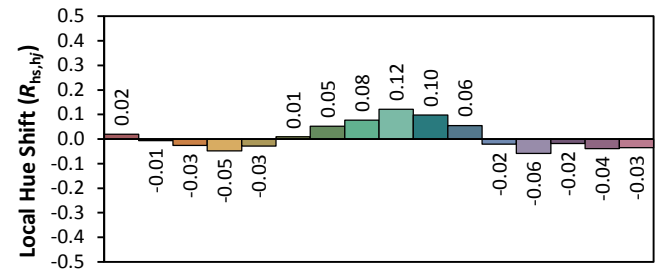
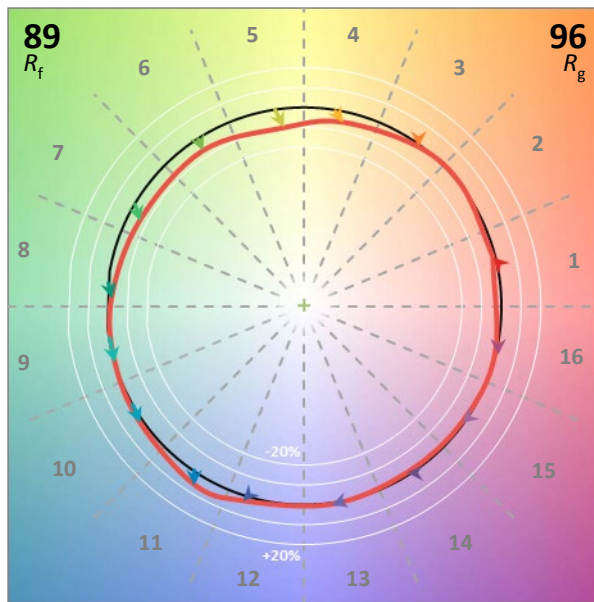
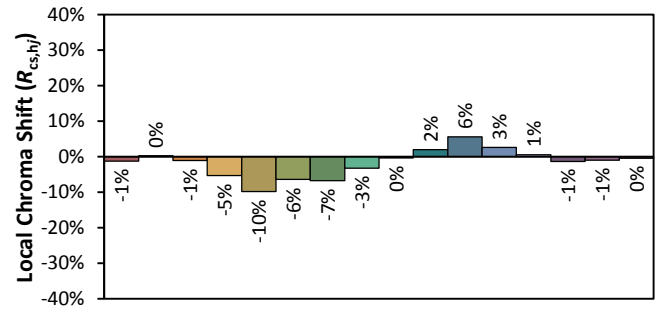
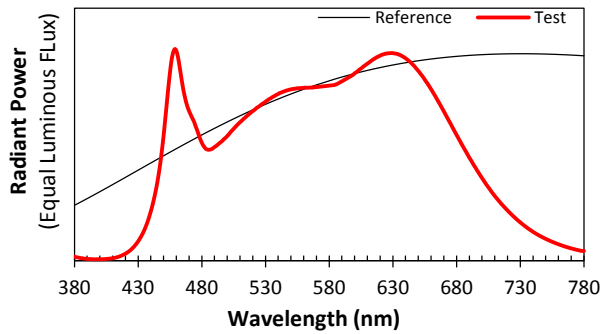
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1295	15.44	0.9933	1589.0	102.92

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
5.759	3966	0.001580	0.3831	0.3818	0.2248	0.5042

