

Photometric Test Report

Relevant Standards

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

Prepared For RAB Lighting Inc.

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Project Number

DLF2102103

Report Number

DLF2102103-5a


Test Date

2021/2/6

Issue Date

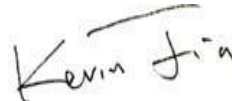
2021/3/16

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		9530
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	118.5
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Wrost Case		80.4
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	2.45%
		20.00%	277V	8.39%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.999
		0.9	277V	0.965
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		120
(Goniophotometer - Section 4.2)		Non-Wrost Case		277
Input Current (A)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Wrost Case		0.671
(Goniophotometer - Section 4.2)		Non-Wrost Case		0.292
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Wrost Case		80.4
(Goniophotometer - Section 4.2)		Non-Wrost Case		78.1

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2021/2/6	ALED5T78/D10	E1
2	Goniophotometer Test	2021/2/6	ALED5T78/D10	E1
3	THD and PF Test	2021/2/6	ALED5T78/D10	E1

Remark(If any)

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- 2、 The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products. This report does not imply that the product(s) has met the criteria for certification.

3.0 Production Description

Luminaire Description: ALED5T78/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.	ALED5T78/D10	Sample ID.	E1
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° C ± 1° 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
120.01	60	0.670	80.3	0.999
277.07	60	0.292	78.0	0.965

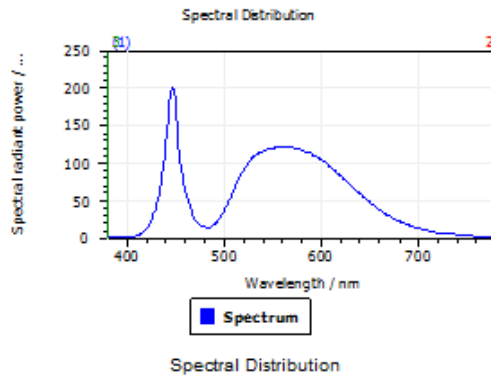
Test Result

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

Rf	Rg	IES Rcs,h1
71	95	-17%

4.1 Integrating Sphere Test

Results



Spectral values

DominantWavelength 570.70 nm
Purity 0.165
PeakWavelength 446.37 nm
Radiant Power 21.26 W
Width50%:

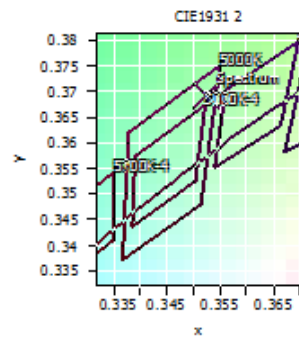
Date: 2021/2/7 22:08:05

Color Coordinates

Correlated Color Temperatu 4805 K
x: 0.3524 u: 0.2096 u': 0.2096
y: 0.3691 v: 0.3294 v': 0.4940

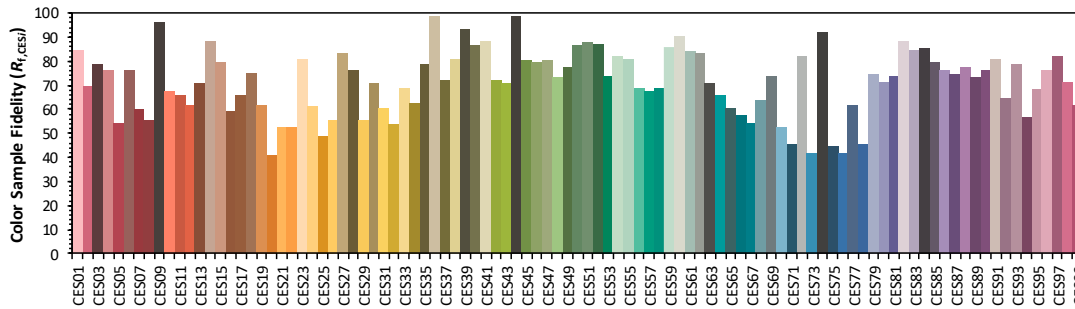
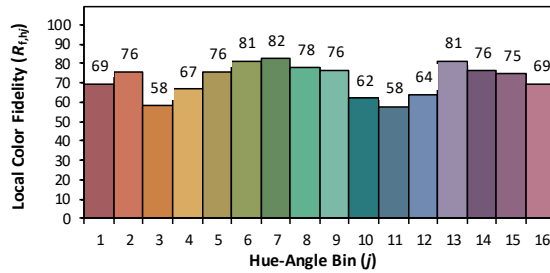
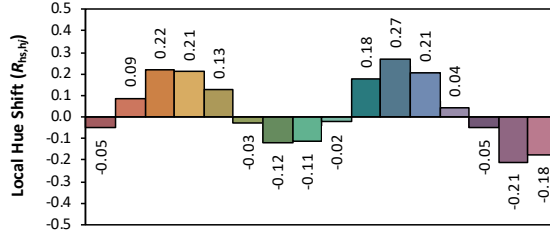
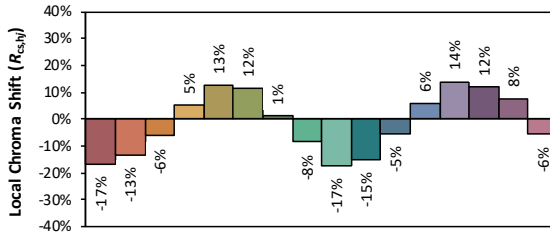
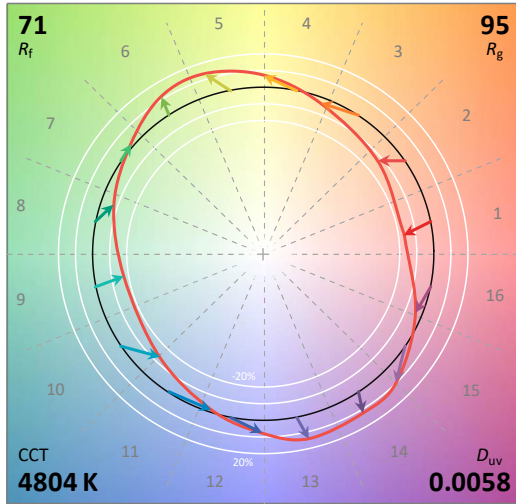
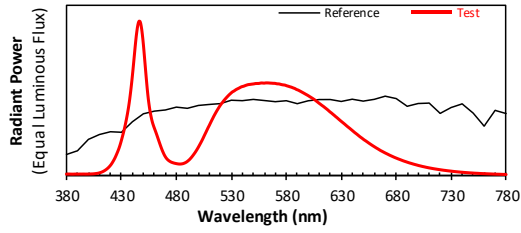
CRI01	67.3	CRI09	-28.9
CRI02	73.7	CRI10	37.4
CRI03	78.1	CRI11	67.1
CRI04	71.1	CRI12	34.8
CRI05	67.4	CRI13	67.6
CRI06	63.6	CRI14	87.6
CRI07	80.5	CRI15	60.9
CRI08	57.4	CRI16	64.2

