

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: P331752-840

Luminaire Tested: **SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331752-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

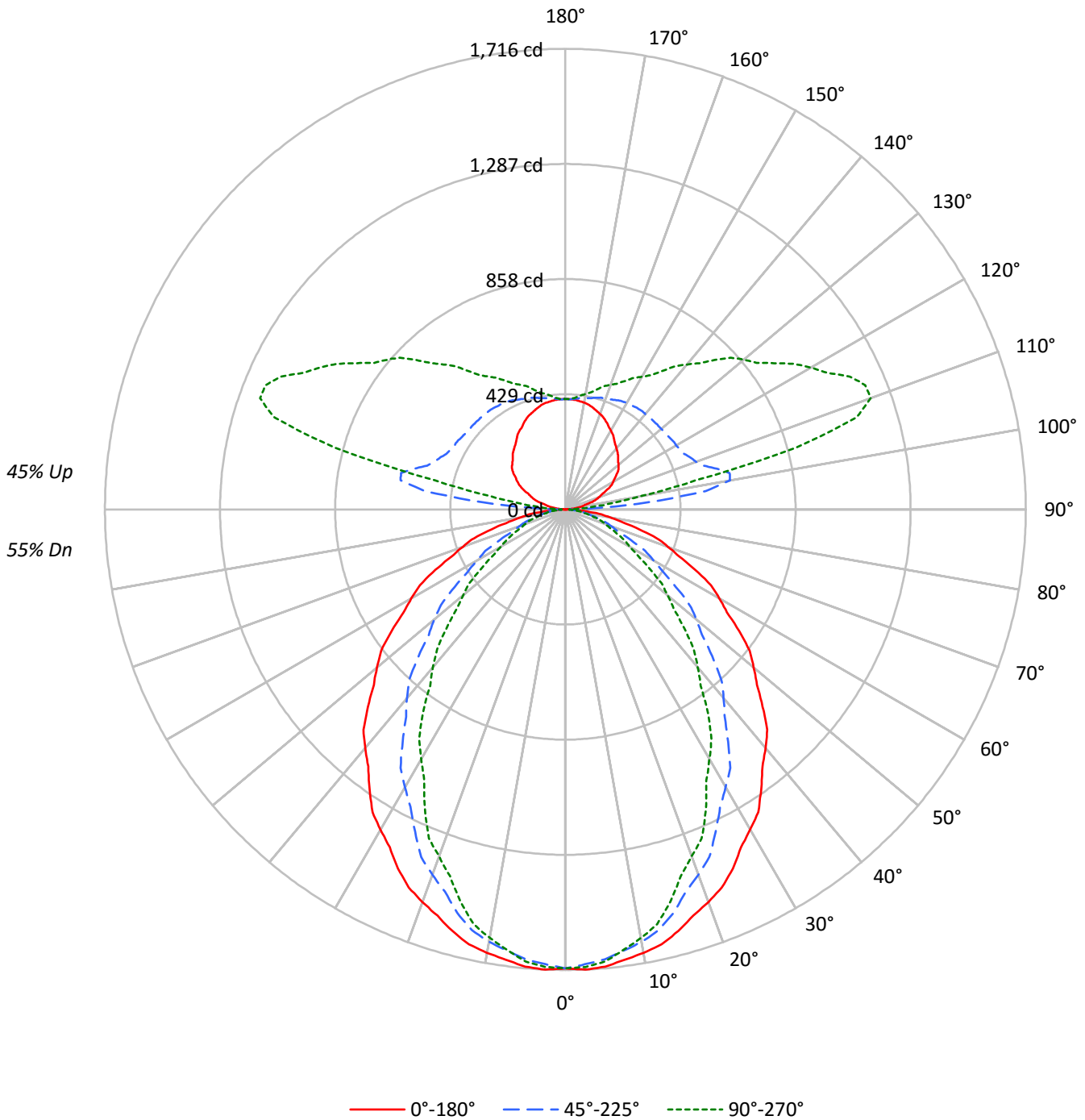
Lumens per Lamp: N/A  
Luminaire Lumens: 6377.5 lumens  
Efficiency: N/A  
Efficacy: 105.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	92	88	92	89	86	83	76	74	72	65	63	62	55	54	52	48
2	91	84	78	73	84	78	73	69	68	64	60	58	55	53	49	47	45	41
3	83	74	67	61	77	69	63	58	60	55	51	52	48	45	44	41	39	35
4	77	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34	31
5	70	59	51	45	65	55	48	43	48	43	39	42	38	34	36	33	30	27
6	65	53	45	40	60	50	43	38	44	38	34	38	34	30	33	29	27	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	27	24	21
8	56	44	36	31	52	41	35	30	37	31	27	32	28	24	28	24	22	19
9	52	40	33	28	49	38	31	27	34	28	24	30	25	22	26	22	20	18
10	49	37	30	25	46	35	29	24	31	26	22	27	23	20	24	20	18	16

