

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: P332524-935

Luminaire Tested: **S124DIP-S350D1035U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332524-935  
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: S124DIP-S350D1035U935-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4391.4 lumens  
Efficiency: N/A  
Efficacy: 117.7 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

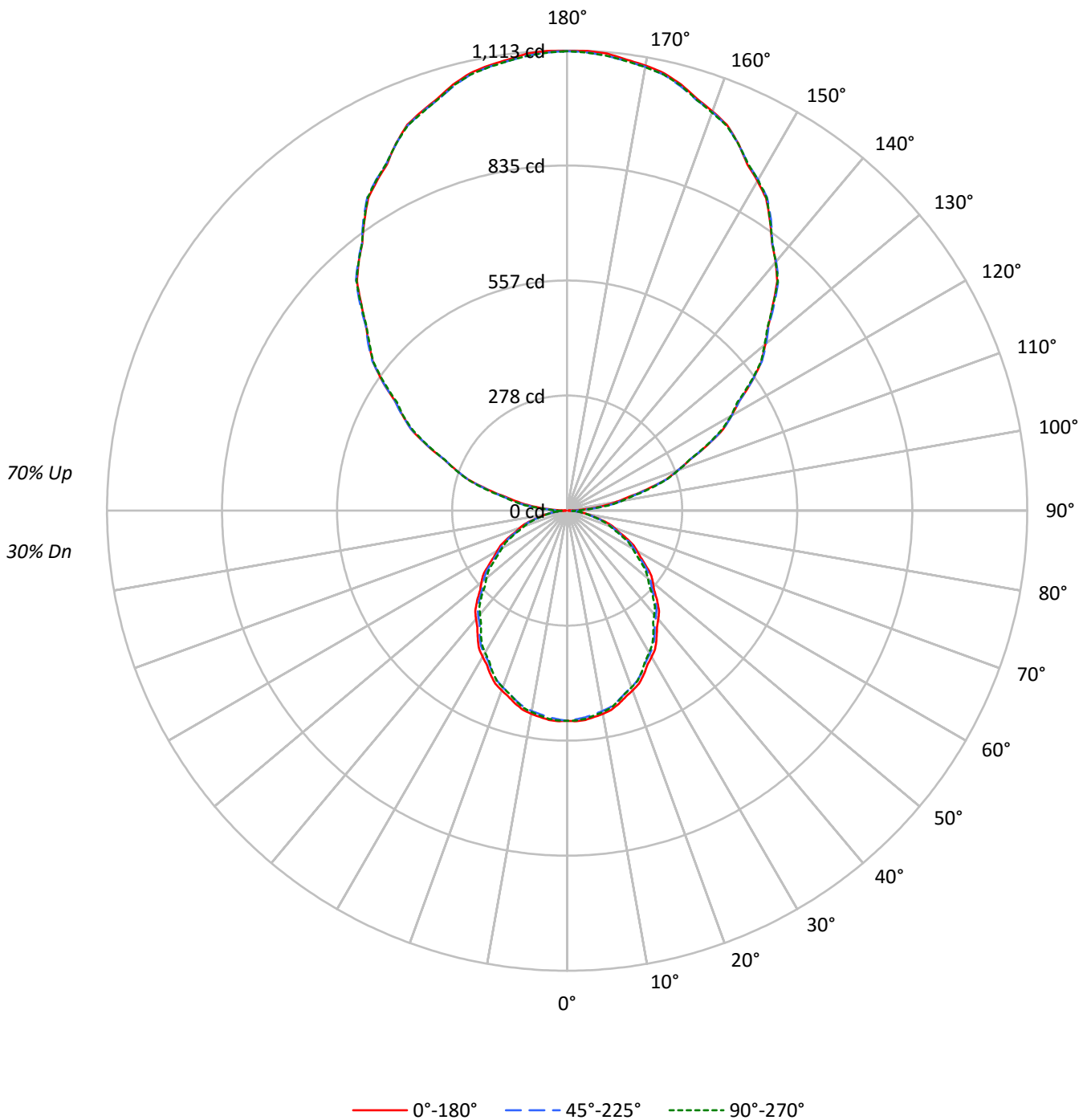
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332524-935

