

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: P331455-840

Luminaire Tested: **S122DIP-S1005D925U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331455-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S1005D925U840-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

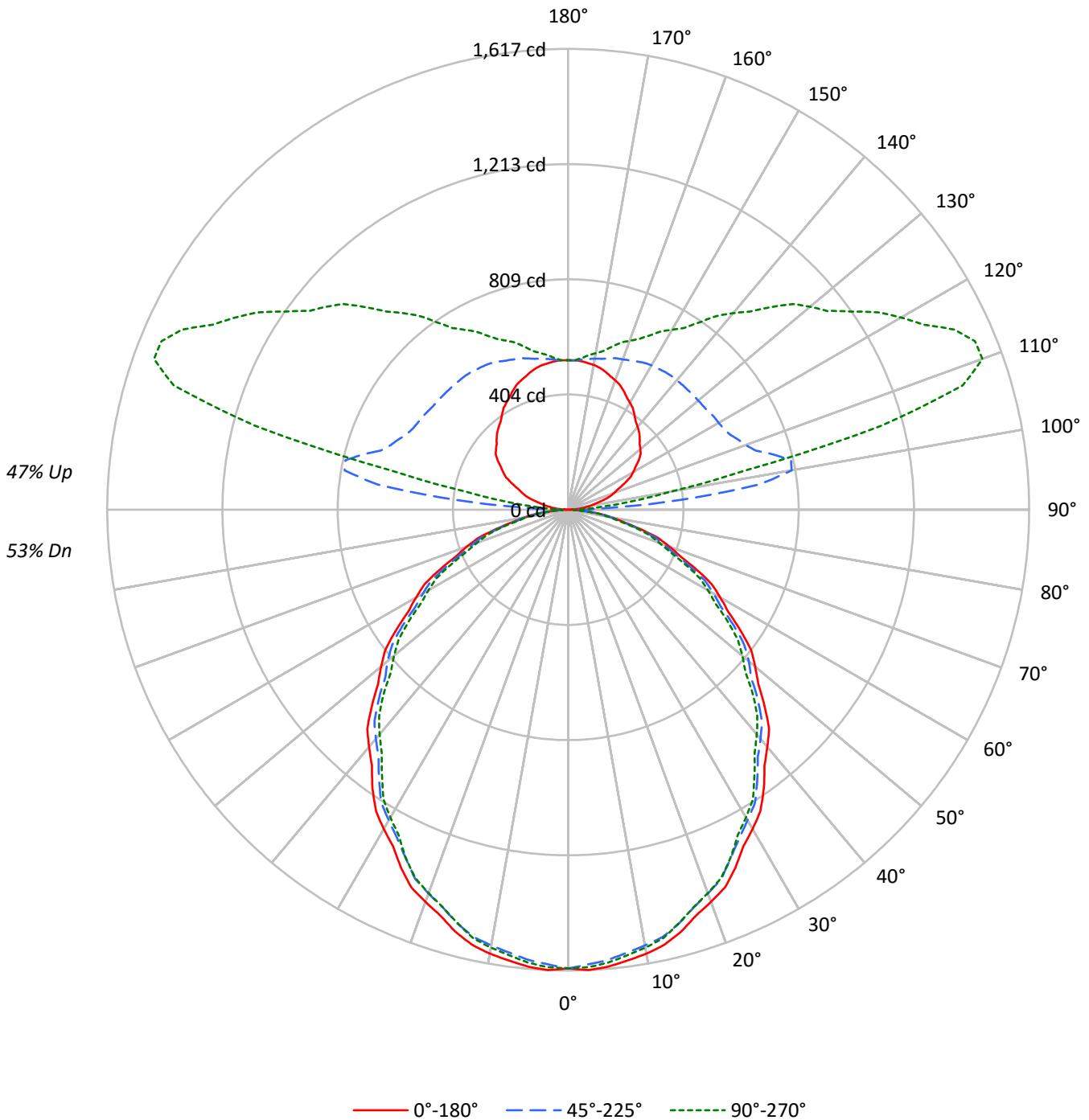
Lumens per Lamp: N/A  
Luminaire Lumens: 7746.6 lumens  
Efficiency: N/A  
Efficacy: 116.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (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	50	30	10	0	
RCR																						
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53				
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50	45				
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	37				
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36	32				
4	75	64	56	50	69	60	52	47	51	46	41	43	39	36	36	33	31	27				
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27	24				
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24	21				
7	59	46	38	33	54	43	36	31	37	32	28	32	28	24	27	24	21	18				
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	21	19	16				
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	15				
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	13				