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

	0°	45°	90°
0°	27611	27611	27611
5°	27716	27266	27417
10°	27506	26820	26591
15°	27189	26024	25275
20°	26751	24890	23639
25°	26302	23599	22057
30°	25682	22275	20025
35°	25074	20834	18242
40°	24464	19344	16179
45°	23749	17671	14312
50°	23016	15978	12479
55°	22261	14159	10716
60°	21390	12245	8896
65°	20397	10288	8103
70°	19218	8478	7449
75°	17767	7723	6949
80°	15676	6908	6332
85°	12338	5446	5446



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.1	2.5
10°-20°	439.5	6.9
20°-30°	617.2	9.7
30°-40°	673.0	10.6
40°-50°	618.8	9.7
50°-60°	486.0	7.6
60°-70°	316.9	5.0
70°-80°	163.4	2.6
80°-90°	46.1	0.7
90°-100°	164.1	2.6
100°-110°	557.0	8.7
110°-120°	591.7	9.3
120°-130°	487.1	7.6
130°-140°	391.2	6.1
140°-150°	295.6	4.6
150°-160°	207.7	3.3
160°-170°	122.3	1.9
170°-180°	39.8	0.6
0°-30°	1216.8	19.1
0°-40°	1889.8	29.6
0°-60°	2994.7	47.0
0°-90°	3521.0	55.2
90°-120°	1312.8	20.6
90°-150°	2486.7	39.0
90°-180°	2856.0	44.8
0°-180°	6377.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1710	1710	1710	1710	1710	
5°	1710	1702	1682	1695	1692	162
15°	1627	1608	1557	1528	1512	458
25°	1476	1424	1325	1264	1238	679
35°	1272	1190	1057	963	926	796
45°	1040	933	774	668	627	803
55°	791	668	503	414	381	706
65°	534	408	269	219	212	529
75°	285	180	124	114	111	301
85°	67	36	29	29	29	78
90°	1	11	27	26	26	4
95°	28	68	309	117	90	29
105°	96	145	585	1046	890	102
115°	170	214	490	1010	1171	168
125°	237	280	470	818	950	210
135°	278	332	465	688	787	215
145°	317	365	463	574	628	199
155°	361	390	449	508	528	166
165°	393	405	430	456	463	111
175°	410	410	414	419	418	39
180°	410	410	410	410	410	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1
2.5°	1716.4	1715.0	1713.5	1712.2	1710.8	1708.6	1705.6	1702.6	1699.6	1696.6	1699.3
5°	1710.1	1708.4	1706.7	1705.0	1703.2	1700.2	1695.7	1691.2	1686.8	1682.3	1685.4
7.5°	1692.5	1690.4	1688.3	1686.1	1683.9	1680.3	1675.1	1669.8	1664.7	1659.4	1660.3
10°	1677.7	1675.3	1672.8	1670.4	1668.0	1663.3	1656.5	1649.6	1642.7	1635.9	1634.9
12.5°	1659.1	1656.1	1653.1	1650.2	1647.3	1641.3	1632.5	1623.8	1615.0	1606.2	1604.3
15°	1626.6	1622.8	1619.0	1615.2	1611.4	1603.7	1592.1	1580.3	1568.6	1556.9	1550.4
17.5°	1586.6	1580.8	1575.1	1569.3	1563.6	1553.2	1538.1	1523.2	1508.1	1493.2	1485.4
20°	1556.9	1550.0	1543.2	1536.3	1529.4	1517.4	1500.2	1483.0	1465.8	1448.6	1440.0
22.5°	1524.7	1517.0	1509.3	1501.7	1493.9	1480.4	1461.0	1441.6	1422.2	1402.8	1391.7
25°	1476.4	1465.4	1454.4	1443.4	1432.4	1415.6	1392.9	1370.2	1347.5	1324.7	1310.7
27.5°	1418.3	1406.3	1394.3	1382.4	1370.4	1351.6	1326.1	1300.4	1274.9	1249.3	1232.8
30°	1377.5	1364.3	1351.3	1338.2	1325.1	1304.8	1277.3	1249.8	1222.3	1194.8	1177.2
32.5°	1337.8	1322.5	1307.3	1292.0	1276.7	1255.1	1227.0	1198.9	1170.8	1142.8	1122.8
35°	1272.1	1254.7	1237.1	1219.5	1202.0	1178.1	1147.8	1117.6	1087.3	1057.0	1035.4
37.5°	1206.6	1187.3	1168.0	1148.7	1129.5	1103.8	1071.5	1039.3	1006.9	974.7	950.9
40°	1160.7	1140.1	1119.4	1098.8	1078.2	1051.2	1017.8	984.5	951.1	917.8	893.3
42.5°	1113.7	1092.0	1070.3	1048.4	1026.7	998.7	964.2	929.7	895.2	860.8	835.6
45°	1040.1	1016.9	993.9	970.9	947.9	918.3	882.1	846.1	809.9	773.9	749.4
