

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		955
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	119.4
		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	13.23
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	2725±145	2744
		4 steps	2725±83	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥70		80.5
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79-2019 CIE13.3-1995	N/A		5
Minimum Rf (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥70		83
Minimum Rg (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥89		96
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 @2700K	ES#1	240812012-S1
2	Goniophotometer Test	2024-08-14	LF34SW @2700K	ES#1	240812012-S1
3	THD and PF Test	2024-08-14	LF34SW @2700K	ES#1	240812012-S1

Remark (If any):

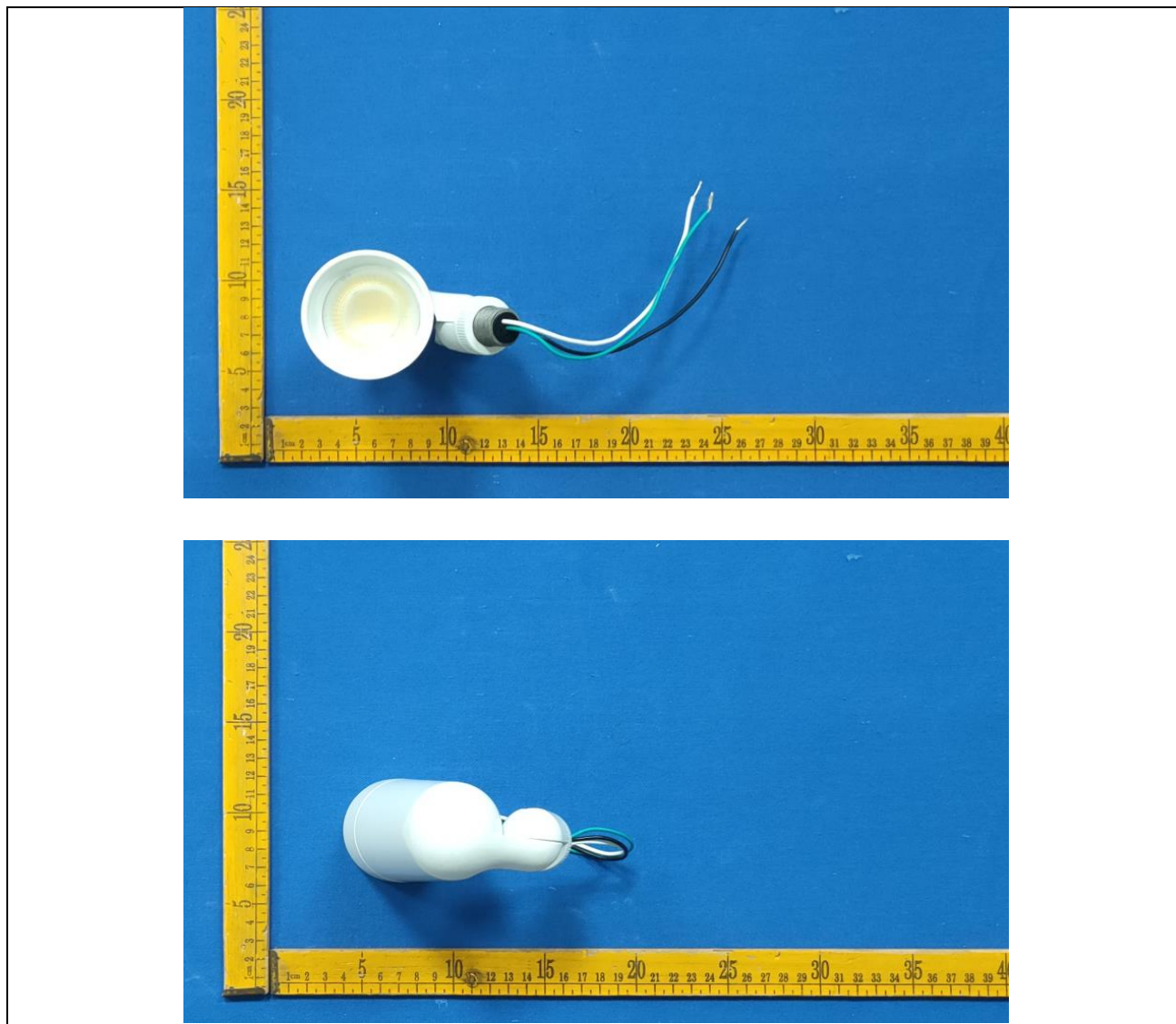
1. The results contained in this report pertain only to the tested samples.
2. This report shall not be reproduced, no limited part or full, without approval of Dongguan New Testing Centre Co., Ltd.
3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. Government.

