

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: P332529-935

Luminaire Tested: **S124DIP-S350D1205U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332529-935  
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: S124DIP-S350D1205U935-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5382.0 lumens  
Efficiency: N/A  
Efficacy: 127.5 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

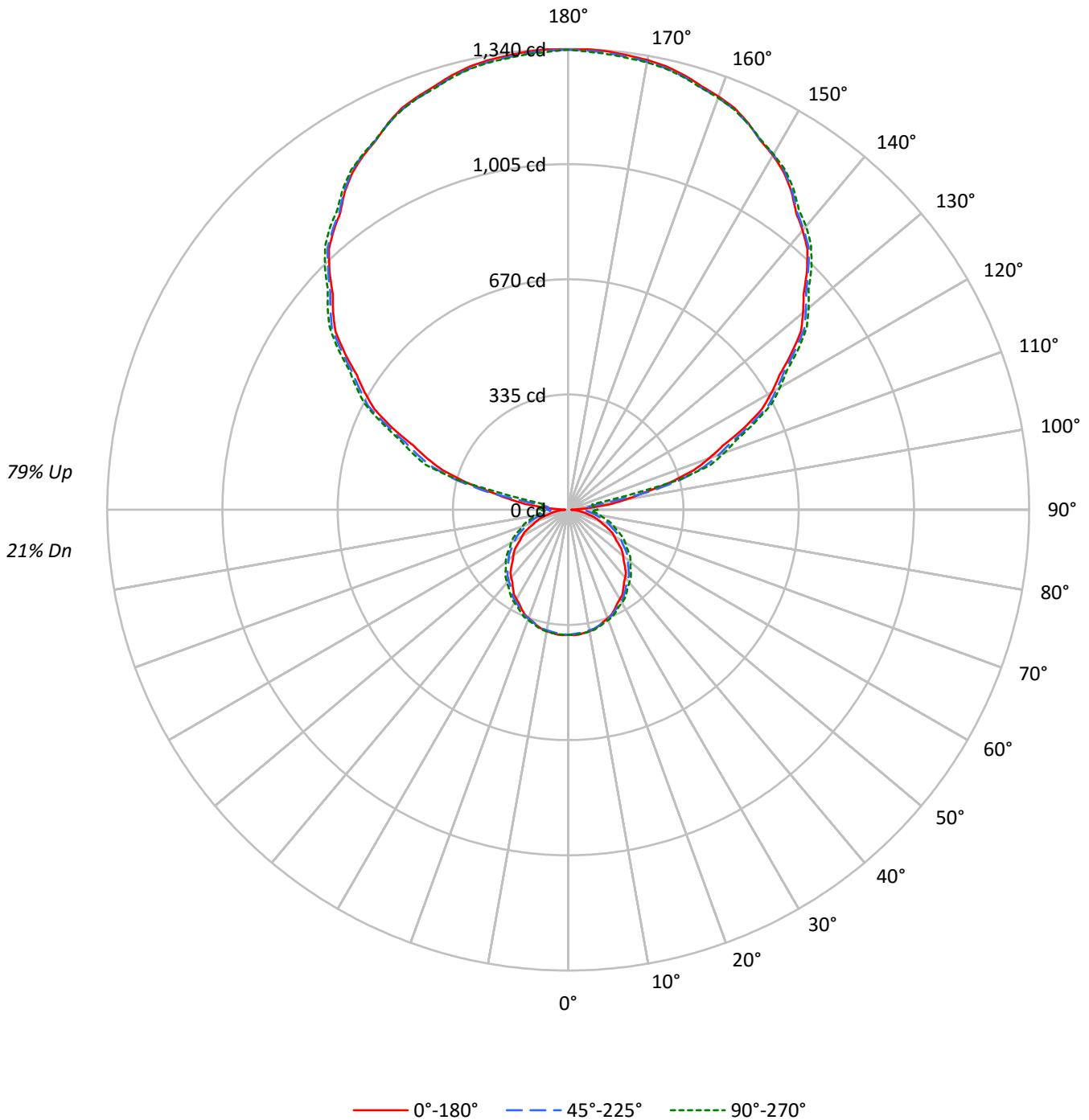
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	100	100	100	100	89	89	89	89	67	67	67	48	48	48	30	30	30
1	91	87	83	79	80	77	73	71	58	56	54	41	40	39	26	25	24
2	83	75	69	64	73	67	62	57	51	47	44	36	34	32	22	21	20
3	75	66	59	53	66	59	53	48	45	40	37	32	29	27	20	18	17
4	69	58	50	45	60	52	45	40	39	35	31	28	25	23	17	16	14
5	63	51	44	38	55	46	39	34	35	30	27	25	22	19	16	14	12
6	58	46	38	33	51	41	34	29	31	27	23	22	19	17	14	12	11
7	53	41	34	28	47	37	30	25	28	24	20	20	17	15	13	11	9
8	49	37	30	25	43	33	27	22	26	21	18	18	15	13	12	10	8
9	46	34	27	22	40	30	24	20	23	19	16	17	14	12	11	9	8
10	42	31	24	19	37	28	22	17	21	17	14	15	12	10	10	8	7

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

	0°	45°	90°
0°	2938	2938	2938
5°	2948	2871	2880
10°	2929	2825	2823
15°	2902	2770	2755
20°	2863	2710	2690
25°	2819	2643	2617
30°	2770	2576	2543
35°	2716	2507	2478
40°	2672	2442	2410
45°	2607	2382	2352
50°	2553	2313	2291
55°	2496	2248	2220
60°	2408	2164	2153
65°	2309	2076	2073
70°	2192	1973	1979
75°	2029	1861	1894
80°	1846	1754	1809
85°	1616	1659	1762



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	34.5	0.6
10°-20°	98.7	1.8
20°-30°	149.3	2.8
30°-40°	180.7	3.4
40°-50°	191.0	3.5
50°-60°	179.7	3.3
60°-70°	149.1	2.8
70°-80°	104.7	1.9
80°-90°	63.1	1.2
90°-100°	80.9	1.5
100°-110°	317.7	5.9
110°-120°	575.5	10.7
120°-130°	718.2	13.3
130°-140°	762.1	14.2
140°-150°	709.6	13.2
150°-160°	571.5	10.6
160°-170°	368.6	6.8
170°-180°	127.0	2.4
0°-30°	282.5	5.2
0°-40°	463.2	8.6
0°-60°	833.9	15.5
0°-90°	1150.8	21.4
90°-120°	974.1	18.1
90°-150°	3164.0	58.8
