

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: P332376-930

Luminaire Tested: **S123RDIP-S1165D805U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332376-930  
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-S1165D805U930-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5820.4 lumens  
Efficiency: N/A  
Efficacy: 95.9 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: Semi-Direct

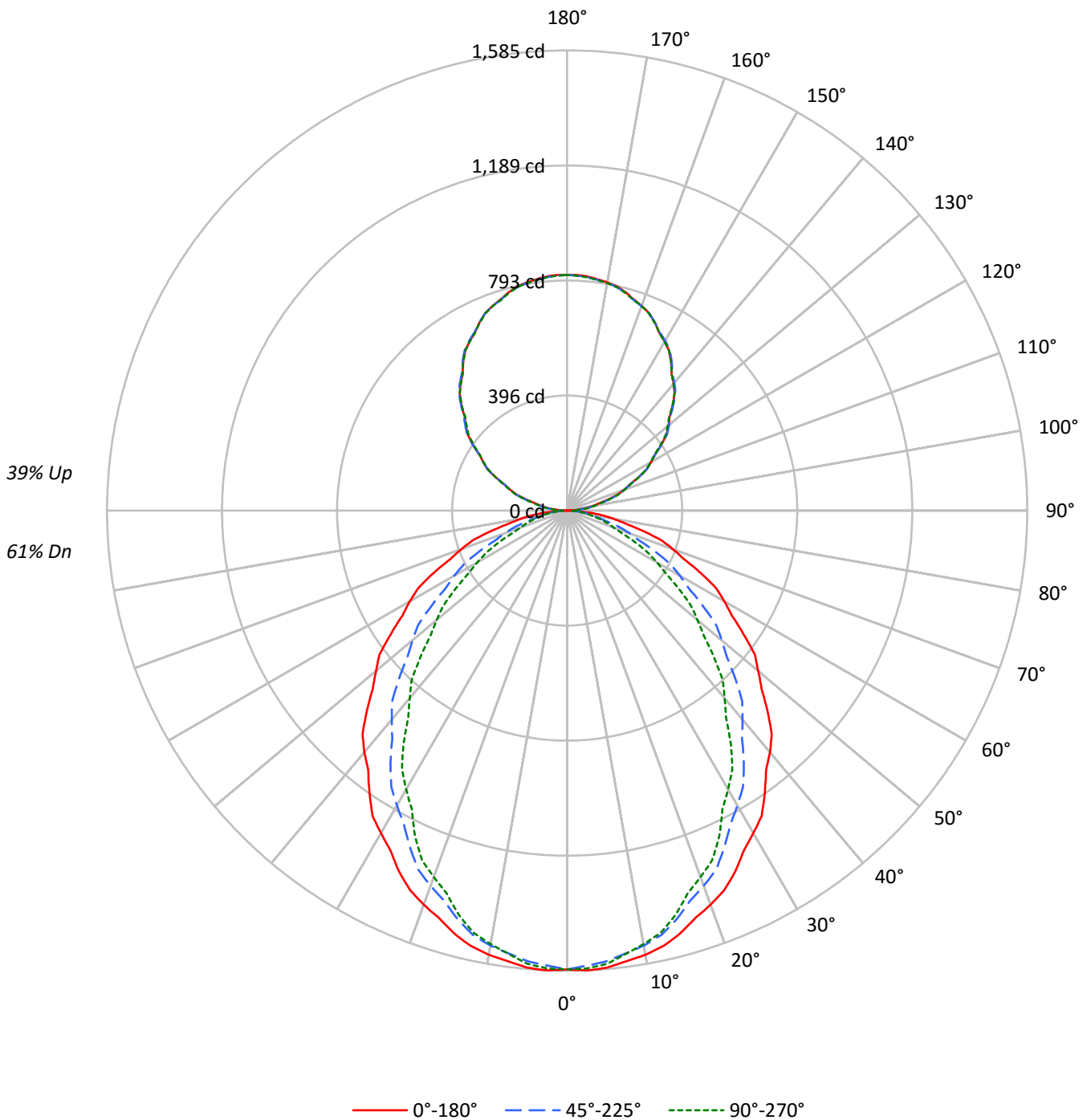
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	61
1	101	96	93	89	94	90	87	84	79	77	75	69	67	66	59	58	57	53
2	92	85	79	74	86	80	74	70	70	66	62	61	58	55	53	51	49	45
3	84	75	68	62	79	70	64	59	62	57	53	54	50	47	47	44	42	38
4	77	67	59	53	72	63	56	50	55	50	45	49	44	41	42	39	36	33
5	71	60	51	45	66	56	49	43	50	44	40	44	39	36	38	35	32	29
6	66	54	45	40	61	51	43	38	45	39	35	40	35	31	35	31	28	26
7	61	49	41	35	57	46	39	34	41	35	31	36	32	28	32	28	25	23
8	57	44	36	31	53	42	35	30	38	32	28	33	29	25	29	26	23	21
9	53	41	33	28	49	38	32	27	35	29	25	31	26	23	27	23	21	19
10	49	37	30	25	46	35	29	24	32	26	22	29	24	21	25	22	19	17

