

Photometric Test Report

Relevant Standards

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

Prepared For

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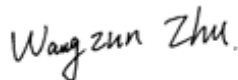
Test Date

2021/2/6

Issue Date

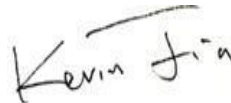
2021/3/16

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		3646
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	139.7
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	3985±275	3832
		4 step	3985±154	
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		-32
Minimum Rf (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥70		72
Minimum Rg (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥89		94
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		0.217
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Wrost Case		26.1
(Goniophotometer - Section 4.2)		Non-Wrost Case		25.9

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2021/2/6	ALED5T26N/D10	A1
2	Goniophotometer Test	2021/2/6	ALED5T26N/D10	A1
3	THD and PF Test	2021/2/6	ALED5T26N/D10	A1

Remark(If any)

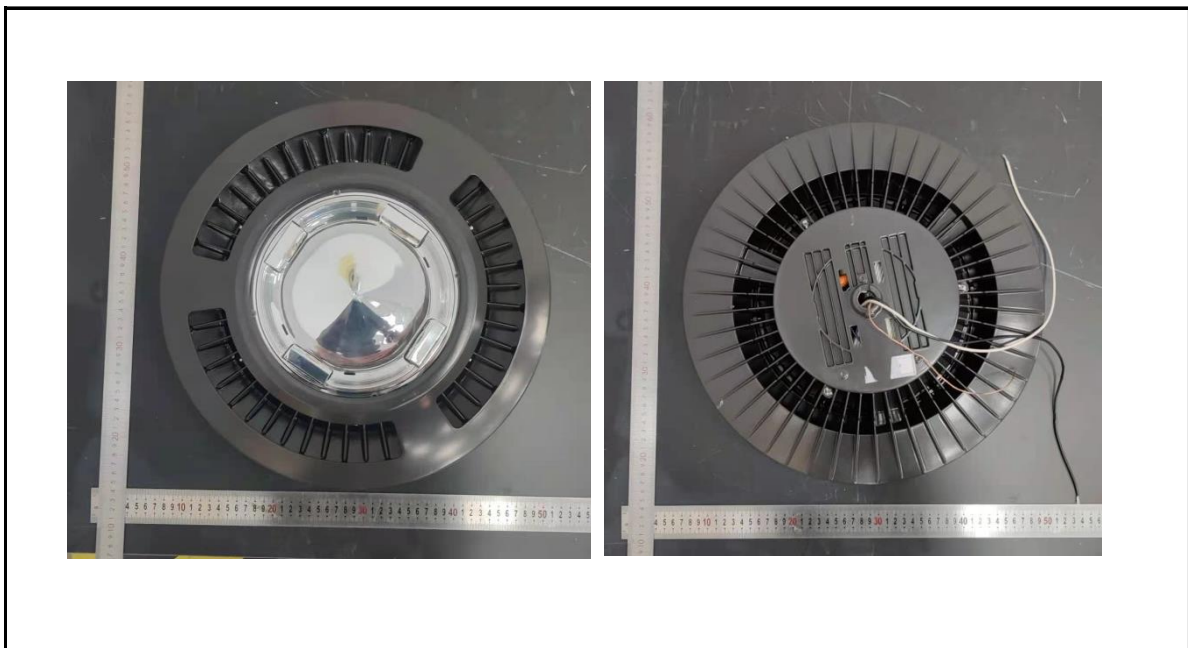
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3.0 Production Description

Luminaire Description: ALED5T26N/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.	ALED5T26N/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	0.217	25.9	0.996
277.00	60	0.098	26.1	0.964

Test Result

CCT (K)	CRI	R9	Duv
3832	70	-32	0.0039

Rf	Rg	IES Rcs,h1
72	94	-17%

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	ALED5T26N/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	0.217	25.9	0.996

Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
3646	174.7	174.5	170.9	170.8	139.7

