

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: P332219-940

Luminaire Tested: **S123DIW-S1165D755U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332219-940
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: S123DIW-S1165D755U940-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6661.0 lumens
Efficiency: N/A
Efficacy: 111.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

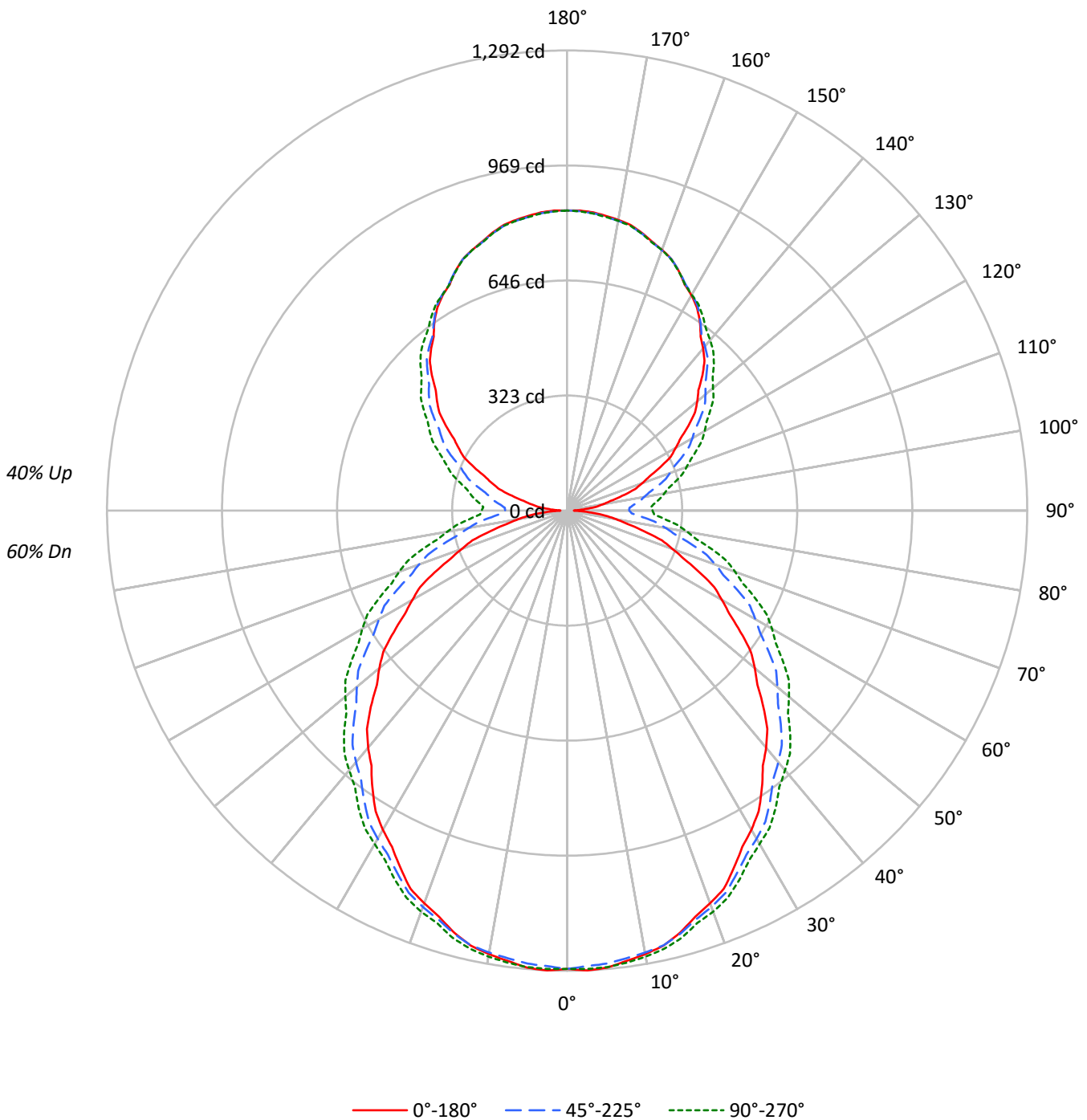
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	99	94	89	85	92	87	84	80	76	73	70	65	63	61	55	54	52	48
2	89	81	74	69	83	76	70	65	66	61	57	57	53	50	48	45	43	39
3	81	71	63	57	75	66	59	54	58	52	48	50	45	42	42	39	36	32
4	74	63	54	48	69	59	51	45	51	45	40	44	39	35	37	34	31	27
5	68	56	47	41	63	52	44	39	46	39	35	39	34	31	34	30	27	24
6	63	50	41	35	58	47	39	33	41	35	30	36	30	27	30	26	23	21
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	28	24	21	18
8	54	41	33	27	50	38	31	26	34	28	23	30	25	21	25	21	18	16
9	50	37	29	24	47	35	28	23	31	25	21	27	22	19	23	20	17	14
10	47	34	27	22	44	32	25	21	29	23	19	25	20	17	22	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13850	13850	13850
5°	13894	13501	13509
10°	13769	13190	13124
15°	13592	12837	12705
20°	13338	12435	12243
25°	13025	11969	11757
30°	12705	11553	11264
35°	12344	11111	10871
40°	12002	10709	10450
45°	11622	10323	10113
50°	11245	9942	9744
55°	10831	9553	9410
60°	10426	9156	9068
65°	10013	8733	8661
70°	9389	8257	8243
75°	8597	7713	7819
80°	7695	7181	7334
85°	6853	6811	7053



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.0	1.8
10°-20°	347.7	5.2
20°-30°	520.1	7.8
30°-40°	621.1	9.3
40°-50°	649.8	9.8
50°-60°	609.8	9.2
60°-70°	509.3	7.6
70°-80°	364.4	5.5
80°-90°	219.8	3.3
90°-100°	191.2	2.9
100°-110°	264.5	4.0
110°-120°	346.3	5.2
120°-130°	405.8	6.1
130°-140°	430.3	6.5
140°-150°	409.7	6.2
150°-160°	341.9	5.1
160°-170°	227.6	3.4
170°-180°	79.7	1.2
0°-30°	989.8	14.9
0°-40°	1610.9	24.2
0°-60°	2870.5	43.1
0°-90°	3964.0	59.5
90°-120°	802.1	12.0
90°-150°	2047.8	30.7
90°-180°	2697.0	40.5
0°-180°	6661.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1287	1287	1287	1287	1287	
5°	1288	1285	1277	1287	1287	122
15°	1226	1230	1229	1242	1242	345
25°	1107	1121	1126	1143	1144	510
35°	953	975	994	1014	1020	596
45°	779	813	848	874	886	601
55°	594	641	691	727	740	532
65°	411	466	527	568	583	406
75°	223	289	359	403	422	238
85°	69	139	213	259	275	72
90°	19	94	174	223	240	15
95°	54	115	188	232	248	56
