

## 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		4026
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	127.8
		105	120	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		31.5
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	15.05
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.984
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	2725±145	2719
		4 steps	2725±83	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥70		80.6
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79-2019 CIE13.3-1995	N/A		6
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		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		0.267
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		31.5
(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	2024-07-27	LF34LW @2700K	ES#3	240726003-S1
2	Goniophotometer Test	2024-07-27	LF34LW @2700K	ES#3	240726003-S1
3	THD and PF Test	2024-07-27	LF34LW @2700K	ES#3	240726003-S1

### Remark (If any):

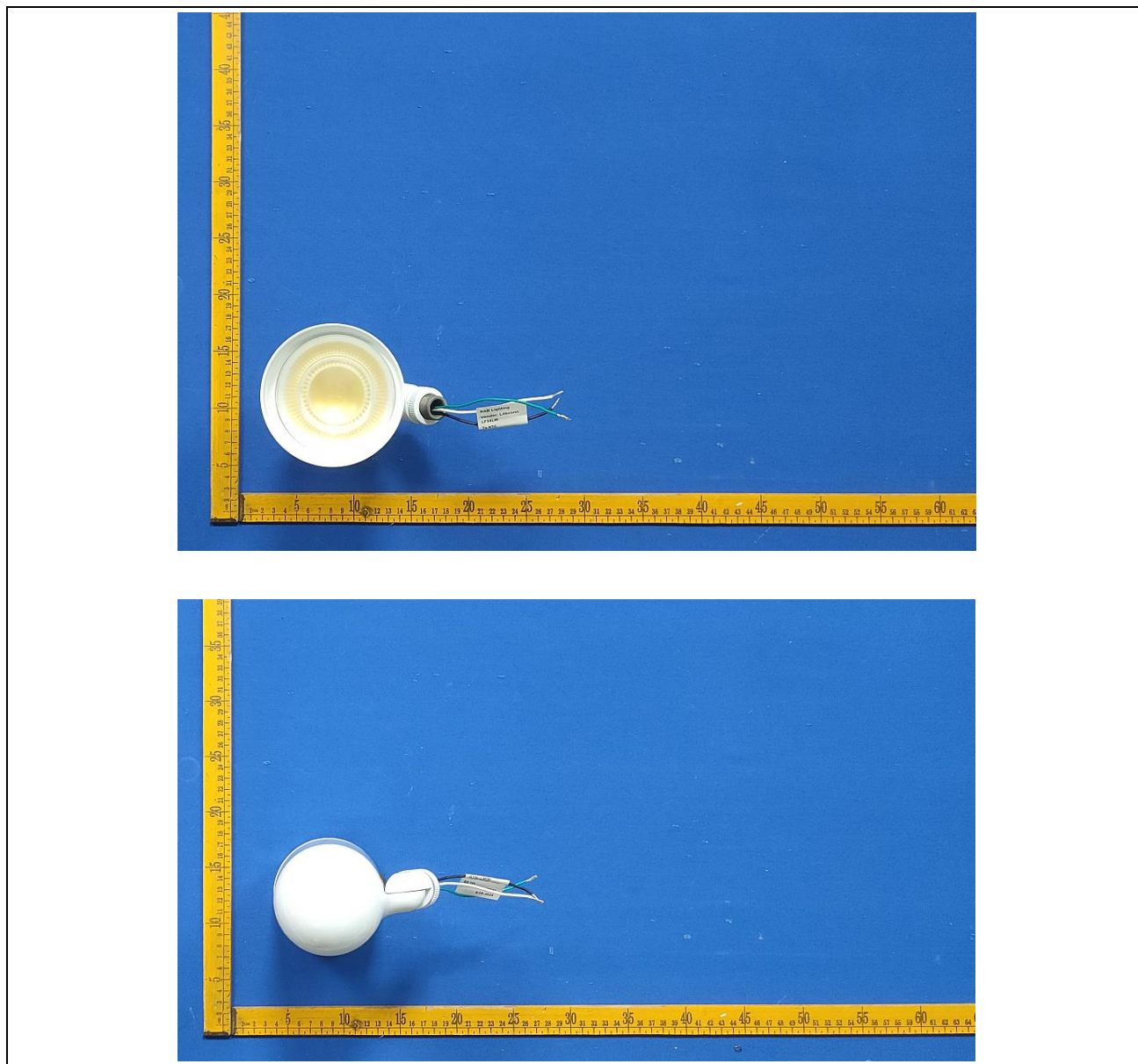
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3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. Government.

