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: 19.5PAR38HODIM/930FL40/277V/R

Report Type:	Electrical and Photometric tests including: Luminous Flux, Chromaticity, Luminous Intensity Distribution
Reviewed By:	George Chen
Report Number:	KS2211228-67629E-10
Test Date:	2021-05-21 to 2021-05-22
Report Date:	2022-01-05
Approved by:	Blake Zhang / EE Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Dongguan). No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China. Tel: +86-0769-86858888 Fax:+86-0769-86858588

1. Product Description

General Information:

Two test samples were in good condition and received on 2021-05-20. One was tested in integrating sphere and the other was tested in goniophotometer

Model Tested:	19.5PAR38HODIM/930FL40/277V/R
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:	19.5W
Nominal CCT:	3000K
Nominal Lumen Output:	2000lm

Note:

1. The applicant GREEN CREATIVE LTD declare that their products with model 19.5PAR38HODIM/930FL40/277V/R are the same to the products in report#KS2210520-49210E-10-3 and is authorized by original applicant to use their test data.
2. All the data in previous report (KS2210520-49210E-10-3) is shared in this report.

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 IAS 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	2020-10-21	2021-10-20
spectroradiometer	EVERFINE	HAAS-2000	G112048TS81331121	2020-10-21	2021-10-20
Digital Power Meter	EVERFINE	PF2010A	1011004	2020-10-21	2021-10-20
Digital CC&CV DC Power Supply	EVERFINE	WY305-V1	1101047	2020-06-30	2021-06-29
Standard Light Source	EVERFINE	D204	N/A	2020-10-20	2021-10-19
Special zero-voltage synchronous switching AC	EVERFINE	DPS1010-YF	1011001T	2021-01-04	2022-01-03
AC POWER SUPPLY	EVERFINE	VPS1030 PWM	1012017	2021-01-04	2022-01-03
Digital CC&CV DC Power Supply	EVERFINE	WY12010	1009009	2021-01-04	2022-01-03
Digital power meter	YOKOGAWA	WT-210	91j926132	2021-01-04	2022-01-03

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
full-field speed goniophotometer	EVERFINE	GO-R5000	YG108492N10120001	2021-03-12	2022-03-11
wireless remote thermohygrometer	N/A	433MHz	N/A	2021-04-27	2022-04-26
Standard Light Source	EVERFINE	D908	1012003	2020-10-15	2021-10-14

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) 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.

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=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.

Fidelity Index and Gamut Index Calculation

The R_f, 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]

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

Test orientation: **Base up**

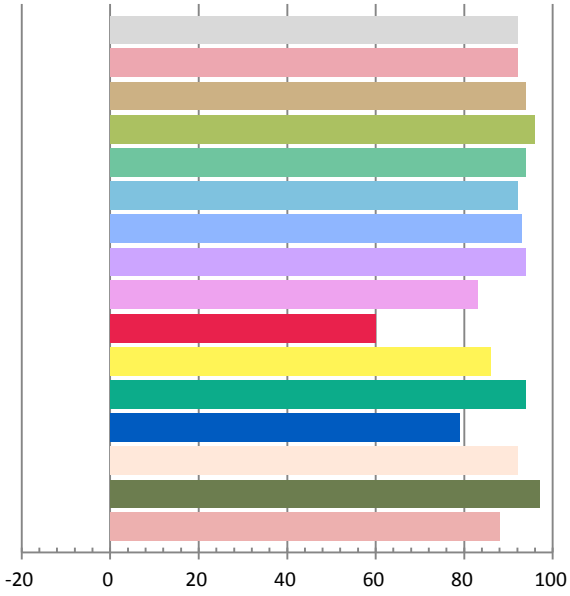
Photometric and Electrical Measurement Result

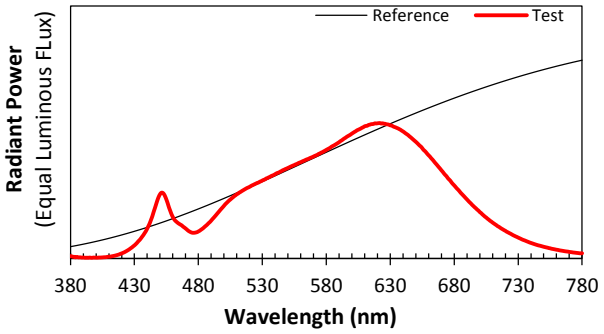
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1640	19.41	0.9861	2052.9	105.74