90°-180°	4231.0	78.6
0°-180°	5382.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	364	363	360	363	363	35
15°	349	350	348	352	352	98
25°	320	322	323	327	328	147
35°	280	284	288	294	296	175
45°	233	241	249	255	258	180
55°	183	191	203	211	214	163
65°	126	139	153	163	167	125
75°	70	85	102	113	117	75
85°	22	39	57	69	73	23
90°	10	37	62	80	85	7
95°	60	42	57	74	79	75
105°	305	319	339	355	326	319
115°	565	572	583	594	597	556
125°	792	796	804	814	818	707
135°	981	981	987	995	1000	756
145°	1131	1133	1134	1137	1141	706
155°	1240	1240	1238	1241	1238	571
165°	1308	1303	1303	1310	1302	369
175°	1338	1332	1333	1340	1330	127
180°	1338	1338	1338	1338	1338	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	365.2	365.0	364.8	364.5	364.4	363.9	363.4	362.8	362.2	361.6	362.1
5°	364.4	364.0	363.8	363.5	363.3	362.8	362.1	361.5	360.9	360.2	361.0
7.5°	361.3	361.1	360.9	360.8	360.6	360.2	359.7	359.2	358.7	358.2	359.0
10°	358.6	358.5	358.4	358.3	358.3	358.0	357.6	357.1	356.6	356.2	357.0
12.5°	355.1	355.0	355.0	355.0	355.0	354.8	354.5	354.2	353.9	353.6	354.3
15°	349.2	349.4	349.5	349.6	349.7	349.6	349.2	349.0	348.7	348.4	349.2
17.5°	341.4	341.6	341.9	342.2	342.4	342.6	342.5	342.4	342.4	342.3	343.2
20°	335.8	336.0	336.4	336.7	336.9	337.1	337.2	337.3	337.3	337.4	338.4
22.5°	329.6	329.9	330.3	330.6	331.0	331.2	331.4	331.6	331.7	331.9	332.8
25°	319.5	320.0	320.6	321.2	321.7	322.1	322.4	322.6	322.9	323.2	324.2
27.5°	308.2	309.1	309.9	310.6	311.4	312.0	312.5	312.9	313.3	313.7	314.6
30°	300.7	301.5	302.2	302.9	303.7	304.4	305.0	305.6	306.3	306.9	307.9
32.5°	292.7	293.5	294.4	295.2	296.1	296.9	297.6	298.3	299.0	299.7	300.8
35°	279.6	280.7	281.7	282.8	284.0	284.9	285.9	286.7	287.7	288.5	289.8
37.5°	266.5	267.7	269.0	270.2	271.5	272.6	273.8	274.9	276.0	277.2	278.4
40°	258.0	259.2	260.4	261.5	262.7	263.9	265.2	266.5	267.7	269.0	270.4
42.5°	248.2	249.5	250.8	252.2	253.5	254.9	256.4	257.9	259.3	260.8	262.3
45°	233.1	234.8	236.5	238.2	240.0	241.7	243.4	245.1	246.8	248.6	250.1