CATALOG NUMBER: S124DIP-S350D1035U935-4F0-1E-UDD-F1

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

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

	0°	45°	90°
0°	4106	4106	4106
5°	4118	4068	4099
10°	4092	4036	4055
15°	4043	3978	3989
20°	3978	3907	3911
25°	3902	3827	3815
30°	3811	3731	3697
35°	3714	3631	3582
40°	3616	3518	3453
45°	3513	3406	3342
50°	3399	3307	3204
55°	3275	3178	3074
60°	3152	3034	2942
65°	3012	2896	2779
70°	2858	2712	2608
75°	2617	2492	2427
80°	2329	2236	2176
85°	2038	1964	1927



TEST NUMBER: P332524-935

CATALOG NUMBER: S124DIP-S350D1035U935-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.9	1.1
10°-20°	135.0	3.1
20°-30°	198.6	4.5
30°-40°	230.9	5.3
40°-50°	230.9	5.3
50°-60°	202.0	4.6
60°-70°	150.0	3.4
70°-80°	85.2	1.9
80°-90°	27.9	0.6
90°-100°	73.3	1.7
100°-110°	217.1	4.9
110°-120°	368.5	8.4
120°-130°	485.9	11.1
130°-140°	545.7	12.4
140°-150°	536.2	12.2
150°-160°	451.0	10.3
160°-170°	300.1	6.8
170°-180°	105.1	2.4
0°-30°	381.5	8.7
0°-40°	612.4	13.9
0°-60°	1045.3	23.8
0°-90°	1308.5	29.8
90°-120°	658.9	15.0
90°-150°	2226.8	50.7
90°-180°	3083.0	70.2
0°-180°	4391.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	509	509	509	509	509	
5°	508	506	502	506	506	48
15°	484	482	476	478	477	136
25°	438	435	430	430	428	201
35°	377	374	368	366	364	236
45°	308	305	298	294	293	237
55°	233	231	226	221	218	208
65°	158	156	152	148	146	156
75°	84	82	80	78	78	89
85°	22	22	21	21	21	24
90°	3	12	19	24	26	4
95°	52	59	65	68	68	57
105°	200	201	205	207	210	213
115°	375	375	373	372	371	369
125°	546	546	545	543	541	486
135°	704	709	709	707	705	544
145°	855	858	859	858	856	535
155°	980	980	979	982	979	451
165°	1066	1064	1062	1067	1064	301
175°	1110	1105	1104	1110	1104	105
180°	1111	1111	1111	1111	1111	