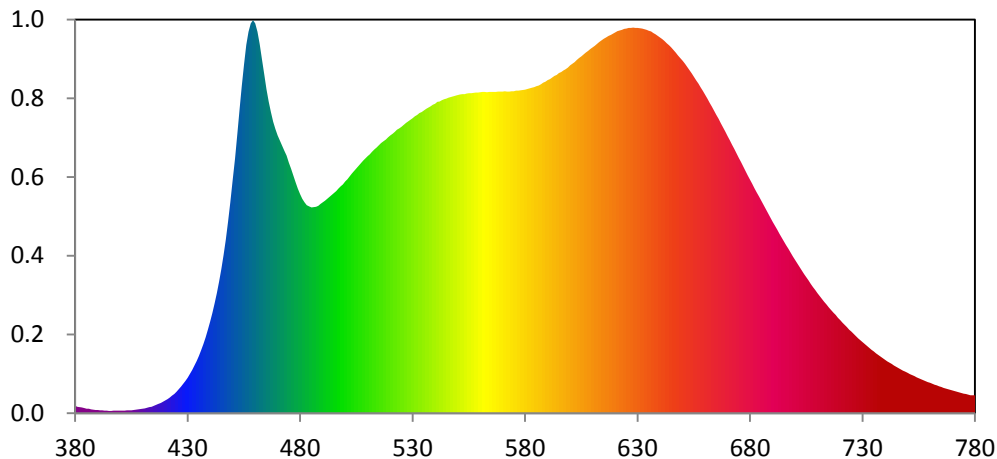
Color Rendering Index

Ra			
96.1			
R1	R2	R3	R4
98	98	99	93
R5	R6	R7	R8
95	97	93	94
R9	R10	R11	R12
94	98	96	75
R13	R14	R15	
98	99	96	





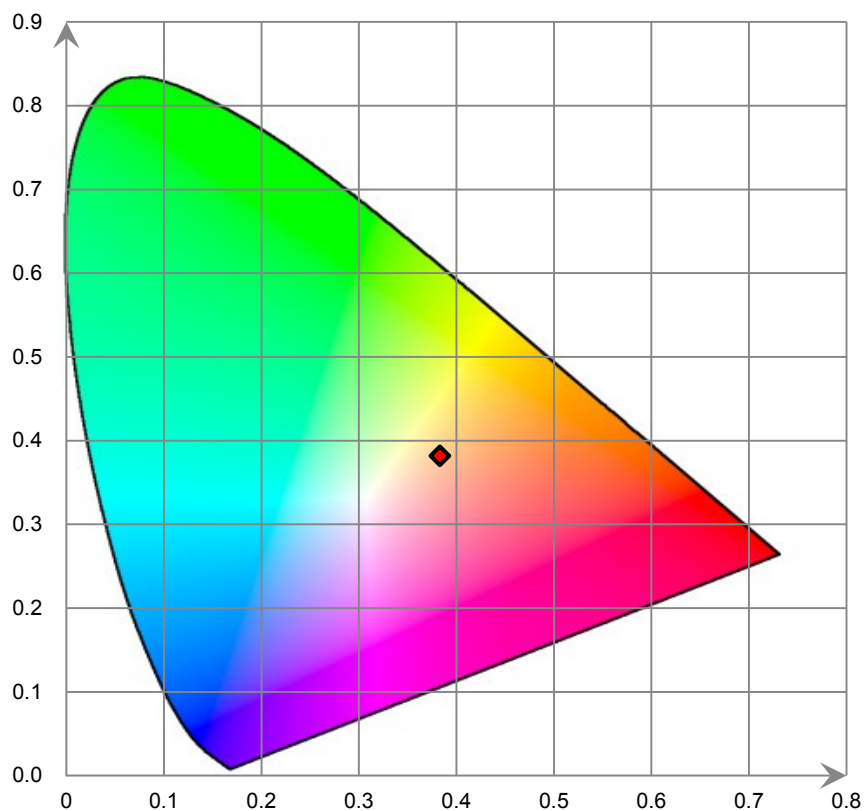
Relative Spectral Power Distribution



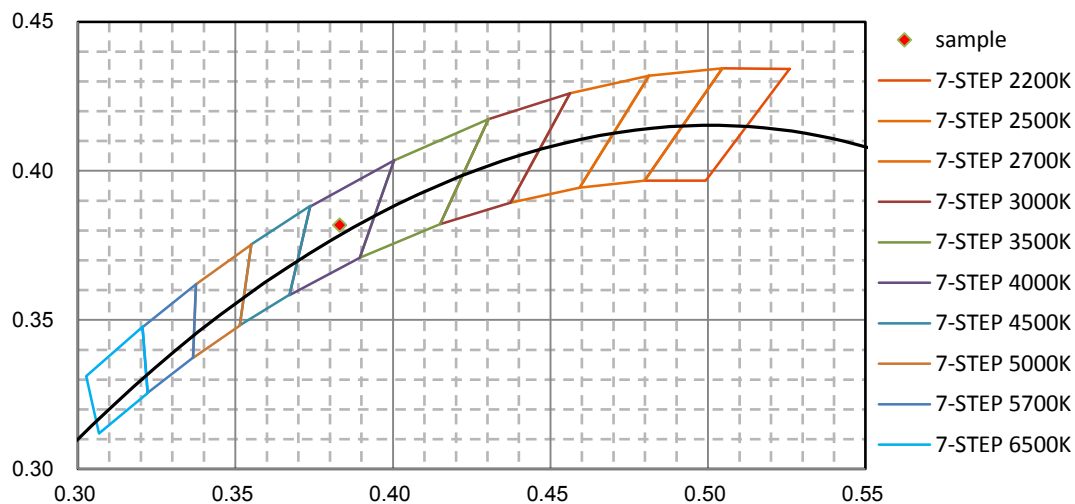
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	5.209E-01	421	9.935E-01	462	2.562E+01	503	1.665E+01	544	2.180E+01
381	4.459E-01	422	1.098E+00	463	2.459E+01	504	1.682E+01	545	2.185E+01
382	4.289E-01	423	1.221E+00	464	2.355E+01	505	1.700E+01	546	2.192E+01
383	3.944E-01	424	1.347E+00	465	2.253E+01	506	1.718E+01	547	2.196E+01
384	3.620E-01	425	1.499E+00	466	2.165E+01	507	1.736E+01	548	2.201E+01
385	3.186E-01	426	1.667E+00	467	2.091E+01	508	1.753E+01	549	2.206E+01
386	3.113E-01	427	1.838E+00	468	2.026E+01	509	1.769E+01	550	2.209E+01
387	2.690E-01	428	2.043E+00	469	1.974E+01	510	1.785E+01	551	2.213E+01
388	2.494E-01	429	2.251E+00	470	1.930E+01	511	1.799E+01	552	2.216E+01
389	2.356E-01	430	2.477E+00	471	1.893E+01	512	1.815E+01	553	2.217E+01
390	2.162E-01	431	2.740E+00	472	1.857E+01	513	1.832E+01	554	2.221E+01
391	2.028E-01	432	3.013E+00	473	1.823E+01	514	1.844E+01	555	2.223E+01
392	1.996E-01	433	3.308E+00	474	1.789E+01	515	1.860E+01	556	2.224E+01
393	1.923E-01	434	3.623E+00	475	1.740E+01	516	1.875E+01	557	2.225E+01
394	1.770E-01	435	3.987E+00	476	1.698E+01	517	1.888E+01	558	2.227E+01
395	1.704E-01	436	4.379E+00	477	1.652E+01	518	1.902E+01	559	2.227E+01
396	1.613E-01	437	4.810E+00	478	1.604E+01	519	1.916E+01	560	2.230E+01
397	1.750E-01	438	5.281E+00	479	1.560E+01	520	1.928E+01	561	2.231E+01
398	1.790E-01	439	5.807E+00	480	1.522E+01	521	1.941E+01	562	2.231E+01
399	1.771E-01	440	6.357E+00	481	1.489E+01	522	1.953E+01	563	2.230E+01
400	1.737E-01	441	6.961E+00	482	1.466E+01	523	1.969E+01	564	2.231E+01
401	1.838E-01	442	7.632E+00	483	1.444E+01	524	1.979E+01	565	2.232E+01
402	1.800E-01	443	8.345E+00	484	1.435E+01	525	1.990E+01	566	2.232E+01
403	1.934E-01	444	9.137E+00	485	1.430E+01	526	2.003E+01	567	2.232E+01