ResultsCRI 69.9



PlanckDistance 5.7E-003

4.1 Integrating Sphere Test



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

x 0.3524
 y 0.3691
 u' 0.2096
 v' 0.4940

CIE 13.3-1995 (CRI)	
R_a	70
R_g	-29

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	ALED5T78/D10	Sample ID.	E1
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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured at a point not more than 1 m from the sample and at the same height as the sample.

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	120.04	60	0.671	80.4	0.998
NON-WROST CASE	277.01	60	0.292	78.1	0.964

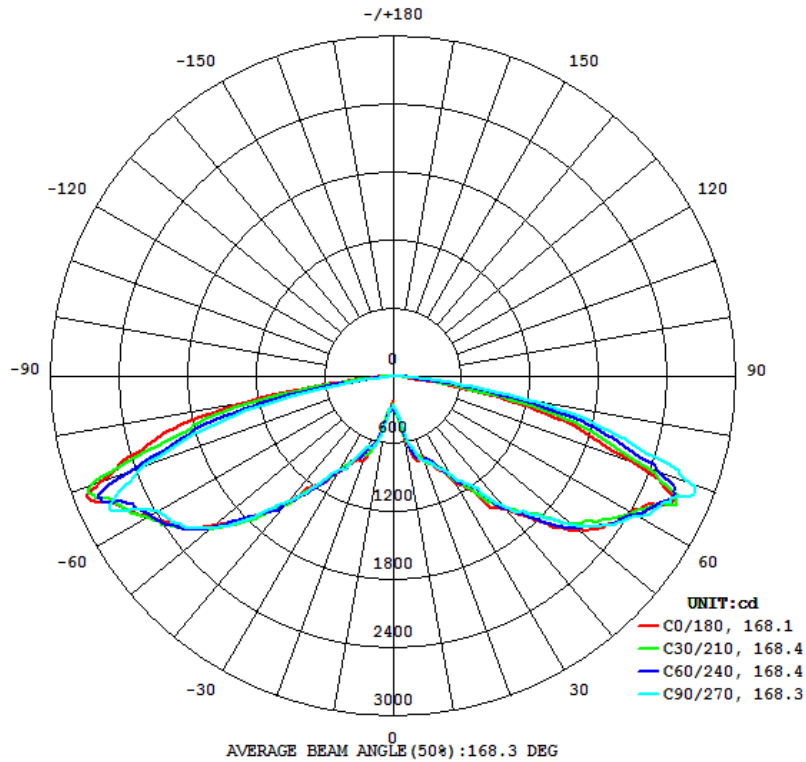
Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
9530	172.6	173.2	168.1	168.3	118.5

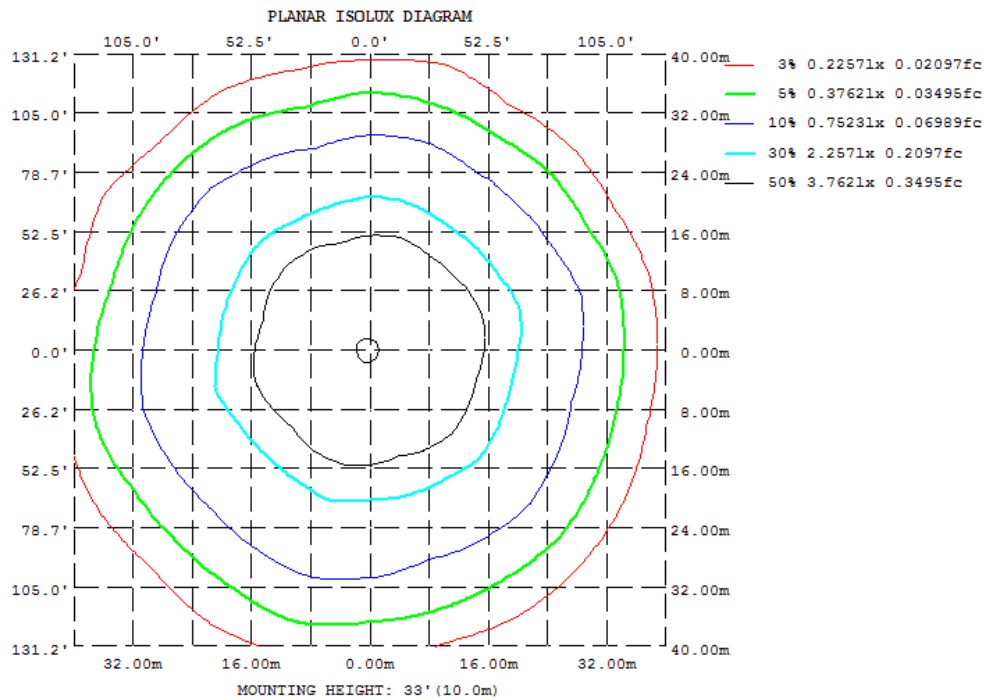
Zonal Lumen Requirement (0° - 90°)	BUG rating
100.00%	B3-U0-G2