3.0 Product Description

Luminaire Description: Model No. LF34SW @2700K, 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 @2700K	Sample ID	240812012-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

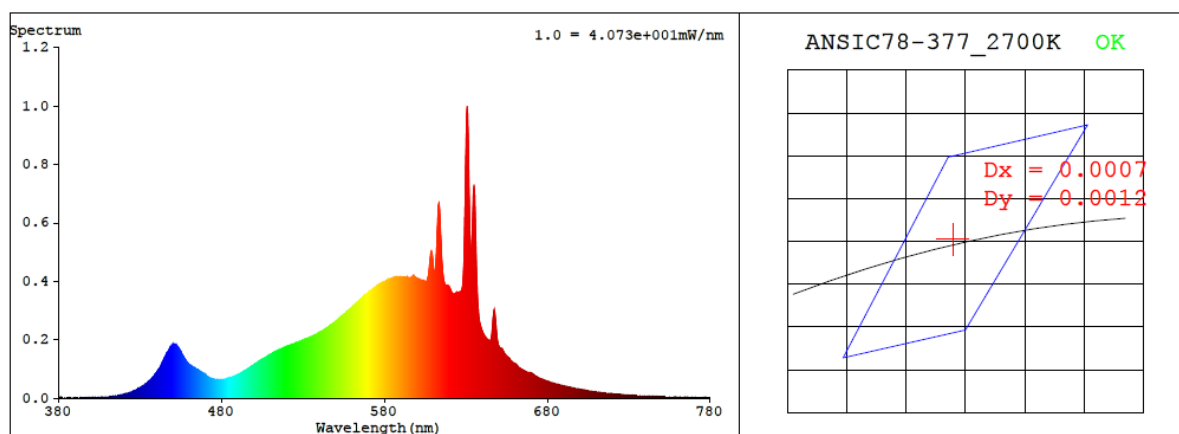
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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
2744	80.5	5	0.0004	83	96	-12%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4570$ $y = 0.4110$ / $u' = 0.2605$ $v' = 0.5271$ ($duv=4.01e-04$)

CCT= 2744K Prcp WL: Ld=583.9nm Purity=60.5%

Peak WL: Lp=631nm FWHM: =7.7nm Ratio:R=24.5% G=73.5% B=2.0%

Render Index: Ra = 80.5 AvgR = 74.4 TM30:Rf=82 Rg=96

EEL: 0.11563 A+

R1 =78 R2 =89 R3 =97 R4 =77 R5 =78 R6 =87 R7 =82

R8 =57 R9 =5 R10=74 R11=75 R12=68 R13=80 R14=99 R15=71

4.1 Integrating Sphere Test

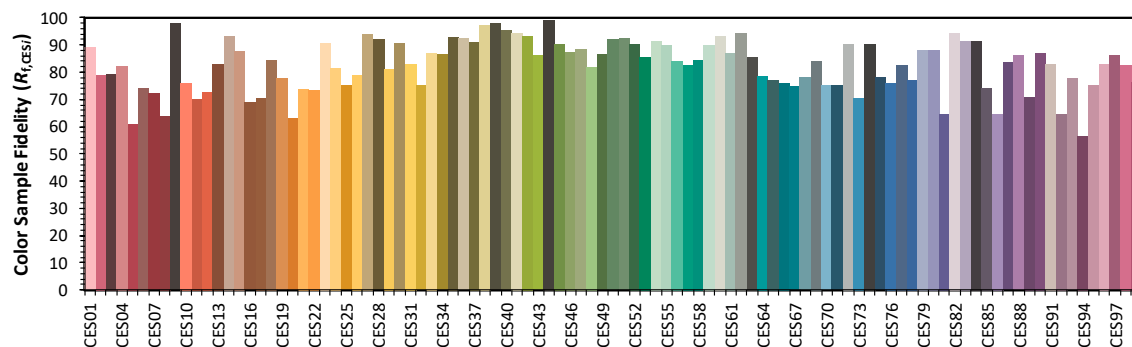
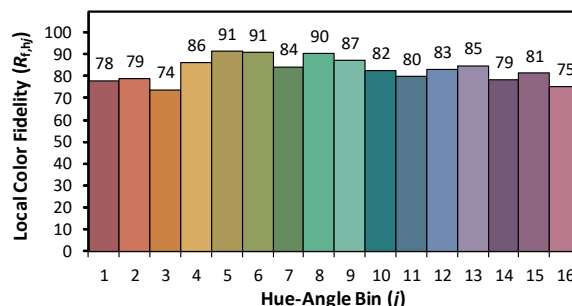
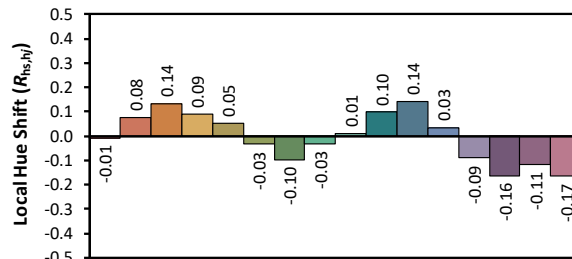
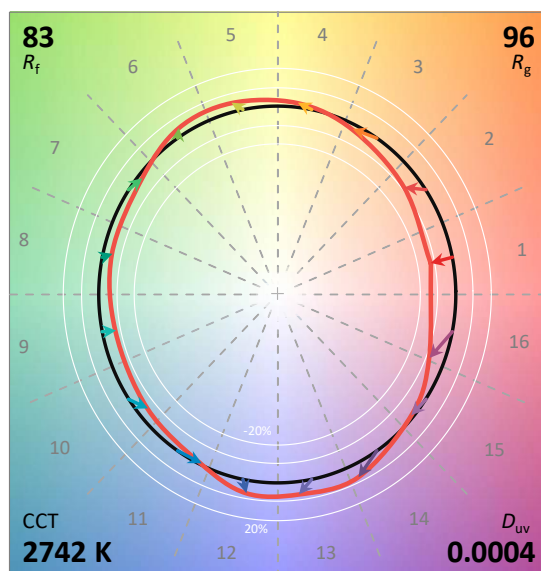
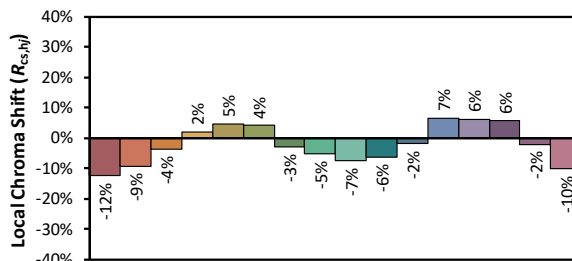
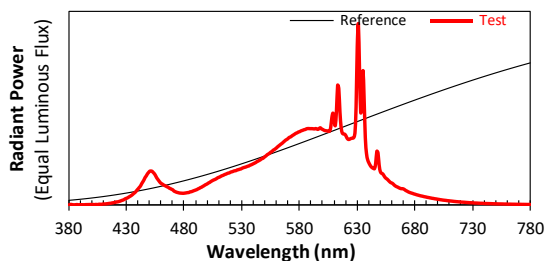
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2024/8/15

