

Photometric Test Report

Relevant Standards

- ☒ ANSI/IES LM-79-2019
- ☒ ANSI C82.77-2017

Prepared For

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1.0 Test Summary

DLC Technical Requirements V5.1

Architectural Flood and Spot Luminaires				
Requirement Category	Test Method	Requirements		Test Value
Luminaire Output (lm) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	1000		1030
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	128.8
		105	120	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		8.0
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	13.12
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.973
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	5029±283	5021
		4 steps	5029±220	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥70		81.3
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79-2019 CIE13.3-1995	N/A		10
Minimum Rf (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥70		82
Minimum Rg (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥89		98
IES Rcs,h1 (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	-18%≤IES Rcs,h1≤+23%		-12%
Zonal Lumen Requirement (0°-90°) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	≥85%		100.0%
Input Voltage (V)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Cast		120.0
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A
Input Current (A)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		0.069
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		8.0
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2024-08-14	LF34SW @5000K	ES#1	240812012-S1
2	Goniophotometer Test	2024-08-14	LF34SW @5000K	ES#1	240812012-S1
3	THD and PF Test	2024-08-14	LF34SW @5000K	ES#1	240812012-S1

Remark (If any):

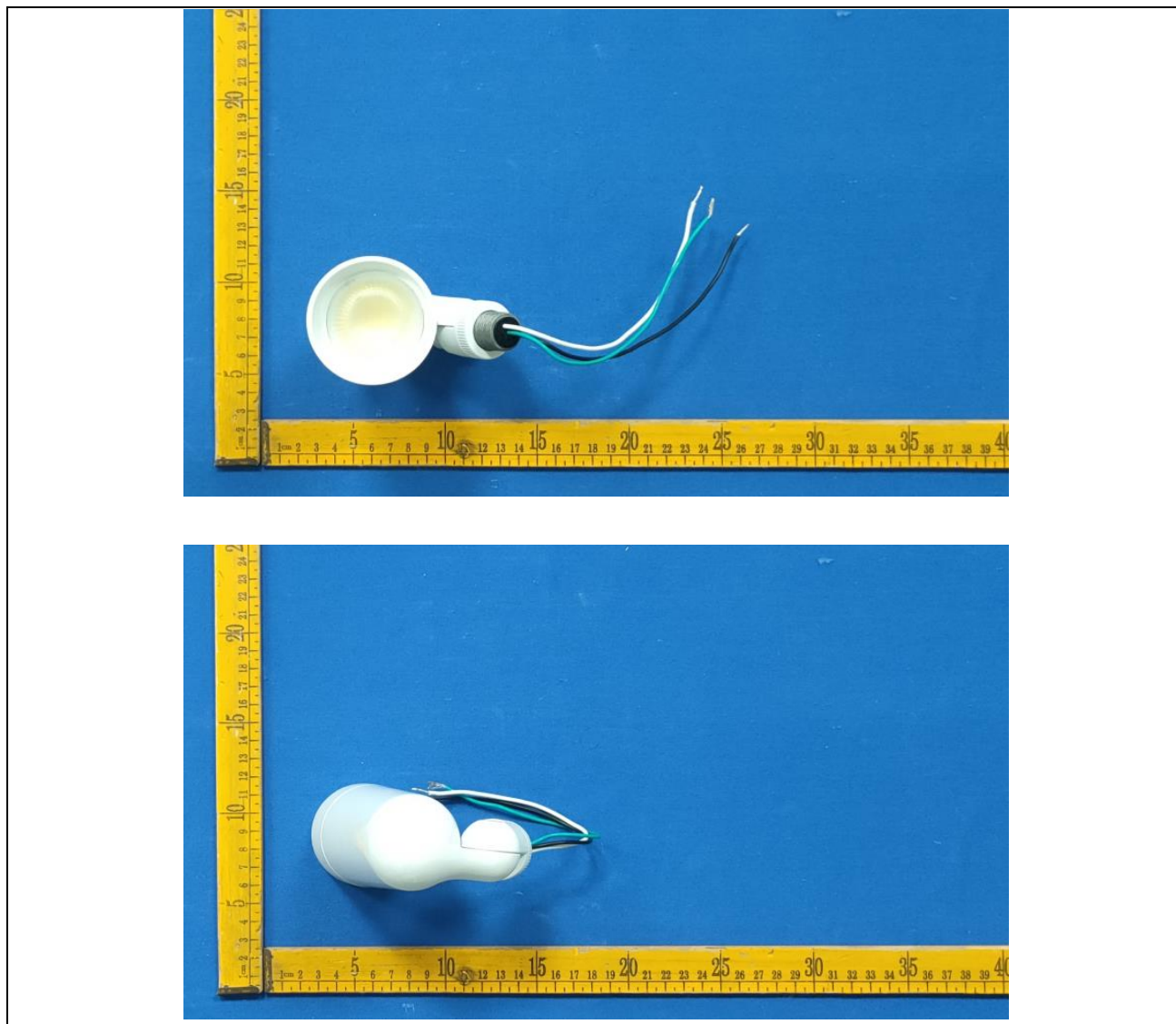
1. The results contained in this report pertain only to the tested samples.
2. This report shall not be reproduced, no limited part or full, without approval of Dongguan New Testing Centre Co., Ltd.
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3.0 Product Description

Luminaire Description: Model No. LF34SW @5000K, color tunable from 2700K, 3000K, 3500K, 4000K and 5000K.