4.2 Goniophotometer Test

Light Distribution Curve



Isolux Plot



4.2 Goniophotometer Test

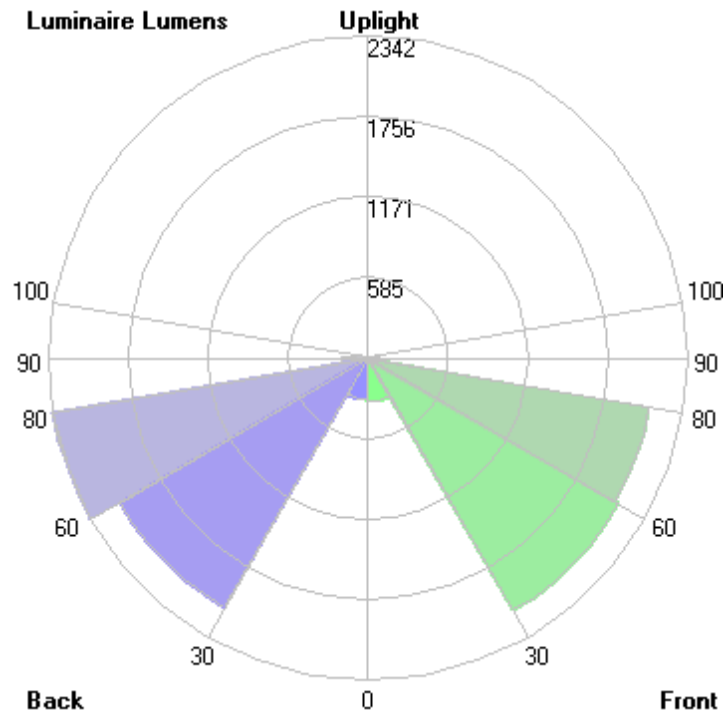
Zonal Lumen Summary

γ	C0	C45	C90	C135	C180	C225	C270	C315
10	527.6	472.6	410.8	396.2	376.4	366.7	432.0	516.2
20	764.8	790.8	805.6	753.8	803.6	738.7	662.0	748.4
30	1084	1009	996.5	1048	982.3	1013	958.5	1015
40	1547	1507	1489	1575	1449	1420	1444	1533
50	2115	2188	2046	1924	2051	2243	2091	1914
60	2402	2506	2491	2298	2486	2577	2393	2481
70	2225	2443	2760	2507	2734	2655	2328	2007
80	593.4	941.9	1158	1176	1300	1037	602.9	499.9
90	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0
DEG	LUMINOUS INTENSITY:cd							

	Zonal (lm)	Total (lm)	Percent
0-10	32.44	0 - 10	32.44 0.34%
10-20	184.37	0 - 20	216.81 2.27%
20-30	404.99	0 - 30	621.80 6.52%
30-40	781.79	0 - 40	1403.59 14.73%
40-50	1395.60	0 - 50	2799.19 29.37%
50-60	2039.14	0 - 60	4838.33 50.77%
60-70	2563.65	0 - 70	7401.98 77.67%
70-80	1865.47	0 - 80	9267.45 97.24%
80-90	262.71	0 - 90	9530.16 100.00%
90-100	0.00	0 - 100	9530.16 100.00%
100-110	0.00	0 - 110	9530.16 100.00%
110-120	0.00	0 - 120	9530.16 100.00%
120-130	0.00	0 - 130	9530.16 100.00%
130-140	0.00	0 - 140	9530.16 100.00%
140-150	0.00	0 - 150	9530.16 100.00%
150-160	0.00	0 - 160	9530.16 100.00%
160-170	0.00	0 - 170	9530.16 100.00%
170-180	0.00	0 - 180	9530.16 100.00%