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

	0°	45°	90°
0°	17009	17009	17009
5°	17074	16839	16935
10°	16978	16628	16571
15°	16796	16238	16067
20°	16544	15753	15385
25°	16286	15206	14719
30°	15945	14574	13779
35°	15594	13943	12917
40°	15271	13200	11849
45°	14846	12466	10886
50°	14380	11632	9808
55°	13902	10678	8801
60°	13464	9657	7698
65°	12893	8550	6594
70°	12180	7179	5325
75°	11137	5648	5011
80°	9930	5002	4612
85°	8386	4434	4113



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.4	2.5
10°-20°	412.9	7.1
20°-30°	594.5	10.2
30°-40°	669.6	11.5
40°-50°	640.6	11.0
50°-60°	524.6	9.0
60°-70°	354.0	6.1
70°-80°	178.1	3.1
80°-90°	49.5	0.9
90°-100°	52.9	0.9
100°-110°	158.2	2.7
110°-120°	269.1	4.6
120°-130°	354.0	6.1
130°-140°	397.9	6.8
140°-150°	391.1	6.7
150°-160°	329.2	5.7
160°-170°	219.2	3.8
170°-180°	76.7	1.3
0°-30°	1155.7	19.9
0°-40°	1825.4	31.4
0°-60°	2990.6	51.4
0°-90°	3572.2	61.4
90°-120°	480.2	8.3
90°-150°	1623.1	27.9
90°-180°	2248.0	38.6
0°-180°	5820.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1580	1580	1580	1580	1580	
5°	1580	1573	1558	1569	1567	150
15°	1507	1492	1457	1451	1442	424
25°	1371	1338	1280	1254	1239	630
35°	1187	1139	1061	1008	983	742
45°	975	915	819	748	715	752
55°	741	675	569	497	469	664
65°	506	434	336	276	259	501
75°	268	206	136	124	120	286
85°	68	41	36	33	33	76
90°	1	7	15	18	19	6
95°	38	42	47	50	50	42
105°	143	145	150	150	152	154
115°	271	273	272	272	272	268
125°	396	398	397	395	392	353
135°	514	518	518	515	514	396
145°	624	625	627	626	624	390
155°	714	715	715	717	713	329
165°	778	776	776	780	776	219
175°	810	807	807	810	806	77
180°	812	812	812	812	812	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1585.3	1584.4	1583.5	1582.6	1581.7	1579.8	1577.1	1574.3	1571.7	1568.9	1571.4
5°	1580.2	1578.7	1577.4	1575.9	1574.5	1572.1	1568.6	1565.2	1561.8	1558.4	1561.0
7.5°	1565.5	1564.1	1562.5	1561.0	1559.4	1556.4	1552.0	1547.5	1543.1	1538.6	1540.1
10°	1553.3	1551.3	1549.3	1547.3	1545.3	1541.7	1536.6	1531.5	1526.3	1521.3	1521.5
12.5°	1535.9	1533.7	1531.4	1529.2	1527.0	1522.7	1516.5	1510.2	1503.9	1497.6	1497.5
15°	1507.2	1504.0	1500.9	1497.7	1494.6	1489.1	1481.1	1473.1	1465.1	1457.2	1455.7
17.5°	1471.0	1467.4	1463.7	1460.0	1456.5	1449.5	1439.4	1429.2	1419.1	1409.0	1406.0
20°	1444.3	1439.8	1435.3	1430.7	1426.1	1418.5	1407.6	1396.8	1385.9	1375.2	1371.4
22.5°	1414.6	1409.3	1404.1	1398.9	1393.7	1385.3	1373.8	1362.3	1350.8	1339.2	1334.6
25°	1371.3	1364.2	1357.1	1349.9	1342.8	1332.7	1319.6	1306.5	1293.4	1280.3	1274.3
27.5°	1318.7	1310.9	1303.0	1295.2	1287.3	1276.1	1261.5	1246.9	1232.3	1217.7	1209.4
30°	1282.9	1274.3	1265.8	1257.2	1248.7	1236.4	1220.5	1204.5	1188.6	1172.6	1162.9
32.5°	1247.0	1237.3	1227.6	1217.9	1208.3	1195.0	1178.1	1161.2	1144.4	1127.6	1117.0
35°	1186.7	1176.5	1166.2	1156.0	1145.7	1131.8	1114.1	1096.5	1078.8	1061.1	1048.9
37.5°	1125.8	1114.4	1102.9	1091.5	1080.2	1065.0	1046.2	1027.4	1008.5	989.6	975.8
40°	1086.8	1074.2	1061.7	1049.2	1036.7	1020.3	1000.0	979.8	959.6	939.4	924.5
42.5°	1042.7	1030.1	1017.7	1005.1	992.5	975.8	955.0	934.0	913.1	892.3	876.0
45°	975.3	962.5	949.7	936.9	924.0	906.6	884.7	862.7	840.8	818.9	802.7
