

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: P332077-935

Luminaire Tested: **S123DIP-S1165D1025U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332077-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1025U935-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7372.6 lumens
Efficiency: N/A
Efficacy: 110.4 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

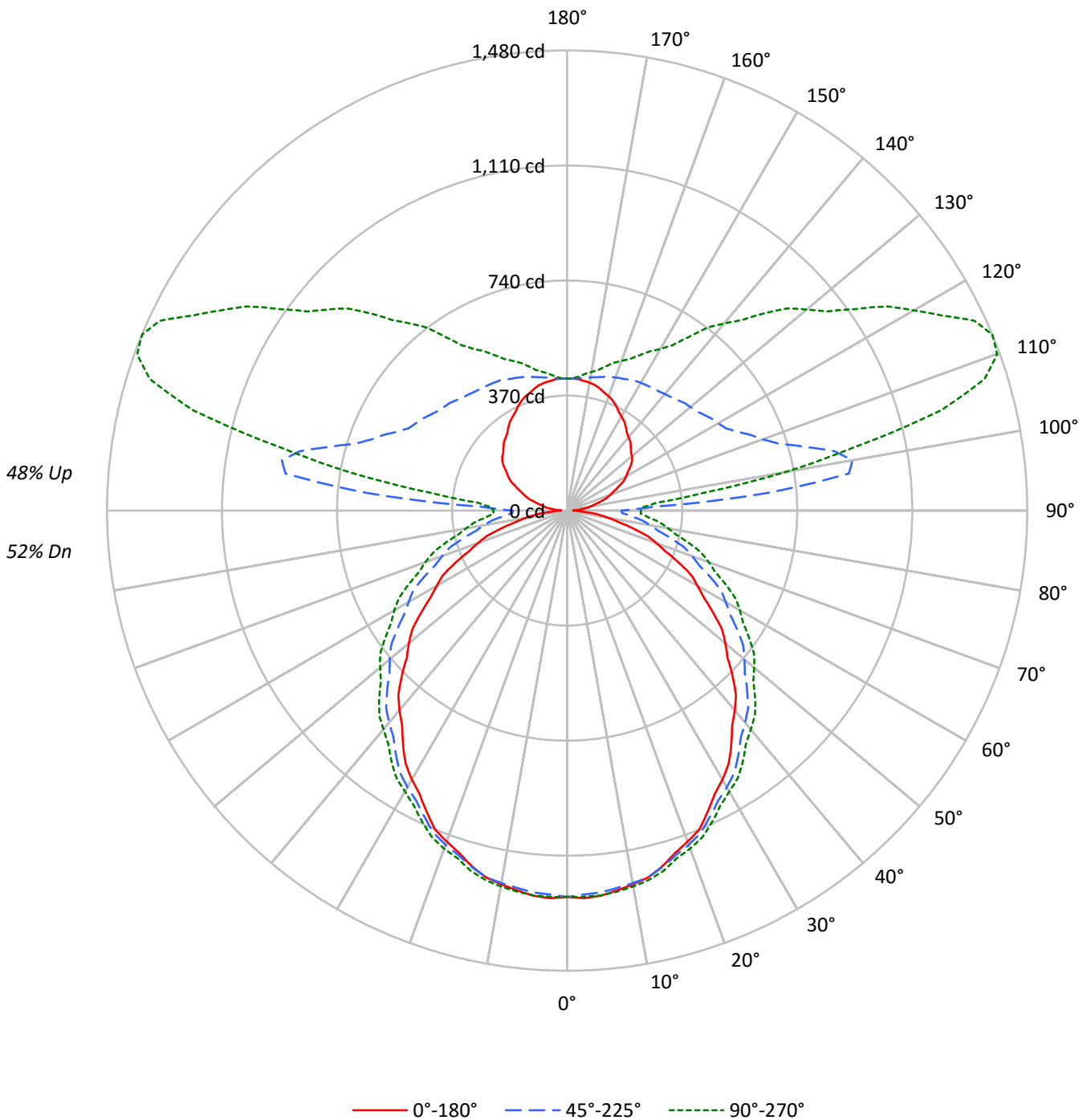
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	108	108	108	108	100	100	100	100	84	84	84	71	71	71	58	58	58	52
1	97	92	88	84	90	85	82	78	72	70	67	60	58	57	49	48	47	41
2	88	80	73	68	81	74	68	63	63	58	55	52	49	46	43	41	38	34
3	80	70	62	56	74	65	58	52	55	50	45	46	42	39	38	35	32	28
4	73	62	53	47	67	57	50	44	49	43	38	41	36	33	33	30	28	24
5	67	55	46	40	61	51	43	38	43	38	33	36	32	28	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	24	21	18
7	57	44	36	30	52	41	34	29	35	29	25	30	25	22	25	21	18	16
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	16	14
9	49	37	29	24	45	34	27	22	29	24	20	25	21	17	21	17	15	13
10	46	34	26	21	42	31	25	20	27	22	18	23	19	16	19	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13373	13373	13373
5°	13415	13037	13044
10°	13294	12736	12672
15°	13123	12396	12267
20°	12878	12006	11821
25°	12576	11558	11352
30°	12267	11155	10876
35°	11919	10728	10496
40°	11588	10340	10090
45°	11221	9968	9765
50°	10858	9599	9408
55°	10459	9224	9085
60°	10067	8841	8755
65°	9669	8433	8362
70°	9064	7974	7959
75°	8304	7449	7549
80°	7429	6933	7081
85°	6613	6577	6812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.8	1.6
10°-20°	335.7	4.6
20°-30°	502.2	6.8
30°-40°	599.7	8.1
40°-50°	627.4	8.5
50°-60°	588.8	8.0
60°-70°	491.8	6.7
70°-80°	351.8	4.8
80°-90°	213.1	2.9
90°-100°	367.9	5.0
100°-110°	765.8	10.4
110°-120°	722.7	9.8
120°-130°	561.9	7.6
130°-140°	430.5	5.8
140°-150°	312.5	4.2
150°-160°	215.4	2.9
160°-170°	126.5	1.7
170°-180°	41.2	0.6
0°-30°	955.7	13.0
0°-40°	1555.4	21.1
0°-60°	2771.6	37.6
0°-90°	3828.3	51.9
90°-120°	1856.4	25.2
90°-150°	3161.2	42.9
90°-180°	3544.0	48.1
0°-180°	7372.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1244	1241	1233	1243	1242	118
15°	1184	1188	1187	1200	1199	333
25°	1069	1082	1087	1103	1104	492
35°	920	942	960	979	985	575
45°	752	785	819	844	855	580
55°	574	619	667	702	715	514
65°	397	450	509	548	563	392
75°	215	279	346	390	407	230
85°	66	134	206	250	265	70
90°	19	94	174	221	237	14
95°	44	163	644	323	289	43