Electrical Specification: 120Vac, 50/60Hz

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	LF34SW @5000K	Sample ID	240812012-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

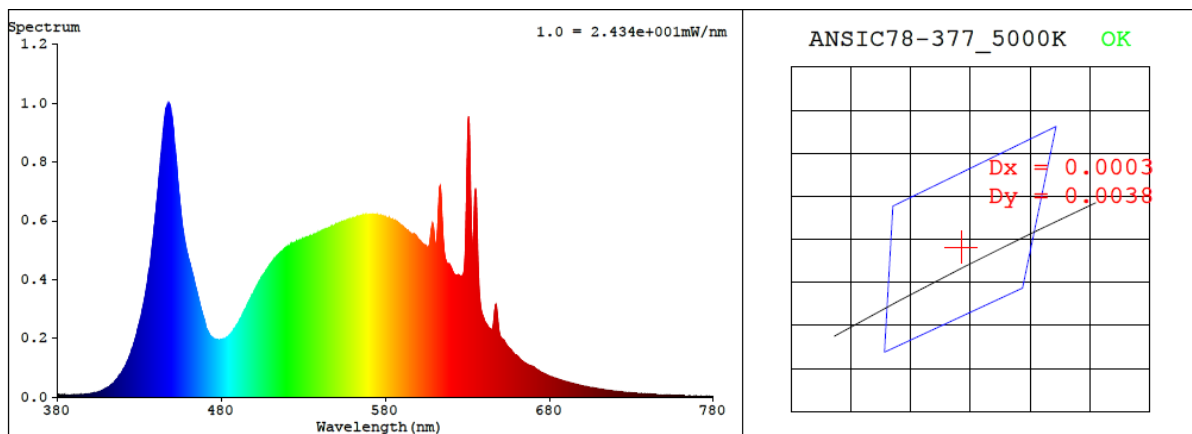
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere.</p> <p>The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ±0.2 percent under load.</p> <p>The sample was measured using 4π geometry and operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780nm.</p>

Test Result

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
120.0	60	0.069	8.0	0.973

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
5021	81.3	10	0.0018	82	98	-12%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3448$ $y = 0.3550$ / $u' = 0.2099$ $v' = 0.4862$ ($duv = 1.79e-03$)

CCT= 5021K Prcp WL: Ld=570.6nm Purity=10.0%

Peak WL: Lp=448nm FWHM: =21.3nm Ratio:R=15.6% G=80.4% B=4.0%

Render Index: Ra = 81.3 AvgR = 74.4 TM30:Rf=82 Rg=97

EEL: 0.10905 A++ Highest

R1 =80 R2 =84 R3 =88 R4 =82 R5 =81 R6 =80 R7 =86

R8 =69 R9 =10 R10=63 R11=82 R12=62 R13=80 R14=93 R15=75

4.1 Integrating Sphere Test

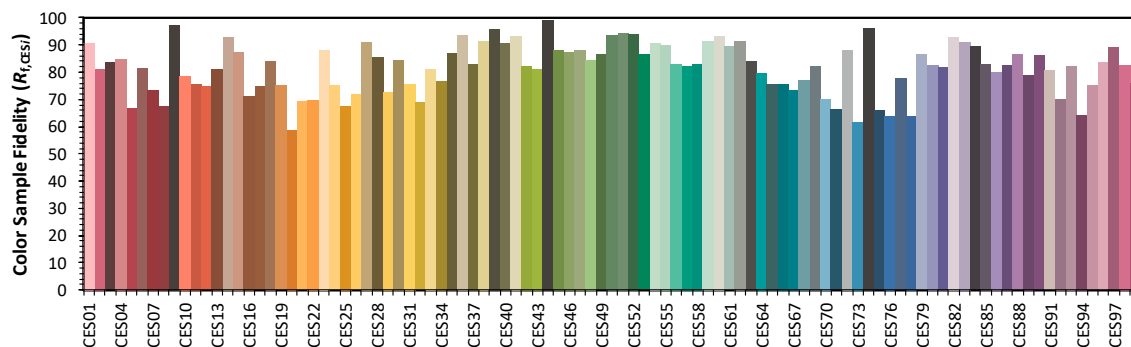
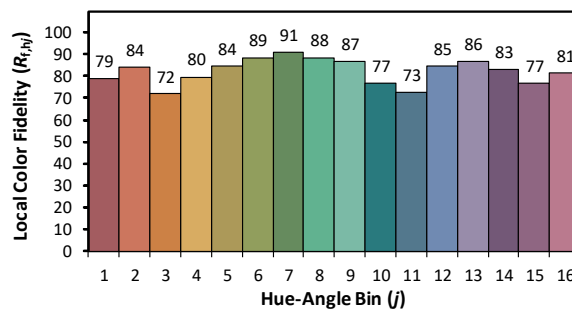
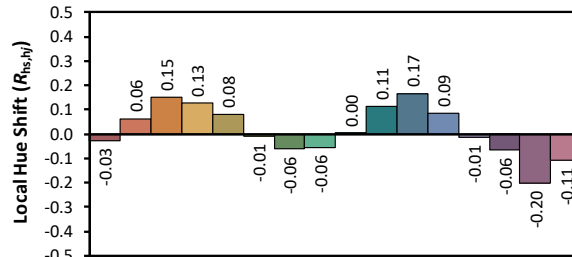
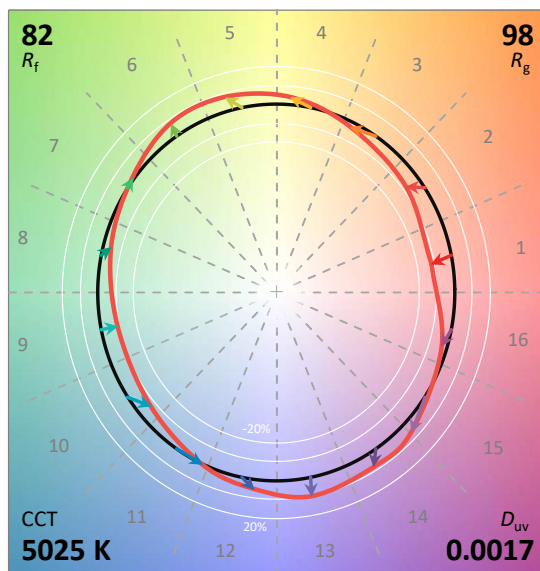
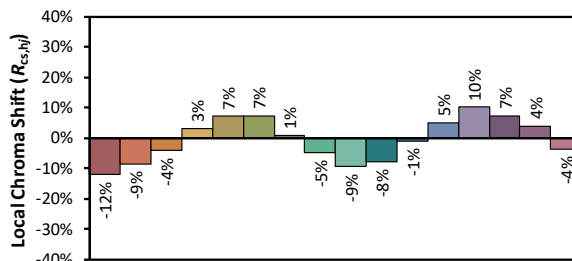
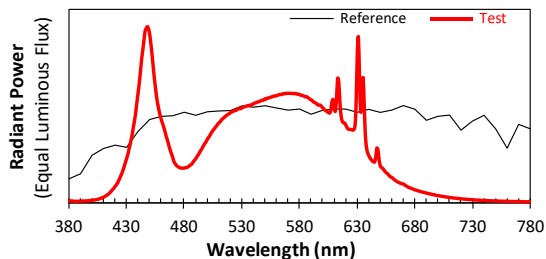
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2024/8/15