47.5°	218.7	220.5	222.2	224.0	225.8	227.6	229.6	231.7	233.7	235.7	237.2
50°	208.3	210.3	212.2	214.2	216.2	218.2	220.2	222.2	224.2	226.2	228.0
52.5°	197.9	199.8	201.8	203.8	205.8	207.9	210.2	212.5	214.7	217.1	218.9
55°	182.6	184.5	186.4	188.3	190.2	192.5	195.2	197.9	200.6	203.4	205.2
57.5°	165.6	167.9	170.2	172.6	175.0	177.5	180.2	182.9	185.5	188.3	190.5
60°	154.5	156.8	159.2	161.5	163.8	166.5	169.5	172.5	175.5	178.5	180.6
62.5°	143.7	146.3	148.9	151.4	153.9	156.8	159.7	162.7	165.7	168.8	170.8
65°	126.3	129.2	132.2	135.0	137.9	140.9	144.0	147.1	150.2	153.3	155.5
67.5°	109.6	112.7	115.8	118.9	121.9	125.1	128.5	131.7	135.0	138.3	140.6
70°	98.2	101.3	104.4	107.5	110.6	113.8	117.3	120.7	124.2	127.6	130.0
72.5°	87.1	90.3	93.4	96.6	99.7	103.1	106.8	110.5	114.1	117.8	120.1
75°	70.1	73.4	76.8	80.2	83.5	87.0	90.9	94.7	98.5	102.3	104.9
77.5°	54.2	57.8	61.3	64.8	68.4	72.2	76.1	80.2	84.1	88.1	90.7
80°	44.4	48.0	51.7	55.3	58.9	62.7	66.7	70.7	74.6	78.7	81.4
82.5°	34.6	38.4	42.2	46.0	49.7	53.6	57.6	61.6	65.5	69.6	72.3
85°	21.6	25.4	29.2	33.0	36.9	40.7	44.9	48.9	53.0	57.1	59.8
87.5°	12.7	16.9	21.0	25.2	29.4	33.7	38.0	42.3	46.6	51.0	53.8
90°	9.6	15.6	21.7	27.7	33.8	39.7	45.4	51.0	56.7	62.3	66.3
92.5°	18.8	22.2	25.6	29.0	32.4	36.9	42.6	48.2	53.9	59.6	63.5
95°	60.4	55.8	51.1	46.6	42.0	41.8	45.6	49.6	53.6	57.4	61.2
97.5°	121.7	129.0	136.2	143.5	150.8	143.9	122.8	101.6	80.5	59.3	61.8
100°	168.6	174.9	181.2	187.6	194.0	183.6	156.4	129.3	102.1	75.0	73.6
102.5°	221.4	226.4	231.4	236.3	241.3	243.6	243.1	242.5	241.9	241.4	203.0
105°	304.8	308.0	311.1	314.3	317.4	321.2	325.6	330.1	334.6	339.1	343.3
107.5°	383.0	385.1	387.3	389.4	391.6	394.9	399.7	404.3	409.1	413.7	416.9
110°	435.5	437.4	439.3	441.3	443.2	446.4	450.9	455.4	459.9	464.4	466.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	486.4	488.7	491.0	493.4	495.7	498.6	502.3	505.9	509.5	513.2	515.1
115°	564.7	566.2	567.7	569.1	570.6	572.7	575.4	578.1	580.7	583.4	585.8
117.5°	635.7	637.1	638.4	639.8	641.2	643.4	646.6	649.8	653.0	656.2	658.0
