

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: P331840-830

Luminaire Tested: **S122RDIW-S865D1240U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331840-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S865D1240U830-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6897.8 lumens
Efficiency: N/A
Efficacy: 98.8 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

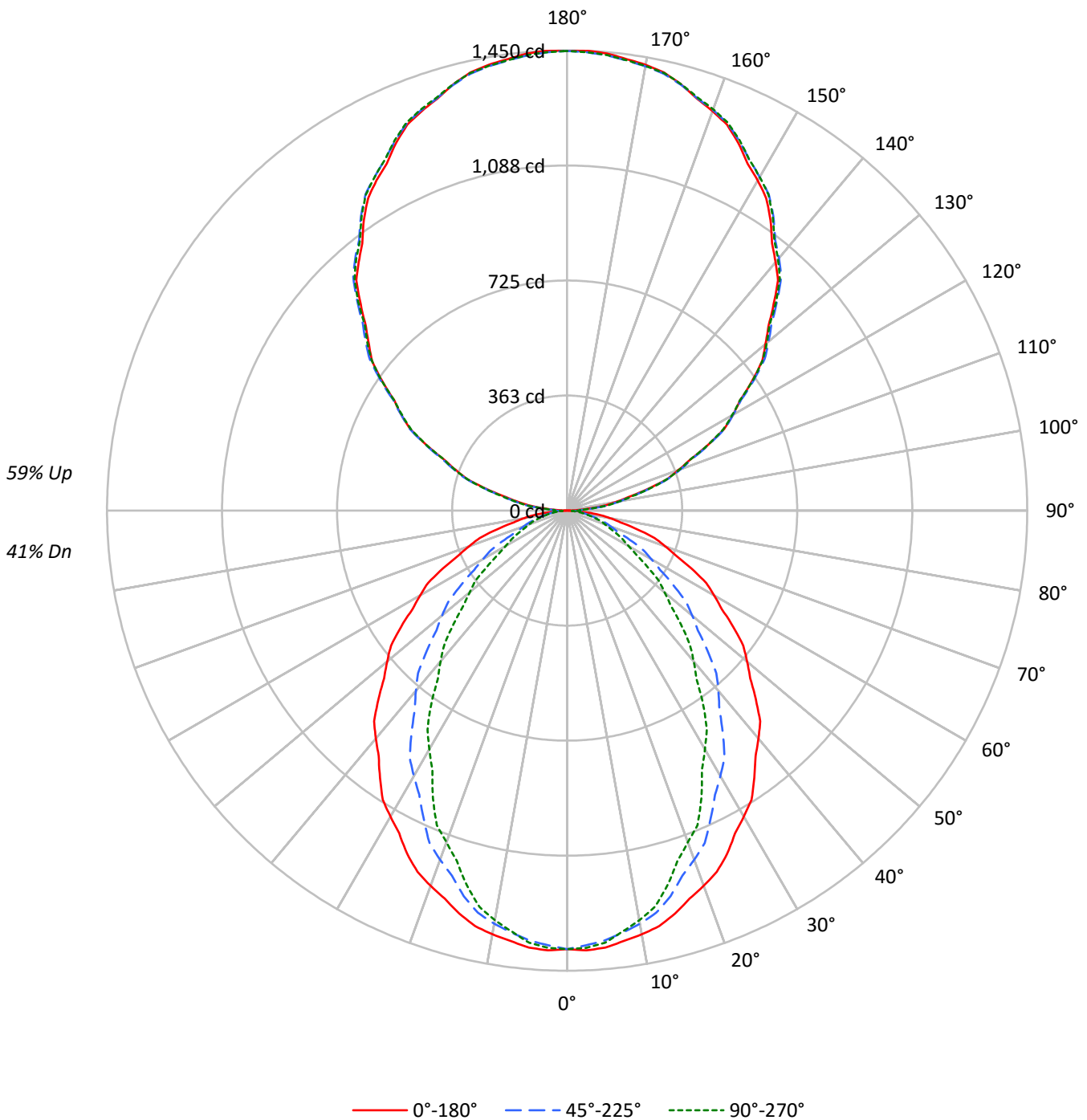
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	36
2	88	81	75	70	80	74	69	65	61	58	55	49	47	45	38	37	35	30
3	80	71	64	59	73	65	59	55	54	50	46	44	41	38	34	32	31	26
4	74	63	56	50	67	58	52	47	48	44	40	39	36	33	31	29	27	23
5	68	57	49	43	62	52	45	40	44	38	34	36	32	29	28	26	23	20
6	63	51	43	37	57	47	40	35	39	34	30	32	28	26	26	23	21	18
7	58	46	38	33	53	42	36	31	36	31	27	29	26	23	23	21	19	16
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	22	19	17	14
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13
10	47	35	28	23	43	33	26	22	28	23	19	23	19	17	19	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22315	22315	22315
5°	22400	22034	22156
10°	22228	21674	21489
15°	21972	21031	20425
20°	21618	20113	19105
25°	21257	19073	17826
30°	20752	18000	16183
35°	20262	16837	14741
40°	19770	15633	13076
45°	19192	14280	11565
50°	18600	12913	10083
55°	17990	11443	8659
60°	17286	9894	7188
65°	16485	8313	6548
70°	15526	6850	6019
75°	14361	6245	5614
80°	12673	5579	5114
85°	9967	4409	4409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	1.9
10°-20°	355.2	5.1
20°-30°	498.8	7.2
30°-40°	543.9	7.9
40°-50°	500.1	7.3
50°-60°	392.8	5.7
60°-70°	256.1	3.7
70°-80°	132.0	1.9
80°-90°	40.0	0.6
90°-100°	91.8	1.3
100°-110°	285.0	4.1
110°-120°	487.2	7.1
120°-130°	640.7	9.3
130°-140°	719.1	10.4
140°-150°	705.1	10.2
150°-160°	591.4	8.6
160°-170°	392.2	5.7
170°-180°	137.1	2.0
0°-30°	983.3	14.3
0°-40°	1527.2	22.1
0°-60°	2420.1	35.1
0°-90°	2848.3	41.3
90°-120°	864.0	12.5
90°-150°	2928.8	42.5
90°-180°	4050.0	58.7
0°-180°	6897.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1382	1382	1382	1382	1382	