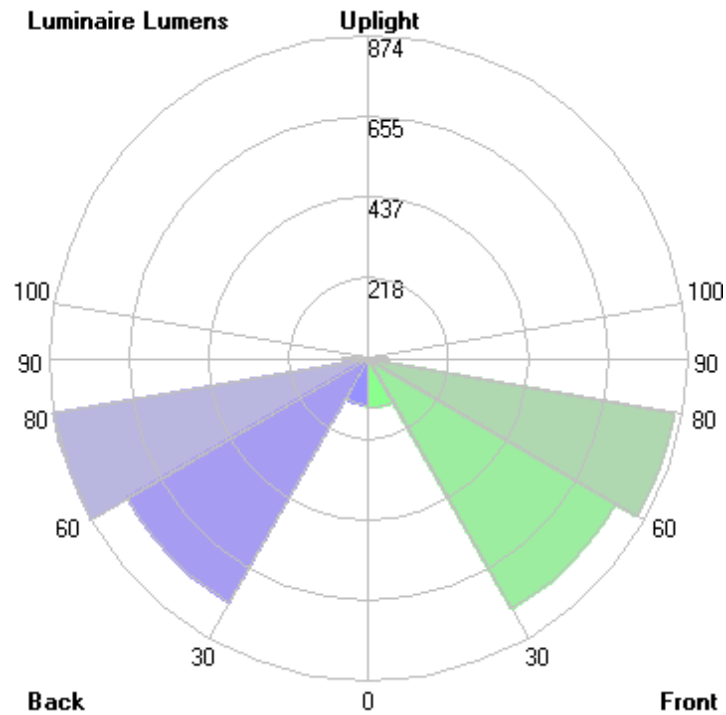
Zonal Lumen Requirement (0°-90°)	BUG rating
100.00%	B2-U0-G1

4.2 Goniophotometer Test

	Zonal (lm)		Total (lm)	Percent
0-10	9.09	0 - 10	9.09	0.25%
10-20	73.12	0 - 20	82.21	2.25%
20-30	177.76	0 - 30	259.97	7.13%
30-40	299.08	0 - 40	559.05	15.33%
40-50	488.20	0 - 50	1047.25	28.72%
50-60	755.46	0 - 60	1802.71	49.45%
60-70	971.02	0 - 70	2773.73	76.08%
70-80	751.73	0 - 80	3525.46	96.70%
80-90	120.38	0 - 90	3645.84	100.00%
90-100	0.00	0 - 100	3645.84	100.00%
100-110	0.00	0 - 110	3645.84	100.00%
110-120	0.00	0 - 120	3645.84	100.00%
120-130	0.00	0 - 130	3645.84	100.00%
130-140	0.00	0 - 140	3645.84	100.00%
140-150	0.00	0 - 150	3645.84	100.00%
150-160	0.00	0 - 160	3645.84	100.00%
160-170	0.00	0 - 170	3645.84	100.00%
170-180	0.00	0 - 180	3645.84	100.00%

