

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: P332521-840

Luminaire Tested: **SA4XXDIP-C350D1035U840-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332521-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C350D1035U840-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

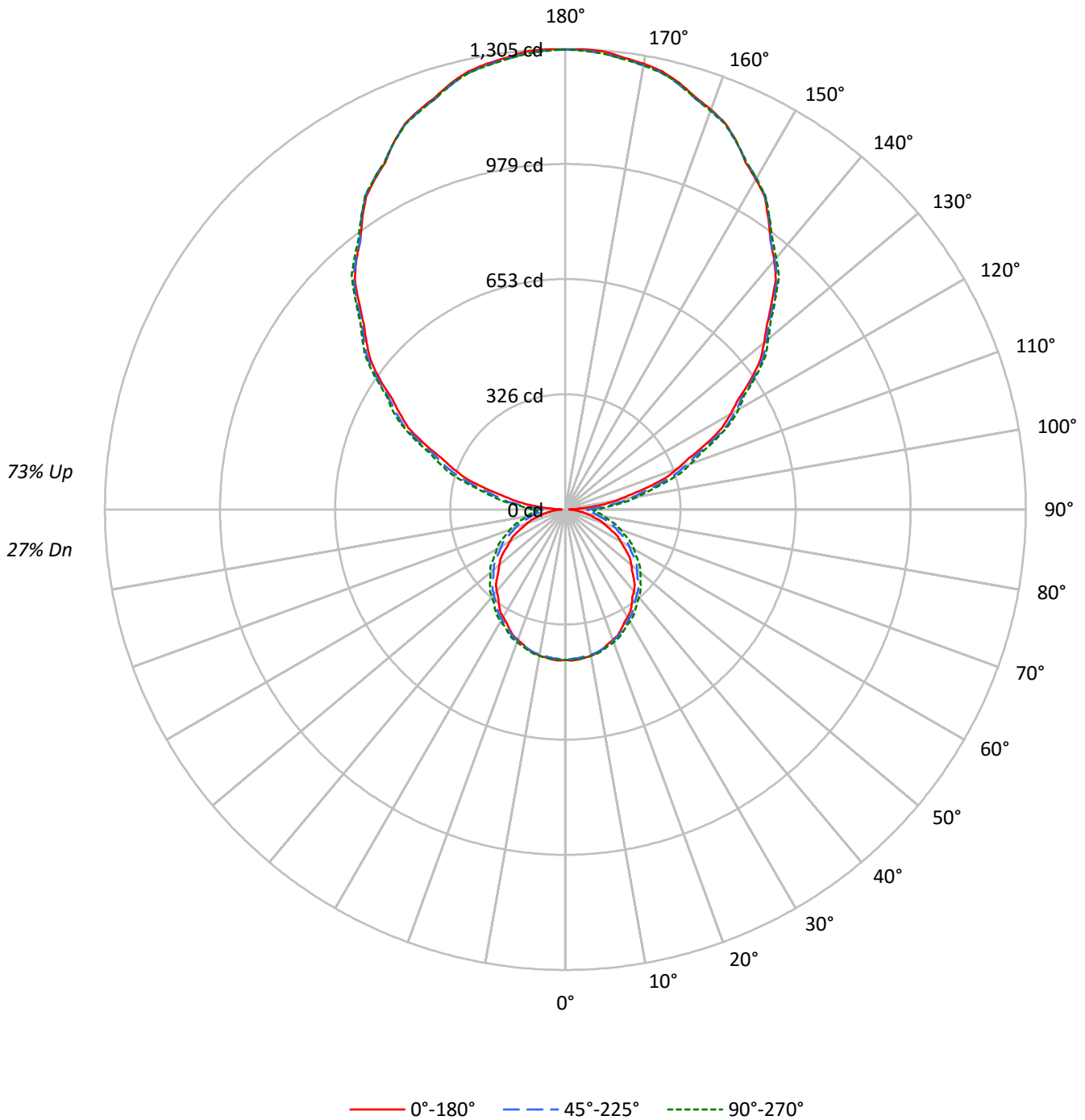
Lumens per Lamp: N/A  
Luminaire Lumens: 5075.0 lumens  
Efficiency: N/A  
Efficacy: 136.1 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

