

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: P332732-940

Luminaire Tested: **S124DIW-S350D1050U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332732-940  
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-S350D1050U940-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH 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: 4595.8 lumens  
Efficiency: N/A  
Efficacy: 120.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

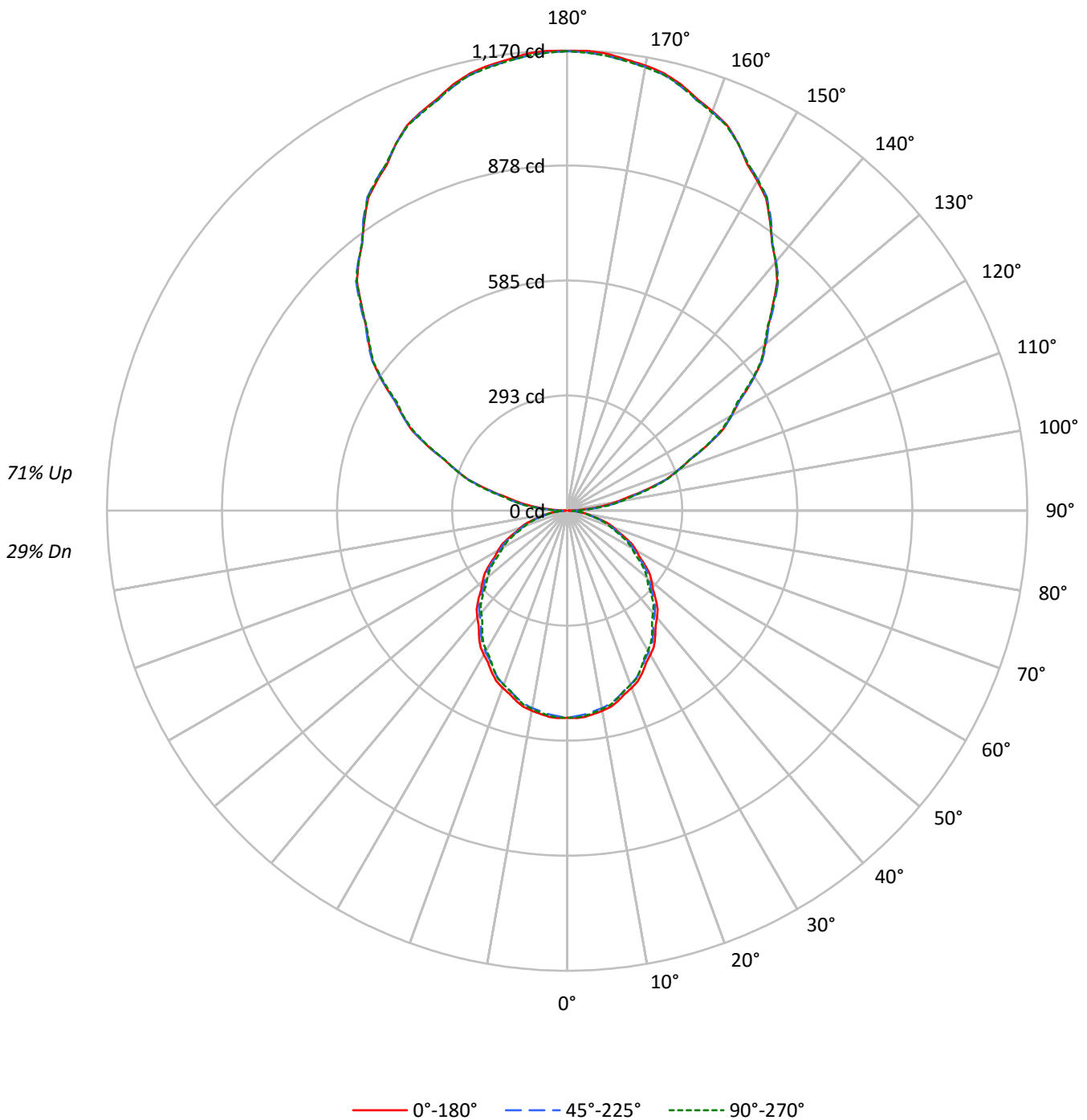
Input Watts (W): 38  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332732-940

