

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332207-935

Luminaire Tested: **S123DIW-S1000D1535U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332207-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1000D1535U935-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8199.2 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

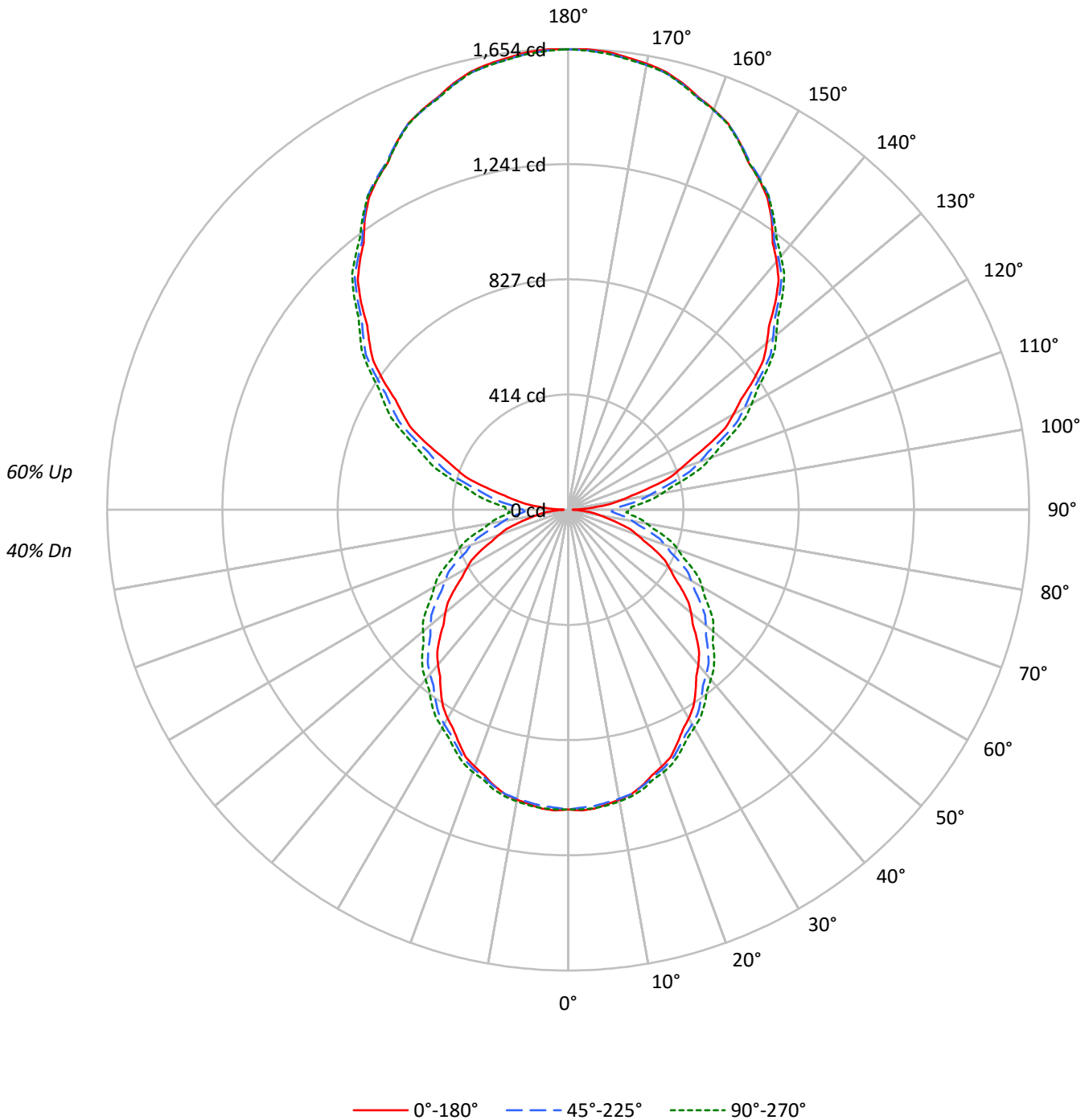
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	79	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	28	26	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14
7	55	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11579	11579	11579
5°	11615	11288	11294
10°	11511	11028	10973
15°	11363	10732	10622
20°	11151	10395	10235
25°	10888	10007	9829
30°	10621	9658	9417
35°	10321	9289	9089
40°	10033	8953	8737
45°	9715	8630	8455
50°	9402	8312	8146
55°	9056	7985	7866
60°	8718	7655	7580
65°	8372	7303	7241
70°	7847	6904	6893
75°	7189	6449	6538
80°	6431	6003	6131
85°	5726	5695	5898



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.0	1.2
10°-20°	290.7	3.5
20°-30°	434.8	5.3
30°-40°	519.2	6.3
40°-50°	543.3	6.6
50°-60°	509.8	6.2
60°-70°	425.8	5.2
70°-80°	304.6	3.7
80°-90°	186.6	2.3
90°-100°	221.7	2.7
100°-110°	406.0	5.0
110°-120°	604.1	7.4
120°-130°	752.9	9.2
130°-140°	824.7	10.1
140°-150°	799.6	9.8
150°-160°	670.6	8.2
160°-170°	446.4	5.4
170°-180°	156.3	1.9
0°-30°	827.5	10.1
0°-40°	1346.7	16.4
0°-60°	2399.8	29.3
0°-90°	3316.8	40.5
90°-120°	1231.8	15.0
90°-150°	3609.1	44.0
90°-180°	4882.0	59.5
0°-180°	8199.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1076	1076	1076	1076	1076	
5°	1077	1074	1068	1076	1076	102
15°	1025	1029	1028	1039	1038	289
25°	926	937	941	955	956	426
35°	797	815	831	848	853	498
45°	652	680	709	731	741	502
55°	497	536	578	608	619	445
65°	343	389	441	474	488	339
75°	186	242	300	337	353	199
85°	57	116	178	216	230	60
90°	16	87	164	207	223	15
95°	90	145	212	252	265	96
105°	302	334	394	426	440	322
115°	558	577	615	643	653	552
125°	811	816	846	865	869	723
135°	1050	1057	1068	1084	1087	809
145°	1272	1274	1278	1285	1285	794
155°	1455	1456	1457	1461	1453	670
165°	1585	1582	1581	1588	1580	447
175°	1649	1644	1644	1651	1642	157
180°	1653	1653	1653	1653	1653	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1080.5	1079.9	1079.2	1078.6	1078.0	1076.8	1075.1	1073.5	1071.8	1070.1	1071.8
5°	1076.9	1076.4	1075.9	1075.4	1074.9	1073.8	1072.3	1070.7	1069.1	1067.6	1069.6
