

Photometric Test Report

Relevant Standards

- IES LM-79-2008
- ANSI C82.77:2017

Prepared For

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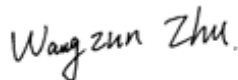
Test Date

2021/2/6

Issue Date

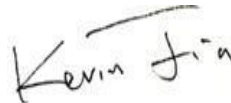
2021/3/16

Prepared By



Wangzun Zhu

Approved By



Kevin Jia

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1.0 Test Summary

DLC Technical Requirements v5.1

Outdoor - Pole/Arm-Mounted Decorative Luminaires				
Requirement Category	Test Method	Requirements		Test value
Luminaire Output (lm) (Goniophotometer - Section 4.2)	IES LM-79-2008	1000		3431
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	131.5
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Wrost Case		26.1
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	5.67%
		20.00%	277V	6.72%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.996
		0.9	277V	0.964
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	5029±355	4805
		4 step	5029±220	
Minimum CRI (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥70		70
Minimum R9 (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥-40		-29
Minimum Rf (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥70		71
Minimum Rg (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥89		95
Minimum IES Rcs,h1 (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	-18% ≤ IES Rcs,h1 ≤ +23%		-17%
Zonal Lumen Requirement (0°-90°) (Goniophotometer - Section 4.2)	IES LM-79-2008	≥65%		100.00%
Input Voltage (V)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Wrost Case		277
(Goniophotometer - Section 4.2)		Non-Wrost Case		120
Input Current (A)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Wrost Case		0.100
(Goniophotometer - Section 4.2)		Non-Wrost Case		0.218
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Wrost Case		26.1
(Goniophotometer - Section 4.2)		Non-Wrost Case		26.0

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2021/2/6	ALED5T26/D10	A1
2	Goniophotometer Test	2021/2/6	ALED5T26/D10	A1
3	THD and PF Test	2021/2/6	ALED5T26/D10	A1

Remark(If any)

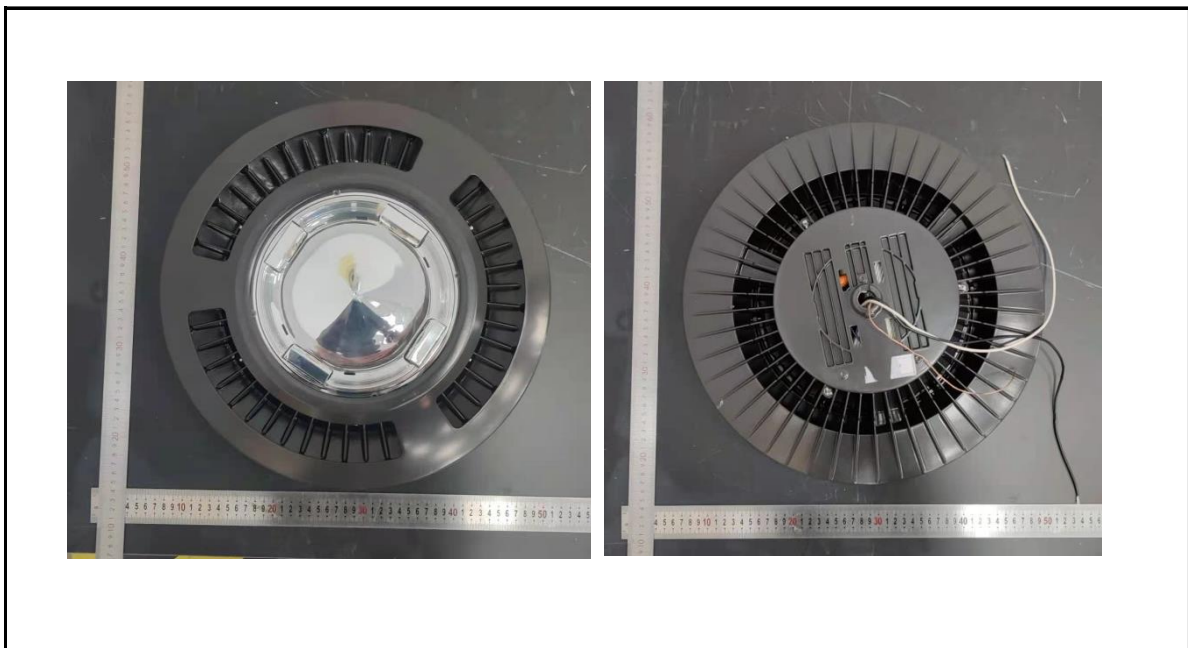
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3.0 Production Description

Luminaire Description: ALED5T26/D10

Electrical Specification: 120V-277V,50/60HZ

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	ALED5T26/D10	Sample ID.	A1
Operate time (Min.)	90	Stabilization time (Min.)	45
Temperature (°C)	25.3	Humidity (%RH)	56.0

Test Method

The samples were tested according to the IES LM-79-2008.

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere.

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.

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 780 nm.

Test Result

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
120.00	60	0.218	26.0	0.996
277.00	60	0.098	26.1	0.964

Test Result

CCT (K)	CRI	R9	Duv
4805	70	-29	0.0057

Rf	Rg	IES Rcs,h1
71	95	-17%

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	ALED5T26/D10	Sample ID.	A1
Operate time (Min.)	90	Stabilization time (Min.)	45
Temperature (°C)	25.3	Humidity (%RH)	54.0

Test Method

The samples were tested according to the IES LM-79-2008.

