

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: P332850-840

Luminaire Tested: **S124DIW-S1195D1050U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332850-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1050U840-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8582.8 lumens
Efficiency: N/A
Efficacy: 127.3 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

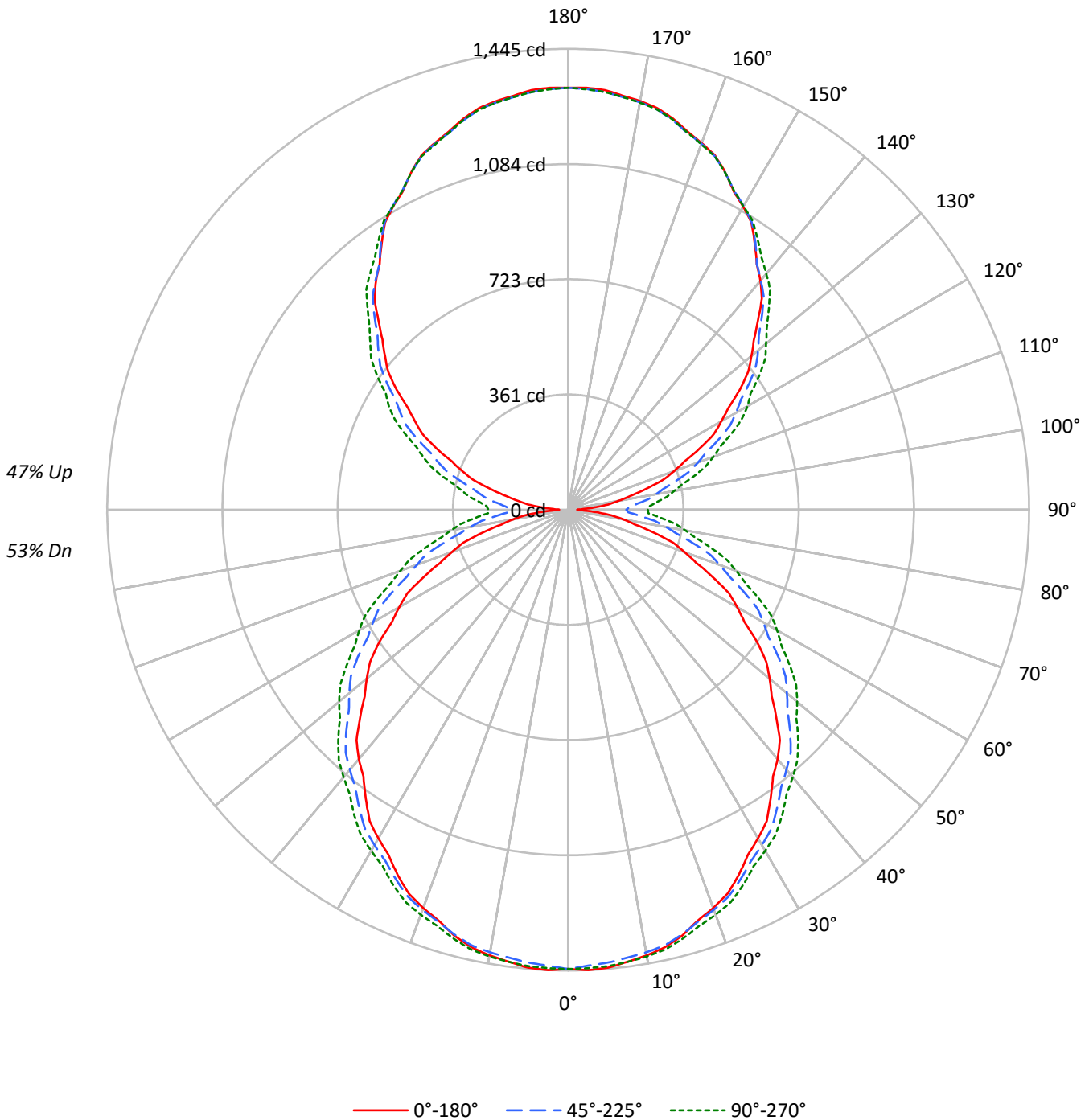
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	97	93	88	84	90	86	82	79	73	70	68	61	59	57	50	49	48	42
2	88	80	74	68	81	74	68	64	63	59	55	53	50	47	44	41	39	35
3	80	70	62	56	74	65	58	53	55	50	46	46	43	39	38	35	33	29
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24
5	67	55	46	40	62	51	43	38	44	38	33	37	32	29	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	28	24	21	18
7	57	44	36	30	52	41	34	29	36	30	25	30	25	22	25	21	19	16
8	53	40	32	27	49	37	30	25	32	26	22	28	23	19	23	19	17	14
9	49	37	29	24	45	34	27	22	30	24	20	25	21	17	21	18	15	13
10	46	34	26	21	42	31	25	20	27	22	18	23	19	16	20	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11626	11626	11626
5°	11661	11362	11394
10°	11590	11176	11167
15°	11486	10961	10900
20°	11330	10723	10641
25°	11153	10457	10356
30°	10961	10193	10063
35°	10745	9921	9805
40°	10573	9663	9538
45°	10316	9426	9309
50°	10098	9151	9066
55°	9875	8894	8781
60°	9525	8563	8521
65°	9141	8210	8201
70°	8676	7806	7830
75°	8028	7363	7494
80°	7309	6935	7163
85°	6389	6559	6968



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.4	1.6
10°-20°	390.7	4.6
20°-30°	590.8	6.9
30°-40°	714.8	8.3
40°-50°	755.7	8.8
50°-60°	711.2	8.3
60°-70°	590.1	6.9
70°-80°	414.5	4.8
80°-90°	238.3	2.8
90°-100°	226.4	2.6
100°-110°	361.5	4.2
110°-120°	507.8	5.9
120°-130°	617.4	7.2
130°-140°	666.5	7.8
140°-150°	641.8	7.5
150°-160°	536.9	6.3
160°-170°	357.2	4.2
170°-180°	125.1	1.5
0°-30°	1117.8	13.0
0°-40°	1832.6	21.4
0°-60°	3299.5	38.4
0°-90°	4542.3	52.9
90°-120°	1095.6	12.8
90°-150°	3021.3	35.2
90°-180°	4040.0	47.1
0°-180°	8582.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1440	1440	1440	1440	1440	
