

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: P332729

Luminaire Tested: **S124DIW-S350D1050U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332729  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S350D1050U835-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1050 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5635.0 lumens  
Efficiency: N/A  
Efficacy: 148.3 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: Semi-Indirect

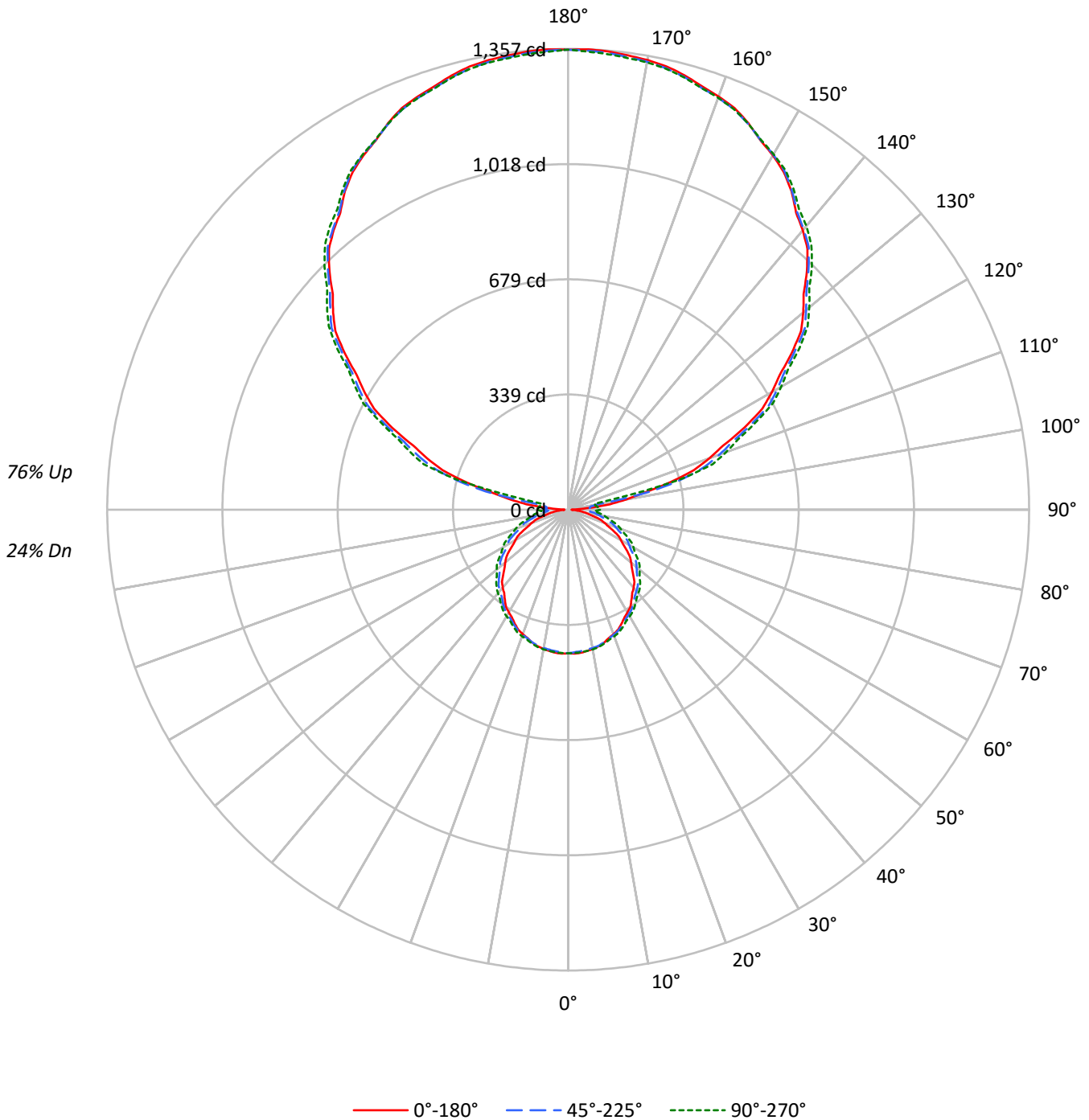
Input Watts (W): 38  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332729

