

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: P332511-940

Luminaire Tested: **SA4XXDIP-C350D810U940-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332511-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C350D810U940-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

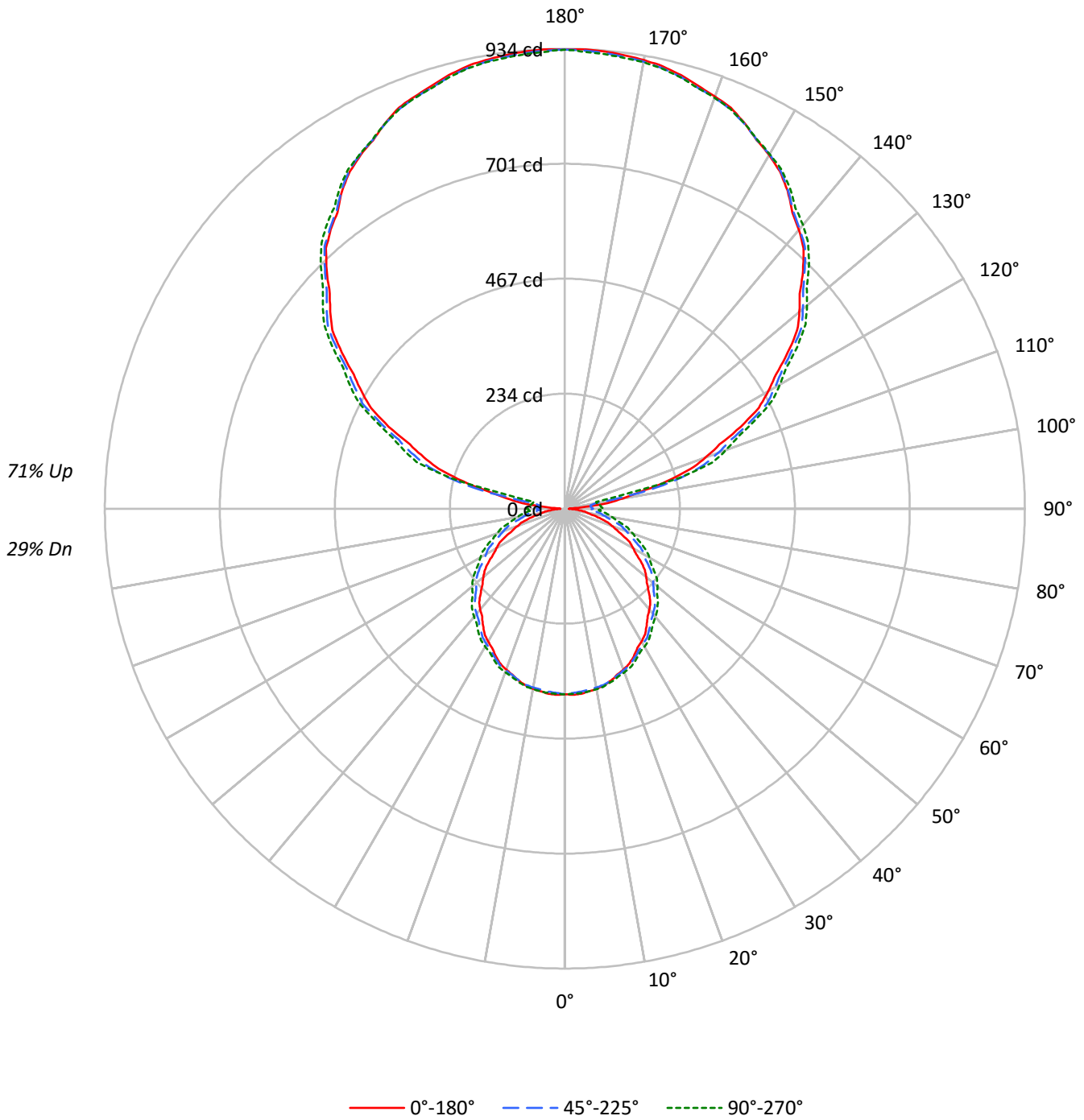
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4171.1 lumens  
Efficiency: N/A  
Efficacy: 133.7 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): 31.2  
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: P332511-940  
CATALOG NUMBER: SA4XXDIP-C350D810U940-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P332511-940