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

	0°	45°	90°
0°	25987	25987	25987
5°	26086	25710	25861
10°	25932	25450	25576
15°	25611	25120	25095
20°	25156	24624	24598
25°	24704	24015	24015
30°	24121	23457	23256
35°	23580	22787	22450
40°	22898	22118	21692
45°	22229	21450	20922
50°	21499	20760	20022
55°	20738	19952	19212
60°	19888	18991	18290
65°	18980	18032	17207
70°	17825	16877	16074
75°	16220	15540	15159
80°	14393	13966	13240
85°	11745	11189	10022



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.3	2.0
10°-20°	425.9	5.5
20°-30°	626.0	8.1
30°-40°	727.1	9.4
40°-50°	726.3	9.4
50°-60°	633.4	8.2
60°-70°	468.3	6.0
70°-80°	265.3	3.4
80°-90°	76.0	1.0
90°-100°	209.6	2.7
100°-110°	711.1	9.2
110°-120°	755.5	9.8
120°-130°	621.9	8.0
130°-140°	499.4	6.4
140°-150°	377.4	4.9
150°-160°	265.2	3.4
160°-170°	156.1	2.0
170°-180°	50.8	0.7
0°-30°	1203.2	15.5
0°-40°	1930.3	24.9
0°-60°	3290.0	42.5
0°-90°	4099.7	52.9
90°-120°	1676.1	21.6
90°-150°	3174.8	41.0
90°-180°	3647.0	47.1
0°-180°	7746.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1610	1610	1610	1610	1610	
5°	1610	1603	1586	1598	1596	153
15°	1532	1522	1503	1508	1501	431
25°	1387	1374	1348	1351	1348	638
35°	1196	1180	1156	1147	1139	747
45°	974	962	939	923	916	751
55°	737	727	709	691	682	658
65°	497	487	472	458	450	491
75°	260	257	249	241	243	278
85°	63	62	60	56	54	73
90°	1	14	34	33	33	5
95°	35	87	395	149	115	37
105°	123	185	747	1335	1136	131
115°	217	274	625	1290	1495	215
125°	302	358	601	1045	1212	268
135°	355	423	594	878	1005	274
145°	405	466	591	733	802	254
155°	461	497	574	649	674	212
165°	502	517	549	583	592	141
175°	523	524	528	535	533	50
180°	524	524	524	524	524	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1617.0	1615.6	1614.3	1612.9	1611.4	1609.3	1606.3	1603.3	1600.2	1597.2	1599.9
5°	1609.5	1608.2	1606.8	1605.4	1604.1	1601.4	1597.7	1593.9	1590.1	1586.3	1589.1
7.5°	1595.3	1593.2	1591.0	1588.9	1586.8	1583.8	1579.9	1576.1	1572.3	1568.4	1571.1
10°	1581.7	1579.3	1576.9	1574.5	1572.1	1568.8	1564.7	1560.5	1556.4	1552.3	1555.1
12.5°	1563.2	1560.9	1558.8	1556.7	1554.6	1551.5	1547.3	1543.2	1539.1	1535.0	1536.9
15°	1532.2	1530.1	1528.0	1526.0	1523.9	1520.7	1516.2	1511.7	1507.2	1502.8	1504.2
17.5°	1492.6	1490.5	1488.4	1486.3	1484.3	1481.0	1476.4	1471.9	1467.3	1462.9	1464.4
20°	1464.1	1462.0	1460.0	1457.8	1455.8	1452.4	1447.5	1442.8	1437.9	1433.1	1434.1
22.5°	1435.6	1432.7	1429.9	1426.9	1424.0	1420.4	1415.8	1411.3	1406.7	1402.2	1402.4
25°	1386.7	1383.9	1381.2	1378.5	1375.7	1371.4	1365.5	1359.7	1353.8	1348.0	1348.7
27.5°	1331.0	1328.5	1326.1	1323.5	1321.1	1317.6	1312.9	1308.3	1303.7	1299.1	1298.1
30°	1293.8	1291.1	1288.3	1285.6	1282.8	1278.9	1273.7	1268.6	1263.4	1258.2	1257.2
32.5°	1254.3	1252.0	1249.8	1247.6	1245.4	1241.6	1236.2	1230.7	1225.3	1219.8	1218.0
35°	1196.3	1192.9	1189.4	1186.0	1182.6	1178.1	1172.6	1167.1	1161.6	1156.1	1154.1
37.5°	1131.0	1128.0	1125.0	1122.0	1118.9	1114.7	1109.1	1103.7	1098.1	1092.7	1090.0
40°	1086.4	1083.7	1081.0	1078.2	1075.4	1071.4	1065.8	1060.4	1054.8	1049.4	1046.2
42.5°	1043.1	1040.4	1037.6	1034.9	1032.1	1027.9	1022.5	1016.9	1011.5	1005.9	1002.6
45°	973.5	971.1	968.7	966.2	963.8	960.1	954.9	949.8	944.6	939.4	935.6