5°	1382	1375	1360	1370	1367	131
15°	1314	1299	1258	1235	1222	370
25°	1193	1151	1071	1021	1001	548
35°	1028	962	854	778	748	643
45°	840	754	625	540	506	649
55°	639	539	406	334	308	571
65°	432	330	218	177	171	428
75°	230	145	100	92	90	244
85°	54	29	24	24	24	63
90°	1	17	43	40	42	6
95°	64	75	78	78	76	73
105°	263	266	269	271	271	277
115°	489	496	494	492	489	483
125°	711	721	719	715	714	635
135°	920	933	936	935	931	711
145°	1117	1126	1133	1134	1129	698
155°	1277	1281	1284	1290	1287	588
165°	1390	1388	1388	1396	1391	392
175°	1446	1442	1440	1447	1441	137
180°	1448	1448	1448	1448	1448	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1387.0	1385.9	1384.8	1383.7	1382.6	1380.8	1378.4	1375.9	1373.5	1371.0	1373.3
5°	1382.1	1380.6	1379.2	1377.8	1376.5	1373.9	1370.4	1366.8	1363.1	1359.5	1362.0
7.5°	1367.7	1366.0	1364.3	1362.6	1360.8	1357.9	1353.7	1349.4	1345.2	1341.0	1341.7
10°	1355.8	1353.8	1351.9	1349.9	1347.9	1344.3	1338.7	1333.1	1327.6	1322.0	1321.2
12.5°	1340.8	1338.3	1336.0	1333.6	1331.2	1326.4	1319.3	1312.2	1305.0	1298.0	1296.5
15°	1314.5	1311.5	1308.3	1305.3	1302.2	1296.0	1286.6	1277.1	1267.6	1258.2	1252.9
17.5°	1282.2	1277.5	1272.9	1268.2	1263.6	1255.2	1243.0	1230.9	1218.8	1206.6	1200.4
20°	1258.2	1252.6	1247.1	1241.5	1236.0	1226.2	1212.3	1198.4	1184.6	1170.6	1163.7
22.5°	1232.2	1226.0	1219.7	1213.5	1207.3	1196.4	1180.6	1165.0	1149.3	1133.6	1124.6
25°	1193.2	1184.3	1175.4	1166.5	1157.6	1144.0	1125.6	1107.3	1088.9	1070.6	1059.2
27.5°	1146.1	1136.4	1126.8	1117.1	1107.5	1092.3	1071.6	1050.9	1030.2	1009.6	996.3
30°	1113.1	1102.6	1092.0	1081.5	1070.9	1054.5	1032.3	1010.0	987.8	965.5	951.4
32.5°	1081.1	1068.7	1056.4	1044.1	1031.7	1014.3	991.6	968.8	946.2	923.5	907.4
35°	1028.0	1013.9	999.8	985.5	971.4	952.1	927.6	903.1	878.7	854.2	836.7
37.5°	975.1	959.5	944.0	928.3	912.8	891.9	865.9	839.8	813.8	787.7	768.4
40°	938.0	921.3	904.7	888.0	871.3	849.5	822.6	795.6	768.6	741.7	721.9
42.5°	900.0	882.4	864.9	847.3	829.7	807.0	779.2	751.3	723.5	695.6	675.2
