

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: P332383-927

Luminaire Tested: **S123RDIP-S1165D1025U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332383-927  
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: S123RDIP-S1165D1025U927-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6410.5 lumens  
Efficiency: N/A  
Efficacy: 96.0 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

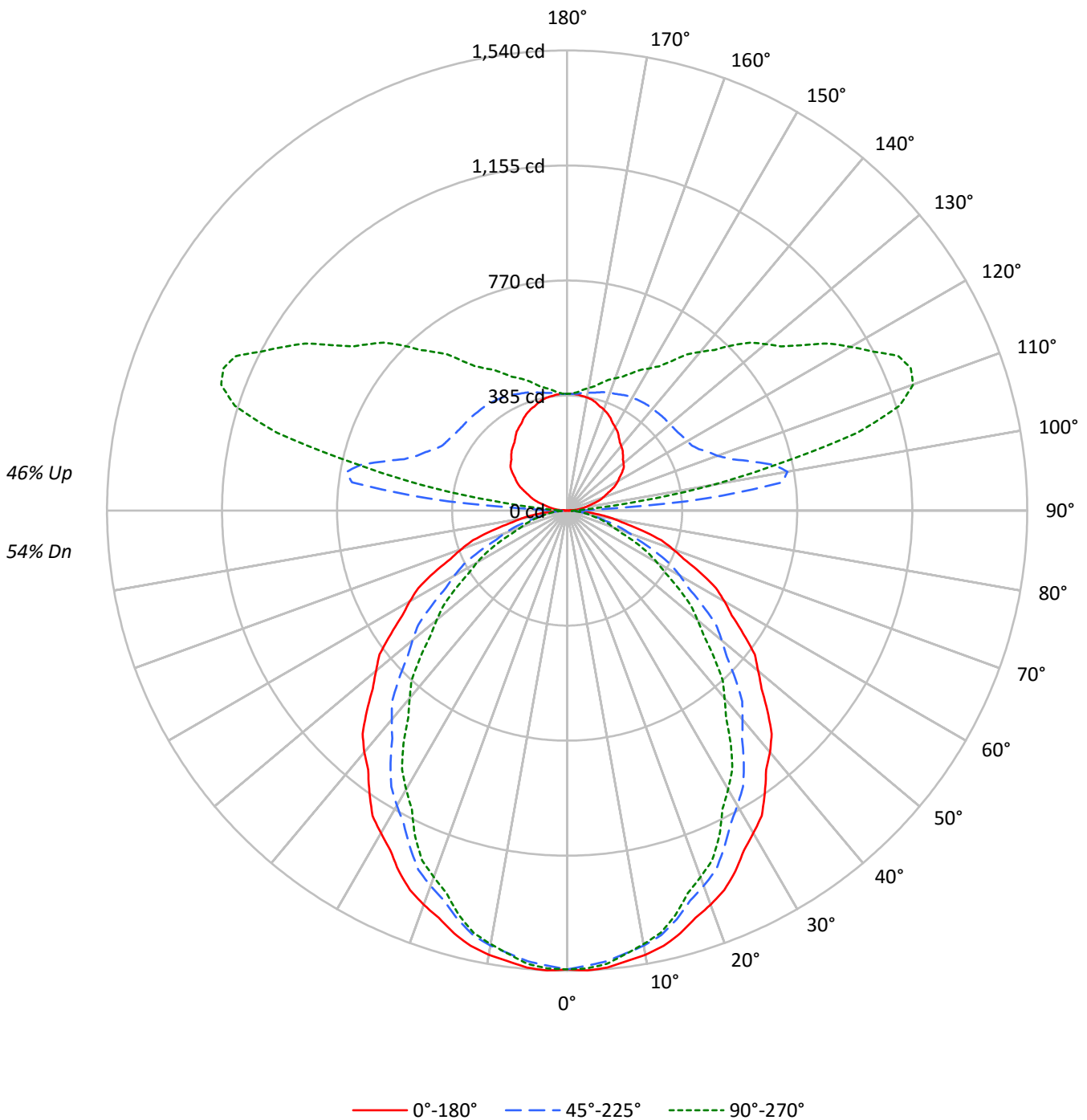
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	100	100	100	86	86	86	72	72	72	60	60	60	54
1	99	95	91	88	92	88	85	82	76	73	71	64	62	61	54	52	51	46
2	90	83	77	72	84	77	72	68	67	63	59	57	54	51	48	46	44	39
3	83	73	66	61	77	68	62	57	59	54	50	50	47	44	42	40	38	34
4	76	65	57	51	70	61	54	49	53	47	43	45	41	38	38	35	33	29
5	70	58	50	44	65	55	47	42	47	42	37	41	36	33	34	31	29	26
6	64	52	44	39	60	49	42	37	43	37	33	37	32	29	31	28	25	23
7	60	47	40	34	55	45	37	32	39	33	29	34	29	26	29	25	23	20
8	55	43	35	30	51	41	34	29	36	30	26	31	26	23	26	23	20	18
9	52	40	32	27	48	37	30	26	33	27	23	28	24	21	24	21	19	16
10	48	36	29	24	45	34	28	23	30	25	21	26	22	19	23	19	17	15

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

	0°	45°	90°
0°	16527	16527	16527
5°	16590	16361	16455
10°	16497	16156	16101
15°	16319	15778	15611
20°	16076	15306	14948
25°	15824	14775	14301
30°	15493	14162	13387
35°	15152	13548	12550
40°	14838	12826	11514
45°	14425	12113	10577
50°	13971	11302	9530
55°	13508	10376	8552
60°	13082	9384	7481
65°	12528	8308	6406
70°	11833	6977	5174
75°	10821	5490	4870
80°	9651	4860	4475
85°	8151	4310	4001



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.2	2.2
10°-20°	401.2	6.3
20°-30°	577.6	9.0
30°-40°	650.7	10.1
40°-50°	622.5	9.7
50°-60°	509.7	8.0
60°-70°	343.9	5.4
70°-80°	173.0	2.7
80°-90°	48.8	0.8
90°-100°	217.4	3.4
100°-110°	615.6	9.6
110°-120°	605.5	9.4
120°-130°	483.0	7.5
130°-140°	380.8	5.9
140°-150°	284.2	4.4
150°-160°	198.1	3.1
160°-170°	116.4	1.8
170°-180°	37.9	0.6
0°-30°	1123.0	17.5
0°-40°	1773.6	27.7
0°-60°	2905.8	45.3
0°-90°	3471.6	54.2