Model: LF34SW @5000K



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3447
 y 0.3548
 u' 0.2100
 v' 0.4861

CIE 13.3-1995
(CRI)

R_a 81
 R_g 10

4.1 Integrating Sphere Test

Spectral Distribution over Visible Wavelength											
WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)
380	8.60E-06	447	9.89E-04	514	4.80E-04	581	6.09E-04	648	2.98E-04	715	2.40E-05
381	9.20E-06	448	9.99E-04	515	4.85E-04	582	6.09E-04	649	2.40E-04	716	2.33E-05
382	6.90E-06	449	9.87E-04	516	4.92E-04	583	6.06E-04	650	2.08E-04	717	2.26E-05
383	8.50E-06	450	9.55E-04	517	4.96E-04	584	6.04E-04	651	1.98E-04	718	2.16E-05
384	6.20E-06	451	9.03E-04	518	5.01E-04	585	6.00E-04	652	1.94E-04	719	2.09E-05
385	5.80E-06	452	8.42E-04	519	5.04E-04	586	6.01E-04	653	1.86E-04	720	2.03E-05
386	6.70E-06	453	7.75E-04	520	5.10E-04	587	5.97E-04	654	1.77E-04	721	1.97E-05
387	5.50E-06	454	7.07E-04	521	5.15E-04	588	5.92E-04	655	1.69E-04	722	1.91E-05
388	6.30E-06	455	6.52E-04	522	5.16E-04	589	5.87E-04	656	1.64E-04	723	1.86E-05
389	7.00E-06	456	5.99E-04	523	5.20E-04	590	5.83E-04	657	1.58E-04	724	1.79E-05
390	8.20E-06	457	5.58E-04	524	5.22E-04	591	5.78E-04	658	1.50E-04	725	1.74E-05
391	7.30E-06	458	5.25E-04	525	5.24E-04	592	5.72E-04	659	1.45E-04	726	1.66E-05
392	8.30E-06	459	4.96E-04	526	5.29E-04	593	5.68E-04	660	1.42E-04	727	1.62E-05
393	7.60E-06	460	4.72E-04	527	5.32E-04	594	5.65E-04	661	1.37E-04	728	1.60E-05
394	8.50E-06	461	4.52E-04	528	5.33E-04	595	5.59E-04	662	1.30E-04	729	1.53E-05
395	8.60E-06	462	4.31E-04	529	5.33E-04	596	5.53E-04	663	1.25E-04	730	1.49E-05
396	9.00E-06	463	4.09E-04	530	5.38E-04	597	5.54E-04	664	1.21E-04	731	1.42E-05
397	9.90E-06	464	3.83E-04	531	5.41E-04	598	5.52E-04	665	1.16E-04	732	1.37E-05
398	9.50E-06	465	3.61E-04	532	5.44E-04	599	5.46E-04	666	1.13E-04	733	1.34E-05
399	1.12E-05	466	3.39E-04	533	5.45E-04	600	5.38E-04	667	1.10E-04	734	1.28E-05
400	1.15E-05	467	3.14E-04	534	5.48E-04	601	5.32E-04	668	1.07E-04	735	1.25E-05
401	1.29E-05	468	2.93E-04	535	5.50E-04	602	5.24E-04	669	1.06E-04	736	1.26E-05
402	1.38E-05	469	2.73E-04	536	5.50E-04	603	5.20E-04	670	1.04E-04	737	1.17E-05
403	1.44E-05	470	2.56E-04	537	5.53E-04	604	5.15E-04	671	1.00E-04	738	1.15E-05
404	1.61E-05	471	2.32E-04	538	5.53E-04	605	5.11E-04	672	9.50E-05	739	1.12E-05
405	1.75E-05	472	2.22E-04	539	5.57E-04	606	5.07E-04	673	9.16E-05	740	1.07E-05
406	1.90E-05	473	2.11E-04	540	5.61E-04	607	5.21E-04	674	8.78E-05	741	1.05E-05
407	2.21E-05	474	2.06E-04	541	5.65E-04	608	5.69E-04	675	8.42E-05	742	9.90E-06
408	2.45E-05	475	2.01E-04	542	5.66E-04	609	5.85E-04	676	8.18E-05	743	9.80E-06
409	2.69E-05	476	1.98E-04	543	5.70E-04	610	5.39E-04	677	7.96E-05	744	9.50E-06
410	3.01E-05	477	1.95E-04	544	5.71E-04	611	5.18E-04	678	7.66E-05	745	9.30E-06
411	3.31E-05	478	1.95E-04	545	5.74E-04	612	5.89E-04	679	7.39E-05	746	9.00E-06
412	3.74E-05	479	1.94E-04	546	5.76E-04	613	7.05E-04	680	7.16E-05	747	8.80E-06