5°	1442	1436	1426	1438	1437	137
15°	1382	1383	1379	1392	1392	389
25°	1264	1274	1279	1296	1298	582
35°	1106	1125	1142	1163	1169	692
45°	922	953	984	1010	1019	713
55°	722	757	805	836	847	643
65°	500	552	606	645	660	495
75°	277	338	405	448	464	295
85°	85	153	226	272	290	91
90°	29	105	182	233	250	21
95°	82	145	218	263	279	85
105°	253	288	350	392	409	269
115°	456	472	520	553	564	450
125°	656	657	694	721	730	585
135°	841	848	858	881	889	651
145°	1020	1022	1023	1031	1035	638
155°	1166	1166	1165	1169	1165	537
165°	1270	1267	1264	1270	1266	358
175°	1321	1316	1315	1321	1315	125
180°	1323	1323	1323	1323	1323	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1445.2	1444.3	1443.5	1442.6	1441.8	1440.2	1437.8	1435.6	1433.3	1431.0	1433.0
5°	1441.6	1440.6	1439.5	1438.5	1437.3	1435.5	1433.0	1430.5	1428.1	1425.5	1428.4
7.5°	1429.4	1428.8	1428.1	1427.4	1426.8	1425.4	1423.4	1421.3	1419.2	1417.1	1420.4
10°	1419.1	1418.7	1418.4	1418.0	1417.6	1416.5	1414.7	1413.0	1411.2	1409.4	1412.6
12.5°	1404.8	1404.8	1404.7	1404.6	1404.6	1403.9	1402.7	1401.5	1400.3	1399.1	1402.0
15°	1382.0	1382.3	1382.7	1383.0	1383.4	1383.0	1382.0	1380.9	1379.8	1378.8	1382.0
17.5°	1350.7	1351.8	1352.8	1353.9	1354.9	1355.4	1355.2	1354.9	1354.7	1354.5	1357.9
20°	1328.8	1329.8	1330.9	1332.0	1333.0	1333.7	1334.1	1334.5	1334.8	1335.2	1338.8
22.5°	1304.2	1305.6	1307.0	1308.3	1309.7	1310.7	1311.3	1312.0	1312.6	1313.2	1316.9
25°	1264.3	1266.4	1268.6	1270.7	1272.8	1274.4	1275.6	1276.6	1277.7	1278.8	1282.7
27.5°	1219.7	1222.9	1226.1	1229.2	1232.3	1234.8	1236.4	1238.1	1239.7	1241.3	1245.0
30°	1190.0	1193.0	1195.8	1198.7	1201.5	1204.3	1206.7	1209.2	1211.7	1214.3	1218.2
32.5°	1157.8	1161.2	1164.7	1168.1	1171.5	1174.7	1177.5	1180.3	1183.1	1185.9	1190.4
35°	1106.2	1110.5	1114.8	1119.1	1123.4	1127.3	1130.9	1134.5	1138.1	1141.7	1146.7
37.5°	1054.3	1059.2	1064.2	1069.1	1074.1	1078.7	1083.2	1087.6	1092.1	1096.5	1101.7
40°	1020.8	1025.4	1030.1	1034.7	1039.4	1044.2	1049.2	1054.3	1059.2	1064.3	1069.6
42.5°	982.1	987.2	992.5	997.7	1003.0	1008.6	1014.4	1020.3	1026.1	1032.1	1038.0
