

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: P332844-935

Luminaire Tested: **S124DIW-S1195D770U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332844-935
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-S1195D770U935-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6480.1 lumens
Efficiency: N/A
Efficacy: 108.4 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

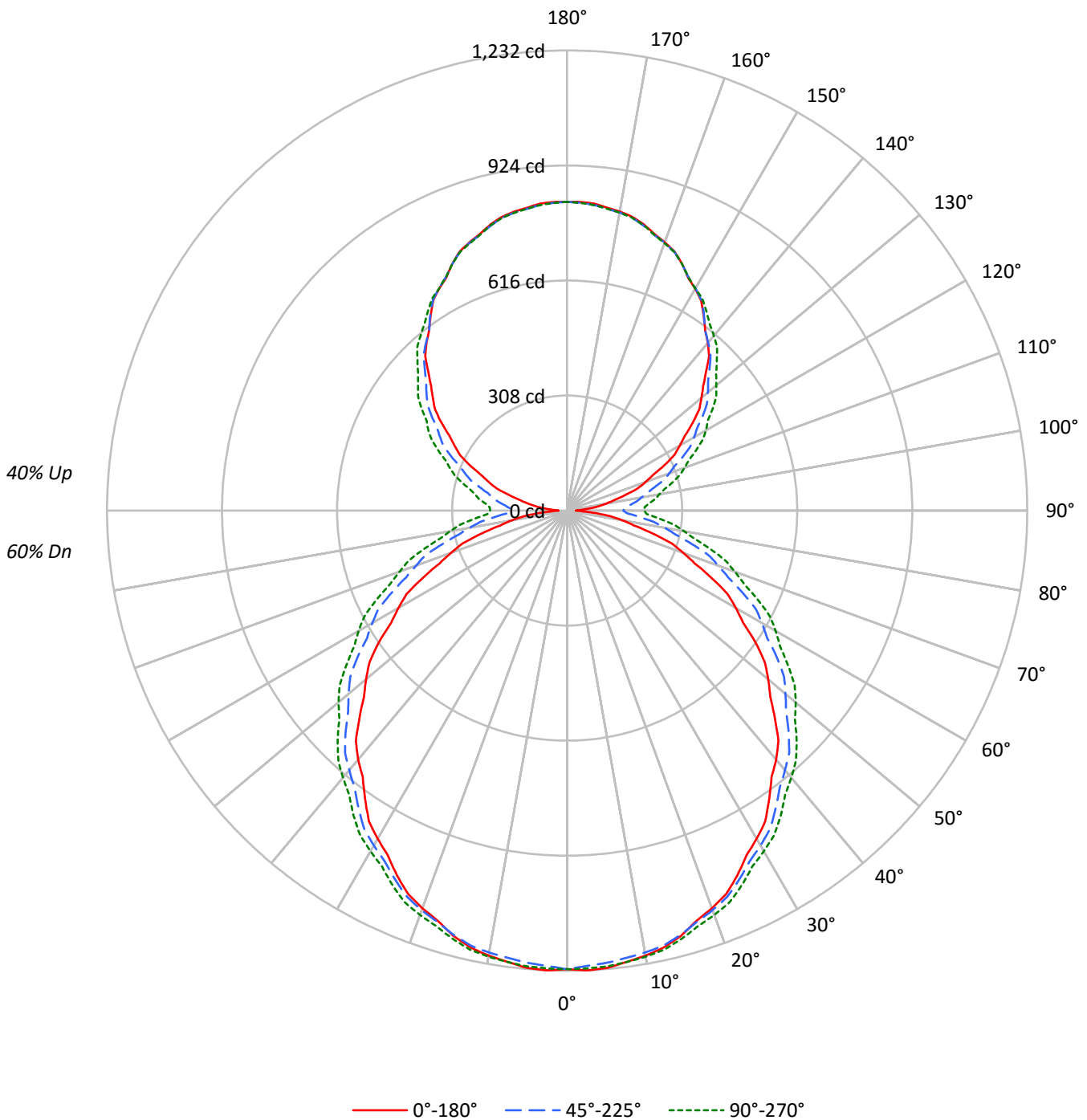
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	88	84	80	76	73	70	65	63	61	56	54	53	48																												
2	89	81	74	69	83	76	70	65	66	61	57	57	53	50	48	46	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	36	38	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	31	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°	9912	9912	9912
5°	9942	9687	9715
10°	9882	9528	9521
15°	9793	9345	9294
20°	9660	9143	9072
25°	9509	8916	8829
30°	9346	8690	8579
35°	9161	8459	8360
40°	9014	8239	8132
45°	8795	8036	7936
50°	8610	7802	7728
55°	8420	7582	7486
60°	8121	7301	7265
65°	7793	6999	6992
70°	7397	6655	6676
75°	6845	6278	6390
80°	6233	5915	6107
85°	5446	5591	5943



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.3	1.8
10°-20°	333.1	5.1
20°-30°	503.7	7.8
30°-40°	609.4	9.4
40°-50°	644.3	9.9
50°-60°	606.4	9.4
60°-70°	503.1	7.8
70°-80°	353.4	5.5
80°-90°	202.2	3.1
90°-100°	173.1	2.7
100°-110°	249.2	3.8
110°-120°	332.9	5.1
120°-130°	394.6	6.1
130°-140°	420.1	6.5
140°-150°	401.6	6.2
150°-160°	335.4	5.2
160°-170°	223.1	3.4
170°-180°	78.1	1.2
0°-30°	953.1	14.7
0°-40°	1562.5	24.1
0°-60°	2813.1	43.4
0°-90°	3871.8	59.7
90°-120°	755.3	11.7
90°-150°	1971.6	30.4
90°-180°	2608.0	40.2
0°-180°	6480.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1229	1225	1215	1226	1225	117
15°	1178	1179	1176	1187	1186	332
25°	1078	1086	1090	1105	1107	496
35°	943	959	973	992	997	590
45°	786	813	839	861	869	608
55°	616	646	686	712	722	549
65°	426	470	517	550	562	422
75°	236	288	345	382	396	252
85°	73	131	192	232	248	78
90°	24	86	150	192	206	17
95°	56	108	168	206	220	57
105°	161	191	243	278	292	172
115°	287	301	342	370	381	283
125°	411	412	444	467	475	367
135°	526	530	540	560	567	407
145°	637	638	639	646	650	399
155°	728	728	728	730	728	335
165°	793	791	790	793	791	223
175°	825	822	821	825	821	78
180°	826	826	826	826	826	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1232.2	1231.4	1230.7	1229.9	1229.2	1227.9	1225.9	1224.0	1222.0	1220.0	1221.8
