

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: P332850-930

Luminaire Tested: **S124DIW-S1195D1050U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332850-930
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-S1195D1050U930-4F0-1E-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: 6929.2 lumens
Efficiency: N/A
Efficacy: 102.8 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

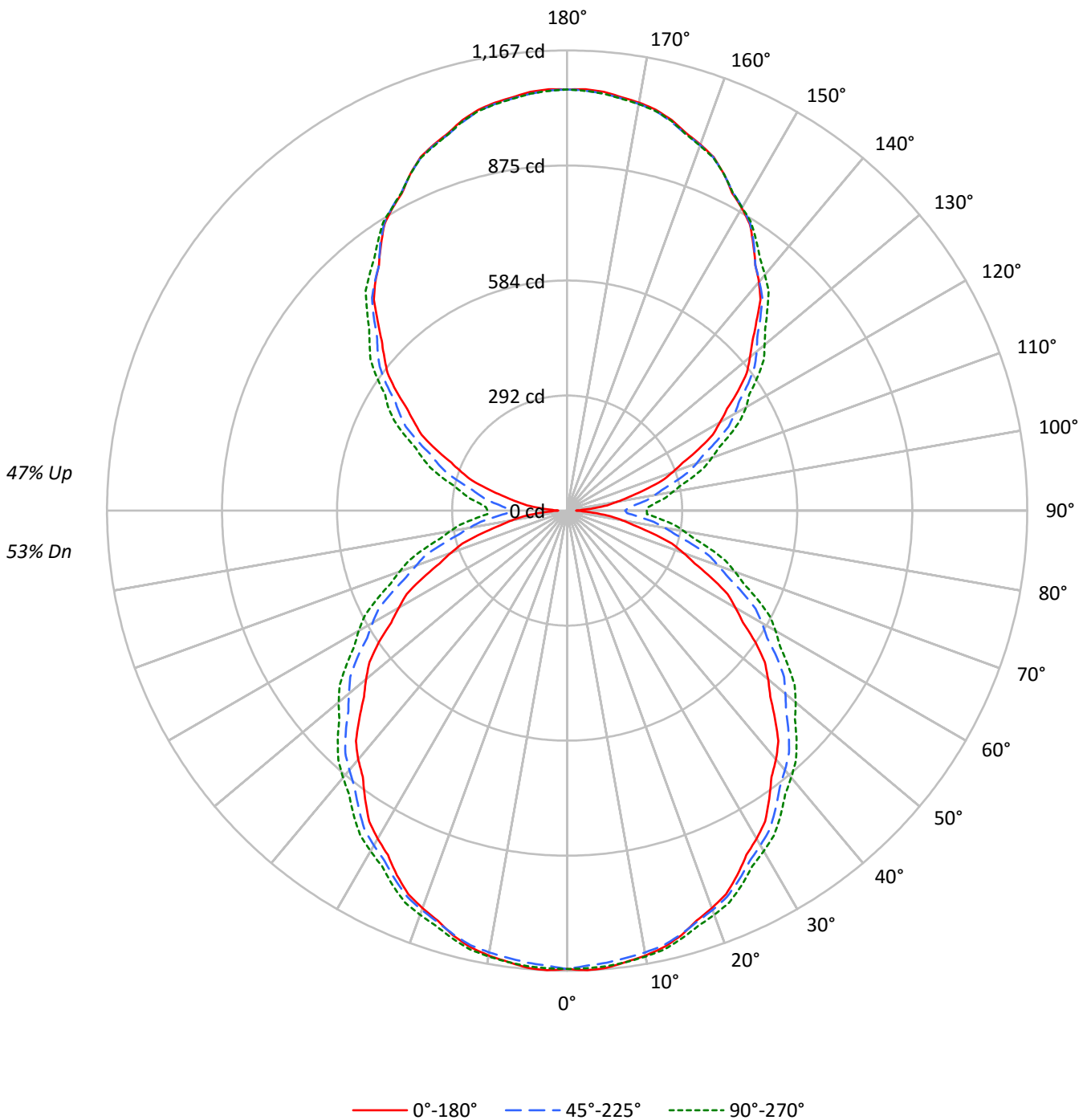
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20						20								20		
RC	80					70						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°	9386	9386	9386
5°	9414	9173	9199
10°	9357	9022	9016
15°	9273	8849	8800
20°	9147	8658	8591
25°	9004	8442	8360
30°	8849	8228	8124
35°	8675	8010	7917
40°	8536	7801	7700
45°	8329	7610	7515
50°	8153	7388	7319
55°	7973	7179	7089
60°	7689	6913	6880
65°	7380	6628	6622
70°	7004	6302	6322
75°	6483	5945	6051
80°	5900	5600	5784
85°	5162	5295	5626



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	1.6
10°-20°	315.4	4.6
20°-30°	477.0	6.9
30°-40°	577.1	8.3
40°-50°	610.1	8.8
50°-60°	574.2	8.3
60°-70°	476.4	6.9
70°-80°	334.6	4.8
80°-90°	192.4	2.8
90°-100°	182.8	2.6
100°-110°	291.8	4.2
110°-120°	410.0	5.9
120°-130°	498.5	7.2
130°-140°	538.1	7.8
140°-150°	518.1	7.5
150°-160°	433.5	6.3
160°-170°	288.4	4.2
170°-180°	101.0	1.5
0°-30°	902.5	13.0
0°-40°	1479.6	21.4
0°-60°	2663.8	38.4
0°-90°	3667.1	52.9
90°-120°	884.5	12.8
90°-150°	2439.2	35.2
90°-180°	3262.0	47.1
0°-180°	6929.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1160	1151	1161	1160	110
15°	1116	1117	1113	1124	1124	314
25°	1021	1028	1032	1046	1048	470
35°	893	908	922	939	944	559
45°	745	769	794	815	823	575
55°	583	611	650	675	684	520
65°	404	445	490	521	532	400
75°	224	272	327	362	375	238
85°	69	124	182	220	234	73
90°	23	85	147	188	202	17
95°	66	117	176	212	225	69
105°	204	232	282	316	330	217
115°	368	381	420	446	456	363
125°	530	530	560	582	589	472
135°	679	684	693	712	718	526
145°	823	825	826	833	836	515
155°	942	942	941	944	941	433
165°	1025	1023	1021	1025	1022	289
175°	1066	1062	1061	1066	1061	101
180°	1068	1068	1068	1068	1068	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1166.8	1166.0	1165.4	1164.7	1164.0	1162.7	1160.8	1159.0	1157.2	1155.3	1156.9
5°	1163.8	1163.0	1162.1	1161.3	1160.4	1158.9	1156.9	1154.9	1152.9	1150.9	1153.2