### 3.0 Product Description

Luminaire Description: Model No. LF34LW @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

<b>Model No.</b>	LF34LW @2700K	<b>Sample ID</b>	240726003-S1
<b>Operate time (Min.)</b>	10	<b>Stabilization time (Min.)</b>	60
<b>Temperature (°C)</b>	25.4	<b>Humidity (%RH)</b>	41.0

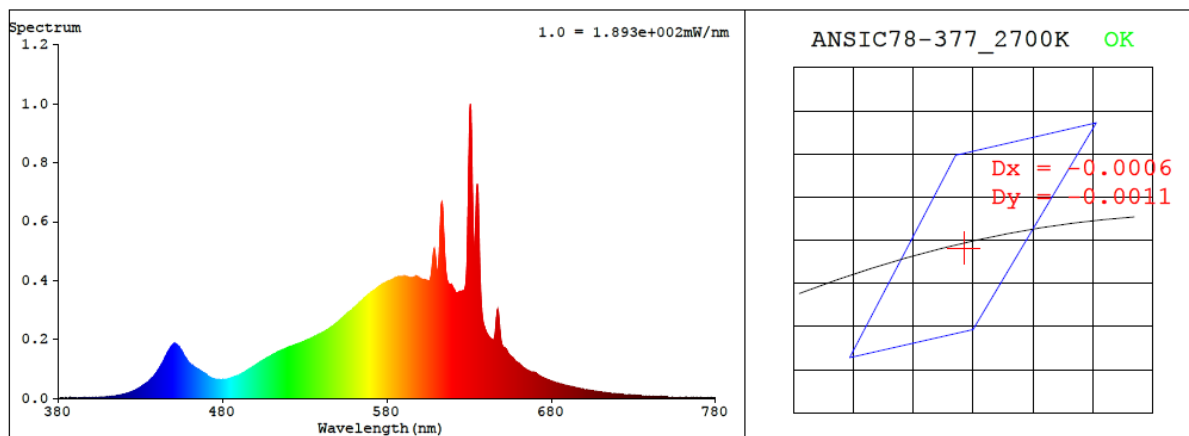
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.267	31.5	0.984

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
2719	80.6	6	-0.0004	82	96	-12%

## 4.1 Integrating Sphere Test



### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.4577$   $y = 0.4091$  /  $u' = 0.2618$   $v' = 0.5265$  ( $duv = -3.56e-04$ )

CCT= 2719K Prcp WL:  $L_d = 584.2\text{nm}$  Purity=60.2%

Peak WL:  $L_p = 631\text{nm}$  FWHM:  $= 7.7\text{nm}$  Ratio: R=24.8% G=73.2% B=2.0%

Render Index:  $R_a = 80.6$  AvgR = 74.7 TM30:  $R_f = 81$   $R_g = 96$

EEL: 0.10687 A++ Highest

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

R8 =57 R9 =6 R10=75 R11=74 R12=69 R13=80 R14=99 R15=72

## 4.1 Integrating Sphere Test

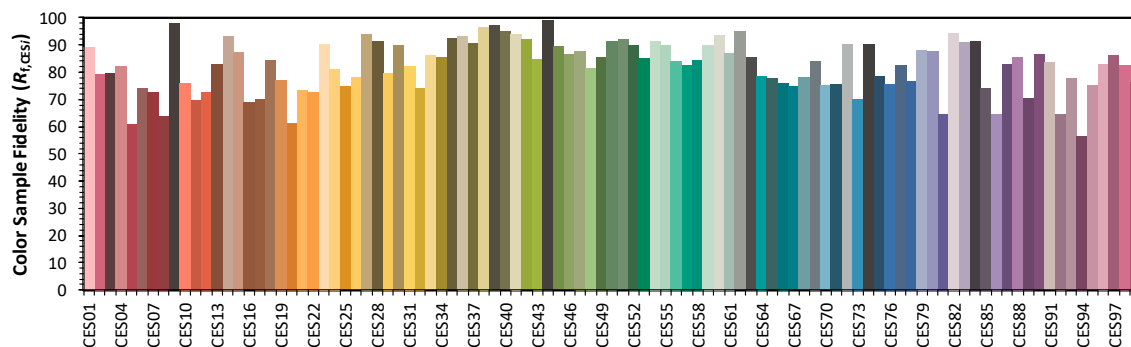
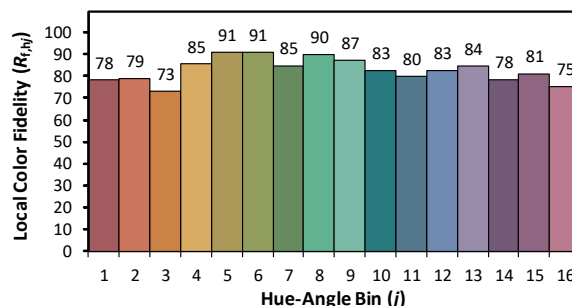
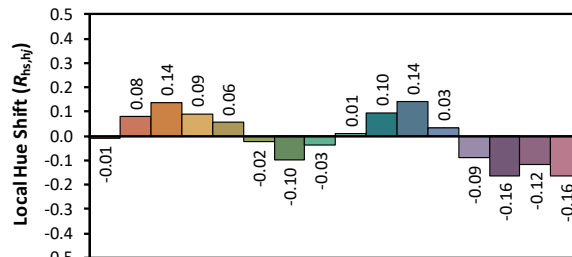
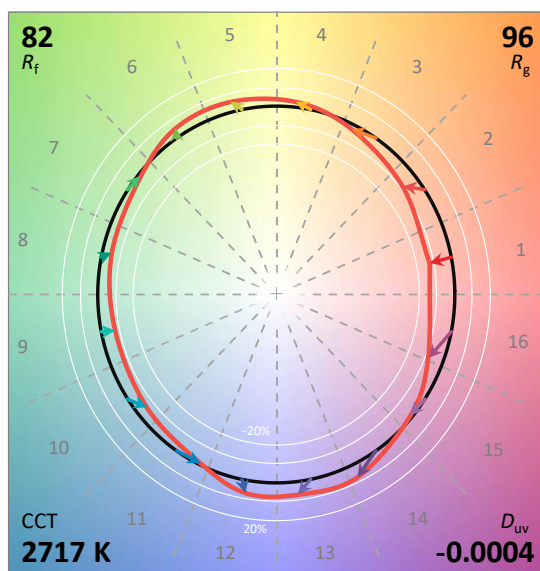
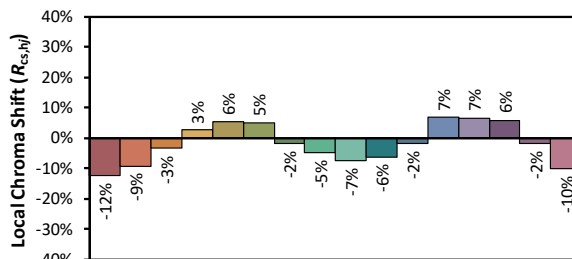
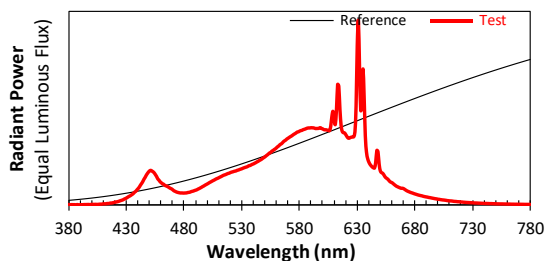
### ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2024/7/30