105°	160	197	261	299	314	171
115°	288	309	356	389	401	285
125°	416	420	457	483	491	371
135°	537	540	554	576	583	414
145°	649	649	651	661	665	405
155°	742	742	743	745	741	341
165°	808	806	806	810	806	228
175°	840	838	838	841	837	80
180°	843	843	843	843	843	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1292.4	1291.6	1290.8	1290.1	1289.3	1288.0	1286.0	1284.0	1282.0	1280.1	1282.0
5°	1288.2	1287.5	1286.9	1286.3	1285.7	1284.4	1282.5	1280.7	1278.8	1276.9	1279.4
7.5°	1275.5	1275.7	1275.8	1275.9	1276.0	1275.2	1273.4	1271.6	1269.8	1267.9	1271.0
10°	1264.4	1265.0	1265.6	1266.2	1266.9	1266.3	1264.8	1263.2	1261.7	1260.1	1263.2
12.5°	1250.9	1251.7	1252.6	1253.5	1254.4	1254.3	1253.2	1252.1	1251.1	1250.0	1252.9
15°	1226.5	1227.4	1228.3	1229.3	1230.2	1230.6	1230.2	1229.9	1229.6	1229.3	1232.4
17.5°	1195.6	1197.5	1199.4	1201.2	1203.1	1204.0	1203.9	1203.7	1203.6	1203.5	1206.3
20°	1173.2	1175.1	1177.0	1178.8	1180.7	1182.0	1182.6	1183.2	1183.8	1184.5	1187.2
22.5°	1149.7	1151.6	1153.4	1155.3	1157.2	1158.5	1159.4	1160.3	1161.1	1162.0	1165.6
25°	1107.3	1110.4	1113.6	1116.7	1119.8	1121.8	1122.8	1123.6	1124.6	1125.5	1129.6
27.5°	1064.7	1068.3	1071.8	1075.4	1078.9	1081.7	1083.7	1085.7	1087.7	1089.7	1093.1
30°	1034.5	1038.5	1042.5	1046.6	1050.6	1053.9	1056.4	1058.9	1061.4	1063.9	1067.6
32.5°	1000.8	1005.3	1009.9	1014.4	1019.0	1022.9	1026.1	1029.4	1032.6	1035.8	1039.8
35°	953.1	958.1	963.1	968.1	973.1	977.6	981.7	985.7	989.7	993.8	998.4
37.5°	902.7	908.3	913.9	919.5	925.1	930.4	935.4	940.4	945.4	950.4	955.6
40°	869.1	874.7	880.3	885.8	891.4	897.4	903.7	909.8	916.1	922.3	927.6
42.5°	832.1	838.9	845.8	852.6	859.4	866.1	872.6	879.0	885.6	892.1	897.9
45°	779.4	786.8	794.2	801.7	809.2	816.9	824.7	832.4	840.3	848.0	853.9
47.5°	724.1	732.5	741.0	749.6	758.0	766.7	775.6	784.5	793.4	802.4	809.0
50°	688.2	697.0	705.7	714.3	723.1	732.3	742.0	751.6	761.3	770.9	778.1
52.5°	650.1	659.3	668.5	677.8	687.0	697.0	707.6	718.2	728.9	739.5	747.0
55°	594.3	604.6	614.8	625.2	635.4	646.1	657.4	668.6	679.8	691.1	699.5
57.5°	539.9	550.6	561.3	572.0	582.8	594.3	606.5	618.8	631.1	643.4	651.8
60°	501.8	513.0	524.2	535.5	546.6	558.7	571.4	584.2	597.0	609.8	618.5
62.5°	465.9	477.4	488.8	500.3	511.8	524.2	537.8	551.3	564.8	578.4	587.0
65°	410.7	422.8	435.0	447.1	459.3	472.3	485.9	499.6	513.4	527.0	536.4
67.5°	354.6	367.6	380.4	393.3	406.2	419.6	433.5	447.5	461.5	475.5	485.6
70°	315.4	328.8	342.1	355.5	369.0	383.2	398.1	413.0	428.0	442.9	452.9
