

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: P332437-840

Luminaire Tested: **S123RDIW-S775D755U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332437-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S775D755U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5591.9 lumens
Efficiency: N/A
Efficacy: 124.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

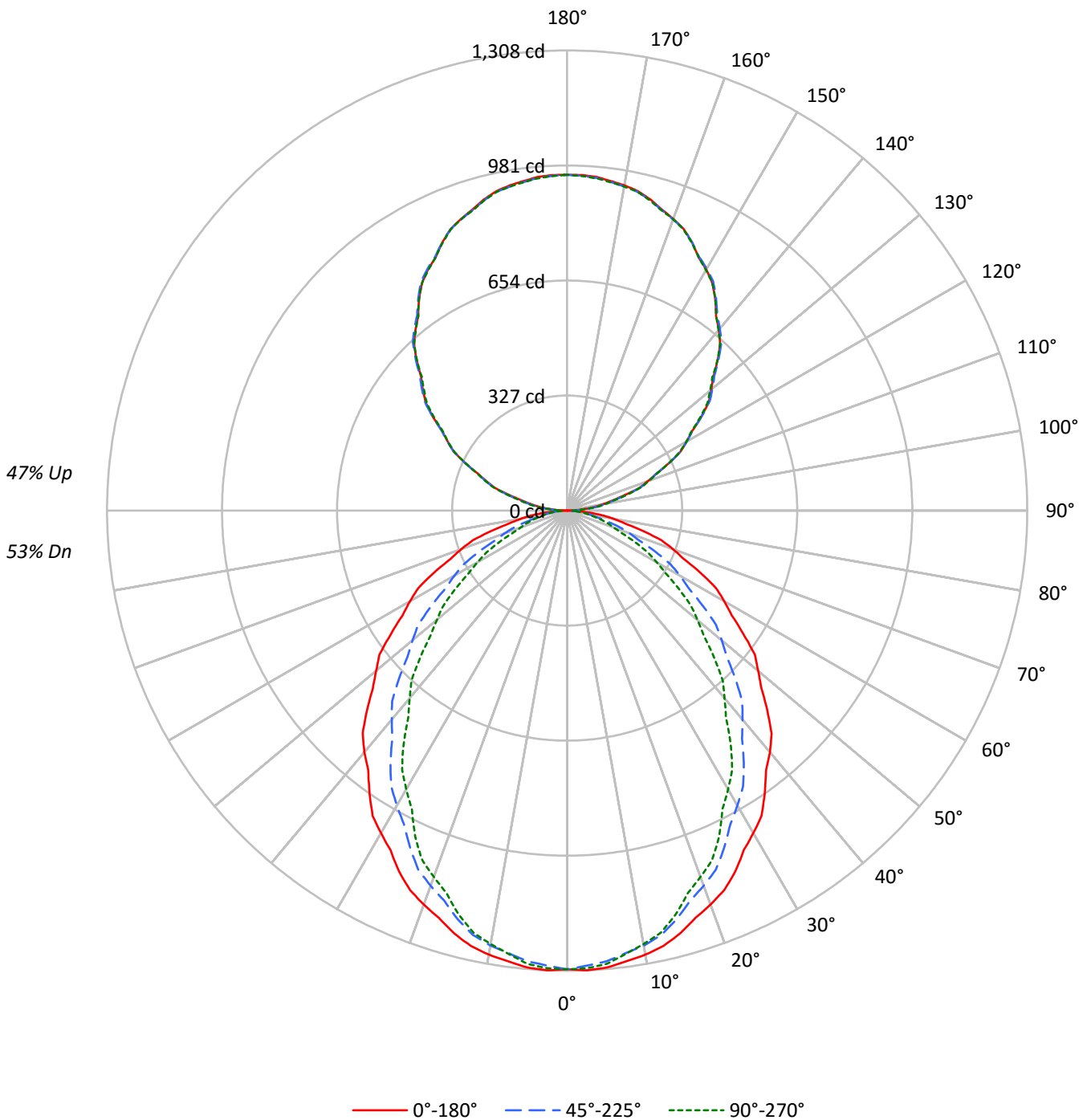
Input Watts (W): 45
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	99	95	91	87	91	88	84	82	75	73	70	63	62	60	52	51	50	45
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	46	45	43	38
3	82	73	66	60	76	68	62	57	59	54	50	50	46	43	41	39	37	33
4	76	65	57	51	70	61	54	48	52	47	43	44	40	37	37	34	32	28
5	70	58	50	44	64	54	47	42	47	41	37	40	36	33	34	31	28	25
6	64	52	44	38	59	49	42	36	42	37	33	36	32	29	31	27	25	22
7	59	47	39	34	55	44	37	32	38	33	29	33	29	25	28	25	22	20
8	55	43	35	30	51	40	33	29	35	30	26	30	26	23	26	22	20	18
9	51	39	32	27	48	37	30	26	32	27	23	28	24	21	24	21	18	16
10	48	36	29	24	45	34	27	23	30	25	21	26	22	19	22	19	16	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14034	14034	14034
5°	14088	13894	13973
10°	14008	13719	13672
15°	13857	13397	13256
20°	13651	12997	12693
25°	13438	12545	12144
30°	13155	12026	11368
35°	12867	11506	10657
40°	12600	10891	9777
45°	12250	10286	8983
50°	11863	9597	8092
55°	11470	8811	7263
60°	11108	7967	6351
65°	10639	7055	5440
70°	10049	5923	4393
75°	9191	4662	4134
80°	8195	4135	3800
85°	6916	3656	3396



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.4	2.2
10°-20°	340.6	6.1
20°-30°	490.5	8.8
30°-40°	552.5	9.9
40°-50°	528.6	9.5
50°-60°	432.9	7.7
60°-70°	292.0	5.2
70°-80°	146.9	2.6
80°-90°	41.7	0.7
90°-100°	62.2	1.1
100°-110°	186.1	3.3
110°-120°	316.4	5.7
120°-130°	416.2	7.4
130°-140°	467.8	8.4
140°-150°	459.9	8.2
150°-160°	387.1	6.9
160°-170°	257.7	4.6
170°-180°	90.2	1.6
0°-30°	953.6	17.1
0°-40°	1506.1	26.9
0°-60°	2467.5	44.1
0°-90°	2948.2	52.7
90°-120°	564.7	10.1
90°-150°	1908.6	34.1
90°-180°	2644.0	47.3
0°-180°	5591.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1304	1304	1304	1304	1304	
5°	1304	1298	1286	1295	1293	124
15°	1244	1231	1202	1197	1190	350
25°	1132	1104	1056	1035	1022	520
35°	979	940	876	832	811	613
45°	805	755	676	617	590	621
55°	611	557	470	410	387	548
65°	418	358	277	227	214	413
75°	221	170	112	102	99	236
85°	56	34	30	28	28	63
90°	1	8	18	21	22	5