Input Watts (W): 37.3  
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: P332521-840  
CATALOG NUMBER: SA4XXDIP-C350D1035U840-4F0-1E-UDD-D1

### Luminous Intensity Polar Plot





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CATALOG NUMBER: SA4XXDIP-C350D1035U840-4F0-1E-UDD-D1

**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	91	91	91	91	70	70	70	52	52	52	35	35	35	27
1	92	88	84	80	82	78	75	72	61	58	56	45	43	42	30	29	28	21
2	83	76	70	65	74	68	63	58	53	49	46	39	36	34	26	24	23	17
3	76	67	59	54	67	60	53	48	46	42	38	34	31	29	23	21	19	14
4	69	59	51	45	61	53	46	41	41	36	32	30	27	24	20	18	17	12
5	63	52	44	38	56	47	40	35	36	32	28	27	24	21	18	16	14	10
6	58	46	39	33	52	42	35	30	33	28	24	24	21	18	16	14	12	9
7	54	42	34	29	48	38	31	26	29	24	21	22	18	16	15	13	11	8
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	11	10	7
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	12	10	9	6
10	43	31	24	20	38	28	22	18	22	18	15	17	13	11	11	9	8	6

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

	0°	45°	90°
0°	3446	3446	3446
5°	3457	3367	3378
10°	3435	3313	3310
15°	3404	3249	3231
20°	3358	3179	3155
25°	3306	3100	3070
30°	3249	3021	2983
35°	3185	2941	2907
40°	3134	2865	2828
45°	3058	2793	2759
50°	2994	2713	2687
55°	2928	2636	2603
60°	2824	2538	2526
65°	2708	2435	2431
70°	2572	2315	2320
75°	2379	2183	2220
80°	2166	2057	2123
85°	1893	1946	2065



TEST NUMBER: P332521-840

CATALOG NUMBER: SA4XXDIP-C350D1035U840-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.4	0.8
10°-20°	115.8	2.3
20°-30°	175.1	3.5
30°-40°	211.9	4.2
40°-50°	224.0	4.4
50°-60°	210.8	4.2
60°-70°	174.9	3.4
70°-80°	122.9	2.4
80°-90°	73.3	1.4
90°-100°	127.2	2.5
100°-110°	285.2	5.6
110°-120°	452.7	8.9
120°-130°	581.5	11.5
130°-140°	645.0	12.7
140°-150°	630.0	12.4
150°-160°	529.0	10.4
160°-170°	352.0	6.9
170°-180°	123.2	2.4
0°-30°	331.4	6.5
0°-40°	543.2	10.7
0°-60°	978.1	19.3
0°-90°	1349.2	26.6
90°-120°	865.1	17.0
90°-150°	2721.6	53.6
90°-180°	3726.0	73.4
0°-180°	5075.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	427	426	422	426	426	41
15°	410	410	409	413	412	115
25°	375	378	379	384	385	173
35°	328	334	338	345	347	205
45°	273	282	292	299	302	211
55°	214	224	238	248	251	191
65°	148	164	180	191	196	147
75°	82	100	120	133	138	87
85°	25	46	67	81	86	27
90°	11	41	70	89	95	9
95°	67	92	118	134	138	72
105°	239	250	272	286	293	254
115°	442	447	460	469	472	436
125°	642	642	652	659	660	572
135°	826	832	836	841	841	639
145°	1003	1007	1008	1010	1009	628
155°	1149	1149	1148	1152	1148	529
165°	1251	1248	1246	1251	1248	352
175°	1301	1297	1295	1302	1295	123
180°	1303	1303	1303	1303	1303	