47.5°	904.1	901.9	899.6	897.4	895.0	891.2	885.9	880.5	875.1	869.8	865.8
50°	855.9	854.1	852.4	850.7	849.0	845.7	840.9	836.1	831.2	826.5	821.6
52.5°	808.8	806.6	804.3	802.0	799.7	796.3	791.7	787.2	782.7	778.2	774.2
55°	736.7	734.6	732.6	730.5	728.4	725.3	721.2	717.1	713.0	708.8	704.7
57.5°	664.3	662.6	661.0	659.3	657.6	654.6	650.1	645.5	641.0	636.4	632.4
60°	615.9	614.6	613.2	611.9	610.5	607.3	602.6	597.7	592.9	588.1	584.3
62.5°	569.0	566.7	564.5	562.3	560.1	557.1	553.4	549.8	546.0	542.3	538.8
65°	496.8	494.7	492.7	490.6	488.6	485.7	482.3	478.9	475.4	472.0	469.0
67.5°	423.4	421.8	420.1	418.5	416.9	414.4	411.3	408.3	405.2	402.1	399.7
70°	377.6	376.3	374.9	373.5	372.1	369.9	366.8	363.7	360.6	357.5	355.1
72.5°	330.5	329.2	327.8	326.5	325.1	323.4	321.4	319.4	317.4	315.4	313.0
75°	260.0	259.3	258.6	257.9	257.2	256.0	254.3	252.6	250.9	249.1	247.1
77.5°	196.8	195.7	194.5	193.4	192.2	191.3	190.6	189.9	189.1	188.5	187.4
80°	154.8	154.4	154.1	153.7	153.4	152.9	152.2	151.5	150.8	150.2	149.1
82.5°	115.1	115.1	115.0	114.9	114.8	114.6	114.2	113.8	113.4	113.0	111.7
85°	63.4	63.1	62.8	62.4	62.1	61.7	61.4	61.0	60.7	60.4	59.3
87.5°	22.5	22.5	22.8	22.6	22.5	22.5	23.0	23.8	24.5	24.2	23.1
90°	1.0	4.0	8.1	10.1	12.1	15.1	20.2	27.2	33.2	34.2	33.2
92.5°	12.3	17.8	25.0	29.4	36.3	45.7	68.6	100.6	129.2	131.0	110.7
95°	35.2	39.3	49.4	58.5	74.6	98.8	145.1	232.8	349.7	395.1	345.7
97.5°	57.5	62.9	73.6	87.3	105.8	133.2	191.5	313.7	508.0	674.5	707.5
100°	77.6	80.6	89.7	105.8	126.0	154.2	207.6	330.6	548.3	796.2	941.4
102.5°	96.1	98.4	107.4	123.6	144.5	172.8	222.2	331.4	533.0	800.2	1028.4
105°	123.0	127.0	134.0	149.2	171.4	199.5	246.9	336.6	502.9	746.8	1014.9
107.5°	152.0	155.2	162.1	176.0	197.9	226.4	272.4	350.5	488.0	689.6	926.5
110°	171.4	175.4	181.4	194.5	215.7	244.9	289.2	361.8	484.8	662.2	870.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	189.0	193.1	200.0	212.3	232.6	262.7	305.4	374.0	485.5	644.4	832.1
115°	216.7	221.8	227.8	239.8	260.0	287.2	330.6	392.0	489.8	624.9	784.2
117.5°	245.3	249.3	255.4	266.1	285.4	313.7	353.8	411.4	497.1	615.4	753.9
120°	263.1	267.1	273.2	282.2	302.4	330.6	369.9	424.3	501.9	609.8	737.8
122.5°	280.0	283.2	289.2	299.1	319.3	348.3	385.2	435.6	507.6	606.5	724.1
125°	302.4	305.4	311.4	323.6	343.7	371.9	408.2	453.5	516.0	600.7	704.5
127.5°	320.1	324.2	332.5	345.9	365.3	394.3	429.6	470.3	524.7	597.2	686.4
130°	330.6	334.6	344.7	358.8	379.0	407.2	442.4	480.8	531.2	595.6	674.3
132.5°	340.2	345.1	356.0	370.9	391.8	420.1	453.7	491.2	537.6	594.8	664.6
135°	354.8	358.8	370.9	386.0	409.2	437.4	469.7	504.9	545.2	593.6	651.1
137.5°	368.5	373.3	385.4	401.5	424.5	450.7	482.6	515.4	552.1	593.4	641.6
140°	379.0	383.0	395.1	411.2	433.4	459.6	489.8	521.1	555.3	592.6	636.0
142.5°	389.4	392.6	403.9	420.1	441.4	466.1	495.4	525.9	557.7	592.6	630.4
145°	405.2	409.2	419.3	434.4	454.5	476.8	503.9	532.2	560.4	590.6	622.9
147.5°	422.1	425.2	434.7	448.7	465.4	485.2	510.8	535.6	561.2	587.0	615.2
150°	433.4	436.4	444.4	457.6	472.7	490.8	514.0	537.1	560.4	584.6	608.7
152.5°	444.6	446.1	454.1	465.6	480.0	496.4	517.3	538.0	558.8	580.6	603.1
155°	460.6	461.6	467.7	478.8	489.8	504.9	522.1	539.2	556.3	573.5	592.6
