

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: P331453-930

Luminaire Tested: **SA2XXDIP-C1005D925U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331453-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C1005D925U930-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

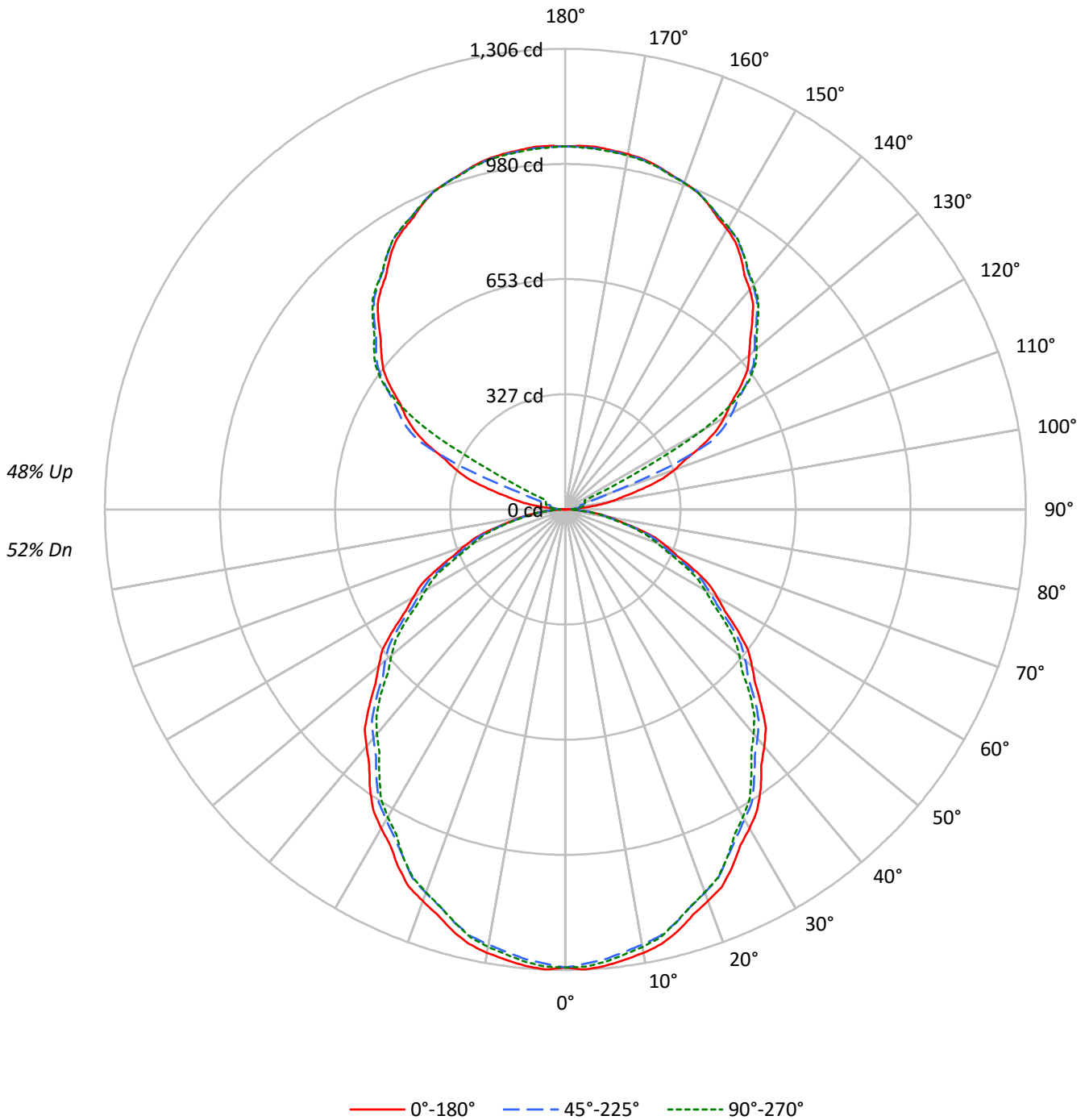
Lumens per Lamp: N/A  
Luminaire Lumens: 6324.2 lumens  
Efficiency: N/A  
Efficacy: 94.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 66.8  
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	50	30	10	0	
RCR																						
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52				
1	98	94	90	87	91	87	84	81	74	72	69	62	61	59	51	50	49	44				
2	90	82	76	71	83	76	71	66	65	61	58	55	52	49	45	43	41	37				
3	82	72	65	59	75	67	61	55	57	52	48	48	45	42	40	38	35	31				
4	75	64	56	50	69	59	52	47	51	46	41	43	39	36	36	33	30	27				
5	69	57	49	43	63	53	46	40	46	40	36	39	34	31	32	29	27	23				
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	29	26	23	20				
7	58	46	38	33	54	43	36	31	37	32	27	32	27	24	27	23	21	18				
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	25	21	19	16				
9	51	38	31	26	47	36	29	24	31	26	22	27	22	19	23	19	17	15				
10	47	35	28	23	44	33	26	22	29	23	20	25	21	17	21	18	15	13				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	20980	20980	20980
5°	21060	20757	20879
10°	20935	20546	20649
15°	20677	20279	20259
20°	20309	19880	19859
25°	19946	19388	19388
30°	19475	18938	18776
35°	19036	18398	18126
40°	18487	17856	17513
45°	17945	17317	16890
50°	17357	16759	16164
55°	16743	16110	15510
60°	16059	15332	14767
65°	15320	14560	13891
70°	14389	13624	12977
75°	13094	12545	12239
80°	11623	11269	10693
85°	9485	9040	8096



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.2	1.9
10°-20°	343.8	5.4
20°-30°	505.4	8.0
30°-40°	587.0	9.3
40°-50°	586.4	9.3
50°-60°	511.4	8.1
60°-70°	378.1	6.0
70°-80°	214.2	3.4
80°-90°	60.1	1.0
90°-100°	34.3	0.5
100°-110°	125.9	2.0
110°-120°	336.5	5.3
120°-130°	555.4	8.8
130°-140°	590.7	9.3
140°-150°	549.0	8.7
150°-160°	441.4	7.0