413	4.22E-05	480	1.95E-04	547	5.81E-04	614	6.82E-04	681	6.95E-05	748	8.60E-06
414	4.57E-05	481	1.97E-04	548	5.80E-04	615	5.66E-04	682	6.74E-05	749	8.30E-06
415	5.23E-05	482	1.98E-04	549	5.83E-04	616	4.91E-04	683	6.48E-05	750	8.20E-06
416	5.89E-05	483	2.01E-04	550	5.89E-04	617	4.62E-04	684	6.34E-05	751	7.80E-06
417	6.64E-05	484	2.06E-04	551	5.87E-04	618	4.53E-04	685	6.13E-05	752	7.70E-06
418	7.42E-05	485	2.11E-04	552	5.93E-04	619	4.51E-04	686	5.97E-05	753	7.00E-06
419	8.12E-05	486	2.15E-04	553	5.93E-04	620	4.41E-04	687	5.79E-05	754	7.00E-06
420	9.10E-05	487	2.22E-04	554	5.96E-04	621	4.27E-04	688	5.61E-05	755	7.00E-06
421	9.99E-05	488	2.33E-04	555	5.99E-04	622	4.17E-04	689	5.48E-05	756	6.70E-06
422	1.09E-04	489	2.41E-04	556	5.99E-04	623	4.15E-04	690	5.31E-05	757	6.30E-06
423	1.23E-04	490	2.49E-04	557	6.03E-04	624	4.15E-04	691	5.15E-05	758	6.40E-06
424	1.37E-04	491	2.60E-04	558	6.04E-04	625	4.14E-04	692	4.99E-05	759	6.20E-06
425	1.53E-04	492	2.69E-04	559	6.05E-04	626	4.11E-04	693	4.84E-05	760	6.00E-06
426	1.67E-04	493	2.80E-04	560	6.07E-04	627	4.13E-04	694	4.68E-05	761	6.00E-06
427	1.86E-04	494	2.93E-04	561	6.09E-04	628	4.32E-04	695	4.52E-05	762	5.70E-06
428	2.07E-04	495	3.01E-04	562	6.11E-04	629	5.54E-04	696	4.39E-05	763	5.40E-06
429	2.29E-04	496	3.15E-04	563	6.14E-04	630	8.38E-04	697	4.27E-05	764	5.20E-06
430	2.50E-04	497	3.26E-04	564	6.13E-04	631	9.40E-04	698	4.09E-05	765	5.10E-06
431	2.71E-04	498	3.37E-04	565	6.15E-04	632	7.06E-04	699	3.99E-05	766	4.90E-06
432	3.01E-04	499	3.46E-04	566	6.18E-04	633	5.15E-04	700	3.83E-05	767	4.80E-06
433	3.29E-04	500	3.59E-04	567	6.17E-04	634	5.96E-04	701	3.74E-05	768	4.70E-06
434	3.59E-04	501	3.69E-04	568	6.20E-04	635	7.10E-04	702	3.64E-05	769	4.50E-06
435	3.94E-04	502	3.78E-04	569	6.20E-04	636	5.64E-04	703	3.48E-05	770	4.30E-06
436	4.35E-04	503	3.91E-04	570	6.20E-04	637	3.87E-04	704	3.41E-05	771	4.40E-06
437	4.71E-04	504	4.00E-04	571	6.20E-04	638	3.14E-04	705	3.31E-05	772	4.20E-06
438	5.18E-04	505	4.11E-04	572	6.20E-04	639	2.83E-04	706	3.23E-05	773	4.00E-06
439	5.73E-04	506	4.18E-04	573	6.19E-04	640	2.67E-04	707	3.09E-05	774	3.80E-06
440	6.25E-04	507	4.27E-04	574	6.19E-04	641	2.53E-04	708	3.02E-05	775	3.70E-06
441	6.81E-04	508	4.35E-04	575	6.18E-04	642	2.45E-04	709	2.93E-05	776	3.60E-06
442	7.45E-04	509	4.45E-04	576	6.18E-04	643	2.36E-04	710	2.81E-05	777	3.60E-06
443	8.14E-04	510	4.52E-04	577	6.19E-04	644	2.31E-04	711	2.71E-05	778	3.70E-06
444	8.65E-04	511	4.58E-04	578	6.15E-04	645	2.30E-04	712	2.65E-05	779	3.70E-06
445	9.21E-04	512	4.67E-04	579	6.15E-04	646	2.54E-04	713	2.56E-05	780	3.70E-06
446	9.74E-04	513	4.73E-04	580	6.13E-04	647	3.09E-04	714	2.44E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	LF34SW @5000K	Sample ID	240812012-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	25.0	Humidity (%RH)	44.8

Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using a type C goniophotometer and software.</p> <p>The ambient temperature shall be maintained at $25 \pm 1^\circ\text{C}$, measured at a point not more than 1 m from the sample and at the same height as the sample.</p> <p>The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ± 0.2 percent under load.</p> <p>The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1.0° vertical intervals and 15° horizontal intervals.</p>

Test Conditions

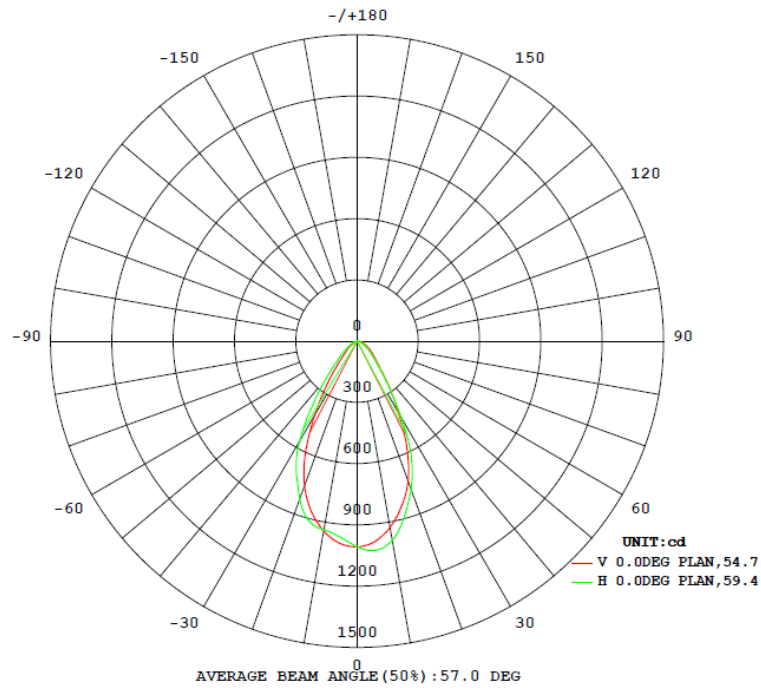
Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
WORST CASE	120.0	60	0.069	8.0	0.973
NON-WORST CASE	N/A	N/A	N/A	N/A	N/A

Test Result

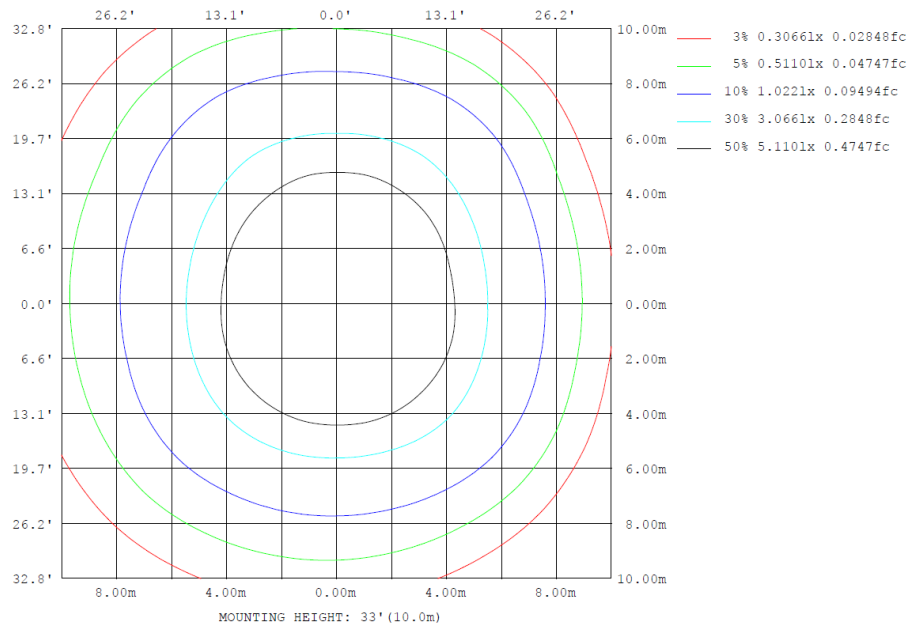
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement	NEMA Type
	C0-180	C90-270	C0-180	C90-270		(0°-90°)	
1030	94.1	96.8	83.9	59.2	128.8	100.0%	5H x 5V