CATALOG NUMBER: S124DIW-S350D1050U940-4F0-1E-UDD-F1

### Luminous Intensity Polar Plot





TEST NUMBER: P332732-940

CATALOG NUMBER: S124DIW-S350D1050U940-4F0-1E-UDD-F1

**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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	29
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	29	28	26	21
3	77	68	61	55	69	61	55	50	48	44	41	37	34	31	26	24	22	18
4	71	60	53	47	63	54	48	43	43	38	35	33	29	27	23	21	19	15
5	65	53	46	40	58	48	42	36	38	33	30	29	26	23	21	18	17	13
6	59	48	40	34	53	43	36	32	34	30	26	26	23	20	19	16	15	11
7	55	43	35	30	49	39	32	28	31	26	23	24	20	18	17	15	13	10
8	51	39	31	26	45	35	29	24	28	23	20	22	18	16	16	13	12	9
9	47	35	28	23	42	32	26	21	26	21	18	20	17	14	14	12	11	8
10	44	32	25	21	39	29	23	19	24	19	16	18	15	13	13	11	10	7

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

	0°	45°	90°
0°	4252	4252	4252
5°	4265	4214	4245
10°	4238	4180	4200
15°	4187	4120	4131
20°	4119	4046	4050
25°	4041	3963	3951
30°	3947	3864	3828
35°	3847	3761	3710
40°	3744	3643	3577
45°	3639	3528	3460
50°	3520	3425	3318
55°	3392	3291	3184
60°	3265	3142	3047
65°	3121	2999	2879
70°	2960	2809	2700
75°	2711	2583	2514
80°	2413	2315	2255
85°	2112	2029	1991



TEST NUMBER: P332732-940

CATALOG NUMBER: S124DIW-S350D1050U940-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.6	1.1
10°-20°	139.8	3.0
20°-30°	205.7	4.5
30°-40°	239.2	5.2
40°-50°	239.2	5.2
50°-60°	209.2	4.6
60°-70°	155.4	3.4
70°-80°	88.3	1.9
80°-90°	29.0	0.6
90°-100°	77.0	1.7
100°-110°	228.2	5.0
110°-120°	387.4	8.4
120°-130°	510.8	11.1
130°-140°	573.6	12.5
140°-150°	563.7	12.3
150°-160°	474.1	10.3
160°-170°	315.4	6.9
170°-180°	110.5	2.4
0°-30°	395.1	8.6
0°-40°	634.2	13.8
0°-60°	1082.6	23.6
0°-90°	1355.2	29.5
90°-120°	692.6	15.1
90°-150°	2340.6	50.9
90°-180°	3241.0	70.5
0°-180°	4595.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	527	527	527	527	527	
5°	526	524	520	524	524	50
15°	501	499	493	495	494	141
25°	454	451	445	445	444	209
35°	390	387	382	379	376	244
45°	319	316	309	305	303	246
55°	241	240	234	229	226	216
65°	163	161	157	153	151	162
75°	87	85	83	81	81	92
85°	23	23	22	22	22	25
90°	3	12	20	25	27	5
95°	54	62	69	71	71	60
105°	210	212	215	218	220	223
115°	394	394	392	391	390	388
125°	574	574	573	571	569	511
135°	740	745	745	743	741	572
145°	899	902	903	902	900	562
155°	1030	1030	1029	1032	1029	474
165°	1121	1118	1116	1121	1118	316
175°	1166	1162	1161	1166	1161	111
180°	1168	1168	1168	1168	1168	