72.5°	279.5	292.9	306.3	319.7	333.1	347.5	362.9	378.4	393.9	409.3	419.5
75°	222.8	237.6	252.2	266.8	281.4	296.5	312.1	327.7	343.2	358.8	369.1
77.5°	173.5	188.3	203.0	217.8	232.6	247.8	263.5	279.2	294.9	310.6	321.5
80°	138.8	154.0	169.3	184.6	199.8	215.5	231.8	248.0	264.1	280.4	291.0
82.5°	108.5	124.0	139.6	155.1	170.5	186.5	203.0	219.5	235.9	252.3	262.9
85°	68.7	84.3	99.9	115.4	131.0	147.0	163.5	180.0	196.5	213.0	223.6
87.5°	37.5	53.2	69.0	84.8	100.7	116.6	133.0	149.2	165.5	181.7	192.4
90°	18.9	35.6	52.3	69.1	85.8	103.1	120.9	138.7	156.5	174.2	185.5
92.5°	33.1	47.9	62.7	77.4	92.2	107.9	124.7	141.4	158.1	174.9	185.7
95°	54.5	67.7	80.8	94.0	107.2	122.0	138.4	154.9	171.3	187.7	198.0
97.5°	83.1	94.8	106.6	118.3	130.0	143.6	159.0	174.4	189.8	205.4	215.3
100°	102.6	113.5	124.3	135.2	146.1	159.0	174.1	189.1	204.2	219.3	228.7
102.5°	125.4	134.8	144.4	153.8	163.4	175.6	190.6	205.7	220.8	235.8	245.0
105°	160.2	167.9	175.7	183.4	191.2	202.4	217.1	231.9	246.6	261.4	270.0
107.5°	199.2	205.7	212.3	218.8	225.3	235.2	248.4	261.7	274.9	288.2	297.0
110°	223.6	229.4	235.3	241.2	247.1	256.5	269.2	282.0	294.7	307.5	316.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	249.9	254.8	259.6	264.4	269.1	277.5	289.5	301.6	313.6	325.7	334.2
115°	288.3	292.5	296.7	300.9	305.1	312.5	323.5	334.4	345.4	356.2	363.9
117.5°	328.0	330.6	333.2	335.8	338.4	344.7	354.9	365.1	375.2	385.3	392.7
120°	351.8	354.2	356.7	359.1	361.5	367.5	377.0	386.6	396.2	405.7	412.7
122.5°	377.7	379.2	380.6	382.1	383.5	389.0	398.3	407.8	417.1	426.6	433.1
125°	415.9	416.3	416.8	417.2	417.7	422.2	431.0	439.7	448.4	457.2	463.2
127.5°	452.5	453.1	453.7	454.3	455.0	458.8	466.0	473.1	480.3	487.4	492.8
130°	476.8	477.6	478.5	479.4	480.3	483.6	489.4	495.2	501.0	506.8	512.0
132.5°	500.0	501.1	502.2	503.4	504.4	507.4	512.0	516.7	521.3	526.0	530.9
135°	536.9	537.5	538.1	538.7	539.2	541.2	544.4	547.7	551.0	554.3	559.3
137.5°	571.1	571.6	572.0	572.5	573.0	574.4	576.8	579.1	581.3	583.6	588.0
140°	593.8	594.5	595.2	596.0	596.7	597.6	598.7	599.8	600.8	601.9	606.5
142.5°	615.5	616.0	616.4	617.0	617.4	617.9	618.3	618.8	619.2	619.7	623.8
145°	649.3	649.3	649.3	649.3	649.3	649.5	650.0	650.4	650.9	651.3	653.6
147.5°	677.6	678.1	678.7	679.2	679.8	680.2	680.6	681.0	681.4	681.9	682.6
150°	698.3	698.6	698.8	699.2	699.5	699.7	700.0	700.3	700.6	700.9	700.9
152.5°	715.2	715.6	716.0	716.5	716.8	717.1	717.3	717.5	717.6	717.8	718.1
155°	742.0	742.0	742.0	742.0	742.0	742.0	742.2	742.3	742.4	742.6	743.2