90°-120°	1438.5	22.4
90°-150°	2586.5	40.3
90°-180°	2939.0	45.8
0°-180°	6410.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1535	1535	1535	1535	1535	
5°	1535	1529	1514	1525	1523	146
15°	1464	1450	1416	1410	1401	412
25°	1332	1300	1244	1219	1204	613
35°	1153	1106	1031	979	955	721
45°	948	889	796	727	695	731
55°	720	656	553	483	456	645
65°	492	422	326	268	252	487
75°	260	200	132	120	117	278
85°	66	40	35	32	32	74
90°	2	10	20	22	23	5
95°	27	87	469	137	92	29
105°	92	136	636	1112	1006	97
115°	162	202	486	1066	1223	160
125°	225	266	454	822	965	200
135°	264	315	448	677	782	204
145°	301	345	442	556	611	189
155°	342	369	428	486	507	157
165°	374	385	410	434	442	105
175°	390	390	393	398	398	37
180°	391	391	391	391	391	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4
2.5°	1540.4	1539.4	1538.6	1537.7	1536.8	1535.0	1532.4	1529.7	1527.1	1524.4	1526.9
5°	1535.4	1534.0	1532.6	1531.2	1529.9	1527.5	1524.2	1520.8	1517.5	1514.2	1516.7
7.5°	1521.1	1519.7	1518.2	1516.7	1515.2	1512.3	1508.0	1503.6	1499.4	1495.0	1496.4
10°	1509.3	1507.3	1505.4	1503.4	1501.5	1498.0	1493.0	1488.0	1483.0	1478.1	1478.4
12.5°	1492.3	1490.2	1488.0	1485.8	1483.7	1479.6	1473.5	1467.4	1461.3	1455.2	1455.0
15°	1464.4	1461.3	1458.3	1455.2	1452.2	1446.8	1439.1	1431.3	1423.6	1415.9	1414.4
17.5°	1429.3	1425.8	1422.2	1418.6	1415.2	1408.4	1398.6	1388.7	1378.9	1369.0	1366.1
20°	1403.4	1399.0	1394.6	1390.1	1385.7	1378.2	1367.7	1357.2	1346.6	1336.2	1332.5
22.5°	1374.5	1369.4	1364.3	1359.2	1354.2	1346.0	1334.8	1323.7	1312.5	1301.2	1296.8
25°	1332.4	1325.5	1318.6	1311.6	1304.7	1294.9	1282.1	1269.5	1256.7	1244.0	1238.2
27.5°	1281.4	1273.7	1266.1	1258.5	1250.8	1239.9	1225.7	1211.6	1197.4	1183.2	1175.1
30°	1246.5	1238.2	1229.9	1221.5	1213.3	1201.3	1185.9	1170.4	1154.9	1139.4	1130.0
32.5°	1211.6	1202.2	1192.8	1183.4	1174.0	1161.1	1144.7	1128.3	1111.9	1095.6	1085.3
35°	1153.1	1143.1	1133.1	1123.2	1113.3	1099.7	1082.5	1065.4	1048.2	1031.0	1019.1
37.5°	1093.8	1082.8	1071.7	1060.6	1049.6	1034.8	1016.5	998.2	979.9	961.6	948.1