CATALOG NUMBER: S124DIW-S350D1050U835-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P332729

CATALOG NUMBER: S124DIW-S350D1050U835-4F0-1E-UDD-D

**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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	80	81	77	74	71	59	57	55	43	41	40	27	27	26	19
2	83	76	70	64	73	67	62	58	52	48	45	37	35	33	24	23	21	15
3	76	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	34	30	32	27	23	23	20	17	15	13	12	8
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	13	12	10	9	6
9	46	34	27	22	41	30	24	20	24	19	16	17	14	12	11	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3412	3412	3412
5°	3423	3335	3344
10°	3402	3281	3278
15°	3371	3217	3200
20°	3325	3147	3124
25°	3274	3070	3039
30°	3217	2992	2954
35°	3154	2912	2878
40°	3103	2836	2800
45°	3027	2766	2732
50°	2964	2686	2661
55°	2899	2610	2577
60°	2796	2513	2501
65°	2682	2410	2407
70°	2547	2292	2298
75°	2356	2161	2199
80°	2145	2037	2102
85°	1878	1926	2046



TEST NUMBER: P332729

CATALOG NUMBER: S124DIW-S350D1050U835-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.0	0.7
10°-20°	114.7	2.0
20°-30°	173.4	3.1
30°-40°	209.8	3.7
40°-50°	221.8	3.9
50°-60°	208.8	3.7
60°-70°	173.2	3.1
70°-80°	121.7	2.2
80°-90°	72.7	1.3
90°-100°	87.2	1.5
100°-110°	325.6	5.8
110°-120°	585.4	10.4
120°-130°	728.8	12.9
130°-140°	772.5	13.7
140°-150°	718.7	12.8
150°-160°	578.8	10.3
160°-170°	373.3	6.6
170°-180°	128.7	2.3
0°-30°	328.1	5.8
0°-40°	537.9	9.5
0°-60°	968.5	17.2
0°-90°	1336.0	23.7
90°-120°	998.2	17.7
90°-150°	3218.2	57.1
90°-180°	4299.0	76.3
0°-180°	5635.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	423	422	418	422	422	40
15°	406	406	405	409	408	114
25°	371	374	375	380	381	171
35°	325	330	335	341	343	203
45°	271	280	289	296	299	209
55°	212	222	236	245	248	189
65°	147	162	178	189	194	145
75°	81	99	119	132	136	87
85°	25	45	66	80	85	27
90°	11	41	69	88	95	8
95°	62	45	64	82	88	77
105°	309	325	347	365	336	324
115°	572	580	594	606	609	563
125°	802	806	816	827	832	716
135°	994	993	1000	1010	1015	766
145°	1145	1148	1148	1152	1156	715
155°	1255	1256	1253	1257	1254	579
165°	1324	1319	1319	1326	1318	374
175°	1355	1349	1350	1358	1346	129
180°	1355	1355	1355	1355	1355	