Model: LF34SW @2700K



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

x 0.4570
 y 0.4109
 u' 0.2605
 v' 0.5270

CIE 13.3-1995
(CRI)

R_a 81
 R_g 5

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	0.00E+00	447	1.57E-04	514	1.62E-04	581	4.02E-04	648	2.83E-04	715	1.85E-05
381	2.20E-06	448	1.68E-04	515	1.65E-04	582	4.04E-04	649	2.16E-04	716	1.77E-05
382	2.50E-06	449	1.76E-04	516	1.67E-04	583	4.06E-04	650	1.82E-04	717	1.73E-05
383	1.20E-06	450	1.83E-04	517	1.70E-04	584	4.09E-04	651	1.72E-04	718	1.66E-05
384	5.00E-07	451	1.84E-04	518	1.73E-04	585	4.10E-04	652	1.69E-04	719	1.63E-05
385	6.00E-07	452	1.83E-04	519	1.74E-04	586	4.14E-04	653	1.61E-04	720	1.55E-05
386	1.20E-06	453	1.77E-04	520	1.78E-04	587	4.15E-04	654	1.51E-04	721	1.51E-05
387	1.90E-06	454	1.70E-04	521	1.80E-04	588	4.15E-04	655	1.44E-04	722	1.47E-05
388	7.00E-07	455	1.60E-04	522	1.81E-04	589	4.15E-04	656	1.40E-04	723	1.43E-05
389	9.00E-07	456	1.48E-04	523	1.84E-04	590	4.15E-04	657	1.33E-04	724	1.38E-05
390	1.40E-06	457	1.39E-04	524	1.86E-04	591	4.15E-04	658	1.27E-04	725	1.32E-05
391	8.00E-07	458	1.31E-04	525	1.87E-04	592	4.14E-04	659	1.22E-04	726	1.28E-05
392	9.00E-07	459	1.22E-04	526	1.91E-04	593	4.13E-04	660	1.19E-04	727	1.23E-05
393	6.00E-07	460	1.17E-04	527	1.92E-04	594	4.15E-04	661	1.15E-04	728	1.19E-05
394	1.20E-06	461	1.13E-04	528	1.94E-04	595	4.13E-04	662	1.08E-04	729	1.16E-05
395	1.50E-06	462	1.09E-04	529	1.95E-04	596	4.11E-04	663	1.03E-04	730	1.13E-05
396	1.70E-06	463	1.05E-04	530	1.99E-04	597	4.16E-04	664	9.96E-05	731	1.06E-05
397	1.80E-06	464	1.02E-04	531	2.02E-04	598	4.19E-04	665	9.69E-05	732	1.03E-05
398	2.00E-06	465	9.86E-05	532	2.04E-04	599	4.13E-04	666	9.35E-05	733	1.01E-05
399	2.20E-06	466	9.61E-05	533	2.05E-04	600	4.11E-04	667	9.06E-05	734	9.90E-06
400	1.60E-06	467	9.12E-05	534	2.08E-04	601	4.07E-04	668	8.84E-05	735	9.40E-06
401	2.10E-06	468	8.85E-05	535	2.10E-04	602	4.04E-04	669	8.82E-05	736	9.10E-06
402	1.40E-06	469	8.48E-05	536	2.12E-04	603	4.03E-04	670	8.69E-05	737	8.80E-06
403	2.40E-06	470	8.21E-05	537	2.16E-04	604	4.03E-04	671	8.34E-05	738	8.70E-06
404	2.30E-06	471	7.56E-05	538	2.18E-04	605	4.00E-04	672	7.86E-05	739	8.40E-06
405	2.00E-06	472	7.25E-05	539	2.21E-04	606	4.01E-04	673	7.55E-05	740	7.90E-06
406	3.50E-06	473	6.96E-05	540	2.24E-04	607	4.21E-04	674	7.19E-05	741	7.80E-06
407	3.60E-06	474	6.77E-05	541	2.27E-04	608	4.76E-04	675	6.88E-05	742	7.50E-06
408	2.90E-06	475	6.61E-05	542	2.31E-04	609	4.99E-04	676	6.65E-05	743	7.40E-06
409	4.30E-06	476	6.46E-05	543	2.35E-04	610	4.55E-04	677	6.43E-05	744	7.10E-06
410	4.80E-06	477	6.40E-05	544	2.38E-04	611	4.33E-04	678	6.25E-05	745	7.00E-06
411	5.30E-06	478	6.36E-05	545	2.42E-04	612	5.15E-04	679	6.00E-05	746	6.80E-06
412	5.40E-06	479	6.32E-05	546	2.45E-04	613	6.50E-04	680	5.83E-05	747	6.50E-06