Model: LF34LW @2700K



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

$x$  0.4578  
 $y$  0.4090  
 $u'$  0.2618  
 $v'$  0.5264

CIE 13.3-1995  
(CRI)

$R_a$  81  
 $R_g$  6



## 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	2.30E-06	447	1.59E-04	514	1.59E-04	581	3.98E-04	648	2.84E-04	715	1.84E-05
381	0.00E+00	448	1.68E-04	515	1.61E-04	582	3.99E-04	649	2.18E-04	716	1.79E-05
382	1.20E-06	449	1.76E-04	516	1.63E-04	583	4.03E-04	650	1.82E-04	717	1.69E-05
383	1.20E-06	450	1.83E-04	517	1.66E-04	584	4.05E-04	651	1.73E-04	718	1.68E-05
384	1.00E-06	451	1.85E-04	518	1.68E-04	585	4.07E-04	652	1.70E-04	719	1.61E-05
385	1.10E-06	452	1.81E-04	519	1.70E-04	586	4.10E-04	653	1.62E-04	720	1.56E-05
386	0.00E+00	453	1.77E-04	520	1.73E-04	587	4.12E-04	654	1.51E-04	721	1.52E-05
387	1.70E-06	454	1.71E-04	521	1.76E-04	588	4.12E-04	655	1.45E-04	722	1.44E-05
388	7.00E-07	455	1.61E-04	522	1.77E-04	589	4.12E-04	656	1.40E-04	723	1.40E-05
389	4.00E-07	456	1.52E-04	523	1.79E-04	590	4.14E-04	657	1.34E-04	724	1.34E-05
390	7.00E-07	457	1.39E-04	524	1.81E-04	591	4.13E-04	658	1.27E-04	725	1.30E-05
391	1.00E-06	458	1.33E-04	525	1.82E-04	592	4.13E-04	659	1.22E-04	726	1.26E-05
392	9.00E-07	459	1.24E-04	526	1.86E-04	593	4.11E-04	660	1.20E-04	727	1.23E-05
393	1.60E-06	460	1.19E-04	527	1.87E-04	594	4.09E-04	661	1.15E-04	728	1.19E-05
394	1.60E-06	461	1.13E-04	528	1.90E-04	595	4.10E-04	662	1.09E-04	729	1.14E-05
395	1.70E-06	462	1.11E-04	529	1.92E-04	596	4.10E-04	663	1.05E-04	730	1.11E-05
396	2.00E-06	463	1.05E-04	530	1.94E-04	597	4.11E-04	664	1.00E-04	731	1.05E-05
397	2.10E-06	464	1.02E-04	531	1.97E-04	598	4.14E-04	665	9.71E-05	732	1.02E-05
398	1.40E-06	465	9.95E-05	532	1.99E-04	599	4.09E-04	666	9.40E-05	733	1.00E-05
399	2.10E-06	466	9.62E-05	533	2.01E-04	600	4.08E-04	667	9.16E-05	734	9.80E-06
400	2.50E-06	467	9.21E-05	534	2.03E-04	601	4.04E-04	668	8.91E-05	735	9.30E-06
401	2.70E-06	468	8.84E-05	535	2.06E-04	602	4.03E-04	669	8.91E-05	736	9.10E-06
402	2.50E-06	469	8.55E-05	536	2.10E-04	603	4.03E-04	670	8.75E-05	737	8.80E-06
403	2.90E-06	470	8.08E-05	537	2.11E-04	604	4.00E-04	671	8.38E-05	738	8.40E-06
404	2.50E-06	471	7.56E-05	538	2.14E-04	605	3.99E-04	672	7.95E-05	739	8.10E-06
405	2.60E-06	472	7.28E-05	539	2.18E-04	606	3.98E-04	673	7.56E-05	740	7.90E-06
406	3.30E-06	473	6.96E-05	540	2.20E-04	607	4.21E-04	674	7.26E-05	741	7.70E-06
407	3.90E-06	474	6.74E-05	541	2.23E-04	608	4.74E-04	675	7.00E-05	742	7.60E-06
408	3.80E-06	475	6.58E-05	542	2.26E-04	609	5.01E-04	676	6.74E-05	743	7.30E-06
409	4.70E-06	476	6.44E-05	543	2.30E-04	610	4.55E-04	677	6.51E-05	744	7.10E-06
410	5.50E-06	477	6.37E-05	544	2.33E-04	611	4.32E-04	678	6.32E-05	745	6.70E-06
411	5.80E-06	478	6.40E-05	545	2.37E-04	612	5.12E-04	679	6.07E-05	746	6.80E-06
