

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: P331722-840

Luminaire Tested: **SA2XXRDIP-C865D725U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331722-840
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-C865D725U840-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

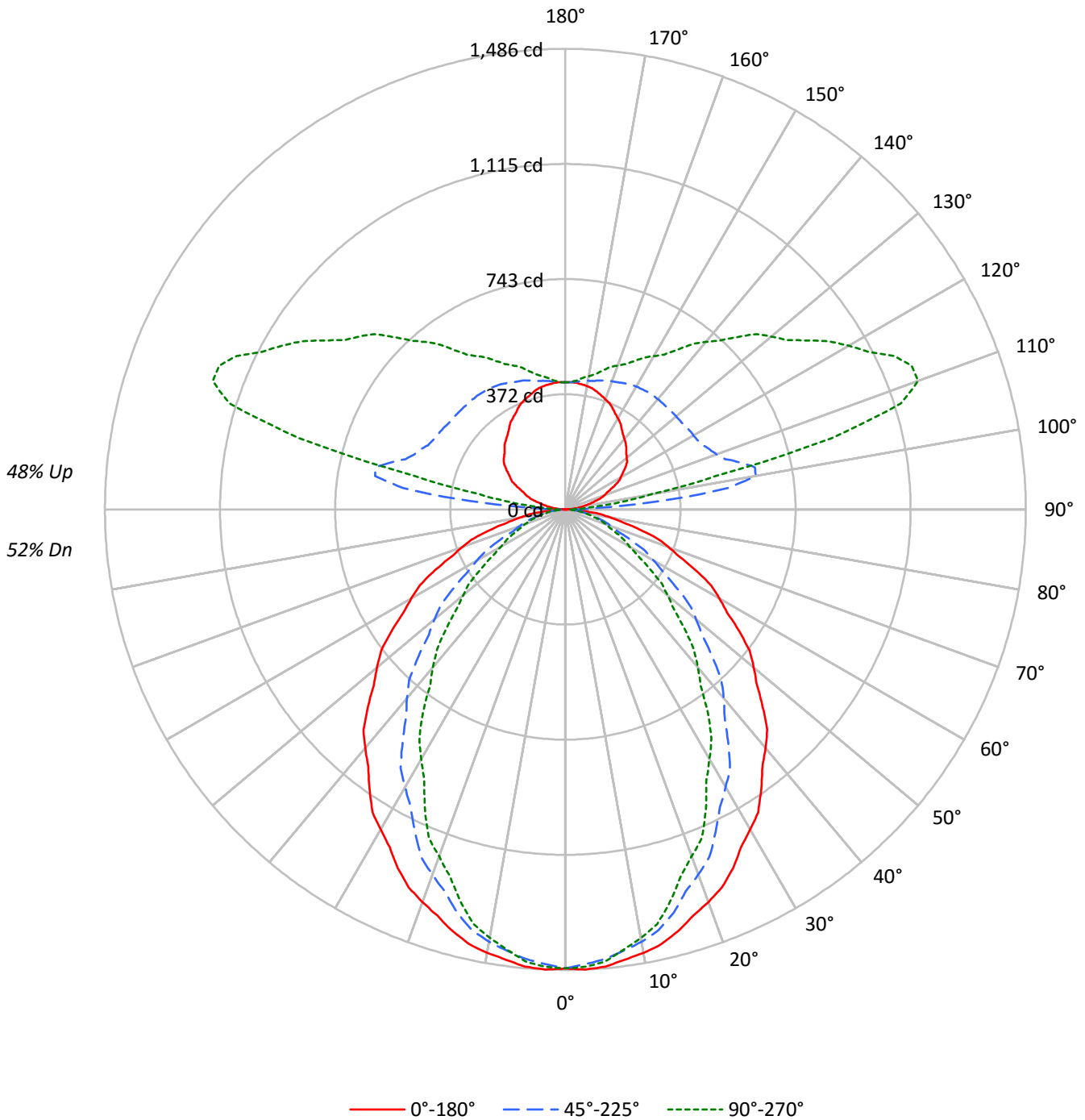
Lumens per Lamp: N/A
Luminaire Lumens: 5905.7 lumens
Efficiency: N/A
Efficacy: 108.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 54.4
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	99	99	99	99	84	84	84	70	70	70	58	58	58	52				52
1	99	94	91	87	91	88	84	81	75	72	70	63	61	60	52	51	50	44				44
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	46	44	43	38				38
3	83	73	66	61	76	68	62	57	59	54	50	50	46	43	41	39	37	33				33
4	76	65	58	52	70	61	54	49	52	47	43	45	41	38	37	34	32	29				29
5	70	58	51	45	64	55	48	42	47	42	38	40	36	33	34	31	28	25				25
6	64	53	45	39	60	49	42	37	43	37	33	37	32	29	31	28	25	22				22
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	23	20				20
8	56	43	36	31	51	41	34	29	36	30	26	31	26	23	26	23	20	18				18
9	52	40	32	27	48	37	31	26	33	27	24	28	24	21	24	21	19	16				16
10	48	37	30	25	45	34	28	24	30	25	21	26	22	19	22	19	17	15				15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23909	23909	23909
5°	24000	23608	23738
10°	23815	23222	23023
15°	23542	22534	21884
20°	23163	21551	20469
25°	22775	20436	19099
30°	22236	19287	17339
35°	21711	18039	15794
40°	21182	16750	14010
45°	20562	15299	12392
50°	19926	13835	10803
55°	19277	12262	9278
60°	18519	10601	7702
65°	17662	8909	7014
70°	16636	7336	6449
75°	15384	6687	6014
80°	13575	5979	5486
85°	10689	4705	4705