45°	922.4	929.2	936.0	942.8	949.6	956.4	963.2	970.1	976.8	983.7	989.8
47.5°	865.3	872.3	879.4	886.4	893.4	900.9	908.8	916.7	924.5	932.4	938.7
50°	824.0	831.9	839.8	847.7	855.6	863.4	871.3	879.2	887.1	894.9	902.1
52.5°	782.7	790.6	798.5	806.4	814.3	822.7	831.7	840.8	849.8	858.9	866.1
55°	722.5	729.9	737.5	745.0	752.6	761.6	772.4	783.2	794.0	804.7	811.8
57.5°	655.0	664.4	673.7	683.0	692.3	702.3	713.0	723.7	734.4	745.0	753.6
60°	611.2	620.5	629.8	639.1	648.4	659.0	670.9	682.7	694.5	706.3	714.6
62.5°	568.6	578.8	589.0	599.2	609.3	620.3	632.2	644.0	655.8	667.6	675.8
65°	499.9	511.4	522.8	534.3	545.7	557.5	569.8	582.0	594.1	606.3	615.3
67.5°	433.7	446.0	458.2	470.3	482.5	495.1	508.2	521.2	534.2	547.3	556.4
70°	388.6	400.8	413.0	425.2	437.4	450.3	463.8	477.5	491.1	504.7	514.4
72.5°	344.8	357.2	369.7	382.1	394.7	408.1	422.6	437.1	451.5	466.1	475.4
75°	277.4	290.6	303.9	317.1	330.4	344.6	359.6	374.7	389.7	404.8	414.8
77.5°	214.5	228.5	242.6	256.6	270.6	285.6	301.3	317.1	332.9	348.6	358.8
80°	175.8	190.1	204.4	218.7	233.1	248.1	263.9	279.7	295.5	311.2	321.9
82.5°	137.0	152.0	166.9	181.8	196.7	212.1	227.8	243.6	259.3	275.1	286.1
85°	85.4	100.5	115.5	130.6	145.6	161.3	177.3	193.5	209.6	225.8	236.5
87.5°	48.4	63.4	78.6	93.7	108.9	124.4	140.5	156.5	172.6	188.6	199.3
90°	28.9	45.7	62.5	79.4	96.2	113.2	130.5	147.7	164.9	182.2	193.9
92.5°	46.5	62.2	78.0	93.7	109.5	125.7	142.4	159.1	175.7	192.4	203.4
95°	82.3	96.2	110.1	123.9	137.8	152.9	169.2	185.5	201.8	218.0	228.4
97.5°	126.2	138.0	149.9	161.7	173.5	187.6	204.0	220.5	236.8	253.3	263.5
100°	161.0	171.2	181.4	191.7	201.9	215.0	231.1	247.0	263.1	279.1	289.2
102.5°	198.6	207.1	215.7	224.2	232.8	244.8	260.3	275.9	291.4	307.0	317.0
105°	252.9	260.2	267.7	275.1	282.5	293.3	307.4	321.5	335.8	349.9	359.5
107.5°	313.0	319.0	325.2	331.3	337.5	346.9	359.6	372.3	385.0	397.7	407.1
110°	352.5	358.0	363.5	369.0	374.5	383.3	395.7	408.0	420.3	432.6	440.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	393.8	398.4	402.8	407.4	411.9	420.0	431.5	443.1	454.6	466.3	474.1
115°	455.8	459.0	462.2	465.3	468.6	475.7	486.8	497.8	508.8	519.8	527.5
