

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: P332069-830

Luminaire Tested: **S123DIP-S1165D805U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332069-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1165D805U830-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7511.0 lumens  
Efficiency: N/A  
Efficacy: 123.7 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

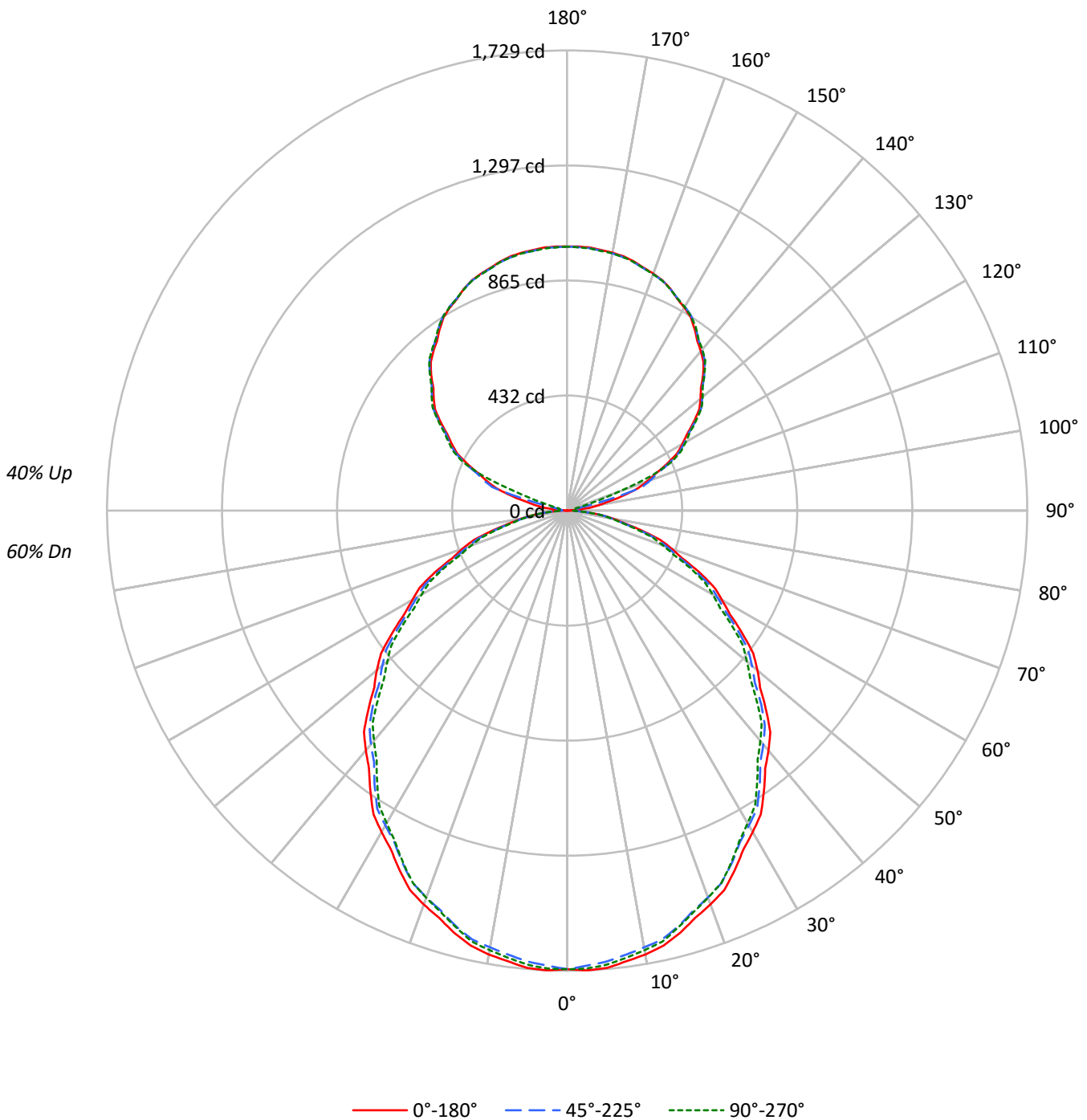
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	100	95	91	88	93	89	86	83	78	75	73	67	65	64	57	56	55	50
2	91	83	77	72	85	78	73	68	68	64	60	59	56	53	50	48	46	42
3	83	73	66	60	77	69	62	57	60	55	51	52	48	45	45	42	39	35
4	76	65	57	51	71	61	54	48	53	48	43	46	42	38	40	37	34	30
5	70	58	50	43	65	54	47	41	48	42	37	42	37	33	36	32	29	26
6	64	52	44	38	60	49	41	36	43	37	33	38	33	29	33	29	26	23
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	21
8	55	43	35	29	51	40	33	28	36	30	26	31	27	23	27	24	21	18
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	19	17
10	48	36	28	24	45	34	27	23	30	25	21	27	22	19	23	20	17	15

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

	0°	45°	90°
0°	18547	18547	18547
5°	18634	18377	18506
10°	18510	18218	18332
15°	18293	18013	18046
20°	18040	17718	17734
25°	17701	17368	17332
30°	17329	16978	16850
35°	16938	16567	16353
40°	16530	16114	15864
45°	16081	15696	15314
50°	15630	15183	14763
55°	15041	14653	14208
60°	14449	14034	13586
65°	13924	13359	12944
70°	13149	12589	12032
75°	12015	11582	11088
80°	10835	10377	10290
85°	9510	9152	8793



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	162.3	2.2
10°-20°	458.3	6.1
20°-30°	677.0	9.0
30°-40°	790.8	10.5
40°-50°	795.1	10.6
50°-60°	698.4	9.3
60°-70°	520.3	6.9
70°-80°	296.4	3.9
80°-90°	87.9	1.2
90°-100°	36.1	0.5
100°-110°	171.9	2.3
110°-120°	412.8	5.5
120°-130°	525.7	7.0
130°-140°	561.7	7.5
140°-150°	525.2	7.0
150°-160°	423.7	5.6
160°-170°	273.4	3.6
170°-180°	94.2	1.3
0°-30°	1297.6	17.3
0°-40°	2088.4	27.8
0°-60°	3581.8	47.7
0°-90°	4486.4	59.7
90°-120°	620.7	8.3
90°-150°	2233.3	29.7