160°-170°	284.5	4.5
170°-180°	97.9	1.5
0°-30°	971.4	15.4
0°-40°	1558.4	24.6
0°-60°	2656.1	42.0
0°-90°	3308.5	52.3
90°-120°	496.7	7.9
90°-150°	2191.9	34.7
90°-180°	3016.0	47.7
0°-180°	6324.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1299	1299	1299	1299	1299	
5°	1299	1294	1281	1290	1288	123
15°	1237	1229	1213	1218	1212	348
25°	1120	1109	1088	1090	1088	515
35°	966	953	933	926	920	603
45°	786	777	758	745	740	606
55°	595	587	572	558	551	532
65°	401	393	381	370	364	397
75°	210	207	201	194	196	224
85°	51	50	49	45	44	59
90°	1	9	15	18	20	5
95°	48	26	29	33	32	59
105°	226	236	45	53	57	242
115°	428	441	459	131	61	421
125°	605	615	629	634	637	540
135°	749	761	768	775	774	578
145°	869	869	881	886	882	543
155°	957	951	959	963	958	441
165°	1008	1004	1006	1011	1006	285
175°	1031	1026	1028	1032	1025	98
180°	1029	1029	1029	1029	1029	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1305.5	1304.3	1303.3	1302.1	1301.0	1299.3	1296.8	1294.4	1291.9	1289.5	1291.7
5°	1299.4	1298.4	1297.2	1296.1	1295.0	1292.9	1289.9	1286.8	1283.8	1280.7	1283.0
7.5°	1287.9	1286.2	1284.5	1282.8	1281.1	1278.6	1275.5	1272.4	1269.3	1266.2	1268.4
10°	1276.9	1275.0	1273.1	1271.1	1269.2	1266.6	1263.2	1259.9	1256.5	1253.2	1255.5
12.5°	1262.0	1260.2	1258.5	1256.8	1255.1	1252.5	1249.2	1245.9	1242.6	1239.3	1240.8
15°	1237.0	1235.3	1233.6	1232.0	1230.3	1227.7	1224.1	1220.4	1216.8	1213.2	1214.4
17.5°	1205.0	1203.3	1201.7	1200.0	1198.3	1195.6	1192.0	1188.3	1184.6	1181.0	1182.3
20°	1182.0	1180.3	1178.7	1177.0	1175.3	1172.6	1168.7	1164.8	1160.9	1157.0	1157.8
22.5°	1159.0	1156.7	1154.4	1152.0	1149.7	1146.7	1143.0	1139.4	1135.7	1132.0	1132.2
25°	1119.6	1117.3	1115.1	1112.9	1110.7	1107.2	1102.4	1097.7	1093.0	1088.3	1088.8
27.5°	1074.6	1072.5	1070.6	1068.5	1066.6	1063.7	1060.0	1056.2	1052.6	1048.8	1048.0
30°	1044.6	1042.4	1040.1	1037.9	1035.7	1032.5	1028.3	1024.2	1020.0	1015.8	1015.0
32.5°	1012.6	1010.8	1009.0	1007.2	1005.4	1002.4	998.0	993.6	989.2	984.8	983.3
35°	965.8	963.0	960.3	957.5	954.7	951.1	946.6	942.2	937.8	933.4	931.7