Photometric parameters were measured using a type C goniophotometer and software.

The ambient temperature shall be maintained at 25° C ± 1° C, measured at a point not more than 1 m from the sample and at the same height as the sample.

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.

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 0.5° vertical intervals and 10° horizontal intervals.

Test Conditions

Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
WROST CASE	277.00	60	0.100	26.1	0.946
NON-WROST CASE	120.00	60	0.218	26.0	0.996

Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
3431	174.7	174.5	170.9	170.8	131.5

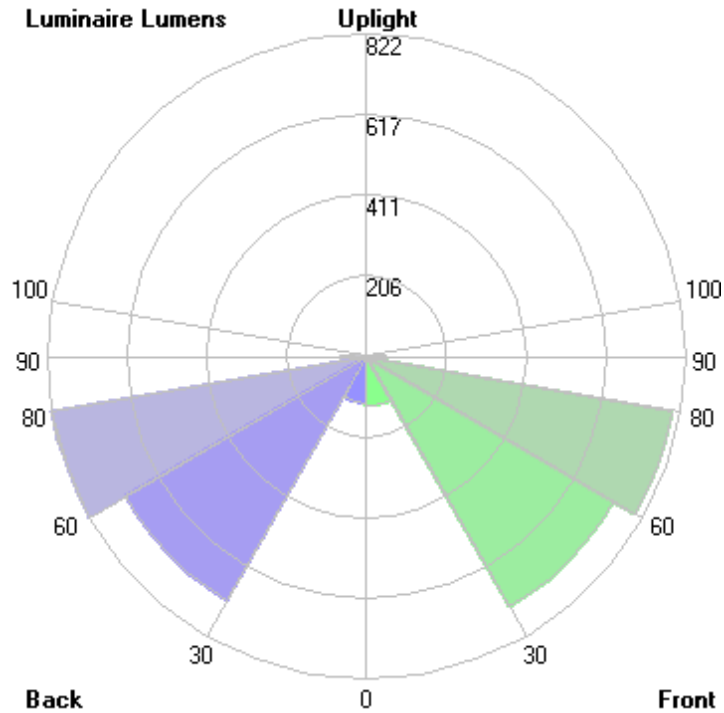
Zonal Lumen Requirement (0°-90°)	BUG rating
100.00%	B2-U0-G1

4.2 Goniophotometer Test

	Zonal (lm)		Total (lm)	Percent
0-10	8.55	0 - 10	8.55	0.25%
10-20	68.81	0 - 20	77.36	2.25%
20-30	167.28	0 - 30	244.64	7.13%
30-40	281.45	0 - 40	526.09	15.33%
40-50	459.42	0 - 50	985.51	28.72%
50-60	710.92	0 - 60	1696.43	49.45%
60-70	913.77	0 - 70	2610.20	76.08%
70-80	707.42	0 - 80	3317.62	96.70%
80-90	113.28	0 - 90	3430.90	100.00%
90-100	0.00	0 - 100	3430.90	100.00%
100-110	0.00	0 - 110	3430.90	100.00%
110-120	0.00	0 - 120	3430.90	100.00%
120-130	0.00	0 - 130	3430.90	100.00%
130-140	0.00	0 - 140	3430.90	100.00%
140-150	0.00	0 - 150	3430.90	100.00%
150-160	0.00	0 - 160	3430.90	100.00%
160-170	0.00	0 - 170	3430.90	100.00%
170-180	0.00	0 - 180	3430.90	100.00%