47.5°	907.8	893.8	879.7	865.7	851.6	833.6	811.6	789.7	767.8	745.9	728.2
50°	858.7	845.3	831.8	818.5	805.1	786.9	763.9	740.8	717.7	694.6	676.9
52.5°	814.6	800.1	785.5	771.0	756.4	737.8	714.9	692.1	669.3	646.5	628.1
55°	740.8	726.8	712.8	698.9	684.9	665.9	641.6	617.4	593.2	569.0	552.5
57.5°	672.5	657.4	642.1	627.0	611.7	592.0	567.7	543.3	519.0	494.7	479.1
60°	625.4	609.8	594.1	578.5	562.7	543.1	519.4	495.9	472.2	448.6	433.2
62.5°	578.2	562.6	546.9	531.2	515.6	495.9	472.3	448.7	425.0	401.4	386.9
65°	506.2	490.6	474.9	459.3	443.6	424.6	402.4	380.2	358.0	335.7	321.8
67.5°	434.2	418.3	402.5	386.7	370.9	352.3	331.0	309.7	288.4	267.1	256.7
70°	387.0	371.7	356.3	340.9	325.5	307.9	288.0	268.0	248.1	228.1	218.2
72.5°	339.9	324.7	309.6	294.4	279.2	262.6	244.5	226.4	208.3	190.2	182.1
75°	267.8	254.2	240.5	226.8	213.2	198.5	182.9	167.1	151.5	135.8	133.0
77.5°	202.2	189.9	177.5	165.2	152.8	141.5	131.5	121.4	111.3	101.3	99.7
80°	160.2	148.5	136.8	125.1	113.5	104.7	98.7	92.7	86.7	80.7	79.9
82.5°	120.2	110.1	100.0	89.9	79.9	73.5	70.7	67.8	65.1	62.3	61.4
85°	67.9	61.6	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.7	22.5	20.3	18.1	15.8	14.9	15.2	15.7	16.0	16.4	16.3
90°	0.7	2.0	3.5	4.9	6.3	7.9	9.8	11.6	13.5	15.3	15.9
92.5°	15.4	16.4	17.4	18.3	19.2	20.3	21.4	22.4	23.4	24.5	24.9
95°	37.6	38.6	39.6	40.6	41.6	42.6	43.8	44.9	46.1	47.2	47.8
97.5°	66.8	67.5	68.2	69.0	69.8	70.5	71.3	72.2	73.0	73.8	74.4
100°	86.7	87.6	88.4	89.3	90.1	90.9	91.6	92.3	93.0	93.7	94.2
102.5°	109.7	110.1	110.6	111.2	111.7	112.4	113.3	114.3	115.2	116.2	116.6
105°	143.4	143.7	144.0	144.3	144.6	145.4	146.6	147.9	149.2	150.4	150.4
107.5°	182.7	182.9	183.0	183.2	183.4	183.7	184.3	184.7	185.2	185.7	186.2
110°	207.2	207.4	207.7	208.0	208.3	208.6	208.9	209.1	209.5	209.7	210.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	232.7	232.8	233.0	233.2	233.3	233.4	233.5	233.6	233.7	233.7	234.4
115°	270.9	271.3	271.7	272.1	272.6	272.7	272.4	272.1	271.8	271.6	271.7
117.5°	309.4	309.7	310.0	310.2	310.5	310.5	310.1	309.7	309.4	309.0	309.0
120°	333.4	334.2	335.1	335.9	336.8	336.9	336.1	335.4	334.8	334.0	333.9
122.5°	358.4	359.0	359.6	360.2	360.9	361.0	360.6	360.3	359.9	359.5	359.1
125°	396.5	396.9	397.3	397.8	398.2	398.3	397.9	397.7	397.4	397.1	396.6
127.5°	431.7	432.6	433.5	434.4	435.3	435.6	435.3	435.0	434.6	434.3	433.6
130°	455.1	456.2	457.4	458.5	459.7	460.0	459.6	459.2	458.8	458.3	457.7
132.5°	478.6	479.7	480.9	482.0	483.1	483.6	483.2	482.9	482.6	482.2	481.6
135°	514.4	515.3	516.1	517.0	517.8	518.2	518.0	517.9	517.7	517.6	517.1
137.5°	547.6	548.3	548.9	549.7	550.4	550.9	551.3	551.6	552.0	552.4	551.8
140°	570.5	571.2	571.9	572.7	573.3	573.7	573.9	574.1	574.2	574.3	574.2
142.5°	591.4	592.2	592.8	593.5	594.3	594.8	595.0	595.3	595.5	595.7	595.6
145°	624.0	624.4	624.6	624.9	625.2	625.5	626.0	626.4	626.8	627.2	627.1
147.5°	652.6	653.1	653.6	654.1	654.7	655.1	655.5	655.9	656.3	656.7	656.7
150°	672.5	672.8	673.0	673.4	673.6	673.9	674.2	674.5	674.7	675.1	675.1
152.5°	688.8	689.2	689.6	690.0	690.4	690.7	690.9	691.0	691.2	691.4	691.6
155°	714.5	714.5	714.5	714.5	714.5	714.6	714.8	714.9	715.1	715.2	715.8