TEST NUMBER: P332521-840

CATALOG NUMBER: SA4XXDIP-C350D1035U840-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	428.4	428.1	427.9	427.6	427.4	426.9	426.3	425.6	424.9	424.1	424.7
5°	427.4	427.0	426.7	426.4	426.1	425.6	424.7	424.0	423.3	422.5	423.4
7.5°	423.7	423.5	423.3	423.1	422.9	422.5	421.9	421.3	420.7	420.1	421.0
10°	420.6	420.5	420.4	420.3	420.2	419.9	419.4	418.8	418.3	417.8	418.7
12.5°	416.5	416.4	416.4	416.4	416.4	416.2	415.8	415.5	415.1	414.8	415.6
15°	409.6	409.8	409.9	410.0	410.1	410.0	409.6	409.3	409.0	408.7	409.6
17.5°	400.4	400.7	401.0	401.3	401.6	401.8	401.7	401.6	401.6	401.5	402.5
20°	393.8	394.2	394.6	394.9	395.2	395.4	395.5	395.6	395.7	395.8	396.9
22.5°	386.6	387.0	387.4	387.8	388.2	388.5	388.7	388.9	389.1	389.3	390.3
25°	374.8	375.4	376.1	376.7	377.3	377.8	378.1	378.4	378.7	379.1	380.2
27.5°	361.5	362.5	363.5	364.4	365.3	366.0	366.5	367.0	367.5	368.0	369.0
30°	352.7	353.7	354.5	355.3	356.2	357.0	357.7	358.4	359.2	359.9	361.1
32.5°	343.3	344.3	345.3	346.3	347.3	348.2	349.0	349.8	350.7	351.5	352.8
35°	327.9	329.2	330.4	331.7	333.1	334.2	335.3	336.3	337.4	338.4	339.9
37.5°	312.6	314.0	315.5	316.9	318.4	319.7	321.1	322.4	323.8	325.1	326.6
40°	302.6	304.0	305.4	306.7	308.1	309.5	311.0	312.6	314.0	315.5	317.1
42.5°	291.1	292.7	294.2	295.8	297.3	298.9	300.7	302.5	304.2	305.9	307.7
45°	273.4	275.4	277.4	279.4	281.4	283.5	285.5	287.5	289.5	291.5	293.4
47.5°	256.5	258.6	260.6	262.8	264.8	267.0	269.3	271.8	274.1	276.4	278.2
50°	244.3	246.6	248.9	251.3	253.6	255.9	258.3	260.6	263.0	265.3	267.4
52.5°	232.1	234.4	236.7	239.0	241.4	243.9	246.5	249.2	251.9	254.6	256.7
55°	214.2	216.4	218.6	220.9	223.1	225.8	228.9	232.2	235.3	238.5	240.7
57.5°	194.2	196.9	199.7	202.5	205.2	208.1	211.4	214.5	217.6	220.9	223.4
60°	181.2	183.9	186.7	189.5	192.2	195.3	198.8	202.4	205.8	209.3	211.8
62.5°	168.5	171.6	174.6	177.6	180.6	183.9	187.3	190.9	194.4	197.9	200.4
65°	148.1	151.6	155.0	158.3	161.8	165.3	168.8	172.5	176.1	179.8	182.4
67.5°	128.6	132.2	135.8	139.5	143.0	146.7	150.7	154.5	158.3	162.2	164.9
70°	115.2	118.8	122.4	126.0	129.7	133.5	137.5	141.6	145.6	149.7	152.5
72.5°	102.2	105.9	109.6	113.3	116.9	121.0	125.2	129.6	133.8	138.1	140.9
75°	82.2	86.1	90.1	94.0	98.0	102.1	106.6	111.1	115.5	120.0	123.0
77.5°	63.6	67.8	71.9	76.0	80.2	84.6	89.3	94.0	98.7	103.3	106.3
80°	52.1	56.4	60.6	64.8	69.1	73.5	78.3	82.9	87.6	92.3	95.4
82.5°	40.6	45.0	49.5	53.9	58.3	62.8	67.6	72.2	76.9	81.6	84.8
85°	25.3	29.8	34.2	38.7	43.2	47.8	52.6	57.4	62.1	67.0	70.1
87.5°	14.7	19.6	24.4	29.2	34.0	39.0	44.0	49.0	54.0	59.0	62.4
90°	10.7	17.4	24.1	30.8	37.6	44.0	50.4	56.8	63.1	69.5	73.9
92.5°	28.9	35.4	42.1	48.8	55.4	61.7	67.5	73.3	79.1	84.9	88.8
95°	66.7	72.2	77.8	83.2	88.8	94.5	100.4	106.3	112.3	118.2	121.7
97.5°	111.3	115.9	120.6	125.1	129.8	135.2	141.4	147.4	153.6	159.8	163.4
100°	146.3	150.1	153.7	157.3	161.0	165.9	172.1	178.2	184.4	190.6	193.9
102.5°	183.5	186.2	189.0	191.8	194.6	198.9	204.8	210.8	216.6	222.5	225.9
105°	239.1	241.6	243.9	246.2	248.5	252.2	257.0	261.8	266.6	271.5	274.8
107.5°	298.5	300.5	302.6	304.6	306.6	309.5	313.4	317.2	321.0	324.9	328.2
110°	338.5	340.4	342.3	344.3	346.2	348.9	352.4	355.9	359.4	362.9	364.9



