

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: P332352-830

Luminaire Tested: **S123RDIP-S1000D1025U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332352-830  
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: S123RDIP-S1000D1025U830-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6895.3 lumens  
Efficiency: N/A  
Efficacy: 114.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

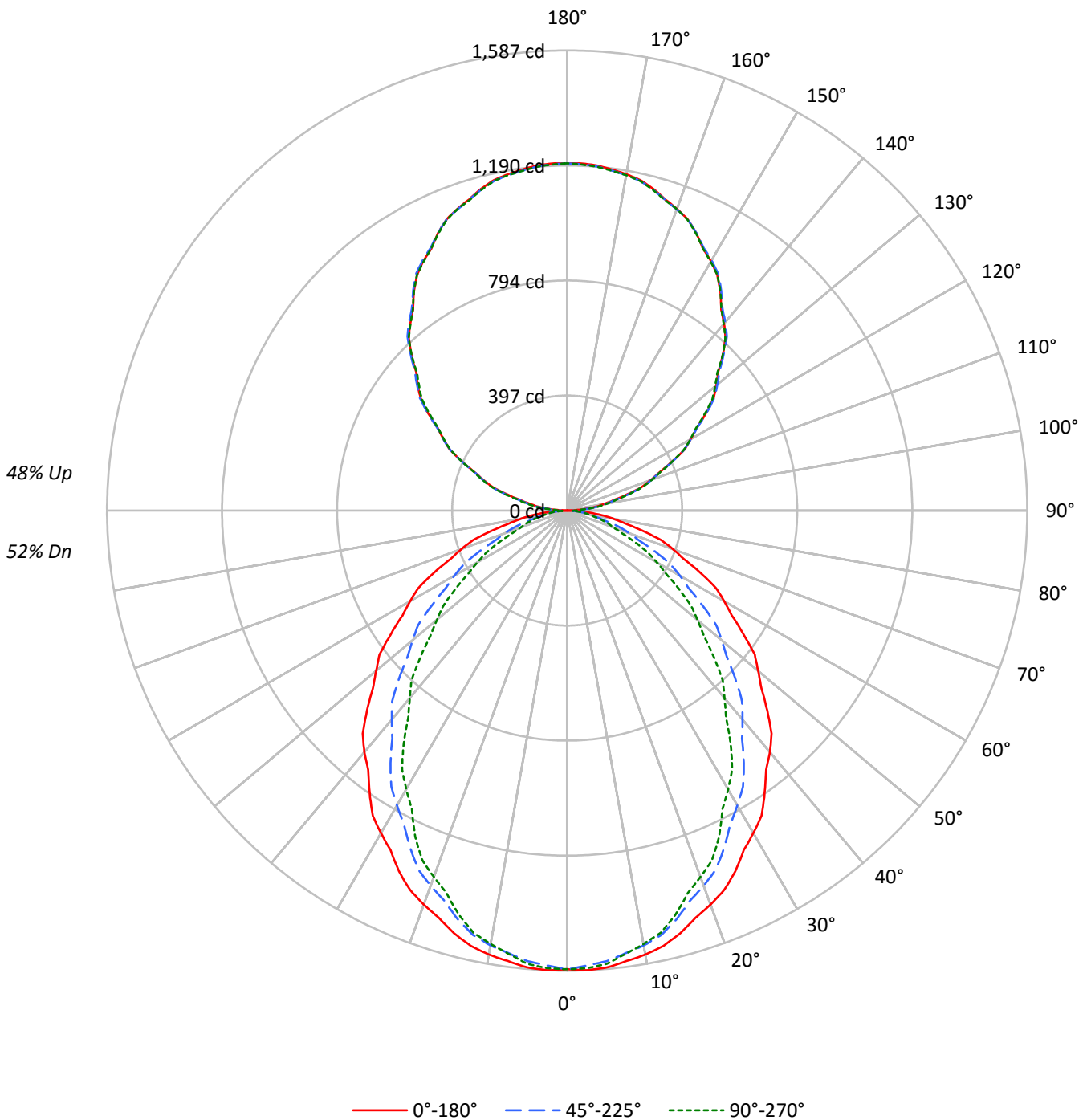
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	99	99	99	84	84	84	71	71	71	58	58	58	52
1	99	94	91	87	91	87	84	81	74	72	70	63	61	59	52	51	50	44
2	90	83	77	72	83	77	72	67	66	62	58	55	53	50	46	44	42	38
3	82	73	66	60	76	68	62	57	58	53	50	49	46	43	41	38	36	32
4	75	65	57	51	70	60	54	48	52	47	42	44	40	37	37	34	32	28
5	69	58	50	44	64	54	47	42	47	41	37	40	35	32	33	30	28	24
6	64	52	44	38	59	49	41	36	42	36	32	36	32	28	30	27	24	22
7	59	47	39	34	55	44	37	32	38	33	29	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	23	26	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	24	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

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

	0°	45°	90°
0°	17026	17026	17026
5°	17091	16855	16953
10°	16994	16644	16587
15°	16811	16254	16082
20°	16561	15767	15400
25°	16302	15221	14733
30°	15960	14589	13793
35°	15609	13958	12929
40°	15286	13212	11861
45°	14862	12478	10898
50°	14393	11643	9818
55°	13915	10689	8811
60°	13476	9666	7705
65°	12905	8560	6599
70°	12192	7188	5331
75°	11154	5656	5016
80°	9937	5009	4612
85°	8398	4434	4125



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.5	2.2
10°-20°	413.3	6.0
20°-30°	595.1	8.6
30°-40°	670.3	9.7
40°-50°	641.3	9.3
50°-60°	525.1	7.6
60°-70°	354.3	5.1
70°-80°	178.2	2.6
80°-90°	50.7	0.7
90°-100°	78.0	1.1
100°-110°	233.5	3.4
110°-120°	397.2	5.8
120°-130°	522.5	7.6
130°-140°	587.2	8.5
140°-150°	577.2	8.4
150°-160°	486.0	7.0
160°-170°	323.5	4.7
170°-180°	113.3	1.6
0°-30°	1156.9	16.8
0°-40°	1827.2	26.5
0°-60°	2993.6	43.4
0°-90°	3576.8	51.9
90°-120°	708.8	10.3
90°-150°	2395.7	34.7