TEST NUMBER: P332729

CATALOG NUMBER: S124DIW-S350D1050U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	424.2	423.9	423.7	423.4	423.2	422.7	422.1	421.4	420.7	420.0	420.6
5°	423.2	422.8	422.5	422.2	421.9	421.4	420.6	419.9	419.2	418.4	419.3
7.5°	419.6	419.4	419.2	419.0	418.8	418.4	417.8	417.2	416.6	416.0	416.9
10°	416.5	416.4	416.3	416.2	416.1	415.8	415.3	414.7	414.2	413.7	414.6
12.5°	412.4	412.3	412.3	412.3	412.3	412.1	411.7	411.4	411.0	410.7	411.5
15°	405.6	405.8	405.9	406.0	406.1	406.0	405.6	405.3	405.0	404.7	405.6
17.5°	396.5	396.8	397.1	397.4	397.7	397.9	397.8	397.7	397.7	397.6	398.6
20°	390.0	390.3	390.7	391.0	391.3	391.5	391.6	391.7	391.8	391.9	393.0
22.5°	382.8	383.2	383.6	384.0	384.4	384.7	384.9	385.1	385.3	385.5	386.5
25°	371.1	371.7	372.4	373.0	373.6	374.1	374.4	374.7	375.0	375.4	376.5
27.5°	358.0	359.0	359.9	360.8	361.7	362.4	362.9	363.4	363.9	364.4	365.4
30°	349.3	350.2	351.0	351.8	352.7	353.5	354.2	354.9	355.7	356.4	357.6
32.5°	339.9	340.9	341.9	342.9	343.9	344.8	345.6	346.4	347.3	348.1	349.4
35°	324.7	326.0	327.2	328.5	329.8	330.9	332.0	333.0	334.1	335.1	336.6
37.5°	309.5	310.9	312.4	313.8	315.3	316.6	318.0	319.3	320.6	321.9	323.4
40°	299.6	301.0	302.4	303.7	305.1	306.5	308.0	309.5	310.9	312.4	314.0
42.5°	288.3	289.8	291.3	292.9	294.4	296.0	297.8	299.5	301.2	302.9	304.7
45°	270.7	272.7	274.7	276.7	278.7	280.7	282.7	284.7	286.7	288.7	290.5
47.5°	254.0	256.1	258.1	260.2	262.2	264.4	266.7	269.1	271.4	273.7	275.5
50°	241.9	244.2	246.5	248.8	251.1	253.4	255.8	258.1	260.4	262.7	264.8
52.5°	229.8	232.1	234.4	236.7	239.0	241.5	244.1	246.8	249.4	252.1	254.2
55°	212.1	214.3	216.5	218.7	220.9	223.6	226.7	229.9	233.0	236.2	238.3
57.5°	192.3	195.0	197.7	200.5	203.2	206.1	209.3	212.4	215.5	218.7	221.2
60°	179.4	182.1	184.9	187.6	190.3	193.4	196.9	200.4	203.8	207.3	209.7
62.5°	166.9	169.9	172.9	175.9	178.8	182.1	185.5	189.0	192.5	196.0	198.4
65°	146.7	150.1	153.5	156.8	160.2	163.7	167.2	170.8	174.4	178.0	180.6
67.5°	127.3	130.9	134.5	138.1	141.6	145.3	149.2	153.0	156.8	160.6	163.3
70°	114.1	117.6	121.2	124.8	128.4	132.2	136.2	140.2	144.2	148.2	151.0
72.5°	101.2	104.9	108.5	112.2	115.8	119.8	124.0	128.3	132.5	136.8	139.5
75°	81.4	85.3	89.2	93.1	97.0	101.1	105.6	110.0	114.4	118.8	121.8
77.5°	63.0	67.1	71.2	75.3	79.4	83.8	88.4	93.1	97.7	102.3	105.3
80°	51.6	55.8	60.0	64.2	68.4	72.8	77.5	82.1	86.7	91.4	94.5
82.5°	40.2	44.6	49.0	53.4	57.7	62.2	66.9	71.5	76.1	80.8	84.0
85°	25.1	29.5	33.9	38.3	42.8	47.3	52.1	56.8	61.5	66.3	69.4
87.5°	14.6	19.4	24.2	29.0	33.8	38.6	43.6	48.6	53.5	58.5	61.8
90°	10.6	17.3	24.0	30.7	37.3	43.9	50.2	56.5	62.8	69.1	73.6
92.5°	20.0	23.9	27.8	31.7	35.6	40.8	47.1	53.4	59.7	66.1	70.4
95°	61.9	57.7	53.5	49.3	45.1	45.3	49.9	54.4	58.9	63.5	67.7
97.5°	123.9	131.7	139.4	147.2	155.0	148.4	127.6	106.7	85.8	65.0	67.9
100°	171.4	178.2	184.9	191.7	198.5	188.4	161.5	134.5	107.5	80.6	79.6
102.5°	224.9	230.2	235.6	241.0	246.3	249.0	249.0	248.9	248.9	248.9	210.3
105°	309.2	312.7	316.1	319.6	323.0	327.3	332.3	337.3	342.3	347.4	352.0
107.5°	388.4	390.8	393.2	395.6	398.0	401.8	407.0	412.2	417.4	422.6	426.2
110°	441.5	443.6	445.8	447.9	450.1	453.7	458.7	463.7	468.8	473.8	476.7