120°	683.4	684.5	685.7	686.8	688.0	689.7	692.2	694.6	697.0	699.4	701.6
122.5°	728.1	728.8	729.4	730.0	730.5	732.2	735.0	737.8	740.5	743.4	745.5
125°	791.9	792.8	793.6	794.4	795.1	796.5	798.3	800.1	801.9	803.7	806.2
127.5°	852.7	852.8	853.0	853.1	853.3	854.7	857.5	860.2	863.0	865.7	867.2
130°	891.7	891.7	891.9	892.0	892.2	893.3	895.4	897.5	899.6	901.7	903.6
132.5°	927.6	927.9	928.2	928.6	928.8	930.1	932.0	934.0	936.1	938.1	939.8
135°	981.3	981.0	980.8	980.6	980.3	981.0	982.6	984.0	985.6	987.1	989.0
137.5°	1029.1	1029.1	1029.1	1029.1	1029.1	1029.7	1031.0	1032.3	1033.5	1034.8	1036.6
140°	1060.3	1060.7	1061.0	1061.4	1061.7	1062.1	1062.6	1063.2	1063.8	1064.3	1066.1
142.5°	1088.0	1088.7	1089.5	1090.3	1091.1	1091.6	1091.8	1092.0	1092.3	1092.4	1094.0
145°	1130.9	1131.4	1132.0	1132.6	1133.2	1133.5	1133.5	1133.5	1133.5	1133.5	1134.3
147.5°	1165.1	1166.3	1167.4	1168.5	1169.8	1170.2	1170.0	1169.8	1169.5	1169.3	1169.6
150°	1189.9	1190.8	1191.5	1192.3	1193.1	1193.4	1193.2	1193.0	1192.7	1192.5	1192.5
152.5°	1210.4	1211.1	1211.8	1212.5	1213.1	1213.3	1213.0	1212.5	1212.1	1211.8	1212.1
155°	1239.6	1239.8	1240.0	1240.2	1240.4	1240.2	1239.6	1238.9	1238.2	1237.5	1238.5
157.5°	1264.1	1264.0	1263.9	1263.8	1263.6	1263.2	1262.4	1261.7	1260.9	1260.2	1261.3
160°	1278.6	1277.9	1277.2	1276.6	1275.9	1275.5	1275.2	1275.0	1274.8	1274.5	1275.9
162.5°	1291.3	1290.6	1289.7	1288.8	1288.0	1287.5	1287.2	1287.0	1286.8	1286.6	1287.9
165°	1307.6	1306.5	1305.4	1304.2	1303.1	1302.6	1302.6	1302.6	1302.6	1302.6	1304.3
167.5°	1320.3	1319.2	1318.1	1316.9	1315.8	1315.1	1315.0	1314.8	1314.7	1314.6	1316.6
170°	1327.6	1326.3	1324.9	1323.6	1322.2	1321.7	1321.9	1322.2	1322.3	1322.6	1324.4
172.5°	1332.4	1331.0	1329.7	1328.4	1327.1	1326.5	1326.7	1327.0	1327.1	1327.4	1329.1
175°	1337.6	1336.3	1334.9	1333.6	1332.2	1331.7	1331.9	1332.1	1332.4	1332.6	1334.6
177.5°	1340.0	1338.8	1337.5	1336.3	1335.0	1334.6	1334.9	1335.2	1335.7	1336.0	1337.4
180°	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	362.7	363.2	363.7	363.9	363.9	363.8	363.7	363.6