157.5°	736.5	736.3	736.1	736.0	735.8	735.8	735.9	736.1	736.1	736.2	736.9
160°	750.2	750.0	749.7	749.4	749.1	749.0	749.0	749.0	749.0	749.0	749.7
162.5°	762.5	762.1	761.7	761.3	760.9	760.8	760.9	761.0	761.1	761.2	761.9
165°	778.3	777.9	777.5	777.1	776.6	776.4	776.4	776.4	776.4	776.4	777.2
167.5°	790.9	790.4	789.8	789.2	788.6	788.5	788.6	788.6	788.8	788.9	789.8
170°	798.1	797.5	797.0	796.4	795.8	795.5	795.5	795.5	795.5	795.5	796.5
172.5°	803.6	803.2	802.6	802.0	801.4	801.1	801.1	801.1	801.1	801.1	802.0
175°	809.5	808.9	808.5	807.9	807.3	807.0	807.0	807.0	807.0	807.0	807.9
177.5°	812.0	811.5	811.1	810.6	810.2	809.9	809.9	809.9	809.9	809.9	810.6
180°	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1573.9	1576.5	1578.9	1580.0	1579.5	1579.1	1578.6	1578.1
5°	1563.5	1566.1	1568.6	1569.6	1569.0	1568.5	1567.9	1567.3
7.5°	1541.5	1543.0	1544.3	1544.6	1543.6	1542.6	1541.6	1540.7
10°	1521.8	1522.1	1522.4	1521.8	1520.4	1519.0	1517.5	1516.1
12.5°	1497.3	1497.1	1497.0	1496.1	1494.4	1492.7	1491.1	1489.5
15°	1454.3	1452.9	1451.5	1449.8	1447.7	1445.8	1443.7	1441.8
17.5°	1403.0	1399.9	1396.9	1393.9	1390.9	1388.0	1385.0	1382.0
20°	1367.7	1364.0	1360.3	1356.7	1353.3	1349.9	1346.5	1343.1
22.5°	1330.0	1325.4	1320.8	1316.9	1313.7	1310.5	1307.3	1304.2
25°	1268.4	1262.3	1256.4	1251.8	1248.7	1245.5	1242.4	1239.3
27.5°	1201.1	1192.8	1184.5	1177.9	1173.1	1168.4	1163.6	1158.8
30°	1153.2	1143.6	1133.9	1126.8	1122.3	1117.7	1113.1	1108.6
32.5°	1106.4	1095.8	1085.2	1077.5	1072.7	1067.9	1063.2	1058.3
35°	1036.7	1024.4	1012.2	1003.5	998.3	993.2	988.1	983.0
37.5°	961.8	947.9	934.0	923.9	917.6	911.3	905.0	898.6
40°	909.8	895.0	880.2	869.5	862.9	856.4	849.9	843.3
42.5°	859.9	843.7	827.5	816.5	810.7	804.8	798.9	793.0
45°	786.4	770.2	754.0	742.5	735.6	728.8	721.9	715.1
47.5°	710.5	692.9	675.2	663.4	657.3	651.2	645.1	639.0
50°	659.3	641.6	623.9	611.9	605.4	598.8	592.2	585.7
52.5°	609.8	591.4	573.1	560.9	555.1	549.3	543.4	537.5
55°	536.0	519.4	503.0	491.9	486.2	480.5	474.7	469.0
57.5°	463.5	447.8	432.3	422.0	417.2	412.4	407.5	402.7
60°	417.8	402.4	387.0	376.9	372.1	367.2	362.4	357.6
62.5°	372.4	358.0	343.5	333.8	328.6	323.6	318.5	313.5
65°	307.9	293.9	280.0	271.4	268.3	265.1	262.0	258.9
67.5°	246.2	235.8	225.3	218.5	215.2	211.7	208.4	205.0
70°	208.1	198.2	188.3	181.7	178.6	175.5	172.3	169.2
72.5°	173.9	165.8	157.6	152.9	151.6	150.3	149.0	147.7
75°	130.1	127.3	124.4	122.8	122.2	121.6	121.1	120.5
77.5°	98.2	96.6	95.1	94.0	93.4	92.9	92.3	91.7
80°	79.0	78.2	77.3	76.6	76.1	75.5	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.1	58.0	58.0
85°	34.7	34.2	33.6	33.3	33.3	33.3	33.3	33.3
87.5°	16.1	16.1	15.9	15.8	15.7	15.4	15.2	15.1
90°	16.5	17.0	17.5	18.0	18.3	18.6	18.8	19.2
92.5°	25.4	25.8	26.3	26.4	26.3	26.1	25.9	25.8
95°	48.3	48.8	49.4	49.7	49.7	49.7	49.7	49.7
97.5°	75.1	75.7	76.4	76.7	76.6	76.6	76.6	76.5
100°	94.6	95.0	95.4	95.8	96.0	96.3	96.6	96.9
102.5°	117.0	117.4	117.8	118.1	118.0	117.9	117.9	117.8
105°	150.4	150.4	150.4	150.6	150.8	151.2	151.4	151.7
107.5°	186.6	187.1	187.6	187.7	187.5	187.4	187.2	187.0
110°	210.8	211.4	212.0	212.1	211.8	211.6	211.2	211.0