40°	1056.0	1043.8	1031.6	1019.5	1007.3	991.3	971.7	952.0	932.4	912.8	898.3
42.5°	1013.1	1000.9	988.8	976.6	964.4	948.2	927.9	907.5	887.2	867.0	851.2
45°	947.6	935.2	922.7	910.3	897.8	880.9	859.6	838.3	817.0	795.7	779.9
47.5°	882.1	868.5	854.8	841.1	827.4	809.9	788.6	767.3	746.0	724.8	707.6
50°	834.3	821.3	808.3	795.3	782.3	764.6	742.2	719.8	697.4	674.9	657.7
52.5°	791.5	777.4	763.3	749.2	735.0	716.8	694.7	672.5	650.3	628.1	610.3
55°	719.8	706.2	692.6	679.1	665.5	647.0	623.4	599.9	576.4	552.9	536.9
57.5°	653.5	638.7	623.9	609.2	594.4	575.2	551.6	527.9	504.3	480.7	465.5
60°	607.7	592.5	577.3	562.1	546.8	527.7	504.7	481.8	458.8	435.9	420.9
62.5°	561.8	546.6	531.4	516.2	501.0	481.9	458.9	435.9	413.0	390.0	376.0
65°	491.9	476.7	461.4	446.2	431.0	412.6	391.0	369.4	347.8	326.2	312.7
67.5°	421.9	406.5	391.1	375.7	360.4	342.3	321.6	300.9	280.2	259.5	249.4
70°	376.0	361.2	346.2	331.2	316.3	299.1	279.8	260.4	241.1	221.7	212.0
72.5°	330.3	315.5	300.8	286.1	271.3	255.2	237.6	220.0	202.4	184.8	176.9
75°	260.2	247.0	233.7	220.4	207.2	192.9	177.7	162.4	147.2	132.0	129.2
77.5°	196.5	184.5	172.5	160.5	148.5	137.5	127.8	118.0	108.1	98.4	96.9
80°	155.7	144.3	132.9	121.6	110.3	101.7	95.9	90.1	84.3	78.4	77.6
82.5°	116.8	107.0	97.2	87.4	77.6	71.4	68.7	65.9	63.2	60.5	59.7
85°	66.0	59.9	53.8	47.8	41.7	38.2	37.4	36.5	35.7	34.9	34.3
87.5°	24.2	22.1	20.0	18.1	15.9	15.0	15.4	15.9	16.4	16.9	16.6
90°	1.6	3.2	4.8	7.1	8.7	10.3	12.7	15.1	17.4	19.8	19.0
92.5°	9.8	14.6	21.2	27.3	34.0	45.7	66.4	100.4	133.8	121.6	91.7
95°	26.9	29.2	37.9	51.4	71.9	102.8	170.0	287.8	417.5	468.9	380.3
97.5°	45.9	46.7	53.5	65.1	85.4	118.7	183.0	315.8	532.0	726.7	777.4
100°	58.5	59.3	64.9	75.9	94.9	125.7	181.1	298.1	506.0	748.8	904.6
102.5°	71.8	73.2	78.1	88.6	105.7	134.0	183.6	282.9	468.1	707.7	910.9
105°	91.7	94.1	98.9	108.4	123.3	147.9	190.6	272.0	421.4	635.7	862.7
107.5°	112.9	115.3	119.9	129.2	143.3	166.0	203.5	271.2	391.7	572.2	778.2
110°	128.1	130.5	134.4	143.1	156.5	178.7	214.3	274.4	380.3	536.1	725.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.0	144.4	148.4	157.0	170.5	192.0	225.1	280.7	374.0	512.1	678.9