5°	361.7	362.4	363.2	363.5	363.4	363.3	363.2	363.1
7.5°	359.8	360.6	361.4	361.8	361.7	361.6	361.5	361.4
10°	357.8	358.6	359.5	359.8	359.7	359.6	359.6	359.5
12.5°	355.1	355.9	356.5	356.9	356.9	356.9	356.9	356.8
15°	350.1	350.9	351.7	352.1	352.0	351.9	351.8	351.7
17.5°	344.0	344.8	345.7	346.0	345.9	345.9	345.9	345.8
20°	339.2	340.2	341.0	341.6	341.6	341.6	341.6	341.6
22.5°	333.7	334.6	335.5	336.0	336.2	336.3	336.5	336.7
25°	325.2	326.1	327.2	327.7	327.8	327.9	328.0	328.0
27.5°	315.6	316.5	317.5	318.0	318.1	318.1	318.2	318.4
30°	308.8	309.9	310.8	311.4	311.6	311.9	312.0	312.2
32.5°	302.0	303.2	304.3	305.0	305.1	305.3	305.5	305.7
35°	291.1	292.3	293.6	294.4	294.6	294.9	295.2	295.5
37.5°	279.7	280.9	282.2	283.1	283.4	283.6	284.0	284.2
40°	271.7	273.0	274.4	275.3	275.6	276.0	276.4	276.7
42.5°	263.8	265.4	266.8	267.8	268.0	268.3	268.6	268.9
45°	251.7	253.2	254.8	255.7	256.2	256.7	257.1	257.5
47.5°	238.8	240.4	242.0	243.1	243.7	244.2	244.7	245.3
50°	229.8	231.6	233.4	234.6	235.1	235.7	236.3	236.8
52.5°	220.7	222.5	224.3	225.5	226.0	226.5	227.1	227.6
55°	207.0	208.8	210.6	211.8	212.3	212.8	213.4	214.0
57.5°	192.6	194.8	196.9	198.2	198.7	199.2	199.8	200.3
60°	182.7	184.8	186.8	188.2	189.0	189.7	190.5	191.1
62.5°	172.9	175.0	177.0	178.5	179.2	179.9	180.6	181.3
65°	157.7	160.1	162.3	163.8	164.5	165.2	166.0	166.7
67.5°	142.9	145.3	147.5	149.0	149.7	150.4	151.1	151.9
70°	132.4	134.9	137.3	138.9	139.5	140.2	140.8	141.4
72.5°	122.5	124.9	127.3	128.8	129.5	130.2	131.0	131.6
75°	107.4	109.9	112.4	114.1	114.9	115.7	116.6	117.4
77.5°	93.2	95.8	98.4	100.1	101.0	101.9	102.7	103.6
80°	84.1	86.8	89.5	91.3	92.0	92.7	93.4	94.1
82.5°	75.1	77.9	80.7	82.5	83.3	84.0	84.9	85.7
85°	62.5	65.2	67.9	69.7	70.6	71.5	72.4	73.4
87.5°	56.7	59.6	62.5	64.4	65.3	66.2	67.1	67.9
90°	70.3	74.2	78.2	80.8	82.0	83.1	84.3	85.4
92.5°	67.4	71.3	75.2	77.5	78.4	79.1	79.9	80.8
95°	65.0	68.8	72.6	75.0	76.0	77.1	78.1	79.1
97.5°	64.3	66.9	69.4	71.1	72.2	73.1	74.1	75.2
100°	72.3	71.0	69.7	69.4	70.3	71.1	72.0	72.8