413	6.50E-06	480	6.38E-05	547	2.51E-04	614	6.31E-04	681	5.62E-05	748	6.20E-06
414	7.10E-06	481	6.47E-05	548	2.53E-04	615	5.05E-04	682	5.43E-05	749	6.00E-06
415	8.40E-06	482	6.58E-05	549	2.57E-04	616	4.23E-04	683	5.27E-05	750	6.00E-06
416	8.70E-06	483	6.69E-05	550	2.63E-04	617	3.91E-04	684	5.09E-05	751	5.70E-06
417	1.03E-05	484	6.75E-05	551	2.67E-04	618	3.86E-04	685	4.92E-05	752	5.50E-06
418	1.13E-05	485	7.09E-05	552	2.73E-04	619	3.85E-04	686	4.80E-05	753	5.30E-06
419	1.26E-05	486	7.17E-05	553	2.77E-04	620	3.78E-04	687	4.66E-05	754	5.30E-06
420	1.33E-05	487	7.39E-05	554	2.81E-04	621	3.65E-04	688	4.49E-05	755	5.20E-06
421	1.58E-05	488	7.66E-05	555	2.87E-04	622	3.57E-04	689	4.38E-05	756	5.00E-06
422	1.64E-05	489	7.89E-05	556	2.90E-04	623	3.56E-04	690	4.24E-05	757	4.80E-06
423	1.79E-05	490	8.12E-05	557	2.97E-04	624	3.60E-04	691	4.09E-05	758	4.50E-06
424	1.99E-05	491	8.36E-05	558	3.01E-04	625	3.62E-04	692	3.99E-05	759	4.60E-06
425	2.22E-05	492	8.74E-05	559	3.05E-04	626	3.63E-04	693	3.84E-05	760	4.40E-06
426	2.47E-05	493	9.00E-05	560	3.10E-04	627	3.66E-04	694	3.73E-05	761	3.90E-06
427	2.67E-05	494	9.40E-05	561	3.16E-04	628	3.90E-04	695	3.59E-05	762	4.10E-06
428	3.00E-05	495	9.64E-05	562	3.21E-04	629	5.33E-04	696	3.51E-05	763	4.00E-06
429	3.39E-05	496	1.01E-04	563	3.26E-04	630	8.60E-04	697	3.37E-05	764	3.80E-06
430	3.62E-05	497	1.04E-04	564	3.31E-04	631	9.84E-04	698	3.28E-05	765	3.60E-06
431	3.91E-05	498	1.08E-04	565	3.36E-04	632	7.23E-04	699	3.18E-05	766	3.60E-06
432	4.33E-05	499	1.12E-04	566	3.42E-04	633	5.03E-04	700	3.06E-05	767	3.50E-06
433	4.69E-05	500	1.15E-04	567	3.47E-04	634	5.95E-04	701	2.97E-05	768	3.30E-06
434	5.09E-05	501	1.19E-04	568	3.53E-04	635	7.30E-04	702	2.83E-05	769	3.30E-06
435	5.56E-05	502	1.22E-04	569	3.56E-04	636	5.67E-04	703	2.76E-05	770	3.10E-06
436	6.14E-05	503	1.27E-04	570	3.61E-04	637	3.66E-04	704	2.65E-05	771	3.20E-06
437	6.63E-05	504	1.31E-04	571	3.67E-04	638	2.80E-04	705	2.57E-05	772	3.10E-06
438	7.25E-05	505	1.34E-04	572	3.69E-04	639	2.46E-04	706	2.49E-05	773	2.80E-06
439	8.05E-05	506	1.37E-04	573	3.73E-04	640	2.30E-04	707	2.43E-05	774	2.90E-06
440	8.75E-05	507	1.40E-04	574	3.78E-04	641	2.18E-04	708	2.32E-05	775	2.70E-06
441	9.53E-05	508	1.43E-04	575	3.82E-04	642	2.08E-04	709	2.27E-05	776	2.60E-06
442	1.03E-04	509	1.48E-04	576	3.86E-04	643	2.02E-04	710	2.19E-05	777	2.50E-06
443	1.15E-04	510	1.50E-04	577	3.90E-04	644	1.99E-04	711	2.12E-05	778	2.40E-06
444	1.25E-04	511	1.53E-04	578	3.92E-04	645	1.97E-04	712	2.06E-05	779	2.50E-06
445	1.36E-04	512	1.57E-04	579	3.97E-04	646	2.27E-04	713	1.98E-05	780	2.50E-06
446	1.49E-04	513	1.59E-04	580	3.98E-04	647	2.91E-04	714	1.90E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	LF34SW @2700K	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