117.5°	515.5	517.7	519.8	521.9	524.0	530.3	540.6	551.0	561.4	571.7	578.3
120°	554.3	556.3	558.4	560.3	562.3	568.2	577.8	587.5	597.2	607.0	613.0
122.5°	596.1	596.7	597.2	597.8	598.4	603.5	613.0	622.5	632.0	641.5	647.8
125°	656.1	655.7	655.4	655.0	654.6	658.8	667.5	676.3	685.0	693.8	700.1
127.5°	711.7	712.0	712.3	712.6	712.9	716.3	722.9	729.3	735.9	742.4	748.4
130°	749.6	749.9	750.2	750.5	750.9	754.0	759.6	765.4	771.1	776.9	782.8
132.5°	789.7	789.8	790.0	790.1	790.3	792.5	797.0	801.3	805.8	810.2	815.9
135°	841.1	842.4	843.8	845.2	846.6	848.5	851.0	853.5	856.0	858.5	863.8
137.5°	898.8	899.1	899.4	899.6	899.9	900.8	902.4	904.0	905.5	907.2	911.8
140°	937.3	937.4	937.5	937.6	937.7	937.9	938.3	938.6	939.0	939.3	943.7
142.5°	971.2	971.6	971.9	972.3	972.7	972.7	972.3	971.9	971.5	971.1	975.1
145°	1019.6	1020.1	1020.7	1021.2	1021.8	1022.1	1022.4	1022.6	1022.8	1023.0	1024.9
147.5°	1067.8	1068.5	1069.2	1070.1	1070.8	1071.1	1070.9	1070.7	1070.5	1070.3	1070.4
150°	1097.3	1097.8	1098.4	1098.9	1099.4	1099.7	1099.7	1099.7	1099.7	1099.7	1099.7
152.5°	1123.8	1124.3	1124.8	1125.3	1125.7	1126.0	1126.2	1126.4	1126.6	1126.8	1127.3
155°	1166.3	1166.3	1166.3	1166.3	1166.3	1166.2	1165.9	1165.7	1165.5	1165.3	1166.2
157.5°	1202.2	1201.8	1201.4	1201.0	1200.6	1200.4	1200.3	1200.3	1200.2	1200.2	1200.9
160°	1223.6	1223.4	1223.0	1222.8	1222.6	1222.4	1222.1	1221.9	1221.7	1221.5	1222.1
162.5°	1243.1	1242.6	1242.0	1241.4	1240.8	1240.4	1240.2	1240.0	1239.7	1239.5	1240.7
165°	1269.6	1268.9	1268.2	1267.6	1266.9	1266.3	1265.9	1265.4	1265.0	1264.5	1265.9
167.5°	1289.8	1288.9	1288.0	1287.0	1286.1	1285.6	1285.7	1285.7	1285.7	1285.8	1287.1
170°	1301.3	1300.2	1299.0	1297.9	1296.8	1296.3	1296.6	1296.8	1297.0	1297.2	1298.6
172.5°	1309.5	1308.5	1307.6	1306.7	1305.7	1305.3	1305.3	1305.4	1305.4	1305.4	1307.0
175°	1320.7	1319.6	1318.5	1317.4	1316.2	1315.6	1315.2	1315.0	1314.8	1314.6	1316.2
177.5°	1324.4	1323.5	1322.6	1321.7	1320.8	1320.3	1320.3	1320.3	1320.3	1320.3	1321.6
180°	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1435.0	1437.0	1439.1	1439.9	1439.6	1439.3	1439.1	1438.8