105°	111	192	792	1346	1245	117
115°	183	244	600	1262	1445	181
125°	249	295	537	964	1130	221
135°	290	345	503	776	897	224
145°	329	375	480	614	681	206
155°	372	401	465	529	551	171
165°	406	418	445	472	480	115
175°	424	424	427	433	432	40
180°	425	425	425	425	425	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1247.8	1247.2	1246.4	1245.7	1244.9	1243.6	1241.7	1239.8	1237.9	1236.0	1237.9
5°	1243.8	1243.2	1242.6	1242.0	1241.4	1240.2	1238.4	1236.6	1234.8	1233.0	1235.4
7.5°	1231.6	1231.7	1231.8	1232.0	1232.1	1231.3	1229.5	1227.8	1226.1	1224.3	1227.3
10°	1220.8	1221.4	1222.0	1222.6	1223.2	1222.7	1221.2	1219.7	1218.2	1216.7	1219.7
12.5°	1207.8	1208.6	1209.4	1210.3	1211.2	1211.1	1210.0	1209.0	1208.0	1206.9	1209.7
15°	1184.2	1185.2	1186.0	1187.0	1187.8	1188.2	1187.8	1187.6	1187.2	1187.0	1190.0
17.5°	1154.4	1156.2	1158.0	1159.9	1161.7	1162.5	1162.4	1162.3	1162.2	1162.0	1164.8
20°	1132.8	1134.6	1136.4	1138.2	1140.1	1141.3	1141.9	1142.5	1143.1	1143.7	1146.3
22.5°	1110.1	1111.9	1113.7	1115.5	1117.3	1118.6	1119.5	1120.3	1121.1	1122.0	1125.4
25°	1069.2	1072.2	1075.2	1078.2	1081.2	1083.1	1084.1	1084.9	1085.9	1086.8	1090.7
27.5°	1028.0	1031.5	1034.9	1038.4	1041.7	1044.5	1046.4	1048.3	1050.2	1052.1	1055.5
30°	998.8	1002.7	1006.6	1010.6	1014.4	1017.6	1020.0	1022.4	1024.8	1027.3	1030.9
32.5°	966.3	970.7	975.1	979.5	983.9	987.7	990.8	993.9	997.0	1000.1	1004.0
35°	920.3	925.1	930.0	934.8	939.6	943.9	947.9	951.7	955.6	959.6	964.1
37.5°	871.6	877.0	882.4	887.9	893.3	898.4	903.2	908.0	912.8	917.7	922.7
40°	839.1	844.6	850.0	855.3	860.7	866.5	872.5	878.5	884.5	890.5	895.7
42.5°	803.4	810.0	816.7	823.2	829.8	836.3	842.6	848.8	855.1	861.3	866.9
45°	752.5	759.7	766.9	774.1	781.4	788.8	796.3	803.7	811.3	818.8	824.5
47.5°	699.1	707.3	715.5	723.8	731.9	740.3	748.9	757.5	766.1	774.7	781.1
50°	664.5	673.0	681.4	689.7	698.2	707.1	716.4	725.7	735.0	744.3	751.3
52.5°	627.8	636.6	645.5	654.4	663.3	673.0	683.2	693.4	703.8	714.0	721.3
55°	573.9	583.8	593.7	603.6	613.5	623.9	634.7	645.6	656.4	667.3	675.4
57.5°	521.3	531.7	542.0	552.3	562.7	573.9	585.7	597.5	609.3	621.2	629.4
60°	484.5	495.3	506.2	517.0	527.8	539.4	551.7	564.0	576.4	588.8	597.2
62.5°	449.9	461.0	472.0	483.1	494.1	506.2	519.3	532.3	545.4	558.4	566.8
65°	396.6	408.3	420.0	431.7	443.5	456.0	469.2	482.4	495.7	508.9	517.9
67.5°	342.4	354.9	367.3	379.8	392.2	405.2	418.6	432.1	445.6	459.1	468.9
70°	304.5	317.5	330.4	343.3	356.3	370.0	384.4	398.8	413.3	427.7	437.3