4.2 Goniophotometer Test

Lighting Distribution Curve



Isolux Plot



4.2 Goniophotometer Test

Zonal Lumen Summary

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	944.5	993.3	991.5	992.9	926.2	920.6	938.2	927.3	0~ 10	93.57	93.57	9.08, 9.08
20	753.3	793.9	772.7	775.0	730.3	787.4	822.0	803.4	10~ 20	246.6	340.1	33, 33
30	414.7	482.2	434.4	465.3	409.2	502.7	565.0	522.8	20~ 30	290.0	630.1	61.2, 61.2
40	148.5	181.7	167.4	195.6	182.5	240.0	232.5	221.7	30~ 40	197.8	828.0	80.4, 80.4
50	58.17	71.52	81.71	100.1	101.1	115.7	96.43	80.46	40~ 50	100.6	928.6	90.1, 90.1
60	18.80	26.91	43.93	59.41	62.34	61.95	44.69	26.45	50~ 60	56.10	984.7	95.6, 95.6
70	1.521	4.998	17.68	31.10	35.38	30.30	17.04	4.671	60~ 70	28.81	1014	98.4, 98.4
80	0.0109	0.0200	5.750	13.29	16.16	12.73	5.060	0.0128	70~ 80	11.85	1025	99.5, 99.5
90	0	0	0	0	0	0	0	0	80~ 90	5.059	1030	100, 100
100	0	0	0	0	0	0	0	0	90~100	0.0000	1030	100, 100
110	0	0	0	0	0	0	0	0	100~110	0	1030	100, 100
120	0	0	0	0	0	0	0	0	110~120	0	1030	100, 100
130	0	0	0	0	0	0	0	0	120~130	0	1030	100, 100
140	0	0	0	0	0	0	0	0	130~140	0	1030	100, 100
150	0	0	0	0	0	0	0	0	140~150	0	1030	100, 100
160	0	0	0	0	0	0	0	0	150~160	0	1030	100, 100
170	0	0	0	0	0	0	0	0	160~170	0	1030	100, 100
180	0	0	0	0	0	0	0	0	170~180	0	1030	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

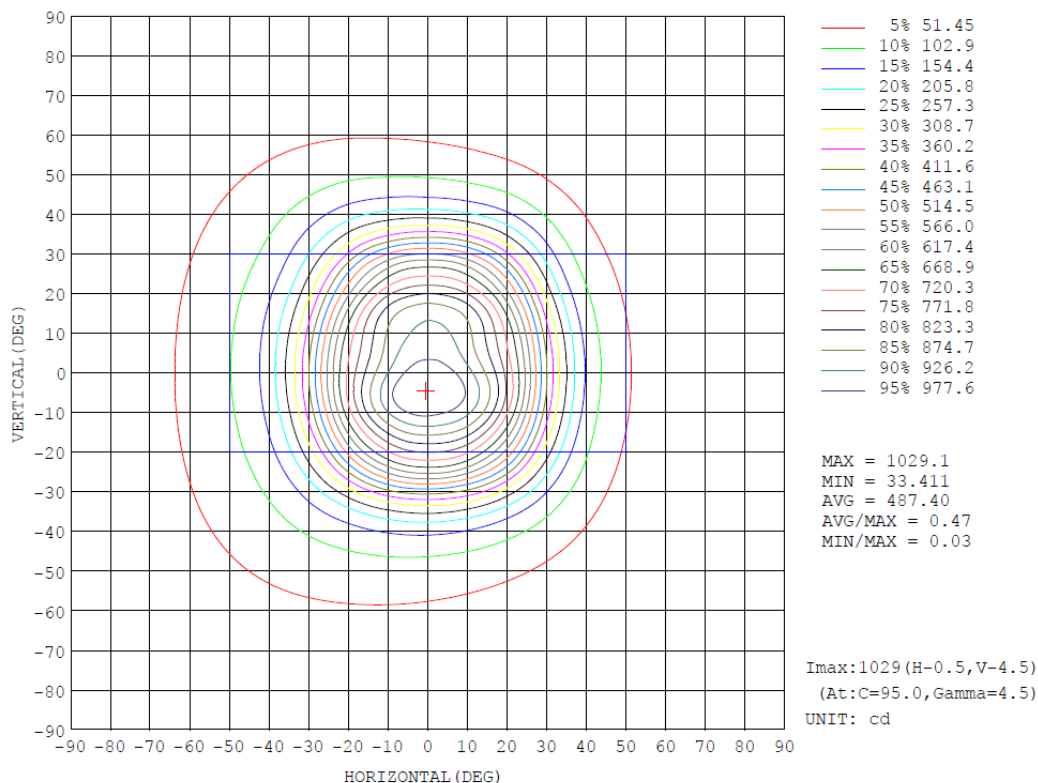
	Zonal (lm)		Total (lm)	Percent
0-10	93.58	0-10	93.58	9.03%
10-20	246.41	0-20	339.99	32.81%
20-30	290.21	0-30	630.20	60.81%
30-40	200.81	0-40	831.01	80.19%
40-50	102.90	0-50	933.91	90.12%
50-60	56.74	0-60	990.65	95.60%
60-70	29.16	0-70	1019.81	98.41%
70-80	12.12	0-80	1031.93	99.58%
80-90	4.35	0-90	1036.28	100.00%
90-100	0.00	0-100	1036.28	100.00%
100-110	0.00	0-110	1036.28	100.00%
110-120	0.00	0-120	1036.28	100.00%
120-130	0.00	0-130	1036.28	100.00%
130-140	0.00	0-140	1036.28	100.00%
140-150	0.00	0-150	1036.28	100.00%
150-160	0.00	0-160	1036.28	100.00%
160-170	0.00	0-170	1036.28	100.00%
170-180	0.00	0-180	1036.28	100.00%