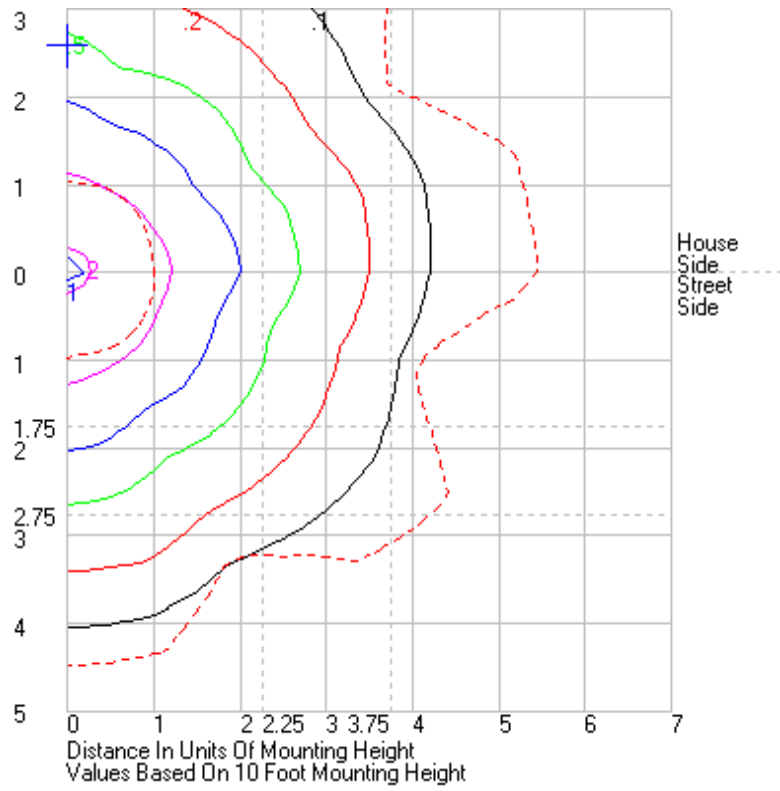
4.2 Goniophotometer Test

LCS/BUG



	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	134.2	N.A.	3.7
FM - Front-Medium (30-60)	781.4	N.A.	21.4
FH - Front-High (60-80)	849.0	N.A.	23.3
FVH - Front-Very High (80-90)	51.8	N.A.	1.4
BL - Back-Low (0-30)	125.8	N.A.	3.5
BM - Back-Medium (30-60)	761.3	N.A.	20.9
BH - Back-High (60-80)	873.8	N.A.	24.0
BVH - Back-Very High (80-90)	68.6	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	3645.9	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	53.449	53.449	53.449	53.449	53.449	53.449	53.449	53.449	53.449	53.449
1	59.205	58.560	57.981	56.950	55.897	54.394	52.514	50.979	49.647	48.777
2	66.754	67.152	66.368	63.339	60.891	58.432	56.799	54.381	51.408	50.120
3	73.971	75.292	73.273	69.139	65.068	62.867	61.482	60.794	58.313	55.425
4	81.403	80.973	79.534	74.175	70.041	67.549	67.227	67.914	64.693	61.610
5	88.203	86.053	83.754	77.558	75.432	74.025	75.324	75.228	71.437	68.647
6	91.132	90.531	87.706	83.862	83.293	79.652	81.875	79.534	76.022	73.327
7	97.833	94.365	93.538	90.950	92.142	87.814	85.376	83.411	80.887	80.017
8	111.719	104.578	102.591	100.658	100.658	94.236	89.554	88.297	87.105	88.823
9	138.384	122.469	122.619	119.258	113.899	103.321	94.698	92.614	94.494	99.928
10	170.269	148.941	150.992	143.303	132.328	120.944	109.206	105.276	111.483	112.825
11	202.153	180.901	181.831	169.539	159.294	147.362	138.320	129.364	133.391	134.411
12	233.018	212.023	209.907	195.774	186.421	175.628	171.289	162.913	158.971	160.894
13	254.754	238.162	233.222	223.782	216.512	201.724	204.258	196.623	184.595	187.398
14	271.979	256.601	255.054	243.531	241.641	225.686	231.548	227.594	209.026	214.890
15	286.133	278.004	269.541	260.456	262.454	256.697	255.419	254.764	236.529	232.567
16	302.253	303.413	278.949	277.725	282.879	273.053	273.418	277.875	256.311	256.848
17	308.267	316.611	279.615	292.147	298.215	287.325	293.737	293.823	274.353	277.166
18	305.668	312.047	287.046	303.542	309.942	291.879	319.446	304.454	285.704	302.188
19	308.063	311.177	294.521	319.801	321.272	293.049	323.398	307.429	300.180	316.686
20	319.038	318.458	311.134	338.143	337.015	303.391	321.293	311.188	311.392	321.820
21	339.893	335.211	331.227	345.639	350.117	318.243	327.790	315.494	322.818	320.917
22	360.083	352.168	350.493	355.712	360.856	335.931	341.569	326.147	333.976	325.439
23	376.396	369.630	368.137	370.124	373.067	354.177	357.108	339.872	340.763	338.444
24	394.491	385.245	381.175	382.603	380.316	368.599	373.689	357.613	353.607	356.636
25	412.103	400.677	391.561	393.245	387.221	379.822	384.225	379.328	368.019	366.782
