

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: P332495-927

Luminaire Tested: **SA4XXDIP-C350D365U927-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332495-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C350D365U927-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2178.7 lumens  
Efficiency: N/A  
Efficacy: 107.3 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: General Diffuse

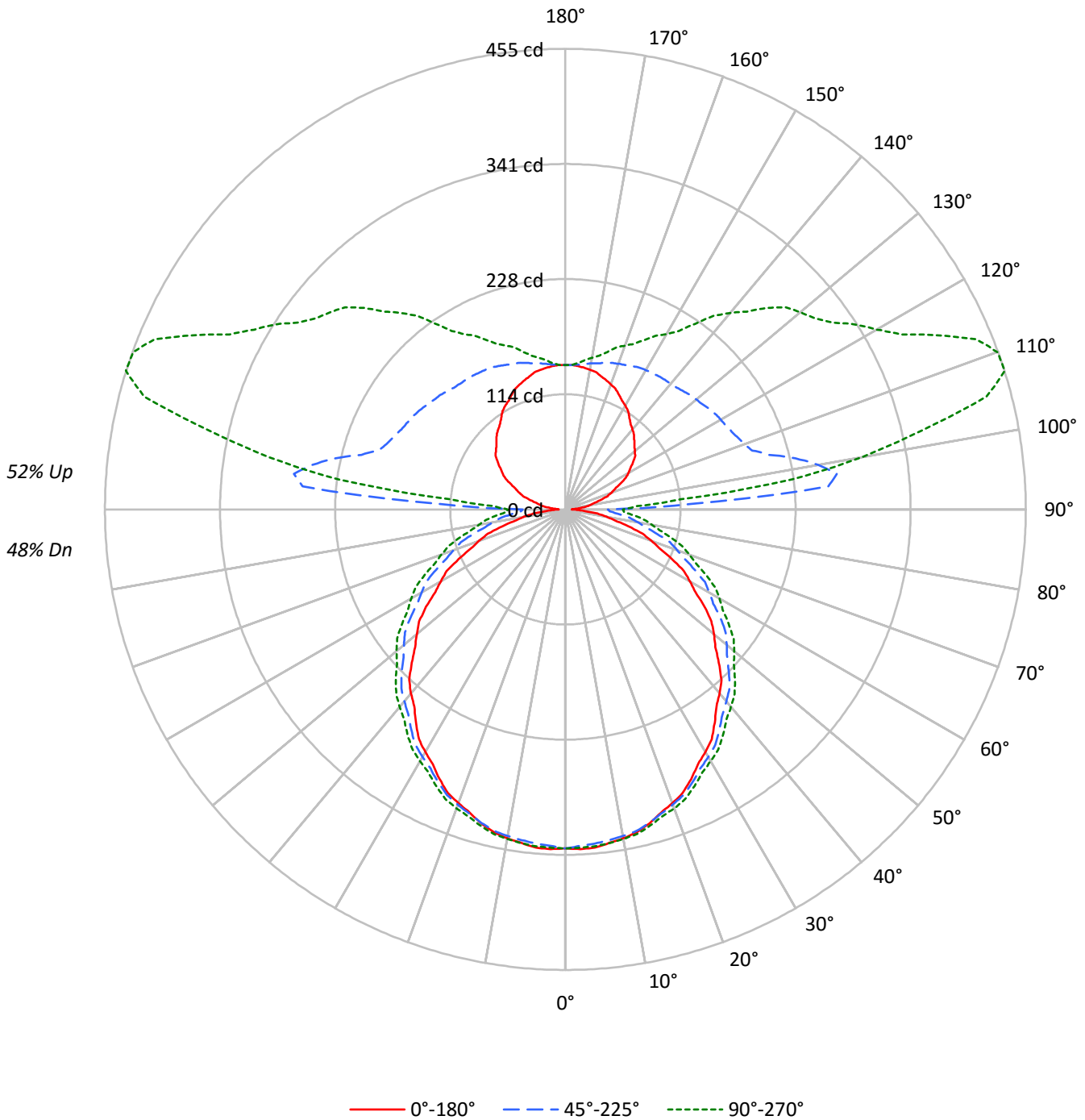
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332495-927