95°	44	50	55	58	58	50
105°	169	170	177	177	178	181
115°	319	321	319	320	319	315
125°	466	468	467	464	461	416
135°	605	609	609	606	604	466
145°	734	735	738	737	734	458
155°	840	840	841	844	839	387
165°	915	913	913	917	912	258
175°	952	949	949	953	948	90
180°	954	954	954	954	954	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8
2.5°	1308.0	1307.3	1306.5	1305.8	1305.0	1303.5	1301.2	1299.0	1296.8	1294.4	1296.6
5°	1303.8	1302.6	1301.4	1300.3	1299.1	1297.1	1294.2	1291.4	1288.6	1285.9	1287.9
7.5°	1291.7	1290.5	1289.2	1287.9	1286.7	1284.1	1280.5	1276.9	1273.2	1269.5	1270.7
10°	1281.6	1279.9	1278.3	1276.7	1275.0	1272.0	1267.8	1263.6	1259.4	1255.2	1255.4
12.5°	1267.2	1265.4	1263.5	1261.7	1259.9	1256.4	1251.2	1246.1	1240.8	1235.7	1235.6
15°	1243.5	1240.9	1238.3	1235.8	1233.1	1228.6	1222.0	1215.5	1208.8	1202.2	1201.1
17.5°	1213.7	1210.7	1207.7	1204.7	1201.6	1196.0	1187.6	1179.2	1170.8	1162.6	1160.0
20°	1191.7	1187.9	1184.2	1180.4	1176.7	1170.3	1161.3	1152.5	1143.6	1134.6	1131.6
22.5°	1167.2	1162.9	1158.5	1154.2	1149.8	1143.0	1133.5	1124.0	1114.5	1105.0	1101.2
25°	1131.5	1125.6	1119.6	1113.8	1107.9	1099.5	1088.7	1077.9	1067.1	1056.3	1051.4
27.5°	1088.0	1081.6	1075.1	1068.6	1062.2	1052.9	1040.9	1028.9	1016.7	1004.7	997.8
30°	1058.4	1051.4	1044.4	1037.3	1030.3	1020.2	1007.0	993.8	980.7	967.6	959.6
32.5°	1028.9	1020.9	1012.9	1004.9	996.9	985.9	972.0	958.2	944.2	930.3	921.6
35°	979.2	970.7	962.2	953.8	945.3	933.8	919.3	904.6	890.1	875.6	865.5
37.5°	928.9	919.4	910.0	900.6	891.2	878.8	863.2	847.7	832.1	816.6	805.1
40°	896.7	886.4	876.0	865.7	855.4	841.8	825.2	808.5	791.7	775.1	762.9
42.5°	860.3	850.0	839.6	829.3	819.0	805.2	787.9	770.6	753.5	736.2	722.9
45°	804.7	794.2	783.6	773.0	762.3	748.1	729.9	711.9	693.8	675.7	662.3
47.5°	749.1	737.5	725.9	714.3	702.7	687.8	669.7	651.6	633.5	615.4	600.9
50°	708.4	697.4	686.4	675.3	664.3	649.2	630.3	611.2	592.2	573.1	558.6
52.5°	672.1	660.1	648.1	636.1	624.2	608.7	589.9	571.1	552.2	533.3	518.3
55°	611.2	599.7	588.1	576.6	565.1	549.4	529.4	509.5	489.5	469.5	455.9
57.5°	554.9	542.4	529.9	517.3	504.7	488.5	468.4	448.3	428.2	408.2	395.3
60°	516.0	503.1	490.2	477.3	464.3	448.1	428.6	409.1	389.6	370.1	357.4
62.5°	477.1	464.1	451.2	438.3	425.5	409.2	389.7	370.2	350.7	331.1	319.2
65°	417.7	404.8	391.8	378.9	366.0	350.3	332.0	313.7	295.4	277.0	265.5
67.5°	358.3	345.2	332.1	319.0	306.0	290.6	273.1	255.5	237.9	220.4	211.8