5°	1229.1	1228.2	1227.3	1226.4	1225.5	1223.9	1221.8	1219.6	1217.5	1215.4	1217.8
7.5°	1218.7	1218.1	1217.5	1217.0	1216.5	1215.3	1213.6	1211.8	1210.0	1208.2	1211.0
10°	1209.9	1209.5	1209.3	1208.9	1208.7	1207.7	1206.2	1204.7	1203.2	1201.6	1204.4
12.5°	1197.7	1197.7	1197.7	1197.6	1197.6	1197.0	1195.9	1194.9	1193.9	1192.8	1195.3
15°	1178.3	1178.5	1178.9	1179.1	1179.5	1179.1	1178.3	1177.3	1176.4	1175.5	1178.3
17.5°	1151.6	1152.5	1153.4	1154.3	1155.2	1155.6	1155.5	1155.2	1155.0	1154.9	1157.7
20°	1132.9	1133.8	1134.7	1135.7	1136.5	1137.1	1137.5	1137.8	1138.1	1138.4	1141.4
22.5°	1112.0	1113.1	1114.3	1115.4	1116.6	1117.5	1118.0	1118.6	1119.1	1119.6	1122.7
25°	1077.9	1079.7	1081.6	1083.4	1085.2	1086.6	1087.5	1088.4	1089.3	1090.3	1093.6
27.5°	1039.9	1042.7	1045.3	1048.0	1050.7	1052.7	1054.1	1055.6	1057.0	1058.3	1061.4
30°	1014.6	1017.1	1019.5	1022.0	1024.4	1026.7	1028.8	1031.0	1033.1	1035.3	1038.6
32.5°	987.1	990.1	993.0	995.9	998.8	1001.5	1003.9	1006.3	1008.7	1011.1	1014.9
35°	943.1	946.8	950.5	954.2	957.8	961.1	964.2	967.2	970.3	973.4	977.7
37.5°	898.9	903.1	907.3	911.5	915.8	919.7	923.5	927.3	931.1	934.9	939.3
40°	870.3	874.3	878.2	882.2	886.1	890.3	894.6	898.9	903.1	907.4	912.0
42.5°	837.3	841.7	846.2	850.7	855.1	859.9	864.9	869.9	874.9	879.9	885.0
45°	786.4	792.2	798.1	803.8	809.6	815.5	821.2	827.1	832.8	838.7	843.9
47.5°	737.7	743.7	749.8	755.7	761.7	768.1	774.8	781.5	788.2	795.0	800.3
50°	702.6	709.3	716.0	722.7	729.4	736.2	742.9	749.6	756.3	763.0	769.1
52.5°	667.4	674.1	680.8	687.5	694.2	701.5	709.1	716.9	724.5	732.3	738.4
55°	616.0	622.3	628.8	635.2	641.6	649.4	658.6	667.7	676.9	686.0	692.2
57.5°	558.4	566.5	574.4	582.3	590.2	598.7	607.9	617.0	626.1	635.2	642.5
60°	521.1	529.0	536.9	544.9	552.8	561.9	572.0	582.0	592.1	602.2	609.2
62.5°	484.7	493.4	502.1	510.8	519.4	528.8	539.0	549.1	559.1	569.2	576.2
65°	426.2	436.0	445.7	455.6	465.3	475.4	485.8	496.2	506.5	516.9	524.6
67.5°	369.8	380.2	390.6	401.0	411.4	422.1	433.3	444.4	455.5	466.7	474.4
70°	331.3	341.7	352.1	362.5	372.9	383.9	395.5	407.1	418.7	430.3	438.6
72.5°	293.9	304.5	315.2	325.8	336.5	347.9	360.3	372.6	385.0	397.4	405.4
75°	236.5	247.8	259.1	270.4	281.7	293.8	306.6	319.4	332.3	345.1	353.6
77.5°	182.9	194.8	206.8	218.8	230.7	243.5	256.9	270.4	283.8	297.2	305.9