90°-180°	3025.0	40.3
0°-180°	7511.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1723	1723	1723	1723	1723	
5°	1725	1717	1701	1715	1713	163
15°	1642	1635	1616	1627	1619	463
25°	1490	1481	1462	1464	1459	686
35°	1289	1280	1261	1252	1244	806
45°	1056	1050	1031	1014	1006	815
55°	802	799	781	765	757	718
65°	547	539	524	513	508	539
75°	289	283	278	271	267	309
85°	77	74	74	71	71	85
90°	1	8	18	21	22	6
95°	45	17	23	28	28	56
105°	220	224	161	38	32	233
115°	412	416	423	430	433	406
125°	581	586	590	591	592	518
135°	723	727	730	732	730	556
145°	834	839	841	842	842	522
155°	919	918	918	921	917	423
165°	969	967	966	971	967	274
175°	992	988	989	993	988	94
180°	992	992	992	992	992	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1
2.5°	1729.0	1728.0	1726.9	1725.9	1724.8	1722.8	1720.0	1717.0	1714.1	1711.2	1713.8
5°	1724.6	1723.0	1721.3	1719.7	1718.0	1715.3	1711.8	1708.1	1704.5	1700.8	1704.1
7.5°	1707.7	1706.0	1704.4	1702.7	1701.1	1698.4	1694.6	1690.9	1687.2	1683.4	1686.3
10°	1693.5	1691.8	1690.2	1688.5	1686.9	1683.9	1679.6	1675.4	1671.0	1666.8	1669.7
12.5°	1674.5	1673.1	1671.7	1670.4	1669.0	1666.2	1662.3	1658.2	1654.2	1650.2	1652.4
15°	1641.6	1640.3	1639.0	1637.7	1636.3	1633.5	1629.3	1624.9	1620.7	1616.4	1619.0
17.5°	1603.4	1601.7	1600.0	1598.3	1596.5	1593.6	1589.2	1585.0	1580.6	1576.4	1578.3
20°	1574.9	1572.9	1570.9	1569.0	1567.1	1563.9	1559.6	1555.4	1551.0	1546.8	1548.1
22.5°	1542.9	1541.0	1539.0	1537.0	1535.0	1531.9	1527.6	1523.3	1519.1	1514.8	1515.8
25°	1490.4	1488.5	1486.5	1484.5	1482.6	1479.4	1475.2	1470.9	1466.6	1462.4	1462.6
27.5°	1434.5	1432.6	1430.7	1428.7	1426.8	1423.6	1419.0	1414.4	1409.8	1405.1	1405.4
30°	1394.2	1392.5	1390.9	1389.2	1387.6	1384.5	1379.9	1375.3	1370.6	1366.0	1366.0
32.5°	1353.9	1351.7	1349.5	1347.4	1345.2	1342.3	1338.8	1335.2	1331.6	1328.1	1326.3
35°	1289.0	1287.0	1285.1	1283.1	1281.1	1278.0	1273.7	1269.4	1265.1	1260.8	1258.9
37.5°	1222.6	1220.1	1217.6	1215.1	1212.6	1209.2	1204.9	1200.5	1196.2	1191.8	1189.4
40°	1176.4	1174.4	1172.4	1170.4	1168.5	1165.2	1160.6	1155.9	1151.3	1146.8	1144.2