7.5°	1066.3	1066.5	1066.6	1066.7	1066.8	1066.1	1064.6	1063.1	1061.5	1060.1	1062.6
10°	1057.0	1057.6	1058.1	1058.6	1059.1	1058.7	1057.4	1056.1	1054.8	1053.5	1056.1
12.5°	1045.8	1046.5	1047.2	1047.9	1048.7	1048.6	1047.8	1046.8	1045.9	1045.1	1047.5
15°	1025.4	1026.1	1026.9	1027.7	1028.5	1028.7	1028.5	1028.2	1027.9	1027.7	1030.4
17.5°	999.6	1001.2	1002.7	1004.3	1005.8	1006.6	1006.5	1006.3	1006.3	1006.2	1008.5
20°	980.9	982.4	984.0	985.5	987.1	988.2	988.7	989.2	989.7	990.2	992.6
22.5°	961.1	962.7	964.3	965.9	967.4	968.5	969.3	970.0	970.8	971.5	974.4
25°	925.7	928.3	931.0	933.6	936.2	937.9	938.7	939.4	940.2	941.0	944.3
27.5°	890.1	893.1	896.0	899.1	902.0	904.3	906.0	907.7	909.3	911.0	914.0
30°	864.8	868.2	871.6	874.9	878.4	881.1	883.2	885.3	887.3	889.4	892.6
32.5°	836.7	840.5	844.3	848.1	851.9	855.1	857.9	860.6	863.3	866.0	869.4
35°	796.9	801.0	805.2	809.3	813.6	817.3	820.7	824.1	827.4	830.9	834.7
37.5°	754.7	759.4	764.1	768.7	773.4	777.8	782.0	786.2	790.3	794.5	798.9
40°	726.5	731.2	735.9	740.6	745.3	750.3	755.4	760.7	765.9	771.1	775.5
42.5°	695.6	701.4	707.1	712.8	718.5	724.1	729.5	734.9	740.4	745.8	750.6
45°	651.5	657.8	664.1	670.3	676.6	682.9	689.4	695.9	702.5	708.9	713.9
47.5°	605.4	612.4	619.6	626.6	633.7	641.0	648.4	655.9	663.3	670.8	676.3
50°	575.4	582.6	590.0	597.3	604.5	612.3	620.3	628.4	636.5	644.5	650.5
52.5°	543.5	551.2	559.0	566.6	574.4	582.6	591.6	600.5	609.3	618.3	624.5
55°	496.9	505.5	514.0	522.6	531.2	540.2	549.6	559.0	568.3	577.7	584.8
57.5°	451.4	460.4	469.3	478.3	487.2	496.9	507.1	517.4	527.6	537.9	544.9
60°	419.6	428.9	438.2	447.6	457.0	467.0	477.7	488.4	499.1	509.8	517.0
62.5°	389.5	399.1	408.7	418.3	427.8	438.3	449.6	460.9	472.2	483.5	490.8
65°	343.4	353.5	363.7	373.8	384.0	394.8	406.2	417.7	429.1	440.7	448.4
67.5°	296.4	307.3	318.1	328.8	339.6	350.9	362.5	374.2	385.8	397.5	406.0
70°	263.6	274.8	286.0	297.3	308.5	320.3	332.8	345.3	357.8	370.3	378.7
72.5°	233.7	244.9	256.1	267.3	278.4	290.5	303.4	316.3	329.2	342.2	350.7
75°	186.3	198.5	210.8	223.1	235.3	247.9	261.0	274.0	287.0	300.0	308.6
77.5°	145.1	157.4	169.8	182.1	194.4	207.2	220.3	233.4	246.6	259.7	268.7
80°	116.0	128.8	141.5	154.3	167.0	180.2	193.7	207.3	220.8	234.4	243.2
82.5°	90.7	103.7	116.7	129.6	142.6	155.9	169.7	183.4	197.2	210.9	219.8
85°	57.4	70.4	83.4	96.5	109.5	123.0	136.7	150.5	164.3	178.1	187.0