404	1.996E-01	445	1.000E+01	486	1.431E+01	527	2.016E+01	568	2.235E+01
405	2.092E-01	446	1.099E+01	487	1.435E+01	528	2.028E+01	569	2.234E+01
406	2.274E-01	447	1.204E+01	488	1.440E+01	529	2.037E+01	570	2.233E+01
407	2.448E-01	448	1.329E+01	489	1.453E+01	530	2.050E+01	571	2.235E+01
408	2.590E-01	449	1.463E+01	490	1.465E+01	531	2.062E+01	572	2.234E+01
409	2.860E-01	450	1.609E+01	491	1.476E+01	532	2.072E+01	573	2.235E+01
410	3.180E-01	451	1.772E+01	492	1.489E+01	533	2.085E+01	574	2.237E+01
411	3.363E-01	452	1.938E+01	493	1.503E+01	534	2.093E+01	575	2.236E+01
412	3.725E-01	453	2.109E+01	494	1.517E+01	535	2.104E+01	576	2.240E+01
413	4.149E-01	454	2.273E+01	495	1.530E+01	536	2.115E+01	577	2.240E+01
414	4.596E-01	455	2.422E+01	496	1.543E+01	537	2.122E+01	578	2.242E+01
415	5.115E-01	456	2.558E+01	497	1.561E+01	538	2.133E+01	579	2.246E+01
416	5.811E-01	457	2.650E+01	498	1.576E+01	539	2.142E+01	580	2.248E+01
417	6.417E-01	458	2.707E+01	499	1.589E+01	540	2.149E+01	581	2.251E+01
418	7.236E-01	459	2.730E+01	500	1.608E+01	541	2.161E+01	582	2.255E+01
419	8.039E-01	460	2.707E+01	501	1.625E+01	542	2.166E+01	583	2.261E+01
420	8.855E-01	461	2.650E+01	502	1.645E+01	543	2.173E+01	584	2.265E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	2.272E+01	626	2.675E+01	667	2.015E+01	708	8.763E+00	749	2.886E+00
586	2.277E+01	627	2.675E+01	668	1.985E+01	709	8.554E+00	750	2.805E+00
587	2.285E+01	628	2.677E+01	669	1.956E+01	710	8.337E+00	751	2.721E+00
588	2.295E+01	629	2.677E+01	670	1.926E+01	711	8.133E+00	752	2.653E+00
589	2.304E+01	630	2.677E+01	671	1.896E+01	712	7.944E+00	753	2.578E+00
590	2.313E+01	631	2.673E+01	672	1.864E+01	713	7.740E+00	754	2.503E+00
591	2.322E+01	632	2.671E+01	673	1.836E+01	714	7.551E+00	755	2.432E+00
592	2.332E+01	633	2.668E+01	674	1.804E+01	715	7.353E+00	756	2.366E+00
593	2.342E+01	634	2.663E+01	675	1.775E+01	716	7.177E+00	757	2.298E+00
594	2.350E+01	635	2.655E+01	676	1.745E+01	717	6.992E+00	758	2.233E+00
595	2.362E+01	636	2.651E+01	677	1.713E+01	718	6.821E+00	759	2.169E+00