37.5°	913.1	910.7	908.2	905.8	903.4	899.9	895.4	891.0	886.6	882.2	880.0
40°	877.1	874.9	872.7	870.5	868.2	865.0	860.5	856.1	851.6	847.2	844.7
42.5°	842.1	839.9	837.7	835.5	833.2	829.9	825.5	821.0	816.6	812.1	809.4
45°	785.9	784.0	782.0	780.1	778.1	775.1	770.9	766.8	762.6	758.4	755.4
47.5°	729.9	728.1	726.3	724.5	722.6	719.5	715.2	710.9	706.5	702.2	699.0
50°	691.0	689.6	688.2	686.8	685.4	682.7	678.9	675.0	671.1	667.2	663.3
52.5°	653.0	651.2	649.3	647.5	645.6	642.9	639.2	635.5	631.9	628.3	625.0
55°	594.8	593.0	591.4	589.8	588.1	585.5	582.3	578.9	575.6	572.3	568.9
57.5°	536.3	534.9	533.6	532.3	530.9	528.5	524.8	521.1	517.5	513.8	510.5
60°	497.3	496.2	495.0	494.0	492.8	490.3	486.5	482.6	478.7	474.8	471.7
62.5°	459.3	457.5	455.8	454.0	452.2	449.8	446.8	443.8	440.8	437.8	435.0
65°	401.0	399.4	397.8	396.1	394.4	392.2	389.4	386.6	383.8	381.1	378.6
67.5°	341.9	340.6	339.2	337.9	336.6	334.6	332.1	329.6	327.1	324.7	322.7
70°	304.8	303.8	302.6	301.6	300.4	298.6	296.1	293.6	291.1	288.6	286.7
72.5°	266.8	265.8	264.6	263.6	262.4	261.1	259.5	257.9	256.2	254.6	252.7
75°	209.9	209.4	208.8	208.2	207.7	206.7	205.3	203.9	202.5	201.1	199.5
77.5°	158.9	158.0	157.0	156.1	155.2	154.4	153.8	153.3	152.7	152.2	151.3
80°	125.0	124.7	124.4	124.1	123.8	123.4	122.9	122.3	121.7	121.2	120.3
82.5°	92.9	92.9	92.9	92.8	92.7	92.5	92.2	91.9	91.6	91.2	90.2
85°	51.2	51.0	50.7	50.4	50.1	49.8	49.6	49.2	49.0	48.8	47.9
87.5°	18.2	18.1	18.0	17.9	17.9	17.7	17.5	17.4	17.1	17.0	16.5
90°	0.7	2.5	4.4	6.2	8.0	9.6	10.9	12.2	13.5	14.9	15.7
92.5°	15.0	14.8	14.7	14.5	14.3	14.6	15.3	16.0	16.6	17.3	17.7
95°	48.4	43.0	37.5	32.0	26.6	24.4	25.6	26.7	27.9	29.0	29.8
97.5°	96.0	80.6	65.3	49.9	34.5	28.1	30.8	33.5	36.2	38.9	39.5
100°	131.8	109.1	86.4	63.8	41.1	31.2	34.0	36.9	39.6	42.5	43.8
102.5°	171.1	166.3	161.5	156.7	151.9	137.8	114.2	90.7	67.2	43.6	45.3
105°	226.3	231.3	236.3	241.2	246.2	226.1	180.9	135.7	90.6	45.4	47.2
107.5°	289.3	293.3	297.3	301.3	305.4	280.3	226.1	171.9	117.7	63.6	61.7