115°	162.1	165.2	170.0	177.9	191.4	212.7	242.7	291.0	371.6	486.3	623.1
117.5°	182.2	185.8	189.8	197.0	212.1	231.9	261.6	304.6	373.0	471.1	589.4
120°	196.1	198.4	202.4	210.3	225.4	245.1	273.6	314.7	375.6	464.1	571.7
122.5°	208.1	210.5	214.4	223.0	237.4	258.4	286.2	324.2	380.0	459.7	557.1
125°	225.4	227.0	231.7	240.3	255.4	276.8	304.4	339.2	386.7	453.9	538.5
127.5°	238.5	240.8	246.7	255.6	272.2	293.5	320.3	351.6	394.3	451.1	522.0
130°	246.7	249.1	256.2	265.7	282.3	303.6	329.7	359.8	399.3	449.2	513.2
132.5°	253.0	256.0	263.8	275.2	291.8	312.5	337.9	367.4	403.1	448.5	504.9
135°	264.1	267.3	276.0	287.8	304.4	325.7	350.3	377.2	408.8	447.6	494.2
137.5°	274.6	277.9	286.4	299.0	315.5	335.3	358.9	384.4	412.6	445.8	484.9
140°	281.5	285.4	293.3	306.0	321.9	341.6	364.6	388.2	415.1	445.2	479.2
142.5°	289.1	292.4	301.0	312.4	328.1	346.7	369.0	392.1	417.0	443.9	474.1
145°	301.3	303.6	310.8	322.7	336.0	354.3	374.8	396.2	418.3	442.0	467.3
147.5°	313.6	315.1	322.0	332.2	345.2	360.8	379.5	398.7	418.3	439.0	460.7
150°	321.9	322.7	328.9	339.2	350.3	364.6	382.7	399.3	418.3	436.5	456.2
152.5°	330.0	330.2	336.5	345.5	355.4	369.0	384.6	400.6	416.4	433.3	451.2
155°	342.4	342.4	347.1	355.1	363.8	374.8	388.2	400.9	414.3	427.8	443.6
157.5°	352.2	352.8	356.6	363.6	371.0	379.5	390.3	401.7	411.7	422.9	435.1
160°	359.8	359.8	363.0	369.2	374.8	382.7	392.2	401.7	410.4	419.1	429.4
162.5°	365.5	365.5	368.0	373.0	378.0	384.6	392.8	401.1	407.9	415.3	423.7
165°	374.0	373.2	374.8	378.7	381.9	387.5	393.8	399.3	404.1	409.6	415.9
167.5°	380.5	379.5	380.3	383.3	385.6	389.0	393.6	398.1	400.3	403.9	408.5
170°	384.3	382.7	383.5	385.9	387.5	389.0	393.0	396.2	397.8	400.1	404.1
172.5°	386.8	385.9	386.0	387.8	388.7	389.7	393.0	395.5	395.9	397.0	399.7
175°	389.8	389.0	388.2	389.8	389.8	390.6	392.2	393.8	393.0	393.0	394.6
177.5°	391.3	390.6	390.0	390.6	390.6	390.6	391.3	392.5	391.3	390.6	391.3
180°	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4