596	2.370E+01	637	2.640E+01	678	1.683E+01	719	6.638E+00	760	2.109E+00
597	2.380E+01	638	2.632E+01	679	1.652E+01	720	6.473E+00	761	2.050E+00
598	2.389E+01	639	2.621E+01	680	1.622E+01	721	6.301E+00	762	1.992E+00
599	2.401E+01	640	2.610E+01	681	1.593E+01	722	6.137E+00	763	1.934E+00
600	2.416E+01	641	2.597E+01	682	1.562E+01	723	5.975E+00	764	1.877E+00
601	2.428E+01	642	2.584E+01	683	1.533E+01	724	5.810E+00	765	1.826E+00
602	2.438E+01	643	2.570E+01	684	1.502E+01	725	5.664E+00	766	1.768E+00
603	2.454E+01	644	2.557E+01	685	1.474E+01	726	5.512E+00	767	1.717E+00
604	2.467E+01	645	2.539E+01	686	1.444E+01	727	5.354E+00	768	1.673E+00
605	2.478E+01	646	2.523E+01	687	1.417E+01	728	5.212E+00	769	1.624E+00
606	2.491E+01	647	2.506E+01	688	1.388E+01	729	5.075E+00	770	1.574E+00
607	2.505E+01	648	2.485E+01	689	1.358E+01	730	4.934E+00	771	1.532E+00
608	2.517E+01	649	2.467E+01	690	1.329E+01	731	4.801E+00	772	1.489E+00
609	2.529E+01	650	2.447E+01	691	1.303E+01	732	4.665E+00	773	1.446E+00
610	2.541E+01	651	2.426E+01	692	1.276E+01	733	4.538E+00	774	1.406E+00
611	2.552E+01	652	2.404E+01	693	1.247E+01	734	4.409E+00	775	1.367E+00
612	2.565E+01	653	2.383E+01	694	1.220E+01	735	4.288E+00	776	1.330E+00
613	2.577E+01	654	2.361E+01	695	1.195E+01	736	4.161E+00	777	1.292E+00
614	2.589E+01	655	2.336E+01	696	1.167E+01	737	4.052E+00	778	1.256E+00
615	2.600E+01	656	2.311E+01	697	1.142E+01	738	3.937E+00	779	1.247E+00
616	2.609E+01	657	2.289E+01	698	1.116E+01	739	3.831E+00	780	1.249E+00
617	2.621E+01	658	2.263E+01	699	1.090E+01	740	3.713E+00		
618	2.628E+01	659	2.238E+01	700	1.065E+01	741	3.613E+00		
619	2.637E+01	660	2.211E+01	701	1.040E+01	742	3.510E+00		
620	2.644E+01	661	2.185E+01	702	1.016E+01	743	3.416E+00		
621	2.653E+01	662	2.156E+01	703	9.904E+00	744	3.322E+00		
622	2.658E+01	663	2.130E+01	704	9.681E+00	745	3.226E+00		
623	2.663E+01	664	2.101E+01	705	9.450E+00	746	3.136E+00		
624	2.669E+01	665	2.072E+01	706	9.225E+00	747	3.051E+00		
625	2.671E+01	666	2.044E+01	707	8.987E+00	748	2.967E+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: **1.0hour**

