

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: P332035-830

Luminaire Tested: **S123DIP-S1000D1025U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332035-830
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-S1000D1025U830-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7382.4 lumens
Efficiency: N/A
Efficacy: 122.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

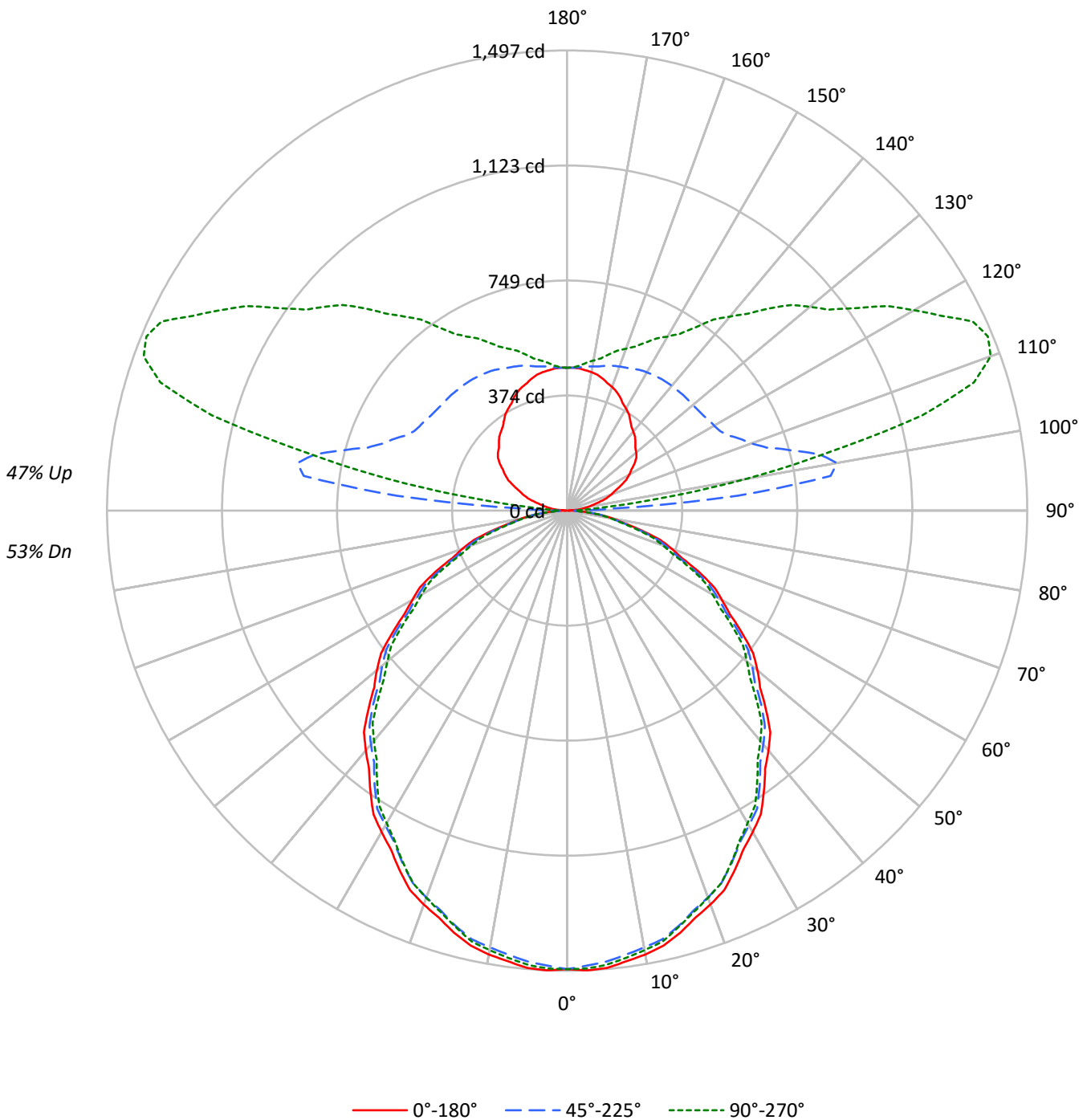
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	85	85	85	71	71	71	59	59	59	53
1	98	94	90	86	91	87	84	81	74	72	70	62	61	59	52	50	49	44
2	89	82	76	71	83	76	71	66	65	61	58	55	52	49	45	43	41	37
3	82	72	65	59	75	67	60	55	57	52	48	48	45	42	40	38	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27
5	69	57	49	43	63	53	46	40	46	40	35	39	34	31	32	29	26	23
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	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	50	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	20	17	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16060	16060	16060
5°	16134	15913	16024
10°	16027	15774	15872
15°	15840	15597	15624
20°	15621	15341	15356
25°	15327	15037	15007
30°	15003	14701	14588
35°	14666	14345	14160
40°	14313	13952	13735
45°	13922	13592	13259
50°	13534	13147	12782
55°	13024	12688	12301
60°	12510	12152	11765
65°	12055	11566	11207
70°	11383	10902	10414
75°	10405	10031	9603
80°	9385	8988	8901
85°	8238	7929	7595



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.5	1.9
10°-20°	396.8	5.4
20°-30°	586.2	7.9
30°-40°	684.7	9.3
40°-50°	688.4	9.3
50°-60°	604.7	8.2
60°-70°	450.5	6.1
70°-80°	256.7	3.5
80°-90°	77.3	1.0
90°-100°	258.6	3.5
100°-110°	732.4	9.9
110°-120°	720.5	9.8
120°-130°	574.7	7.8
130°-140°	453.1	6.1
140°-150°	338.2	4.6
150°-160°	235.7	3.2
160°-170°	138.5	1.9
170°-180°	45.1	0.6
0°-30°	1123.5	15.2
0°-40°	1808.2	24.5
0°-60°	3101.3	42.0
0°-90°	3885.8	52.6
90°-120°	1711.5	23.2
90°-150°	3077.4	41.7
90°-180°	3497.0	47.4
0°-180°	7382.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1492	1492	1492	1492	1492	
5°	1493	1486	1473	1485	1483	141
15°	1421	1416	1400	1409	1402	401
25°	1290	1282	1266	1267	1264	594
35°	1116	1108	1092	1084	1078	698
45°	915	909	893	878	871	706
55°	694	692	676	662	656	621
65°	473	467	454	444	440	467
75°	250	245	241	235	231	267
85°	67	64	64	62	62	73
90°	2	11	24	26	27	6
95°	32	104	558	163	109	35
105°	109	161	756	1323	1197	116
115°	193	240	579	1269	1456	191
125°	268	317	540	978	1148	238