4.2 Goniophotometer Test

LCS/BUG

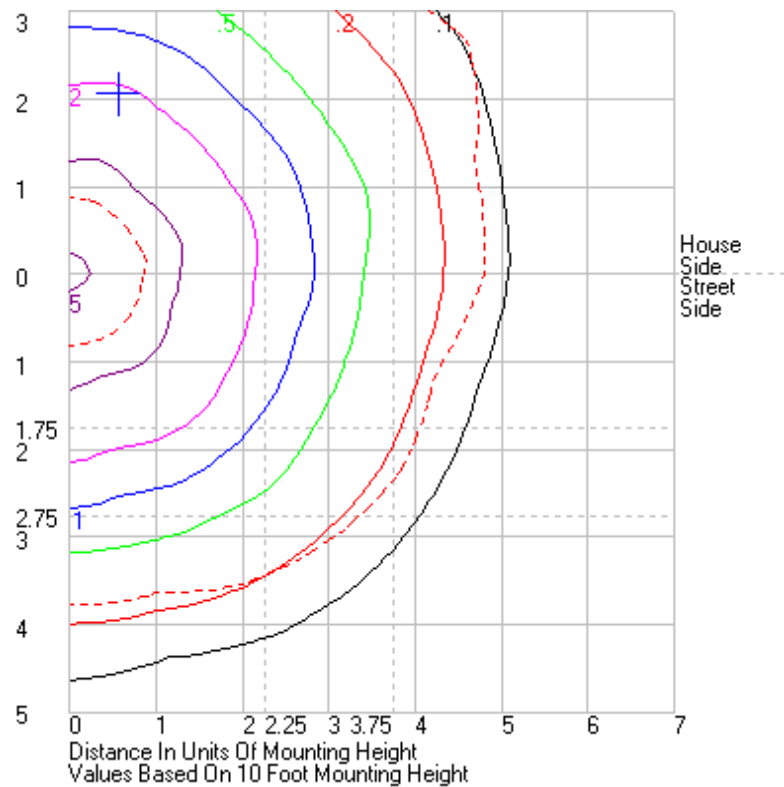


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	317.7	N.A.	3.3
FM - Front-Medium (30-60)	2117.5	N.A.	22.2
FH - Front-High (60-80)	2087.6	N.A.	21.9
FVH - Front-Very High (80-90)	86.7	N.A.	0.9
BL - Back-Low (0-30)	304.1	N.A.	3.2
BM - Back-Medium (30-60)	2099.0	N.A.	22.0
BH - Back-High (60-80)	2341.5	N.A.	24.6
BVH - Back-Very High (80-90)	176.0	N.A.	1.8
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	9530.1	N.A.	100.0
BUG Rating	B3-U0-G2		

Coefficients of Utilization



Isolines





	0	15	30	45	60	75	90	105	120	135
0	256.285	256.285	256.285	256.285	256.285	256.285	256.285	256.285	256.285	256.285
1	270.160	269.970	271.080	269.820	270.930	266.330	258.380	252.180	246.620	241.280
2	283.600	285.810	288.390	294.170	293.700	288.830	271.190	249.690	235.450	221.320
3	293.300	298.850	309.580	311.570	309.310	297.320	280.910	268.500	251.760	227.890
4	299.350	312.330	323.190	318.720	311.630	297.080	289.930	287.190	277.910	257.320
5	309.890	326.750	329.890	321.540	321.340	304.370	306.660	304.970	295.240	283.710
6	332.840	351.990	347.380	339.050	327.480	315.400	320.450	315.490	301.230	307.750
7	366.860	375.740	373.820	354.200	334.840	324.600	334.410	320.760	313.730	325.310
8	413.910	422.220	410.930	384.640	362.570	344.190	355.150	334.000	326.370	344.730
9	471.450	485.460	458.660	424.000	402.710	376.930	375.940	354.860	342.400	368.800
10	527.590	539.380	514.260	472.560	452.600	419.580	410.770	390.070	372.530	396.160
11	580.270	579.070	560.030	534.220	511.910	469.180	455.720	438.700	408.740	430.490
12	624.940	604.830	590.200	586.570	574.790	523.270	522.330	480.410	450.220	468.850
13	668.140	634.290	616.840	642.390	642.740	573.680	593.500	538.670	522.550	536.470
14	714.030	665.550	653.690	691.870	692.990	619.070	641.410	602.430	584.320	594.510
15	753.340	696.420	686.250	737.720	722.180	647.660	661.230	665.400	636.200	642.720
16	775.870	711.580	715.560	764.000	745.920	681.950	691.690	722.900	687.440	664.490
17	785.870	714.970	734.060	776.420	768.290	712.440	721.100	755.970	726.840	680.220
18	771.110	724.640	744.150	785.840	768.260	734.040	762.350	790.440	781.770	708.020
19	764.900	748.490	763.580	788.790	787.110	751.370	793.100	811.750	808.330	736.480
20	764.760	780.670	789.740	790.840	786.440	773.030	805.570	828.490	821.960	753.750
21	778.410	816.240	820.780	791.680	781.910	798.730	813.570	832.090	837.200	772.470
22	803.320	848.510	839.580	799.980	792.000	842.510	819.880	835.200	827.710	790.150
23	836.850	884.120	849.520	824.470	807.800	888.740	837.500	831.460	828.930	815.390
24	866.800	905.590	859.250	849.250	833.490	917.960	861.170	837.690	840.260	851.090
25	899.170	933.340	865.550	877.180	862.610	936.290	882.440	852.210	860.650	875.540
26	929.170	954.840	891.500	915.780	893.130	962.190	907.740	874.070	891.260	904.200
27	944.860	974.490	912.760	937.300	923.050	983.130	928.110	900.530	920.120	940.260
28	972.600	1008.640	942.290	968.420	951.700	998.470	948.300	928.450	944.300	977.150
29	1022.250	1065.000	993.800	992.810	979.180	1028.090	970.410	960.120	973.820	1011.140
30	1083.530	1106.860	1054.940	1008.510	1024.620	1086.210	996.480	983.670	991.490	1048.260
31	1117.530	1144.370	1089.120	1039.360	1088.210	1134.400	1061.590	1005.300	1023.440	1098.870
32	1141.400	1188.360	1115.640	1079.690	1116.290	1164.240	1102.930	1034.210	1078.160	1156.880
33	1169.220	1226.730	1153.640	1163.700	1135.550	1191.480	1117.070	1063.780	1130.090	1171.060
34	1216.620	1279.690	1193.010	1232.220	1160.050	1226.040	1147.520	1135.140	1142.710	1201.510
35	1288.020	1355.870	1240.530	1253.650	1180.500	1266.890	1179.750	1211.910	1165.280	1241.140
36	1393.840	1432.050	1318.540	1278.770	1234.230	1336.650	1210.950	1257.540	1196.360	1287.720
37	1465.990	1466.620	1397.280	1324.250	1300.480	1407.500	1284.490	1275.680	1230.020	1342.940
38	1480.560	1488.410	1434.130	1370.240	1382.880	1465.000	1368.270	1304.020	1293.710	1398.160
39	1508.410	1519.840	1476.110	1428.800	1468.900	1516.400	1452.050	1338.260	1375.090	1503.840
40	1546.840	1547.210	1528.210	1506.710	1533.150	1554.800	1488.780	1372.500	1470.960	1574.650
41	1576.730	1613.840	1556.880	1573.840	1568.090	1591.570	1548.400	1437.740	1577.960	1617.840
42	1640.170	1668.570	1596.130	1650.980	1621.500	1630.230	1617.180	1568.930	1613.950	1647.460
43	1682.940	1734.030	1640.960	1714.790	1668.080	1678.120	1640.660	1654.730	1638.310	1683.430
44	1753.620	1764.560	1681.570	1777.880	1721.140	1740.560	1672.240	1736.440	1700.940	1719.440
45	1820.790	1776.510	1727.420	1859.650	1786.370	1803.750	1738.230	1801.770	1734.490	1803.080
46	1884.680	1792.850	1760.430	1948.800	1859.160	1858.650	1774.520	1861.210	1799.070	1851.800
47	1961.450	1810.060	1834.040	2021.670	1938.870	1882.560	1840.600	1963.700	1849.600	1899.840
48	2006.450	1871.960	1894.960	2087.030	1995.420	1891.480	1901.990	2030.500	1911.500	1921.390
49	2084.190	1879.580	1985.810	2136.120	2049.050	1917.530	1966.650	2125.310	2001.100	1920.320
50	2114.680	1924.310	2035.070	2188.430	2093.280	1958.130	2046.330	2195.020	2065.410	1923.550
51	2167.650	1979.420	2075.520	2234.190	2119.290	1983.760	2106.800	2249.760	2127.530	1960.360
52	2198.700	2030.720	2094.190	2270.900	2168.200	2015.820	2162.690	2315.630	2175.130	2003.850
53	2242.450	2049.270	2130.270	2317.550	2202.370	2069.730	2213.880	2344.110	2216.490	2027.260
54	2275.150	2048.410	2192.900	2368.590	2251.220	2111.910	2244.410	2394.560	2253.210	2084.310
55	2280.420	2114.250	2217.290	2409.280	2289.060	2118.720	2305.950	2424.320	2313.940	2106.990
56	2322.010	2175.070	2260.900	2427.950	2322.650	2146.660	2337.990	2449.360	2333.980	2132.030



