

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: P332669-927

Luminaire Tested: **S124DIP-S1020D1205U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332669-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D1205U927-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6918.0 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

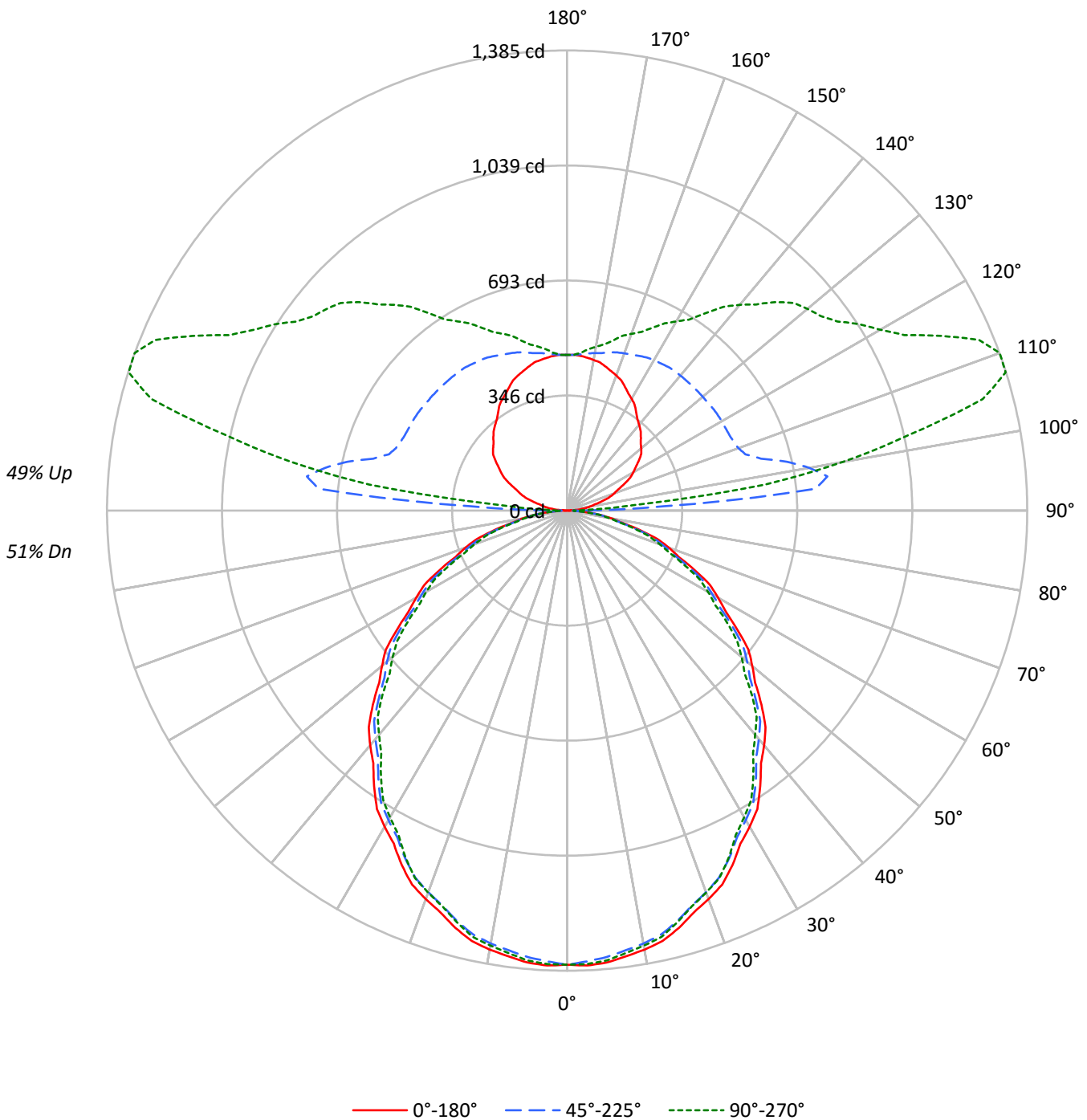
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	86	90	87	83	80	73	71	69	61	60	58	50	49	48	43
2	89	82	76	70	82	76	70	66	64	60	57	54	51	48	44	42	40	36
3	81	72	64	59	75	67	60	55	57	52	48	48	44	41	39	37	34	30
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	30	26
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	31	28	26	23
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	29	25	23	20
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	25	46	36	29	24	31	25	21	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11035	11035	11035
5°	11068	10935	11015
10°	10999	10846	10900
15°	10866	10692	10719
20°	10689	10501	10510
25°	10488	10283	10253
30°	10241	10026	9934
35°	9984	9758	9629
40°	9720	9454	9280
45°	9442	9154	8978
50°	9134	8887	8611
55°	8802	8541	8263
60°	8472	8152	7905
65°	8097	7782	7469
70°	7678	7291	7006
75°	7037	6697	6525
80°	6267	6007	5858
85°	5483	5280	5169



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.7	1.9
10°-20°	362.7	5.2
20°-30°	533.8	7.7
30°-40°	620.6	9.0
40°-50°	620.6	9.0
50°-60°	542.9	7.8
60°-70°	403.2	5.8
70°-80°	229.1	3.3
80°-90°	68.7	1.0
90°-100°	338.4	4.9
100°-110°	704.3	10.2
110°-120°	630.9	9.1
120°-130°	530.7	7.7
130°-140°	442.5	6.4
140°-150°	338.0	4.9
150°-160°	237.6	3.4
160°-170°	139.8	2.0
170°-180°	45.5	0.7
0°-30°	1025.2	14.8
0°-40°	1645.9	23.8
0°-60°	2809.4	40.6
0°-90°	3510.3	50.7
90°-120°	1673.6	24.2
90°-150°	2984.8	43.1
90°-180°	3408.0	49.3
0°-180°	6918.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1366	1361	1349	1361	1359	129
15°	1300	1295	1279	1285	1282	366
25°	1177	1169	1154	1155	1151	541
35°	1013	1005	990	983	977	633
45°	827	819	802	790	786	637
55°	625	621	607	594	587	560
65°	424	418	407	397	391	420
75°	226	220	215	210	209	240
85°	59	59	57	57	56	65
90°	1	7	17	18	19	5
95°	30	96	750	371	225	34
105°	108	156	604	1300	1295	115
115°	190	238	538	1035	1244	188
125°	264	314	536	880	992	235
135°	314	374	531	782	887	243
145°	362	414	528	659	724	227
155°	412	444	514	582	607	190