TEST NUMBER: P332732-940

CATALOG NUMBER: S124DIW-S350D1050U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7
2.5°	528.1	527.9	527.6	527.4	527.2	526.6	525.8	525.0	524.2	523.3	524.1
5°	526.3	525.9	525.6	525.2	524.9	524.1	523.1	522.1	521.0	520.0	521.0
7.5°	521.5	521.0	520.7	520.3	520.0	519.2	518.0	516.9	515.8	514.6	515.4
10°	517.0	516.7	516.3	515.9	515.6	514.8	513.5	512.3	511.1	509.9	510.6
12.5°	511.3	511.0	510.6	510.1	509.8	509.0	507.7	506.4	505.1	503.8	504.6
15°	501.0	500.6	500.2	499.9	499.5	498.6	497.2	495.8	494.4	493.0	493.6
17.5°	488.6	488.1	487.7	487.2	486.7	485.8	484.5	483.1	481.8	480.5	480.8
20°	479.5	479.0	478.6	478.0	477.6	476.7	475.3	473.9	472.4	471.0	471.4
22.5°	469.7	469.0	468.4	467.8	467.2	466.2	464.8	463.4	462.0	460.6	461.1
25°	453.7	453.1	452.5	451.7	451.1	450.1	448.8	447.5	446.2	444.9	445.0
27.5°	435.5	434.8	434.2	433.5	432.8	431.9	430.6	429.4	428.2	427.0	426.8
30°	423.4	422.6	421.9	421.1	420.4	419.4	418.1	416.9	415.7	414.5	414.1
32.5°	410.5	409.8	409.1	408.5	407.8	406.8	405.6	404.2	403.0	401.6	401.2
35°	390.4	389.8	389.1	388.4	387.8	386.8	385.5	384.1	382.9	381.6	380.9
37.5°	369.3	368.6	368.0	367.5	366.8	365.9	364.4	363.0	361.6	360.2	359.4
40°	355.3	354.6	353.9	353.1	352.4	351.3	349.9	348.5	347.1	345.7	344.7
42.5°	340.5	340.1	339.7	339.2	338.8	337.7	336.2	334.6	333.1	331.5	330.4
45°	318.7	318.0	317.4	316.7	316.0	315.0	313.4	311.9	310.5	309.0	307.9
47.5°	295.8	295.3	294.9	294.4	294.0	293.1	291.7	290.3	288.9	287.5	286.3
50°	280.3	279.9	279.6	279.1	278.7	277.9	276.6	275.3	273.9	272.7	271.3
52.5°	265.1	264.6	264.1	263.7	263.2	262.3	260.9	259.6	258.2	256.8	255.7
55°	241.0	240.8	240.4	240.1	239.9	239.1	237.7	236.5	235.1	233.8	232.7
57.5°	218.0	217.8	217.4	217.1	216.8	216.0	214.6	213.4	212.0	210.8	209.7
60°	202.2	201.7	201.3	200.7	200.3	199.5	198.2	197.0	195.8	194.6	193.8
62.5°	186.6	186.3	185.8	185.5	185.0	184.2	182.9	181.6	180.3	179.1	178.3
65°	163.4	162.9	162.4	161.9	161.5	160.8	159.8	158.9	157.9	157.0	156.0
67.5°	139.9	139.5	139.0	138.6	138.1	137.5	136.6	135.7	134.8	133.8	133.0
70°	125.4	124.7	124.0	123.4	122.7	122.0	121.3	120.6	119.8	119.0	118.2
72.5°	109.9	109.1	108.5	107.9	107.2	106.6	105.9	105.4	104.8	104.2	103.5
75°	86.9	86.5	86.1	85.5	85.1	84.6	84.2	83.6	83.2	82.8	82.4
77.5°	65.1	64.9	64.6	64.5	64.3	63.9	63.6	63.1	62.7	62.3	62.2
80°	51.9	51.6	51.4	51.1	50.8	50.6	50.4	50.2	50.0	49.8	49.6
82.5°	39.1	39.0	38.8	38.7	38.5	38.4	38.4	38.4	38.3	38.3	38.3
85°	22.8	22.8	22.8	22.8	22.8	22.7	22.5	22.3	22.1	21.9	21.9
87.5°	9.4	9.7	10.1	10.4	10.8	11.1	11.3	11.6	11.9	12.0	12.3
90°	2.7	4.9	7.1	9.4	11.5	13.5	15.1	16.7	18.3	19.9	21.0
92.5°	19.4	21.8	24.4	26.9	29.4	31.3	32.4	33.5	34.7	35.8	36.5
95°	54.2	56.0	57.8	59.7	61.4	63.0	64.5	65.8	67.2	68.7	69.3
97.5°	94.7	96.1	97.6	99.0	100.5	102.0	103.6	105.3	106.9	108.6	109.3
100°	126.4	127.2	128.0	128.9	129.7	131.0	132.8	134.6	136.4	138.2	138.6
102.5°	159.7	160.1	160.3	160.7	161.0	161.9	163.6	165.2	166.9	168.5	169.2
105°	210.4	210.7	210.9	211.1	211.2	211.8	212.6	213.4	214.2	215.0	215.6
107.5°	263.8	264.0	264.2	264.5	264.7	264.9	265.0	265.2	265.3	265.4	266.0
110°	299.9	300.3	300.7	301.1	301.5	301.6	301.4	301.2	301.0	300.8	300.4