90°-180°	3318.0	48.1
0°-180°	6895.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1582	1582	1582	1582	1582	
5°	1582	1575	1560	1571	1569	150
15°	1509	1493	1459	1452	1443	425
25°	1373	1339	1282	1255	1240	631
35°	1188	1140	1062	1009	984	743
45°	976	916	820	749	716	753
55°	742	676	570	498	470	665
65°	507	435	336	276	259	501
75°	268	206	136	124	121	286
85°	68	41	36	34	33	76
90°	1	10	23	26	28	7
95°	56	62	70	73	73	62
105°	212	214	222	222	224	227
115°	400	402	401	402	401	395
125°	585	588	586	582	579	522
135°	759	765	764	760	758	585
145°	921	923	926	925	921	575
155°	1055	1055	1056	1059	1053	485
165°	1149	1146	1146	1151	1145	324
175°	1195	1191	1191	1196	1190	113
180°	1198	1198	1198	1198	1198	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1586.9	1585.9	1585.1	1584.1	1583.2	1581.4	1578.7	1575.9	1573.2	1570.5	1572.9
5°	1581.8	1580.3	1578.9	1577.4	1576.0	1573.6	1570.2	1566.8	1563.4	1559.9	1562.5
7.5°	1567.1	1565.6	1564.1	1562.5	1560.9	1557.9	1553.5	1549.1	1544.6	1540.2	1541.6
10°	1554.8	1552.8	1550.8	1548.8	1546.8	1543.2	1538.1	1533.0	1527.9	1522.8	1523.1
12.5°	1537.4	1535.1	1533.0	1530.7	1528.4	1524.2	1518.0	1511.6	1505.4	1499.1	1498.9
15°	1508.6	1505.5	1502.3	1499.2	1496.1	1490.5	1482.5	1474.5	1466.6	1458.6	1457.2
17.5°	1472.4	1468.8	1465.2	1461.5	1457.8	1451.0	1440.8	1430.7	1420.5	1410.3	1407.3
20°	1445.8	1441.2	1436.6	1432.1	1427.5	1419.8	1409.0	1398.2	1387.3	1376.5	1372.8
22.5°	1416.0	1410.8	1405.5	1400.2	1395.1	1386.7	1375.1	1363.6	1352.1	1340.6	1336.0
25°	1372.6	1365.6	1358.4	1351.2	1344.2	1334.0	1320.9	1307.8	1294.7	1281.6	1275.5
27.5°	1320.0	1312.2	1304.3	1296.5	1288.5	1277.3	1262.7	1248.1	1233.5	1219.0	1210.6
30°	1284.1	1275.5	1267.1	1258.5	1249.9	1237.7	1221.7	1205.7	1189.8	1173.8	1164.1
32.5°	1248.2	1238.5	1228.8	1219.1	1209.5	1196.2	1179.3	1162.4	1145.5	1128.6	1118.0
35°	1187.9	1177.6	1167.3	1157.2	1146.9	1132.8	1115.2	1097.5	1079.9	1062.2	1049.9
37.5°	1126.8	1115.4	1104.0	1092.6	1081.2	1066.1	1047.3	1028.3	1009.5	990.6	976.7
40°	1087.9	1075.3	1062.7	1050.2	1037.6	1021.2	1001.1	980.8	960.5	940.3	925.5