TEST NUMBER: P332376-930

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	235.1	235.7	236.4	236.7	236.7	236.6	236.5	236.5
115°	271.8	272.0	272.1	272.1	272.0	271.8	271.7	271.6
117.5°	309.0	308.9	308.9	308.7	308.3	307.9	307.5	307.1
120°	333.7	333.6	333.5	333.2	333.0	332.6	332.4	332.1
122.5°	358.8	358.4	358.1	357.7	357.3	356.9	356.4	356.0
125°	396.0	395.4	394.8	394.3	393.7	393.1	392.6	392.0
127.5°	432.8	431.9	431.2	430.5	429.8	429.2	428.5	427.9
130°	457.2	456.6	456.1	455.3	454.3	453.3	452.3	451.3
132.5°	480.9	480.2	479.6	478.8	478.1	477.3	476.5	475.8
135°	516.5	515.9	515.4	514.9	514.6	514.4	514.0	513.8
137.5°	551.2	550.7	550.0	549.4	548.9	548.4	547.9	547.3
140°	574.1	573.9	573.7	573.2	572.2	571.2	570.2	569.2
142.5°	595.5	595.3	595.2	594.8	593.9	593.2	592.4	591.7
145°	627.0	626.8	626.6	626.3	625.7	625.2	624.6	624.0
147.5°	656.7	656.7	656.7	656.2	655.4	654.5	653.7	652.9
150°	675.1	675.1	675.1	674.7	673.8	672.9	672.1	671.2
152.5°	691.8	692.0	692.3	692.0	691.3	690.6	689.8	689.1
155°	716.3	716.9	717.5	717.2	716.2	715.3	714.3	713.3
157.5°	737.4	738.0	738.6	738.5	737.8	736.9	736.1	735.3
160°	750.4	751.1	751.8	751.9	751.3	750.7	750.2	749.6
162.5°	762.6	763.4	764.1	763.9	763.0	762.1	761.2	760.3
165°	778.1	778.9	779.8	779.8	778.8	777.7	776.7	775.8
167.5°	790.7	791.5	792.4	792.4	791.5	790.7	789.8	788.9
170°	797.5	798.5	799.5	799.5	798.5	797.5	796.5	795.5
172.5°	802.9	803.8	804.6	804.6	803.6	802.6	801.6	800.6
175°	808.7	809.5	810.4	810.3	809.3	808.4	807.3	806.3
177.5°	811.3	812.0	812.6	812.6	811.8	811.0	810.2	809.4
180°	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5

(END OF REPORT)