47.5°	968.2	943.8	919.4	894.9	870.5	839.7	802.4	765.1	727.8	690.5	666.3
50°	916.3	891.8	867.4	842.9	818.5	787.4	749.6	711.8	673.9	636.1	612.4
52.5°	865.5	839.9	814.5	788.9	763.4	732.2	695.1	658.1	621.1	584.1	561.2
55°	790.8	764.1	737.2	710.3	683.6	651.6	614.4	577.2	540.2	503.0	482.3
57.5°	714.4	686.9	659.3	631.9	604.3	572.7	537.0	501.3	465.6	429.9	411.0
60°	662.4	634.9	607.3	579.9	552.3	520.9	485.4	450.0	414.5	379.2	361.6
62.5°	611.7	584.1	556.6	529.1	501.6	470.9	437.2	403.3	369.6	335.9	319.1
65°	533.9	506.0	478.3	450.4	422.5	393.1	362.1	331.2	300.2	269.3	257.6
67.5°	459.0	431.4	403.7	376.1	348.4	320.6	292.9	265.0	237.1	209.2	203.9
70°	407.1	380.2	353.4	326.6	299.7	274.5	250.7	227.0	203.3	179.6	176.1
72.5°	357.5	331.7	306.1	280.3	254.6	232.2	213.2	194.1	175.0	156.0	153.1
75°	284.8	260.6	236.6	212.6	188.4	170.6	158.9	147.2	135.5	123.8	121.4
77.5°	213.3	192.2	171.1	150.0	128.8	115.4	109.8	104.1	98.5	92.9	91.5
80°	168.6	151.2	133.6	116.0	98.6	88.1	84.6	81.2	77.8	74.3	72.9
82.5°	127.8	114.1	100.5	86.7	73.1	65.0	62.7	60.4	58.1	55.7	54.9
85°	66.6	59.3	52.1	44.8	37.7	33.5	32.5	31.5	30.4	29.4	29.4
87.5°	20.0	18.3	16.7	14.7	12.9	12.3	13.0	14.1	15.1	15.2	14.8
90°	0.8	3.1	6.4	7.9	9.5	11.8	15.8	21.3	26.1	26.9	26.1
92.5°	9.6	13.9	19.6	23.0	28.4	35.9	53.7	78.8	101.2	102.6	86.6
95°	27.7	30.8	38.7	45.7	58.4	77.4	113.7	182.4	274.0	309.4	270.7
97.5°	45.0	49.3	57.7	68.4	82.9	104.3	150.0	245.7	397.9	528.3	554.2
100°	60.8	63.1	70.3	82.9	98.7	120.8	162.6	258.9	429.4	623.6	737.3
102.5°	75.3	77.1	84.1	96.7	113.2	135.3	174.0	259.5	417.5	626.8	805.5
105°	96.3	99.5	105.0	116.8	134.2	156.3	193.4	263.7	393.9	584.9	795.0
107.5°	119.1	121.6	126.9	137.8	155.0	177.3	213.3	274.6	382.2	540.1	725.6
110°	134.2	137.3	142.1	152.4	169.0	191.9	226.5	283.4	379.7	518.7	682.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	148.0	151.3	156.6	166.2	182.2	205.7	239.2	292.9	380.3	504.7	651.8
115°	169.8	173.7	178.4	187.8	203.7	225.0	258.9	307.1	383.6	489.5	614.2
117.5°	192.2	195.3	200.1	208.4	223.6	245.7	277.1	322.2	389.3	482.0	590.5
120°	206.0	209.2	213.9	221.1	236.8	258.9	289.7	332.3	393.1	477.6	577.8
122.5°	219.3	221.9	226.5	234.3	250.0	272.9	301.7	341.2	397.6	475.0	567.1
125°	236.8	239.2	243.9	253.4	269.2	291.2	319.7	355.3	404.1	470.5	551.8
127.5°	250.7	253.9	260.5	270.9	286.1	308.8	336.5	368.3	411.0	467.8	537.6
130°	258.9	262.1	269.9	281.0	296.8	318.9	346.6	376.6	416.1	466.6	528.2
132.5°	266.5	270.3	278.8	290.5	306.9	329.0	355.4	384.8	421.1	466.0	520.6
135°	277.9	281.0	290.5	302.4	320.5	342.6	367.9	395.5	427.1	464.9	510.0
137.5°	288.6	292.4	301.8	314.5	332.5	353.0	378.0	403.7	432.4	464.8	502.5
140°	296.8	299.9	309.4	322.0	339.4	360.0	383.6	408.1	434.9	464.1	498.2
142.5°	305.0	307.6	316.4	329.0	345.8	365.1	388.1	411.9	436.9	464.1	493.7
145°	317.3	320.5	328.4	340.2	356.0	373.3	394.8	416.8	438.9	462.6	487.9
147.5°	330.6	333.0	340.5	351.4	364.6	380.0	400.1	419.5	439.6	459.8	481.9
150°	339.4	341.8	348.1	358.4	370.2	384.5	402.6	420.7	438.9	457.9	476.8
152.5°	348.3	349.4	355.7	364.7	375.9	388.9	405.2	421.4	437.7	454.7	472.4
155°	360.7	361.5	366.3	375.0	383.6	395.5	408.9	422.3	435.8	449.2	464.1