72.5°	269.8	282.8	295.8	308.7	321.6	335.5	350.4	365.3	380.3	395.2	405.1
75°	215.2	229.4	243.5	257.6	271.7	286.3	301.4	316.4	331.4	346.5	356.4
77.5°	167.6	181.8	196.0	210.3	224.5	239.3	254.4	269.6	284.7	299.9	310.4
80°	134.0	148.7	163.5	178.2	193.0	208.1	223.8	239.4	255.0	270.7	280.9
82.5°	104.8	119.8	134.7	149.7	164.6	180.1	196.0	211.9	227.7	243.6	253.8
85°	66.3	81.4	96.4	111.4	126.5	142.0	157.9	173.8	189.8	205.7	215.9
87.5°	36.3	51.7	67.0	82.5	97.8	113.3	129.2	145.0	160.8	176.8	186.8
90°	19.3	35.7	52.3	69.6	86.0	102.7	120.7	138.6	156.5	174.4	183.8
92.5°	27.2	45.6	66.1	86.1	106.7	133.5	171.2	223.3	274.6	276.5	254.0
95°	44.1	58.4	79.6	105.9	140.0	186.8	274.6	417.3	573.0	643.6	556.7
97.5°	63.1	74.6	92.6	115.8	148.4	197.0	280.9	439.4	688.4	914.0	978.2
100°	75.8	86.3	101.9	123.6	153.8	199.1	273.0	414.1	653.9	931.6	1109.7
102.5°	89.1	99.4	113.3	133.4	160.6	202.4	270.0	391.6	606.4	880.5	1109.8
105°	110.6	120.3	132.7	150.2	173.7	210.5	269.8	371.3	546.6	792.5	1047.6
107.5°	131.9	140.6	151.8	168.1	189.5	223.4	276.5	362.3	505.5	713.9	946.0
110°	147.3	155.3	165.1	179.9	199.9	232.7	283.4	360.8	488.0	669.3	882.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	162.5	169.5	178.2	192.2	211.2	242.6	290.1	362.1	475.1	636.7	825.6
115°	183.0	190.0	198.8	210.9	229.2	259.6	303.1	366.4	464.9	600.3	756.2
117.5°	204.5	210.7	217.2	227.3	245.9	273.5	316.1	373.0	457.5	574.3	710.1
120°	218.5	222.7	228.4	238.5	256.4	283.5	324.4	379.0	455.1	561.4	685.1
122.5°	231.6	235.0	240.0	250.1	266.6	294.5	334.2	384.9	455.0	551.1	663.7
125°	249.0	250.7	255.9	265.4	281.6	309.2	348.0	394.6	454.9	536.7	634.9
127.5°	263.3	265.5	271.6	280.9	298.7	325.4	361.6	402.9	456.5	525.4	608.6
130°	272.2	274.5	281.9	292.0	309.7	335.7	370.1	408.8	457.8	517.9	593.2
132.5°	278.0	281.2	289.6	301.9	319.9	344.7	377.2	414.1	457.7	511.9	578.7
135°	289.7	292.9	302.0	314.6	332.3	357.1	387.0	419.6	457.3	502.7	558.8
137.5°	300.8	304.2	313.2	326.7	344.4	366.7	394.2	423.9	456.3	494.3	541.5
140°	307.3	311.6	320.2	334.0	351.1	373.1	398.9	425.6	455.7	489.3	530.7
142.5°	315.6	318.9	328.0	340.1	357.1	377.1	401.6	426.8	454.2	483.5	520.4
145°	328.8	331.1	338.5	351.1	365.4	385.0	407.3	430.6	454.6	480.4	510.3
147.5°	340.9	342.4	350.0	361.1	375.2	392.1	412.5	433.3	454.6	477.2	501.4
150°	349.8	350.7	357.5	368.7	380.7	396.2	415.9	434.0	454.6	474.4	495.8
152.5°	358.7	358.9	365.8	375.6	386.2	401.1	418.0	435.4	452.5	471.0	490.4
155°	372.1	372.1	377.3	385.9	395.4	407.3	422.0	435.8	450.3	464.9	482.2