412	5.60E-06	479	6.32E-05	546	2.41E-04	613	6.45E-04	680	5.87E-05	747	6.60E-06
413	7.40E-06	480	6.35E-05	547	2.45E-04	614	6.35E-04	681	5.67E-05	748	6.20E-06
414	7.10E-06	481	6.38E-05	548	2.49E-04	615	5.11E-04	682	5.47E-05	749	6.10E-06
415	8.20E-06	482	6.43E-05	549	2.54E-04	616	4.26E-04	683	5.28E-05	750	5.90E-06
416	9.80E-06	483	6.61E-05	550	2.58E-04	617	3.94E-04	684	5.12E-05	751	5.50E-06
417	9.90E-06	484	6.70E-05	551	2.63E-04	618	3.87E-04	685	4.97E-05	752	5.40E-06
418	1.13E-05	485	6.84E-05	552	2.68E-04	619	3.86E-04	686	4.85E-05	753	5.30E-06
419	1.27E-05	486	7.11E-05	553	2.73E-04	620	3.77E-04	687	4.65E-05	754	5.10E-06
420	1.43E-05	487	7.28E-05	554	2.78E-04	621	3.67E-04	688	4.49E-05	755	5.10E-06
421	1.56E-05	488	7.44E-05	555	2.82E-04	622	3.59E-04	689	4.36E-05	756	5.00E-06
422	1.69E-05	489	7.71E-05	556	2.88E-04	623	3.58E-04	690	4.25E-05	757	4.80E-06
423	1.87E-05	490	7.89E-05	557	2.92E-04	624	3.61E-04	691	4.14E-05	758	4.70E-06
424	2.11E-05	491	8.14E-05	558	2.97E-04	625	3.63E-04	692	3.97E-05	759	4.40E-06
425	2.32E-05	492	8.49E-05	559	3.01E-04	626	3.64E-04	693	3.89E-05	760	4.40E-06
426	2.52E-05	493	8.76E-05	560	3.06E-04	627	3.65E-04	694	3.75E-05	761	4.20E-06
427	2.76E-05	494	9.12E-05	561	3.12E-04	628	3.91E-04	695	3.62E-05	762	4.30E-06
428	3.13E-05	495	9.45E-05	562	3.17E-04	629	5.30E-04	696	3.50E-05	763	3.90E-06
429	3.40E-05	496	9.85E-05	563	3.23E-04	630	8.54E-04	697	3.37E-05	764	3.70E-06
430	3.74E-05	497	1.02E-04	564	3.27E-04	631	9.88E-04	698	3.26E-05	765	3.70E-06
431	4.14E-05	498	1.06E-04	565	3.32E-04	632	7.29E-04	699	3.18E-05	766	3.60E-06
432	4.54E-05	499	1.09E-04	566	3.39E-04	633	5.08E-04	700	3.02E-05	767	3.30E-06
433	4.84E-05	500	1.13E-04	567	3.44E-04	634	5.95E-04	701	2.97E-05	768	3.50E-06
434	5.28E-05	501	1.16E-04	568	3.48E-04	635	7.29E-04	702	2.84E-05	769	3.30E-06
435	5.68E-05	502	1.20E-04	569	3.53E-04	636	5.72E-04	703	2.75E-05	770	3.20E-06
436	6.21E-05	503	1.23E-04	570	3.57E-04	637	3.71E-04	704	2.65E-05	771	3.30E-06
437	6.86E-05	504	1.27E-04	571	3.62E-04	638	2.83E-04	705	2.60E-05	772	3.00E-06
438	7.32E-05	505	1.30E-04	572	3.66E-04	639	2.49E-04	706	2.51E-05	773	3.10E-06
439	8.08E-05	506	1.33E-04	573	3.69E-04	640	2.31E-04	707	2.43E-05	774	2.90E-06
440	8.77E-05	507	1.37E-04	574	3.74E-04	641	2.18E-04	708	2.30E-05	775	2.70E-06
441	9.56E-05	508	1.40E-04	575	3.78E-04	642	2.10E-04	709	2.24E-05	776	2.60E-06
442	1.06E-04	509	1.43E-04	576	3.82E-04	643	2.03E-04	710	2.15E-05	777	2.70E-06
443	1.15E-04	510	1.46E-04	577	3.86E-04	644	1.99E-04	711	2.12E-05	778	2.50E-06
444	1.25E-04	511	1.49E-04	578	3.90E-04	645	1.98E-04	712	2.07E-05	779	2.50E-06
445	1.37E-04	512	1.52E-04	579	3.92E-04	646	2.28E-04	713	1.97E-05	780	2.50E-06
446	1.47E-04	513	1.55E-04	580	3.95E-04	647	2.92E-04	714	1.88E-05	N/A	N/A