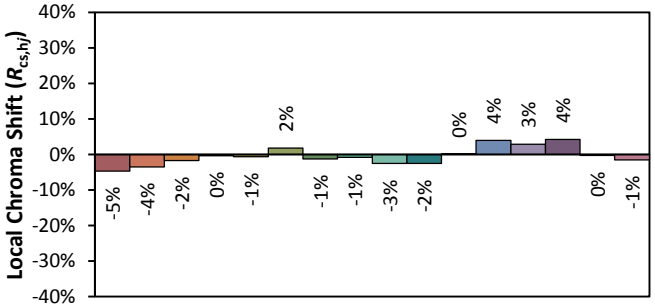
Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
7.0848	3024	0.00234	0.4387	0.4106	0.2489	0.5242

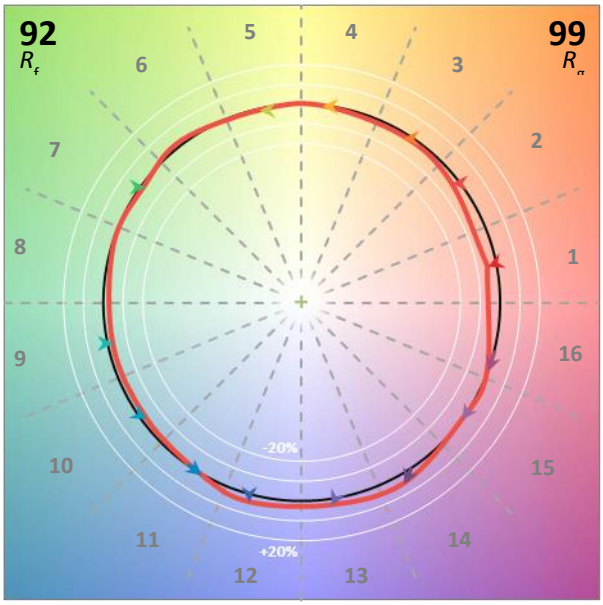
Color Rendering Index

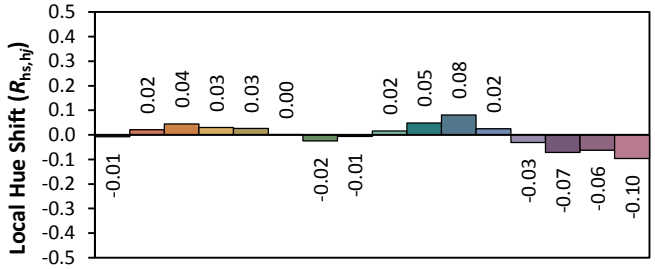
Ra			
92.2			
R1	R2	R3	R4
92	94	96	94
R5	R6	R7	R8
92	93	94	83
R9	R10	R11	R12
60	86	94	79
R13	R14	R15	
92	97	88	