45°	840.5	821.8	803.2	784.6	766.0	742.1	712.9	683.7	654.5	625.4	605.6
47.5°	782.4	762.7	743.0	723.2	703.5	678.5	648.5	618.3	588.1	558.1	538.5
50°	740.5	720.7	701.0	681.2	661.5	636.3	605.8	575.1	544.6	514.1	494.8
52.5°	699.4	678.7	658.2	637.5	616.9	591.6	561.8	531.8	501.9	472.0	453.5
55°	639.1	617.5	595.8	574.1	552.4	526.5	496.5	466.5	436.5	406.5	389.8
57.5°	577.3	555.1	532.8	510.6	488.4	462.9	433.9	405.1	376.3	347.4	332.2
60°	535.3	513.0	490.9	468.6	446.4	420.9	392.3	363.6	335.1	306.4	292.3
62.5°	494.3	472.0	449.8	427.5	405.3	380.6	353.3	326.0	298.7	271.4	257.9
65°	431.5	409.0	386.4	363.9	341.5	317.6	292.7	267.7	242.6	217.6	208.2
67.5°	371.0	348.6	326.3	303.9	281.5	259.1	236.7	214.1	191.6	169.1	164.8
70°	328.9	307.3	285.6	263.9	242.2	221.8	202.6	183.4	164.3	145.1	142.3
72.5°	288.9	268.2	247.3	226.6	205.8	187.7	172.3	156.8	141.5	126.1	123.8
75°	230.2	210.7	191.2	171.7	152.3	137.9	128.4	118.9	109.5	100.1	98.1
77.5°	172.4	155.2	138.2	121.1	104.1	93.3	88.7	84.2	79.6	75.0	73.9
80°	136.3	122.2	108.0	93.8	79.6	71.2	68.3	65.6	62.8	60.0	58.9
82.5°	103.3	92.3	81.2	70.1	59.1	52.6	50.7	48.8	46.9	45.1	44.4
85°	53.8	48.0	42.1	36.3	30.4	27.1	26.3	25.4	24.6	23.8	23.8
87.5°	16.2	15.1	14.0	12.9	11.8	11.8	13.0	14.1	15.4	16.6	16.2
90°	1.2	4.5	7.7	11.0	14.2	18.9	24.9	30.8	36.8	42.8	42.2
92.5°	21.8	24.1	26.6	28.9	31.3	33.2	34.6	36.0	37.4	38.8	38.9
95°	63.5	66.3	69.0	71.7	74.5	76.1	76.6	77.1	77.7	78.2	78.2
97.5°	116.1	118.5	120.9	123.3	125.6	127.3	128.4	129.4	130.4	131.5	131.5
100°	155.2	157.4	159.6	161.7	163.9	165.4	166.2	167.0	167.9	168.6	168.6
102.5°	196.2	198.0	199.7	201.5	203.2	204.6	205.7	206.7	207.7	208.8	209.0
105°	262.8	263.5	264.4	265.2	266.0	266.7	267.2	267.8	268.3	268.9	269.4
107.5°	329.7	330.9	332.2	333.3	334.5	335.1	335.1	335.1	335.1	335.1	335.4
110°	372.8	374.4	376.0	377.7	379.3	380.1	380.1	380.1	380.1	380.1	380.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	419.7	421.3	422.9	424.6	426.2	426.9	426.7	426.5	426.2	426.0	425.4
115°	488.9	490.5	492.1	493.7	495.4	495.9	495.4	494.8	494.3	493.7	493.5