87.5°	31.4	44.9	58.5	72.1	85.6	99.4	113.4	127.4	141.5	155.5	164.6
90°	16.5	32.2	47.8	63.5	79.1	95.5	112.4	129.5	146.5	163.6	173.6
92.5°	45.7	59.2	72.7	86.1	99.6	113.9	129.2	144.4	159.5	174.8	184.3
95°	89.5	101.7	113.8	126.1	138.2	151.8	166.9	181.9	197.0	212.1	221.3
97.5°	147.6	158.3	168.8	179.5	190.2	202.5	216.4	230.2	244.1	258.0	267.0
100°	187.1	197.2	207.2	217.3	227.4	239.1	252.5	266.0	279.4	292.8	301.3
102.5°	232.9	241.4	250.0	258.6	267.1	278.2	291.9	305.6	319.2	332.9	341.1
105°	301.5	308.3	315.1	322.0	328.8	339.1	352.9	366.7	380.5	394.3	401.6
107.5°	380.0	385.7	391.4	397.0	402.7	411.4	423.0	434.7	446.3	458.1	465.9
110°	429.0	434.3	439.5	444.8	450.0	458.1	469.2	480.2	491.2	502.1	510.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	481.0	485.1	489.3	493.5	497.7	504.9	515.0	525.1	535.2	545.4	553.3
115°	557.7	561.6	565.7	569.6	573.6	580.0	588.8	597.6	606.4	615.2	621.7
117.5°	635.8	638.3	640.8	643.3	645.8	651.2	659.2	667.3	675.3	683.4	689.5
120°	683.7	686.7	689.7	692.8	695.9	700.9	708.1	715.2	722.4	729.5	735.2
122.5°	734.6	736.6	738.5	740.5	742.4	747.1	754.5	761.9	769.4	776.8	781.8
125°	811.1	811.9	812.8	813.6	814.5	818.5	825.4	832.4	839.4	846.4	850.7
127.5°	882.8	884.3	885.9	887.5	889.1	892.7	898.3	904.0	909.6	915.2	918.7
130°	930.6	932.5	934.6	936.7	938.7	941.9	946.2	950.6	954.9	959.3	963.1
132.5°	977.4	979.6	981.9	984.1	986.4	989.3	992.8	996.3	999.9	1003.4	1006.8
135°	1050.1	1051.5	1053.1	1054.6	1056.0	1058.0	1060.6	1063.2	1065.7	1068.3	1071.9
137.5°	1117.4	1118.6	1119.8	1121.1	1122.3	1124.1	1126.4	1128.9	1131.2	1133.6	1136.5
140°	1163.2	1164.6	1166.1	1167.5	1169.0	1170.2	1171.3	1172.3	1173.5	1174.5	1178.1
142.5°	1205.7	1207.0	1208.2	1209.4	1210.7	1211.7	1212.4	1213.0	1213.7	1214.4	1217.5
145°	1272.2	1272.6	1272.9	1273.2	1273.5	1274.1	1275.0	1275.8	1276.7	1277.6	1279.4
147.5°	1329.2	1330.2	1331.3	1332.4	1333.4	1334.3	1335.2	1335.9	1336.7	1337.6	1338.2
150°	1369.8	1370.4	1370.9	1371.5	1372.1	1372.6	1373.2	1373.8	1374.3	1374.9	1374.9
152.5°	1403.0	1403.8	1404.6	1405.4	1406.2	1406.8	1407.1	1407.5	1407.8	1408.2	1408.7
155°	1455.4	1455.4	1455.4	1455.4	1455.4	1455.6	1455.9	1456.1	1456.5	1456.7	1457.9
157.5°	1500.1	1499.8	1499.4	1499.1	1498.7	1498.7	1498.9	1499.1	1499.3	1499.6	1500.8
160°	1528.2	1527.6	1527.0	1526.4	1525.9	1525.5	1525.5	1525.5	1525.5	1525.5	1527.0
162.5°	1553.1	1552.3	1551.4	1550.7	1549.9	1549.5	1549.8	1550.1	1550.2	1550.5	1552.0