70°	319.3	306.7	294.0	281.2	268.6	254.0	237.5	221.2	204.7	188.2	180.0
72.5°	280.4	267.9	255.4	242.9	230.5	216.7	201.8	186.8	171.9	156.9	150.2
75°	221.0	209.7	198.4	187.1	175.9	163.8	150.9	137.9	125.0	112.1	109.8
77.5°	166.8	156.6	146.4	136.2	126.0	116.8	108.5	100.2	91.9	83.5	82.3
80°	132.2	122.5	112.9	103.3	93.6	86.3	81.4	76.4	71.6	66.7	65.9
82.5°	99.2	90.9	82.5	74.2	65.9	60.6	58.3	55.9	53.7	51.4	50.7
85°	56.0	50.9	45.7	40.5	35.3	32.4	31.7	31.0	30.3	29.6	29.2
87.5°	20.5	18.7	17.0	15.2	13.5	12.8	13.3	13.7	14.1	14.6	14.5
90°	0.7	2.4	4.0	5.8	7.4	9.3	11.5	13.6	15.9	18.0	18.7
92.5°	18.2	19.3	20.4	21.5	22.6	23.8	25.0	26.4	27.6	28.8	29.3
95°	44.2	45.3	46.6	47.8	48.9	50.1	51.5	52.8	54.1	55.4	56.1
97.5°	78.6	79.4	80.3	81.2	82.0	82.9	83.9	84.8	85.8	86.8	87.6
100°	101.9	102.9	103.9	104.9	105.9	106.8	107.7	108.6	109.4	110.2	110.7
102.5°	129.0	129.6	130.2	130.7	131.3	132.2	133.3	134.4	135.4	136.5	137.0
105°	168.6	169.0	169.4	169.7	170.0	170.9	172.4	173.9	175.4	176.9	176.9
107.5°	214.8	215.0	215.2	215.4	215.6	216.0	216.6	217.2	217.8	218.4	218.9
110°	243.6	244.0	244.3	244.6	244.9	245.3	245.6	245.9	246.3	246.6	247.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	273.6	273.8	274.0	274.2	274.4	274.5	274.6	274.7	274.7	274.8	275.6
115°	318.6	319.0	319.5	320.0	320.5	320.6	320.3	320.0	319.6	319.3	319.5
117.5°	363.9	364.2	364.5	364.9	365.2	365.2	364.7	364.3	363.9	363.3	363.3
120°	392.0	393.0	394.0	395.1	396.1	396.1	395.3	394.5	393.6	392.7	392.6
122.5°	421.4	422.1	422.8	423.6	424.3	424.4	424.0	423.6	423.2	422.7	422.3
125°	466.3	466.8	467.3	467.8	468.3	468.3	468.0	467.7	467.3	467.0	466.4
127.5°	507.6	508.7	509.8	510.8	511.9	512.2	511.9	511.5	511.1	510.8	509.8
130°	535.2	536.5	537.9	539.2	540.5	541.0	540.5	540.0	539.5	539.0	538.3
132.5°	562.8	564.1	565.4	566.7	568.2	568.6	568.3	567.8	567.4	567.1	566.3
135°	604.9	605.9	606.9	607.9	608.8	609.4	609.2	608.9	608.8	608.6	607.9
137.5°	643.9	644.7	645.5	646.4	647.2	647.8	648.2	648.7	649.1	649.5	648.8
140°	670.9	671.7	672.6	673.4	674.2	674.7	674.9	675.0	675.2	675.4	675.2
142.5°	695.5	696.3	697.1	697.9	698.7	699.3	699.6	699.9	700.2	700.5	700.3
145°	733.9	734.2	734.5	734.8	735.2	735.6	736.1	736.6	737.1	737.6	737.4
147.5°	767.4	768.0	768.6	769.2	769.8	770.3	770.8	771.2	771.7	772.2	772.2
150°	790.8	791.1	791.4	791.8	792.1	792.4	792.7	793.1	793.5	793.8	793.8
152.5°	810.0	810.4	810.9	811.4	811.8	812.1	812.3	812.5	812.7	812.9	813.2