2.5°	1529.3	1531.8	1534.1	1535.2	1534.7	1534.3	1533.8	1533.3
5°	1519.2	1521.7	1524.2	1525.1	1524.6	1524.0	1523.4	1522.9
7.5°	1497.8	1499.2	1500.6	1500.8	1499.8	1498.9	1497.9	1497.0
10°	1478.7	1478.9	1479.2	1478.7	1477.3	1475.9	1474.5	1473.1
12.5°	1454.8	1454.7	1454.5	1453.7	1452.1	1450.4	1448.8	1447.2
15°	1413.1	1411.7	1410.3	1408.7	1406.7	1404.8	1402.8	1400.9
17.5°	1363.2	1360.2	1357.2	1354.4	1351.5	1348.6	1345.8	1342.8
20°	1329.0	1325.3	1321.8	1318.3	1314.9	1311.6	1308.4	1305.0
22.5°	1292.3	1287.9	1283.3	1279.5	1276.4	1273.4	1270.3	1267.2
25°	1232.4	1226.5	1220.8	1216.3	1213.3	1210.2	1207.2	1204.1
27.5°	1167.0	1159.0	1150.9	1144.5	1139.9	1135.3	1130.6	1125.9
30°	1120.5	1111.2	1101.8	1094.9	1090.4	1086.0	1081.6	1077.1
32.5°	1075.0	1064.7	1054.4	1046.9	1042.3	1037.6	1033.0	1028.3
35°	1007.3	995.4	983.5	975.0	970.0	965.0	960.0	955.1
37.5°	934.5	921.1	907.5	897.7	891.6	885.4	879.3	873.1
40°	884.0	869.6	855.2	844.9	838.4	832.1	825.8	819.4
42.5°	835.5	819.8	804.1	793.4	787.7	782.0	776.3	770.6
45°	764.1	748.4	732.6	721.4	714.8	708.1	701.5	694.8
47.5°	690.4	673.3	656.1	644.6	638.7	632.7	626.8	620.9
50°	640.6	623.4	606.3	594.5	588.2	581.8	575.4	569.1
52.5°	592.5	574.6	556.8	545.0	539.3	533.7	528.0	522.3
55°	520.8	504.7	488.7	477.9	472.4	466.8	461.3	455.7
57.5°	450.4	435.1	420.0	410.0	405.4	400.7	395.9	391.3
60°	405.9	391.0	376.0	366.2	361.6	356.8	352.1	347.5
62.5°	361.9	347.8	333.7	324.3	319.3	314.4	309.5	304.6
65°	299.1	285.6	272.0	263.7	260.7	257.6	254.6	251.5
67.5°	239.2	229.1	219.0	212.3	209.1	205.7	202.5	199.2
70°	202.2	192.6	182.9	176.6	173.5	170.5	167.4	164.4
72.5°	169.0	161.1	153.1	148.5	147.3	146.0	144.7	143.5
75°	126.4	123.7	120.9	119.3	118.7	118.2	117.6	117.1
77.5°	95.4	93.9	92.4	91.3	90.8	90.2	89.7	89.1
80°	76.8	76.0	75.1	74.5	73.9	73.4	72.8	72.2
82.5°	58.9	58.1	57.2	56.7	56.6	56.5	56.4	56.3
85°	33.7	33.2	32.6	32.4	32.4	32.4	32.4	32.4
87.5°	16.5	16.4	16.3	16.4	16.1	16.0	15.9	15.5
90°	19.8	20.6	21.4	22.9	22.1	22.9	23.7	22.9
92.5°	66.5	52.8	46.7	42.5	41.1	38.7	39.5	38.1