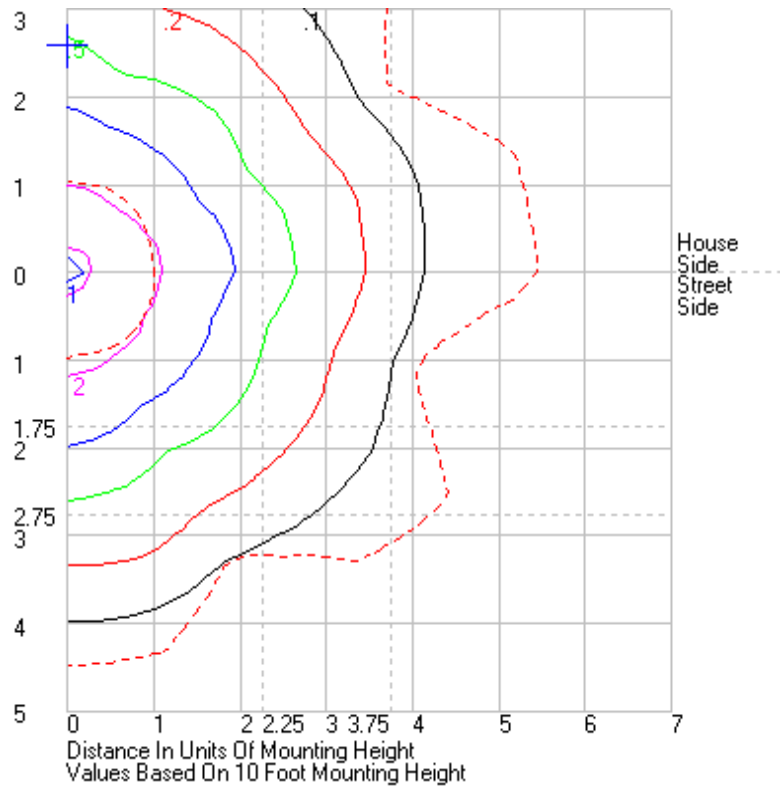
4.2 Goniophotometer Test

LCS/BUG



	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	126.3	N.A.	3.7
FM - Front-Medium (30-60)	735.3	N.A.	21.4
FH - Front-High (60-80)	798.9	N.A.	23.3
FVH - Front-Very High (80-90)	48.7	N.A.	1.4
BL - Back-Low (0-30)	118.4	N.A.	3.5
BM - Back-Medium (30-60)	716.5	N.A.	20.9
BH - Back-High (60-80)	822.3	N.A.	24.0
BVH - Back-Very High (80-90)	64.6	N.A.	1.9
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	3431.0	N.A.	100.0
BUG Rating	B2-U0-G1		

Isolines





NVLAP LAB CODE 201074-0

Vert. Angles	Horizontal Angles									
	0	15	30	45	60	75	90	105	120	135
0	50.298	50.298	50.298	50.298	50.298	50.298	50.298	50.298	50.298	50.298
1	55.715	55.108	54.583	53.592	52.602	51.187	49.419	47.973	46.720	45.902
2	62.819	63.193	62.455	59.805	57.301	54.987	53.451	51.157	48.378	47.165
3	69.610	70.854	68.954	65.063	61.233	59.161	57.857	57.210	54.876	52.157
4	76.604	76.200	74.845	69.802	65.912	63.567	63.264	63.911	60.879	57.978
5	81.121	80.980	78.817	72.988	70.985	69.661	70.884	70.793	67.225	62.718
6	85.760	85.194	82.538	78.918	78.383	74.957	77.049	74.845	71.541	69.004
7	92.066	88.802	88.024	85.588	86.710	82.637	80.343	78.494	76.119	75.300
8	105.133	98.413	96.543	94.724	94.724	88.681	84.274	83.092	81.970	83.587
9	130.227	115.249	115.391	112.228	107.185	97.230	89.115	87.155	88.923	94.037
10	160.231	140.161	142.091	134.855	124.527	113.814	102.768	99.070	104.911	106.174
11	190.236	170.236	170.924	159.544	149.903	138.675	130.166	121.737	125.527	126.487
12	219.281	199.524	197.533	184.233	175.431	165.274	161.191	153.309	149.600	151.409
13	239.736	224.122	219.473	210.590	203.748	189.832	192.217	185.032	173.713	176.351
14	265.946	241.474	240.019	229.175	227.396	212.288	217.897	214.178	196.704	202.222
15	269.266	261.615	253.652	245.102	248.982	241.566	240.362	239.746	222.586	218.857
16	284.435	285.526	262.505	261.353	266.203	256.956	257.300	261.494	241.201	241.706
17	290.094	297.947	263.131	274.925	280.635	270.387	276.421	276.502	258.179	260.827
18	287.648	293.651	270.125	285.647	291.671	274.672	300.615	288.507	268.861	284.374
19	289.902	292.833	277.158	300.948	302.333	275.774	304.334	289.306	282.484	298.017
20	300.231	299.685	292.792	318.209	317.148	285.506	302.353	292.843	293.035	302.848
21	319.856	315.450	311.701	325.263	329.477	299.483	308.467	296.896	303.788	301.999
22	338.856	331.408	329.831	334.743	339.583	316.127	321.433	306.921	314.288	306.254
23	354.207	347.840	346.435	348.305	351.074	333.298	336.056	319.836	320.675	318.492
24	371.236	362.534	358.704	360.048	357.896	346.870	351.660	336.531	332.762	335.612
25	387.810	377.057	368.497	370.063	364.394	357.431	361.574	356.966	346.324	347.042
26	398.896	389.902	378.017	373.156	377.885	368.467	374.753	363.676	360.089	356.178
27	406.496	405.596	384.806	376.056	385.728	376.531	381.311	404.404	373.227	382.080
28	417.501	419.896	396.420	385.920	391.599	389.598	390.680	417.461	382.261	368.527
29	427.900	435.399	408.719	396.865	398.300	401.705	399.704	426.465	389.437	383.737
30	436.693	444.737	410.831	420.674	411.245	420.028	410.538	437.309	394.409	397.188
31	444.171	453.034	422.635	441.402	430.851	432.327	430.235	448.052	399.502	435.480
32	449.790	464.130	439.007	440.634	427.759	433.792	442.089	455.884	415.409	452.933
33	451.306	465.030	433.893	444.242	421.776	444.191	453.186	466.819	429.608	452.488
34	454.348	467.587	428.426	444.424	425.101	446.071	459.017	472.589	422.130	450.053
35	455.651	478.178	429.052	442.797	429.103	434.045	460.159	475.490	416.986	447.698
36	469.911	484.322	433.499	442.655	435.945	430.467	459.492	483.888	409.689	442.190
37	492.185	483.787	443.413	450.002	446.415	434.257	465.626	488.163	411.822	441.321
38	501.068	492.033	461.543	469.345	465.808	444.707	484.757	484.393	419.896	442.908
39	499.411	499.097	487.667	484.959	484.171	464.878	503.170	489.871	442.049	456.763
40	505.980	505.939	510.901	500.543	499.764	486.667	503.898	500.330	466.222	473.327
41	524.413	520.280	531.528	508.587	510.740	511.710	504.969	506.687	492.822	490.083
42	549.375	541.987	544.979	519.946	518.188	533.478	517.682	518.248	516.369	501.725
43	566.121	567.748	555.439	536.035	530.436	557.551	540.219	535.156	532.821	513.347
44	584.231	596.843	567.384	560.613	546.687	573.114	573.751	562.058	548.455	530.628
45	607.283	628.414	585.019	584.039	570.618	583.069	588.051	584.554	560.623	551.305
46	628.879	655.296	607.363	612.558	593.569	601.401	610.254	615.186	577.571	575.337
47	653.487	684.119	628.283	638.682	619.723	619.450	637.732	648.637	596.429	601.411
48	685.220	695.599	652.335	661.047	645.777	640.612	661.320	674.296	615.792	625.494
49	721.097	704.745	676.357	682.138	666.524	668.515	690.688	695.640	643.351	649.354
50	748.171	718.490	693.043	695.983	686.807	689.677	715.387	705.382	664.857	668.848
51	775.154	742.956	711.991	708.252	701.410	713.234	745.968	716.731	685.554	684.240
52	806.614	765.452	727.929	723.522	716.751	731.082	774.699	736.236	703.260	695.316
53	831.859	792.264	739.955	744.129	734.599	748.252	797.357	758.479	720.612	708.848
54	861.450	824.603	752.335	749.010	755.437	766.130	829.575	787.221	732.284	728.899
55	887.847	853.648	767.352	754.184	766.119	781.723	850.303	813.426	745.695	740.723
56	905.664	878.489	774.730	766.241	774.932	799.975	883.016	847.625	758.742	743.361