155°	840.3	840.3	840.3	840.3	840.3	840.3	840.5	840.7	840.8	841.0	841.7
157.5°	866.1	865.9	865.7	865.5	865.3	865.3	865.4	865.5	865.7	865.8	866.5
160°	882.2	881.9	881.6	881.2	880.9	880.7	880.7	880.7	880.7	880.7	881.6
162.5°	896.7	896.2	895.6	895.2	894.7	894.6	894.7	894.8	895.0	895.1	896.0
165°	915.2	914.7	914.2	913.7	913.2	912.9	912.9	912.9	912.9	912.9	913.9
167.5°	930.1	929.4	928.8	928.1	927.4	927.2	927.3	927.4	927.6	927.7	928.7
170°	938.5	937.8	937.2	936.4	935.7	935.4	935.4	935.4	935.4	935.4	936.6
172.5°	945.0	944.4	943.7	943.0	942.4	942.0	942.0	942.0	942.0	942.0	943.1
175°	951.9	951.3	950.6	950.0	949.3	949.0	949.0	949.0	949.0	949.0	950.0
177.5°	954.8	954.2	953.7	953.2	952.7	952.4	952.4	952.4	952.4	952.4	953.2
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8
2.5°	1298.6	1300.7	1302.7	1303.6	1303.2	1302.8	1302.4	1302.1
5°	1290.0	1292.1	1294.2	1295.1	1294.6	1294.1	1293.6	1293.2
7.5°	1271.9	1273.0	1274.2	1274.4	1273.6	1272.8	1272.0	1271.2
10°	1255.7	1255.9	1256.1	1255.7	1254.5	1253.2	1252.1	1250.9
12.5°	1235.4	1235.3	1235.2	1234.4	1233.0	1231.6	1230.3	1228.9
15°	1199.9	1198.7	1197.6	1196.2	1194.6	1192.9	1191.2	1189.6
17.5°	1157.5	1155.1	1152.6	1150.1	1147.6	1145.2	1142.8	1140.3
20°	1128.5	1125.4	1122.4	1119.4	1116.6	1113.8	1111.0	1108.1
22.5°	1097.4	1093.6	1089.7	1086.5	1083.9	1081.3	1078.6	1076.0
25°	1046.5	1041.6	1036.6	1032.9	1030.3	1027.6	1025.1	1022.5
27.5°	991.0	984.2	977.3	971.9	968.0	964.0	960.1	956.1
30°	951.6	943.5	935.5	929.7	925.9	922.2	918.4	914.6
32.5°	912.8	904.1	895.3	889.0	885.0	881.1	877.2	873.2
35°	855.4	845.3	835.2	828.0	823.7	819.5	815.3	811.0
37.5°	793.6	782.1	770.6	762.3	757.1	751.8	746.7	741.4
40°	750.6	738.4	726.2	717.4	712.0	706.6	701.1	695.8
42.5°	709.4	696.1	682.8	673.7	668.8	664.0	659.1	654.3
45°	648.9	635.5	622.1	612.6	606.9	601.3	595.7	590.1
47.5°	586.2	571.7	557.1	547.3	542.3	537.2	532.3	527.3
50°	544.0	529.4	514.8	504.8	499.5	494.0	488.7	483.2
52.5°	503.1	488.0	472.8	462.8	458.0	453.1	448.3	443.4
55°	442.2	428.6	415.0	405.8	401.1	396.4	391.7	387.0
57.5°	382.4	369.5	356.7	348.2	344.3	340.2	336.2	332.2
60°	344.7	332.0	319.3	311.0	307.0	303.0	299.0	295.0
62.5°	307.3	295.4	283.5	275.4	271.1	267.0	262.9	258.6
65°	254.0	242.5	231.0	223.9	221.4	218.7	216.2	213.6
67.5°	203.2	194.6	185.9	180.3	177.5	174.7	172.0	169.2
70°	171.8	163.5	155.3	150.0	147.3	144.7	142.2	139.6