165°	448	462	492	522	529	127
175°	468	469	472	479	477	44
180°	469	469	469	469	469	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9
2.5°	1370.4	1369.8	1369.2	1368.7	1368.1	1366.7	1364.5	1362.4	1360.3	1358.1	1360.1
5°	1365.8	1364.9	1363.9	1362.9	1361.9	1360.1	1357.4	1354.7	1352.1	1349.4	1352.1
7.5°	1353.1	1352.1	1351.1	1350.2	1349.2	1347.3	1344.3	1341.3	1338.3	1335.4	1337.5
10°	1341.7	1340.8	1339.7	1338.8	1337.8	1335.8	1332.6	1329.4	1326.3	1323.1	1325.0
12.5°	1326.8	1325.9	1324.8	1323.9	1322.9	1320.7	1317.4	1314.1	1310.7	1307.3	1309.5
15°	1300.1	1299.1	1298.1	1297.2	1296.2	1293.9	1290.2	1286.6	1282.9	1279.3	1280.7
17.5°	1267.9	1266.7	1265.4	1264.2	1263.1	1260.7	1257.2	1253.8	1250.3	1246.9	1247.8
20°	1244.2	1243.0	1241.8	1240.6	1239.4	1236.9	1233.3	1229.6	1226.0	1222.3	1223.1
22.5°	1218.9	1217.2	1215.6	1214.0	1212.4	1209.7	1206.1	1202.5	1198.8	1195.2	1196.5
25°	1177.4	1175.8	1174.0	1172.3	1170.6	1168.1	1164.7	1161.3	1157.9	1154.4	1154.7
27.5°	1130.1	1128.4	1126.6	1124.8	1123.1	1120.6	1117.5	1114.3	1111.1	1107.9	1107.4
30°	1098.6	1096.6	1094.6	1092.7	1090.8	1088.2	1085.1	1081.9	1078.7	1075.5	1074.6
32.5°	1065.2	1063.5	1061.8	1060.0	1058.3	1055.7	1052.3	1049.0	1045.6	1042.3	1041.1
35°	1013.1	1011.5	1009.7	1008.1	1006.3	1003.8	1000.4	997.0	993.6	990.1	988.4
37.5°	958.1	956.6	955.1	953.5	951.9	949.4	945.6	942.0	938.3	934.7	932.9
40°	922.3	920.3	918.3	916.4	914.4	911.6	908.0	904.4	900.7	897.1	894.6
42.5°	883.7	882.5	881.3	880.2	879.0	876.4	872.4	868.3	864.3	860.2	857.4
45°	827.0	825.2	823.6	821.8	820.1	817.3	813.4	809.5	805.6	801.8	799.1
47.5°	767.5	766.4	765.2	764.1	762.9	760.5	756.9	753.3	749.7	746.1	743.1
50°	727.3	726.3	725.3	724.4	723.3	721.2	717.8	714.4	711.0	707.6	704.2
52.5°	687.9	686.7	685.5	684.4	683.2	680.8	677.2	673.6	669.9	666.4	663.4
55°	625.4	624.6	623.9	623.2	622.5	620.4	617.0	613.6	610.2	606.8	603.9
57.5°	565.9	565.0	564.2	563.3	562.5	560.4	557.1	553.7	550.3	547.0	544.2
60°	524.7	523.4	522.2	521.0	519.8	517.6	514.4	511.3	508.1	504.9	502.7
62.5°	484.3	483.3	482.3	481.3	480.2	478.1	474.7	471.3	467.9	464.6	462.6
65°	423.9	422.6	421.4	420.3	419.0	417.2	414.7	412.3	409.9	407.4	405.0
67.5°	363.0	361.9	360.8	359.7	358.5	356.8	354.4	352.1	349.7	347.5	345.1
70°	325.3	323.6	321.9	320.2	318.5	316.6	314.7	312.8	310.9	308.9	306.9
72.5°	285.0	283.3	281.6	279.9	278.2	276.6	275.0	273.5	271.9	270.3	268.8