57	920.520	894.931	776.165	779.045	783.835	813.042	906.836	877.074	789.889	757.267
58	939.539	917.559	775.326	795.235	796.438	818.600	920.621	892.930	777.135	772.860
59	959.165	936.740	786.362	815.285	819.388	823.320	942.521	910.686	777.853	784.149
60	986.401	947.109	795.942	842.036	835.558	819.207	959.772	942.450	780.581	807.453
61	1019.842	950.929	803.380	858.054	850.566	821.420	976.942	956.588	787.686	827.180
62	1057.356	970.484	806.948	889.100	862.268	826.746	1000.236	967.705	791.769	850.869
63	1081.479	990.736	810.091	920.287	876.255	833.618	1030.878	984.238	799.742	879.125
64	1097.446	1012.293	814.467	924.906	881.470	845.826	1075.557	1005.512	812.274	914.931
65	1116.031	1026.431	816.084	952.131	901.884	854.507	1099.387	1029.635	820.662	940.115
66	1142.721	1047.462	828.484	997.710	943.400	857.741	1112.090	1053.930	835.093	967.088
67	1133.535	1038.184	819.560	979.084	960.600	869.666	1127.956	1078.365	854.133	1016.578
68	1106.815	1006.512	796.306	925.734	933.597	851.970	1139.467	1085.642	839.348	994.284
69	1084.864	979.984	775.589	882.420	905.148	832.334	1128.815	1065.744	813.032	937.306
70	1042.611	956.437	756.882	828.181	872.314	820.631	1105.167	1042.682	807.423	893.910
71	985.067	928.898	732.699	781.956	836.872	807.898	1096.911	1016.881	795.912	843.613
72	921.449	902.207	700.430	761.653	813.325	776.215	1043.561	983.551	763.047	795.235
73	856.852	874.476	675.812	753.204	799.813	743.866	971.575	948.534	740.955	769.303
74	810.586	831.879	639.450	731.122	779.227	718.166	901.126	928.837	712.618	764.907
75	754.012	752.547	593.700	696.277	781.046	680.400	835.336	899.873	678.783	754.083
76	685.797	675.145	523.018	665.938	749.899	633.963	795.316	852.092	637.954	736.024
77	618.298	606.585	463.696	617.914	694.195	541.280	729.980	767.059	573.094	706.180
78	538.177	550.537	409.740	581.057	642.250	481.321	679.066	687.727	498.178	656.378
79	450.305	483.423	357.532	536.217	581.836	421.160	635.084	621.694	426.970	592.225
80	353.611	403.524	305.860	473.337	488.072	359.391	553.953	537.025	362.676	517.197
81	260.231	302.019	261.474	419.138	402.625	312.954	474.752	464.535	317.461	453.448
82	149.307	194.066	205.112	324.000	308.639	257.027	372.762	368.709	266.183	380.422
83	67.215	102.021	135.502	223.708	228.023	185.668	247.093	243.677	212.945	292.671
84	44.527	54.977	71.591	133.440	134.653	118.483	151.874	149.226	147.862	190.701
85	22.183	31.763	45.356	58.049	61.829	52.218	60.242	64.234	72.147	99.191
86	8.368	8.550	19.373	38.494	39.889	30.732	40.434	41.172	46.276	56.139
87	4.871	4.457	4.901	20.010	18.949	9.520	20.697	19.495	20.707	31.733
88	2.254	2.254	2.628	8.560	7.509	5.205	6.872	6.023	6.266	7.337
89	0.586	0.718	0.930	5.346	4.428	2.729	4.002	3.547	3.598	4.275
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
91	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
93	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
94	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
96	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
98	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
99	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
103	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
104	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
106	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
109	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
114	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
115	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