80°	149.9	162.0	174.3	186.5	198.7	211.5	225.0	238.5	251.9	265.4	274.5
82.5°	116.8	129.6	142.3	155.0	167.7	180.8	194.2	207.7	221.1	234.5	243.9
85°	72.8	85.7	98.5	111.3	124.2	137.5	151.2	165.0	178.7	192.5	201.6
87.5°	41.1	53.9	66.6	79.4	92.2	105.4	119.0	132.6	146.2	159.8	168.8
90°	23.9	37.7	51.5	65.3	79.0	93.1	107.4	121.7	135.9	150.2	159.9
92.5°	34.6	47.4	60.2	72.9	85.8	99.1	113.0	126.9	140.9	154.8	163.9
95°	56.2	67.6	79.0	90.3	101.7	114.1	127.6	141.1	154.6	168.2	176.8
97.5°	83.2	92.9	102.6	112.3	122.0	133.6	147.2	160.7	174.4	187.9	196.4
100°	104.6	113.1	121.6	130.1	138.6	149.5	162.6	175.9	189.1	202.2	210.8
102.5°	128.1	135.3	142.5	149.6	156.9	166.9	179.7	192.5	205.4	218.3	226.6
105°	161.3	167.6	173.7	180.0	186.2	195.4	207.2	219.1	230.9	242.8	250.9
107.5°	198.7	203.9	209.1	214.2	219.4	227.4	238.2	248.9	259.8	270.5	278.4
110°	223.2	227.7	232.3	236.9	241.4	248.9	259.5	270.1	280.6	291.2	297.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	248.7	252.4	256.3	260.2	264.0	271.0	280.9	290.8	300.7	310.7	317.5
115°	286.9	289.6	292.4	295.2	297.8	304.0	313.5	323.0	332.4	342.0	348.5
117.5°	324.2	325.9	327.7	329.4	331.2	336.6	345.4	354.4	363.3	372.2	378.1
120°	348.1	349.6	351.1	352.6	354.0	359.0	367.5	375.9	384.4	392.8	398.1
122.5°	374.2	374.6	375.0	375.4	375.8	380.1	388.3	396.5	404.7	412.8	418.4
125°	411.3	411.0	410.7	410.4	410.1	413.6	421.1	428.6	436.2	443.7	449.2
127.5°	445.9	446.0	446.2	446.3	446.3	449.3	454.9	460.5	466.1	471.8	477.0
130°	469.3	469.4	469.6	469.7	469.8	472.3	477.2	482.1	487.0	491.9	497.1
132.5°	494.4	494.4	494.4	494.4	494.4	496.3	500.1	503.9	507.7	511.5	516.5
135°	526.1	526.9	527.8	528.7	529.5	531.0	533.1	535.3	537.4	539.6	544.2
137.5°	562.1	562.2	562.3	562.4	562.5	563.2	564.5	565.8	567.0	568.3	572.4
140°	586.2	586.2	586.2	586.1	586.1	586.3	586.5	586.9	587.1	587.5	591.2
142.5°	607.1	607.3	607.5	607.7	608.0	608.0	607.6	607.3	607.0	606.7	610.2
145°	637.2	637.5	637.7	638.0	638.3	638.4	638.6	638.8	638.9	639.0	640.8
147.5°	667.4	667.7	668.1	668.5	668.9	669.0	668.9	668.7	668.7	668.6	668.7
150°	685.8	686.0	686.3	686.6	686.8	687.0	687.0	687.0	687.0	687.0	687.0
152.5°	702.1	702.3	702.6	702.9	703.2	703.4	703.4	703.6	703.7	703.8	704.1
155°	728.5	728.5	728.5	728.5	728.5	728.4	728.2	728.1	728.0	727.9	728.4
157.5°	751.0	750.7	750.4	750.2	749.9	749.8	749.8	749.8	749.8	749.7	750.1