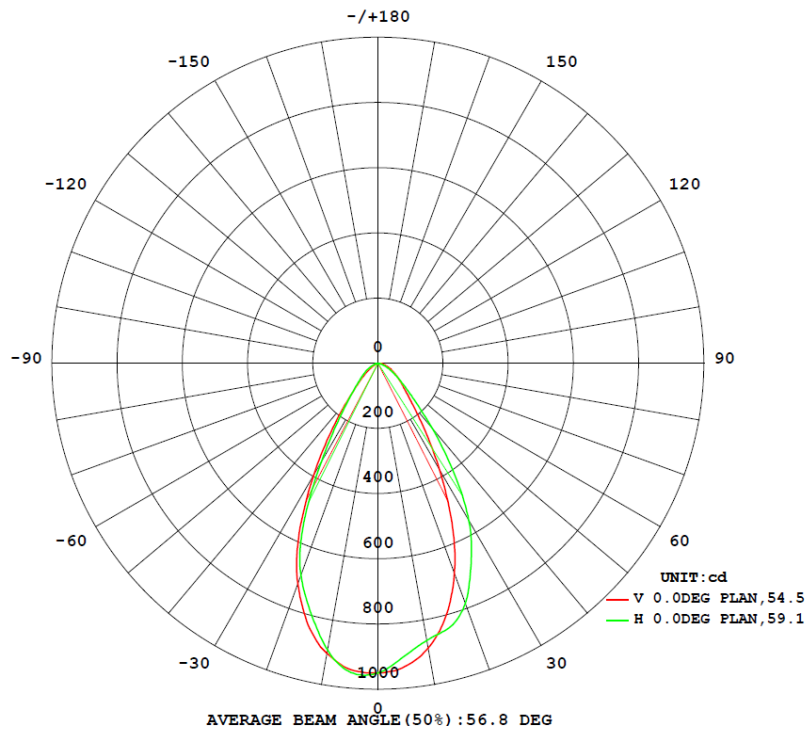
Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
WORST CASE	120.0	60	0.069	8.0	0.973
NON-WORST CASE	N/A	N/A	N/A	N/A	N/A

Test Result

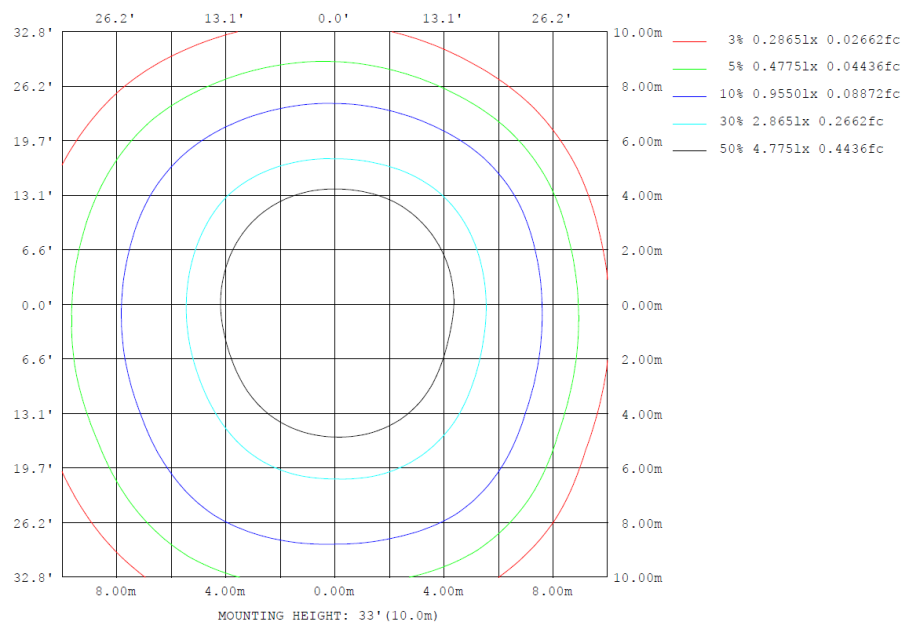
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement	NEMA Type
	C0-180	C90-270	C0-180	C90-270		(0°-90°)	
955	93.3	96.0	54.1	59.1	119.4	100.0%	5H x 5V