177	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
178	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
179	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles	Horizontal Angles									
	150	165	180	195	210	225	240	255	270	285
0	50.298	50.298	50.298	50.298	50.298	50.298	50.298	50.298	50.298	50.298
1	46.296	47.357	49.196	50.914	52.673	53.744	54.755	57.392	58.787	58.907
2	47.802	49.823	51.935	54.330	57.059	58.656	61.283	64.588	65.073	63.911
3	52.845	56.564	58.069	59.464	61.111	63.577	67.458	70.176	71.975	71.854
4	58.281	63.709	64.204	64.588	65.214	68.489	73.370	76.088	76.988	76.988
5	63.436	69.681	70.783	69.408	71.409	73.532	78.321	79.959	81.111	79.787
6	69.631	74.684	76.270	74.492	76.321	77.837	79.999	81.182	83.678	84.689
7	75.371	78.575	79.838	78.544	81.333	83.698	85.629	87.175	88.701	93.198
8	82.304	82.496	83.769	83.284	88.731	92.127	98.543	98.393	100.818	112.015
9	91.793	91.813	87.983	90.954	102.647	107.488	116.220	120.757	128.781	139.868
10	107.185	106.679	101.141	108.751	122.425	129.398	140.696	149.418	152.268	171.156
11	128.822	132.086	122.708	133.946	145.224	152.318	164.031	179.322	173.420	201.787
12	154.188	161.353	149.458	159.201	166.366	176.280	186.416	206.325	194.764	221.191
13	179.665	190.620	173.359	185.345	185.264	203.000	211.388	224.890	217.331	242.636
14	207.033	211.550	189.680	198.968	206.891	223.152	233.136	246.881	245.830	258.058
15	228.730	230.974	211.651	216.098	223.273	242.677	247.891	258.695	269.286	265.405
16	241.989	248.013	241.615	238.119	239.918	260.150	254.753	263.798	286.112	270.660
17	252.055	253.088	263.707	251.135	249.983	274.965	262.778	268.780	297.381	277.825
18	266.163	263.313	277.654	254.410	257.330	277.522	278.391	273.743	309.761	279.715
19	279.634	265.900	291.620	253.793	275.178	269.852	294.632	280.847	323.202	290.074
20	295.279	277.694	302.838	263.394	292.136	275.885	313.045	296.218	327.345	299.643
21	311.832	284.788	310.579	274.844	307.183	292.803	327.992	312.671	333.874	313.005
22	329.296	293.571	308.325	290.670	315.440	309.599	334.621	326.557	342.534	330.144
23	334.682	309.184	312.277	302.262	321.928	326.478	338.371	335.107	344.808	347.123
24	338.906	325.102	314.045	311.570	326.820	339.685	346.243	349.720	350.710	365.647
25	348.618	343.212	317.431	324.172	332.287	342.838	355.399	369.568	362.747	385.404
26	360.089	362.423	327.749	339.442	338.886	346.314	366.233	388.557	374.601	406.435
27	370.084	382.969	340.574	357.057	349.134	357.421	379.391	406.435	390.195	426.566
28	385.536	396.076	353.934	378.239	360.119	371.407	390.306	423.979	400.796	437.430
29	393.196	404.090	371.044	399.260	368.062	401.523	402.332	439.886	415.773	445.849
30	399.411	416.309	387.436	418.684	376.329	432.630	423.605	447.324	435.510	456.025
31	415.338	426.253	404.535	432.125	395.925	439.280	425.040	448.203	447.496	464.656
32	426.890	429.254	425.818	437.552	399.533	429.457	414.328	459.300	450.790	462.736
33	411.811	436.723	437.087	440.593	391.428	418.876	412.084	469.396	457.703	460.553
34	402.706	447.698	438.532	451.144	389.144	409.497	416.167	462.412	458.976	472.185
35	403.211	435.743	441.372	468.213	391.933	405.667	422.635	455.793	467.021	480.543
36	405.970	422.797	443.858	466.323	399.775	409.699	429.497	462.099	476.803	478.986
37	416.379	419.209	447.253	464.070	413.681	425.647	449.659	471.983	499.239	483.959
38	429.871	425.131	453.549	465.929	436.036	445.737	474.813	482.180	517.389	492.508
39	448.688	438.886	471.710	473.863	467.172	456.743	490.982	496.237	518.036	500.239
40	473.276	461.887	485.212	483.382	494.843	469.012	496.621	517.086	528.749	511.993
41	493.610	485.333	491.649	494.277	504.646	480.785	502.574	538.612	558.026	528.880
42	504.888	506.606	513.438	513.125	516.106	500.007	514.620	561.179	574.882	554.792
43	514.489	528.698	528.375	538.551	523.473	518.107	527.778	577.692	585.140	577.227
44	525.686	549.648	541.886	568.122	538.602	546.050	549.567	589.910	601.805	610.092
45	543.069	562.927	564.787	591.638	549.567	574.003	575.944	607.252	628.303	635.196
46	565.201	578.117	590.022	612.184	575.327	604.352	606.383	624.554	655.529	665.413
47	585.272	592.871	615.034	628.495	598.379	628.910	633.114	645.190	686.928	691.112
48	612.417	612.032	636.348	650.981	627.808	656.742	660.016	671.678	716.317	704.887
49	636.711	634.367	662.047	669.859	648.950	677.530	683.048	692.507	745.574	718.085
50	655.135	656.489	692.365	691.092	675.044	699.106	704.462	716.479	769.333	739.298
51	674.983	676.287	724.290	701.299	701.572	716.974	724.675	740.228	797.297	760.874