135°	314	375	532	806	930	243
145°	358	411	526	661	727	225
155°	407	439	509	579	603	187
165°	445	458	487	517	526	125
175°	464	464	468	474	473	44
180°	465	465	465	465	465	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0
2.5°	1497.0	1496.2	1495.2	1494.3	1493.5	1491.7	1489.2	1486.7	1484.2	1481.7	1483.9
5°	1493.2	1491.8	1490.3	1488.9	1487.5	1485.3	1482.1	1478.9	1475.8	1472.7	1475.6
7.5°	1478.6	1477.2	1475.7	1474.3	1472.9	1470.6	1467.4	1464.1	1460.8	1457.5	1460.1
10°	1466.3	1464.9	1463.4	1462.0	1460.6	1458.0	1454.3	1450.6	1446.9	1443.2	1445.8
12.5°	1449.8	1448.7	1447.5	1446.2	1445.1	1442.7	1439.3	1435.8	1432.3	1428.8	1430.7
15°	1421.4	1420.2	1419.1	1418.0	1416.8	1414.4	1410.7	1407.0	1403.3	1399.6	1401.8
17.5°	1388.3	1386.8	1385.3	1383.8	1382.3	1379.8	1376.0	1372.3	1368.7	1364.9	1366.5
20°	1363.7	1362.0	1360.3	1358.5	1356.8	1354.1	1350.4	1346.7	1343.0	1339.3	1340.4
22.5°	1336.0	1334.3	1332.6	1330.8	1329.1	1326.4	1322.7	1319.0	1315.3	1311.5	1312.5
25°	1290.5	1288.8	1287.1	1285.4	1283.6	1281.0	1277.2	1273.6	1269.9	1266.1	1266.4
27.5°	1242.1	1240.4	1238.7	1237.1	1235.4	1232.6	1228.6	1224.6	1220.6	1216.6	1216.8
30°	1207.1	1205.7	1204.3	1202.9	1201.5	1198.7	1194.8	1190.7	1186.8	1182.8	1182.8
32.5°	1172.2	1170.4	1168.5	1166.6	1164.7	1162.2	1159.1	1156.1	1153.0	1149.9	1148.3
35°	1116.1	1114.4	1112.7	1111.0	1109.2	1106.5	1102.8	1099.1	1095.4	1091.7	1090.0
37.5°	1058.6	1056.4	1054.2	1052.1	1049.9	1047.0	1043.2	1039.4	1035.7	1031.9	1029.8
40°	1018.6	1016.8	1015.1	1013.4	1011.7	1008.9	1004.8	1000.9	996.9	992.9	990.6
42.5°	978.5	976.6	974.7	972.7	970.8	967.8	963.8	959.9	955.8	951.9	949.6
45°	914.6	913.5	912.4	911.3	910.1	907.7	904.0	900.2	896.5	892.9	889.5
47.5°	851.3	849.6	848.0	846.3	844.7	842.1	838.7	835.2	831.7	828.2	824.8
50°	808.2	806.7	805.3	803.9	802.5	799.9	796.2	792.5	788.8	785.1	781.9
52.5°	763.0	762.0	761.1	760.2	759.1	756.7	752.8	748.9	744.9	740.9	738.3
55°	694.0	693.7	693.4	693.1	692.9	690.9	687.2	683.4	679.8	676.1	672.9
57.5°	628.3	627.4	626.4	625.5	624.4	622.5	619.5	616.5	613.6	610.7	607.8
60°	581.1	580.8	580.5	580.2	579.9	578.2	574.7	571.3	567.9	564.5	561.8
62.5°	539.0	538.3	537.5	536.8	536.1	534.0	530.6	527.2	523.8	520.3	517.7
65°	473.3	471.9	470.5	469.1	467.7	465.5	462.7	459.9	456.9	454.1	451.9
67.5°	403.9	402.6	401.3	400.1	398.8	397.1	394.9	392.8	390.6	388.4	386.4
70°	361.7	360.1	358.4	356.7	355.0	353.2	351.5	349.8	348.1	346.4	344.4