TEST NUMBER: P332524-935

CATALOG NUMBER: S124DIP-S350D1035U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	509.9	509.7	509.5	509.3	509.0	508.5	507.7	507.0	506.2	505.3	506.1
5°	508.2	507.8	507.5	507.1	506.8	506.1	505.1	504.1	503.1	502.0	503.1
7.5°	503.5	503.1	502.7	502.4	502.0	501.3	500.2	499.1	498.0	496.9	497.7
10°	499.2	498.9	498.5	498.2	497.8	497.1	495.8	494.6	493.5	492.3	493.0
12.5°	493.7	493.4	493.0	492.6	492.2	491.5	490.2	489.0	487.7	486.5	487.2
15°	483.7	483.4	483.0	482.7	482.3	481.5	480.1	478.7	477.3	476.0	476.6
17.5°	471.7	471.3	470.9	470.5	469.9	469.1	467.8	466.5	465.2	463.9	464.3
20°	463.0	462.5	462.1	461.6	461.2	460.3	458.9	457.5	456.2	454.8	455.1
22.5°	453.5	452.9	452.3	451.7	451.1	450.1	448.8	447.5	446.1	444.7	445.2
25°	438.1	437.5	436.9	436.2	435.6	434.6	433.3	432.0	430.8	429.6	429.6
27.5°	420.5	419.8	419.2	418.5	417.9	417.0	415.8	414.7	413.5	412.2	412.1
30°	408.8	408.0	407.3	406.6	405.9	404.9	403.7	402.5	401.4	400.2	399.8
32.5°	396.4	395.7	395.0	394.4	393.7	392.8	391.6	390.3	389.1	387.8	387.4
35°	376.9	376.3	375.7	375.1	374.4	373.5	372.2	370.9	369.7	368.4	367.8
37.5°	356.5	355.9	355.3	354.8	354.2	353.3	351.9	350.5	349.1	347.8	347.1
40°	343.1	342.4	341.7	341.0	340.3	339.2	337.9	336.5	335.1	333.8	332.9
42.5°	328.8	328.4	328.0	327.5	327.1	326.1	324.6	323.0	321.6	320.1	319.0
45°	307.7	307.0	306.4	305.8	305.1	304.1	302.6	301.2	299.8	298.3	297.3
47.5°	285.6	285.2	284.7	284.3	283.9	283.0	281.6	280.3	279.0	277.6	276.5
50°	270.6	270.3	269.9	269.5	269.1	268.4	267.1	265.8	264.5	263.3	262.0
52.5°	256.0	255.5	255.0	254.6	254.2	253.3	251.9	250.6	249.3	248.0	246.8
55°	232.7	232.5	232.1	231.9	231.6	230.8	229.5	228.3	227.0	225.8	224.7
57.5°	210.5	210.3	209.9	209.7	209.3	208.5	207.2	206.0	204.7	203.5	202.5
60°	195.2	194.8	194.3	193.8	193.4	192.6	191.4	190.2	189.1	187.9	187.1
62.5°	180.2	179.9	179.4	179.1	178.7	177.9	176.6	175.4	174.1	172.9	172.1
65°	157.7	157.3	156.8	156.4	155.9	155.2	154.3	153.4	152.5	151.6	150.7
67.5°	135.1	134.7	134.2	133.8	133.4	132.8	131.9	131.0	130.2	129.2	128.4
70°	121.1	120.4	119.8	119.2	118.5	117.8	117.1	116.4	115.6	114.9	114.2
72.5°	106.1	105.4	104.8	104.2	103.5	102.9	102.3	101.8	101.2	100.6	100.0
75°	83.9	83.5	83.1	82.6	82.1	81.7	81.3	80.8	80.3	79.9	79.6
77.5°	62.9	62.7	62.4	62.3	62.1	61.7	61.4	61.0	60.5	60.2	60.0
80°	50.1	49.9	49.6	49.3	49.1	48.8	48.6	48.5	48.3	48.1	47.9
82.5°	37.7	37.6	37.5	37.4	37.2	37.1	37.1	37.1	37.0	37.0	36.9
85°	22.0	22.0	22.0	22.0	22.0	22.0	21.7	21.5	21.4	21.2	21.2
87.5°	9.0	9.3	9.7	10.1	10.4	10.7	10.9	11.1	11.4	11.6	11.8
90°	2.6	4.6	6.8	8.9	11.0	12.8	14.3	15.8	17.4	18.9	20.1
92.5°	18.4	20.8	23.2	25.6	28.0	29.8	30.8	31.9	33.0	34.0	34.7
95°	51.6	53.3	55.0	56.7	58.5	59.9	61.3	62.7	64.0	65.3	65.9
97.5°	90.1	91.4	92.8	94.2	95.6	97.0	98.6	100.1	101.8	103.3	104.0
100°	120.3	121.1	121.8	122.6	123.4	124.6	126.3	128.0	129.8	131.5	131.9
102.5°	152.0	152.2	152.6	152.8	153.2	154.1	155.7	157.2	158.8	160.4	160.9
105°	200.3	200.4	200.6	200.8	201.0	201.5	202.2	203.0	203.8	204.6	205.1
107.5°	251.0	251.2	251.4	251.7	251.8	252.0	252.2	252.3	252.4	252.5	253.0
110°	285.3	285.7	286.1	286.5	286.9	287.0	286.7	286.5	286.4	286.2	285.8