TEST NUMBER: P332521-840

CATALOG NUMBER: SA4XXDIP-C350D1035U840-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	380.0	381.4	382.8	384.3	385.7	387.9	391.1	394.3	397.4	400.5	402.7
115°	442.3	443.3	444.2	445.2	446.2	448.1	451.1	454.0	457.0	459.9	462.0
117.5°	501.5	502.3	503.0	503.8	504.5	506.3	509.2	512.0	514.9	517.8	519.2
120°	540.7	541.9	543.1	544.3	545.5	547.3	549.8	552.1	554.5	556.9	558.0
122.5°	581.8	582.2	582.6	583.0	583.5	585.0	587.5	590.2	592.8	595.3	596.7
125°	642.0	641.9	641.8	641.7	641.6	642.7	645.1	647.6	650.1	652.5	654.0
127.5°	696.9	697.5	698.0	698.6	699.2	700.3	702.0	703.7	705.4	707.0	708.5
130°	735.3	735.8	736.4	736.9	737.5	738.6	740.3	742.0	743.8	745.5	746.9
132.5°	774.8	775.2	775.6	775.9	776.3	777.1	778.3	779.4	780.6	781.8	783.2
135°	826.5	827.9	829.2	830.5	831.8	832.9	833.6	834.4	835.2	835.9	837.2
137.5°	883.3	883.8	884.3	884.9	885.4	886.1	886.8	887.5	888.2	888.9	889.9
140°	921.2	921.6	921.9	922.3	922.6	922.8	922.9	923.0	923.1	923.2	924.4
142.5°	955.5	955.9	956.3	956.8	957.3	957.4	957.0	956.8	956.6	956.3	957.6
145°	1003.4	1004.2	1005.0	1005.8	1006.5	1007.0	1007.3	1007.5	1007.7	1007.9	1008.4
147.5°	1051.0	1052.0	1053.0	1053.9	1054.9	1055.3	1055.1	1054.9	1054.7	1054.6	1054.5
150°	1080.1	1080.9	1081.6	1082.4	1083.2	1083.6	1083.6	1083.6	1083.6	1083.6	1083.6
152.5°	1107.0	1107.6	1108.1	1108.6	1109.1	1109.4	1109.6	1109.8	1110.0	1110.1	1110.8
155°	1149.1	1149.1	1149.1	1149.1	1149.1	1149.0	1148.7	1148.5	1148.3	1148.1	1149.0
157.5°	1184.6	1184.2	1183.8	1183.4	1183.0	1182.8	1182.7	1182.7	1182.7	1182.6	1183.3
160°	1205.6	1205.3	1205.1	1204.9	1204.7	1204.5	1204.2	1204.0	1203.8	1203.6	1204.2
162.5°	1224.9	1224.4	1223.8	1223.1	1222.5	1222.1	1221.9	1221.7	1221.5	1221.2	1222.4
165°	1250.9	1250.2	1249.6	1248.9	1248.2	1247.7	1247.2	1246.8	1246.3	1245.9	1247.2
167.5°	1270.9	1269.9	1269.0	1268.1	1267.1	1266.7	1266.7	1266.8	1266.8	1266.9	1268.2
170°	1282.1	1281.0	1279.9	1278.8	1277.7	1277.2	1277.5	1277.7	1277.9	1278.1	1279.5
172.5°	1290.2	1289.3	1288.4	1287.4	1286.5	1286.0	1286.1	1286.1	1286.2	1286.2	1287.7
175°	1301.3	1300.2	1299.1	1298.0	1296.9	1296.2	1296.0	1295.7	1295.5	1295.3	1296.9
177.5°	1304.9	1304.0	1303.1	1302.2	1301.3	1300.9	1300.9	1300.9	1300.9	1300.9	1302.1
180°	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3