72.5°	317.6	316.4	315.1	313.9	312.6	311.0	309.1	307.2	305.2	303.2	301.5
75°	250.2	249.0	247.9	246.8	245.6	244.6	243.7	242.9	242.0	241.2	239.8
77.5°	190.4	189.7	189.1	188.5	187.8	187.0	186.1	185.0	184.0	182.9	182.0
80°	151.4	150.5	149.7	148.8	148.0	147.2	146.7	146.1	145.5	145.0	144.7
82.5°	113.4	113.2	113.1	112.9	112.7	112.5	112.4	112.4	112.3	112.2	111.6
85°	66.7	66.2	65.6	65.0	64.5	64.2	64.2	64.2	64.2	64.2	63.5
87.5°	27.1	26.8	26.5	26.3	26.0	25.9	26.3	26.6	27.0	27.2	26.9
90°	1.9	3.8	5.7	8.5	10.4	12.3	15.1	17.9	20.7	23.6	22.6
92.5°	11.7	17.3	25.3	32.5	40.4	54.4	79.0	119.5	159.2	144.7	109.1
95°	32.0	34.8	45.1	61.2	85.6	122.3	202.3	342.4	496.7	557.9	452.5
97.5°	54.6	55.5	63.6	77.5	101.6	141.3	217.7	375.8	633.0	864.6	925.0
100°	69.7	70.6	77.2	90.3	112.9	149.6	215.5	354.7	602.1	891.0	1076.3
102.5°	85.4	87.1	92.9	105.4	125.7	159.4	218.5	336.6	556.9	842.1	1083.8
105°	109.1	112.0	117.6	128.9	146.8	176.0	226.8	323.7	501.4	756.4	1026.4
107.5°	134.3	137.1	142.6	153.7	170.5	197.6	242.1	322.7	466.1	680.8	926.0
110°	152.4	155.2	159.9	170.3	186.2	212.6	255.0	326.5	452.5	637.9	862.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	169.0	171.8	176.5	186.8	202.8	228.5	267.8	334.0	445.0	609.3	807.8
115°	192.8	196.6	202.3	211.7	227.7	253.1	288.8	346.2	442.1	578.6	741.4
117.5°	216.8	221.1	225.8	234.4	252.3	275.9	311.2	362.4	443.8	560.5	701.3
120°	233.3	236.1	240.8	250.2	268.2	291.6	325.6	374.5	446.9	552.2	680.2
122.5°	247.6	250.4	255.1	265.3	282.5	307.5	340.5	385.8	452.1	547.0	662.9
125°	268.2	270.0	275.7	286.0	303.9	329.3	362.2	403.6	460.1	540.1	640.7
127.5°	283.8	286.5	293.5	304.1	323.9	349.2	381.1	418.3	469.1	536.7	621.1
130°	293.5	296.3	304.8	316.1	335.8	361.3	392.3	428.1	475.1	534.4	610.6
132.5°	301.0	304.6	313.9	327.4	347.1	371.8	402.1	437.2	479.7	533.7	600.8
135°	314.2	318.0	328.4	342.4	362.2	387.6	416.8	448.7	486.4	532.5	588.1
137.5°	326.7	330.6	340.7	355.8	375.4	398.9	427.0	457.4	490.9	530.5	576.9
140°	335.0	339.6	349.0	364.1	383.0	406.4	433.8	461.9	493.9	529.7	570.1
142.5°	343.9	347.9	358.1	371.6	390.4	412.5	439.0	466.5	496.2	528.2	564.1
145°	358.4	361.3	369.8	383.9	399.8	421.5	445.9	471.4	497.7	525.9	556.0
147.5°	373.2	374.8	383.1	395.3	410.8	429.2	451.6	474.4	497.7	522.4	548.1
150°	383.0	383.9	391.3	403.6	416.8	433.8	455.3	475.1	497.7	519.3	542.8
152.5°	392.7	392.9	400.4	411.1	422.8	439.0	457.6	476.6	495.4	515.6	536.9
155°	407.4	407.4	413.0	422.4	432.8	445.9	461.9	477.0	492.9	509.0	527.8