TEST NUMBER: P332524-935

CATALOG NUMBER: S124DIP-S350D1035U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	321.1	321.2	321.2	321.3	321.4	321.2	320.9	320.6	320.2	319.9	319.8
115°	374.7	374.7	374.7	374.7	374.7	374.5	374.1	373.8	373.3	373.0	372.8
117.5°	425.2	425.4	425.5	425.7	425.9	425.8	425.5	425.2	425.0	424.7	424.0
120°	458.9	459.7	460.5	461.2	462.0	462.1	461.5	460.9	460.4	459.8	458.8
122.5°	494.0	494.3	494.6	494.9	495.2	495.2	495.0	494.6	494.4	494.1	493.5
125°	545.7	545.7	545.7	545.7	545.7	545.6	545.4	545.3	545.0	544.8	544.5
127.5°	592.6	593.2	593.7	594.3	595.0	595.0	594.8	594.4	594.2	593.8	593.5
130°	625.6	626.2	626.8	627.3	627.9	628.2	628.2	628.2	628.2	628.2	627.8
132.5°	659.4	659.8	660.1	660.6	661.0	661.2	661.0	660.8	660.6	660.6	660.1
135°	703.9	705.0	706.1	707.3	708.4	709.0	709.0	709.0	709.0	709.0	708.6
137.5°	752.3	752.9	753.4	753.9	754.5	754.8	755.2	755.5	755.8	756.1	755.6
140°	784.6	785.0	785.4	785.7	786.2	786.4	786.4	786.4	786.4	786.4	786.2
142.5°	814.2	814.6	814.9	815.4	815.7	815.8	815.7	815.5	815.4	815.2	815.2
145°	855.1	855.8	856.6	857.4	858.2	858.6	858.8	859.0	859.2	859.4	859.2
147.5°	895.7	896.6	897.5	898.5	899.3	899.7	899.6	899.4	899.2	899.1	899.0
150°	920.4	921.2	922.0	922.7	923.5	923.9	923.9	923.9	923.9	923.9	923.9
152.5°	943.8	944.3	944.7	945.2	945.6	945.9	946.1	946.2	946.4	946.5	947.0
155°	979.7	979.7	979.7	979.7	979.7	979.6	979.4	979.2	979.0	978.9	979.6
157.5°	1010.0	1009.6	1009.3	1008.9	1008.6	1008.4	1008.3	1008.3	1008.3	1008.2	1008.8
160°	1027.9	1027.6	1027.4	1027.3	1027.1	1026.9	1026.7	1026.5	1026.3	1026.1	1026.7
162.5°	1044.3	1043.9	1043.4	1042.8	1042.3	1042.0	1041.8	1041.6	1041.5	1041.2	1042.2
165°	1066.5	1065.9	1065.4	1064.8	1064.2	1063.8	1063.3	1063.0	1062.6	1062.2	1063.3
167.5°	1083.6	1082.7	1081.9	1081.2	1080.3	1080.0	1080.0	1080.0	1080.0	1080.1	1081.2
170°	1093.1	1092.2	1091.2	1090.3	1089.3	1088.9	1089.2	1089.3	1089.5	1089.7	1090.9
172.5°	1100.0	1099.2	1098.5	1097.6	1096.8	1096.4	1096.5	1096.5	1096.6	1096.6	1097.9
175°	1109.5	1108.5	1107.6	1106.6	1105.7	1105.1	1104.9	1104.7	1104.5	1104.3	1105.7
177.5°	1112.6	1111.8	1111.0	1110.3	1109.5	1109.1	1109.1	1109.1	1109.1	1109.1	1110.2
180°	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2



TEST NUMBER: P332524-935

CATALOG NUMBER: S124DIP-S350D1035U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	506.8	507.6	508.2	508.6	508.5	508.4	508.3	508.2
5°	504.1	505.1	506.1	506.4	506.3	506.1	505.9	505.8
7.5°	498.4	499.3	500.1	500.4	500.3	500.2	500.1	500.0
10°	493.8	494.5	495.2	495.5	495.3	495.1	494.9	494.7
12.5°	488.0	488.8	489.7	489.9	489.7	489.4	489.1	488.9
15°	477.1	477.6	478.2	478.3	478.0	477.8	477.5	477.3
17.5°	464.6	464.9	465.3	465.4	465.2	465.0	464.9	464.7
20°	455.4	455.6	455.9	456.0	455.7	455.6	455.4	455.2
22.5°	445.7	446.2	446.7	446.8	446.4	446.1	445.7	445.5
25°	429.7	429.8	429.9	429.8	429.4	429.0	428.7	428.3
27.5°	411.8	411.6	411.4	411.0	410.6	410.2	409.7	409.2
30°	399.5	399.2	398.7	398.4	397.9	397.4	397.0	396.6
32.5°	386.9	386.5	386.1	385.6	385.2	384.7	384.3	383.8
35°	367.1	366.5	365.8	365.3	364.9	364.5	363.9	363.5
37.5°	346.4	345.7	345.0	344.4	343.8	343.2	342.6	342.0
40°	332.0	331.1	330.2	329.5	329.0	328.6	328.1	327.7
42.5°	318.0	316.9	315.9	315.2	314.9	314.6	314.3	314.0
45°	296.4	295.3	294.4	293.7	293.4	293.2	292.9	292.7
47.5°	275.3	274.2	273.1	272.2	271.6	270.9	270.2	269.5
50°	260.7	259.5	258.2	257.3	256.8	256.2	255.6	255.1
52.5°	245.7	244.6	243.5	242.5	241.9	241.2	240.5	239.8
55°	223.6	222.5	221.4	220.6	220.1	219.6	219.0	218.4
57.5°	201.5	200.4	199.4	198.6	198.1	197.6	197.1	196.5
60°	186.2	185.5	184.6	184.0	183.6	183.0	182.6	182.2
62.5°	171.4	170.7	169.9	169.3	168.8	168.4	168.0	167.5
65°	149.8	148.9	148.0	147.3	146.9	146.4	145.9	145.5
67.5°	127.5	126.7	125.8	125.3	125.2	125.0	124.9	124.8
70°	113.5	112.8	112.0	111.5	111.2	111.0	110.7	110.5
72.5°	99.4	98.8	98.2	97.8	97.6	97.3	97.0	96.8
75°	79.1	78.8	78.4	78.2	78.1	78.0	77.9	77.8
77.5°	59.9	59.8	59.8	59.6	59.3	59.1	58.8	58.6
80°	47.7	47.5	47.4	47.3	47.1	47.0	46.9	46.8
82.5°	36.8	36.7	36.6	36.5	36.4	36.2	36.2	36.1
85°	21.2	21.2	21.2	21.2	21.1	21.0	20.8	20.8
87.5°	12.1	12.3	12.5	12.7	12.7	12.8	12.9	13.0
90°	21.2	22.4	23.5	24.3	24.6	25.1	25.4	25.7
92.5°	35.4	36.1	36.8	37.3	37.5	37.7	38.0	38.1
95°	66.5	67.1	67.6	67.9	67.9	67.9	67.9	67.9
97.5°	104.7	105.4	106.1	106.4	106.4	106.4	106.4	106.4
100°	132.2	132.6	133.0	133.2	133.2	133.2	133.2	133.2
102.5°	161.4	162.0	162.5	162.8	163.0	163.2	163.3	163.4
105°	205.7	206.3	206.8	207.4	207.9	208.5	209.1	209.7
107.5°	253.6	254.1	254.6	254.9	254.9	254.8	254.8	254.7
110°	285.4	285.0	284.6	284.7	285.3	285.9	286.5	287.1