## 4.0 LM-79 Measurement and Test Results

### 4.2 Goniophotometer Test

<b>Model No.</b>	LF34LW @2700K	<b>Sample ID</b>	240726003-S1
<b>Operate time (Min.)</b>	30	<b>Stabilization time (Min.)</b>	60
<b>Temperature (°C)</b>	24.8	<b>Humidity (%RH)</b>	45.1

<b>Test Method</b>
<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 <math>25 \pm 1^\circ\text{C}</math>, 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 <math>\pm 0.2</math> 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 <math>1.0^\circ</math> vertical intervals and <math>15^\circ</math> horizontal intervals.</p>

#### Test Conditions

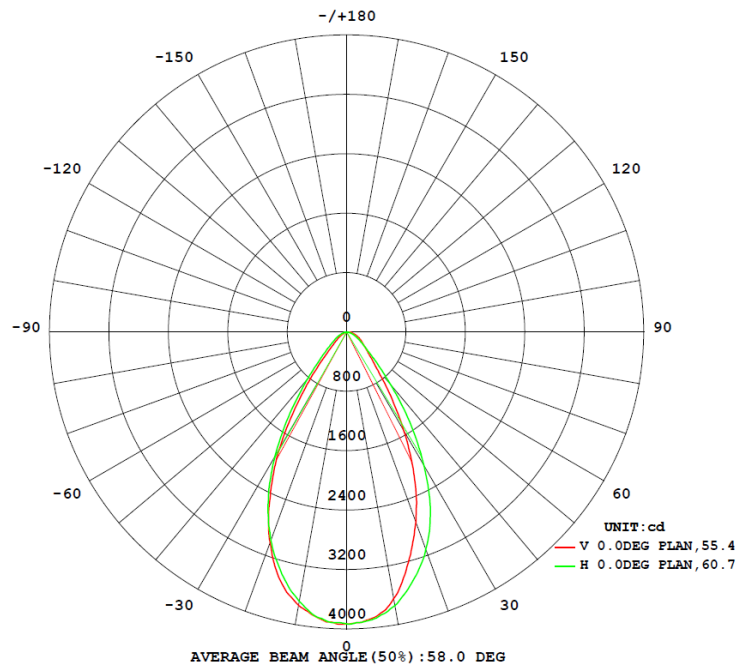
Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
<b>WORST CASE</b>	120.0	60	0.267	31.5	0.984
<b>NON-WORST CASE</b>	N/A	N/A	N/A	N/A	N/A

#### Test Result

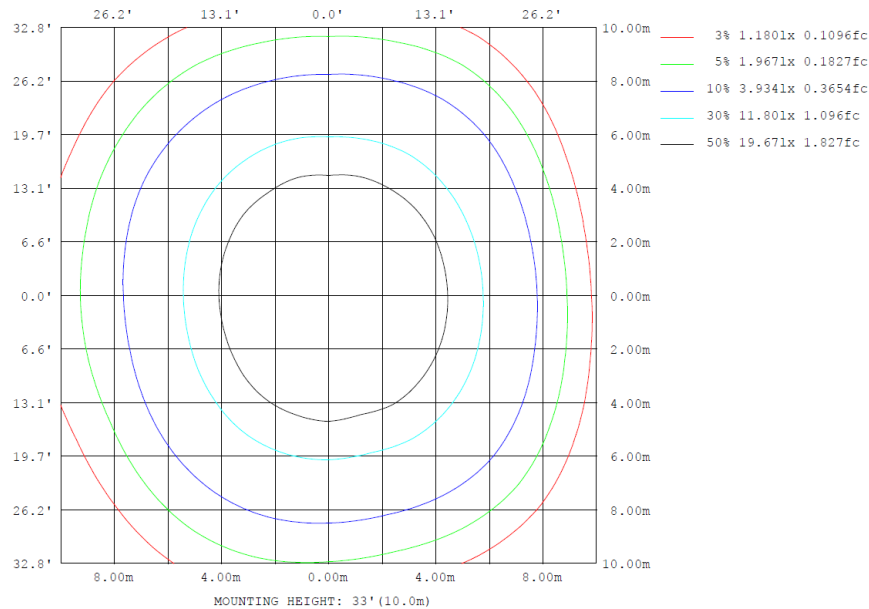
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement	NEMA Type
	C0-180	C90-270	C0-180	C90-270		(0°-90°)	
4026	89.9	95.8	55.4	60.6	127.8	100.0%	5H x 5V