42.5°	1130.1	1127.9	1125.7	1123.4	1121.2	1117.8	1113.1	1108.5	1103.9	1099.4	1096.7
45°	1056.4	1055.1	1053.8	1052.4	1051.1	1048.3	1044.1	1039.7	1035.5	1031.1	1027.3
47.5°	983.2	981.3	979.4	977.4	975.5	972.6	968.6	964.5	960.5	956.5	952.6
50°	933.4	931.8	930.1	928.5	926.8	923.9	919.5	915.3	911.0	906.7	903.1
52.5°	881.3	880.1	879.0	877.9	876.8	873.9	869.4	864.9	860.4	855.7	852.6
55°	801.5	801.3	800.9	800.6	800.2	798.0	793.6	789.4	785.0	780.8	777.2
57.5°	725.7	724.5	723.4	722.4	721.2	719.0	715.5	712.1	708.7	705.2	702.0
60°	671.2	670.8	670.5	670.1	669.9	667.7	663.7	659.8	655.8	651.9	648.9
62.5°	622.5	621.7	620.9	620.0	619.2	616.7	612.7	608.8	604.9	601.0	597.9
65°	546.7	545.1	543.4	541.8	540.1	537.6	534.3	531.0	527.7	524.5	521.9
67.5°	466.4	465.0	463.5	462.0	460.6	458.6	456.1	453.6	451.1	448.7	446.3
70°	417.8	415.8	413.9	411.9	409.9	407.9	406.0	404.0	402.0	400.0	397.8
72.5°	366.8	365.4	363.9	362.5	361.1	359.2	356.9	354.7	352.5	350.2	348.2
75°	288.9	287.6	286.3	284.9	283.6	282.5	281.5	280.5	279.6	278.5	276.9
77.5°	219.9	219.1	218.4	217.7	217.0	216.0	214.8	213.7	212.4	211.3	210.2
80°	174.8	173.8	172.9	171.8	170.9	170.0	169.4	168.7	168.1	167.4	167.1
82.5°	131.0	130.7	130.5	130.4	130.2	130.0	129.9	129.8	129.6	129.5	128.9
85°	77.0	76.3	75.7	75.0	74.4	74.1	74.1	74.1	74.1	74.1	73.4
87.5°	31.0	30.5	30.1	29.6	29.1	28.9	29.1	29.3	29.4	29.6	29.5
90°	0.8	2.4	4.1	5.7	7.3	9.1	11.3	13.4	15.6	17.7	18.4
92.5°	13.7	13.3	12.8	12.3	11.9	12.4	14.0	15.6	17.2	18.9	19.9
95°	45.0	38.3	31.5	24.8	18.1	15.6	17.4	19.2	21.0	22.8	24.0
97.5°	90.3	87.4	84.4	81.3	78.3	70.9	59.1	47.3	35.5	23.8	25.1
100°	124.5	127.8	131.1	134.3	137.6	126.5	100.9	75.4	49.9	24.3	25.6
102.5°	163.4	165.8	168.1	170.5	172.9	160.1	132.2	104.2	76.3	48.4	44.4
105°	219.6	221.4	223.2	225.0	226.8	220.4	205.6	190.9	176.1	161.4	132.4
107.5°	278.8	280.3	281.7	283.1	284.6	286.4	288.8	291.2	293.4	295.8	274.6
110°	318.3	319.6	320.9	322.3	323.6	325.1	327.0	328.8	330.5	332.3	327.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	356.1	357.2	358.4	359.6	360.8	362.2	364.1	365.9	367.7	369.5	369.6