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.6	2.3
10°-20°	380.6	6.4
20°-30°	534.4	9.0
30°-40°	582.7	9.9
40°-50°	535.8	9.1
50°-60°	420.8	7.1
60°-70°	274.4	4.6
70°-80°	141.5	2.4
80°-90°	40.4	0.7
90°-100°	164.1	2.8
100°-110°	557.0	9.4
110°-120°	591.7	10.0
120°-130°	487.1	8.2
130°-140°	391.2	6.6
140°-150°	295.6	5.0
150°-160°	207.7	3.5
160°-170°	122.3	2.1
170°-180°	39.8	0.7
0°-30°	1053.6	17.8
0°-40°	1636.3	27.7
0°-60°	2593.0	43.9
0°-90°	3049.2	51.6
90°-120°	1312.8	22.2
90°-150°	2486.7	42.1
90°-180°	2856.0	48.4
0°-180°	5905.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1481	1481	1481	1481	1481	
5°	1481	1473	1457	1468	1465	140
15°	1408	1392	1348	1323	1309	397
25°	1278	1233	1147	1094	1072	588
35°	1102	1030	915	834	801	689
45°	900	808	670	578	543	695
55°	685	578	436	358	330	612
65°	462	353	233	190	184	458
75°	247	155	107	98	96	261
85°	58	31	25	25	25	68
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°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1486.1	1484.9	1483.7	1482.5	1481.4	1479.5	1476.8	1474.2	1471.6	1468.9	1471.4
5°	1480.8	1479.3	1477.7	1476.2	1474.8	1472.1	1468.2	1464.4	1460.5	1456.6	1459.3
7.5°	1465.4	1463.6	1461.8	1460.0	1458.0	1454.9	1450.4	1445.8	1441.3	1436.7	1437.5
10°	1452.6	1450.5	1448.4	1446.3	1444.2	1440.3	1434.3	1428.4	1422.4	1416.4	1415.5
12.5°	1436.5	1433.9	1431.4	1428.9	1426.2	1421.2	1413.5	1405.9	1398.3	1390.7	1389.1
15°	1408.4	1405.1	1401.8	1398.6	1395.2	1388.6	1378.5	1368.4	1358.2	1348.1	1342.4
17.5°	1373.8	1368.8	1363.8	1358.8	1353.8	1344.8	1331.8	1318.8	1305.9	1292.8	1286.2
20°	1348.1	1342.1	1336.2	1330.2	1324.2	1313.8	1298.9	1284.0	1269.2	1254.3	1246.8
22.5°	1320.2	1313.5	1306.9	1300.2	1293.5	1281.8	1265.0	1248.2	1231.4	1214.6	1205.0
25°	1278.4	1268.9	1259.3	1249.8	1240.3	1225.7	1206.0	1186.4	1166.7	1147.1	1134.9
27.5°	1228.0	1217.6	1207.3	1196.9	1186.6	1170.3	1148.1	1126.0	1103.8	1081.7	1067.4
30°	1192.7	1181.3	1170.0	1158.7	1147.4	1129.8	1106.0	1082.2	1058.3	1034.5	1019.4
32.5°	1158.3	1145.1	1131.9	1118.6	1105.4	1086.7	1062.4	1038.0	1013.8	989.5	972.2
35°	1101.5	1086.3	1071.2	1055.9	1040.8	1020.1	993.8	967.7	941.5	915.2	896.5
37.5°	1044.7	1028.0	1011.4	994.6	978.0	955.6	927.8	899.8	871.9	843.9	823.2
40°	1005.0	987.1	969.3	951.4	933.5	910.2	881.3	852.4	823.5	794.7	773.5
42.5°	964.3	945.4	926.7	907.9	889.0	864.6	834.9	805.0	775.2	745.3	723.5
45°	900.5	880.5	860.6	840.6	820.7	795.1	763.9	732.6	701.3	670.0	648.8
47.5°	838.3	817.2	796.1	774.9	753.8	727.0	694.8	662.5	630.2	597.9	576.9
50°	793.3	772.1	751.0	729.8	708.7	681.8	649.0	616.2	583.5	550.8	530.2
52.5°	749.3	727.2	705.2	683.1	661.0	633.9	601.9	569.8	537.8	505.7	485.8
55°	684.8	661.6	638.3	615.1	591.9	564.1	532.0	499.8	467.7	435.6	417.7
57.5°	618.5	594.7	570.9	547.0	523.3	495.9	464.9	434.0	403.1	372.2	355.9
60°	573.5	549.7	525.9	502.1	478.3	451.0	420.3	389.6	359.0	328.3	313.2
62.5°	529.6	505.7	481.9	458.1	434.2	407.8	378.5	349.3	320.0	290.7	276.3