## 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	3739	3733	3741	3695	3648	3689	3683	3702	0- 10	364.8	364.8	9.06,9.06
20	3019	3143	3118	2906	2725	2922	2984	3070	10- 20	947.6	1312	32.6,32.6
30	1810	2089	2083	1848	1549	1864	1930	1976	20- 30	1126	2438	60.6,60.6
40	595.9	969.1	918.8	813.5	617.1	822.2	814.9	854.0	30- 40	812.8	3251	80.7,80.7
50	194.1	325.4	339.2	353.5	329.6	371.4	311.9	286.9	40- 50	385.0	3636	90.3,90.3
60	81.09	120.9	172.6	214.6	218.7	215.5	160.9	107.3	50- 60	202.8	3839	95.3,95.3
70	9.521	32.40	82.40	128.7	139.9	123.3	73.65	26.13	60- 70	114.9	3954	98.2,98.2
80	0.0433	0.0763	25.06	59.14	70.25	54.42	20.38	0.0436	70- 80	52.09	4006	99.5,99.5
90	0	0	0	0	0	0	0	0	80- 90	20.35	4026	100,100
100	0	0	0	0	0	0	0	0	90-100	0.0000	4026	100,100
110	0	0	0	0	0	0	0	0	100-110	0	4026	100,100
120	0	0	0	0	0	0	0	0	110-120	0	4026	100,100
130	0	0	0	0	0	0	0	0	120-130	0	4026	100,100
140	0	0	0	0	0	0	0	0	130-140	0	4026	100,100
150	0	0	0	0	0	0	0	0	140-150	0	4026	100,100
160	0	0	0	0	0	0	0	0	150-160	0	4026	100,100
170	0	0	0	0	0	0	0	0	160-170	0	4026	100,100
180	0	0	0	0	0	0	0	0	170-180	0	4026	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

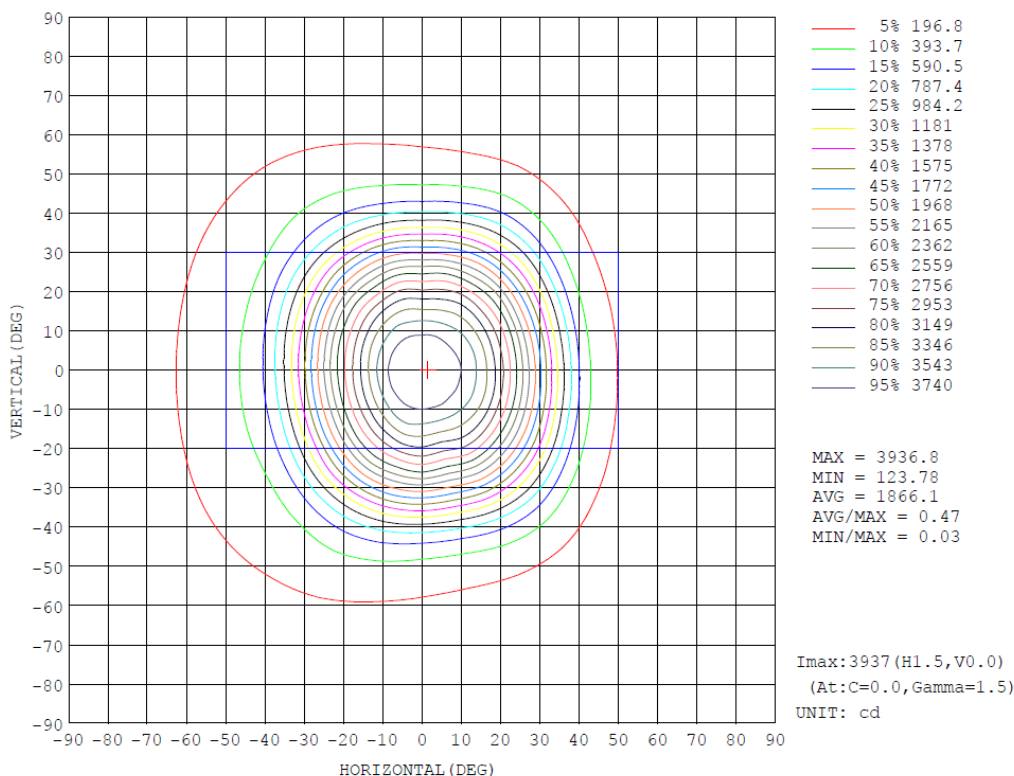
	Zonal (lm)		Total (lm)	Percent
0-10	364.83	0-10	364.83	9.06%
10-20	947.63	0-20	1312.46	32.60%
20-30	1125.74	0-30	2438.20	60.56%
30-40	812.83	0-40	3251.03	80.75%
40-50	385.00	0-50	3636.03	90.31%
50-60	202.82	0-60	3838.85	95.35%
60-70	114.92	0-70	3953.77	98.20%
70-80	52.09	0-80	4005.86	99.49%
80-90	20.35	0-90	4026.21	100.00%
90-100	0.00	0-100	4026.21	100.00%
100-110	0.00	0-110	4026.21	100.00%
110-120	0.00	0-120	4026.21	100.00%
120-130	0.00	0-130	4026.21	100.00%
130-140	0.00	0-140	4026.21	100.00%
140-150	0.00	0-150	4026.21	100.00%
150-160	0.00	0-160	4026.21	100.00%
160-170	0.00	0-170	4026.21	100.00%
170-180	0.00	0-180	4026.21	100.00%