NVLAP LAB CODE 201074-0

57	2347.430	2217.940	2302.770	2443.370	2342.570	2179.780	2364.400	2471.330	2372.320	2162.930
58	2359.190	2284.380	2338.030	2460.250	2363.190	2228.680	2400.230	2482.120	2401.720	2189.820
59	2380.220	2369.830	2381.750	2487.630	2402.410	2295.890	2421.240	2508.060	2418.790	2250.300
60	2401.870	2415.510	2416.850	2505.730	2446.870	2384.760	2490.820	2547.870	2465.000	2298.050
61	2431.390	2478.940	2438.240	2524.740	2486.810	2448.410	2530.510	2606.790	2497.200	2351.260
62	2474.300	2481.420	2492.990	2563.940	2519.260	2524.520	2556.310	2706.960	2540.670	2427.530
63	2491.450	2393.000	2535.690	2635.650	2549.940	2572.220	2582.340	2792.260	2567.430	2491.410
64	2600.110	2371.100	2580.880	2751.730	2570.950	2615.000	2601.040	2833.940	2576.110	2553.220
65	2673.340	2346.160	2700.060	2831.880	2615.430	2616.560	2638.120	2867.230	2584.580	2585.250
66	2688.350	2379.130	2717.410	2814.500	2660.250	2575.440	2665.300	2869.020	2612.790	2594.100
67	2623.410	2253.090	2726.620	2718.520	2676.570	2553.560	2726.930	2814.790	2653.840	2580.500
68	2528.670	2196.640	2578.420	2613.030	2660.600	2519.150	2612.350	2740.720	2761.390	2557.120
69	2406.140	2114.980	2474.210	2516.470	2587.300	2472.590	2834.540	2722.920	2835.800	2593.260
70	2224.610	2023.530	2359.090	2442.600	2467.720	2367.220	2760.400	2718.380	2788.590	2506.900
71	2048.890	1950.260	2169.030	2407.310	2411.850	2256.180	2653.930	2743.180	2703.460	2496.890
72	1900.650	1866.400	2040.310	2363.760	2219.110	2210.560	2547.950	2828.080	2630.070	2420.900
73	1788.010	1809.680	1935.890	2222.200	2108.720	2145.170	2313.040	2744.740	2426.100	2323.920
74	1701.670	1680.820	1811.940	2047.640	1990.930	2067.280	2179.420	2637.880	2282.800	2202.990
75	1541.840	1545.590	1701.480	1859.490	1872.890	1923.050	2033.750	2386.750	2114.190	2033.750
76	1375.710	1345.930	1553.930	1688.230	1763.300	1710.870	1877.380	2108.900	2027.160	1853.960
77	1216.990	1117.350	1358.060	1475.910	1584.710	1541.470	1759.200	1830.620	1894.990	1686.360
78	1023.710	888.960	1163.500	1294.510	1347.010	1348.760	1558.000	1568.180	1770.840	1524.340
79	812.740	718.670	956.580	1125.670	1160.740	1151.060	1363.310	1415.390	1591.170	1383.410
80	593.440	563.520	720.710	941.940	951.090	921.720	1157.550	1261.310	1370.300	1175.800
81	392.950	413.110	531.550	759.510	715.570	718.770	904.900	1117.470	1182.100	962.600
82	192.570	268.670	346.610	569.170	528.430	571.180	702.800	988.770	923.550	748.520
83	87.380	158.190	180.270	370.740	342.730	416.200	512.300	743.800	637.490	570.880
84	45.750	82.120	85.560	172.320	183.530	261.220	327.490	490.920	425.990	408.650
85	27.020	47.700	46.490	69.600	82.690	138.490	165.170	272.960	215.040	246.420
86	13.890	26.780	27.090	49.030	40.990	55.030	67.980	99.160	95.530	130.550
87	5.650	11.400	12.350	29.640	26.020	43.080	46.920	59.690	54.440	73.010
88	3.350	4.900	6.760	13.320	14.230	31.570	26.350	41.480	34.590	49.150
89	1.200	2.420	3.970	6.040	4.810	15.430	11.920	23.270	14.730	30.330
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	256.285	256.285	256.285	256.285	256.285	256.285	256.285	256.285	256.285	256.285
1	237.430	236.520	242.610	248.260	254.750	259.190	262.430	264.870	265.610	266.820
2	211.960	210.480	225.070	241.030	251.380	257.140	265.460	273.280	273.960	276.690
3	214.220	214.120	234.420	255.590	271.450	273.450	270.550	273.770	278.180	284.690
4	250.330	248.380	256.790	264.890	285.750	291.510	287.000	278.330	284.060	288.130
5	285.720	284.290	283.960	271.580	289.150	304.910	303.860	289.580	285.920	295.750
6	307.110	300.490	303.620	288.810	295.800	303.960	304.900	293.600	288.320	301.140
7	320.740	314.420	322.550	302.490	299.580	311.630	316.100	307.050	310.730	318.770
8	333.160	326.690	329.010	316.140	305.150	319.960	335.250	331.730	347.690	352.630