157.5°	764.7	764.6	764.4	764.2	764.0	764.0	764.1	764.2	764.4	764.5	765.1
160°	779.0	778.7	778.5	778.1	777.8	777.7	777.7	777.7	777.7	777.7	778.5
162.5°	791.8	791.3	790.9	790.5	790.1	790.0	790.1	790.1	790.3	790.4	791.1
165°	808.2	807.7	807.3	806.8	806.4	806.1	806.1	806.1	806.1	806.1	807.0
167.5°	821.3	820.6	820.1	819.5	818.9	818.7	818.8	818.9	819.0	819.1	820.0
170°	828.7	828.0	827.5	826.9	826.3	826.0	826.0	826.0	826.0	826.0	827.1
172.5°	834.5	833.9	833.3	832.7	832.1	831.8	831.8	831.8	831.8	831.8	832.8
175°	840.5	840.0	839.4	838.8	838.2	837.9	837.9	837.9	837.9	837.9	838.8
177.5°	843.1	842.6	842.1	841.7	841.2	841.0	841.0	841.0	841.0	841.0	841.7
180°	842.6	842.6	842.6	842.6	842.6	842.6	842.6	842.6	842.6	842.6	842.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1284.0	1286.0	1288.0	1288.9	1288.6	1288.3	1288.1	1287.9
5°	1281.9	1284.4	1286.9	1288.0	1287.7	1287.4	1287.1	1286.7
7.5°	1274.2	1277.3	1280.4	1281.8	1281.4	1281.0	1280.7	1280.3
10°	1266.3	1269.4	1272.6	1273.8	1273.2	1272.6	1271.9	1271.3
12.5°	1255.8	1258.6	1261.5	1262.6	1261.9	1261.3	1260.7	1260.1
15°	1235.5	1238.6	1241.7	1243.1	1242.9	1242.5	1242.2	1241.9
17.5°	1209.1	1211.9	1214.7	1215.8	1215.5	1215.0	1214.6	1214.2
20°	1190.0	1192.8	1195.6	1197.2	1197.5	1197.8	1198.1	1198.5
22.5°	1169.1	1172.7	1176.2	1177.9	1177.7	1177.5	1177.3	1177.1
25°	1133.6	1137.7	1141.7	1143.8	1143.8	1143.8	1143.8	1143.8
27.5°	1096.6	1100.1	1103.6	1105.5	1105.7	1106.0	1106.3	1106.5
30°	1071.4	1075.1	1078.8	1080.7	1080.7	1080.7	1080.7	1080.7
32.5°	1043.8	1047.8	1051.8	1054.2	1054.9	1055.7	1056.4	1057.1
35°	1003.2	1007.8	1012.4	1015.5	1016.7	1018.0	1019.2	1020.4
37.5°	960.9	966.3	971.5	974.6	975.7	976.7	977.7	978.7
40°	932.9	938.2	943.5	946.7	948.0	949.2	950.5	951.7
42.5°	903.7	909.5	915.3	919.0	920.7	922.5	924.2	926.0
45°	859.9	865.8	871.7	875.9	878.4	880.9	883.4	885.8
47.5°	815.6	822.3	829.0	833.3	835.2	837.1	839.1	841.0
50°	785.2	792.5	799.6	804.2	806.5	808.6	810.8	813.0
52.5°	754.4	761.8	769.2	774.3	776.9	779.6	782.3	785.0
55°	707.8	716.2	724.7	730.1	732.6	735.1	737.6	740.1
57.5°	660.3	668.8	677.3	683.0	685.9	688.8	691.8	694.6
60°	627.1	635.9	644.6	650.7	654.2	657.5	660.9	664.4
62.5°	595.8	604.5	613.2	619.2	622.3	625.5	628.7	631.9
65°	545.7	555.1	564.5	570.6	573.7	576.8	580.0	583.1
67.5°	495.9	506.1	516.3	522.7	525.4	528.0	530.6	533.2
70°	462.9	472.9	482.8	489.4	492.5	495.6	498.6	501.8
72.5°	429.7	440.0	450.1	456.8	459.9	463.1	466.2	469.3