72.5°	143.5	136.7	130.1	126.1	125.0	124.0	122.9	121.8
75°	107.3	105.0	102.7	101.3	100.8	100.4	99.9	99.4
77.5°	81.0	79.7	78.5	77.6	77.2	76.6	76.1	75.7
80°	65.2	64.5	63.8	63.2	62.7	62.3	61.8	61.3
82.5°	50.0	49.3	48.6	48.2	48.1	48.0	47.9	47.8
85°	28.7	28.2	27.8	27.5	27.5	27.5	27.5	27.5
87.5°	14.4	14.4	14.3	14.2	14.1	14.0	13.9	13.8
90°	19.3	20.0	20.7	21.1	21.5	21.8	22.1	22.5
92.5°	29.9	30.4	30.9	31.1	30.9	30.7	30.5	30.3
95°	56.8	57.5	58.2	58.5	58.5	58.5	58.5	58.5
97.5°	88.4	89.1	89.9	90.2	90.2	90.1	90.0	90.0
100°	111.2	111.7	112.2	112.6	112.9	113.3	113.6	113.9
102.5°	137.5	138.0	138.6	138.8	138.8	138.7	138.6	138.6
105°	176.9	176.9	176.9	177.0	177.4	177.7	178.0	178.4
107.5°	219.4	220.0	220.6	220.8	220.6	220.4	220.2	219.9
110°	247.9	248.6	249.2	249.4	249.1	248.7	248.4	248.1



TEST NUMBER: P332437-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.4	277.2	278.0	278.3	278.3	278.2	278.1	278.1
115°	319.6	319.8	320.0	320.0	319.8	319.6	319.5	319.3
117.5°	363.3	363.2	363.2	363.0	362.5	362.0	361.6	361.1
120°	392.4	392.2	392.1	391.8	391.5	391.2	390.8	390.5
122.5°	421.9	421.4	421.0	420.6	420.1	419.6	419.2	418.7
125°	465.6	464.9	464.3	463.6	463.0	462.3	461.6	461.0
127.5°	508.9	508.0	507.1	506.1	505.4	504.6	503.9	503.1
130°	537.7	536.9	536.2	535.3	534.2	533.0	531.9	530.7
132.5°	565.5	564.7	563.9	563.1	562.2	561.3	560.4	559.5
135°	607.3	606.6	606.0	605.5	605.1	604.8	604.5	604.1
137.5°	648.1	647.4	646.8	646.1	645.5	644.8	644.2	643.6
140°	675.0	674.9	674.7	674.0	672.9	671.7	670.6	669.3
142.5°	700.2	700.0	699.8	699.3	698.4	697.5	696.6	695.7
145°	737.2	737.1	736.9	736.5	735.8	735.2	734.5	733.9
147.5°	772.2	772.2	772.2	771.7	770.7	769.7	768.7	767.7
150°	793.8	793.8	793.8	793.2	792.2	791.3	790.3	789.3
152.5°	813.5	813.7	814.1	813.7	812.8	812.0	811.1	810.3
155°	842.3	843.0	843.6	843.4	842.2	841.1	839.9	838.8
157.5°	867.2	867.9	868.6	868.4	867.5	866.6	865.7	864.6
160°	882.4	883.2	884.0	884.1	883.5	882.8	882.1	881.5
162.5°	896.8	897.7	898.5	898.4	897.3	896.3	895.1	894.0
165°	914.9	915.9	917.0	916.9	915.7	914.5	913.4	912.2
167.5°	929.7	930.8	931.8	931.8	930.8	929.7	928.7	927.7
170°	937.8	939.0	940.1	940.1	939.0	937.8	936.6	935.4
172.5°	944.1	945.1	946.1	946.1	944.9	943.8	942.6	941.5
175°	951.0	951.9	952.9	952.9	951.7	950.5	949.4	948.2
177.5°	954.0	954.8	955.6	955.5	954.6	953.6	952.7	951.8
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2

(END OF REPORT)