CATALOG NUMBER: SA4XXDIP-C350D810U940-4F0-1E-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	50	30	10	0	
RCR																						
0	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	29				
1	92	88	84	80	82	79	75	72	62	59	57	46	44	43	31	30	30	23				
2	84	76	70	65	75	68	63	59	54	50	47	40	37	35	27	26	24	19				
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	22	20	15				
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	21	19	17	13				
5	64	52	44	38	57	47	40	35	37	32	28	28	24	22	19	17	15	11				
6	59	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10				
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	16	13	12	9				
8	50	38	30	25	45	34	28	23	27	22	19	20	17	14	14	12	10	8				
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7				
10	43	31	24	20	39	28	22	18	23	18	15	17	14	12	12	10	8	6				

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

	0°	45°	90°
0°	3043	3043	3043
5°	3053	2974	2982
10°	3033	2925	2923
15°	3006	2869	2854
20°	2965	2807	2785
25°	2919	2737	2710
30°	2869	2668	2634
35°	2812	2597	2566
40°	2768	2530	2497
45°	2700	2466	2436
50°	2643	2396	2373
55°	2585	2328	2298
60°	2493	2242	2231
65°	2392	2149	2146
70°	2271	2045	2049
75°	2101	1926	1961
80°	1913	1816	1875
85°	1676	1717	1825



TEST NUMBER: P332511-940

CATALOG NUMBER: SA4XXDIP-C350D810U940-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.7	0.9
10°-20°	102.3	2.5
20°-30°	154.6	3.7
30°-40°	187.1	4.5
40°-50°	197.8	4.7
50°-60°	186.2	4.5
60°-70°	154.4	3.7
70°-80°	108.5	2.6
80°-90°	64.0	1.5
90°-100°	68.3	1.6
100°-110°	230.2	5.5
110°-120°	407.0	9.8
120°-130°	503.9	12.1
130°-140°	532.6	12.8
140°-150°	494.8	11.9
150°-160°	398.3	9.5
160°-170°	256.9	6.2
170°-180°	88.5	2.1
0°-30°	292.6	7.0
0°-40°	479.7	11.5
0°-60°	863.6	20.7
0°-90°	1190.6	28.5
90°-120°	705.5	16.9
90°-150°	2236.8	53.6
90°-180°	2981.0	71.5
0°-180°	4171.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	377	377	377	377	377	
5°	377	376	373	376	376	36
15°	362	362	361	364	364	102
25°	331	333	335	339	340	152
35°	290	295	299	304	306	181
45°	241	249	257	264	267	187
55°	189	198	211	219	222	168
65°	131	144	159	169	173	130
75°	73	88	106	117	122	77
85°	22	40	59	71	76	24
90°	9	33	57	73	78	6
95°	44	36	52	67	72	54
105°	214	227	245	260	240	224
115°	394	401	413	423	427	388
125°	552	555	564	574	577	493
135°	684	684	689	697	701	527
145°	788	790	790	793	796	492
155°	864	864	862	865	863	398
165°	911	908	908	913	907	257
175°	932	928	929	934	927	89
180°	932	932	932	932	932	