4.2 Goniophotometer Test

Area Flux Diagram

		AREA FLUX DIAGRAM																UNIT: lm		Φ t	Φ a
VERTICAL (DEG)	90	0.02	0.08	0.12	0.16	0.18	0.19	0.17	0.14	0.09	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22	0.00
	80	0.03	0.09	0.16	0.23	0.30	0.35	0.38	0.37	0.33	0.25	0.17	0.09	0.03	0.00	0.00	0.00	0.00	0.00	2.79	0.00
	70	0.03	0.10	0.20	0.35	0.54	0.74	0.90	0.97	0.94	0.81	0.61	0.38	0.18	0.06	0.01	0.00	0.00	0.00	6.83	0.00
	60	0.03	0.12	0.28	0.55	0.92	1.35	1.79	2.05	2.10	1.94	1.58	1.08	0.57	0.22	0.05	0.00	0.00	0.00	14.6	0.00
	50	0.03	0.14	0.37	0.77	1.34	2.17	3.25	4.19	4.61	4.43	3.68	2.48	1.30	0.53	0.14	0.01	0.00	0.00	29.4	18.9
	40	0.03	0.16	0.46	0.99	1.80	3.27	5.93	9.30	11.5	11.4	9.12	5.34	2.38	0.94	0.28	0.03	0.00	0.00	62.9	56.8
	30	0.04	0.18	0.54	1.17	2.26	4.57	9.81	16.6	20.8	20.9	17.0	9.86	3.81	1.37	0.44	0.06	0.00	0.00	109	104
	20	0.04	0.19	0.60	1.32	2.66	5.97	13.4	21.9	26.6	26.8	22.4	13.8	5.42	1.77	0.56	0.09	0.00	0.00	144	139
	10	0.04	0.20	0.63	1.40	2.89	6.91	15.5	23.9	28.6	28.8	24.4	16.0	6.50	2.02	0.64	0.11	0.00	0.00	158	154
	0	0.04	0.20	0.63	1.39	2.86	6.88	15.6	25.0	30.2	30.3	25.7	16.2	6.50	2.01	0.64	0.11	0.00	0.00	164	160
	-10	0.04	0.19	0.60	1.31	2.59	5.83	13.2	21.7	26.4	26.5	22.2	13.6	5.38	1.75	0.57	0.09	0.00	0.00	142	137
	-20	0.04	0.18	0.54	1.16	2.18	4.24	8.76	14.6	18.3	18.4	14.8	8.78	3.64	1.37	0.44	0.06	0.00	0.00	97.5	92.2
	-30	0.03	0.16	0.47	0.98	1.73	2.88	4.62	6.77	8.25	8.19	6.56	4.15	2.15	0.94	0.29	0.04	0.00	0.00	48.2	41.2
	-40	0.03	0.14	0.38	0.78	1.32	1.97	2.65	3.23	3.54	3.41	2.85	2.04	1.21	0.53	0.14	0.02	0.00	0.00	24.2	9.39
	-50	0.03	0.12	0.28	0.56	0.92	1.30	1.64	1.85	1.91	1.77	1.46	1.03	0.58	0.23	0.05	0.00	0.00	0.00	13.7	0.00
	-60	0.03	0.10	0.21	0.36	0.56	0.75	0.90	0.98	0.96	0.83	0.63	0.39	0.19	0.06	0.01	0.00	0.00	0.00	6.96	0.00
	-70	0.03	0.09	0.16	0.24	0.31	0.37	0.40	0.40	0.35	0.27	0.18	0.10	0.04	0.01	0.00	0.00	0.00	0.00	2.96	0.00
	-80	0.02	0.08	0.13	0.17	0.19	0.20	0.19	0.16	0.11	0.07	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.35	0.00
	-90	0.02	0.08	0.13	0.17	0.19	0.20	0.19	0.16	0.11	0.07	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.35	0.00
		-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	
Φ t	a	0.58	2.52	6.77	13.9	25.5	49.9	99.1	154	186	185	153	95.4	39.9	13.8	4.25	0.63	0.02	0.00	1030	---
Φ a	t	0.00	0.00	0.00	0.00	12.4	40.1	90.3	146	177	178	146	88.6	32.3	2.92	0.00	0.00	0.00	0.00	---	914