42.5°	1043.7	1031.1	1018.6	1006.1	993.5	976.9	955.9	935.0	914.1	893.2	876.9
45°	976.3	963.4	950.6	937.7	924.9	907.6	885.6	863.7	841.7	819.7	803.5
47.5°	908.8	894.7	880.6	866.5	852.4	834.4	812.5	790.5	768.5	746.6	729.0
50°	859.5	846.1	832.7	819.4	805.9	787.7	764.6	741.5	718.4	695.3	677.6
52.5°	815.4	800.9	786.3	771.8	757.2	738.5	715.7	692.8	670.0	647.1	628.7
55°	741.5	727.5	713.5	699.6	685.6	666.5	642.2	618.0	593.8	569.6	553.1
57.5°	673.3	658.0	642.8	627.5	612.4	592.6	568.2	543.8	519.5	495.2	479.6
60°	626.0	610.4	594.7	579.0	563.3	543.7	520.0	496.3	472.7	449.0	433.6
62.5°	578.8	563.2	547.4	531.8	516.1	496.4	472.8	449.1	425.5	401.8	387.3
65°	506.7	491.1	475.3	459.7	444.0	425.1	402.8	380.6	358.4	336.1	322.2
67.5°	434.6	418.8	402.9	387.1	371.3	352.6	331.3	310.0	288.7	267.3	256.9
70°	387.4	372.0	356.7	341.2	325.8	308.2	288.2	268.2	248.3	228.4	218.4
72.5°	340.2	325.1	309.9	294.7	279.6	262.9	244.8	226.7	208.5	190.4	182.2
75°	268.2	254.4	240.7	227.1	213.4	198.7	183.0	167.3	151.7	136.0	133.1
77.5°	202.5	190.0	177.7	165.3	153.0	141.7	131.6	121.5	111.4	101.3	99.8
80°	160.3	148.6	137.0	125.3	113.6	104.8	98.8	92.7	86.8	80.8	79.9
82.5°	120.4	110.3	100.2	90.0	79.9	73.5	70.7	68.0	65.1	62.3	61.5
85°	68.0	61.7	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.8	22.7	20.6	18.6	16.5	15.6	16.2	16.8	17.3	17.8	17.8
90°	0.9	3.0	5.1	7.3	9.3	11.7	14.4	17.2	19.9	22.6	23.4
92.5°	22.8	24.2	25.6	27.1	28.5	30.0	31.5	33.0	34.6	36.1	36.8
95°	55.5	56.9	58.4	59.9	61.4	63.0	64.6	66.3	68.0	69.7	70.5
97.5°	98.6	99.7	100.8	101.9	102.9	104.1	105.3	106.5	107.7	109.0	109.9
100°	128.0	129.2	130.4	131.7	133.0	134.1	135.2	136.2	137.2	138.3	138.9
102.5°	161.8	162.6	163.3	164.1	164.9	165.9	167.3	168.6	170.0	171.4	172.0
105°	211.7	212.1	212.5	212.9	213.4	214.5	216.4	218.3	220.2	222.1	222.1
107.5°	269.7	269.9	270.1	270.4	270.7	271.2	271.9	272.7	273.4	274.2	274.8
110°	305.8	306.2	306.6	307.0	307.5	307.8	308.3	308.7	309.2	309.5	310.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	343.4	343.7	343.9	344.1	344.4	344.6	344.7	344.8	344.9	344.9	345.9