157.5°	473.9	474.9	479.8	489.4	498.3	511.0	525.5	539.2	551.7	566.2	582.8
160°	482.8	483.8	487.8	495.8	503.9	515.0	527.1	539.2	549.3	561.4	575.5
162.5°	491.6	491.0	495.0	501.5	508.8	517.5	528.0	538.4	546.8	557.3	569.1
165°	501.9	500.9	502.9	509.0	514.0	520.1	529.2	536.2	542.2	549.3	558.4
167.5°	510.4	509.2	511.0	514.8	518.5	522.3	529.0	534.8	537.6	542.2	547.9
170°	516.0	514.0	515.0	518.1	520.1	523.1	528.2	533.2	535.2	538.2	542.2
172.5°	519.3	518.1	517.5	520.5	521.7	523.9	527.4	530.8	532.0	533.4	536.6
175°	523.1	522.1	521.1	523.1	523.1	524.1	526.1	528.2	527.1	528.2	529.2
177.5°	524.9	523.3	522.5	524.1	524.1	524.1	524.9	526.5	524.9	524.1	524.9
180°	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1602.7	1605.4	1608.2	1609.3	1608.7	1608.2	1607.6	1607.1
5°	1591.9	1594.6	1597.3	1598.4	1597.7	1597.0	1596.3	1595.6
7.5°	1573.9	1576.6	1579.4	1580.4	1579.6	1578.9	1578.1	1577.4
10°	1557.8	1560.5	1563.3	1564.2	1563.2	1562.1	1561.0	1560.0
12.5°	1538.8	1540.8	1542.7	1543.3	1542.5	1541.8	1541.0	1540.2
15°	1505.5	1506.9	1508.2	1508.1	1506.4	1504.7	1503.0	1501.3
17.5°	1466.0	1467.6	1469.2	1469.2	1467.4	1465.8	1464.2	1462.5
20°	1435.2	1436.2	1437.2	1437.0	1435.7	1434.3	1433.0	1431.6
22.5°	1402.6	1402.8	1403.0	1402.7	1401.9	1401.1	1400.2	1399.4
25°	1349.4	1350.1	1350.8	1350.8	1350.1	1349.4	1348.7	1348.0
27.5°	1297.1	1296.0	1294.9	1293.6	1292.0	1290.3	1288.7	1287.1
30°	1256.2	1255.2	1254.2	1252.9	1251.5	1250.1	1248.8	1247.4
32.5°	1216.2	1214.3	1212.4	1210.8	1209.4	1208.1	1206.7	1205.3
35°	1152.0	1149.9	1147.8	1146.0	1144.3	1142.6	1140.7	1139.0
37.5°	1087.5	1085.0	1082.5	1080.4	1078.7	1077.0	1075.4	1073.8
40°	1043.1	1040.1	1036.9	1034.7	1033.3	1032.0	1030.6	1029.2
42.5°	999.3	995.8	992.5	989.9	988.0	986.0	984.1	982.1
45°	931.9	928.1	924.3	921.7	920.3	919.0	917.6	916.3
47.5°	861.8	857.8	853.8	850.8	848.8	846.9	844.9	842.8
50°	816.8	812.0	807.2	804.0	802.2	800.5	798.8	797.1
52.5°	770.2	766.2	762.2	759.1	756.8	754.6	752.2	750.0
55°	700.5	696.4	692.4	689.4	687.7	686.0	684.3	682.5
57.5°	628.2	624.2	620.2	617.4	616.2	614.9	613.6	612.3
60°	580.6	576.7	573.0	570.6	569.6	568.6	567.4	566.4
62.5°	535.3	531.8	528.3	525.8	524.5	523.2	521.9	520.6
65°	465.9	462.7	459.7	457.3	455.6	453.8	452.1	450.4
67.5°	397.3	394.9	392.4	390.5	389.2	387.8	386.5	385.1
70°	352.6	350.3	347.9	346.0	344.6	343.3	341.8	340.5
72.5°	310.6	308.2	305.8	304.1	303.0	301.8	300.7	299.6
75°	245.1	243.0	241.0	240.2	241.0	241.6	242.3	243.0
77.5°	186.4	185.4	184.4	183.4	182.4	181.5	180.5	179.6
80°	148.0	147.0	146.0	145.1	144.4	143.8	143.1	142.4
82.5°	110.4	109.1	107.8	107.0	106.8	106.7	106.6	106.4
85°	58.3	57.3	56.2	55.5	55.2	54.8	54.5	54.1
87.5°	22.1	20.9	20.5	20.1	19.9	19.6	19.3	19.0
90°	32.2	30.2	32.2	33.2	33.2	33.2	33.2	33.2
92.5°	87.9	75.4	67.0	60.7	59.9	56.7	57.5	55.8
95°	264.1	202.6	160.3	138.0	125.0	116.9	113.9	114.9
97.5°	616.2	504.1	395.1	322.3	274.2	249.3	234.6	226.2
100°	920.2	795.2	657.1	535.2	451.5	408.2	379.0	360.8
102.5°	1119.3	1091.2	990.2	860.9	770.0	696.0	659.5	635.0
105°	1224.6	1338.5	1351.6	1318.3	1255.8	1193.4	1149.9	1135.9
107.5°	1148.8	1320.3	1425.1	1473.9	1481.8	1478.3	1469.7	1451.0
110°	1083.5	1263.8	1392.9	1475.5	1518.8	1538.0	1547.1	1546.1