TEST NUMBER: P332511-940

CATALOG NUMBER: SA4XXDIP-C350D810U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	378.3	378.0	377.8	377.6	377.4	376.9	376.4	375.8	375.1	374.5	375.1
5°	377.4	377.0	376.7	376.5	376.2	375.8	375.1	374.4	373.8	373.1	373.9
7.5°	374.2	374.0	373.8	373.6	373.4	373.1	372.6	372.0	371.5	371.0	371.8
10°	371.4	371.3	371.2	371.1	371.0	370.8	370.3	369.8	369.3	368.9	369.7
12.5°	367.7	367.7	367.7	367.7	367.7	367.5	367.1	366.8	366.5	366.2	366.9
15°	361.7	361.9	361.9	362.0	362.1	362.0	361.7	361.4	361.1	360.9	361.7
17.5°	353.6	353.8	354.1	354.4	354.6	354.8	354.7	354.6	354.6	354.5	355.4
20°	347.8	348.0	348.4	348.7	348.9	349.1	349.2	349.3	349.4	349.5	350.4
22.5°	341.3	341.7	342.1	342.4	342.8	343.0	343.2	343.4	343.6	343.8	344.6
25°	330.9	331.4	332.1	332.6	333.1	333.6	333.9	334.1	334.4	334.7	335.7
27.5°	319.2	320.1	320.9	321.7	322.5	323.2	323.6	324.0	324.5	324.9	325.8
30°	311.5	312.3	313.0	313.7	314.5	315.2	315.8	316.5	317.2	317.8	318.9
32.5°	303.1	304.0	304.9	305.8	306.7	307.5	308.2	308.9	309.7	310.4	311.6
35°	289.5	290.7	291.8	292.9	294.1	295.1	296.0	296.9	297.9	298.8	300.1
37.5°	276.0	277.2	278.6	279.8	281.2	282.3	283.6	284.7	285.9	287.0	288.4
40°	267.2	268.4	269.7	270.8	272.1	273.3	274.6	276.0	277.2	278.6	280.0
42.5°	257.1	258.4	259.8	261.2	262.5	263.9	265.6	267.1	268.6	270.1	271.7
45°	241.4	243.2	245.0	246.7	248.5	250.3	252.1	253.9	255.7	257.4	259.0
47.5°	226.5	228.4	230.2	232.0	233.8	235.8	237.8	240.0	242.0	244.1	245.7
50°	215.7	217.8	219.8	221.9	223.9	226.0	228.1	230.2	232.2	234.3	236.1
52.5°	204.9	207.0	209.0	211.1	213.1	215.3	217.7	220.1	222.4	224.8	226.7
55°	189.1	191.1	193.1	195.0	197.0	199.4	202.2	205.0	207.8	210.6	212.5
57.5°	171.5	173.9	176.3	178.8	181.2	183.8	186.6	189.4	192.2	195.0	197.2
60°	160.0	162.4	164.9	167.3	169.7	172.5	175.6	178.7	181.7	184.9	187.0
62.5°	148.8	151.5	154.2	156.9	159.4	162.4	165.4	168.5	171.7	174.8	176.9
65°	130.8	133.8	136.9	139.8	142.9	146.0	149.1	152.3	155.5	158.7	161.0
67.5°	113.5	116.7	119.9	123.1	126.3	129.6	133.0	136.4	139.8	143.2	145.6
70°	101.7	104.9	108.1	111.3	114.5	117.9	121.5	125.0	128.6	132.2	134.6
72.5°	90.2	93.5	96.8	100.0	103.3	106.8	110.6	114.4	118.2	122.0	124.4
75°	72.6	76.1	79.5	83.0	86.5	90.2	94.2	98.1	102.0	105.9	108.6
77.5°	56.2	59.8	63.5	67.1	70.8	74.7	78.8	83.0	87.1	91.2	93.9
80°	46.0	49.8	53.5	57.2	61.0	64.9	69.1	73.2	77.3	81.5	84.3
82.5°	35.8	39.8	43.7	47.6	51.5	55.5	59.7	63.8	67.9	72.1	74.9
85°	22.4	26.3	30.2	34.2	38.2	42.2	46.5	50.6	54.8	59.1	61.9
87.5°	12.9	17.1	21.2	25.4	29.6	33.9	38.2	42.5	46.9	51.3	54.2
90°	8.8	14.3	19.8	25.2	30.7	36.0	41.3	46.5	51.8	57.2	60.8
92.5°	15.2	18.6	22.1	25.6	29.1	33.4	38.7	44.0	49.3	54.6	58.1
95°	43.9	41.6	39.5	37.3	35.1	36.0	40.0	44.1	48.1	52.1	55.6
97.5°	86.4	92.4	98.4	104.2	110.2	106.5	92.9	79.5	66.0	52.5	55.0
100°	119.0	124.2	129.5	134.6	139.9	133.7	115.9	98.2	80.5	62.8	62.7
102.5°	155.8	160.0	164.2	168.4	172.5	175.0	175.8	176.6	177.5	178.2	152.2
105°	213.7	216.5	219.3	222.0	224.9	228.4	232.6	236.9	241.1	245.4	249.1
107.5°	268.1	270.1	272.2	274.1	276.1	279.3	283.7	287.9	292.3	296.7	299.6
110°	304.6	306.4	308.2	309.9	311.7	314.7	318.9	323.1	327.3	331.5	334.0