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	903.4	869.6	863.0	846.9	887.3	909.7	892.6	923.5	0- 10	87.63	87.63	9.18, 9.18
20	720.1	751.8	783.9	719.4	686.2	693.2	692.1	720.9	10- 20	227.6	315.3	33, 33
30	395.7	510.7	558.6	476.1	380.3	406.1	346.9	409.7	20- 30	267.3	582.6	61, 61
40	138.0	230.6	258.0	231.9	166.7	163.4	131.7	143.7	30- 40	182.9	765.5	80.2, 80.2
50	53.63	84.09	102.3	112.0	92.91	86.02	66.81	59.47	40- 50	94.47	860.0	90.1, 90.1
60	17.35	27.10	47.76	60.69	57.34	51.12	36.08	22.38	50- 60	52.37	912.3	95.6, 95.6
70	1.399	4.851	18.60	30.77	32.50	26.14	13.99	4.153	60- 70	26.77	939.1	98.4, 98.4
80	0.0103	0.0164	5.215	12.53	14.81	11.49	4.705	0.0115	70- 80	10.96	950.1	99.5, 99.5
90	0	0	0	0	0	0	0	0	80- 90	4.635	954.7	100, 100
100	0	0	0	0	0	0	0	0	90-100	0.0000	954.7	100, 100
110	0	0	0	0	0	0	0	0	100-110	0	954.7	100, 100
120	0	0	0	0	0	0	0	0	110-120	0	954.7	100, 100
130	0	0	0	0	0	0	0	0	120-130	0	954.7	100, 100
140	0	0	0	0	0	0	0	0	130-140	0	954.7	100, 100
150	0	0	0	0	0	0	0	0	140-150	0	954.7	100, 100
160	0	0	0	0	0	0	0	0	150-160	0	954.7	100, 100
170	0	0	0	0	0	0	0	0	160-170	0	954.7	100, 100
180	0	0	0	0	0	0	0	0	170-180	0	954.7	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

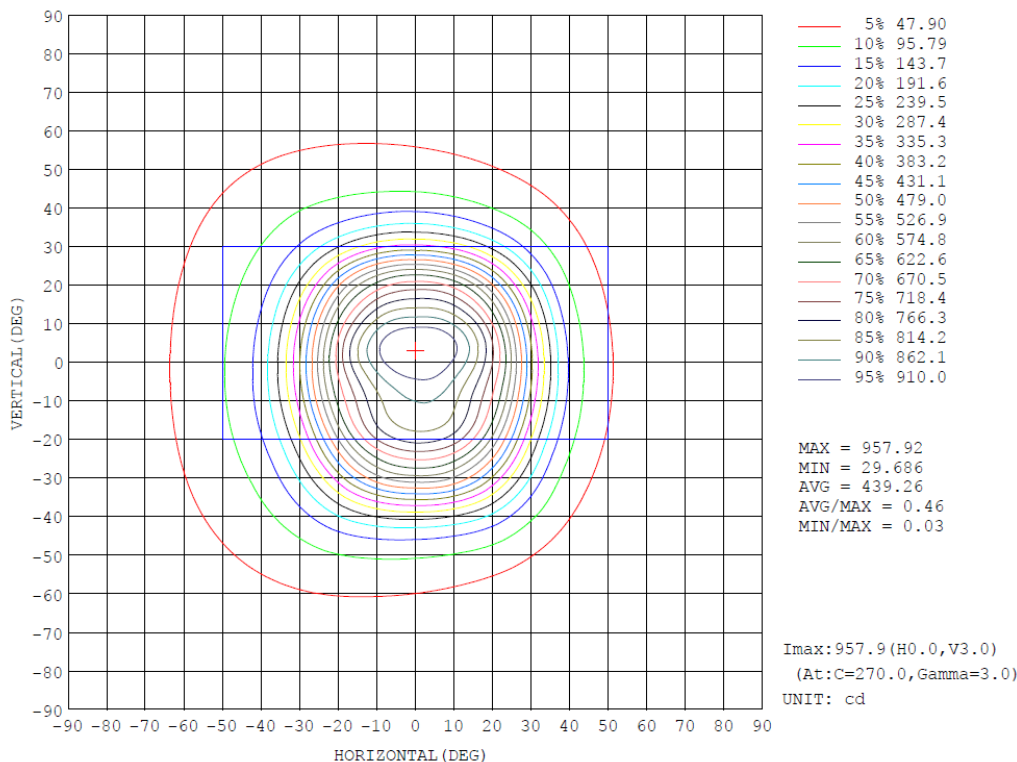
	Zonal (lm)		Total (lm)	Percent
0-10	87.63	0-10	87.63	9.18%
10-20	227.64	0-20	315.27	33.02%
20-30	267.31	0-30	582.58	61.02%
30-40	182.92	0-40	765.50	80.18%
40-50	94.47	0-50	859.97	90.08%
50-60	52.37	0-60	912.34	95.56%
60-70	26.77	0-70	939.11	98.37%
70-80	10.96	0-80	950.07	99.51%
80-90	4.64	0-90	954.71	100.00%
90-100	0.00	0-100	954.71	100.00%
100-110	0.00	0-110	954.71	100.00%
110-120	0.00	0-120	954.71	100.00%
120-130	0.00	0-130	954.71	100.00%
130-140	0.00	0-140	954.71	100.00%
140-150	0.00	0-150	954.71	100.00%
150-160	0.00	0-160	954.71	100.00%
160-170	0.00	0-170	954.71	100.00%
170-180	0.00	0-180	954.71	100.00%