5°	1431.3	1434.1	1436.9	1438.2	1437.8	1437.5	1437.1	1436.8
7.5°	1423.6	1426.8	1430.1	1431.5	1431.1	1430.8	1430.4	1430.1
10°	1415.8	1419.1	1422.3	1423.7	1423.4	1423.0	1422.6	1422.3
12.5°	1404.9	1407.9	1410.8	1412.3	1412.2	1412.1	1412.0	1412.0
15°	1385.2	1388.5	1391.6	1393.1	1392.7	1392.4	1392.0	1391.6
17.5°	1361.2	1364.4	1367.8	1369.3	1369.0	1368.7	1368.4	1368.1
20°	1342.4	1345.9	1349.6	1351.3	1351.3	1351.3	1351.3	1351.3
22.5°	1320.4	1324.0	1327.6	1329.7	1330.3	1330.8	1331.4	1332.0
25°	1286.7	1290.6	1294.5	1296.7	1297.1	1297.4	1297.8	1298.1
27.5°	1248.7	1252.3	1256.0	1258.0	1258.5	1258.9	1259.3	1259.7
30°	1222.1	1226.1	1230.0	1232.3	1233.0	1233.8	1234.5	1235.3
32.5°	1194.9	1199.4	1204.0	1206.6	1207.3	1208.0	1208.7	1209.4
35°	1151.8	1156.7	1161.7	1164.8	1165.9	1167.0	1168.0	1169.1
37.5°	1106.7	1111.8	1116.9	1120.0	1121.2	1122.3	1123.5	1124.6
40°	1075.0	1080.5	1085.8	1089.2	1090.7	1092.1	1093.5	1094.9
42.5°	1043.9	1049.9	1055.8	1059.3	1060.6	1061.7	1062.8	1064.0
45°	995.8	1002.0	1008.0	1012.0	1013.8	1015.5	1017.3	1019.2
47.5°	945.0	951.3	957.7	961.8	964.0	966.1	968.3	970.5
50°	909.3	916.5	923.6	928.3	930.5	932.6	934.7	936.9
52.5°	873.2	880.4	887.5	892.2	894.3	896.5	898.6	900.8
55°	819.0	826.2	833.3	838.0	840.1	842.3	844.4	846.6
57.5°	762.0	770.6	779.1	784.4	786.4	788.4	790.4	792.4
60°	722.8	731.0	739.2	744.8	747.7	750.5	753.5	756.3
62.5°	684.1	692.4	700.5	706.1	709.0	711.9	714.7	717.6
65°	624.2	633.2	642.2	648.0	651.0	653.8	656.7	659.5
67.5°	565.5	574.6	583.7	589.7	592.5	595.2	598.0	600.9
70°	524.1	533.7	543.4	549.6	552.0	554.5	557.0	559.6
72.5°	484.8	494.2	503.6	509.7	512.5	515.2	518.1	520.9
75°	424.9	434.8	444.8	451.5	454.7	458.0	461.2	464.4
77.5°	369.0	379.2	389.3	396.2	399.6	403.0	406.5	409.9
80°	332.8	343.5	354.3	361.0	363.9	366.8	369.6	372.5
82.5°	297.2	308.2	319.2	326.4	329.5	332.6	335.8	338.9
85°	247.2	258.0	268.7	275.9	279.5	283.1	286.7	290.2
87.5°	210.0	220.7	231.4	238.2	241.6	244.8	248.0	251.3
90°	205.7	217.4	229.1	236.7	240.0	243.4	246.7	250.0
92.5°	214.3	225.2	236.1	243.2	246.3	249.4	252.6	255.7
95°	238.7	249.1	259.4	266.3	269.5	272.8	275.9	279.1