7.5°	1154.0	1153.5	1152.9	1152.4	1151.9	1150.8	1149.2	1147.5	1145.7	1144.1	1146.7
10°	1145.7	1145.3	1145.1	1144.8	1144.5	1143.6	1142.2	1140.8	1139.3	1137.8	1140.4
12.5°	1134.2	1134.2	1134.1	1134.0	1134.0	1133.4	1132.5	1131.5	1130.5	1129.5	1131.9
15°	1115.7	1116.0	1116.3	1116.6	1116.9	1116.6	1115.7	1114.8	1113.9	1113.1	1115.7
17.5°	1090.5	1091.4	1092.2	1093.1	1093.9	1094.3	1094.1	1093.9	1093.7	1093.6	1096.3
20°	1072.8	1073.6	1074.5	1075.4	1076.2	1076.8	1077.1	1077.4	1077.7	1078.0	1080.8
22.5°	1053.0	1054.0	1055.2	1056.2	1057.4	1058.2	1058.7	1059.2	1059.7	1060.2	1063.2
25°	1020.7	1022.4	1024.2	1025.9	1027.6	1028.9	1029.8	1030.6	1031.5	1032.4	1035.6
27.5°	984.7	987.3	989.9	992.4	994.9	996.9	998.2	999.6	1000.9	1002.2	1005.1
30°	960.7	963.1	965.4	967.8	970.0	972.2	974.2	976.2	978.3	980.3	983.5
32.5°	934.7	937.5	940.3	943.1	945.8	948.4	950.6	952.9	955.1	957.4	961.1
35°	893.1	896.6	900.0	903.5	906.9	910.1	913.1	915.9	918.8	921.7	925.8
37.5°	851.2	855.2	859.2	863.2	867.2	870.9	874.5	878.1	881.7	885.3	889.4
40°	824.1	827.9	831.6	835.4	839.1	843.0	847.1	851.2	855.2	859.2	863.6
42.5°	792.9	797.0	801.3	805.5	809.8	814.2	819.0	823.7	828.4	833.2	838.0
45°	744.7	750.2	755.7	761.2	766.6	772.2	777.6	783.2	788.6	794.2	799.1
47.5°	698.5	704.3	710.0	715.6	721.3	727.3	733.7	740.0	746.4	752.8	757.8
50°	665.3	671.6	678.0	684.4	690.7	697.1	703.4	709.8	716.2	722.5	728.3
52.5°	631.9	638.3	644.7	651.0	657.4	664.2	671.5	678.8	686.1	693.4	699.2
55°	583.3	589.3	595.4	601.4	607.6	614.9	623.6	632.3	641.0	649.6	655.4
57.5°	528.8	536.4	543.9	551.4	558.9	567.0	575.6	584.2	592.9	601.4	608.4
60°	493.4	500.9	508.4	516.0	523.5	532.1	541.6	551.1	560.7	570.2	576.9
62.5°	459.0	467.2	475.5	483.7	491.9	500.8	510.4	519.9	529.5	539.0	545.6
65°	403.6	412.9	422.1	431.4	440.6	450.1	460.0	469.9	479.6	489.5	496.8
67.5°	350.2	360.0	369.9	379.7	389.6	399.7	410.3	420.8	431.3	441.9	449.2
70°	313.7	323.6	333.5	343.2	353.1	363.5	374.5	385.5	396.5	407.5	415.3
72.5°	278.3	288.4	298.5	308.5	318.6	329.5	341.2	352.9	364.5	376.3	383.8
75°	224.0	234.6	245.3	256.0	266.8	278.2	290.3	302.5	314.6	326.8	334.8
77.5°	173.2	184.5	195.8	207.2	218.5	230.6	243.3	256.0	268.7	281.4	289.7
80°	141.9	153.4	165.0	176.6	188.2	200.3	213.0	225.8	238.6	251.3	259.9
82.5°	110.6	122.7	134.8	146.8	158.8	171.2	183.9	196.7	209.4	222.1	231.0