75°	225.6	224.4	223.2	222.0	220.8	219.5	218.3	217.1	215.9	214.7	213.7
77.5°	168.9	168.3	167.8	167.3	166.8	166.0	164.9	163.8	162.7	161.7	161.4
80°	134.8	134.0	133.2	132.5	131.8	131.2	130.7	130.2	129.8	129.2	128.7
82.5°	101.4	101.1	100.8	100.4	100.1	99.8	99.7	99.7	99.6	99.4	99.2
85°	59.2	59.2	59.2	59.2	59.2	58.9	58.4	57.9	57.4	57.0	57.0
87.5°	23.0	23.1	23.5	23.4	23.4	23.3	24.2	24.0	24.2	24.3	24.2
90°	1.0	2.8	5.5	6.4	7.4	7.4	12.9	12.9	14.7	16.6	15.7
92.5°	10.5	15.3	23.9	35.2	48.6	67.7	114.5	185.9	255.6	292.0	243.2
95°	30.3	33.1	42.4	54.3	76.4	115.1	195.1	346.1	566.1	750.2	771.4
97.5°	54.5	54.5	62.4	73.4	92.4	124.8	186.5	311.2	529.8	790.2	969.2
100°	69.9	69.9	76.4	87.5	105.0	134.4	188.7	292.7	480.5	740.1	975.7
102.5°	84.7	86.2	91.9	102.2	118.9	146.9	196.1	287.6	447.3	677.5	920.5
105°	107.7	110.4	115.1	126.1	142.7	169.4	213.6	289.9	418.8	603.9	820.1
107.5°	133.1	134.9	139.6	151.3	167.2	193.5	234.0	303.6	413.7	562.6	739.2
110°	150.0	151.9	156.5	167.5	184.1	209.0	249.5	313.9	415.2	548.7	698.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	166.3	168.1	173.4	183.7	200.3	225.1	264.2	325.0	419.5	542.0	675.8
115°	189.6	192.4	198.8	208.0	225.5	250.4	287.2	342.5	428.0	538.5	654.5
117.5°	213.9	216.5	222.2	232.3	248.7	274.5	309.5	360.3	437.0	537.6	644.9
120°	230.1	232.0	238.4	248.5	264.2	289.9	325.0	372.8	443.7	537.6	639.8
122.5°	244.9	246.7	253.2	262.5	279.6	304.7	339.7	384.6	450.4	536.9	633.9
125°	264.2	267.8	273.4	283.5	301.0	326.8	359.9	402.3	460.3	535.8	624.1
127.5°	281.3	284.2	290.9	302.5	320.7	346.7	378.7	417.6	468.2	533.7	611.0
130°	290.9	294.5	301.9	315.8	333.2	359.9	391.3	427.1	474.0	533.0	602.9
132.5°	300.5	303.4	313.0	326.1	345.0	370.3	401.6	436.7	479.2	532.3	595.6
135°	313.9	317.6	326.8	342.5	361.8	385.7	416.1	449.2	487.0	531.2	584.6
137.5°	327.3	330.8	341.0	355.8	376.0	398.8	427.1	458.0	491.5	530.9	575.0
140°	336.9	339.7	349.8	365.4	384.8	406.9	434.5	463.9	495.3	530.2	569.8
142.5°	347.2	350.0	359.3	374.3	392.8	414.2	441.1	468.3	498.2	530.2	565.4
145°	361.8	364.6	373.8	386.6	404.1	424.4	448.3	473.2	499.9	528.4	557.9
147.5°	378.1	379.1	387.1	400.4	414.9	433.2	455.7	477.4	500.7	525.1	551.0
150°	388.5	389.4	396.7	407.8	421.6	439.1	459.3	479.6	500.7	522.8	545.9
152.5°	398.0	398.2	405.6	415.9	428.3	444.3	462.3	481.1	499.3	519.2	540.0
155°	411.5	412.4	417.9	427.1	437.3	451.1	466.7	482.4	497.1	513.7	531.2
157.5°	424.5	424.5	429.7	436.9	445.7	456.6	469.8	482.4	494.7	507.9	522.1