165°	1585.3	1584.4	1583.6	1582.7	1581.8	1581.4	1581.4	1581.4	1581.4	1581.4	1583.1
167.5°	1611.0	1609.8	1608.7	1607.5	1606.4	1605.9	1606.1	1606.4	1606.6	1606.8	1608.6
170°	1625.5	1624.4	1623.2	1622.0	1620.9	1620.3	1620.3	1620.3	1620.3	1620.3	1622.4
172.5°	1636.9	1635.8	1634.6	1633.5	1632.4	1631.8	1631.8	1631.8	1631.8	1631.8	1633.6
175°	1648.9	1647.8	1646.6	1645.5	1644.3	1643.7	1643.7	1643.7	1643.7	1643.7	1645.5
177.5°	1653.8	1652.9	1652.0	1651.1	1650.1	1649.7	1649.7	1649.7	1649.7	1649.7	1651.1
180°	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1073.5	1075.1	1076.8	1077.5	1077.3	1077.1	1076.9	1076.7
5°	1071.7	1073.8	1075.9	1076.8	1076.5	1076.2	1076.0	1075.7
7.5°	1065.2	1067.9	1070.5	1071.6	1071.3	1071.0	1070.7	1070.4
10°	1058.7	1061.3	1063.9	1065.0	1064.5	1063.9	1063.4	1062.9
12.5°	1049.8	1052.2	1054.6	1055.6	1055.1	1054.6	1054.0	1053.5
15°	1032.9	1035.5	1038.1	1039.3	1039.1	1038.8	1038.5	1038.3
17.5°	1010.8	1013.2	1015.5	1016.5	1016.2	1015.8	1015.5	1015.0
20°	994.9	997.2	999.6	1000.9	1001.2	1001.4	1001.7	1001.9
22.5°	977.4	980.3	983.3	984.7	984.6	984.5	984.3	984.1
25°	947.8	951.1	954.5	956.2	956.2	956.2	956.2	956.2
27.5°	916.8	919.7	922.6	924.2	924.5	924.6	924.9	925.1
30°	895.7	898.8	901.9	903.5	903.5	903.5	903.5	903.5
32.5°	872.7	876.0	879.3	881.3	881.9	882.5	883.2	883.8
35°	838.6	842.6	846.4	848.9	850.0	851.0	852.0	853.1
37.5°	803.4	807.8	812.3	814.9	815.7	816.5	817.3	818.2
40°	779.9	784.4	788.8	791.5	792.6	793.6	794.6	795.7
42.5°	755.4	760.3	765.2	768.3	769.7	771.2	772.7	774.1
45°	718.8	723.8	728.8	732.3	734.3	736.4	738.6	740.6
47.5°	681.9	687.5	693.0	696.6	698.3	699.9	701.5	703.1
50°	656.5	662.5	668.5	672.4	674.2	676.1	677.9	679.7
52.5°	630.7	636.9	643.1	647.3	649.5	651.8	654.0	656.3
55°	591.8	598.8	605.9	610.4	612.5	614.6	616.6	618.7
57.5°	552.1	559.1	566.2	571.0	573.4	575.8	578.3	580.7
60°	524.3	531.7	538.9	544.0	546.9	549.7	552.6	555.4
62.5°	498.1	505.4	512.6	517.6	520.3	523.0	525.6	528.3
65°	456.2	464.1	471.8	477.1	479.7	482.2	484.9	487.5
67.5°	414.6	423.1	431.6	437.0	439.2	441.4	443.6	445.7
70°	386.9	395.3	403.6	409.1	411.7	414.3	416.9	419.6
72.5°	359.3	367.8	376.3	381.9	384.5	387.1	389.8	392.4
75°	317.2	325.8	334.3	340.3	343.4	346.5	349.6	352.8
77.5°	277.8	286.9	295.9	301.7	304.0	306.4	308.8	311.3
80°	252.1	261.0	269.8	275.5	278.1	280.7	283.4	285.9
82.5°	228.7	237.5	246.3	252.1	254.7	257.3	259.8	262.5