9	351.160	337.950	348.490	337.520	325.500	341.740	353.410	359.840	388.790	399.870
10	377.430	365.420	376.430	369.120	361.200	366.700	394.880	402.150	432.010	451.920
11	419.050	406.990	406.220	406.810	404.660	407.960	445.650	444.010	483.100	502.740
12	464.280	460.850	457.040	463.210	454.210	460.610	496.260	478.480	528.200	544.790
13	520.620	517.490	533.400	524.440	516.080	507.040	536.840	520.490	568.390	582.260
14	579.010	579.110	583.410	566.060	573.180	565.220	567.350	567.270	599.710	619.720
15	627.520	656.340	618.940	598.080	624.390	623.400	598.410	606.800	627.990	634.950
16	671.390	714.910	654.300	625.040	662.230	679.180	621.550	639.170	656.050	650.180
17	713.090	748.550	688.530	651.940	698.970	714.100	639.080	646.860	666.890	667.650
18	762.870	779.250	741.000	671.350	725.690	721.620	656.700	647.730	671.470	675.440
19	798.130	797.650	782.590	692.070	729.070	721.780	678.690	660.250	665.750	671.280
20	832.670	815.380	803.610	703.510	756.240	738.680	698.340	690.730	661.960	673.400
21	844.520	828.350	812.040	722.670	759.660	733.400	732.510	729.430	676.920	689.820
22	843.590	837.750	808.410	756.830	750.430	738.480	762.350	770.310	703.020	705.430
23	841.770	840.630	810.090	795.010	744.050	754.220	793.290	797.730	726.730	730.230
24	850.410	838.550	822.150	836.410	759.960	777.070	800.490	824.520	760.660	771.180
25	866.970	845.860	840.080	865.820	789.200	803.570	809.010	845.250	795.790	795.190
26	887.810	869.450	862.300	893.350	821.770	831.640	832.440	902.950	825.790	814.780
27	912.650	893.450	899.290	917.940	866.090	860.150	892.930	957.840	893.400	838.220
28	934.600	922.590	931.730	942.100	905.800	892.520	939.180	953.980	940.250	864.830
29	965.360	951.040	961.000	965.250	935.120	939.340	950.620	964.540	936.550	895.580
30	992.910	986.250	982.320	998.090	954.710	1013.270	972.290	996.560	958.460	981.730
31	1019.100	1010.430	1014.050	1060.820	989.620	1047.020	1004.800	1042.890	979.540	1024.820
32	1066.810	1042.170	1068.770	1118.550	1048.920	1049.400	1039.580	1095.270	1015.880	1035.870
33	1128.750	1074.490	1126.940	1129.750	1092.980	1075.600	1094.220	1149.830	1053.740	1056.570
34	1145.920	1112.950	1144.580	1164.000	1114.160	1106.540	1152.550	1189.390	1112.680	1084.100
35	1165.980	1183.540	1170.730	1205.640	1169.020	1189.230	1194.840	1225.870	1178.840	1126.880
36	1204.210	1290.580	1197.690	1245.500	1228.290	1254.000	1248.770	1291.250	1233.860	1187.180
37	1235.270	1317.320	1227.980	1338.600	1275.400	1300.160	1308.300	1352.420	1300.030	1264.260
38	1301.370	1338.760	1293.390	1431.710	1355.370	1336.100	1362.310	1402.770	1342.140	1367.050
39	1381.330	1360.210	1387.420	1498.160	1440.040	1369.620	1420.030	1446.300	1388.790	1425.140
40	1476.790	1405.170	1449.400	1541.140	1485.770	1419.880	1464.450	1483.150	1443.550	1490.550
41	1549.330	1455.770	1500.980	1582.170	1536.300	1504.180	1559.030	1529.290	1493.480	1552.840
42	1610.660	1559.560	1583.420	1623.330	1593.890	1603.860	1610.560	1587.250	1552.220	1634.070
43	1652.820	1666.200	1657.540	1675.190	1660.990	1683.320	1657.800	1635.580	1613.900	1714.650
44	1679.640	1750.530	1700.050	1735.570	1737.840	1745.850	1696.510	1702.020	1694.250	1801.850
45	1706.510	1807.620	1760.530	1815.140	1807.260	1819.600	1753.760	1743.680	1782.250	1878.810
46	1770.450	1877.640	1817.200	1912.290	1868.880	1933.420	1795.140	1785.580	1849.150	1936.990
47	1812.440	1971.620	1871.620	1976.320	1924.980	2036.850	1853.660	1801.740	1920.290	2007.700
48	1865.480	2049.260	1932.780	1984.230	1976.150	2131.940	1922.460	1814.140	1984.580	2051.050
49	1934.950	2153.490	1993.550	1963.600	2050.210	2196.990	2005.210	1851.410	2037.860	2089.670
50	1997.170	2217.540	2050.800	1973.150	2106.840	2242.760	2078.820	1886.780	2091.170	2137.060
51	2078.510	2281.140	2110.410	1994.390	2149.990	2287.070	2152.590	1938.620	2130.300	2177.040