Isocandela



4.2 Goniophotometer Test

Luminous Distribution Intensity Data

Table--1		UNIT: °cd																	
H (DEG)		V (DEG)																	
V (DEG)	-90	-85	-80	-75	-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
-180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-80	0.00	10.8	11.2	11.4	11.6	11.6	11.6	11.5	11.4	11.2	10.9	10.6	10.2	9.61	8.98	8.26	7.47	6.63	5.75
-70	0.00	11.3	12.0	12.5	13.1	13.9	14.9	16.2	17.4	18.8	19.9	21.0	21.7	22.0	21.9	21.5	20.7	19.4	17.7
-60	0.00	11.7	12.6	13.8	15.6	18.4	22.0	25.7	29.7	33.7	37.4	40.5	43.1	45.1	46.4	47.0	46.8	45.7	43.9
-50	0.00	12.0	13.3	15.6	19.6	25.0	31.4	38.1	44.9	51.5	58.2	64.7	70.3	75.0	79.0	81.8	83.2	83.2	81.7
-40	0.00	12.2	14.1	17.9	24.3	32.3	41.2	50.3	59.8	70.2	81.6	94.5	108	122	135	148	159	166	167
-30	0.00	12.4	14.8	20.4	28.7	38.9	49.6	61.1	74.2	89.5	109	137	175	228	288	349	398	428	434
-20	0.00	12.5	15.5	22.5	32.3	44.0	56.4	70.2	86.9	109	141	196	285	402	531	640	716	762	773
-10	0.00	12.6	16.0	23.8	34.6	47.2	60.7	76.5	96.8	125	169	252	376	535	698	831	925	978	991
0	0.00	12.7	16.2	24.2	35.4	48.3	62.3	79.1	101	131	182	275	409	578	730	840	926	985	1007
10	0.00	12.6	16.0	23.7	34.5	47.1	60.8	77.0	98.0	127	174	257	376	536	687	796	881	923	938
20	0.00	12.5	15.5	22.4	32.2	43.8	56.3	70.8	88.6	113	147	204	296	423	557	673	760	806	822
30	0.00	12.4	14.8	20.3	28.5	38.6	49.5	61.3	75.2	92.6	117	152	205	278	364	451	515	555	565
40	0.00	12.2	14.0	17.8	24.1	31.9	40.7	50.0	60.1	71.9	86.8	106	130	157	185	207	223	233	233
50	0.00	11.9	13.2	15.4	19.4	24.7	30.8	37.5	44.5	52.0	60.1	68.8	77.7	86.1	92.6	96.6	98.4	98.7	96.4
60	0.00	11.6	12.5	13.8	15.4	18.1	21.5	25.2	29.0	33.0	36.9	40.7	44.1	46.8	48.2	48.6	48.1	46.9	44.7
70	0.00	11.3	11.9	12.4	12.9	13.6	14.5	15.7	17.0	18.2	19.4	20.3	20.9	21.3	21.1	20.6	19.8	18.6	17.0
80	0.00	10.7	11.1	11.3	11.4	11.3	11.2	11.1	11.0	10.7	10.4	10.0	9.52	8.92	8.25	7.51	6.74	5.92	5.06
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table--2													UNIT: °cd						
H (DEG)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
V (DEG)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
-180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
-170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
-160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
-150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
-140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
-130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
-120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
-110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
-100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
-90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
-80	4.87	3.97	3.06	2.09	1.13	0.34	0.04	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.00	
-70	15.7	13.6	11.3	8.99	6.75	4.83	3.34	2.20	1.24	0.35	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.00	
-60	41.2	37.7	33.5	28.8	23.8	18.6	13.4	8.85	5.09	2.70	1.38	0.33	0.00	0.01	0.01	0.01	0.02	0.00	
-50	78.7	74.1	68.2	61.0	52.7	43.6	33.9	24.6	16.4	9.50	4.25	1.72	0.50	0.01	0.01	0.01	0.01	0.00	
-40	162	151	137	119	101	82.4	64.2	47.6	32.8	20.8	11.1	4.34	1.45	0.15	0.01	0.01	0.01	0.00	
-30	424	396	349	285	217	155	109	75.8	52.5	34.0	19.8	9.12	2.78	0.74	0.01	0.01	0.01	0.00	
-20	765	727	650	548	415	280	174	108	70.2	46.3	27.6	14.0	4.57	1.15	0.00	0.01	0.01	0.00	
-10	976	936	854	724	557	381	234	136	83.9	54.9	33.4	17.5	6.20	1.42	0.03	0.01	0.01	0.00	
0	993	945	865	753	599	415	258	149	91.2	58.2	35.4	18.8	6.87	1.52	0.04	0.01	0.01	0.00	
10	929	888	811	707	554	381	235	137	84.5	50.0	33.3	17.6	6.20	1.39	0.02	0.01	0.01	0.00	
20	810	770	693	579	438	289	176	109	70.3	46.1	27.5	14.1	4.56	1.10	0.01	0.01	0.01	0.00	
30	557	520	457	366	268	181	117	76.6	51.9	33.4	19.7	9.16	2.67	0.68	0.01	0.01	0.01	0.00	
40	228	212	191	163	128	97.4	69.8	48.9	32.3	20.6	11.2	4.25	1.33	0.11	0.01	0.01	0.01	0.00	
50	93.1	87.0	79.5	70.5	59.5	46.7	33.8	24.2	16.2	9.42	4.06	1.54	0.38	0.01	0.01	0.01	0.01	0.00	
60	41.9	38.0	33.3	28.3	23.4	18.3	13.3	8.60	4.80	2.38	1.18	0.18	0.00	0.01	0.01	0.01	0.01	0.00	
70	15.1	13.0	10.8	8.47	6.21	4.27	2.87	1.86	0.93	0.16	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.00	
80	4.25	3.40	2.52	1.55	0.67	0.08	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.00	
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	LF34SW @5000K	Sample ID	240812012-S1
Temperature (°C)	25.4	Humidity (%RH)	41.0

Test Method
<p>The samples were tested according to the and Ansi C82.77: 2002 and ANSI C82.77-10:2020</p> <p>The total harmonic distortion shall be measured to the 40th order.</p> <p>The ambient temperature shall be maintained at $25 \pm 1^\circ\text{C}$. The sample measurements were made using a digital power meter and power supply. The sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion was calculated.</p>

Test Results

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	iTHD(%)
120.0	60	0.069	8.0	0.973	13.12

5.0 Equipment List:

Equipment ID	Equipment Name	Last Cal.	Due Cal.
NTC-F01-001	Goniophotometer System	2023-11-08	2024-11-07
NTC-F01-006	2.0 meter Integrating Sphere	2023-11-08	2024-11-07
NTC-F01-012	Standard Lamp	2023-11-02	2024-11-01
NTC-F01-013	Standard Lamp	2023-11-02	2024-11-01
NTC-F01-031	Digital Power Meter	2023-08-25	2024-08-24
NTC-F01-019	Temperature & Humidity Meter	2023-11-06	2024-11-05

*****End of Report*****