85°	69.0	81.1	93.3	105.4	117.6	130.2	143.2	156.2	169.3	182.3	190.9
87.5°	39.1	51.2	63.4	75.7	87.9	100.4	113.4	126.4	139.3	152.3	160.9
90°	23.3	36.9	50.5	64.1	77.7	91.4	105.3	119.3	133.1	147.1	156.5
92.5°	37.5	50.2	62.9	75.7	88.4	101.5	115.0	128.4	141.9	155.3	164.2
95°	66.4	77.7	88.9	100.0	111.3	123.4	136.6	149.8	162.9	176.0	184.4
97.5°	101.9	111.5	121.0	130.5	140.1	151.5	164.7	178.0	191.2	204.5	212.7
100°	130.0	138.2	146.4	154.7	163.0	173.6	186.5	199.4	212.4	225.3	233.5
102.5°	160.4	167.2	174.1	181.0	187.9	197.6	210.2	222.7	235.3	247.9	255.9
105°	204.2	210.1	216.1	222.1	228.0	236.8	248.2	259.6	271.1	282.5	290.2
107.5°	252.7	257.6	262.5	267.5	272.5	280.1	290.3	300.6	310.8	321.1	328.6
110°	284.6	289.0	293.4	297.9	302.3	309.5	319.4	329.4	339.3	349.3	355.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	318.0	321.6	325.2	328.9	332.6	339.1	348.4	357.8	367.0	376.4	382.8
115°	367.9	370.6	373.2	375.7	378.3	384.1	393.0	401.9	410.7	419.6	425.8
117.5°	416.2	417.9	419.6	421.3	423.1	428.1	436.4	444.8	453.2	461.5	466.9
120°	447.5	449.1	450.8	452.3	454.0	458.7	466.5	474.3	482.2	490.1	494.9
122.5°	481.3	481.8	482.2	482.7	483.1	487.2	494.9	502.6	510.2	517.9	523.0
125°	529.7	529.4	529.1	528.8	528.5	531.9	538.9	546.0	553.0	560.1	565.2
127.5°	574.5	574.8	575.0	575.3	575.5	578.3	583.6	588.8	594.1	599.3	604.2
130°	605.2	605.4	605.7	605.9	606.3	608.7	613.3	617.9	622.6	627.2	632.0
132.5°	637.6	637.6	637.8	637.9	638.1	639.8	643.4	646.9	650.5	654.1	658.7
135°	679.1	680.1	681.3	682.3	683.5	685.0	687.1	689.1	691.0	693.1	697.4
137.5°	725.6	725.9	726.1	726.3	726.5	727.2	728.6	729.9	731.1	732.4	736.1
140°	756.7	756.8	756.8	756.9	757.0	757.2	757.5	757.7	758.1	758.3	761.9
142.5°	784.1	784.4	784.6	785.0	785.3	785.3	785.0	784.6	784.3	784.0	787.3
145°	823.1	823.5	824.0	824.4	824.9	825.2	825.4	825.6	825.7	825.9	827.4
147.5°	862.1	862.7	863.2	863.9	864.5	864.7	864.5	864.4	864.2	864.1	864.1
150°	885.9	886.3	886.8	887.2	887.6	887.9	887.9	887.9	887.9	887.9	887.9
152.5°	907.3	907.7	908.1	908.5	908.8	909.1	909.2	909.4	909.5	909.7	910.1
155°	941.6	941.6	941.6	941.6	941.6	941.5	941.3	941.1	940.9	940.8	941.5
157.5°	970.6	970.3	970.0	969.6	969.3	969.1	969.1	969.1	969.0	969.0	969.6
160°	987.8	987.7	987.4	987.2	987.1	986.9	986.7	986.5	986.3	986.2	986.7
162.5°	1003.6	1003.2	1002.7	1002.2	1001.8	1001.4	1001.3	1001.1	1000.9	1000.7	1001.7