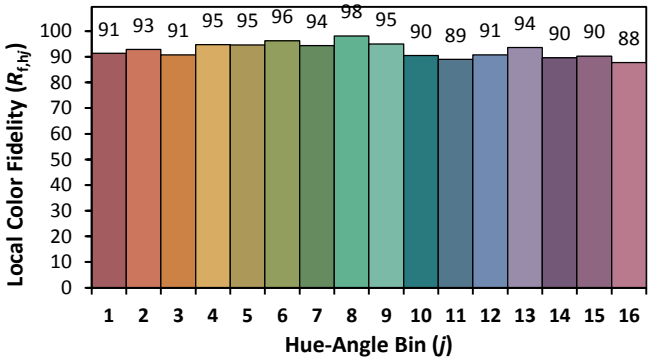


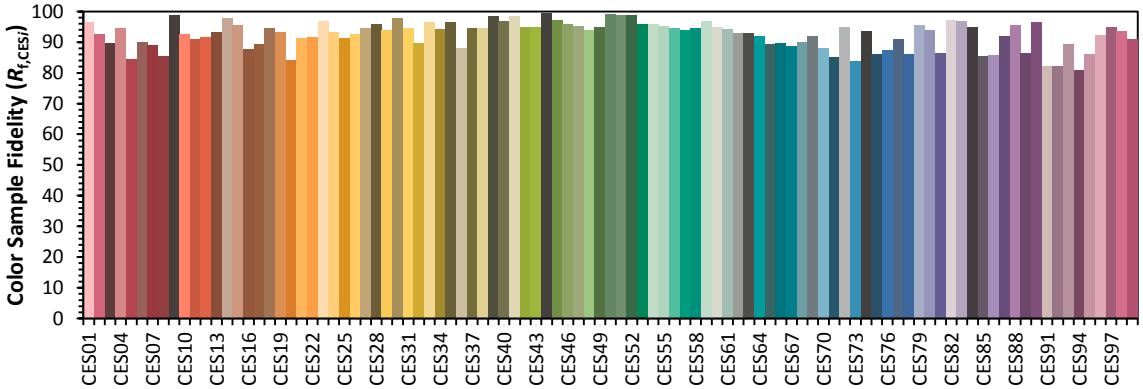

Reference
Test
Radiant Power
(Equal Luminous FLux)
380 430 480 530 580 630 680 730 780
Wavelength (nm)


Local Chroma Shift ($R_{cs,hj}$)
40% 30% 20% 10% 0% -10% -20% -30% -40%
-5% -4% -2% 0% -1% 2% -1% -1% -3% -2% 0% 4% 3% 4% 0% -1%

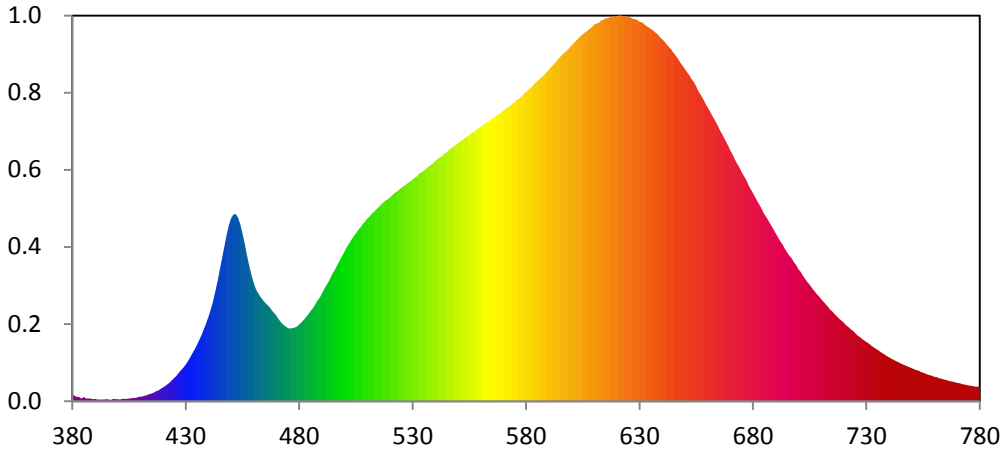

92
R_f
99
R_g
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
-20%
+20%


Local Hue Shift ($R_{hs,hj}$)
0.5 0.4 0.3 0.2 0.1 0.0 -0.1 -0.2 -0.3 -0.4 -0.5
-0.01 0.02 0.04 0.03 0.03 0.00 -0.02 -0.01 0.02 0.05 0.08 0.02 -0.03 -0.07 -0.06 -0.10


Local Color Fidelity ($R_{f,hj}$)
100 90 80 70 60 50 40 30 20 10 0
91 93 91 95 95 96 94 98 95 90 89 91 94 90 90 88
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Hue-Angle Bin (j)


Color Sample Fidelity ($R_{f,cesi}$)
100 90 80 70 60 50 40 30 20 10 0
CES01 CES04 CES07 CES10 CES13 CES16 CES19 CES22 CES25 CES28 CES31 CES34 CES37 CES40 CES43 CES46 CES49 CES52 CES55 CES58 CES61 CES64 CES67 CES70 CES73 CES76 CES79 CES82 CES85 CES88 CES91 CES94 CES97