115°	399.8	400.5	401.1	401.7	402.4	402.5	402.1	401.6	401.2	400.8	401.1
117.5°	456.7	457.1	457.5	458.0	458.4	458.3	457.8	457.2	456.7	456.1	456.1
120°	492.1	493.3	494.6	495.9	497.1	497.2	496.2	495.1	494.1	493.0	492.8
122.5°	529.0	529.9	530.7	531.7	532.6	532.8	532.3	531.7	531.2	530.7	530.1
125°	585.2	585.9	586.4	587.1	587.7	587.9	587.4	587.0	586.5	586.2	585.3
127.5°	637.2	638.5	639.8	641.1	642.5	642.9	642.4	642.1	641.6	641.1	639.9
130°	671.8	673.4	675.1	676.7	678.4	679.0	678.3	677.7	677.1	676.5	675.6
132.5°	706.4	708.0	709.7	711.4	713.1	713.7	713.2	712.8	712.3	711.8	710.9
135°	759.3	760.5	761.8	763.0	764.3	764.8	764.6	764.4	764.2	763.9	763.2
137.5°	808.2	809.3	810.3	811.3	812.4	813.1	813.7	814.3	814.8	815.3	814.5
140°	842.1	843.1	844.1	845.2	846.2	846.9	847.1	847.3	847.5	847.7	847.5
142.5°	872.9	873.9	875.1	876.1	877.1	877.8	878.2	878.5	878.9	879.3	879.1
145°	921.1	921.5	921.9	922.4	922.7	923.3	923.9	924.5	925.2	925.8	925.6
147.5°	963.3	964.0	964.8	965.5	966.3	967.0	967.5	968.1	968.7	969.3	969.3
150°	992.6	993.1	993.4	993.8	994.3	994.7	995.1	995.5	996.0	996.4	996.4
152.5°	1016.7	1017.3	1017.9	1018.4	1019.0	1019.5	1019.7	1019.9	1020.2	1020.5	1020.8
155°	1054.7	1054.7	1054.7	1054.7	1054.7	1054.8	1055.0	1055.2	1055.5	1055.6	1056.5
157.5°	1087.0	1086.8	1086.6	1086.3	1086.1	1086.0	1086.2	1086.4	1086.6	1086.7	1087.6
160°	1107.4	1106.9	1106.5	1106.2	1105.7	1105.5	1105.5	1105.5	1105.5	1105.5	1106.5
162.5°	1125.5	1124.8	1124.3	1123.7	1123.1	1122.9	1123.0	1123.2	1123.4	1123.6	1124.6
165°	1148.8	1148.1	1147.5	1146.9	1146.3	1145.9	1145.9	1145.9	1145.9	1145.9	1147.2
167.5°	1167.4	1166.6	1165.7	1164.9	1164.0	1163.8	1163.9	1164.0	1164.2	1164.4	1165.7
170°	1178.0	1177.1	1176.3	1175.4	1174.6	1174.2	1174.2	1174.2	1174.2	1174.2	1175.6
172.5°	1186.2	1185.4	1184.6	1183.7	1182.9	1182.4	1182.4	1182.4	1182.4	1182.4	1183.7
175°	1194.9	1194.0	1193.2	1192.4	1191.6	1191.1	1191.1	1191.1	1191.1	1191.1	1192.4
177.5°	1198.4	1197.8	1197.1	1196.5	1195.8	1195.4	1195.4	1195.4	1195.4	1195.4	1196.5