110°	329.9	333.4	336.8	340.3	343.7	321.6	273.8	225.9	178.1	130.3	113.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	367.9	371.0	374.1	377.2	380.3	375.9	364.1	352.3	340.5	328.6	268.3
115°	428.1	431.0	433.7	436.6	439.4	442.9	447.0	451.2	455.3	459.4	382.8
117.5°	481.9	485.0	488.2	491.4	494.5	497.5	500.3	503.2	506.1	508.8	490.3
120°	521.2	523.7	526.2	528.6	531.2	533.9	536.9	539.8	542.8	545.8	547.8
122.5°	554.6	557.2	559.8	562.4	565.0	567.9	571.2	574.5	577.7	581.0	582.1
125°	605.4	607.5	609.7	611.8	614.0	616.6	619.8	622.9	626.1	629.2	630.4
127.5°	651.3	653.8	656.2	658.5	660.9	663.2	665.6	668.0	670.3	672.7	674.3
130°	680.6	683.2	685.8	688.5	691.1	693.4	695.2	697.0	698.9	700.7	702.5
132.5°	710.4	712.6	714.9	717.1	719.3	721.4	723.3	725.0	726.8	728.6	730.3
135°	749.1	751.7	754.4	757.0	759.7	761.7	763.2	764.8	766.2	767.7	769.3
137.5°	788.2	790.1	792.0	793.8	795.7	797.4	799.1	800.8	802.5	804.2	805.8
140°	813.8	815.2	816.5	817.8	819.1	820.8	822.6	824.3	826.2	828.0	829.5
142.5°	835.3	836.5	837.7	838.9	840.1	841.7	843.8	845.9	848.0	850.0	851.4
145°	868.9	868.8	868.6	868.5	868.3	869.6	872.5	875.2	878.1	880.8	882.0
147.5°	898.3	897.6	897.1	896.4	895.8	896.8	899.6	902.5	905.2	908.0	908.8
150°	917.4	916.2	915.0	913.9	912.7	913.5	916.2	918.8	921.5	924.1	925.0
152.5°	933.4	932.1	930.8	929.6	928.3	928.9	931.4	933.9	936.5	939.0	940.0
155°	956.8	955.4	953.8	952.4	950.9	951.1	953.1	955.1	957.1	959.0	960.0
157.5°	975.1	973.9	972.7	971.3	970.1	970.2	971.6	973.0	974.4	975.8	976.9
160°	985.9	984.9	983.9	982.8	981.9	981.9	982.8	983.9	984.9	985.9	986.8
162.5°	995.4	994.4	993.4	992.4	991.4	991.3	992.2	993.0	993.9	994.8	995.9
165°	1008.2	1007.2	1006.2	1005.2	1004.2	1004.0	1004.4	1004.9	1005.5	1006.0	1007.1
167.5°	1017.7	1016.8	1015.8	1014.7	1013.7	1013.5	1014.0	1014.4	1014.9	1015.4	1016.5
170°	1023.1	1022.1	1021.1	1020.1	1019.1	1018.8	1019.1	1019.5	1019.8	1020.1	1021.2
172.5°	1026.6	1025.6	1024.7	1023.7	1022.7	1022.4	1022.7	1023.0	1023.4	1023.7	1024.8
175°	1031.3	1030.1	1029.0	1027.8	1026.6	1026.2	1026.5	1026.9	1027.2	1027.5	1028.7
177.5°	1032.0	1031.1	1030.2	1029.2	1028.3	1027.9	1028.1	1028.2	1028.3	1028.4	1029.4