TEST NUMBER: P332732-940

CATALOG NUMBER: S124DIW-S350D1050U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	337.5	337.6	337.7	337.7	337.8	337.7	337.3	337.0	336.6	336.3	336.2
115°	393.9	393.9	393.9	393.9	393.9	393.7	393.2	392.9	392.4	392.1	391.8
117.5°	447.0	447.1	447.3	447.5	447.6	447.5	447.3	447.0	446.7	446.4	445.8
120°	482.4	483.2	484.0	484.8	485.6	485.7	485.1	484.5	483.9	483.3	482.3
122.5°	519.2	519.6	519.9	520.2	520.5	520.6	520.2	520.0	519.7	519.4	518.7
125°	573.6	573.6	573.6	573.6	573.6	573.5	573.3	573.1	572.9	572.7	572.3
127.5°	622.9	623.6	624.1	624.7	625.4	625.5	625.2	624.8	624.6	624.2	623.8
130°	657.6	658.3	658.8	659.4	660.0	660.3	660.3	660.3	660.3	660.3	660.0
132.5°	693.0	693.5	693.9	694.4	694.8	694.9	694.8	694.6	694.5	694.3	693.9
135°	739.9	741.0	742.3	743.4	744.7	745.3	745.3	745.3	745.3	745.3	744.8
137.5°	790.8	791.3	791.9	792.5	793.0	793.4	793.8	794.2	794.4	794.8	794.2
140°	824.7	825.2	825.5	826.0	826.3	826.5	826.5	826.5	826.5	826.5	826.3
142.5°	855.9	856.2	856.7	857.0	857.5	857.6	857.4	857.2	857.1	856.9	856.8
145°	898.8	899.6	900.4	901.3	902.1	902.5	902.8	902.9	903.1	903.3	903.1
147.5°	941.5	942.4	943.4	944.3	945.3	945.7	945.6	945.4	945.2	945.0	944.9
150°	967.5	968.3	969.1	969.9	970.7	971.1	971.1	971.1	971.1	971.1	971.1
152.5°	992.0	992.6	993.0	993.5	994.0	994.3	994.4	994.6	994.8	995.0	995.4
155°	1029.8	1029.8	1029.8	1029.8	1029.8	1029.7	1029.5	1029.3	1029.1	1028.9	1029.7
157.5°	1061.6	1061.2	1060.9	1060.5	1060.2	1060.0	1059.9	1059.9	1059.8	1059.8	1060.4
160°	1080.4	1080.2	1080.0	1079.8	1079.6	1079.4	1079.1	1079.0	1078.8	1078.6	1079.1
162.5°	1097.7	1097.3	1096.7	1096.2	1095.6	1095.3	1095.1	1094.9	1094.7	1094.5	1095.6
165°	1121.1	1120.4	1119.8	1119.3	1118.7	1118.1	1117.8	1117.3	1117.0	1116.5	1117.8
167.5°	1138.9	1138.1	1137.3	1136.4	1135.6	1135.1	1135.2	1135.2	1135.2	1135.3	1136.5
170°	1149.1	1148.1	1147.0	1146.0	1145.0	1144.6	1144.9	1145.0	1145.2	1145.4	1146.7
172.5°	1156.3	1155.4	1154.6	1153.8	1152.9	1152.5	1152.5	1152.6	1152.6	1152.6	1154.1
175°	1166.2	1165.2	1164.2	1163.2	1162.2	1161.6	1161.4	1161.2	1161.0	1160.8	1162.2
177.5°	1169.5	1168.7	1167.9	1167.1	1166.3	1165.8	1165.8	1165.8	1165.8	1165.8	1167.0
180°	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1