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52	2128.430	2330.610	2179.880	2027.000	2194.950	2334.810	2202.370	1998.350	2177.840	2226.080
53	2169.050	2371.190	2233.000	2060.230	2234.690	2380.290	2247.030	2036.940	2237.800	2283.510
54	2212.400	2422.400	2265.860	2101.770	2280.310	2415.420	2292.450	2055.710	2261.690	2314.390
55	2260.530	2453.540	2304.920	2137.910	2326.370	2446.120	2313.600	2112.520	2286.590	2353.200
56	2288.820	2492.210	2332.540	2183.610	2364.360	2468.090	2358.970	2164.050	2321.740	2377.200
57	2320.820	2524.160	2369.530	2195.090	2416.350	2492.760	2395.080	2222.950	2339.530	2396.270
58	2369.920	2560.950	2418.160	2255.330	2421.530	2516.760	2414.570	2303.540	2353.310	2426.910
59	2412.190	2577.150	2450.760	2304.870	2460.670	2544.990	2447.230	2386.400	2364.200	2458.400
60	2446.660	2613.730	2486.290	2370.800	2497.470	2576.800	2464.960	2464.340	2392.900	2467.540
61	2494.650	2681.230	2529.560	2452.390	2537.260	2641.770	2485.500	2539.550	2438.790	2477.970
62	2547.830	2820.900	2572.170	2537.760	2584.770	2692.400	2519.610	2550.720	2511.570	2510.550
63	2588.100	2907.810	2620.860	2598.130	2614.580	2737.870	2544.810	2558.540	2604.150	2616.310
64	2606.520	2960.500	2648.790	2615.930	2645.880	2769.270	2566.530	2561.340	2725.960	2680.190
65	2645.230	3027.200	2680.850	2596.250	2663.040	2795.070	2626.530	2505.280	2742.740	2721.280
66	2685.590	3007.120	2733.200	2599.190	2699.810	2806.140	2749.170	2482.920	2694.410	2705.560
67	2752.090	2892.460	2845.600	2569.410	2760.350	2768.270	2781.390	2402.640	2607.640	2660.900
68	2847.880	2794.090	2882.390	2598.680	2826.620	2734.770	2788.900	2292.690	2492.940	2582.700
69	2849.680	2704.000	2853.120	2518.080	2864.250	2669.770	2689.860	2175.790	2419.570	2461.970
70	2789.200	2730.460	2733.520	2427.500	2808.190	2654.940	2449.440	2073.510	2328.140	2347.900
71	2678.540	2762.990	2599.060	2370.830	2659.040	2601.880	2294.640	1938.830	2156.710	2169.830
72	2563.760	2746.890	2525.570	2315.510	2445.660	2501.140	2104.240	1817.770	2035.230	1994.630
73	2487.570	2778.180	2381.840	2205.120	2253.900	2302.500	1989.300	1709.380	1907.290	1799.870
74	2260.940	2743.850	2251.810	2028.640	2057.110	2063.120	1869.460	1622.710	1774.010	1684.640
75	2128.160	2482.080	2151.030	1849.900	1884.150	1780.370	1782.400	1551.200	1598.450	1621.460
76	1995.890	2143.020	2052.820	1636.000	1804.260	1546.620	1631.870	1426.200	1426.300	1562.310
77	1861.560	1798.670	1920.670	1452.140	1694.360	1408.250	1447.460	1273.180	1250.370	1378.760
78	1736.440	1540.930	1721.700	1284.640	1532.450	1269.890	1264.250	1120.010	1044.460	1195.220
79	1543.650	1359.050	1520.660	1116.300	1346.440	1148.360	1056.980	911.790	821.420	990.360
80	1326.690	1227.950	1300.210	909.090	1159.510	1037.340	822.790	741.330	602.920	748.380
81	1115.880	1088.380	1079.190	715.400	892.970	846.090	617.590	563.730	389.840	468.830
82	865.070	910.710	815.510	563.860	615.590	618.000	372.510	385.680	258.760	306.630
83	613.350	702.250	570.970	425.350	382.670	358.250	246.720	216.810	127.690	144.430
84	413.920	484.900	345.870	288.130	249.400	215.170	120.930	49.940	46.670	44.180
85	214.840	265.670	210.690	176.780	116.140	74.900	40.130	25.060	27.470	26.370
86	99.750	95.310	76.110	66.040	34.800	44.880	24.210	16.690	16.220	15.360
87	54.720	58.540	36.440	43.700	21.730	25.400	13.870	8.320	5.000	4.380
88	34.410	43.430	21.350	30.390	12.710	13.390	3.700	1.880	0.880	0.650
89	14.090	29.520	12.130	15.810	3.770	1.510	0.680	0.460	0.430	0.440
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	256.285	256.285	256.285	256.285	256.285
1	268.130	269.580	269.100	268.500	270.160
2	277.870	278.220	278.060	279.060	283.600
3	287.640	283.040	281.050	287.210	293.300
4	294.170	288.200	284.220	291.570	299.350
5	299.370	301.090	292.530	293.370	309.890
6	321.660	326.470	316.730	315.870	332.840
7	350.800	360.550	353.700	356.630	366.860
8	390.060	409.850	401.050	410.500	413.910
9	447.500	471.070	455.050	474.270	471.450
10	491.150	516.180	501.580	536.590	527.590
11	530.210	549.880	551.950	596.720	580.270
12	554.090	568.130	598.110	656.710	624.940
13	578.630	595.140	644.800	689.410	668.140
14	610.290	620.640	698.000	707.100	714.030
15	630.960	635.410	725.130	719.090	753.340
16	640.710	650.190	742.050	734.010	775.870
17	650.460	668.380	744.210	742.090	785.870
18	663.590	688.020	747.570	750.070	771.110
19	683.070	714.310	750.360	764.970	764.900
20	703.580	748.370	760.090	776.290	764.760
21	727.520	777.260	780.310	782.360	778.410
22	752.460	799.350	805.950	795.810	803.320
23	758.190	814.280	829.570	819.640	836.850
24	772.890	838.240	854.360	846.870	866.800
25	794.440	863.880	881.080	875.120	899.170
26	817.590	897.830	901.290	894.680	929.170
27	867.270	953.540	941.320	923.050	944.860
28	912.330	968.090	995.600	947.870	972.600
29	945.530	983.380	1016.640	980.640	1022.250
30	971.340	1015.100	1039.760	1031.120	1083.530
31	993.850	1058.970	1066.060	1083.180	1117.530
32	1021.220	1093.410	1096.710	1128.900	1141.400
33	1067.070	1151.440	1124.890	1183.820	1169.220
34	1123.020	1235.730	1174.690	1207.670	1216.620
35	1224.770	1304.890	1276.070	1232.340	1288.020
36	1307.330	1364.460	1347.670	1270.830	1393.840
37	1364.220	1403.250	1423.310	1319.900	1465.990
38	1398.660	1440.630	1495.510	1404.580	1480.560
39	1442.850	1477.900	1543.360	1540.200	1508.410
40	1491.840	1533.450	1577.790	1644.680	1546.840
41	1533.560	1605.320	1604.300	1702.020	1576.730
42	1586.630	1674.160	1651.780	1765.250	1640.170
43	1637.180	1730.600	1699.490	1844.400	1682.940
44	1696.650	1765.000	1765.560	1909.900	1753.620
45	1748.010	1782.650	1854.760	2002.230	1820.790
46	1800.510	1797.000	1948.460	2070.190	1884.680