TEST NUMBER: P332511-940

CATALOG NUMBER: SA4XXDIP-C350D810U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	339.9	342.0	343.9	345.9	347.9	350.7	354.3	357.8	361.4	365.0	367.0
115°	394.4	395.7	397.0	398.3	399.6	401.7	404.6	407.3	410.2	413.0	415.4
117.5°	443.8	444.9	446.0	447.2	448.3	450.4	453.5	456.7	459.9	463.0	464.8
120°	476.9	477.8	478.8	479.7	480.5	482.2	484.8	487.4	489.9	492.5	494.7
122.5°	508.2	508.5	509.0	509.4	509.9	511.5	514.2	517.0	519.9	522.6	524.7
125°	552.5	553.0	553.6	554.1	554.6	555.9	557.9	559.9	562.0	564.0	566.2
127.5°	594.8	594.9	594.9	594.9	595.0	596.3	598.9	601.4	603.9	606.4	608.0
130°	621.8	621.9	621.9	622.0	622.1	623.0	625.0	627.0	628.9	630.9	632.8
132.5°	646.9	647.1	647.3	647.5	647.6	648.6	650.4	652.2	654.0	655.8	657.5
135°	684.1	683.9	683.9	683.7	683.5	684.0	685.4	686.6	687.9	689.2	691.0
137.5°	717.5	717.4	717.4	717.4	717.3	717.8	718.8	719.8	720.8	721.8	723.5
140°	739.2	739.4	739.7	739.9	740.0	740.4	740.7	741.2	741.5	742.0	743.7
142.5°	758.4	758.9	759.5	760.0	760.5	760.9	761.0	761.2	761.3	761.4	762.8
145°	788.3	788.6	789.0	789.4	789.8	790.0	790.0	790.0	790.0	790.0	790.7
147.5°	812.2	812.9	813.7	814.5	815.2	815.6	815.4	815.2	815.0	814.9	815.1
150°	829.4	829.9	830.5	831.0	831.5	831.7	831.5	831.4	831.3	831.1	831.1
152.5°	843.6	844.1	844.5	845.0	845.5	845.6	845.3	845.1	844.7	844.5	844.7
155°	863.9	864.0	864.2	864.3	864.5	864.3	863.9	863.4	862.9	862.5	863.1
157.5°	881.0	880.9	880.8	880.7	880.7	880.3	879.8	879.3	878.8	878.2	879.0
160°	891.1	890.6	890.1	889.7	889.2	888.9	888.8	888.6	888.4	888.2	889.2
162.5°	900.0	899.4	898.8	898.2	897.6	897.2	897.1	897.0	896.8	896.6	897.6
165°	911.2	910.5	909.7	908.9	908.2	907.8	907.8	907.8	907.8	907.8	909.0
167.5°	920.2	919.4	918.6	917.7	916.9	916.5	916.4	916.3	916.2	916.1	917.5
170°	925.2	924.3	923.4	922.4	921.5	921.1	921.2	921.4	921.6	921.8	922.9
172.5°	928.5	927.6	926.7	925.8	924.9	924.4	924.6	924.8	924.9	925.1	926.3
175°	932.2	931.2	930.3	929.4	928.4	928.1	928.3	928.4	928.5	928.7	930.1
177.5°	933.9	933.0	932.1	931.2	930.4	930.1	930.3	930.6	930.9	931.0	932.0
180°	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2



TEST NUMBER: P332511-940

CATALOG NUMBER: SA4XXDIP-C350D810U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	375.6	376.1	376.7	376.8	376.8	376.7	376.7	376.6
5°	374.6	375.3	376.1	376.5	376.4	376.2	376.1	376.0
7.5°	372.6	373.4	374.3	374.7	374.6	374.5	374.4	374.3
10°	370.6	371.4	372.3	372.6	372.6	372.5	372.4	372.3
12.5°	367.7	368.5	369.3	369.6	369.6	369.6	369.6	369.5
15°	362.6	363.4	364.3	364.6	364.5	364.4	364.4	364.3
17.5°	356.2	357.1	358.0	358.4	358.3	358.2	358.2	358.1
20°	351.3	352.3	353.2	353.7	353.7	353.7	353.7	353.7
22.5°	345.6	346.5	347.5	348.0	348.2	348.3	348.5	348.7
25°	336.8	337.8	338.9	339.4	339.5	339.6	339.7	339.7
27.5°	326.8	327.8	328.8	329.3	329.4	329.5	329.6	329.8
30°	319.9	320.9	321.9	322.5	322.7	323.0	323.2	323.3
32.5°	312.7	314.0	315.1	315.8	316.0	316.2	316.4	316.6
35°	301.5	302.7	304.1	304.9	305.1	305.4	305.8	306.0
37.5°	289.7	291.0	292.3	293.2	293.5	293.7	294.1	294.4
40°	281.4	282.8	284.2	285.1	285.4	285.9	286.2	286.6
42.5°	273.2	274.8	276.3	277.3	277.6	277.9	278.2	278.5
45°	260.6	262.3	263.9	264.8	265.4	265.8	266.3	266.7
47.5°	247.4	249.0	250.7	251.7	252.4	252.9	253.4	254.0
50°	238.0	239.9	241.7	243.0	243.5	244.1	244.7	245.2
52.5°	228.5	230.4	232.3	233.5	234.1	234.6	235.2	235.8
55°	214.4	216.2	218.1	219.4	219.9	220.4	221.1	221.6
57.5°	199.5	201.7	203.9	205.3	205.8	206.3	206.9	207.4
60°	189.2	191.4	193.5	194.9	195.7	196.4	197.2	198.0
62.5°	179.1	181.2	183.3	184.9	185.6	186.3	187.1	187.8
65°	163.4	165.8	168.1	169.6	170.4	171.1	171.9	172.6
67.5°	148.0	150.4	152.8	154.4	155.1	155.8	156.5	157.3
70°	137.1	139.7	142.2	143.8	144.5	145.2	145.8	146.4
72.5°	126.9	129.4	131.8	133.4	134.1	134.8	135.6	136.3
75°	111.2	113.8	116.5	118.2	119.0	119.8	120.7	121.5
77.5°	96.6	99.2	101.9	103.7	104.6	105.5	106.4	107.3
80°	87.1	89.9	92.7	94.5	95.2	96.0	96.8	97.5
82.5°	77.8	80.7	83.6	85.4	86.2	87.0	87.9	88.7
85°	64.7	67.5	70.4	72.2	73.1	74.1	75.0	76.0
87.5°	57.1	60.0	62.9	64.8	65.7	66.5	67.4	68.3
90°	64.4	68.0	71.7	74.1	75.2	76.2	77.2	78.3
92.5°	61.7	65.3	68.8	71.1	71.9	72.7	73.5	74.3
95°	58.9	62.4	65.9	68.1	69.1	70.2	71.2	72.1
97.5°	57.6	60.2	62.7	64.5	65.5	66.4	67.3	68.3
100°	62.5	62.4	62.3	62.7	63.5	64.3	65.1	66.0
102.5°	126.3	100.3	74.4	61.8	62.5	63.3	64.0	64.8
105°	252.9	256.6	260.4	259.8	254.9	250.1	245.3	240.5
107.5°	302.6	305.6	308.6	310.7	312.0	313.3	314.5	315.8
110°	336.4	338.9	341.4	343.2	344.5	345.7	346.9	348.1