65°	462.3	438.2	414.0	389.9	365.9	340.3	313.6	286.8	259.9	233.2	223.1
67.5°	397.5	373.5	349.6	325.6	301.6	277.6	253.6	229.4	205.3	181.2	176.5
70°	352.4	329.2	306.0	282.8	259.5	237.6	217.1	196.5	176.0	155.4	152.5
72.5°	309.5	287.3	265.0	242.8	220.5	201.1	184.6	168.0	151.6	135.1	132.6
75°	246.6	225.7	204.9	184.0	163.2	147.7	137.5	127.4	117.3	107.2	105.1
77.5°	184.7	166.3	148.0	129.8	111.5	100.0	95.0	90.2	85.3	80.4	79.2
80°	146.0	130.9	115.7	100.5	85.3	76.2	73.2	70.3	67.3	64.3	63.1
82.5°	110.7	98.9	86.9	75.1	63.3	56.4	54.3	52.3	50.3	48.3	47.6
85°	57.7	51.4	45.1	38.9	32.6	29.1	28.2	27.3	26.4	25.4	25.4
87.5°	17.3	15.9	14.6	13.0	11.4	10.9	11.7	12.8	13.8	13.9	13.5
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°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1473.7	1476.1	1478.4	1479.5	1478.9	1478.4	1478.0	1477.5
5°	1462.0	1464.6	1467.3	1468.2	1467.3	1466.4	1465.5	1464.6
7.5°	1438.4	1439.1	1439.9	1439.5	1437.9	1436.4	1434.8	1433.3
10°	1414.6	1413.7	1412.8	1411.5	1409.7	1408.0	1406.1	1404.3
12.5°	1387.5	1385.8	1384.2	1382.0	1379.0	1376.0	1373.0	1370.1
15°	1336.8	1331.1	1325.4	1321.1	1318.2	1315.1	1312.2	1309.2
17.5°	1279.4	1272.6	1266.0	1260.0	1254.9	1249.8	1244.7	1239.5
20°	1239.4	1231.9	1224.5	1217.5	1210.9	1204.4	1197.8	1191.3
22.5°	1195.5	1185.9	1176.3	1169.0	1164.2	1159.2	1154.4	1149.5
25°	1122.7	1110.4	1098.2	1089.8	1085.4	1081.0	1076.5	1072.1
27.5°	1053.2	1038.9	1024.7	1014.1	1007.0	999.9	992.8	985.7
30°	1004.1	989.0	973.7	962.1	954.1	946.0	938.1	930.0
32.5°	954.8	937.5	920.2	907.7	900.2	892.6	885.0	877.5
35°	877.7	859.0	840.2	827.6	821.0	814.5	807.9	801.3
37.5°	802.6	781.9	761.3	747.2	739.7	732.2	724.7	717.2
40°	752.3	731.2	710.0	695.6	687.9	680.1	672.4	664.7
42.5°	701.7	679.7	657.9	643.2	635.7	628.2	620.7	613.2
45°	627.7	606.6	585.4	571.3	564.1	557.0	549.9	542.7
47.5°	555.8	534.8	513.8	500.1	493.6	487.1	480.6	474.1
50°	509.7	489.1	468.6	455.1	448.9	442.6	436.4	430.1
52.5°	466.1	446.3	426.4	413.6	407.8	402.0	396.3	390.5
55°	399.8	381.9	364.1	352.2	346.6	340.9	335.3	329.6
57.5°	339.5	323.2	306.8	296.2	291.4	286.6	281.9	277.1
60°	297.9	282.8	267.5	257.6	252.8	248.0	243.3	238.5
62.5°	261.9	247.4	232.9	224.2	221.4	218.5	215.6	212.8
65°	212.9	202.8	192.7	187.1	186.2	185.4	184.5	183.6
67.5°	171.9	167.2	162.6	159.8	158.9	157.8	156.9	156.0
70°	149.5	146.5	143.5	141.5	140.3	139.1	137.8	136.6
72.5°	130.1	127.5	125.0	123.5	122.7	122.0	121.3	120.6
75°	103.0	101.0	98.9	97.7	97.4	97.0	96.7	96.4
77.5°	78.1	76.9	75.6	74.8	74.3	73.8	73.4	72.9
80°	61.9	60.8	59.6	59.0	59.0	59.0	59.0	59.0
82.5°	46.9	46.0	45.3	45.0	45.0	45.0	45.0	45.0
85°	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
87.5°	13.1	12.6	12.7	12.7	12.7	12.7	12.7	12.7
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: P331722-840

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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)