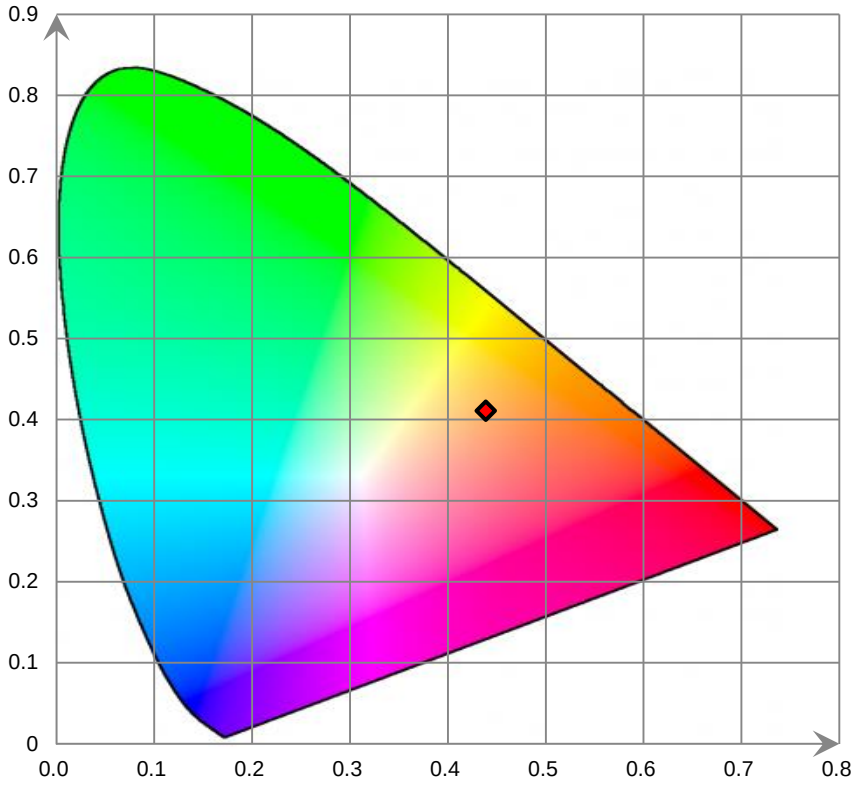
Relative Spectral Power Distribution



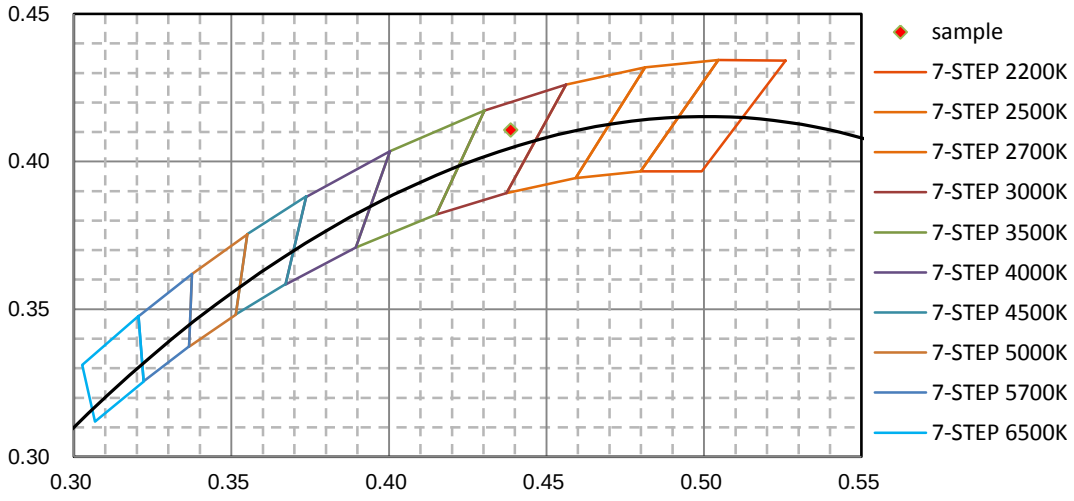
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	6.596E-01	421	1.628E+00	462	1.118E+01	503	1.683E+01	544	2.581E+01
381	5.945E-01	422	1.797E+00	463	1.084E+01	504	1.720E+01	545	2.598E+01
382	4.559E-01	423	1.999E+00	464	1.052E+01	505	1.751E+01	546	2.622E+01
383	4.426E-01	424	2.218E+00	465	1.026E+01	506	1.785E+01	547	2.637E+01
384	2.680E-01	425	2.444E+00	466	1.003E+01	507	1.816E+01	548	2.657E+01
385	4.481E-01	426	2.692E+00	467	9.808E+00	508	1.849E+01	549	2.672E+01
386	2.907E-01	427	2.978E+00	468	9.461E+00	509	1.875E+01	550	2.690E+01
387	2.994E-01	428	3.239E+00	469	9.192E+00	510	1.906E+01	551	2.708E+01
388	2.793E-01	429	3.566E+00	470	8.889E+00	511	1.927E+01	552	2.728E+01
389	2.160E-01	430	3.860E+00	471	8.572E+00	512	1.956E+01	553	2.744E+01
390	2.548E-01	431	4.216E+00	472	8.237E+00	513	1.978E+01	554	2.762E+01
391	1.931E-01	432	4.606E+00	473	7.994E+00	514	2.003E+01	555	2.776E+01
392	1.749E-01	433	5.064E+00	474	7.795E+00	515	2.026E+01	556	2.797E+01
393	1.926E-01	434	5.442E+00	475	7.640E+00	516	2.049E+01	557	2.809E+01
394	1.737E-01	435	5.913E+00	476	7.604E+00	517	2.071E+01	558	2.831E+01
395	2.314E-01	436	6.438E+00	477	7.623E+00	518	2.093E+01	559	2.848E+01
396	1.768E-01	437	6.940E+00	478	7.698E+00	519	2.109E+01	560	2.862E+01
397	1.637E-01	438	7.538E+00	479	7.801E+00	520	2.127E+01	561	2.881E+01
398	2.361E-01	439	8.120E+00	480	8.009E+00	521	2.150E+01	562	2.898E+01