Test orientation: **Base Up**

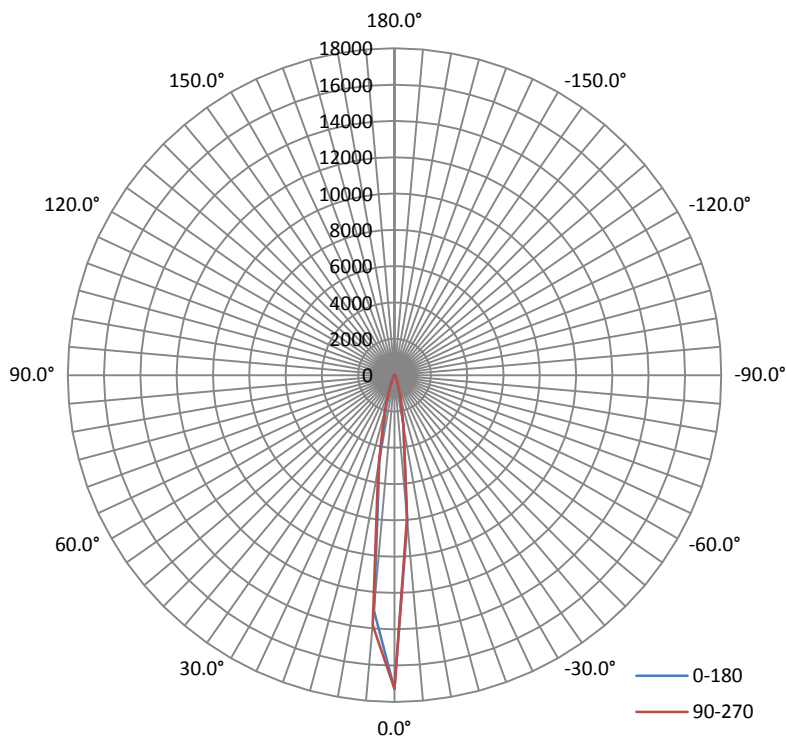
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.10	60	0.1293	15.420	0.9930

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I _{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
1588.37	103.01	18004.0	0.17	0.16

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I _{max}):	11.6	11.7	11.7	11.6	11.7
Field Angle (10% I _{max}):	27.6	28.1	28.5	28.0	28.1

Luminous Intensity (cd) Distribution Data

$\begin{matrix} C \\ \backslash \\ \gamma \end{matrix}$	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	17279	17279	17279	17279	17279	17279	17279	17279
5.0°	13027	13451	13188	12415	13828	12313	13544	12160
10.0°	4760	4993	4980	4723	5228	4618	5129	4448
15.0°	1804	1900	1939	1876	2090	1811	1914	1643
20.0°	796	848	876	854	942	797	806	677
25.0°	344	365	381	370	412	343	343	287
30.0°	161	167	170	167	185	161	166	146
35.0°	104	106	108	106	113	105	106	98
40.0°	82	82	83	83	87	83	84	78
45.0°	66	67	67	67	71	67	69	65
50.0°	54	55	55	55	58	55	56	53
55.0°	43	44	44	44	46	44	45	42
60.0°	35	35	35	35	37	36	37	34
65.0°	28	28	29	29	30	29	30	28
70.0°	23	23	23	23	25	24	24	23
75.0°	17	17	18	18	19	18	19	17
80.0°	12	12	12	12	13	13	13	12
85.0°	7	7	7	7	8	7	7	7
90.0°	2	2	2	2	3	2	3	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°	1	1	1	1	1	1	1	1
145.0°	2	2	2	2	2	2	2	2
150.0°	4	4	4	4	4	4	4	4
155.0°	5	5	5	5	5	5	5	5
160.0°	6	6	6	6	6	6	6	6
165.0°	6	6	6	6	6	6	6	6
170.0°	5	5	5	5	5	5	5	5
175.0°	3	3	3	3	3	3	3	3
180.0°	2	2	2	2	2	2	2	2