157.5°	382.8	383.5	387.6	395.2	403.2	412.5	424.2	436.6	447.5	459.6	472.9
160°	391.1	391.1	394.5	401.3	407.3	415.9	426.3	436.6	446.1	455.5	466.7
162.5°	397.3	397.3	400.0	405.4	410.8	418.0	427.0	435.9	443.3	451.3	460.5
165°	406.5	405.6	407.3	411.6	415.1	421.1	428.0	434.0	439.2	445.2	452.0
167.5°	413.5	412.5	413.4	416.6	419.0	422.8	427.8	432.7	435.1	439.0	444.0
170°	417.7	415.9	416.8	419.4	421.1	422.8	427.1	430.6	432.3	434.9	439.2
172.5°	420.4	419.4	419.6	421.5	422.5	423.5	427.1	429.9	430.2	431.4	434.4
175°	423.7	422.8	422.0	423.7	423.7	424.6	426.3	428.0	427.1	427.1	428.9
177.5°	425.2	424.6	423.9	424.6	424.6	424.6	425.2	426.6	425.2	424.6	425.2
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1239.8	1241.7	1243.6	1244.5	1244.2	1244.0	1243.7	1243.5
5°	1237.8	1240.2	1242.6	1243.6	1243.4	1243.0	1242.8	1242.4
7.5°	1230.3	1233.3	1236.3	1237.7	1237.3	1236.9	1236.6	1236.2
10°	1222.7	1225.7	1228.7	1229.9	1229.3	1228.7	1228.1	1227.5
12.5°	1212.5	1215.3	1218.1	1219.1	1218.5	1217.9	1217.3	1216.7
15°	1192.9	1195.9	1198.9	1200.3	1200.1	1199.7	1199.5	1199.1
17.5°	1167.4	1170.2	1172.9	1174.0	1173.6	1173.2	1172.8	1172.3
20°	1149.0	1151.8	1154.4	1156.0	1156.2	1156.6	1156.8	1157.2
22.5°	1128.9	1132.3	1135.7	1137.3	1137.1	1137.0	1136.8	1136.6
25°	1094.6	1098.5	1102.4	1104.4	1104.4	1104.4	1104.4	1104.4
27.5°	1058.9	1062.2	1065.6	1067.4	1067.6	1067.9	1068.2	1068.4
30°	1034.5	1038.1	1041.6	1043.4	1043.4	1043.4	1043.4	1043.4
32.5°	1007.9	1011.8	1015.5	1017.9	1018.6	1019.3	1020.0	1020.7
35°	968.6	973.1	977.6	980.5	981.7	982.9	984.1	985.2
37.5°	927.8	933.0	938.1	941.1	942.1	943.1	944.0	944.9
40°	900.8	905.9	911.0	914.1	915.3	916.5	917.7	918.9
42.5°	872.5	878.1	883.7	887.3	889.0	890.7	892.3	894.1
45°	830.3	835.9	841.7	845.8	848.2	850.6	853.0	855.3
47.5°	787.6	794.0	800.5	804.6	806.4	808.3	810.2	812.0
50°	758.2	765.2	772.1	776.5	778.7	780.8	782.9	785.0
52.5°	728.4	735.6	742.7	747.6	750.2	752.8	755.4	757.9
55°	683.5	691.6	699.7	705.0	707.4	709.8	712.2	714.6
57.5°	637.6	645.8	653.9	659.4	662.3	665.1	668.0	670.7
60°	605.5	614.0	622.4	628.3	631.6	634.9	638.2	641.5
62.5°	575.2	583.7	592.1	597.9	600.9	604.0	607.1	610.1
65°	526.9	536.0	545.0	551.0	554.0	557.0	560.0	563.0
67.5°	478.8	488.7	498.5	504.7	507.3	509.8	512.3	514.9
70°	446.9	456.6	466.1	472.5	475.5	478.5	481.5	484.5
72.5°	414.9	424.8	434.6	441.1	444.1	447.1	450.1	453.1
75°	366.4	376.3	386.2	393.0	396.6	400.2	403.8	407.3