399	2.039E-01	440	8.854E+00	481	8.218E+00	522	2.171E+01	563	2.913E+01
400	2.095E-01	441	9.640E+00	482	8.500E+00	523	2.188E+01	564	2.933E+01
401	1.886E-01	442	1.047E+01	483	8.765E+00	524	2.208E+01	565	2.948E+01
402	2.375E-01	443	1.149E+01	484	9.067E+00	525	2.225E+01	566	2.961E+01
403	2.377E-01	444	1.252E+01	485	9.422E+00	526	2.244E+01	567	2.981E+01
404	2.533E-01	445	1.378E+01	486	9.736E+00	527	2.256E+01	568	2.997E+01
405	2.766E-01	446	1.493E+01	487	1.008E+01	528	2.280E+01	569	3.012E+01
406	3.147E-01	447	1.614E+01	488	1.048E+01	529	2.295E+01	570	3.030E+01
407	3.338E-01	448	1.733E+01	489	1.081E+01	530	2.316E+01	571	3.049E+01
408	3.635E-01	449	1.833E+01	490	1.123E+01	531	2.335E+01	572	3.065E+01
409	4.499E-01	450	1.907E+01	491	1.168E+01	532	2.349E+01	573	3.081E+01
410	4.760E-01	451	1.951E+01	492	1.209E+01	533	2.376E+01	574	3.107E+01
411	5.025E-01	452	1.951E+01	493	1.252E+01	534	2.390E+01	575	3.122E+01
412	5.897E-01	453	1.915E+01	494	1.297E+01	535	2.410E+01	576	3.146E+01
413	6.619E-01	454	1.844E+01	495	1.343E+01	536	2.427E+01	577	3.161E+01
414	7.414E-01	455	1.748E+01	496	1.387E+01	537	2.450E+01	578	3.184E+01
415	8.269E-01	456	1.639E+01	497	1.433E+01	538	2.466E+01	579	3.204E+01
416	9.303E-01	457	1.516E+01	498	1.477E+01	539	2.482E+01	580	3.228E+01
417	1.037E+00	458	1.414E+01	499	1.519E+01	540	2.505E+01	581	3.248E+01
418	1.157E+00	459	1.312E+01	500	1.563E+01	541	2.528E+01	582	3.269E+01
419	1.331E+00	460	1.232E+01	501	1.609E+01	542	2.544E+01	583	3.290E+01
420	1.465E+00	461	1.165E+01	502	1.646E+01	543	2.557E+01	584	3.319E+01