## 4.2 Goniophotometer Test

### Area Flux Diagram

		AREA FLUX DIAGRAM																UNIT: lm				$\Phi$ t	$\Phi$ a
VERTICAL (DEG)	90	0.08	0.29	0.47	0.62	0.71	0.73	0.67	0.55	0.37	0.19	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	4.75	0.00		
	80	0.11	0.35	0.63	0.94	1.26	1.52	1.66	1.64	1.47	1.15	0.76	0.38	0.12	0.02	0.00	0.00	0.00	0.00	12.0	0.00		
	70	0.12	0.41	0.87	1.51	2.25	2.96	3.50	3.73	3.64	3.24	2.56	1.71	0.89	0.28	0.03	0.00	0.00	0.00	27.7	0.00		
	60	0.12	0.49	1.19	2.20	3.43	4.79	6.06	6.85	7.02	6.67	5.79	4.24	2.39	1.07	0.25	0.01	0.00	0.00	52.6	0.00		
	50	0.13	0.59	1.52	2.87	4.66	7.16	10.4	13.5	15.3	15.3	13.3	9.14	4.76	2.12	0.72	0.07	0.00	0.00	101	51.1		
	40	0.13	0.68	1.81	3.49	5.93	10.6	19.7	31.8	39.9	40.3	33.1	20.0	8.50	3.33	1.24	0.20	0.00	0.00	221	195		
	30	0.14	0.76	2.05	4.02	7.29	16.2	36.2	59.7	74.4	75.0	62.4	38.1	14.7	4.60	1.71	0.35	0.00	0.00	398	376		
	20	0.14	0.81	2.21	4.43	8.68	22.2	51.0	81.8	100	101	86.3	55.3	22.2	5.95	2.09	0.48	0.01	0.00	545	526		
	10	0.15	0.84	2.30	4.67	9.53	25.5	58.6	92.7	114	115	98.7	65.4	27.7	7.02	2.31	0.56	0.01	0.00	625	607		
	0	0.15	0.84	2.31	4.67	9.45	24.9	57.8	92.2	115	115	99.5	66.4	28.6	7.29	2.34	0.56	0.02	0.00	627	609		
	-10	0.15	0.81	2.22	4.44	8.51	20.9	49.6	81.3	102	102	88.2	58.1	24.6	6.54	2.16	0.50	0.01	0.00	552	534		
	-20	0.14	0.76	2.06	4.04	7.11	15.1	35.6	61.1	77.2	77.0	65.2	41.6	17.1	5.23	1.80	0.38	0.01	0.00	411	390		
	-30	0.14	0.69	1.83	3.52	5.83	10.1	20.1	34.2	43.8	43.1	35.2	22.1	9.87	3.77	1.32	0.22	0.00	0.00	236	209		
	-40	0.13	0.60	1.55	2.92	4.65	7.00	10.8	15.2	17.4	16.4	13.5	9.50	5.32	2.35	0.79	0.08	0.00	0.00	108	61.9		
	-50	0.12	0.50	1.22	2.27	3.50	4.90	6.41	7.49	7.64	6.97	5.88	4.41	2.63	1.21	0.31	0.02	0.00	0.00	55.5	0.00		
	-60	0.12	0.42	0.90	1.58	2.37	3.14	3.78	4.07	3.98	3.52	2.80	1.92	1.05	0.37	0.05	0.00	0.00	0.00	30.1	0.00		
	-70	0.11	0.36	0.66	1.01	1.37	1.67	1.86	1.87	1.69	1.36	0.93	0.51	0.19	0.03	0.00	0.00	0.00	0.00	13.6	0.00		
	-80	0.08	0.29	0.49	0.65	0.76	0.81	0.78	0.67	0.49	0.29	0.12	0.03	0.00	0.00	0.00	0.00	0.00	0.00	5.48	0.00		
	-90																						
	-90 -80 -70 -60 -50 -40 -30 -20 HORIZONTAL (DEG) 20 30 40 50 60 70 80 90																						
$\Phi$ t	2.25	10.5	26.3	49.8	87.3	180	375	590	725	724	614	399	171	51.2	17.1	3.43	0.07	0.00	0.00	4026	---		
$\Phi$ a	0.00	0.00	0.00	0.00	25.2	137	339	558	694	695	588	373	141	9.47	0.00	0.00	0.00	0.00	0.00	---	3560		