47	1860.600	1829.060	2032.790	2129.570	1961.450
48	1903.710	1851.370	2078.870	2182.020	2006.450
49	1944.400	1895.300	2116.110	2222.110	2084.190
50	2001.620	1913.530	2155.630	2269.360	2114.680
51	2040.150	1944.230	2167.060	2301.590	2167.650
52	2072.720	1970.550	2189.330	2352.340	2198.700
53	2100.770	2010.250	2221.150	2385.660	2242.450
54	2131.360	2058.290	2246.720	2412.860	2275.150
55	2158.030	2117.930	2278.740	2435.480	2280.420
56	2208.800	2181.960	2310.140	2464.370	2322.010
57	2253.520	2253.900	2351.900	2480.150	2347.430
58	2300.920	2333.350	2382.860	2485.490	2359.190
59	2312.930	2424.260	2394.610	2511.130	2380.220
60	2356.170	2480.700	2425.030	2520.090	2401.870
61	2370.100	2528.210	2454.960	2546.000	2431.390
62	2405.830	2508.590	2490.960	2668.570	2474.300
63	2429.500	2497.620	2511.570	2802.000	2491.450
64	2528.850	2481.500	2585.720	2858.410	2600.110
65	2556.220	2490.990	2615.400	2818.980	2673.340
66	2533.180	2396.940	2628.000	2724.810	2688.350
67	2409.190	2332.220	2515.580	2591.100	2623.410
68	2286.250	2246.290	2443.800	2494.820	2528.670
69	2188.330	2135.180	2289.290	2476.270	2406.140
70	2019.350	2007.010	2118.580	2386.290	2224.610
71	1881.090	1888.320	1943.920	2316.450	2048.890
72	1739.830	1797.390	1802.320	2158.980	1900.650
73	1638.930	1740.000	1684.390	1960.100	1788.010
74	1559.390	1650.170	1575.230	1752.360	1701.670
75	1411.510	1515.600	1430.760	1582.090	1541.840
76	1268.640	1339.160	1284.960	1417.810	1375.710
77	1107.530	1162.300	1137.530	1253.530	1216.990
78	882.690	959.340	902.360	1067.190	1023.710
79	665.220	740.200	684.650	885.310	812.740
80	465.780	499.860	472.870	660.420	593.440
81	306.010	339.150	304.990	423.050	392.950
82	182.730	205.850	181.200	282.040	192.570
83	61.530	75.450	58.660	141.030	87.380
84	27.400	42.400	28.420	52.410	45.750
85	18.330	27.930	19.330	29.060	27.020
86	9.270	13.460	10.240	18.210	13.890
87	2.440	2.890	2.810	7.360	5.650
88	0.630	0.620	0.690	0.940	3.350
89	0.440	0.440	0.440	0.440	1.200
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.	ALED5T78/D10	Sample ID.	E1
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
120.01	60	0.670	80.3	0.999	2.45%
277.07	60	0.292	78.0	0.965	8.39%

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*****