180°	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1293.9	1296.1	1298.4	1299.3	1298.8	1298.4	1297.9	1297.5
5°	1285.2	1287.4	1289.6	1290.5	1289.9	1289.3	1288.7	1288.2
7.5°	1270.6	1272.8	1275.1	1275.9	1275.3	1274.7	1274.1	1273.5
10°	1257.7	1259.9	1262.1	1262.8	1262.0	1261.1	1260.3	1259.5
12.5°	1242.4	1243.9	1245.5	1245.9	1245.3	1244.7	1244.1	1243.5
15°	1215.4	1216.6	1217.6	1217.6	1216.2	1214.8	1213.4	1212.0
17.5°	1183.6	1184.9	1186.1	1186.1	1184.7	1183.4	1182.1	1180.7
20°	1158.7	1159.5	1160.3	1160.2	1159.1	1158.0	1156.9	1155.8
22.5°	1132.4	1132.5	1132.7	1132.5	1131.8	1131.1	1130.4	1129.8
25°	1089.4	1090.0	1090.5	1090.5	1090.0	1089.4	1088.8	1088.3
27.5°	1047.2	1046.3	1045.5	1044.4	1043.1	1041.7	1040.4	1039.1
30°	1014.2	1013.3	1012.5	1011.5	1010.4	1009.3	1008.2	1007.1
32.5°	981.9	980.3	978.8	977.5	976.4	975.3	974.2	973.1
35°	930.0	928.4	926.7	925.2	923.8	922.4	921.0	919.6
37.5°	878.0	876.0	873.9	872.2	870.9	869.5	868.2	866.9
40°	842.1	839.7	837.1	835.4	834.2	833.2	832.0	830.9
42.5°	806.7	804.0	801.3	799.2	797.6	796.1	794.5	792.9
45°	752.4	749.3	746.2	744.1	743.0	741.9	740.8	739.7
47.5°	695.8	692.5	689.3	686.9	685.3	683.7	682.1	680.4
50°	659.4	655.6	651.7	649.1	647.7	646.3	644.9	643.5
52.5°	621.8	618.6	615.4	612.9	611.0	609.2	607.3	605.5
55°	565.6	562.2	559.0	556.6	555.2	553.8	552.4	551.0
57.5°	507.2	503.9	500.7	498.5	497.5	496.4	495.4	494.3
60°	468.7	465.6	462.6	460.6	459.8	459.0	458.1	457.3
62.5°	432.2	429.3	426.5	424.5	423.5	422.4	421.3	420.3
65°	376.1	373.6	371.1	369.2	367.8	366.4	365.0	363.6
67.5°	320.7	318.8	316.8	315.3	314.2	313.1	312.0	310.9
70°	284.7	282.8	280.9	279.3	278.2	277.1	276.0	274.9
72.5°	250.8	248.8	246.9	245.5	244.6	243.7	242.8	241.9
75°	197.9	196.2	194.5	194.0	194.5	195.0	195.6	196.2
77.5°	150.5	149.7	148.9	148.1	147.2	146.5	145.7	145.0
80°	119.5	118.7	117.9	117.2	116.6	116.1	115.5	115.0
82.5°	89.1	88.1	87.0	86.4	86.3	86.2	86.1	85.9
85°	47.0	46.2	45.4	44.8	44.6	44.3	44.0	43.7
87.5°	16.0	15.5	15.0	14.7	14.5	14.3	14.2	14.0
90°	16.6	17.4	18.2	18.8	19.1	19.4	19.8	20.1