85°	195.8	204.7	213.5	219.3	221.9	224.5	227.0	229.7
87.5°	173.7	182.8	191.8	197.8	200.5	203.2	206.0	208.6
90°	183.6	193.6	203.6	210.2	213.4	216.5	219.7	222.9
92.5°	193.9	203.5	213.0	218.9	220.9	223.0	225.0	227.0
95°	230.6	239.8	249.0	254.9	257.5	260.1	262.7	265.4
97.5°	276.1	285.2	294.3	300.1	302.6	305.1	307.5	310.0
100°	309.6	318.1	326.5	332.3	335.4	338.6	341.8	345.0
102.5°	349.3	357.5	365.8	371.1	373.6	376.1	378.5	381.0
105°	408.9	416.2	423.4	428.6	431.5	434.4	437.3	440.2
107.5°	473.8	481.7	489.7	494.6	496.5	498.4	500.4	502.3
110°	518.0	525.9	533.8	538.6	540.1	541.6	543.1	544.6



TEST NUMBER: P332207-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	561.2	569.2	577.1	582.2	584.4	586.5	588.8	590.9
115°	628.3	634.8	641.4	645.5	647.3	649.1	650.9	652.7
117.5°	695.6	701.8	707.9	711.6	712.8	714.0	715.2	716.4
120°	741.0	746.7	752.3	755.8	757.1	758.3	759.6	760.8
122.5°	786.9	791.9	796.9	800.0	801.0	801.9	803.0	804.0
125°	855.0	859.3	863.6	866.1	866.8	867.5	868.1	868.7
127.5°	922.2	925.7	929.3	931.3	931.8	932.2	932.6	933.1
130°	966.9	970.7	974.5	976.1	975.7	975.3	974.7	974.3
132.5°	1010.1	1013.5	1016.8	1018.6	1018.8	1019.1	1019.3	1019.5
135°	1075.4	1078.9	1082.4	1084.6	1085.3	1086.1	1086.8	1087.4
137.5°	1139.4	1142.3	1145.2	1146.8	1146.9	1147.2	1147.4	1147.5
140°	1181.7	1185.3	1189.0	1190.4	1189.7	1189.0	1188.3	1187.6
142.5°	1220.8	1224.0	1227.2	1228.6	1228.4	1228.1	1227.9	1227.6
145°	1281.2	1283.0	1284.8	1285.6	1285.5	1285.4	1285.2	1285.1
147.5°	1338.8	1339.5	1340.1	1340.0	1339.2	1338.3	1337.6	1336.8
150°	1374.9	1374.9	1374.9	1374.3	1373.1	1371.9	1370.7	1369.5
152.5°	1409.1	1409.5	1410.1	1409.5	1408.2	1406.8	1405.4	1403.9
155°	1459.1	1460.2	1461.4	1460.9	1458.9	1456.9	1454.8	1452.9
157.5°	1502.0	1503.2	1504.4	1504.3	1502.6	1501.0	1499.3	1497.8
160°	1528.4	1529.9	1531.3	1531.5	1530.3	1529.1	1528.0	1526.8
162.5°	1553.3	1554.8	1556.3	1556.1	1554.2	1552.4	1550.5	1548.7
165°	1584.8	1586.6	1588.3	1588.2	1586.1	1584.2	1582.1	1580.1
167.5°	1610.4	1612.2	1613.9	1613.9	1612.2	1610.4	1608.6	1606.8
170°	1624.4	1626.4	1628.4	1628.4	1626.4	1624.4	1622.4	1620.3
172.5°	1635.3	1637.1	1638.9	1638.8	1636.8	1634.8	1632.7	1630.7
175°	1647.2	1648.9	1650.6	1650.5	1648.5	1646.4	1644.4	1642.4
177.5°	1652.4	1653.8	1655.2	1655.1	1653.5	1651.8	1650.3	1648.6
180°	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8

(END OF REPORT)