117.5°	557.8	560.0	562.1	564.3	566.5	566.8	565.2	563.7	562.2	560.7	560.1
120°	603.7	605.9	608.1	610.3	612.5	612.5	610.3	608.1	605.9	603.7	603.7
122.5°	645.7	648.4	651.0	653.6	656.2	656.8	655.3	653.7	652.1	650.6	650.0
125°	711.2	713.7	716.1	718.6	721.0	721.9	721.0	720.3	719.4	718.6	717.8
127.5°	775.1	778.2	781.3	784.4	787.5	788.5	787.6	786.6	785.6	784.6	783.6
130°	815.2	818.7	822.3	825.8	829.2	830.8	830.3	829.7	829.2	828.6	828.0
132.5°	860.2	863.0	865.9	868.7	871.7	873.2	873.3	873.4	873.5	873.5	872.4
135°	920.3	923.2	926.2	929.3	932.3	934.0	934.5	935.1	935.7	936.1	935.9
137.5°	983.5	986.0	988.4	990.9	993.3	994.9	995.6	996.4	997.0	997.8	997.6
140°	1021.7	1024.2	1026.6	1029.1	1031.5	1033.4	1034.7	1036.1	1037.5	1038.8	1038.8
142.5°	1060.8	1063.3	1065.7	1068.2	1070.6	1072.2	1073.2	1074.1	1075.1	1076.0	1076.2
145°	1117.0	1119.0	1120.9	1122.8	1124.6	1126.4	1128.0	1129.6	1131.3	1132.9	1133.2
147.5°	1167.2	1169.4	1171.7	1174.0	1176.3	1178.0	1179.0	1180.2	1181.2	1182.3	1182.9
150°	1201.4	1203.0	1204.7	1206.3	1207.9	1209.3	1210.3	1211.4	1212.5	1213.6	1214.4
152.5°	1231.7	1233.3	1234.9	1236.5	1238.2	1239.6	1241.0	1242.3	1243.6	1244.9	1245.9
155°	1277.1	1278.0	1278.7	1279.6	1280.4	1281.2	1282.0	1282.8	1283.6	1284.5	1285.8
157.5°	1316.0	1316.5	1317.1	1317.7	1318.1	1318.7	1319.2	1319.7	1320.1	1320.7	1322.5
160°	1339.4	1340.0	1340.6	1341.1	1341.6	1342.1	1342.3	1342.6	1342.8	1343.1	1344.7
162.5°	1360.9	1361.1	1361.2	1361.3	1361.4	1361.6	1361.9	1362.2	1362.4	1362.7	1364.5
165°	1389.6	1389.3	1389.0	1388.7	1388.5	1388.4	1388.4	1388.4	1388.4	1388.4	1390.3
167.5°	1413.5	1412.7	1411.9	1411.1	1410.2	1409.9	1409.8	1409.8	1409.7	1409.6	1411.6
170°	1426.3	1425.4	1424.7	1423.8	1423.0	1422.5	1422.2	1421.9	1421.6	1421.4	1423.2
172.5°	1435.0	1434.3	1433.4	1432.6	1431.8	1431.3	1431.0	1430.7	1430.4	1430.1	1432.1
175°	1445.8	1445.0	1444.2	1443.3	1442.6	1441.9	1441.3	1440.8	1440.2	1439.6	1441.6
177.5°	1450.2	1449.5	1448.9	1448.2	1447.6	1447.1	1446.6	1446.1	1445.8	1445.3	1446.6
180°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1375.5	1377.7	1379.9	1380.8	1380.4	1379.9	1379.5	1379.0