92.5°	18.1	18.6	19.0	19.3	19.5	19.7	19.9	20.1
95°	30.7	31.6	32.4	32.7	32.5	32.4	32.2	32.0
97.5°	40.2	40.8	41.5	41.9	42.2	42.3	42.6	42.7
100°	45.1	46.4	47.8	48.6	48.9	49.2	49.6	49.9
102.5°	47.0	48.8	50.5	51.6	52.1	52.5	53.0	53.5
105°	49.1	50.9	52.7	54.0	54.6	55.3	55.9	56.6
107.5°	59.8	58.0	56.2	55.6	56.3	56.9	57.6	58.2
110°	97.2	80.6	64.1	56.2	56.8	57.5	58.1	58.9





TEST NUMBER: P331453-930

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	208.0	147.6	87.2	57.3	57.8	58.4	58.9	59.4
115°	306.2	229.6	153.0	108.7	96.8	84.9	73.0	61.1
117.5°	471.8	453.3	434.7	405.9	366.7	327.6	288.5	249.3
120°	549.8	551.8	553.8	543.6	521.2	498.9	476.5	454.2
122.5°	583.3	584.5	585.7	584.2	579.8	575.4	571.1	566.8
125°	631.5	632.7	633.8	634.6	635.1	635.6	636.2	636.7
127.5°	676.0	677.8	679.5	680.3	680.4	680.5	680.6	680.7
130°	704.3	706.1	707.9	708.8	708.7	708.4	708.3	708.1
132.5°	731.8	733.4	734.9	735.6	735.4	735.2	735.1	734.9
135°	771.0	772.7	774.3	774.9	774.6	774.3	774.0	773.6
137.5°	807.4	809.0	810.7	811.2	810.7	810.1	809.5	808.9
140°	831.0	832.5	834.0	834.3	833.5	832.7	831.8	831.0
142.5°	852.7	854.1	855.5	855.7	854.9	854.1	853.3	852.4
145°	883.2	884.4	885.5	885.7	884.8	884.0	883.2	882.4
147.5°	909.7	910.5	911.4	911.5	910.8	910.1	909.4	908.7
150°	926.0	927.1	928.1	928.1	927.3	926.4	925.6	924.8
152.5°	940.9	941.9	942.9	942.9	941.8	940.7	939.6	938.5
155°	961.1	962.1	963.0	962.9	961.6	960.2	958.9	957.6
157.5°	978.0	979.1	980.2	980.2	978.8	977.5	976.2	975.0
160°	987.8	988.9	989.9	989.8	988.6	987.4	986.3	985.1
162.5°	997.0	998.2	999.3	999.1	997.8	996.3	994.9	993.4
165°	1008.3	1009.4	1010.6	1010.6	1009.4	1008.3	1007.1	1006.0
167.5°	1017.7	1018.8	1020.0	1019.8	1018.3	1016.8	1015.4	1013.8
170°	1022.5	1023.6	1024.7	1024.6	1023.1	1021.6	1020.1	1018.6
172.5°	1026.0	1027.2	1028.3	1028.2	1026.6	1025.2	1023.7	1022.2
175°	1029.9	1031.0	1032.2	1031.9	1030.3	1028.7	1027.0	1025.3
177.5°	1030.3	1031.3	1032.2	1032.0	1030.9	1029.6	1028.4	1027.3
180°	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1

(END OF REPORT)