26	423.884	414.326	401.697	398.532	401.558	391.549	398.228	407.711	382.646	378.490
27	431.960	431.004	408.699	399.614	409.891	400.118	405.198	429.737	396.607	384.762
28	443.655	446.200	421.253	410.095	416.131	414.004	415.153	443.612	406.208	391.613
29	454.705	462.674	434.323	421.726	423.251	426.870	424.743	453.181	413.832	407.775
30	464.049	472.597	436.567	447.027	437.007	446.340	436.256	464.704	419.116	422.069
31	471.995	481.414	449.110	469.053	457.841	459.409	457.188	476.119	424.529	462.760
32	477.966	493.205	466.508	468.237	454.555	460.966	469.783	484.442	441.432	481.306
33	479.577	494.161	461.074	472.071	448.198	472.017	481.575	496.082	456.520	480.834
34	482.810	496.878	455.264	472.264	451.731	474.014	487.771	502.194	448.573	478.246
35	484.195	508.133	455.930	470.535	455.983	461.235	488.985	505.276	443.107	475.743
36	499.348	514.662	460.655	470.385	463.254	457.433	488.276	514.200	435.354	469.891
37	523.017	514.093	471.190	478.192	474.380	461.460	494.795	518.743	437.620	468.967
38	532.457	522.856	490.456	498.747	494.988	472.565	515.124	514.737	446.200	470.653
39	530.696	530.363	518.217	515.339	514.501	494.000	534.691	520.558	469.740	485.376
40	537.676	537.633	542.906	531.898	531.071	517.154	535.464	531.673	495.428	502.978
41	557.264	552.872	564.825	540.447	542.734	543.765	536.602	538.428	523.694	520.783
42	583.790	575.940	579.118	552.517	550.649	566.897	550.112	550.713	548.716	533.155
43	601.585	603.314	590.233	569.614	563.665	592.478	574.060	568.680	566.199	545.505
44	620.829	634.232	602.927	595.732	580.933	609.016	609.693	597.267	582.813	563.869
45	645.325	667.781	621.667	620.625	606.363	619.594	624.888	621.173	595.742	585.841
46	668.275	696.347	645.411	650.931	630.752	639.075	648.482	653.723	613.752	611.379
47	694.424	726.975	667.641	678.692	658.545	658.255	677.682	689.270	633.791	639.086
48	728.145	739.174	693.200	702.457	686.230	680.743	702.747	716.536	654.367	664.677
49	766.269	748.893	718.727	724.870	708.278	710.393	733.955	739.217	683.653	690.032
50	795.039	763.498	736.457	739.582	729.831	732.881	760.202	749.570	706.506	708.621
51	823.713	789.498	756.593	752.620	745.349	757.914	792.698	761.630	728.500	727.104
52	857.144	813.403	773.529	768.847	761.651	776.879	823.229	782.356	747.315	738.874
53	883.970	841.894	786.308	790.744	780.617	795.125	847.307	805.993	765.754	753.253
54	915.414	876.259	799.464	795.931	802.761	814.123	881.543	836.535	778.157	774.560
55	943.465	907.124	815.422	801.429	814.112	830.693	903.569	864.382	792.408	787.125
56	962.398	933.520	823.262	814.241	823.476	850.088	938.331	900.723	806.272	789.927