52	687.312	698.367	753.820	724.078	719.197	738.712	745.746	762.501	828.989	778.891
53	702.926	713.760	781.804	746.281	735.498	743.128	761.622	789.000	858.165	804.896
54	718.813	734.831	813.011	768.140	758.094	747.728	770.374	821.015	883.400	833.931
55	737.196	758.377	845.432	798.367	783.067	757.135	778.428	833.992	909.080	859.257
56	744.119	772.153	868.625	828.817	762.734	777.842	789.697	840.591	924.117	880.237
57	750.425	778.196	893.365	851.778	770.243	806.675	806.534	847.099	949.888	907.746
58	761.461	779.571	904.178	881.510	771.455	814.398	830.940	849.363	974.082	932.020
59	775.750	789.030	922.804	912.071	788.060	838.539	848.615	848.504	997.124	941.560
60	798.489	794.012	940.186	927.998	792.850	860.924	867.837	853.183	1025.380	949.352
61	809.656	780.970	958.619	939.701	794.709	887.139	880.661	857.872	1057.568	965.704
62	831.455	793.335	982.975	941.449	802.158	919.388	889.535	863.843	1092.120	998.397
63	841.622	797.620	998.720	958.094	796.407	939.671	894.598	862.733	1110.908	1031.878
64	849.019	804.704	1015.385	982.348	808.848	962.773	900.287	863.330	1115.021	1061.378
65	866.543	813.678	1036.173	1006.300	818.762	995.790	930.131	867.625	1118.649	1057.507
66	912.243	817.064	1059.063	1038.629	847.978	1026.562	934.992	856.973	1135.637	1043.581
67	951.313	835.679	1114.608	1045.057	828.443	963.339	903.632	844.937	1112.878	1019.114
68	928.483	814.760	1154.545	1046.918	807.595	902.804	870.313	823.401	1085.986	975.183
69	897.367	801.733	1171.918	1027.947	788.949	835.063	844.371	802.370	1058.295	940.469
70	880.277	788.575	1171.746	998.528	773.689	773.436	792.658	771.860	982.298	902.804
71	850.080	772.143	1140.468	988.704	740.763	722.249	732.173	733.992	906.725	865.664
72	819.692	743.260	1056.133	952.859	705.412	691.062	693.821	703.088	838.044	832.759
73	795.073	719.591	963.450	925.371	679.965	656.701	678.146	669.374	780.157	786.038
74	765.493	699.005	879.600	889.150	633.144	631.850	685.877	602.573	750.738	713.073
75	749.828	666.959	815.174	822.228	583.857	615.681	697.065	517.915	705.908	655.408
76	724.947	608.656	780.672	749.586	510.901	606.090	672.982	456.187	657.772	615.559
77	673.821	532.417	725.604	691.375	455.449	581.148	658.419	404.818	599.349	557.419
78	593.559	470.396	669.465	637.702	410.700	524.747	605.393	348.113	500.047	484.777
79	544.969	412.003	592.528	577.015	359.674	461.503	511.012	295.400	400.149	405.091
80	478.673	352.196	515.136	496.995	310.518	408.468	419.664	246.365	299.887	292.216
81	405.111	298.724	412.377	395.157	262.424	351.438	324.808	178.271	206.982	199.423
82	327.113	235.431	295.946	281.757	196.219	251.792	217.563	110.166	114.077	106.629
83	247.204	161.141	188.306	178.928	119.969	138.372	110.318	49.712	45.305	39.070
84	149.064	90.631	80.879	76.594	67.448	52.016	47.913	31.733	26.832	25.851
85	71.015	48.125	38.524	38.019	36.321	33.188	26.832	13.764	15.877	12.633
86	45.285	23.092	25.690	21.657	5.781	14.361	5.942	3.648	4.962	4.356
87	19.596	7.347	12.855	5.548	3.436	3.456	3.194	1.779	2.011	1.758
88	5.387	4.396	4.376	2.900	1.577	1.304	1.213	0.576	0.505	0.495
89	2.698	1.518	1.688	1.061	0.546	0.313	0.212	0.172	0.172	0.162
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
91	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
93	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
94	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
96	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
98	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
99	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
103	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
104	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
106	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
109	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