115°	411.9	412.9	413.9	414.9	415.8	417.1	418.6	420.0	421.5	423.0	424.6
117.5°	466.0	467.2	468.4	469.7	470.8	471.8	472.6	473.3	474.1	474.9	476.2
120°	499.6	501.1	502.6	504.0	505.5	506.5	507.0	507.5	507.9	508.4	509.7
122.5°	533.8	535.0	536.2	537.4	538.7	539.5	540.2	540.8	541.4	542.1	543.0
125°	580.7	581.9	583.2	584.6	585.9	586.9	587.6	588.1	588.8	589.5	589.8
127.5°	626.0	627.4	628.7	630.0	631.3	632.4	633.1	634.0	634.7	635.5	636.0
130°	654.3	655.6	657.0	658.3	659.6	660.5	661.2	661.9	662.5	663.2	663.8
132.5°	681.5	682.8	684.1	685.4	686.7	687.6	688.2	688.6	689.2	689.8	690.4
135°	722.8	723.9	724.8	725.9	726.8	727.6	728.3	729.0	729.6	730.3	730.8
137.5°	758.3	759.5	760.7	762.0	763.2	764.0	764.4	764.8	765.1	765.4	766.3
140°	781.8	782.8	783.8	784.8	785.8	786.5	787.0	787.5	788.0	788.4	789.1
142.5°	803.6	804.6	805.6	806.6	807.6	808.3	808.8	809.3	809.7	810.3	810.8
145°	834.2	835.3	836.4	837.5	838.8	839.4	839.8	840.1	840.5	840.7	841.1
147.5°	862.9	863.7	864.4	865.2	865.9	866.5	866.8	867.0	867.4	867.7	868.1
150°	880.5	881.1	881.6	882.0	882.5	883.0	883.3	883.6	883.9	884.3	884.6
152.5°	896.5	896.7	896.9	897.2	897.4	897.6	897.8	898.0	898.2	898.4	899.0
155°	918.9	918.6	918.2	917.9	917.6	917.5	917.7	917.8	917.9	918.1	919.0
157.5°	936.2	936.2	936.2	936.1	936.1	936.0	935.9	935.8	935.6	935.4	936.4
160°	946.9	946.7	946.6	946.4	946.2	946.0	945.9	945.7	945.6	945.4	946.4
162.5°	956.9	956.5	956.0	955.6	955.2	954.9	954.7	954.6	954.4	954.2	955.4
165°	969.0	968.5	968.0	967.5	967.0	966.7	966.6	966.4	966.2	966.0	967.3
167.5°	978.5	977.8	977.1	976.5	975.8	975.4	975.4	975.4	975.4	975.4	976.8
170°	983.7	983.1	982.4	981.8	981.1	980.8	980.8	980.8	980.8	980.8	982.1
172.5°	987.2	986.5	985.7	984.9	984.1	983.8	983.9	984.0	984.2	984.3	985.6
175°	991.8	991.0	990.2	989.4	988.5	988.3	988.4	988.5	988.7	988.9	990.0
177.5°	993.0	992.4	991.7	991.1	990.4	990.1	990.2	990.4	990.5	990.6	991.7
180°	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1