180°	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1575.5	1578.0	1580.5	1581.5	1581.0	1580.6	1580.2	1579.7
5°	1565.1	1567.6	1570.2	1571.2	1570.7	1570.1	1569.5	1569.0
7.5°	1543.0	1544.5	1545.9	1546.1	1545.1	1544.2	1543.2	1542.2
10°	1523.3	1523.6	1523.9	1523.3	1521.8	1520.4	1519.0	1517.6
12.5°	1498.7	1498.6	1498.5	1497.5	1495.9	1494.2	1492.6	1490.9
15°	1455.8	1454.3	1452.9	1451.1	1449.2	1447.2	1445.2	1443.2
17.5°	1404.3	1401.3	1398.3	1395.2	1392.3	1389.3	1386.4	1383.4
20°	1369.0	1365.4	1361.7	1358.1	1354.7	1351.2	1347.8	1344.4
22.5°	1331.3	1326.7	1322.1	1318.1	1315.0	1311.8	1308.6	1305.4
25°	1269.6	1263.6	1257.6	1253.0	1249.9	1246.8	1243.7	1240.5
27.5°	1202.3	1194.0	1185.6	1179.1	1174.3	1169.5	1164.7	1160.0
30°	1154.4	1144.7	1135.0	1127.9	1123.3	1118.8	1114.2	1109.7
32.5°	1107.4	1096.8	1086.2	1078.6	1073.7	1068.9	1064.1	1059.3
35°	1037.6	1025.4	1013.1	1004.5	999.4	994.2	989.1	983.9
37.5°	962.8	948.9	935.0	924.8	918.5	912.2	905.9	899.6
40°	910.7	895.9	881.0	870.3	863.7	857.2	850.6	844.1
42.5°	860.7	844.5	828.3	817.3	811.4	805.6	799.7	793.8
45°	787.2	771.0	754.7	743.2	736.3	729.5	722.6	715.9
47.5°	711.2	693.6	675.9	664.0	657.9	651.9	645.7	639.6
50°	660.0	642.2	624.6	612.5	606.0	599.4	592.9	586.3
52.5°	610.4	592.0	573.6	561.5	555.6	549.8	543.9	538.0
55°	536.5	520.0	503.4	492.3	486.6	480.9	475.2	469.5
57.5°	463.9	448.3	432.7	422.4	417.6	412.7	407.9	403.0
60°	418.2	402.8	387.4	377.3	372.5	367.6	362.8	357.9
62.5°	372.8	358.4	343.8	334.0	329.0	324.0	318.9	313.8
65°	308.2	294.2	280.2	271.6	268.5	265.4	262.3	259.1
67.5°	246.5	236.0	225.6	218.7	215.4	212.0	208.6	205.3
70°	208.4	198.4	188.4	181.9	178.7	175.6	172.5	169.4
72.5°	174.1	165.9	157.8	153.1	151.7	150.4	149.1	147.8
75°	130.3	127.4	124.6	122.9	122.3	121.7	121.1	120.6
77.5°	98.3	96.7	95.2	94.2	93.6	93.0	92.5	91.9
80°	79.1	78.2	77.4	76.7	76.2	75.6	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.2	58.1	58.0
85°	34.8	34.2	33.6	33.4	33.4	33.4	33.4	33.4
87.5°	17.7	17.7	17.6	17.5	17.3	17.2	17.1	17.0
90°	24.2	25.1	25.9	26.6	27.0	27.4	27.8	28.2
92.5°	37.5	38.2	38.8	39.0	38.7	38.5	38.3	38.0
95°	71.3	72.1	73.0	73.4	73.4	73.4	73.4	73.4