160°	764.3	764.1	764.0	763.9	763.7	763.5	763.4	763.3	763.1	763.0	763.4
162.5°	776.5	776.2	775.8	775.4	775.1	774.8	774.6	774.6	774.4	774.2	775.0
165°	793.1	792.6	792.2	791.8	791.3	791.0	790.7	790.4	790.1	789.8	790.7
167.5°	805.6	805.1	804.5	803.9	803.3	803.0	803.1	803.1	803.1	803.1	804.0
170°	812.9	812.1	811.4	810.7	810.0	809.7	809.9	810.0	810.1	810.3	811.1
172.5°	817.9	817.3	816.7	816.1	815.5	815.3	815.3	815.4	815.4	815.4	816.4
175°	825.0	824.2	823.5	822.9	822.2	821.7	821.6	821.4	821.3	821.1	822.2
177.5°	827.2	826.7	826.1	825.6	825.0	824.8	824.8	824.8	824.8	824.8	825.5
180°	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1223.5	1225.2	1226.9	1227.6	1227.4	1227.1	1226.9	1226.7
5°	1220.3	1222.7	1225.1	1226.2	1225.9	1225.6	1225.3	1225.0
7.5°	1213.8	1216.5	1219.3	1220.5	1220.1	1219.9	1219.5	1219.3
10°	1207.1	1209.9	1212.6	1213.8	1213.6	1213.2	1212.9	1212.6
12.5°	1197.8	1200.3	1202.8	1204.1	1204.0	1203.9	1203.9	1203.9
15°	1181.0	1183.8	1186.5	1187.7	1187.4	1187.1	1186.8	1186.5
17.5°	1160.5	1163.3	1166.1	1167.4	1167.2	1166.9	1166.7	1166.4
20°	1144.5	1147.5	1150.6	1152.1	1152.1	1152.1	1152.1	1152.1
22.5°	1125.8	1128.9	1131.9	1133.7	1134.2	1134.6	1135.1	1135.7
25°	1097.0	1100.4	1103.7	1105.5	1105.9	1106.1	1106.5	1106.7
27.5°	1064.6	1067.7	1070.8	1072.5	1073.0	1073.3	1073.7	1074.0
30°	1042.0	1045.3	1048.7	1050.7	1051.3	1051.9	1052.5	1053.2
32.5°	1018.7	1022.6	1026.5	1028.7	1029.3	1029.9	1030.5	1031.1
35°	982.0	986.2	990.5	993.1	994.0	995.0	995.8	996.8
37.5°	943.6	947.9	952.3	954.9	955.9	956.8	957.9	958.8
40°	916.5	921.2	925.7	928.7	929.9	931.1	932.3	933.5
42.5°	890.0	895.1	900.2	903.2	904.2	905.2	906.1	907.1
45°	849.0	854.3	859.5	862.8	864.4	865.8	867.4	868.9
47.5°	805.7	811.1	816.5	820.0	821.9	823.7	825.5	827.4
50°	775.2	781.4	787.5	791.4	793.3	795.1	796.9	798.7
52.5°	744.5	750.6	756.6	760.7	762.5	764.3	766.1	768.0
55°	698.3	704.4	710.5	714.5	716.3	718.2	720.0	721.8
57.5°	649.7	657.0	664.3	668.7	670.5	672.2	673.9	675.6
60°	616.2	623.3	630.3	635.0	637.5	639.9	642.4	644.8
62.5°	583.2	590.3	597.3	602.0	604.5	606.9	609.3	611.8
65°	532.2	539.8	547.5	552.5	555.0	557.4	559.9	562.3
67.5°	482.2	489.9	497.7	502.7	505.1	507.5	509.9	512.3
70°	446.9	455.0	463.3	468.6	470.6	472.8	474.9	477.1
72.5°	413.4	421.4	429.4	434.5	437.0	439.3	441.7	444.1
75°	362.2	370.7	379.3	385.0	387.7	390.5	393.2	396.0