2.5°	1716.5	1719.1	1721.7	1723.0	1722.7	1722.4	1722.1	1721.9
5°	1707.4	1710.7	1714.0	1715.3	1714.7	1714.0	1713.4	1712.7
7.5°	1689.3	1692.2	1695.3	1696.5	1696.1	1695.7	1695.4	1695.0
10°	1672.7	1675.7	1678.7	1679.8	1679.1	1678.5	1677.8	1677.2
12.5°	1654.5	1656.7	1658.9	1659.8	1659.3	1659.0	1658.6	1658.2
15°	1621.6	1624.3	1626.9	1627.3	1625.3	1623.3	1621.4	1619.4
17.5°	1580.1	1582.0	1583.8	1584.3	1583.7	1582.9	1582.2	1581.5
20°	1549.4	1550.8	1552.1	1552.2	1551.2	1550.2	1549.3	1548.2
22.5°	1516.9	1518.0	1519.0	1518.9	1517.7	1516.4	1515.1	1513.9
25°	1463.0	1463.3	1463.7	1463.3	1462.4	1461.3	1460.4	1459.3
27.5°	1405.7	1405.9	1406.2	1405.7	1404.5	1403.2	1401.9	1400.7
30°	1366.0	1366.0	1366.0	1364.9	1362.5	1360.3	1357.9	1355.7
32.5°	1324.4	1322.6	1320.7	1319.2	1318.0	1316.6	1315.4	1314.2
35°	1256.9	1254.9	1252.9	1251.1	1249.4	1247.8	1246.1	1244.5
37.5°	1187.0	1184.7	1182.3	1180.6	1179.5	1178.5	1177.4	1176.4
40°	1141.5	1138.9	1136.2	1134.3	1132.9	1131.6	1130.3	1129.0
42.5°	1094.1	1091.5	1088.8	1086.8	1085.5	1084.2	1082.9	1081.6
45°	1023.3	1019.4	1015.4	1012.6	1011.0	1009.3	1007.7	1006.0
47.5°	948.8	944.9	940.9	938.3	936.9	935.4	934.0	932.6
50°	899.5	895.9	892.2	889.5	887.5	885.5	883.5	881.6
52.5°	849.6	846.5	843.4	840.8	838.9	836.9	834.9	832.9
55°	773.5	770.0	766.3	763.6	762.0	760.3	758.7	757.1
57.5°	698.8	695.6	692.3	689.8	687.9	686.0	684.0	682.1
60°	646.0	643.0	640.1	637.7	636.1	634.4	632.8	631.1
62.5°	595.0	592.0	589.1	587.0	585.9	584.8	583.7	582.6
65°	519.2	516.6	514.0	512.2	511.1	510.2	509.2	508.2
67.5°	444.0	441.7	439.4	437.5	436.2	434.8	433.4	432.1
70°	395.4	393.1	390.8	388.8	387.2	385.5	383.9	382.3
72.5°	346.2	344.1	342.0	340.6	339.8	338.9	338.1	337.2
75°	275.2	273.6	271.9	270.6	269.7	268.6	267.7	266.6
77.5°	209.1	207.9	206.8	206.2	206.2	206.2	206.2	206.2
80°	166.7	166.5	166.1	166.0	166.0	166.0	166.0	166.0
82.5°	128.3	127.7	127.1	126.7	126.4	126.2	125.9	125.6
85°	72.8	72.1	71.4	71.2	71.2	71.2	71.2	71.2
87.5°	29.3	29.2	29.1	29.0	29.1	29.2	29.2	29.3
90°	19.0	19.6	20.3	20.8	21.1	21.5	21.8	22.1