TEST NUMBER: P332729

CATALOG NUMBER: S124DIW-S350D1050U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	493.0	495.5	498.0	500.5	503.1	506.4	510.5	514.7	518.8	523.0	525.2
115°	572.2	573.9	575.5	577.1	578.7	581.1	584.3	587.4	590.5	593.7	596.4
117.5°	644.1	645.6	647.0	648.5	650.0	652.5	656.1	659.8	663.4	667.0	669.1
120°	692.3	693.6	694.8	696.0	697.2	699.2	702.1	704.9	707.7	710.5	713.1
122.5°	737.7	738.3	738.9	739.5	740.1	742.0	745.2	748.4	751.6	754.8	757.2
125°	802.3	803.1	803.9	804.7	805.5	807.0	809.2	811.3	813.5	815.7	818.4
127.5°	863.8	863.9	864.0	864.2	864.3	865.9	868.9	872.0	875.0	878.1	879.9
130°	903.1	903.3	903.4	903.5	903.6	904.9	907.2	909.6	911.9	914.3	916.4
132.5°	939.6	939.9	940.2	940.5	940.8	942.1	944.3	946.5	948.7	950.9	952.9
135°	993.9	993.6	993.4	993.2	993.0	993.7	995.3	996.9	998.6	1000.2	1002.3
137.5°	1042.3	1042.3	1042.3	1042.2	1042.2	1042.9	1044.2	1045.6	1046.9	1048.3	1050.3
140°	1073.9	1074.2	1074.6	1074.9	1075.3	1075.7	1076.3	1076.8	1077.4	1078.0	1080.0
142.5°	1101.9	1102.7	1103.5	1104.3	1105.0	1105.5	1105.8	1106.0	1106.2	1106.4	1108.1
145°	1145.4	1145.9	1146.5	1147.1	1147.6	1147.9	1147.9	1147.9	1147.9	1147.9	1148.8
147.5°	1180.0	1181.2	1182.3	1183.5	1184.6	1185.1	1184.9	1184.7	1184.4	1184.2	1184.5
150°	1205.1	1205.9	1206.7	1207.5	1208.3	1208.6	1208.4	1208.2	1207.9	1207.7	1207.7
152.5°	1225.8	1226.5	1227.2	1227.9	1228.6	1228.8	1228.4	1228.0	1227.6	1227.2	1227.5
155°	1255.3	1255.6	1255.8	1256.0	1256.2	1256.0	1255.3	1254.7	1254.0	1253.3	1254.2
157.5°	1280.3	1280.1	1280.0	1279.8	1279.7	1279.3	1278.5	1277.7	1277.0	1276.2	1277.4
160°	1294.8	1294.2	1293.5	1292.8	1292.1	1291.7	1291.5	1291.2	1291.0	1290.8	1292.1
162.5°	1307.8	1307.0	1306.1	1305.2	1304.4	1303.8	1303.6	1303.4	1303.2	1302.9	1304.3
165°	1324.2	1323.1	1322.0	1320.8	1319.7	1319.2	1319.2	1319.2	1319.2	1319.2	1321.0
167.5°	1337.2	1336.0	1334.9	1333.7	1332.5	1331.9	1331.7	1331.6	1331.5	1331.3	1333.3
170°	1344.5	1343.1	1341.8	1340.4	1339.1	1338.5	1338.7	1339.0	1339.2	1339.4	1341.2
172.5°	1349.3	1348.0	1346.6	1345.3	1343.9	1343.4	1343.6	1343.8	1344.1	1344.3	1346.1
175°	1354.6	1353.3	1351.9	1350.6	1349.2	1348.7	1348.9	1349.1	1349.3	1349.6	1351.6
177.5°	1357.0	1355.8	1354.5	1353.3	1352.0	1351.6	1351.9	1352.3	1352.6	1353.0	1354.4
180°	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6