4.2 Goniophotometer Test

Area Flux Diagram

		AREA FLUX DIAGRAM																UNIT:lm				Φ t	Φ a				
VERTICAL (DEG)	90	0.02	0.07	0.11	0.15	0.17	0.17	0.16	0.13	0.09	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00						
	80	0.03	0.09	0.15	0.21	0.26	0.31	0.33	0.32	0.28	0.22	0.15	0.08	0.03	0.00	0.00	0.00	0.00	0.00	2.46	0.00						
	70	0.03	0.09	0.18	0.31	0.47	0.63	0.75	0.80	0.77	0.67	0.50	0.31	0.15	0.05	0.01	0.00	0.00	0.00	5.73	0.00						
	60	0.03	0.11	0.25	0.48	0.79	1.11	1.38	1.55	1.58	1.46	1.20	0.84	0.47	0.19	0.04	0.00	0.00	0.00	11.5	0.00						
	50	0.03	0.12	0.33	0.69	1.15	1.70	2.23	2.64	2.84	2.72	2.28	1.67	1.01	0.45	0.12	0.01	0.00	0.00	20.0	4.49						
	40	0.03	0.14	0.42	0.88	1.53	2.49	3.83	5.44	6.55	6.43	5.11	3.29	1.79	0.81	0.25	0.03	0.00	0.00	39.0	31.8						
	30	0.03	0.16	0.49	1.05	1.94	3.68	7.47	12.5	15.7	15.7	12.6	7.25	3.06	1.20	0.39	0.06	0.00	0.00	83.3	78.2						
	20	0.03	0.18	0.55	1.18	2.33	5.20	11.8	19.4	23.6	23.9	20.1	12.2	4.78	1.57	0.51	0.08	0.00	0.00	127	123						
	10	0.03	0.18	0.58	1.27	2.61	6.28	14.4	23.2	28.0	28.3	24.1	15.2	6.04	1.84	0.58	0.10	0.00	0.00	153	149						
	0	0.03	0.19	0.58	1.29	2.67	6.42	14.4	22.3	26.7	27.1	23.1	15.2	6.19	1.90	0.59	0.10	0.00	0.00	149	145						
	-10	0.03	0.18	0.56	1.23	2.50	5.62	12.5	20.2	24.6	25.0	21.2	13.3	5.29	1.70	0.53	0.09	0.00	0.00	135	131						
	-20	0.03	0.17	0.51	1.11	2.14	4.36	9.36	15.9	19.9	20.2	16.6	9.85	3.84	1.34	0.42	0.06	0.00	0.00	106	101						
	-30	0.03	0.15	0.44	0.94	1.72	3.15	5.86	9.52	11.9	12.0	9.74	5.70	2.46	0.93	0.28	0.03	0.00	0.00	64.9	59.5						
	-40	0.03	0.13	0.35	0.74	1.30	2.11	3.26	4.39	4.97	4.84	4.04	2.69	1.35	0.53	0.14	0.01	0.00	0.00	30.9	22.8						
	-50	0.03	0.11	0.27	0.54	0.90	1.35	1.81	2.12	2.21	2.07	1.70	1.15	0.60	0.23	0.05	0.00	0.00	0.00	15.1	0.59						
	-60	0.03	0.10	0.19	0.35	0.55	0.76	0.94	1.03	1.01	0.88	0.66	0.41	0.19	0.06	0.01	0.00	0.00	0.00	7.17	0.00						
	-70	0.03	0.09	0.15	0.22	0.29	0.36	0.40	0.40	0.35	0.27	0.18	0.09	0.04	0.01	0.00	0.00	0.00	0.00	2.87	0.00						
	-80	0.02	0.07	0.12	0.15	0.18	0.18	0.17	0.14	0.10	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.23	0.00						
	-90																										
		-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)										20	30	40	50	60	70	80	90
Φ t	a	0.53	2.31	6.22	12.8	23.5	45.9	91.1	142	171	172	143	89.3	37.3	12.8	3.93	0.58	0.02	0.00	955	---						
Φ a	t	0.00	0.00	0.00	0.00	11.1	36.6	82.8	134	164	165	137	83.0	30.3	2.77	0.00	0.00	0.00	0.00	---	846						