92.5°	20.9	22.0	23.1	23.7	23.8	24.0	24.2	24.5
95°	25.2	26.3	27.4	28.0	28.0	28.0	28.0	28.0
97.5°	26.4	27.6	28.9	29.7	29.9	30.1	30.2	30.3
100°	27.0	28.3	29.6	30.3	30.4	30.6	30.8	30.9
102.5°	40.3	36.3	32.2	30.3	30.6	30.9	31.2	31.6
105°	103.4	74.5	45.4	31.1	31.5	31.8	32.1	32.4
107.5°	253.3	232.1	210.8	189.2	167.4	145.5	123.7	101.8
110°	321.5	316.1	310.8	296.3	272.9	249.5	226.0	202.6





TEST NUMBER: P332069-830

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	369.7	369.8	369.9	367.4	362.5	357.5	352.6	347.7
115°	426.2	427.9	429.5	430.6	431.3	432.0	432.6	433.3
117.5°	477.5	478.8	480.0	480.8	481.0	481.1	481.2	481.4
120°	511.0	512.4	513.7	514.3	514.3	514.3	514.3	514.3
122.5°	543.8	544.8	545.7	546.2	546.4	546.5	546.7	546.8
125°	590.1	590.5	590.8	591.2	591.4	591.8	592.1	592.5
127.5°	636.5	637.1	637.5	637.6	637.3	637.1	636.7	636.4
130°	664.5	665.2	665.8	666.0	665.6	665.3	665.0	664.7
132.5°	691.0	691.6	692.3	692.4	692.0	691.5	691.1	690.6
135°	731.2	731.7	732.2	732.2	731.7	731.2	730.8	730.3
137.5°	767.0	767.8	768.6	768.8	768.5	768.2	767.9	767.5
140°	789.8	790.4	791.1	791.3	790.9	790.6	790.2	789.9
142.5°	811.3	811.8	812.4	812.4	811.9	811.4	811.1	810.6
145°	841.4	841.8	842.1	842.3	842.3	842.3	842.3	842.3
147.5°	868.4	868.7	869.0	868.8	868.1	867.3	866.6	865.8
150°	884.9	885.2	885.5	885.5	885.0	884.5	884.0	883.5
152.5°	899.6	900.1	900.8	900.7	899.9	899.2	898.4	897.7
155°	919.8	920.6	921.4	921.3	920.4	919.4	918.4	917.4
157.5°	937.4	938.3	939.3	939.1	937.9	936.6	935.4	934.1
160°	947.3	948.4	949.3	949.2	948.1	947.0	945.8	944.7
162.5°	956.5	957.6	958.7	958.8	957.7	956.7	955.7	954.7
165°	968.7	970.0	971.3	971.4	970.3	969.0	967.9	966.8
167.5°	978.1	979.4	980.7	980.7	979.4	978.1	976.8	975.4
170°	983.4	984.7	986.0	986.0	984.7	983.4	982.1	980.8
172.5°	986.9	988.3	989.6	989.5	988.1	986.7	985.1	983.7
175°	991.2	992.3	993.4	993.3	992.1	990.8	989.5	988.2
177.5°	992.8	993.8	994.9	994.8	993.4	992.1	990.8	989.5
180°	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8

(END OF REPORT)