172	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
173	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
174	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
176	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
178	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
179	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles	Horizontal Angles				
	300	315	330	345	360
0	50.298	50.298	50.298	50.298	50.298
1	55.129	54.866	54.775	54.775	55.715
2	61.445	60.414	60.687	60.677	62.819
3	68.196	65.952	66.599	66.619	69.610
4	74.411	71.056	73.158	73.845	76.604
5	79.514	78.736	80.323	79.626	81.121
6	85.841	87.539	89.135	88.518	85.760
7	98.403	99.716	99.110	95.623	92.066
8	115.633	118.352	114.158	109.893	105.133
9	145.254	139.302	137.230	130.772	130.227
10	168.680	161.485	158.059	154.693	160.231
11	192.035	188.508	183.576	177.533	190.236
12	217.795	211.611	209.731	202.647	219.281
13	234.966	230.802	225.880	231.186	239.736
14	250.600	247.932	244.213	249.064	255.946
15	255.693	265.971	259.261	262.555	269.266
16	270.428	281.352	271.954	270.640	284.435
17	286.072	293.227	282.676	279.766	290.094
18	291.812	299.190	301.645	282.393	287.648
19	306.092	303.131	315.147	293.328	289.902
20	316.471	309.821	318.907	303.313	300.231
21	324.808	322.302	326.284	311.559	319.856
22	334.864	335.925	334.116	323.586	338.856
23	345.900	343.879	337.461	336.905	354.207
24	360.837	351.024	348.042	350.084	371.236
25	372.549	354.318	356.157	363.555	387.810
26	375.713	359.159	364.515	379.917	398.896
27	380.382	369.861	371.175	398.765	406.406
28	385.192	386.092	383.484	417.127	417.501
29	389.123	411.134	394.813	428.598	427.900
30	396.693	436.339	415.904	434.681	436.693
31	416.783	435.722	412.428	435.540	444.171
32	410.841	439.654	412.175	443.656	449.790
33	404.656	433.721	414.520	435.854	451.306
34	403.262	425.071	414.813	424.070	454.348
35	405.930	419.229	416.066	420.442	455.651
36	412.792	421.816	424.080	427.324	469.911
37	431.943	439.361	436.743	441.038	492.185
38	451.538	465.424	458.431	463.928	501.068
39	477.945	483.484	483.433	484.080	499.411
40	501.260	491.760	494.246	503.372	505.980
41	511.548	512.852	507.647	522.584	524.413
42	528.647	523.231	519.855	546.303	549.375
43	542.200	550.042	534.408	563.827	566.121
44	557.035	569.759	560.017	582.007	584.231
45	585.110	596.479	582.543	596.115	607.283
46	605.797	623.715	611.254	614.377	628.879



47	636.580	642.755	633.609	635.448	653.487
48	656.691	669.192	656.994	657.237	685.220
49	678.641	684.432	679.379	680.127	721.097
50	703.543	701.895	697.469	699.662	748.171
51	725.513	714.104	712.335	721.420	775.154
52	742.299	739.460	730.849	742.340	806.614
53	752.567	739.975	750.950	759.813	831.859
54	761.834	751.567	755.296	780.561	861.450
55	763.744	767.211	769.121	796.195	887.847
56	779.277	782.097	779.611	796.296	905.664
57	784.381	803.906	796.751	801.703	920.520
58	792.102	818.105	818.004	807.645	939.539
59	799.702	837.125	825.139	808.444	959.165
60	798.944	872.708	838.206	816.357	986.401
61	810.343	889.747	853.456	830.020	1019.842
62	818.610	929.949	860.702	841.511	1057.356
63	818.186	939.600	872.243	847.473	1081.479
64	833.507	971.555	897.437	847.564	1097.446
65	830.647	1040.640	967.169	856.073	1116.031
66	817.903	981.247	969.534	851.051	1142.721
67	799.904	909.898	919.216	827.403	1133.535
68	767.211	850.816	882.945	814.295	1106.815
69	745.948	786.241	849.454	803.209	1084.864
70	711.708	745.887	810.808	774.902	1042.611
71	671.203	735.882	783.482	744.786	985.067
72	641.482	740.622	776.084	721.905	921.449
73	604.423	719.723	766.645	693.609	856.852
74	562.270	682.209	747.201	648.940	810.586
75	476.510	637.853	697.954	569.021	754.012
76	417.986	584.928	624.736	493.569	685.797
77	370.649	521.492	571.507	429.507	618.298
78	321.605	464.717	492.842	368.588	538.177
79	285.365	396.127	404.707	317.360	450.305
80	239.554	337.512	330.104	267.679	353.611
81	168.296	252.045	247.618	201.990	260.231
82	97.240	160.231	158.968	129.085	149.307
83	53.360	68.842	71.925	63.395	67.215
84	29.591	34.836	45.952	40.980	44.527
85	6.185	20.364	19.980	18.555	22.183
86	3.204	6.276	5.336	5.387	8.368
87	1.475	4.426	3.113	2.759	4.871
88	0.505	0.778	0.748	0.910	2.254
89	0.162	0.172	0.212	0.303	0.586
90	0.000	0.000	0.000	0.000	0.000
91	0.000	0.000	0.000	0.000	0.000
92	0.000	0.000	0.000	0.000	0.000
93	0.000	0.000	0.000	0.000	0.000
94	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000
96	0.000	0.000	0.000	0.000	0.000
97	0.000	0.000	0.000	0.000	0.000
98	0.000	0.000	0.000	0.000	0.000
99	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000
101	0.000	0.000	0.000	0.000	0.000
102	0.000	0.000	0.000	0.000	0.000
103	0.000	0.000	0.000	0.000	0.000
104	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000
106	0.000	0.000	0.000	0.000	0.000