157.5°	419.1	419.8	424.3	432.6	441.4	451.6	464.4	478.0	489.8	503.1	517.6
160°	428.1	428.1	431.9	439.3	445.9	455.3	466.7	478.0	488.3	498.6	510.9
162.5°	434.9	434.9	437.9	443.8	449.7	457.6	467.4	477.2	485.3	494.1	504.1
165°	445.0	444.0	445.9	450.6	454.4	461.0	468.5	475.1	480.8	487.4	494.8
167.5°	452.7	451.6	452.5	456.1	458.7	462.9	468.3	473.6	476.3	480.6	486.1
170°	457.2	455.3	456.3	459.1	461.0	462.9	467.6	471.4	473.3	476.1	480.8
172.5°	460.2	459.1	459.3	461.4	462.5	463.6	467.6	470.6	471.0	472.3	475.5
175°	463.8	462.9	461.9	463.8	463.8	464.8	466.7	468.5	467.6	467.6	469.5
177.5°	465.5	464.8	464.0	464.8	464.8	464.8	465.5	467.0	465.5	464.8	465.5
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0
2.5°	1486.2	1488.6	1490.8	1491.9	1491.6	1491.4	1491.1	1490.9
5°	1478.4	1481.2	1484.1	1485.3	1484.7	1484.1	1483.6	1483.0
7.5°	1462.7	1465.3	1467.8	1469.0	1468.6	1468.3	1467.9	1467.5
10°	1448.3	1450.9	1453.5	1454.4	1453.9	1453.3	1452.7	1452.2
12.5°	1432.6	1434.5	1436.3	1437.1	1436.8	1436.4	1436.1	1435.8
15°	1404.1	1406.4	1408.7	1409.0	1407.3	1405.5	1403.8	1402.1
17.5°	1368.1	1369.7	1371.3	1371.8	1371.2	1370.6	1369.9	1369.3
20°	1341.5	1342.7	1343.9	1344.0	1343.1	1342.3	1341.4	1340.6
22.5°	1313.4	1314.3	1315.2	1315.1	1314.1	1313.0	1311.9	1310.8
25°	1266.7	1267.1	1267.3	1267.1	1266.1	1265.3	1264.4	1263.6
27.5°	1217.1	1217.3	1217.6	1217.1	1216.1	1214.9	1213.9	1212.8
30°	1182.8	1182.8	1182.8	1181.8	1179.8	1177.8	1175.8	1173.7
32.5°	1146.7	1145.2	1143.6	1142.2	1141.1	1140.0	1139.0	1137.8
35°	1088.3	1086.6	1084.9	1083.3	1081.9	1080.4	1079.0	1077.6
37.5°	1027.8	1025.8	1023.7	1022.2	1021.3	1020.4	1019.5	1018.6
40°	988.4	986.1	983.8	982.0	980.9	979.8	978.6	977.5
42.5°	947.3	945.0	942.7	941.0	939.9	938.8	937.6	936.5
45°	886.0	882.6	879.2	876.8	875.3	873.9	872.5	871.0
47.5°	821.4	818.1	814.7	812.5	811.2	809.9	808.7	807.4
50°	778.8	775.7	772.5	770.2	768.5	766.7	765.0	763.3
52.5°	735.6	732.9	730.3	728.0	726.3	724.6	722.9	721.2
55°	669.8	666.7	663.5	661.2	659.8	658.4	657.0	655.5
57.5°	605.0	602.3	599.5	597.2	595.6	593.9	592.3	590.6
60°	559.3	556.8	554.2	552.2	550.7	549.3	547.9	546.5
62.5°	515.2	512.6	510.0	508.3	507.3	506.3	505.4	504.4
65°	449.6	447.2	445.0	443.5	442.6	441.8	440.8	440.0
67.5°	384.5	382.5	380.5	378.9	377.7	376.5	375.2	374.1
70°	342.3	340.4	338.4	336.7	335.3	333.8	332.4	330.9
72.5°	299.7	297.9	296.1	294.9	294.2	293.4	292.8	292.0
75°	238.4	236.9	235.4	234.3	233.5	232.6	231.8	230.9