102.5°	164.6	126.2	87.8	69.0	69.7	70.5	71.3	72.0
105°	347.6	351.8	356.1	354.6	347.3	340.0	332.8	325.5
107.5°	420.1	423.4	426.5	428.9	430.4	431.9	433.3	434.9
110°	469.5	472.0	474.5	476.5	477.9	479.3	480.7	482.1





TEST NUMBER: P332529-935

CATALOG NUMBER: S124DIP-S350D1205U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	517.0	519.0	520.9	522.6	524.2	525.8	527.4	528.9
115°	588.2	590.7	593.1	594.7	595.3	596.0	596.6	597.2
117.5°	659.8	661.6	663.4	664.6	665.2	665.9	666.5	667.1
120°	703.9	706.1	708.4	709.6	710.0	710.2	710.5	710.8
122.5°	747.5	749.6	751.7	752.9	753.0	753.2	753.5	753.6
125°	808.6	810.9	813.3	814.9	815.6	816.4	817.2	817.9
127.5°	868.7	870.2	871.8	872.7	873.1	873.6	874.0	874.4
130°	905.4	907.3	909.1	910.3	910.9	911.5	912.0	912.5
132.5°	941.6	943.4	945.2	946.2	946.6	946.9	947.4	947.7
135°	990.9	992.8	994.7	996.1	997.1	998.1	999.1	1000.1
137.5°	1038.5	1040.3	1042.1	1043.2	1043.4	1043.8	1044.1	1044.5
140°	1068.0	1069.8	1071.7	1072.9	1073.6	1074.3	1075.0	1075.6
142.5°	1095.5	1097.0	1098.5	1099.5	1099.9	1100.4	1100.8	1101.2
145°	1135.1	1135.8	1136.6	1137.4	1138.2	1138.9	1139.8	1140.6
147.5°	1169.8	1170.1	1170.4	1170.7	1171.2	1171.7	1172.3	1172.8
150°	1192.5	1192.5	1192.5	1192.7	1192.8	1193.1	1193.3	1193.5
152.5°	1212.5	1212.8	1213.1	1213.2	1213.1	1213.0	1212.9	1212.7
155°	1239.3	1240.2	1241.1	1241.2	1240.5	1239.8	1239.2	1238.5
157.5°	1262.5	1263.6	1264.8	1264.8	1263.6	1262.5	1261.3	1260.2
160°	1277.2	1278.6	1279.9	1279.9	1278.6	1277.2	1275.9	1274.5
162.5°	1289.3	1290.6	1291.9	1291.8	1290.3	1288.8	1287.3	1285.7
165°	1306.1	1307.9	1309.7	1309.6	1307.6	1305.5	1303.6	1301.6
167.5°	1318.5	1320.4	1322.4	1322.2	1320.1	1317.8	1315.6	1313.4
170°	1326.1	1327.9	1329.7	1329.5	1327.2	1325.0	1322.8	1320.6
172.5°	1330.9	1332.7	1334.5	1334.2	1331.8	1329.4	1327.0	1324.6
175°	1336.6	1338.6	1340.6	1340.2	1337.6	1334.9	1332.2	1329.6
177.5°	1338.9	1340.2	1341.7	1341.4	1339.2	1337.0	1334.9	1332.8
180°	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6

(END OF REPORT)