TEST NUMBER: P331455-840

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1023.8	1197.0	1334.8	1429.6	1489.9	1521.9	1539.0	1544.5
115°	950.4	1105.6	1237.7	1341.5	1413.0	1459.4	1485.6	1494.7
117.5°	895.1	1031.5	1151.1	1248.6	1321.5	1370.5	1398.2	1405.7
120°	867.8	992.8	1099.5	1191.3	1261.8	1309.2	1338.5	1348.6
122.5°	846.0	960.5	1061.7	1144.6	1207.8	1254.4	1280.4	1288.9
125°	814.4	918.2	1006.8	1082.5	1140.9	1179.2	1204.4	1212.4
127.5°	783.2	877.1	960.7	1030.5	1081.5	1117.3	1139.1	1145.6
130°	763.0	849.6	929.3	995.8	1045.2	1079.4	1099.5	1107.6
132.5°	743.6	823.8	897.0	959.5	1008.0	1042.4	1060.9	1068.1
135°	716.6	783.2	849.6	906.1	949.4	982.7	1000.8	1004.8
137.5°	695.0	750.6	803.4	852.6	892.2	920.8	936.8	942.8
140°	681.4	729.7	776.1	820.4	852.6	878.9	894.0	900.0
142.5°	670.0	711.1	751.0	788.2	818.8	842.6	856.1	857.3
145°	654.1	687.4	718.6	747.8	772.0	789.2	799.2	802.2
147.5°	641.8	668.0	692.4	713.8	733.8	747.4	754.3	756.1
150°	633.0	655.1	676.3	694.4	709.5	721.6	727.7	728.7
152.5°	624.1	644.6	662.6	678.3	690.1	700.6	705.1	705.3
155°	611.8	627.9	643.0	654.1	665.2	672.3	676.3	674.3
157.5°	597.4	611.0	623.7	632.4	640.2	646.0	647.8	647.8
160°	588.5	599.7	610.8	617.8	624.9	630.0	631.0	631.0
162.5°	579.8	589.2	598.6	604.1	611.2	614.6	615.6	614.8
165°	566.4	573.5	580.6	584.6	588.5	592.6	592.6	591.6
167.5°	553.7	559.2	564.0	567.6	569.5	571.7	571.5	570.3
170°	547.2	550.3	554.3	556.3	557.3	560.4	559.4	557.3
172.5°	540.0	542.2	545.4	546.6	547.6	549.1	548.1	546.8
175°	532.2	533.2	534.2	535.2	535.2	536.2	535.2	533.2
177.5°	526.5	526.5	527.4	527.4	527.4	527.4	526.5	524.9
180°	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1

(END OF REPORT)