TEST NUMBER: P332524-935

CATALOG NUMBER: S124DIP-S350D1035U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	319.7	319.6	319.6	319.6	319.7	319.8	319.9	320.0
115°	372.6	372.4	372.2	372.0	371.9	371.6	371.4	371.3
117.5°	423.4	422.8	422.1	421.6	421.2	420.9	420.4	420.1
120°	457.9	456.9	456.0	455.6	456.1	456.4	456.8	457.2
122.5°	492.8	492.2	491.5	490.9	490.2	489.5	488.8	488.1
125°	544.1	543.7	543.3	542.9	542.6	542.2	541.8	541.4
127.5°	593.1	592.7	592.3	591.9	591.7	591.3	591.1	590.7
130°	627.5	627.1	626.7	626.1	625.3	624.6	623.8	623.0
132.5°	659.8	659.4	659.0	658.7	658.3	658.1	657.7	657.5
135°	708.3	707.8	707.5	707.0	706.5	705.8	705.2	704.7
137.5°	755.1	754.6	754.1	753.9	754.1	754.1	754.2	754.4
140°	786.0	785.7	785.6	785.4	785.2	785.0	784.8	784.6
142.5°	815.1	815.1	815.1	815.0	815.0	814.9	814.9	814.9
145°	859.0	858.8	858.6	858.2	857.6	857.1	856.5	855.9
147.5°	898.8	898.6	898.5	898.3	898.1	897.9	897.8	897.6
150°	923.9	923.9	923.9	923.8	923.6	923.3	923.2	923.0
152.5°	947.4	947.9	948.4	948.4	947.9	947.4	946.8	946.3
155°	980.4	981.1	981.9	981.9	981.1	980.4	979.6	978.9
157.5°	1009.4	1010.0	1010.6	1010.5	1009.9	1009.2	1008.6	1007.9
160°	1027.3	1027.9	1028.4	1028.2	1027.3	1026.3	1025.4	1024.4
162.5°	1043.3	1044.3	1045.3	1045.4	1044.5	1043.5	1042.6	1041.6
165°	1064.5	1065.7	1066.8	1067.0	1066.3	1065.5	1064.7	1063.9
167.5°	1082.4	1083.6	1084.7	1084.7	1083.5	1082.3	1081.1	1080.0
170°	1092.0	1093.1	1094.3	1094.2	1092.9	1091.5	1090.2	1088.8
172.5°	1099.2	1100.4	1101.8	1101.7	1100.4	1099.1	1097.8	1096.4
175°	1107.0	1108.4	1109.7	1109.7	1108.4	1107.0	1105.7	1104.3
177.5°	1111.3	1112.3	1113.4	1113.4	1112.2	1110.9	1109.7	1108.5
180°	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2	1111.2

(END OF REPORT)