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57	978.184	950.993	824.787	827.847	832.938	863.974	963.644	932.017	818.096	804.704
58	998.395	975.038	823.895	845.051	846.329	869.880	978.292	948.867	825.818	821.275
59	1019.251	995.421	835.622	886.358	870.718	874.895	1001.563	967.735	826.580	833.271
60	1048.193	1008.439	845.803	894.784	887.901	870.525	1019.895	1001.488	829.480	858.035
61	1083.729	1010.498	853.707	911.806	903.848	872.876	1038.141	1016.512	837.029	878.998
62	1123.592	1031.279	857.498	944.798	916.284	878.538	1062.895	1028.325	841.368	904.170
63	1149.226	1052.800	860.838	977.937	931.147	885.839	1095.456	1045.895	849.841	934.197
64	1166.194	1075.706	865.488	982.845	936.688	898.811	1142.933	1068.500	863.158	972.246
65	1185.944	1090.730	867.208	1011.778	958.381	908.038	1168.256	1094.135	872.071	999.008
66	1214.306	1113.079	880.383	1060.210	1002.498	911.473	1181.755	1119.952	887.407	1027.670
67	1204.544	1103.220	870.900	1040.418	1020.778	924.145	1198.616	1143.792	907.639	1080.260
68	1178.149	1069.564	846.190	983.726	992.081	905.341	1210.848	1153.651	891.928	1056.569
69	1152.824	1041.373	824.175	937.698	961.850	884.475	1199.529	1132.506	863.963	996.022
70	1107.924	1016.351	804.296	880.061	926.959	872.039	1174.399	1107.999	858.003	949.908
71	1046.775	987.087	778.598	830.940	889.297	858.508	1165.625	1080.582	845.771	896.460
72	979.172	958.725	744.308	809.365	864.274	824.840	1108.933	1045.164	810.847	845.051
73	910.528	929.257	718.147	800.387	849.916	790.464	1032.438	1007.953	787.372	817.495
74	861.364	883.991	679.508	776.922	828.041	763.155	957.576	987.023	757.259	812.823
75	801.246	799.689	630.892	739.894	829.974	723.023	887.664	956.244	721.304	801.322
76	728.757	717.438	555.782	707.655	796.876	673.676	845.137	905.470	677.918	782.131
77	657.031	644.584	492.743	656.623	737.682	575.188	775.709	815.111	608.995	750.418
78	571.891	585.025	435.407	617.457	682.482	511.473	721.605	730.809	529.385	697.496
79	478.514	513.708	379.929	569.807	618.284	447.542	674.868	660.639	453.717	629.324
80	375.762	428.803	325.020	502.989	518.646	381.905	588.655	570.667	385.395	549.596
81	276.533	320.939	277.854	445.395	427.847	332.559	504.492	493.635	337.348	481.854
82	158.680	206.159	217.961	344.297	327.973	273.128	396.113	391.806	282.858	404.253
83	71.426	108.412	143.990	237.721	242.307	197.299	262.572	258.942	226.284	311.005
84	47.317	58.421	76.076	141.799	143.088	125.906	161.388	158.574	157.124	202.647
85	23.572	33.753	48.197	61.686	65.702	55.489	64.016	68.258	76.667	105.405
86	8.892	9.085	20.587	40.905	42.387	32.658	42.967	43.751	49.174	59.656
87	5.176	4.736	5.208	21.263	20.136	10.116	21.994	20.716	22.004	33.721
88	2.395	2.395	2.792	9.096	7.979	5.531	7.303	6.401	6.658	7.797
89	0.623	0.762	0.988	5.681	4.704	2.900	4.253	3.769	3.823	4.543
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