TEST NUMBER: P332729

CATALOG NUMBER: S124DIW-S350D1050U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	421.2	421.8	422.4	422.6	422.6	422.5	422.4	422.3
5°	420.1	420.9	421.8	422.2	422.1	421.9	421.8	421.7
7.5°	417.9	418.8	419.8	420.2	420.1	420.0	419.9	419.8
10°	415.6	416.5	417.5	417.9	417.8	417.7	417.6	417.5
12.5°	412.4	413.3	414.1	414.5	414.5	414.5	414.5	414.4
15°	406.6	407.5	408.5	408.9	408.8	408.7	408.6	408.5
17.5°	399.5	400.5	401.5	401.9	401.8	401.7	401.7	401.6
20°	394.0	395.1	396.1	396.7	396.7	396.7	396.7	396.7
22.5°	387.6	388.6	389.7	390.3	390.5	390.6	390.8	391.0
25°	377.7	378.8	380.0	380.6	380.7	380.8	380.9	381.0
27.5°	366.5	367.6	368.7	369.3	369.4	369.5	369.6	369.8
30°	358.7	359.9	361.0	361.7	361.9	362.2	362.4	362.6
32.5°	350.7	352.1	353.4	354.2	354.4	354.6	354.8	355.0
35°	338.1	339.5	341.0	341.9	342.2	342.5	342.9	343.2
37.5°	324.9	326.3	327.8	328.8	329.1	329.4	329.8	330.1
40°	315.6	317.1	318.7	319.7	320.1	320.6	321.0	321.4
42.5°	306.4	308.2	309.9	311.0	311.3	311.6	312.0	312.3
45°	292.3	294.1	295.9	297.0	297.6	298.1	298.6	299.1
47.5°	277.4	279.2	281.1	282.3	283.0	283.6	284.2	284.9
50°	266.9	269.0	271.1	272.5	273.1	273.7	274.4	275.0
52.5°	256.3	258.4	260.5	261.9	262.5	263.1	263.8	264.4
55°	240.4	242.5	244.6	246.0	246.6	247.2	247.9	248.5
57.5°	223.7	226.2	228.7	230.2	230.8	231.4	232.0	232.6
60°	212.2	214.6	217.0	218.6	219.5	220.3	221.2	222.0
62.5°	200.8	203.2	205.6	207.3	208.1	208.9	209.8	210.6
65°	183.2	185.9	188.5	190.2	191.1	191.9	192.8	193.6
67.5°	166.0	168.7	171.3	173.1	173.9	174.7	175.5	176.4
70°	153.8	156.7	159.5	161.3	162.0	162.8	163.5	164.2
72.5°	142.3	145.1	147.8	149.6	150.4	151.2	152.1	152.9
75°	124.7	127.6	130.6	132.5	133.5	134.4	135.4	136.3
77.5°	108.3	111.3	114.3	116.3	117.3	118.3	119.3	120.3
80°	97.7	100.8	104.0	106.0	106.8	107.7	108.5	109.3
82.5°	87.2	90.5	93.7	95.8	96.7	97.6	98.6	99.5
85°	72.6	75.7	78.9	81.0	82.0	83.1	84.1	85.2
87.5°	65.2	68.5	71.8	74.0	75.0	76.0	77.0	78.0
90°	78.0	82.4	86.8	89.6	90.9	92.2	93.5	94.8
92.5°	74.7	79.0	83.3	86.0	86.9	87.8	88.8	89.7
95°	71.9	76.0	80.2	82.9	84.1	85.3	86.4	87.6
97.5°	70.8	73.7	76.6	78.6	79.7	80.8	82.0	83.1
100°	78.6	77.6	76.6	76.6	77.6	78.5	79.5	80.4
102.5°	171.8	133.3	94.7	75.9	76.8	77.6	78.5	79.4
105°	356.7	361.3	366.0	364.7	357.4	350.1	342.9	335.6
107.5°	429.8	433.4	436.9	439.5	441.1	442.8	444.4	446.0
110°	479.5	482.4	485.3	487.5	489.0	490.5	492.0	493.5