5°	1364.5	1367.0	1369.5	1370.4	1369.5	1368.7	1367.8	1367.0
7.5°	1342.5	1343.1	1343.9	1343.5	1342.1	1340.7	1339.2	1337.8
10°	1320.3	1319.5	1318.6	1317.4	1315.7	1314.1	1312.4	1310.7
12.5°	1295.0	1293.5	1291.9	1289.9	1287.0	1284.3	1281.5	1278.7
15°	1247.6	1242.4	1237.1	1233.0	1230.3	1227.5	1224.7	1221.9
17.5°	1194.1	1187.8	1181.6	1176.0	1171.2	1166.5	1161.7	1156.9
20°	1156.8	1149.8	1142.8	1136.3	1130.2	1124.1	1117.9	1111.9
22.5°	1115.8	1106.8	1097.9	1091.1	1086.6	1081.9	1077.4	1072.9
25°	1047.8	1036.4	1025.0	1017.2	1013.0	1008.9	1004.8	1000.6
27.5°	983.0	969.7	956.4	946.5	939.9	933.2	926.6	920.0
30°	937.2	923.0	908.8	898.0	890.5	883.0	875.5	868.0
32.5°	891.2	875.0	858.8	847.2	840.2	833.1	826.0	819.0
35°	819.2	801.7	784.2	772.4	766.3	760.2	754.0	747.9
37.5°	749.1	729.8	710.6	697.4	690.4	683.3	676.4	669.4
40°	702.2	682.5	662.7	649.2	642.1	634.8	627.5	620.4
42.5°	654.9	634.4	614.1	600.3	593.3	586.4	579.3	572.3
45°	585.9	566.2	546.4	533.2	526.5	519.9	513.2	506.5
47.5°	518.8	499.2	479.6	466.7	460.7	454.6	448.6	442.5
50°	475.7	456.5	437.3	424.8	419.0	413.1	407.3	401.4
52.5°	435.0	416.5	397.9	386.1	380.6	375.2	369.9	364.5
55°	373.2	356.5	339.8	328.8	323.5	318.2	312.9	307.6
57.5°	316.9	301.6	286.3	276.4	272.0	267.5	263.1	258.6
60°	278.1	263.9	249.7	240.4	235.9	231.5	227.1	222.6
62.5°	244.4	230.9	217.4	209.2	206.6	204.0	201.2	198.6
65°	198.7	189.3	179.8	174.7	173.8	173.1	172.2	171.4
67.5°	160.4	156.1	151.7	149.1	148.3	147.3	146.5	145.6
70°	139.5	136.8	133.9	132.1	130.9	129.8	128.7	127.5
72.5°	121.4	119.0	116.7	115.3	114.5	113.9	113.2	112.5
75°	96.1	94.3	92.3	91.1	90.9	90.6	90.3	90.0
77.5°	72.9	71.7	70.6	69.8	69.4	68.9	68.5	68.1
80°	57.8	56.7	55.6	55.0	55.0	55.0	55.0	55.0
82.5°	43.7	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
87.5°	15.9	15.6	15.3	15.1	15.2	15.2	15.3	15.3
90°	41.7	41.2	40.6	40.4	40.7	41.0	41.3	41.6
92.5°	39.1	39.2	39.3	39.4	39.4	39.5	39.6	39.6
95°	78.2	78.2	78.2	77.9	77.4	76.8	76.3	75.8
97.5°	131.5	131.5	131.5	131.5	131.4	131.4	131.3	131.3