95°	284.6	193.0	151.1	122.6	107.6	100.4	94.9	91.7
97.5°	709.6	568.4	466.4	371.8	313.5	277.9	256.5	249.7
100°	932.3	868.2	775.7	663.5	583.6	525.9	495.0	495.8
102.5°	1006.3	1004.2	950.3	879.2	817.0	771.3	745.5	727.3
105°	1027.9	1107.1	1122.0	1101.5	1065.1	1035.1	1009.8	1005.8
107.5°	965.7	1094.1	1163.3	1191.5	1192.2	1182.0	1173.5	1166.2
110°	906.2	1051.7	1151.3	1206.7	1228.8	1235.2	1233.6	1232.0





TEST NUMBER: P332383-927

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	847.3	996.0	1107.6	1178.8	1219.3	1238.9	1244.9	1245.2
115°	769.4	907.0	1023.2	1109.4	1168.7	1203.5	1219.3	1223.3
117.5°	713.0	831.7	936.0	1023.5	1085.4	1125.2	1148.0	1153.3
120°	683.2	790.0	884.9	964.7	1027.1	1071.4	1090.4	1095.2
122.5°	659.8	756.5	844.4	918.5	974.1	1013.9	1034.7	1040.8
125°	628.7	714.9	790.8	854.0	904.6	939.4	959.2	964.7
127.5°	601.4	678.3	746.8	804.3	849.4	879.2	897.0	902.1
130°	584.4	655.5	719.5	773.3	815.2	843.8	860.3	866.6
132.5°	568.5	634.0	693.6	744.9	784.3	812.7	827.4	831.9
135°	547.2	603.3	654.7	699.8	738.6	762.2	776.5	782.0
137.5°	527.8	573.8	618.1	657.1	689.7	713.8	725.7	729.4
140°	516.3	556.7	594.6	628.7	658.7	680.8	693.5	692.7
142.5°	505.6	540.3	573.1	602.7	628.4	647.9	659.3	658.5
145°	492.7	518.7	544.0	567.0	586.7	603.3	609.7	611.2
147.5°	482.0	502.7	523.2	539.5	554.4	565.7	571.7	572.4
150°	474.4	492.7	509.2	524.3	536.1	544.8	549.5	549.5
152.5°	467.5	483.2	497.9	510.3	519.7	527.8	530.6	530.6
155°	457.0	469.7	481.6	491.1	498.2	504.5	506.0	506.8
157.5°	446.0	456.5	465.7	473.2	479.3	484.1	485.4	485.2
160°	439.7	448.4	456.2	461.8	467.3	472.1	472.1	471.3
162.5°	432.1	439.5	446.8	451.7	455.3	459.4	459.4	458.6
165°	422.2	427.0	432.5	436.5	439.7	442.8	442.0	442.0
167.5°	413.7	417.3	420.5	423.3	424.8	427.0	426.2	426.2
170°	408.1	410.4	413.5	415.1	415.9	417.5	416.7	416.7
172.5°	403.0	404.7	407.3	408.2	408.4	410.0	408.5	407.9
175°	396.2	397.0	398.5	398.5	398.5	399.3	398.5	397.8
177.5°	391.9	392.5	393.2	393.2	392.5	393.2	391.9	391.9
180°	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6

(END OF REPORT)