TEST NUMBER: P332729

CATALOG NUMBER: S124DIW-S350D1050U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	527.5	529.7	531.9	533.9	535.6	537.3	539.0	540.7
115°	599.2	602.0	604.7	606.5	607.2	608.0	608.7	609.4
117.5°	671.2	673.3	675.4	676.8	677.6	678.3	679.1	679.9
120°	715.6	718.2	720.7	722.2	722.6	723.0	723.4	723.8
122.5°	759.6	762.0	764.3	765.7	766.0	766.3	766.6	766.9
125°	821.0	823.7	826.4	828.2	829.0	829.9	830.7	831.6
127.5°	881.6	883.4	885.1	886.3	886.8	887.3	887.9	888.4
130°	918.5	920.7	922.8	924.1	924.8	925.4	926.0	926.7
132.5°	955.0	957.0	959.0	960.3	960.7	961.2	961.6	962.1
135°	1004.5	1006.6	1008.7	1010.4	1011.4	1012.5	1013.6	1014.7
137.5°	1052.4	1054.4	1056.4	1057.6	1058.0	1058.4	1058.8	1059.2
140°	1082.0	1084.1	1086.1	1087.5	1088.3	1089.0	1089.8	1090.5
142.5°	1109.8	1111.5	1113.2	1114.2	1114.7	1115.2	1115.7	1116.2
145°	1149.6	1150.5	1151.4	1152.2	1153.1	1154.0	1154.8	1155.7
147.5°	1184.7	1185.0	1185.3	1185.7	1186.2	1186.8	1187.4	1187.9
150°	1207.7	1207.7	1207.7	1207.8	1208.0	1208.3	1208.5	1208.7
152.5°	1227.9	1228.2	1228.6	1228.7	1228.6	1228.4	1228.3	1228.2
155°	1255.1	1256.0	1256.9	1257.0	1256.3	1255.7	1255.0	1254.3
157.5°	1278.5	1279.7	1280.9	1280.9	1279.7	1278.5	1277.4	1276.2
160°	1293.5	1294.8	1296.2	1296.2	1294.8	1293.5	1292.1	1290.8
162.5°	1305.6	1307.0	1308.3	1308.3	1306.7	1305.2	1303.7	1302.1
165°	1322.8	1324.6	1326.4	1326.2	1324.2	1322.2	1320.2	1318.1
167.5°	1335.3	1337.3	1339.2	1339.1	1336.9	1334.6	1332.4	1330.1
170°	1343.0	1344.8	1346.6	1346.4	1344.1	1341.9	1339.6	1337.4
172.5°	1347.9	1349.7	1351.5	1351.2	1348.7	1346.3	1343.9	1341.4
175°	1353.6	1355.6	1357.7	1357.3	1354.6	1351.9	1349.2	1346.5
177.5°	1355.9	1357.3	1358.8	1358.4	1356.2	1354.1	1351.9	1349.8
180°	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6

(END OF REPORT)