100°	168.6	168.6	168.6	168.5	168.2	168.0	167.7	167.4
102.5°	209.2	209.4	209.6	209.6	209.3	209.1	208.8	208.5
105°	269.9	270.5	271.1	271.4	271.4	271.4	271.4	271.4
107.5°	335.5	335.7	336.0	335.5	334.2	333.0	331.7	330.5
110°	380.1	380.1	380.1	379.7	378.9	378.1	377.2	376.5



TEST NUMBER: P331840-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	424.7	424.0	423.4	422.8	422.2	421.6	421.0	420.4
115°	493.2	492.9	492.7	492.1	491.3	490.5	489.7	488.9
117.5°	559.4	558.7	558.1	557.4	556.6	555.7	555.0	554.1
120°	603.7	603.7	603.7	603.3	602.5	601.7	600.9	600.1
122.5°	649.4	648.8	648.1	647.4	646.9	646.2	645.6	645.1
125°	717.0	716.1	715.4	714.8	714.5	714.3	714.0	713.7
127.5°	782.7	781.7	780.7	779.8	778.9	778.1	777.2	776.3
130°	827.6	827.0	826.4	825.7	824.5	823.5	822.4	821.2
132.5°	871.2	870.0	868.8	867.8	867.0	866.0	865.2	864.3
135°	935.7	935.4	935.1	934.5	933.7	932.9	932.1	931.2
137.5°	997.3	997.1	996.9	996.3	995.1	994.1	993.0	991.9
140°	1038.8	1038.8	1038.8	1038.3	1037.2	1036.1	1035.0	1034.0
142.5°	1076.4	1076.7	1076.9	1076.4	1075.3	1074.2	1073.2	1072.0
145°	1133.5	1133.8	1134.0	1133.6	1132.6	1131.4	1130.4	1129.3
147.5°	1183.5	1184.1	1184.7	1184.5	1183.5	1182.4	1181.4	1180.3
150°	1215.2	1216.1	1216.8	1216.8	1216.1	1215.2	1214.4	1213.6
152.5°	1247.0	1247.9	1249.0	1249.0	1247.9	1247.0	1245.9	1244.9
155°	1287.2	1288.5	1289.9	1290.2	1289.4	1288.5	1287.7	1286.9
157.5°	1324.4	1326.2	1328.0	1328.3	1327.0	1325.7	1324.4	1323.0
160°	1346.4	1348.0	1349.6	1349.9	1348.9	1347.7	1346.7	1345.6
162.5°	1366.4	1368.2	1370.1	1370.4	1369.0	1367.7	1366.4	1365.2
165°	1392.1	1394.0	1396.0	1396.2	1394.9	1393.5	1392.1	1390.8
167.5°	1413.4	1415.3	1417.2	1417.5	1416.1	1414.7	1413.2	1411.8
170°	1425.1	1427.0	1429.0	1429.1	1427.5	1425.9	1424.2	1422.6
172.5°	1434.0	1435.9	1437.8	1437.8	1436.2	1434.6	1433.0	1431.3
175°	1443.5	1445.4	1447.3	1447.5	1445.8	1444.2	1442.6	1440.9
177.5°	1447.9	1449.3	1450.5	1450.5	1449.3	1447.9	1446.6	1445.3
180°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2

(END OF REPORT)