TEST NUMBER: P332521-840

CATALOG NUMBER: SA4XXDIP-C350D1035U840-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	425.4	426.0	426.6	426.8	426.8	426.7	426.6	426.5
5°	424.2	425.1	426.0	426.4	426.3	426.1	426.0	425.9
7.5°	422.0	422.9	423.9	424.3	424.2	424.1	424.0	423.9
10°	419.7	420.6	421.6	422.0	421.9	421.8	421.7	421.6
12.5°	416.5	417.4	418.2	418.6	418.6	418.6	418.6	418.5
15°	410.6	411.5	412.5	412.9	412.8	412.7	412.6	412.5
17.5°	403.4	404.5	405.5	405.9	405.8	405.7	405.7	405.6
20°	397.9	399.0	400.0	400.6	400.6	400.6	400.6	400.6
22.5°	391.4	392.4	393.5	394.2	394.4	394.5	394.7	394.9
25°	381.4	382.5	383.7	384.4	384.5	384.6	384.7	384.8
27.5°	370.1	371.2	372.3	372.9	373.0	373.1	373.2	373.4
30°	362.2	363.5	364.6	365.3	365.5	365.8	366.0	366.2
32.5°	354.2	355.6	356.9	357.7	357.9	358.1	358.3	358.5
35°	341.4	342.8	344.4	345.3	345.6	345.9	346.3	346.6
37.5°	328.1	329.5	331.0	332.0	332.3	332.6	333.1	333.4
40°	318.7	320.2	321.8	322.9	323.3	323.8	324.2	324.6
42.5°	309.4	311.2	313.0	314.1	314.4	314.7	315.1	315.4
45°	295.2	297.0	298.8	299.9	300.5	301.0	301.5	302.1
47.5°	280.1	282.0	283.9	285.1	285.8	286.4	287.0	287.7
50°	269.5	271.7	273.8	275.2	275.8	276.4	277.1	277.7
52.5°	258.8	260.9	263.1	264.5	265.1	265.7	266.4	267.0
55°	242.8	244.9	247.0	248.4	249.0	249.6	250.3	251.0
57.5°	225.9	228.4	231.0	232.5	233.1	233.7	234.3	234.9
60°	214.3	216.7	219.1	220.8	221.7	222.5	223.4	224.2
62.5°	202.8	205.2	207.6	209.3	210.2	211.0	211.9	212.7
65°	185.0	187.7	190.4	192.1	193.0	193.8	194.7	195.5
67.5°	167.6	170.4	173.0	174.8	175.6	176.4	177.2	178.1
70°	155.3	158.2	161.1	162.9	163.6	164.4	165.1	165.8
72.5°	143.7	146.5	149.3	151.1	151.9	152.7	153.6	154.4
75°	125.9	128.9	131.9	133.8	134.8	135.7	136.7	137.6
77.5°	109.4	112.4	115.4	117.4	118.5	119.5	120.5	121.5
80°	98.7	101.8	105.0	107.0	107.9	108.8	109.6	110.4
82.5°	88.1	91.4	94.6	96.7	97.7	98.6	99.6	100.5
85°	73.3	76.4	79.7	81.8	82.8	83.9	84.9	86.0
87.5°	65.7	69.1	72.4	74.6	75.6	76.6	77.7	78.7
90°	78.4	82.8	87.2	90.1	91.4	92.6	93.9	95.2
92.5°	92.5	96.3	100.2	102.6	103.7	104.8	105.9	107.0
95°	125.2	128.9	132.4	134.6	135.5	136.5	137.4	138.5
97.5°	166.9	170.6	174.1	176.4	177.3	178.2	179.2	180.1
100°	197.2	200.5	203.8	205.8	206.6	207.3	208.0	208.8
102.5°	229.3	232.8	236.1	238.3	239.3	240.3	241.4	242.4
105°	278.1	281.4	284.8	287.2	288.7	290.2	291.8	293.3
107.5°	331.4	334.7	337.9	339.8	340.6	341.3	342.0	342.7
110°	366.9	368.9	370.9	372.6	374.2	375.7	377.2	378.7