157.5°	371.2	371.9	375.8	383.3	390.3	400.2	411.6	422.3	432.1	443.5	456.5
160°	378.1	378.9	382.0	388.4	394.8	403.3	412.8	422.3	430.2	439.7	450.8
162.5°	385.1	384.6	387.8	392.8	398.5	405.3	413.5	421.7	428.4	436.6	445.7
165°	393.1	392.3	393.9	398.7	402.6	407.4	414.4	420.0	424.7	430.2	437.4
167.5°	399.8	398.8	400.2	403.2	406.1	409.1	414.2	418.9	421.1	424.7	429.1
170°	404.1	402.6	403.3	405.8	407.4	409.7	413.6	417.6	419.2	421.5	424.7
172.5°	406.7	405.8	405.3	407.7	408.6	410.3	413.0	415.7	416.7	417.8	420.3
175°	409.7	408.9	408.1	409.7	409.7	410.5	412.0	413.6	412.8	413.6	414.4
177.5°	411.1	409.9	409.2	410.5	410.5	410.5	411.1	412.4	411.1	410.5	411.1
180°	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1
2.5°	1702.0	1704.8	1707.6	1708.6	1708.1	1707.6	1707.0	1706.5
5°	1688.5	1691.6	1694.7	1695.7	1694.7	1693.6	1692.6	1691.6
7.5°	1661.1	1662.0	1662.9	1662.5	1660.7	1658.9	1657.2	1655.4
10°	1633.8	1632.7	1631.7	1630.2	1628.1	1626.1	1624.0	1621.9
12.5°	1602.5	1600.5	1598.7	1596.1	1592.7	1589.2	1585.8	1582.4
15°	1543.9	1537.3	1530.8	1525.8	1522.4	1518.9	1515.5	1512.1
17.5°	1477.6	1469.9	1462.1	1455.2	1449.4	1443.4	1437.4	1431.6
20°	1431.4	1422.8	1414.2	1406.1	1398.6	1391.0	1383.4	1375.8
22.5°	1380.7	1369.6	1358.5	1350.1	1344.5	1338.9	1333.2	1327.6
25°	1296.6	1282.5	1268.4	1258.8	1253.5	1248.4	1243.2	1238.1
27.5°	1216.4	1199.9	1183.5	1171.1	1163.0	1154.8	1146.6	1138.4
30°	1159.7	1142.2	1124.6	1111.3	1102.0	1092.7	1083.4	1074.1
32.5°	1102.8	1082.8	1062.7	1048.3	1039.7	1030.9	1022.1	1013.4
35°	1013.7	992.1	970.4	955.7	948.2	940.6	933.0	925.5
37.5°	927.0	903.1	879.2	862.9	854.3	845.7	837.0	828.3
40°	868.9	844.4	820.1	803.4	794.5	785.5	776.6	767.6
42.5°	810.3	785.1	759.8	742.9	734.2	725.5	716.9	708.2
45°	725.0	700.5	676.1	659.8	651.6	643.3	635.0	626.8
47.5°	642.0	617.7	593.4	577.5	570.1	562.6	555.0	547.5
50°	588.7	564.9	541.2	525.6	518.5	511.2	504.0	496.8
52.5°	538.3	515.3	492.5	477.7	471.0	464.3	457.7	451.0
55°	461.7	441.1	420.4	406.9	400.3	393.7	387.3	380.7
57.5°	392.1	373.1	354.3	342.0	336.6	331.0	325.6	320.0
60°	344.1	326.6	309.0	297.5	292.0	286.5	280.9	275.5
62.5°	302.5	285.7	269.0	258.9	255.7	252.4	249.0	245.8
65°	245.9	234.2	222.5	216.1	215.1	214.1	213.1	212.1
67.5°	198.5	193.2	187.7	184.5	183.5	182.4	181.3	180.2
70°	172.7	169.3	165.8	163.4	162.0	160.6	159.3	157.8
72.5°	150.3	147.3	144.4	142.6	141.8	141.0	140.1	139.3
75°	119.0	116.6	114.2	112.8	112.5	112.1	111.8	111.4
77.5°	90.1	88.8	87.4	86.3	85.8	85.3	84.7	84.2
80°	71.5	70.2	68.8	68.1	68.1	68.1	68.1	68.1
82.5°	54.0	53.2	52.4	52.0	52.0	52.0	52.0	52.0
85°	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
87.5°	14.4	13.8	13.8	13.8	13.8	13.8	13.8	13.8
90°	25.2	23.7	25.2	26.1	26.1	26.1	26.1	26.1
92.5°	68.9	59.1	52.4	47.6	46.9	44.3	45.0	43.7
95°	206.8	158.6	125.5	108.2	97.9	91.6	89.2	90.0
97.5°	482.6	394.9	309.4	252.5	214.7	195.3	183.8	177.1
100°	720.7	622.9	514.7	419.2	353.7	319.7	296.8	282.6
102.5°	876.8	854.6	775.5	674.3	603.1	545.1	516.5	497.4
105°	959.2	1048.3	1058.6	1032.6	983.6	934.6	900.7	889.7
107.5°	899.8	1034.1	1116.2	1154.5	1160.6	1157.9	1151.1	1136.4
110°	848.6	990.0	1091.0	1155.7	1189.6	1204.7	1211.7	1210.9