### Isocandela



## 4.2 Goniophotometer Test

## Luminous Distribution Intensity Data

Table--1													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	40.8	42.0	43.0	43.8	44.4	45.0	45.5	45.9	46.1	45.9	45.2	44.0	42.1	39.6	36.7	33.2	29.3	25.1	
-70	0.00	42.3	45.1	48.4	53.2	59.0	65.4	71.8	78.4	84.4	89.5	93.7	96.7	98.3	98.1	96.3	93.1	88.4	82.4	
-60	0.00	43.6	48.5	56.8	68.1	81.0	95.3	110	123	136	148	160	171	180	185	187	186	180	173	
-50	0.00	44.9	53.3	67.5	85.8	107	128	148	168	188	210	234	263	297	326	347	356	353	339	
-40	0.00	46.1	58.3	78.8	104	131	157	184	211	242	277	326	404	512	638	759	860	914	919	
-30	0.00	47.1	63.2	88.6	119	150	182	216	252	295	357	471	680	978	1321	1637	1888	2034	2083	
-20	0.00	47.9	67.9	106	137	174	213	258	317	412	593	949	1454	2038	2582	3039	3416	3642	3683	
-10	0.00	48.5	69.4	101	138	175	214	259	317	408	568	897	1406	1983	2535	3012	3421	3678	3718	
0	0.00	48.6	70.2	103	140	178	219	265	330	431	617	997	1549	2160	2725	3212	3648	3874	3932	
10	0.00	48.8	69.2	101	137	174	213	258	317	412	593	949	1454	2038	2582	3039	3416	3642	3683	
20	0.00	47.8	66.6	95.8	130	164	200	240	288	360	495	757	1139	1604	2080	2478	2777	2989	2984	
30	0.00	46.9	62.6	87.6	118	149	181	214	252	299	373	505	706	979	1281	1570	1799	1923	1930	
40	0.00	45.9	57.6	77.2	102	129	155	181	210	244	286	343	414	497	591	678	752	803	815	
50	0.00	44.7	52.4	66.2	83.7	104	125	145	165	186	210	235	258	281	299	311	317	318	312	
60	0.00	43.4	47.8	55.5	66.2	78.2	91.8	106	119	132	143	153	162	168	172	172	171	167	161	
70	0.00	42.1	44.5	47.2	51.3	56.4	62.2	68.0	73.5	78.7	83.2	86.7	88.7	89.6	88.8	86.7	83.5	79.2	73.7	
80	0.00	40.5	41.6	42.3	42.7	42.9	42.9	42.7	42.2	41.5	40.3	38.6	36.5	34.0	31.0	27.8	24.2	20.4	15.7	
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	

																	UNIT: cd			
H (DEG)																				
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	20.9	16.8	12.8	8.90	5.24	2.01	0.31	0.01	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.00		
-70	75.3	67.2	58.3	48.8	38.7	28.2	18.2	10.4	4.96	1.55	0.99	0.04	0.05	0.05	0.05	0.06	0.06	0.00		
-60	163	152	139	123	105	86.7	68.3	51.0	33.2	16.8	6.58	1.24	0.00	0.04	0.05	0.05	0.06	0.00		
-50	323	302	282	258	227	190	151	110	78.2	52.9	28.8	9.72	1.73	0.03	0.04	0.05	0.06	0.00		
-40	883	816	731	628	506	387	282	199	138	90.2	59.2	29.8	7.83	0.44	0.04	0.05	0.06	0.00		
-30	1997	1892	1733	1470	1140	802	503	306	200	135	86.0	51.3	18.6	2.50	0.03	0.05	0.05	0.00		
-20	3017	2935	2697	2308	1853	1335	820	446	256	169	110	67.4	31.0	5.76	0.00	0.04	0.05	0.00		
-10	3693	3544	3297	2857	2311	1707	1055	566	295	188	126	77.7	39.1	8.57	0.04	0.04	0.05	0.00		
0	3887	3739	3464	3019	2443	1810	1119	596	304	194	131	81.1	41.5	9.52	0.06	0.04	0.05	0.00		
10	3638	3516	3233	2815	2235	1623	984	520	275	183	124	76.6	38.8	8.27	0.03	0.04	0.05	0.00		
20	2999	2883	2602	2222	1725	1195	708	385	229	159	106	65.6	29.5	5.27	0.02	0.04	0.05	0.00		
30	1920	1827	1638	1352	1028	691	426	258	177	124	82.5	48.6	16.7	2.16	0.04	0.05	0.06	0.00		
40	816	772	703	604	475	350	247	174	123	85.3	55.3	26.5	6.47	0.21	0.04	0.05	0.06	0.00		
50	311	301	285	259	223	178	135	98.7	71.1	47.9	24.5	7.55	1.08	0.03	0.04	0.05	0.06	0.00		
60	154	144	131	115	97.7	78.7	61.3	44.6	27.4	12.6	4.25	0.44	0.02	0.04	0.05	0.05	0.06	0.00		
70	67.0	59.4	51.0	41.7	31.9	21.9	13.4	7.24	3.16	0.49	0.01	0.04	0.05	0.05	0.05	0.06	0.06	0.00		
80	16.7	13.0	9.40	5.67	2.36	0.19	0.00	0.00	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	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

<b>Model No.</b>	LF34LW @2700K	<b>Sample ID</b>	240726003-S1
<b>Temperature (°C)</b>	25.4	<b>Humidity (%RH)</b>	41.0

<b>Test Method</b>
<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 <math>25 \pm 1^\circ\text{C}</math>. 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	0.267	31.5	0.984	15.05

## 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\*\*\*\*\*