165°	1025.0	1024.4	1023.9	1023.4	1022.8	1022.3	1022.0	1021.6	1021.2	1020.8	1022.0
167.5°	1041.3	1040.6	1039.8	1039.0	1038.3	1037.9	1038.0	1038.0	1038.0	1038.0	1039.1
170°	1050.6	1049.7	1048.7	1047.8	1046.9	1046.5	1046.8	1046.9	1047.1	1047.3	1048.4
172.5°	1057.2	1056.4	1055.6	1054.9	1054.1	1053.8	1053.8	1053.9	1053.9	1053.9	1055.2
175°	1066.2	1065.4	1064.5	1063.6	1062.6	1062.1	1061.8	1061.7	1061.5	1061.4	1062.6
177.5°	1069.3	1068.5	1067.8	1067.1	1066.3	1065.9	1065.9	1065.9	1065.9	1065.9	1067.0
180°	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1158.5	1160.2	1161.8	1162.5	1162.2	1162.0	1161.8	1161.6
5°	1155.5	1157.8	1160.1	1161.1	1160.8	1160.6	1160.3	1160.0
7.5°	1149.3	1151.9	1154.5	1155.7	1155.4	1155.1	1154.8	1154.5
10°	1143.0	1145.7	1148.3	1149.4	1149.2	1148.8	1148.5	1148.3
12.5°	1134.2	1136.6	1139.0	1140.2	1140.1	1140.0	1140.0	1140.0
15°	1118.3	1121.0	1123.5	1124.7	1124.4	1124.1	1123.8	1123.5
17.5°	1098.9	1101.6	1104.2	1105.5	1105.2	1105.0	1104.7	1104.5
20°	1083.8	1086.6	1089.6	1091.0	1091.0	1091.0	1091.0	1091.0
22.5°	1066.0	1068.9	1071.8	1073.5	1074.0	1074.4	1074.9	1075.4
25°	1038.8	1042.0	1045.1	1046.8	1047.2	1047.4	1047.7	1048.0
27.5°	1008.1	1011.1	1014.0	1015.6	1016.0	1016.4	1016.7	1017.0
30°	986.7	989.9	993.0	994.9	995.5	996.1	996.6	997.3
32.5°	964.7	968.3	972.0	974.1	974.7	975.3	975.8	976.4
35°	929.8	933.8	937.9	940.4	941.3	942.2	943.0	943.9
37.5°	893.5	897.6	901.7	904.2	905.1	906.0	907.0	907.9
40°	867.9	872.3	876.6	879.4	880.5	881.7	882.8	883.9
42.5°	842.8	847.6	852.4	855.2	856.2	857.1	858.0	859.0
45°	804.0	808.9	813.8	817.0	818.5	819.9	821.3	822.8
47.5°	763.0	768.0	773.1	776.5	778.3	780.0	781.7	783.5
50°	734.1	739.9	745.7	749.4	751.2	752.9	754.6	756.4
52.5°	705.0	710.8	716.5	720.3	722.0	723.7	725.5	727.2
55°	661.2	667.0	672.8	676.5	678.2	680.0	681.8	683.5
57.5°	615.2	622.2	629.0	633.2	634.9	636.5	638.1	639.8
60°	583.5	590.2	596.8	601.3	603.6	605.9	608.3	610.6
62.5°	552.3	559.0	565.6	570.1	572.4	574.7	577.0	579.4
65°	503.9	511.2	518.4	523.2	525.5	527.8	530.2	532.5
67.5°	456.6	463.9	471.2	476.1	478.3	480.5	482.8	485.1
70°	423.1	430.9	438.7	443.7	445.6	447.7	449.7	451.8
72.5°	391.4	399.0	406.6	411.5	413.8	416.0	418.2	420.5
75°	343.0	351.1	359.1	364.5	367.1	369.7	372.3	375.0
77.5°	297.9	306.1	314.3	319.8	322.6	325.4	328.2	330.9
80°	268.6	277.3	286.0	291.5	293.8	296.1	298.4	300.8