77.5°	314.6	323.3	331.9	337.8	340.7	343.6	346.6	349.5
80°	283.7	292.8	302.0	307.8	310.2	312.7	315.1	317.6
82.5°	253.4	262.8	272.2	278.3	280.9	283.6	286.3	289.0
85°	210.8	220.0	229.1	235.2	238.3	241.3	244.4	247.5
87.5°	177.9	186.9	196.0	201.8	204.6	207.3	210.1	212.8
90°	169.6	179.3	189.0	195.3	197.9	200.7	203.5	206.1
92.5°	173.1	182.2	191.3	197.2	199.8	202.4	205.0	207.7
95°	185.5	194.2	202.9	208.6	211.4	214.1	216.8	219.6
97.5°	204.9	213.4	222.0	227.6	230.1	232.8	235.4	238.1
100°	219.3	227.8	236.4	241.8	243.8	246.0	248.1	250.3
102.5°	235.1	243.4	251.8	257.3	259.8	262.3	264.8	267.3
105°	259.0	267.0	275.1	280.5	283.4	286.3	289.1	292.1
107.5°	286.4	294.3	302.1	307.2	309.4	311.5	313.7	315.9
110°	304.6	311.4	318.1	323.0	325.8	328.6	331.6	334.4



TEST NUMBER: P332844-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	324.2	330.9	337.6	342.2	344.7	347.3	349.8	352.3
115°	355.1	361.7	368.2	372.6	374.5	376.5	378.6	380.6
117.5°	383.9	389.8	395.6	399.7	401.8	404.0	406.1	408.3
120°	403.6	409.0	414.3	418.4	421.1	423.9	426.6	429.3
122.5°	424.0	429.7	435.3	438.9	440.7	442.4	444.0	445.7
125°	454.7	460.2	465.7	469.2	470.8	472.3	473.9	475.4
127.5°	482.2	487.5	492.7	496.2	498.1	499.9	501.8	503.6
130°	502.3	507.6	512.7	516.0	517.2	518.5	519.8	521.1
132.5°	521.4	526.4	531.4	534.7	536.3	537.9	539.5	541.1
135°	548.8	553.4	558.0	561.0	562.4	563.8	565.2	566.6
137.5°	576.4	580.6	584.6	587.5	589.1	590.7	592.3	593.9
140°	595.1	598.9	602.8	605.4	606.7	608.1	609.5	611.0
142.5°	613.6	617.1	620.5	622.9	624.1	625.4	626.6	627.9
145°	642.4	644.1	645.8	647.0	647.8	648.6	649.5	650.2
147.5°	668.8	668.9	669.1	669.5	670.4	671.2	672.1	672.9
150°	687.0	687.0	687.0	686.9	686.7	686.6	686.5	686.3
152.5°	704.5	704.8	705.2	705.2	704.8	704.5	704.0	703.7
155°	729.0	729.5	730.1	730.1	729.5	729.0	728.4	727.9
157.5°	750.5	751.0	751.4	751.4	750.9	750.4	749.9	749.4
160°	763.9	764.3	764.7	764.6	763.9	763.1	762.4	761.7
162.5°	775.8	776.5	777.3	777.3	776.6	775.9	775.2	774.5
165°	791.5	792.4	793.2	793.4	792.8	792.2	791.7	791.1
167.5°	804.9	805.6	806.5	806.5	805.6	804.8	803.9	803.0
170°	812.0	812.9	813.7	813.6	812.6	811.7	810.6	809.7
172.5°	817.3	818.3	819.2	819.2	818.2	817.3	816.2	815.3
175°	823.1	824.1	825.1	825.1	824.1	823.1	822.2	821.1
177.5°	826.3	827.1	827.9	827.9	826.9	826.0	825.1	824.2
180°	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2

(END OF REPORT)