75°	379.4	389.7	399.9	407.0	410.7	414.5	418.2	421.9
77.5°	332.3	343.1	354.0	360.8	363.7	366.6	369.4	372.3
80°	301.5	312.1	322.7	329.6	332.7	335.8	338.9	342.0
82.5°	273.5	284.1	294.6	301.5	304.6	307.7	310.9	314.0
85°	234.3	244.9	255.4	262.3	265.4	268.5	271.6	274.7
87.5°	203.1	213.8	224.6	231.5	234.7	237.9	241.0	244.2
90°	196.6	207.8	219.0	226.3	229.7	233.1	236.5	240.0
92.5°	196.4	207.2	218.1	224.8	227.6	230.2	232.9	235.6
95°	208.2	218.5	228.7	235.4	238.5	241.7	244.8	247.9
97.5°	225.2	235.2	245.1	251.6	254.8	257.8	260.8	263.9
100°	238.2	247.6	257.2	263.6	267.0	270.4	273.8	277.2
102.5°	254.2	263.5	272.7	278.8	281.9	285.0	288.0	291.1
105°	278.7	287.5	296.2	302.1	305.2	308.4	311.4	314.5
107.5°	305.9	314.6	323.4	329.1	331.7	334.3	336.8	339.4
110°	324.9	333.5	342.2	347.7	349.8	352.0	354.3	356.4



TEST NUMBER: P332219-940

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	342.8	351.2	359.8	365.4	368.1	370.9	373.5	376.2
115°	371.5	379.2	386.7	391.7	394.0	396.4	398.8	401.1
117.5°	400.1	407.5	414.9	419.5	421.6	423.7	425.6	427.7
120°	419.7	426.8	433.7	438.2	440.1	442.0	443.9	445.8
122.5°	439.6	446.1	452.7	456.8	458.6	460.4	462.2	463.9
125°	469.1	475.0	481.0	484.8	486.3	487.9	489.5	491.2
127.5°	498.1	503.5	508.8	512.2	513.6	515.1	516.6	518.0
130°	517.4	522.7	528.1	531.1	532.0	532.8	533.6	534.5
132.5°	535.9	540.9	545.8	549.0	550.3	551.6	552.9	554.3
135°	564.3	569.3	574.4	577.5	578.7	580.0	581.2	582.6
137.5°	592.3	596.6	600.8	603.5	604.5	605.6	606.5	607.5
140°	611.0	615.5	620.0	622.6	623.1	623.7	624.2	624.6
142.5°	627.8	631.8	635.8	638.2	639.0	639.7	640.5	641.2
145°	655.9	658.4	660.7	662.2	662.8	663.4	664.1	664.8
147.5°	683.3	684.1	684.8	685.4	685.5	685.8	686.1	686.3
150°	700.9	700.9	700.9	700.8	700.5	700.3	700.0	699.7
152.5°	718.4	718.5	718.8	718.6	717.9	717.3	716.7	716.0
155°	743.8	744.4	744.9	744.8	743.7	742.7	741.6	740.7
157.5°	765.7	766.3	767.0	766.8	766.0	765.2	764.4	763.5
160°	779.2	779.9	780.6	780.7	780.2	779.5	778.9	778.4
162.5°	791.8	792.6	793.4	793.3	792.3	791.4	790.4	789.4
165°	807.9	808.8	809.7	809.6	808.6	807.5	806.6	805.5
167.5°	820.9	821.9	822.8	822.8	821.9	820.9	820.0	819.1
170°	828.0	829.1	830.1	830.1	829.1	828.0	827.1	826.0
172.5°	833.7	834.6	835.4	835.4	834.4	833.4	832.3	831.3
175°	839.7	840.5	841.4	841.4	840.3	839.3	838.3	837.2
177.5°	842.4	843.1	843.8	843.7	842.9	842.0	841.2	840.4
180°	842.6	842.6	842.6	842.6	842.6	842.6	842.6	842.6

(END OF REPORT)