97.5°	110.8	111.9	112.8	113.2	113.2	113.1	113.0	112.9
100°	139.6	140.2	140.8	141.4	141.8	142.1	142.6	143.0
102.5°	172.7	173.3	173.9	174.2	174.1	174.0	174.0	173.9
105°	222.1	222.1	222.1	222.3	222.6	223.1	223.5	223.9
107.5°	275.5	276.2	276.8	277.0	276.8	276.5	276.3	276.1
110°	311.2	312.1	312.9	313.1	312.6	312.3	311.9	311.4





TEST NUMBER: P332352-830

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	346.9	347.9	348.9	349.4	349.3	349.2	349.1	349.0
115°	401.2	401.4	401.6	401.6	401.4	401.2	401.1	400.8
117.5°	456.0	456.0	456.0	455.6	455.1	454.5	453.9	453.3
120°	492.6	492.4	492.2	491.8	491.4	491.1	490.6	490.2
122.5°	529.5	529.0	528.5	527.9	527.4	526.7	526.1	525.6
125°	584.5	583.6	582.8	581.9	581.2	580.3	579.5	578.6
127.5°	638.8	637.6	636.4	635.4	634.4	633.4	632.4	631.5
130°	674.8	673.9	673.2	671.9	670.5	669.0	667.6	666.1
132.5°	709.8	708.9	707.8	706.8	705.7	704.6	703.4	702.3
135°	762.3	761.5	760.6	760.0	759.6	759.1	758.7	758.4
137.5°	813.6	812.8	811.8	811.0	810.2	809.4	808.6	807.9
140°	847.3	847.1	846.9	846.0	844.6	843.1	841.7	840.2
142.5°	878.9	878.7	878.4	877.8	876.7	875.5	874.4	873.3
145°	925.4	925.2	924.9	924.4	923.6	922.7	921.9	921.1
147.5°	969.3	969.3	969.3	968.7	967.4	966.1	964.9	963.7
150°	996.4	996.4	996.4	995.7	994.5	993.3	991.9	990.7
152.5°	1021.2	1021.4	1021.8	1021.4	1020.3	1019.3	1018.1	1017.1
155°	1057.3	1058.2	1058.9	1058.7	1057.2	1055.7	1054.2	1052.8
157.5°	1088.4	1089.3	1090.2	1090.1	1088.9	1087.7	1086.6	1085.3
160°	1107.6	1108.6	1109.7	1109.7	1109.0	1108.1	1107.3	1106.5
162.5°	1125.7	1126.7	1127.8	1127.6	1126.2	1124.9	1123.6	1122.3
165°	1148.5	1149.7	1150.9	1150.8	1149.4	1147.9	1146.5	1145.0
167.5°	1167.0	1168.3	1169.6	1169.6	1168.3	1167.0	1165.7	1164.4
170°	1177.1	1178.6	1180.1	1180.1	1178.6	1177.1	1175.6	1174.2
172.5°	1185.1	1186.4	1187.6	1187.6	1186.1	1184.7	1183.2	1181.7
175°	1193.6	1194.9	1196.2	1196.0	1194.6	1193.1	1191.7	1190.1
177.5°	1197.5	1198.4	1199.5	1199.4	1198.3	1197.0	1195.9	1194.7
180°	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7

(END OF REPORT)