97.5°	273.7	283.9	294.1	300.7	303.9	306.9	310.0	313.1
100°	299.3	309.4	319.6	325.9	328.4	330.9	333.5	336.0
102.5°	327.1	337.1	347.1	353.7	356.6	359.5	362.5	365.5
105°	369.2	378.8	388.5	395.1	398.6	402.1	405.8	409.3
107.5°	416.6	426.0	435.5	441.4	443.9	446.6	449.1	451.6
110°	448.2	456.0	463.7	469.4	472.9	476.5	480.1	483.6



TEST NUMBER: P332850-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	482.0	489.8	497.7	503.1	506.1	509.2	512.1	515.1
115°	535.1	542.8	550.4	555.4	557.6	560.0	562.2	564.5
117.5°	585.0	591.8	598.4	603.0	605.4	607.8	610.2	612.6
120°	619.0	625.1	631.1	635.8	639.1	642.5	645.7	649.0
122.5°	654.3	660.7	667.0	671.2	672.9	674.6	676.4	678.1
125°	706.5	712.9	719.1	723.2	724.9	726.6	728.3	729.9
127.5°	754.4	760.4	766.4	770.4	772.4	774.6	776.6	778.7
130°	788.9	794.9	800.8	804.5	805.7	807.0	808.2	809.4
132.5°	821.6	827.3	833.0	836.8	838.5	840.3	842.1	843.9
135°	869.1	874.3	879.6	883.0	884.4	886.0	887.4	888.9
137.5°	916.5	921.1	925.7	929.0	930.9	932.9	934.8	936.8
140°	948.2	952.6	957.0	960.0	961.6	963.1	964.7	966.2
142.5°	979.2	983.2	987.2	990.0	991.5	992.9	994.4	995.8
145°	1026.9	1028.9	1030.8	1032.1	1032.8	1033.6	1034.3	1035.1
147.5°	1070.6	1070.7	1070.8	1071.3	1072.2	1073.1	1074.0	1074.9
150°	1099.7	1099.7	1099.7	1099.6	1099.4	1099.2	1098.9	1098.7
152.5°	1127.8	1128.4	1128.9	1128.9	1128.3	1127.7	1127.1	1126.6
155°	1167.1	1168.0	1168.9	1168.9	1168.0	1167.1	1166.2	1165.3
157.5°	1201.6	1202.2	1203.0	1203.0	1202.1	1201.3	1200.6	1199.8
160°	1222.8	1223.6	1224.3	1224.0	1222.8	1221.7	1220.6	1219.4
162.5°	1241.9	1243.1	1244.5	1244.5	1243.3	1242.2	1241.0	1239.9
165°	1267.2	1268.6	1269.9	1270.1	1269.2	1268.3	1267.4	1266.5
167.5°	1288.5	1289.8	1291.2	1291.2	1289.8	1288.4	1287.0	1285.6
170°	1299.9	1301.3	1302.6	1302.5	1301.0	1299.4	1297.8	1296.2
172.5°	1308.5	1310.0	1311.6	1311.5	1310.0	1308.4	1306.8	1305.1
175°	1317.8	1319.4	1321.0	1321.0	1319.4	1317.8	1316.2	1314.6
177.5°	1322.9	1324.1	1325.4	1325.3	1323.8	1322.4	1321.0	1319.5
180°	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8

(END OF REPORT)