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	3.341E+01	626	4.005E+01	667	2.759E+01	708	1.121E+01	749	3.551E+00
586	3.361E+01	627	3.991E+01	668	2.713E+01	709	1.095E+01	750	3.440E+00
587	3.384E+01	628	3.986E+01	669	2.669E+01	710	1.065E+01	751	3.348E+00
588	3.407E+01	629	3.977E+01	670	2.620E+01	711	1.039E+01	752	3.255E+00
589	3.432E+01	630	3.958E+01	671	2.577E+01	712	1.012E+01	753	3.174E+00
590	3.456E+01	631	3.954E+01	672	2.526E+01	713	9.872E+00	754	3.055E+00
591	3.487E+01	632	3.932E+01	673	2.482E+01	714	9.572E+00	755	2.991E+00
592	3.509E+01	633	3.913E+01	674	2.443E+01	715	9.376E+00	756	2.877E+00
593	3.538E+01	634	3.901E+01	675	2.389E+01	716	9.100E+00	757	2.801E+00
594	3.566E+01	635	3.883E+01	676	2.348E+01	717	8.850E+00	758	2.727E+00
595	3.589E+01	636	3.868E+01	677	2.309E+01	718	8.632E+00	759	2.655E+00
596	3.617E+01	637	3.847E+01	678	2.256E+01	719	8.394E+00	760	2.566E+00
597	3.640E+01	638	3.827E+01	679	2.212E+01	720	8.195E+00	761	2.514E+00
598	3.661E+01	639	3.800E+01	680	2.172E+01	721	7.930E+00	762	2.420E+00
599	3.684E+01	640	3.777E+01	681	2.129E+01	722	7.750E+00	763	2.345E+00
600	3.712E+01	641	3.750E+01	682	2.083E+01	723	7.535E+00	764	2.284E+00
601	3.736E+01	642	3.720E+01	683	2.046E+01	724	7.348E+00	765	2.219E+00
602	3.761E+01	643	3.694E+01	684	2.003E+01	725	7.129E+00	766	2.152E+00
603	3.782E+01	644	3.667E+01	685	1.955E+01	726	6.906E+00	767	2.091E+00
604	3.809E+01	645	3.632E+01	686	1.915E+01	727	6.719E+00	768	2.039E+00
605	3.827E+01	646	3.602E+01	687	1.875E+01	728	6.534E+00	769	1.997E+00
606	3.845E+01	647	3.568E+01	688	1.835E+01	729	6.370E+00	770	1.913E+00
607	3.864E+01	648	3.534E+01	689	1.793E+01	730	6.179E+00	771	1.869E+00
608	3.887E+01	649	3.501E+01	690	1.753E+01	731	6.009E+00	772	1.816E+00
609	3.905E+01	650	3.468E+01	691	1.712E+01	732	5.830E+00	773	1.747E+00
610	3.929E+01	651	3.433E+01	692	1.671E+01	733	5.641E+00	774	1.706E+00
611	3.940E+01	652	3.395E+01	693	1.636E+01	734	5.481E+00	775	1.660E+00
612	3.946E+01	653	3.356E+01	694	1.594E+01	735	5.347E+00	776	1.612E+00
613	3.969E+01	654	3.325E+01	695	1.558E+01	736	5.193E+00	777	1.571E+00
614	3.978E+01	655	3.281E+01	696	1.521E+01	737	5.031E+00	778	1.512E+00
615	3.992E+01	656	3.230E+01	697	1.488E+01	738	4.885E+00	779	1.503E+00
616	3.996E+01	657	3.197E+01	698	1.450E+01	739	4.713E+00	780	1.506E+00
617	4.002E+01	658	3.156E+01	699	1.420E+01	740	4.591E+00		
618	4.018E+01	659	3.109E+01	700	1.378E+01	741	4.457E+00		
619	4.014E+01	660	3.067E+01	701	1.349E+01	742	4.328E+00		
620	4.019E+01	661	3.029E+01	702	1.310E+01	743	4.198E+00		
621	4.024E+01	662	2.981E+01	703	1.277E+01	744	4.074E+00		
622	4.025E+01	663	2.941E+01	704	1.243E+01	745	3.950E+00		
623	4.011E+01	664	2.895E+01	705	1.216E+01	746	3.842E+00		
624	4.020E+01	665	2.847E+01	706	1.182E+01	747	3.760E+00		
625	4.006E+01	666	2.804E+01	707	1.153E+01	748	3.656E+00		