160°	432.6	432.6	436.3	442.8	450.1	460.3	471.3	482.4	492.5	503.5	515.5
162.5°	440.0	439.3	442.2	447.9	454.6	462.5	472.8	482.4	490.3	499.1	509.6
165°	448.3	448.3	450.1	454.7	459.3	464.9	473.2	480.5	486.0	492.5	499.9
167.5°	456.6	455.7	456.6	460.1	462.6	466.9	472.9	478.3	481.6	485.8	491.0
170°	460.3	459.3	460.3	463.0	464.9	467.6	472.2	476.8	478.6	481.4	485.1
172.5°	463.9	463.0	463.2	465.2	466.4	468.3	471.5	475.4	475.7	477.0	480.0
175°	467.6	466.7	466.7	467.6	468.6	468.6	470.4	473.2	472.2	472.2	474.0
177.5°	469.3	468.6	467.8	468.6	468.6	468.6	469.3	470.7	469.3	469.3	470.0
180°	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9
2.5°	1362.0	1364.0	1366.0	1366.8	1366.6	1366.4	1366.2	1366.0
5°	1354.7	1357.4	1360.1	1361.2	1360.7	1360.2	1359.7	1359.2
7.5°	1339.7	1341.8	1343.9	1344.9	1344.6	1344.3	1343.9	1343.7
10°	1327.0	1329.0	1330.9	1331.6	1331.1	1330.6	1330.2	1329.7
12.5°	1311.6	1313.8	1315.9	1316.6	1316.0	1315.3	1314.5	1313.9
15°	1282.2	1283.7	1285.2	1285.5	1284.8	1284.0	1283.3	1282.5
17.5°	1248.7	1249.7	1250.5	1250.8	1250.3	1249.8	1249.4	1248.8
20°	1223.8	1224.6	1225.3	1225.3	1224.9	1224.4	1223.9	1223.4
22.5°	1197.8	1199.1	1200.4	1200.6	1199.8	1198.9	1198.0	1197.1
25°	1154.9	1155.2	1155.4	1155.0	1154.1	1153.1	1152.1	1151.1
27.5°	1106.8	1106.2	1105.6	1104.8	1103.5	1102.3	1101.1	1099.9
30°	1073.6	1072.6	1071.7	1070.6	1069.4	1068.1	1066.9	1065.7
32.5°	1039.9	1038.8	1037.6	1036.4	1035.1	1034.0	1032.8	1031.5
35°	986.7	985.0	983.3	981.8	980.6	979.5	978.2	977.0
37.5°	931.0	929.2	927.3	925.6	924.0	922.3	920.8	919.2
40°	892.2	889.7	887.3	885.5	884.2	883.0	881.9	880.6
42.5°	854.6	851.8	848.9	847.1	846.3	845.4	844.6	843.8
45°	796.4	793.7	791.0	789.3	788.6	787.9	787.1	786.4
47.5°	740.1	737.0	734.0	731.6	729.8	727.9	726.0	724.2
50°	700.8	697.4	694.0	691.5	690.0	688.6	687.1	685.6
52.5°	660.4	657.3	654.3	651.9	650.0	648.2	646.3	644.4
55°	600.9	598.0	595.1	592.9	591.4	590.0	588.5	587.1
57.5°	541.5	538.7	535.9	533.8	532.3	531.0	529.6	528.1
60°	500.6	498.4	496.1	494.5	493.2	492.0	490.8	489.6
62.5°	460.7	458.6	456.6	455.0	453.8	452.6	451.4	450.2
65°	402.6	400.1	397.7	395.9	394.7	393.5	392.2	391.0
67.5°	342.8	340.4	338.1	336.8	336.4	336.0	335.7	335.4
70°	305.0	303.0	301.1	299.8	299.0	298.3	297.5	296.8
72.5°	267.2	265.6	264.1	262.9	262.2	261.5	260.8	260.0
75°	212.7	211.8	210.8	210.2	209.9	209.7	209.5	209.2