Isocandela



4.2 Goniophotometer Test

Luminous Distribution Intensity Data

UNIT: °cd																			
H (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	9.88	10.3	10.5	10.6	10.6	10.6	10.5	10.4	10.3	10.1	9.78	9.40	8.89	8.30	7.62	6.87	6.05	5.21
-70	0.00	10.4	11.0	11.4	12.1	12.8	13.9	15.4	16.9	18.3	19.7	21.0	21.9	22.4	22.4	22.2	21.4	20.2	18.6
-60	0.00	10.7	11.5	12.7	14.5	17.4	20.9	24.8	28.8	33.0	37.2	41.2	45.0	47.9	49.8	50.6	50.6	49.7	47.8
-50	0.00	11.0	12.2	14.3	18.4	23.8	29.7	36.3	43.3	50.7	58.8	67.6	77.0	86.6	94.6	100	103	104	102
-40	0.00	11.2	12.9	16.6	22.8	30.3	38.9	47.8	57.7	69.2	83.7	102	127	157	190	218	242	255	258
-30	0.00	11.3	13.6	18.8	26.8	36.3	46.7	58.1	71.5	88.3	111	146	197	270	358	443	508	547	559
-20	0.00	11.5	14.2	20.9	30.0	41.0	52.7	66.5	83.5	106	140	194	282	399	527	636	718	764	784
-10	0.00	11.6	14.7	21.9	32.0	43.7	56.4	71.5	91.3	118	162	239	353	499	633	726	799	845	863
0	0.00	11.6	14.8	22.2	32.5	44.4	57.3	72.7	92.9	120	167	254	380	537	686	805	887	934	950
10	0.00	11.6	14.6	21.7	31.6	43.1	55.4	69.7	87.9	113	153	227	342	486	631	746	834	883	893
20	0.00	11.5	14.2	20.3	29.2	39.8	51.0	63.4	78.1	97.7	126	172	250	352	472	570	638	680	692
30	0.00	11.3	13.5	18.3	25.8	34.9	44.5	54.8	66.2	79.6	96.5	119	148	188	236	282	319	344	347
40	0.00	11.1	12.8	16.1	21.7	28.6	36.5	44.5	53.0	61.7	71.3	81.6	92.4	102	111	120	127	132	132
50	0.00	10.9	12.1	14.0	17.4	22.1	27.4	33.3	39.1	44.8	50.3	55.5	59	63.5	66.3	68.1	68.8	68.4	66.8
60	0.00	10.7	11.5	12.5	13.9	16.2	18.9	22.2	25.4	28.7	31.6	34.2	36.3	37.8	38.7	39.0	38.7	37.7	36.1
70	0.00	10.3	10.9	11.3	11.8	12.4	13.1	14.0	14.9	15.8	16.6	17.2	17.6	17.8	17.6	17.1	16.4	15.3	14.0
80	0.00	9.82	10.2	10.3	10.4	10.4	10.3	10.2	10.0	9.81	9.51	9.13	8.69	8.16	7.56	6.90	6.21	5.48	4.71
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

H (DEG)																			UNIT: cd				
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	4.40	3.58	2.76	1.87	1.00	0.30	0.03	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00					
-70	16.6	14.3	11.8	9.17	6.70	4.61	3.05	1.97	1.11	0.31	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00					
-60	44.9	41.0	36.1	30.3	24.8	19.4	14.0	9.06	4.94	2.48	1.24	0.29	0.00	0.01	0.01	0.01	0.01	0.00					
-50	99.2	93.7	85.9	75.8	63.5	49.6	35.6	24.7	16.5	9.35	4.02	1.55	0.45	0.01	0.01	0.01	0.01	0.00					
-40	253	237	213	180	140	104	72.2	49.6	32.5	20.4	11.0	4.11	1.31	0.14	0.01	0.01	0.01	0.00					
-30	554	523	462	378	278	187	120	76.3	51.0	32.6	19.1	8.81	2.57	0.67	0.01	0.01	0.01	0.00					
-20	776	742	669	562	427	286	175	107	67.8	44.2	26.2	13.3	4.29	1.05	0.00	0.01	0.01	0.00					
-10	860	824	756	663	527	366	226	132	80.3	51.7	31.3	16.5	5.80	1.30	0.03	0.01	0.01	0.00					
0	944	903	830	720	571	396	242	138	83.2	53.6	32.7	17.4	6.35	1.40	0.04	0.01	0.01	0.00					
10	891	856	784	668	514	350	213	122	75.9	49.9	30.3	16.0	5.69	1.29	0.02	0.01	0.01	0.00					
20	686	653	583	481	357	241	150	94.6	62.4	41.4	24.7	12.6	4.15	1.02	0.01	0.01	0.01	0.00					
30	339	315	275	224	171	125	90.5	65.3	45.8	29.7	17.4	8.16	2.45	0.63	0.01	0.01	0.01	0.00					
40	127	118	107	94.8	80.9	67.5	53.9	40.4	28.0	17.9	9.75	3.84	1.24	0.10	0.01	0.01	0.01	0.00					
50	64.3	60.6	55.9	50.3	43.6	36.1	28.1	20.5	13.7	7.90	3.67	1.44	0.36	0.01	0.01	0.01	0.01	0.00					
60	33.7	30.8	27.3	23.4	19.2	15.0	11.0	7.19	4.26	2.20	1.11	0.17	0.00	0.01	0.01	0.01	0.01	0.00					
70	12.5	10.8	8.96	7.12	5.41	3.89	2.67	1.75	0.88	0.16	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00					
80	3.96	3.17	2.36	1.47	0.65	0.09	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	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 @2700K	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	13.23

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*****