CIE 1931 x y Chromaticity Diagram



7-Step Chromaticity Quadrangles



[Goniophotometer System]

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

Test orientation: **Base up**

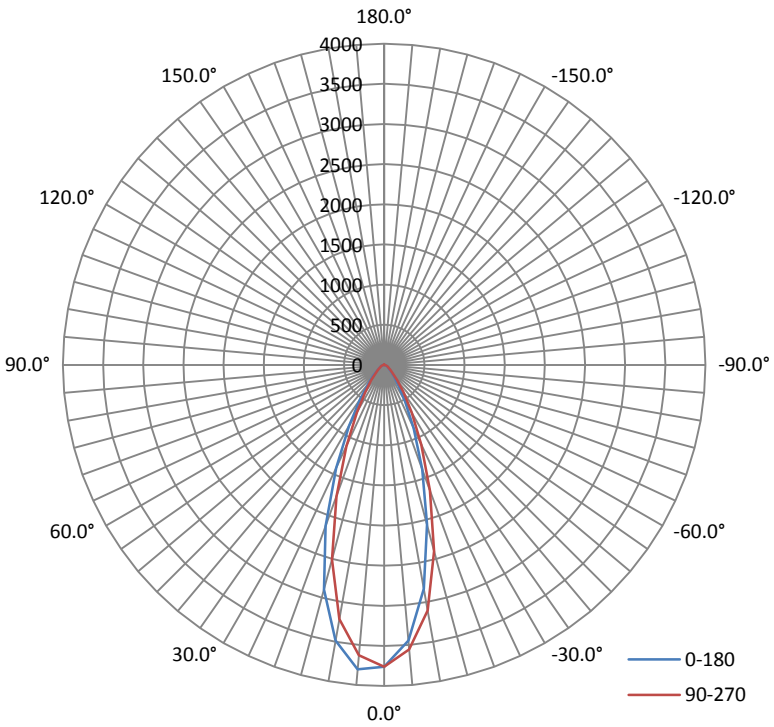
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.1	60	0.1636	19.36	0.9856

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I_{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
2055.46	106.17	3848	0.53	0.6

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I_{max}):	37.2	37.3	37.5	37.3	37.3
Field Angle (10% I_{max}):	70.9	71.2	71.9	71.4	71.4

Luminous Intensity (cd) Distribution Data

C / γ	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	3760	3760	3760	3760	3760	3760	3760	3760
5.0°	3807	3789	3784	3713	3630	3586	3524	3479
10.0°	3487	3450	3390	3317	3213	3114	3000	2917
15.0°	2898	2872	2785	2651	2508	2368	2241	2155
20.0°	2135	2112	2023	1896	1743	1617	1517	1450
25.0°	1418	1401	1332	1231	1119	1029	964	913
30.0°	879	866	817	756	684	628	591	550
35.0°	531	520	486	452	413	381	351	333
40.0°	313	304	293	274	253	235	215	202
45.0°	191	185	180	169	158	147	137	128
50.0°	120	119	116	111	104	97	92	87
55.0°	83	83	82	79	75	71	68	65
60.0°	62	62	62	60	57	54	51	49
65.0°	49	48	47	46	43	41	38	37
70.0°	37	36	35	34	31	29	27	26
75.0°	26	25	24	23	21	19	18	17
80.0°	16	16	15	14	13	11	10	9
85.0°	8	8	7	7	5	4	3	3
90.0°	2	2	2	1	1	1	0	0
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	1
135.0°	1	1	1	1	1	1	1	1
140.0°	1	1	1	1	1	2	2	2
145.0°	2	2	2	2	2	2	3	3
150.0°	3	3	3	3	3	3	3	3
155.0°	4	4	4	4	4	4	4	4
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°	4	4	4	4	3	3	3	3
180.0°	3	3	3	3	3	3	3	3

Luminous Intensity (cd) Distribution Data (cont.)