77.5°	161.1	160.8	160.5	160.0	159.4	158.8	158.1	157.5
80°	128.3	127.8	127.3	126.9	126.7	126.4	126.2	126.0
82.5°	98.9	98.5	98.3	98.0	97.8	97.5	97.3	97.0
85°	57.0	57.0	57.0	56.8	56.6	56.3	56.1	55.8
87.5°	24.3	24.6	24.7	24.7	24.9	25.1	24.9	24.9
90°	16.6	17.5	18.4	18.4	19.3	20.3	19.3	19.3
92.5°	180.8	136.0	108.3	89.8	79.0	74.0	70.9	70.9
95°	682.1	539.4	416.1	326.8	281.7	253.2	236.5	224.6
97.5°	1007.8	954.7	864.7	768.7	702.5	647.1	619.5	600.4
100°	1110.2	1128.5	1083.5	1015.3	935.3	879.1	851.5	844.1
102.5°	1105.0	1196.3	1209.3	1181.0	1131.9	1091.2	1062.1	1056.2
105°	1030.9	1190.3	1281.4	1319.1	1321.0	1313.6	1300.7	1295.1
107.5°	925.8	1095.4	1223.8	1305.8	1351.3	1372.3	1381.5	1383.9
110°	862.5	1021.8	1155.2	1256.5	1321.8	1360.5	1377.1	1385.4



TEST NUMBER: P332669-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	816.1	957.0	1083.1	1184.3	1258.5	1305.3	1328.5	1342.0
115°	769.5	882.8	990.5	1078.9	1151.6	1206.8	1236.3	1243.6
117.5°	746.7	840.4	925.1	1000.1	1062.1	1108.5	1138.3	1144.0
120°	736.4	822.0	895.6	961.0	1013.5	1054.0	1077.9	1088.1
122.5°	727.5	810.2	877.3	934.5	978.9	1013.5	1033.7	1043.9
125°	712.5	791.6	855.2	905.8	942.6	969.3	986.8	992.3
127.5°	694.0	769.8	833.1	881.1	918.1	941.9	956.6	962.1
130°	679.4	752.1	814.7	863.5	901.2	924.2	938.9	944.4
132.5°	663.8	732.2	793.3	842.1	879.1	905.1	919.0	924.6
135°	642.5	702.3	758.5	804.5	841.4	867.1	881.9	887.4
137.5°	623.2	673.8	721.1	762.7	797.2	822.6	834.7	841.4
140°	612.1	655.4	696.8	735.5	767.7	788.0	800.8	808.2
142.5°	601.8	639.9	675.5	709.0	737.5	756.3	767.7	772.9
145°	587.3	618.6	646.2	672.0	695.0	710.7	719.9	724.5
147.5°	575.4	600.2	622.3	642.5	659.5	672.9	679.9	681.5
150°	568.0	589.1	607.5	624.1	638.8	650.8	656.3	657.3
152.5°	559.8	578.1	595.0	608.6	621.2	630.9	634.2	635.2
155°	547.7	562.4	576.2	587.3	596.5	603.9	606.7	606.7
157.5°	534.6	547.0	558.6	567.4	574.4	580.0	581.6	581.6
160°	526.6	536.6	546.8	554.1	559.7	565.2	566.1	566.1
162.5°	518.4	527.1	535.0	541.6	545.7	551.2	552.2	551.4
165°	507.2	512.7	519.2	523.8	527.4	531.2	530.2	529.3
167.5°	496.4	500.6	505.7	508.5	510.3	512.7	512.5	511.8
170°	489.7	492.5	496.1	498.9	500.7	501.7	500.7	500.7
172.5°	483.8	485.8	488.1	490.0	491.2	492.1	491.2	489.7
175°	475.9	476.8	478.6	478.6	478.6	480.5	478.6	476.8
177.5°	470.7	471.5	471.5	472.2	471.5	472.2	470.7	469.3
180°	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6

(END OF REPORT)