107	0.000	0.000	0.000	0.000	0.000
108	0.000	0.000	0.000	0.000	0.000
109	0.000	0.000	0.000	0.000	0.000
110	0.000	0.000	0.000	0.000	0.000
111	0.000	0.000	0.000	0.000	0.000
112	0.000	0.000	0.000	0.000	0.000
113	0.000	0.000	0.000	0.000	0.000
114	0.000	0.000	0.000	0.000	0.000
115	0.000	0.000	0.000	0.000	0.000
116	0.000	0.000	0.000	0.000	0.000
117	0.000	0.000	0.000	0.000	0.000
118	0.000	0.000	0.000	0.000	0.000
119	0.000	0.000	0.000	0.000	0.000
120	0.000	0.000	0.000	0.000	0.000
121	0.000	0.000	0.000	0.000	0.000
122	0.000	0.000	0.000	0.000	0.000
123	0.000	0.000	0.000	0.000	0.000
124	0.000	0.000	0.000	0.000	0.000
125	0.000	0.000	0.000	0.000	0.000
126	0.000	0.000	0.000	0.000	0.000
127	0.000	0.000	0.000	0.000	0.000
128	0.000	0.000	0.000	0.000	0.000
129	0.000	0.000	0.000	0.000	0.000
130	0.000	0.000	0.000	0.000	0.000
131	0.000	0.000	0.000	0.000	0.000
132	0.000	0.000	0.000	0.000	0.000
133	0.000	0.000	0.000	0.000	0.000
134	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000
136	0.000	0.000	0.000	0.000	0.000
137	0.000	0.000	0.000	0.000	0.000
138	0.000	0.000	0.000	0.000	0.000
139	0.000	0.000	0.000	0.000	0.000
140	0.000	0.000	0.000	0.000	0.000
141	0.000	0.000	0.000	0.000	0.000
142	0.000	0.000	0.000	0.000	0.000
143	0.000	0.000	0.000	0.000	0.000
144	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	0.000	0.000	0.000
146	0.000	0.000	0.000	0.000	0.000
147	0.000	0.000	0.000	0.000	0.000
148	0.000	0.000	0.000	0.000	0.000
149	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000
151	0.000	0.000	0.000	0.000	0.000
152	0.000	0.000	0.000	0.000	0.000
153	0.000	0.000	0.000	0.000	0.000
154	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000
156	0.000	0.000	0.000	0.000	0.000
157	0.000	0.000	0.000	0.000	0.000
158	0.000	0.000	0.000	0.000	0.000
159	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000
161	0.000	0.000	0.000	0.000	0.000
162	0.000	0.000	0.000	0.000	0.000
163	0.000	0.000	0.000	0.000	0.000
164	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	0.000	0.000	0.000
166	0.000	0.000	0.000	0.000	0.000



167	0.000	0.000	0.000	0.000	0.000
168	0.000	0.000	0.000	0.000	0.000
169	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000
171	0.000	0.000	0.000	0.000	0.000
172	0.000	0.000	0.000	0.000	0.000
173	0.000	0.000	0.000	0.000	0.000
174	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
176	0.000	0.000	0.000	0.000	0.000
177	0.000	0.000	0.000	0.000	0.000
178	0.000	0.000	0.000	0.000	0.000
179	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	ALED5T26/D10	Sample ID.	A1
Temperature (°C)	25.3	Humidity (%RH)	56.0

Test Method

The samples were tested according to the ANSI C82.77:2002.

The total harmonic distortion shall be measured to the 40th order.

The ambient temperature condition was maintained at 25° C ± 1° 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 were calculated.

Test Results

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD
120.00	60	0.218	26.0	0.996	5.67%
277.00	60	0.098	26.1	0.964	6.72%

5.0 Equipment Information

Test Equipment			
Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF107	Integrating Sphere System	2020/12/26	2021/12/25
DLF108	Auxiliary Lamp	2020/12/26	2021/12/25
DLF122	Measurement Standard Lamp Standard Lamp Type: 220 V, 0.4720 A, Tungsten, Omni-derectional	2020/12/26	2021/12/25
DLF116	AC Power Source	2020/12/26	2021/12/25
DLF113	Power Meter	2020/12/26	2021/12/25
DLF112	Temperature Recorder	2020/12/26	2021/12/25
DLF114	Temperature & Humidity Datalogger	2020/12/26	2021/12/25
DLF101	Goniophotometer	2020/12/26	2021/12/25
DLF125	Standard Lamp Standard Lamp Type: 76.58 V, 6.7875 A, Tungsten, Omni-derectional	2020/12/26	2021/12/25
DLF104	AC Power Source	2020/12/26	2021/12/25
DLF507	DC Power Source	2020/12/26	2021/12/25
DLF102	Power Meter	2020/12/26	2021/12/25
DLF111	Temperature & Humidity Datalogger	2020/12/26	2021/12/25
DLF119	Power Meter	2020/12/26	2021/12/25
DLF031	Temperature data logger	2020/12/26	2021/12/25
DLF022	Digital power meter	2020/12/26	2021/12/25
DLF003	Temperature & Humidity Datalogger	2020/12/26	2021/12/25

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