TEST NUMBER: P332521-840

CATALOG NUMBER: SA4XXDIP-C350D1035U840-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	405.1	407.3	409.6	411.2	412.2	413.1	414.1	415.2
115°	464.1	466.3	468.4	469.7	470.2	470.7	471.3	471.8
117.5°	520.7	522.1	523.5	524.4	524.8	525.2	525.6	526.0
120°	559.0	560.0	561.0	562.1	563.4	564.7	566.0	567.3
122.5°	598.0	599.5	600.8	601.5	601.5	601.4	601.4	601.3
125°	655.6	657.1	658.7	659.6	659.8	659.9	660.1	660.4
127.5°	709.9	711.4	712.9	713.8	714.2	714.6	714.9	715.3
130°	748.4	749.8	751.3	751.9	751.6	751.3	751.1	750.8
132.5°	784.6	786.0	787.3	788.2	788.4	788.7	789.0	789.3
135°	838.4	839.6	840.9	841.5	841.4	841.4	841.4	841.3
137.5°	890.9	891.8	892.8	893.6	894.2	894.9	895.6	896.3
140°	925.5	926.8	927.9	928.6	929.0	929.3	929.6	929.9
142.5°	958.7	959.9	961.0	961.8	962.2	962.6	963.0	963.4
145°	1008.9	1009.3	1009.7	1009.8	1009.5	1009.3	1009.0	1008.8
147.5°	1054.4	1054.3	1054.2	1054.2	1054.3	1054.4	1054.5	1054.6
150°	1083.6	1083.6	1083.6	1083.5	1083.3	1083.0	1082.8	1082.6
152.5°	1111.3	1111.8	1112.4	1112.4	1111.8	1111.2	1110.5	1109.9
155°	1149.9	1150.7	1151.7	1151.7	1150.7	1149.9	1149.0	1148.1
157.5°	1183.9	1184.6	1185.3	1185.2	1184.5	1183.7	1183.0	1182.1
160°	1204.9	1205.6	1206.2	1206.0	1204.9	1203.8	1202.6	1201.5
162.5°	1223.7	1224.9	1226.1	1226.2	1225.1	1224.0	1222.8	1221.6
165°	1248.6	1249.9	1251.2	1251.4	1250.6	1249.7	1248.8	1247.9
167.5°	1269.5	1270.9	1272.2	1272.2	1270.8	1269.4	1268.0	1266.7
170°	1280.8	1282.1	1283.5	1283.3	1281.8	1280.2	1278.7	1277.1
172.5°	1289.2	1290.7	1292.3	1292.2	1290.7	1289.1	1287.6	1286.0
175°	1298.4	1300.0	1301.5	1301.5	1300.0	1298.4	1296.9	1295.3
177.5°	1303.4	1304.6	1306.0	1305.9	1304.4	1302.9	1301.5	1300.1
180°	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3

(END OF REPORT)