Luminous Intensity (cd) Distribution Data (cont.)

C y	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	17279	17279	17279	17279	17279	17279	17279	17279
5.0°	8152	8014	8164	8621	7891	8639	7972	8707
10.0°	2821	2777	2833	2981	2811	3029	2832	2997
15.0°	1176	1125	1209	1288	1203	1330	1248	1317
20.0°	468	468	494	538	523	570	537	567
25.0°	212	211	216	233	230	247	234	246
30.0°	118	119	123	127	127	128	126	129
35.0°	88	89	91	94	95	94	94	94
40.0°	73	74	75	76	78	77	77	75
45.0°	59	60	61	62	63	63	62	61
50.0°	48	48	49	50	51	51	50	50
55.0°	39	38	39	40	41	41	41	40
60.0°	31	31	32	32	33	33	33	32
65.0°	25	25	26	27	27	27	27	27
70.0°	20	20	21	21	22	22	22	21
75.0°	15	15	15	16	16	17	16	16
80.0°	10	10	10	11	11	11	10	10
85.0°	5	5	5	5	5	6	5	5
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°	2	2	2	2	2	2	2	2

Zonal Lumen Density Measurement

Deg	Flux (lm)	%	Deg	Flux (lm)	%
0-5	326.2	20.53	0-5	326.2	20.53
5-10	451.9	28.45	0-10	778.1	48.98
10-15	285.9	18.00	0-15	1064.0	66.98
15-20	169.6	10.68	0-20	1233.6	77.66
20-25	94.9	5.98	0-25	1328.5	83.64
25-30	51.9	3.26	0-30	1380.4	86.90
30-35	34.6	2.18	0-35	1415.0	89.08
35-40	29.4	1.85	0-40	1444.3	90.93
40-45	26.4	1.66	0-45	1470.7	92.59
45-50	23.5	1.49	0-50	1494.3	94.08
50-55	20.4	1.28	0-55	1514.7	95.36
55-60	17.4	1.10	0-60	1532.1	96.46
60-65	14.9	0.94	0-65	1547.0	97.40
65-70	12.6	0.79	0-70	1559.6	98.19
70-75	10.2	0.64	0-75	1569.9	98.83
75-80	7.6	0.48	0-80	1577.4	99.31
80-85	4.7	0.29	0-85	1582.1	99.60
85-90	2.1	0.13	0-90	1584.1	99.73
90-95	0.3	0.03	0-95	1584.5	99.76
95-100	0.0	0.00	0-100	1584.5	99.76
100-105	0.0	0.00	0-105	1584.5	99.76
105-110	0.0	0.00	0-110	1584.5	99.76
110-115	0.0	0.00	0-115	1584.5	99.76
115-120	0.0	0.00	0-120	1584.6	99.76
120-125	0.0	0.00	0-125	1584.6	99.76
125-130	0.0	0.00	0-130	1584.6	99.76
130-135	0.1	0.01	0-135	1584.7	99.77
135-140	0.1	0.01	0-140	1584.8	99.78
140-145	0.3	0.02	0-145	1585.1	99.80
145-150	0.6	0.03	0-150	1585.7	99.83
150-155	0.7	0.05	0-155	1586.5	99.88
155-160	0.7	0.05	0-160	1587.2	99.93
160-165	0.6	0.03	0-165	1587.8	99.96
165-170	0.4	0.03	0-170	1588.1	99.99
170-175	0.2	0.01	0-175	1588.3	100.00
175-180	0.0	0.00	0-180	1588.4	100.00

[Additional Test]

Test Item	Test Voltage (V)	Frequency (Hz)	Test Result
Total Harmonic Distortion:	120.0	60	15.62%

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*****