TEST NUMBER: P332732-940

CATALOG NUMBER: S124DIW-S350D1050U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7
2.5°	524.9	525.7	526.4	526.7	526.6	526.6	526.5	526.4
5°	522.1	523.1	524.1	524.5	524.3	524.1	524.0	523.8
7.5°	516.2	517.1	517.9	518.3	518.2	518.0	517.9	517.8
10°	511.4	512.1	512.9	513.2	513.0	512.7	512.6	512.4
12.5°	505.4	506.2	507.1	507.4	507.1	506.8	506.6	506.3
15°	494.1	494.6	495.3	495.3	495.1	494.8	494.5	494.3
17.5°	481.2	481.5	481.9	482.0	481.8	481.6	481.4	481.3
20°	471.6	471.9	472.2	472.3	472.0	471.8	471.6	471.4
22.5°	461.5	462.1	462.6	462.7	462.4	462.0	461.6	461.4
25°	445.1	445.1	445.2	445.1	444.7	444.3	444.0	443.6
27.5°	426.5	426.3	426.1	425.7	425.3	424.8	424.3	423.8
30°	413.8	413.4	413.0	412.6	412.1	411.6	411.2	410.7
32.5°	400.7	400.3	399.8	399.4	399.0	398.4	398.0	397.5
35°	380.2	379.6	378.9	378.4	377.9	377.5	376.9	376.5
37.5°	358.7	358.0	357.3	356.7	356.1	355.4	354.8	354.2
40°	343.8	342.9	342.0	341.3	340.7	340.3	339.8	339.4
42.5°	329.3	328.2	327.2	326.5	326.1	325.8	325.5	325.2
45°	306.9	305.9	304.9	304.2	303.9	303.6	303.4	303.1
47.5°	285.2	284.0	282.9	282.0	281.2	280.5	279.8	279.1
50°	270.0	268.8	267.4	266.4	265.9	265.4	264.7	264.2
52.5°	254.5	253.3	252.2	251.2	250.5	249.8	249.1	248.3
55°	231.6	230.4	229.3	228.5	227.9	227.4	226.8	226.2
57.5°	208.7	207.6	206.5	205.7	205.2	204.6	204.1	203.5
60°	192.9	192.1	191.2	190.6	190.1	189.6	189.1	188.7
62.5°	177.5	176.7	175.9	175.3	174.9	174.4	174.0	173.4
65°	155.2	154.2	153.3	152.6	152.1	151.6	151.1	150.7
67.5°	132.1	131.2	130.3	129.7	129.7	129.5	129.4	129.2
70°	117.5	116.8	116.0	115.5	115.2	114.9	114.7	114.4
72.5°	103.0	102.4	101.7	101.3	101.0	100.8	100.5	100.2
75°	81.9	81.6	81.2	81.0	80.9	80.8	80.7	80.6
77.5°	62.1	62.0	61.9	61.7	61.4	61.2	60.9	60.7
80°	49.4	49.2	49.0	49.0	48.8	48.7	48.6	48.5
82.5°	38.1	38.0	37.9	37.8	37.7	37.5	37.5	37.4
85°	21.9	21.9	21.9	21.9	21.8	21.8	21.6	21.5
87.5°	12.6	12.8	13.0	13.2	13.3	13.4	13.5	13.6
90°	22.3	23.5	24.7	25.5	25.9	26.3	26.7	27.1
92.5°	37.2	37.9	38.7	39.1	39.4	39.6	39.9	40.1
95°	69.8	70.4	71.1	71.3	71.3	71.3	71.3	71.3
97.5°	110.0	110.8	111.5	111.8	111.8	111.8	111.8	111.8
100°	139.0	139.4	139.8	140.0	140.0	140.0	140.0	140.0
102.5°	169.7	170.2	170.9	171.2	171.3	171.5	171.7	171.8
105°	216.2	216.8	217.4	218.0	218.6	219.2	219.8	220.4
107.5°	266.5	267.1	267.7	267.9	267.9	267.9	267.8	267.8
110°	300.0	299.6	299.2	299.3	299.9	300.5	301.1	301.8