TEST NUMBER: P332511-940

CATALOG NUMBER: SA4XXDIP-C350D810U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	369.0	371.0	373.1	374.8	376.1	377.5	378.8	380.1
115°	417.9	420.2	422.6	424.1	424.7	425.4	426.1	426.7
117.5°	466.7	468.6	470.6	471.8	472.5	473.2	473.9	474.6
120°	496.9	499.1	501.2	502.6	503.0	503.5	503.9	504.4
122.5°	526.7	528.8	530.8	532.1	532.4	532.8	533.2	533.5
125°	568.6	570.8	573.0	574.5	575.2	576.0	576.7	577.4
127.5°	609.6	611.2	612.8	613.9	614.3	614.8	615.4	615.9
130°	634.6	636.4	638.3	639.4	640.1	640.6	641.1	641.8
132.5°	659.3	661.1	662.8	664.0	664.4	664.9	665.3	665.8
135°	692.8	694.6	696.4	697.8	698.7	699.5	700.3	701.2
137.5°	725.2	726.9	728.6	729.7	730.0	730.4	730.8	731.2
140°	745.4	747.1	748.8	749.8	750.5	751.1	751.7	752.3
142.5°	764.2	765.6	767.0	767.9	768.4	768.8	769.2	769.6
145°	791.4	792.1	792.8	793.5	794.2	794.9	795.6	796.3
147.5°	815.3	815.5	815.7	816.0	816.5	817.0	817.4	817.9
150°	831.1	831.1	831.1	831.2	831.3	831.4	831.6	831.8
152.5°	845.0	845.3	845.4	845.5	845.4	845.3	845.3	845.2
155°	863.7	864.3	865.0	865.0	864.5	864.1	863.6	863.2
157.5°	879.9	880.7	881.5	881.5	880.7	879.9	879.0	878.2
160°	890.1	891.1	892.0	892.0	891.1	890.1	889.2	888.2
162.5°	898.5	899.4	900.4	900.3	899.2	898.1	897.2	896.1
165°	910.3	911.5	912.8	912.7	911.2	909.9	908.5	907.0
167.5°	918.9	920.2	921.6	921.5	920.0	918.4	916.9	915.3
170°	924.2	925.4	926.7	926.5	925.0	923.5	921.9	920.3
172.5°	927.6	928.8	930.1	929.8	928.2	926.5	924.8	923.1
175°	931.5	932.9	934.2	934.1	932.2	930.3	928.4	926.6
177.5°	933.1	934.1	935.0	934.8	933.3	931.8	930.3	928.8
180°	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2

(END OF REPORT)