77.5°	320.8	331.3	341.8	348.4	351.2	354.0	356.7	359.5
80°	291.1	301.4	311.6	318.2	321.2	324.3	327.3	330.2
82.5°	264.1	274.3	284.5	291.1	294.1	297.1	300.1	303.2
85°	226.2	236.4	246.6	253.2	256.2	259.2	262.3	265.3
87.5°	197.2	207.6	218.0	224.9	227.7	230.9	234.1	236.9
90°	194.8	206.0	217.1	225.4	227.6	231.4	235.2	237.4
92.5°	236.6	231.6	234.9	236.9	238.1	238.2	241.9	243.1
95°	462.0	371.7	335.4	310.6	297.3	292.6	289.6	289.2
97.5°	913.4	768.9	667.0	570.2	509.8	474.1	453.9	449.5
100°	1148.5	1087.5	995.7	879.6	795.7	736.1	705.5	709.4
102.5°	1221.9	1228.2	1178.0	1106.5	1041.9	995.2	970.2	953.5
105°	1235.6	1330.0	1354.7	1337.9	1301.1	1271.2	1246.4	1244.7
107.5°	1157.7	1305.4	1388.7	1424.6	1428.0	1419.6	1413.0	1407.7
110°	1087.2	1253.1	1369.2	1434.5	1460.9	1470.2	1470.9	1471.6



TEST NUMBER: P332077-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1016.2	1185.4	1314.3	1396.8	1443.5	1467.4	1476.6	1479.5
115°	922.4	1079.2	1212.7	1311.2	1378.0	1418.3	1437.9	1444.6
117.5°	851.4	987.7	1108.3	1208.1	1277.6	1323.3	1350.4	1358.6
120°	813.2	936.2	1046.2	1137.6	1207.6	1257.7	1280.5	1287.8
122.5°	781.9	893.6	995.8	1080.8	1143.3	1188.7	1213.5	1222.1
125°	739.2	839.2	928.0	1001.0	1058.1	1098.0	1121.6	1129.7
127.5°	700.8	790.3	870.6	937.2	988.3	1022.6	1044.0	1051.6
130°	676.3	759.4	834.7	896.9	944.3	977.0	996.9	1005.6
132.5°	653.2	729.9	800.1	859.6	904.5	937.5	955.5	962.3
135°	621.8	688.2	749.5	801.9	845.6	872.9	889.8	897.3
137.5°	592.8	647.6	700.5	746.1	783.0	810.6	825.2	830.6
140°	575.7	624.0	669.8	709.7	743.9	769.5	784.7	785.3
142.5°	558.7	600.4	640.2	675.0	704.4	727.2	741.1	741.8
145°	540.3	571.0	600.9	627.7	650.3	669.6	677.7	680.6
147.5°	525.4	548.6	571.4	590.1	607.5	620.8	628.4	630.2
150°	515.7	535.5	553.5	570.1	583.6	593.7	599.4	600.0
152.5°	508.1	525.1	541.1	554.7	565.0	573.9	577.1	577.2
155°	496.7	510.5	523.4	533.7	541.5	548.3	550.0	550.9
157.5°	484.7	496.2	506.2	514.3	521.0	526.2	527.5	527.4
160°	477.9	487.3	495.8	501.9	507.9	513.1	513.1	512.2
162.5°	469.6	477.7	485.6	490.9	494.9	499.3	499.3	498.4
165°	458.9	464.1	470.1	474.4	477.9	481.3	480.4	480.4
167.5°	449.6	453.6	457.0	460.1	461.7	464.1	463.2	463.2
170°	443.5	446.1	449.4	451.2	452.0	453.7	452.9	452.9
172.5°	438.0	439.9	442.6	443.7	443.8	445.6	444.0	443.3
175°	430.6	431.4	433.2	433.2	433.2	434.0	433.2	432.3
177.5°	425.9	426.6	427.3	427.3	426.6	427.3	425.9	425.9
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6

(END OF REPORT)