TEST NUMBER: P332732-940

CATALOG NUMBER: S124DIW-S350D1050U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	336.1	336.0	335.9	335.9	336.1	336.2	336.3	336.4
115°	391.6	391.5	391.3	391.0	390.8	390.7	390.5	390.2
117.5°	445.1	444.3	443.7	443.2	442.7	442.4	441.9	441.6
120°	481.3	480.3	479.3	478.9	479.4	479.7	480.2	480.5
122.5°	518.1	517.4	516.7	515.9	515.2	514.5	513.8	513.1
125°	571.9	571.5	571.1	570.7	570.3	569.9	569.5	569.1
127.5°	623.4	623.0	622.6	622.2	621.9	621.6	621.3	621.0
130°	659.5	659.2	658.7	658.2	657.4	656.6	655.8	655.0
132.5°	693.5	693.1	692.7	692.3	692.1	691.7	691.3	691.1
135°	744.5	744.0	743.7	743.2	742.5	741.9	741.4	740.7
137.5°	793.7	793.2	792.6	792.5	792.6	792.7	792.8	792.9
140°	826.2	826.0	825.7	825.5	825.4	825.2	824.9	824.7
142.5°	856.8	856.8	856.8	856.7	856.7	856.7	856.6	856.6
145°	902.9	902.8	902.5	902.1	901.5	900.9	900.4	899.7
147.5°	944.8	944.6	944.4	944.2	944.1	943.9	943.6	943.4
150°	971.1	971.1	971.1	971.0	970.8	970.6	970.4	970.2
152.5°	995.9	996.4	996.8	996.8	996.3	995.8	995.2	994.8
155°	1030.6	1031.4	1032.2	1032.2	1031.4	1030.6	1029.7	1028.9
157.5°	1061.0	1061.6	1062.2	1062.2	1061.5	1060.8	1060.2	1059.4
160°	1079.8	1080.4	1081.0	1080.8	1079.8	1078.8	1077.8	1076.7
162.5°	1096.6	1097.7	1098.9	1098.9	1097.9	1096.9	1095.8	1094.8
165°	1118.9	1120.2	1121.3	1121.5	1120.7	1119.9	1119.1	1118.3
167.5°	1137.7	1138.9	1140.1	1140.1	1138.9	1137.6	1136.4	1135.1
170°	1147.8	1149.1	1150.2	1150.1	1148.8	1147.4	1145.9	1144.5
172.5°	1155.4	1156.7	1158.2	1158.1	1156.7	1155.3	1153.9	1152.4
175°	1163.6	1165.0	1166.4	1166.4	1165.0	1163.6	1162.2	1160.8
177.5°	1168.1	1169.2	1170.4	1170.3	1168.9	1167.7	1166.4	1165.1
180°	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1

(END OF REPORT)