TEST NUMBER: P331752-840

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	801.9	937.5	1045.5	1119.7	1166.9	1192.0	1205.5	1209.7
115°	744.4	866.0	969.4	1050.7	1106.7	1143.1	1163.6	1170.7
117.5°	701.1	807.9	901.7	978.0	1035.1	1073.5	1095.1	1101.1
120°	679.6	777.6	861.2	933.1	988.4	1025.4	1048.3	1056.2
122.5°	662.7	752.3	831.5	896.5	946.0	982.5	1002.9	1009.5
125°	637.8	719.1	788.6	847.8	893.6	923.6	943.3	949.7
127.5°	613.4	686.9	752.5	807.1	847.1	875.1	892.2	897.3
130°	597.5	665.5	727.8	779.9	818.6	845.5	861.2	867.6
132.5°	582.4	645.3	702.6	751.5	789.6	816.4	830.9	836.6
135°	561.3	613.4	665.5	709.6	743.7	769.7	783.9	787.1
137.5°	544.4	587.9	629.3	667.8	698.8	721.2	733.7	738.4
140°	533.6	571.6	607.8	642.6	667.8	688.3	700.2	705.0
142.5°	524.8	557.0	588.2	617.3	641.4	659.9	670.6	671.5
145°	512.3	538.4	562.9	585.7	604.7	618.1	626.0	628.3
147.5°	502.7	523.2	542.3	559.1	574.7	585.4	590.8	592.2
150°	495.7	513.1	529.7	543.9	555.7	565.2	570.0	570.8
152.5°	488.8	504.9	519.0	531.3	540.6	548.8	552.3	552.4
155°	479.2	491.8	503.6	512.3	521.0	526.5	529.7	528.2
157.5°	468.0	478.6	488.5	495.2	501.4	506.0	507.5	507.5
160°	461.0	469.7	478.4	483.9	489.5	493.4	494.1	494.1
162.5°	454.0	461.5	468.9	473.2	478.7	481.4	482.2	481.5
165°	443.6	449.2	454.7	457.9	461.0	464.1	464.1	463.4
167.5°	433.7	438.0	441.7	444.6	446.1	447.8	447.6	446.7
170°	428.7	431.0	434.1	435.8	436.6	438.9	438.1	436.6
172.5°	422.9	424.7	427.3	428.2	429.0	430.1	429.3	428.4
175°	416.8	417.6	418.4	419.2	419.2	420.0	419.2	417.6
177.5°	412.4	412.4	413.0	413.0	413.0	413.0	412.4	411.1
180°	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5

(END OF REPORT)