C / γ	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	3760	3760	3760	3760	3760	3760	3760	3760
5.0°	3445	3432	3455	3507	3559	3622	3678	3745
10.0°	2831	2849	2906	3001	3106	3217	3304	3380
15.0°	2055	2080	2162	2273	2402	2546	2655	2746
20.0°	1383	1402	1459	1552	1664	1797	1902	1988
25.0°	869	894	932	1002	1095	1183	1263	1323
30.0°	519	535	566	616	681	735	783	824
35.0°	313	320	345	376	412	445	470	491
40.0°	191	195	211	231	250	274	286	294
45.0°	120	124	135	146	157	170	178	180
50.0°	83	87	91	96	102	108	113	114
55.0°	62	64	67	69	73	77	79	80
60.0°	48	49	51	52	54	58	60	60
65.0°	36	37	38	40	42	44	46	47
70.0°	25	26	27	28	30	32	34	35
75.0°	16	16	17	19	20	22	23	24
80.0°	8	8	9	10	11	13	14	15
85.0°	2	3	3	4	5	6	7	7
90.0°	0	0	0	0	1	1	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°	1	1	1	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°	2	2	1	1	1	1	1	1
165.0°	2	2	2	2	2	2	1	2
170.0°	2	2	2	2	2	2	2	2
175.0°	2	2	2	2	2	2	2	2
180.0°	3	3	3	3	3	3	3	3

Zonal Lumen Density Measurement

Deg	Flux (lm)	%
0-5	88.1	4.29
5-10	242.0	11.77
10-15	332.1	16.16
15-20	341.6	16.62
20-25	294.0	14.30
25-30	224.4	10.91
30-35	158.4	7.71
35-40	108.4	5.27
40-45	73.7	3.59
45-50	51.2	2.49
50-55	37.6	1.83
55-60	29.5	1.44
60-65	23.7	1.15
65-70	18.5	0.90
70-75	13.4	0.65
75-80	8.7	0.42
80-85	4.6	0.23
85-90	1.5	0.07
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	0.1	0.01
125-130	0.1	0.00
130-135	0.2	0.01
135-140	0.3	0.01
140-145	0.4	0.02
145-150	0.5	0.03
150-155	0.6	0.03
155-160	0.6	0.02
160-165	0.5	0.03
165-170	0.4	0.02
170-175	0.2	0.01
175-180	0.1	0.00

Deg	Flux (lm)	%
0-5	88.1	4.29
0-10	330.1	16.06
0-15	662.2	32.22
0-20	1003.8	48.84
0-25	1297.8	63.14
0-30	1522.1	74.05
0-35	1680.6	81.76
0-40	1788.9	87.03
0-45	1862.7	90.62
0-50	1913.8	93.11
0-55	1951.4	94.94
0-60	1981.0	96.38
0-65	2004.7	97.53
0-70	2023.2	98.43
0-75	2036.6	99.08
0-80	2045.2	99.50
0-85	2049.8	99.73
0-90	2051.3	99.80
0-95	2051.5	99.81
0-100	2051.5	99.81
0-105	2051.5	99.81
0-110	2051.5	99.81
0-115	2051.6	99.81
0-120	2051.6	99.81
0-125	2051.7	99.82
0-130	2051.8	99.82
0-135	2051.9	99.83
0-140	2052.2	99.84
0-145	2052.6	99.86
0-150	2053.1	99.89
0-155	2053.7	99.92
0-160	2054.3	99.94
0-165	2054.8	99.97
0-170	2055.2	99.99
0-175	2055.4	100.00
0-180	2055.5	100.00

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. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
3. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.
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**********END OF REPORT**********