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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	53.449	53.449	53.449	53.449	53.449	53.449	53.449	53.449	53.449	53.449
1	49.198	50.324	52.278	54.104	55.972	57.111	58.185	60.988	62.470	60.472
2	50.798	52.944	55.188	57.734	60.633	62.330	65.122	68.634	69.149	67.914
3	56.155	60.107	61.707	63.189	64.940	67.560	71.684	74.573	76.484	76.355
4	61.911	67.699	68.226	68.634	69.300	72.779	77.966	80.855	81.811	81.821
5	67.410	74.046	75.217	73.756	75.883	78.138	81.102	84.968	86.192	84.785
6	73.993	79.362	81.048	79.158	81.102	82.713	85.011	86.267	88.920	89.994
7	80.092	83.497	84.839	83.465	86.429	88.941	90.993	92.636	94.257	99.036
8	87.459	87.664	89.017	88.501	94.290	97.898	102.591	104.556	107.134	119.033
9	97.544	97.565	93.495	96.652	109.077	114.221	123.500	128.322	136.849	148.630
10	113.899	113.362	107.477	115.564	130.094	137.504	149.510	158.778	161.806	181.878
11	136.892	140.360	130.395	142.336	154.321	161.860	174.307	190.555	184.283	214.428
12	163.847	171.461	158.821	169.174	176.788	187.323	198.094	219.250	206.965	235.047
13	190.920	202.561	184.219	196.956	196.870	215.717	224.630	238.978	230.945	257.836
14	220.002	224.802	201.563	211.432	219.851	237.131	247.741	262.346	261.229	274.224
15	243.059	245.443	224.910	229.635	237.260	257.879	263.420	274.900	286.155	282.031
16	257.148	263.549	256.751	253.035	254.947	276.447	270.712	280.324	304.036	287.615
17	267.845	268.940	280.227	266.867	265.643	292.190	279.239	285.618	316.010	295.229
18	282.836	279.808	295.047	270.347	273.450	294.907	295.831	290.891	329.165	297.238
19	297.152	282.557	309.888	269.692	292.416	286.756	313.069	298.440	343.448	308.245
20	313.776	295.090	321.809	279.894	310.436	293.168	332.655	314.775	347.851	318.308
21	331.367	302.629	330.035	292.061	326.427	311.145	348.538	332.258	354.789	332.612
22	349.924	311.961	327.640	308.879	335.200	328.993	355.583	347.014	363.992	350.826
23	355.648	328.553	331.839	321.197	342.095	346.928	359.568	356.099	366.408	368.868
24	360.137	345.467	333.718	331.087	347.293	360.964	367.933	371.628	372.680	388.552
25	370.457	364.712	337.316	344.479	353.103	364.314	377.663	392.719	385.470	409.547
26	382.646	385.127	348.281	360.706	360.115	368.008	389.175	412.898	398.067	431.896
27	393.267	406.959	361.909	379.424	371.005	379.811	403.158	431.896	414.638	453.288
28	409.687	420.888	376.106	401.933	382.678	394.674	414.756	450.539	425.903	464.832
29	417.827	429.404	394.287	424.271	391.119	426.676	427.535	467.442	441.819	473.778
30	424.432	442.388	411.706	444.911	399.904	459.731	450.141	475.346	462.792	484.592
31	441.357	452.955	429.877	459.194	420.727	466.798	451.666	476.280	475.529	493.764
32	453.632	456.145	452.493	464.961	424.561	456.359	440.283	488.072	479.030	491.723
33	437.609	464.081	464.467	468.194	415.948	445.115	437.899	498.800	486.375	489.404
34	427.933	475.743	466.003	479.405	413.521	435.150	442.237	491.380	487.728	501.764
35	428.470	463.039	469.021	497.544	416.485	431.079	449.110	484.345	496.277	510.646
36	431.402	449.282	471.663	495.536	424.818	435.364	456.402	491.047	506.672	508.992
37	442.463	445.470	475.271	493.141	439.596	452.311	477.827	501.550	530.513	514.275
38	456.800	451.763	481.961	495.117	463.350	473.660	504.557	512.385	549.800	523.361
39	476.796	466.379	501.260	503.547	496.438	485.355	521.739	527.323	550.488	531.576
40	502.924	490.821	515.607	513.663	525.841	498.392	527.732	549.478	561.871	544.066
41	524.531	515.736	522.448	525.240	536.258	510.903	534.057	572.353	592.983	562.011
42	536.516	538.342	545.601	545.269	548.437	531.329	546.858	596.333	610.874	589.546
43	546.718	561.818	561.474	572.288	556.265	550.563	560.840	613.881	621.796	613.387
44	558.617	584.080	575.832	603.711	572.342	580.257	583.994	626.864	639.504	648.311
45	577.089	598.191	600.167	628.701	583.994	609.961	612.023	645.293	667.662	674.987
46	600.607	614.332	626.983	650.534	611.368	642.211	644.369	663.678	696.594	707.097
47	621.935	630.011	653.562	667.866	635.864	668.307	672.774	685.608	729.960	734.406
48	650.781	650.372	676.211	691.761	667.136	697.882	701.362	713.755	761.190	749.044
49	676.597	674.106	703.520	711.822	689.602	719.973	725.836	735.888	792.279	763.069
50	696.175	697.614	735.738	734.385	717.331	742.901	748.593	761.361	817.527	785.610
51	717.266	718.652	769.663	745.231	745.521	761.888	770.071	786.598	847.242	808.538