77.5°	181.0	180.0	179.1	178.6	178.6	178.6	178.6	178.6
80°	144.4	144.1	143.8	143.6	143.6	143.6	143.6	143.6
82.5°	111.1	110.6	110.1	109.7	109.4	109.2	109.1	108.8
85°	63.0	62.4	61.8	61.5	61.5	61.5	61.5	61.5
87.5°	26.9	26.8	26.8	27.1	26.9	27.1	27.2	27.1
90°	23.6	24.5	25.4	27.2	26.3	27.2	28.2	27.2
92.5°	79.2	62.9	55.5	50.6	48.9	46.1	47.0	45.3
95°	338.7	229.6	179.7	145.8	128.0	119.5	112.9	109.1
97.5°	844.3	676.3	554.9	442.3	373.0	330.6	305.2	297.1
100°	1109.3	1033.0	922.9	789.4	694.4	625.7	589.0	589.9
102.5°	1197.3	1194.9	1130.7	1046.0	972.0	917.7	887.0	865.3
105°	1223.0	1317.2	1335.0	1310.6	1267.2	1231.5	1201.5	1196.7
107.5°	1149.0	1301.7	1384.1	1417.7	1418.4	1406.4	1396.2	1387.5
110°	1078.2	1251.3	1369.8	1435.7	1462.1	1469.6	1467.7	1465.8



TEST NUMBER: P332035-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1008.1	1185.1	1317.9	1402.6	1450.8	1474.0	1481.2	1481.6
115°	915.4	1079.1	1217.4	1319.9	1390.5	1431.9	1450.8	1455.5
117.5°	848.3	989.6	1113.7	1217.8	1291.4	1338.8	1365.9	1372.2
120°	812.8	939.9	1052.8	1147.8	1222.1	1274.8	1297.4	1303.1
122.5°	785.0	900.0	1004.7	1092.9	1159.0	1206.4	1231.1	1238.3
125°	748.0	850.6	940.8	1016.1	1076.3	1117.7	1141.2	1147.8
127.5°	715.6	807.0	888.5	957.0	1010.6	1046.0	1067.2	1073.3
130°	695.3	780.0	856.1	920.1	970.0	1003.9	1023.6	1031.1
132.5°	676.5	754.3	825.3	886.3	933.1	967.0	984.5	989.8
135°	651.0	717.8	779.0	832.6	878.7	906.9	923.9	930.5
137.5°	627.9	682.7	735.4	781.8	820.6	849.2	863.5	867.8
140°	614.3	662.3	707.5	748.0	783.7	810.0	825.1	824.2
142.5°	601.5	642.8	681.9	717.1	747.6	770.9	784.5	783.5
145°	586.2	617.2	647.2	674.6	698.0	717.8	725.4	727.3
147.5°	573.5	598.1	622.5	641.9	659.7	673.1	680.2	681.0
150°	564.5	586.2	605.9	623.8	637.9	648.2	653.8	653.8
152.5°	556.2	574.9	592.4	607.2	618.3	627.9	631.3	631.3
155°	543.8	558.8	573.0	584.3	592.8	600.2	602.1	603.0
157.5°	530.7	543.2	554.1	563.0	570.3	576.0	577.5	577.3
160°	523.1	533.5	542.8	549.4	556.0	561.7	561.7	560.7
162.5°	514.1	522.9	531.6	537.4	541.8	546.6	546.6	545.6
165°	502.4	508.0	514.6	519.3	523.1	526.9	525.9	525.9
167.5°	492.2	496.5	500.3	503.7	505.4	508.0	507.1	507.1
170°	485.5	488.3	492.0	493.9	494.8	496.7	495.8	495.8
172.5°	479.5	481.5	484.6	485.7	485.9	487.8	486.1	485.3
175°	471.4	472.3	474.2	474.2	474.2	475.1	474.2	473.3
177.5°	466.3	467.0	467.8	467.8	467.0	467.8	466.3	466.3
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8

(END OF REPORT)