82.5°	239.9	248.8	257.7	263.5	266.0	268.6	271.1	273.6
85°	199.6	208.3	217.0	222.7	225.7	228.5	231.5	234.3
87.5°	169.5	178.1	186.8	192.3	195.0	197.6	200.2	202.8
90°	166.1	175.5	185.0	191.1	193.8	196.5	199.2	201.9
92.5°	173.0	181.8	190.6	196.3	198.9	201.4	203.9	206.4
95°	192.7	201.1	209.5	215.0	217.6	220.2	222.7	225.3
97.5°	220.9	229.2	237.4	242.8	245.3	247.8	250.3	252.7
100°	241.7	249.8	258.0	263.1	265.1	267.2	269.2	271.3
102.5°	264.1	272.1	280.2	285.5	287.9	290.2	292.7	295.1
105°	298.1	305.8	313.6	318.9	321.8	324.7	327.6	330.4
107.5°	336.3	343.9	351.6	356.4	358.4	360.5	362.6	364.6
110°	361.8	368.1	374.4	379.0	381.8	384.7	387.6	390.4



TEST NUMBER: P332850-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	389.1	395.4	401.8	406.2	408.6	411.1	413.4	415.9
115°	432.0	438.2	444.3	448.4	450.2	452.1	453.9	455.8
117.5°	472.3	477.8	483.1	486.8	488.8	490.7	492.6	494.6
120°	499.8	504.7	509.5	513.3	516.0	518.7	521.3	524.0
122.5°	528.2	533.4	538.5	541.8	543.2	544.6	546.1	547.5
125°	570.4	575.5	580.6	583.8	585.2	586.6	588.0	589.3
127.5°	609.0	613.9	618.7	622.0	623.6	625.3	627.0	628.7
130°	636.9	641.7	646.5	649.5	650.4	651.5	652.5	653.5
132.5°	663.3	667.9	672.5	675.6	676.9	678.4	679.9	681.3
135°	701.6	705.9	710.1	712.9	714.0	715.3	716.4	717.6
137.5°	739.9	743.6	747.4	750.0	751.5	753.2	754.7	756.3
140°	765.5	769.1	772.7	775.0	776.3	777.6	778.9	780.1
142.5°	790.5	793.8	797.0	799.2	800.5	801.6	802.8	804.0
145°	829.1	830.6	832.2	833.2	833.8	834.5	835.0	835.7
147.5°	864.3	864.4	864.5	864.9	865.6	866.3	867.1	867.8
150°	887.9	887.9	887.9	887.8	887.6	887.5	887.2	887.0
152.5°	910.5	911.0	911.4	911.4	910.9	910.4	910.0	909.5
155°	942.2	943.0	943.7	943.7	943.0	942.2	941.5	940.8
157.5°	970.1	970.6	971.2	971.2	970.5	969.9	969.3	968.7
160°	987.2	987.8	988.4	988.1	987.2	986.3	985.5	984.5
162.5°	1002.7	1003.6	1004.7	1004.7	1003.8	1002.9	1001.9	1001.0
165°	1023.0	1024.2	1025.2	1025.4	1024.7	1023.9	1023.2	1022.5
167.5°	1040.2	1041.3	1042.4	1042.4	1041.3	1040.2	1039.0	1037.9
170°	1049.5	1050.6	1051.7	1051.6	1050.4	1049.0	1047.7	1046.4
172.5°	1056.4	1057.6	1058.9	1058.8	1057.6	1056.3	1055.0	1053.7
175°	1063.9	1065.2	1066.5	1066.5	1065.2	1063.9	1062.6	1061.4
177.5°	1068.0	1069.0	1070.1	1070.0	1068.8	1067.6	1066.5	1065.3
180°	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0

(END OF REPORT)