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52	730.368	739.990	801.042	769.437	764.250	784.987	792.462	810.267	880.920	827.471
53	746.960	758.473	830.779	793.031	781.572	789.680	809.333	838.425	911.924	855.318
54	763.842	780.864	863.942	814.133	803.459	794.567	818.633	872.447	938.740	886.172
55	783.377	803.759	898.393	846.254	810.869	804.565	825.066	886.236	968.028	913.084
56	790.733	820.523	923.039	880.738	810.514	826.569	839.166	893.249	982.008	935.378
57	797.434	826.945	949.328	905.137	818.494	857.208	857.058	900.165	1009.392	964.610
58	809.161	828.406	960.819	936.731	819.782	865.413	882.993	902.570	1035.102	990.406
59	824.346	838.458	980.611	969.206	837.427	891.069	901.775	901.657	1059.587	1000.543
60	848.509	843.752	999.083	986.131	842.517	914.856	922.201	906.630	1089.614	1008.823
61	860.376	840.519	1018.671	998.567	844.493	942.713	935.829	911.613	1123.818	1026.199
62	883.540	843.032	1044.552	1000.425	852.408	976.982	945.258	917.745	1160.535	1060.940
63	894.344	847.586	1061.284	1018.112	846.297	998.535	950.639	916.778	1180.499	1096.519
64	902.205	855.114	1078.993	1043.886	859.517	1023.085	956.685	917.412	1184.870	1127.866
65	920.827	864.650	1101.083	1069.338	870.052	1058.169	988.397	921.976	1188.725	1123.753
66	969.389	868.248	1125.407	1103.693	901.099	1090.870	993.563	910.657	1206.777	1108.955
67	1010.907	888.029	1184.429	1110.523	880.340	1023.686	960.239	897.866	1182.593	1082.955
68	986.647	865.799	1226.870	1112.499	858.185	959.359	924.832	874.981	1153.995	1036.272
69	953.581	851.957	1245.331	1092.341	838.372	887.374	897.265	852.633	1124.591	999.383
70	935.421	837.974	1245.148	1061.080	822.156	821.887	842.313	820.212	1043.833	959.359
71	903.333	820.512	1211.911	1048.515	787.167	767.493	778.039	779.972	963.525	919.892
72	871.040	789.820	1122.293	1012.550	749.602	734.352	737.284	747.132	890.542	884.926
73	844.880	764.669	1023.804	983.339	722.561	697.839	720.628	711.306	829.029	835.279
74	813.446	742.793	934.702	944.850	672.806	671.432	728.843	640.321	797.767	757.742
75	796.800	708.740	866.240	873.736	620.432	654.249	740.731	550.359	750.128	696.465
76	770.361	644.659	829.576	796.543	542.906	644.058	715.140	484.764	698.978	654.120
77	716.031	565.770	771.059	734.685	483.980	617.554	699.665	430.177	636.895	592.338
78	630.741	499.864	711.403	677.650	436.427	557.619	643.317	369.920	531.372	515.145
79	579.108	437.813	629.646	613.161	382.206	490.413	543.024	313.905	425.216	430.467
80	508.659	374.259	547.406	528.129	329.971	434.054	445.953	261.799	318.673	310.522
81	430.489	315.312	438.210	419.911	278.863	373.453	345.156	189.438	219.948	211.915
82	347.604	250.179	314.485	299.407	208.511	267.565	231.192	117.067	121.223	113.309
83	262.690	171.235	200.102	190.136	127.484	147.040	117.228	52.826	48.144	41.517
84	158.402	96.309	85.945	81.392	71.673	55.274	50.914	33.721	28.512	27.471
85	75.464	51.140	40.938	40.401	38.596	35.267	28.512	14.627	16.871	13.424
86	48.122	24.539	27.299	23.014	6.143	15.260	6.315	3.877	5.273	4.629
87	20.823	7.807	13.660	5.896	3.651	3.673	3.394	1.890	2.137	1.869
88	5.724	4.672	4.650	3.082	1.675	1.385	1.289	0.612	0.537	0.526
89	2.867	1.611	1.793	1.128	0.580	0.333	0.226	0.183	0.183	0.172
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	53.449	53.449	53.449	53.449	53.449
1	58.582	58.303	58.206	58.206	59.205
2	65.294	64.199	64.488	64.478	66.754
3	72.468	70.084	70.771	70.792	73.971
4	79.072	75.507	77.741	78.471	81.403
5	84.495	83.689	85.355	84.614	86.203
6	91.218	93.022	94.719	91.938	91.132
7	104.567	105.963	105.319	101.614	97.833
8	122.877	125.766	121.309	116.777	111.719
9	154.354	148.028	145.827	138.964	138.384
10	179.247	171.601	167.960	164.384	170.269
11	204.065	200.317	195.076	188.654	202.153
12	231.439	224.867	222.869	215.341	233.018
13	249.685	245.260	240.030	245.668	254.754
14	266.298	263.463	259.511	264.666	271.979
15	271.711	262.632	275.502	279.003	286.133
16	287.368	298.977	288.990	287.594	302.253
17	303.993	311.596	300.384	297.291	308.267
18	310.092	317.932	320.542	300.084	305.668
19	325.267	322.120	334.889	311.703	308.063
20	338.296	329.230	338.884	322.314	319.038
21	345.156	342.492	346.724	331.077	339.893
22	355.841	356.969	355.046	343.856	360.083
23	367.568	365.420	358.601	358.010	376.396
24	383.441	373.013	369.845	372.014	394.491
25	395.887	376.514	378.468	386.329	412.103
26	399.249	381.658	387.350	403.716	423.884
27	404.210	393.031	394.427	423.745	431.960
28	409.322	410.278	407.507	443.258	443.655
29	413.499	436.889	419.546	455.446	454.705
30	421.543	463.673	441.958	461.911	464.049
31	442.871	463.018	438.264	462.824	471.995
32	436.578	467.195	437.995	471.448	477.966
33	430.005	460.891	440.487	463.157	479.577
34	428.523	451.699	440.798	450.635	482.810
35	431.359	445.491	442.130	446.780	484.195
36	438.650	448.241	450.646	454.093	499.348
37	459.001	466.884	464.102	468.666	523.017
38	479.824	494.580	487.148	492.990	532.457
39	507.888	513.771	513.717	514.404	530.696
40	532.661	522.566	525.208	534.905	537.676
41	543.593	544.979	539.448	555.320	557.264
42	561.764	556.008	552.421	580.525	583.790
43	576.165	584.499	567.885	599.147	601.585
44	591.930	605.451	595.098	618.466	620.829
45	621.763	633.845	619.036	633.458	645.325
46	643.746	662.787	649.546	652.864	668.275



47	676.458	683.019	673.300	675.255	694.424
48	697.829	711.113	698.151	698.409	728.145
49	721.154	727.308	721.938	722.733	766.269
50	747.615	745.865	741.161	743.491	795.039
51	770.962	758.838	756.958	766.613	823.713
52	788.800	785.782	776.632	788.843	857.144
53	799.711	786.330	797.993	807.411	883.970
54	809.559	798.648	802.610	829.458	915.414
55	811.588	815.272	817.301	846.072	943.465
56	828.094	831.091	828.449	846.179	962.398
57	833.518	854.266	846.662	851.924	978.184
58	841.722	869.354	869.247	858.239	998.395
59	849.798	889.565	876.828	859.087	1019.251
60	848.993	927.378	890.714	867.496	1048.193
61	861.106	945.484	906.920	882.015	1083.729
62	869.891	988.204	914.619	894.226	1123.592
63	869.440	998.480	926.884	900.562	1149.226
64	885.720	1032.417	953.656	900.659	1166.194
65	882.681	1105.830	1027.756	909.701	1185.944
66	869.139	1042.716	1030.269	904.364	1214.306
67	850.013	966.898	976.799	879.234	1204.544
68	815.272	903.902	938.256	865.305	1176.149
69	792.677	835.494	902.667	853.525	1152.824
70	756.292	792.612	861.600	823.444	1107.924
71	713.250	781.980	832.562	791.442	1046.775
72	681.666	787.017	824.701	767.128	979.172
73	642.286	764.809	814.670	737.059	910.528
74	597.493	724.945	794.008	689.592	861.364
75	506.361	677.811	741.677	604.667	801.246
76	444.170	621.570	663.872	524.488	728.757
77	393.868	554.161	607.309	456.413	657.031
78	341.751	493.828	523.715	391.678	571.891
79	303.241	420.942	430.059	337.241	478.514
80	254.660	358.655	350.783	284.447	375.762
81	178.839	267.834	263.130	214.643	276.533
82	103.332	170.269	168.927	137.171	158.660
83	56.703	73.155	76.430	67.367	71.426
84	31.444	37.018	48.831	43.547	47.317
85	6.572	21.639	21.231	19.717	23.572
86	3.404	6.669	5.670	5.724	8.892
87	1.568	4.704	3.308	2.932	5.176
88	0.537	0.827	0.795	0.967	2.395
89	0.172	0.183	0.226	0.322	0.623
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.	ALED5T26N/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	0.217	25.9	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*****