CATALOG NUMBER: SA4XXDIP-C350D365U927-4F0-1E-UDD-D4

### Luminous Intensity Polar Plot





TEST NUMBER: P332495-927

CATALOG NUMBER: SA4XXDIP-C350D365U927-4F0-1E-UDD-D4

**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	50	30	10				
RCR																								
0	107	107	107	107	98	98	98	98	82	82	82	82	68	68	68	68	55	55	55	55	48	48	48	48
1	96	92	87	84	89	84	81	77	71	68	66	66	58	56	55	55	47	45	44	44	39	39	39	39
2	87	79	73	67	80	73	68	63	61	57	54	54	51	48	45	45	41	38	36	36	32	32	32	32
3	79	70	62	56	73	64	57	52	54	49	45	45	44	41	37	37	36	33	31	31	26	26	26	26
4	73	61	53	47	66	57	49	44	48	42	38	38	39	35	32	32	32	29	26	26	22	22	22	22
5	66	54	46	40	61	50	43	37	42	37	32	32	35	31	27	27	28	25	22	22	19	19	19	19
6	61	49	40	34	56	45	38	32	38	32	28	28	32	27	24	24	26	22	20	20	17	17	17	17
7	56	44	36	30	52	41	33	28	34	29	24	24	29	24	21	21	23	20	17	17	15	15	15	15
8	52	40	32	26	48	37	30	25	31	26	22	22	26	22	19	19	21	18	15	15	13	13	13	13
9	49	36	29	23	45	34	27	22	29	23	19	19	24	20	17	17	20	16	14	14	12	12	12	12
10	45	33	26	21	42	31	24	20	26	21	17	17	22	18	15	15	18	15	13	13	11	11	11	11

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

	0°	45°	90°
0°	2704	2704	2704
5°	2712	2641	2650
10°	2694	2599	2596
15°	2670	2549	2535
20°	2635	2494	2475
25°	2594	2432	2408
30°	2549	2370	2340
35°	2498	2307	2280
40°	2458	2247	2218
45°	2398	2191	2164
50°	2348	2128	2108
55°	2296	2068	2042
60°	2214	1991	1982
65°	2125	1909	1908
70°	2018	1816	1820
75°	1867	1712	1743
80°	1701	1613	1665
85°	1489	1525	1621



TEST NUMBER: P332495-927

CATALOG NUMBER: SA4XXDIP-C350D365U927-4F0-1E-UDD-D4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.7	1.5
10°-20°	90.8	4.2
20°-30°	137.4	6.3
30°-40°	166.2	7.6
40°-50°	175.7	8.1
50°-60°	165.4	7.6
60°-70°	137.2	6.3
70°-80°	96.4	4.4
80°-90°	55.3	2.5
90°-100°	135.3	6.2
100°-110°	238.2	10.9
110°-120°	207.9	9.5
120°-130°	170.5	7.8
130°-140°	138.5	6.4
140°-150°	103.6	4.8
150°-160°	72.3	3.3
160°-170°	42.5	2.0
170°-180°	13.8	0.6
0°-30°	259.9	11.9
0°-40°	426.1	19.6
0°-60°	767.2	35.2
0°-90°	1056.1	48.5
90°-120°	581.4	26.7
90°-150°	994.0	45.6
90°-180°	1123.0	51.5
0°-180°	2178.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	335	334	331	334	334	32
15°	321	322	321	324	324	90
25°	294	296	297	301	302	135
35°	257	262	266	270	272	161
45°	214	222	229	235	237	166
55°	168	176	187	194	197	150
65°	116	128	141	150	153	115
75°	64	78	94	104	108	69
85°	20	36	52	63	68	21
90°	6	23	42	53	57	4
95°	14	46	261	155	114	14
105°	36	59	208	429	431	39
115°	60	78	181	340	407	60
125°	82	97	173	285	322	73
135°	96	115	165	247	282	74
145°	110	126	161	203	224	69
155°	125	135	156	177	184	58
165°	136	141	150	159	161	38
175°	142	142	144	146	145	13
180°	142	142	142	142	142	



TEST NUMBER: P332495-927

CATALOG NUMBER: SA4XXDIP-C350D365U927-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	336.0	335.8	335.6	335.4	335.3	334.9	334.4	333.8	333.3	332.7	333.2
5°	335.3	334.9	334.7	334.5	334.2	333.8	333.2	332.6	332.1	331.4	332.2
7.5°	332.4	332.2	332.1	331.9	331.8	331.4	331.0	330.5	330.0	329.5	330.3
10°	329.9	329.9	329.8	329.7	329.6	329.4	329.0	328.5	328.1	327.7	328.4
12.5°	326.7	326.6	326.6	326.6	326.6	326.5	326.1	325.9	325.6	325.3	326.0
15°	321.3	321.5	321.5	321.6	321.7	321.6	321.3	321.1	320.8	320.6	321.3
17.5°	314.1	314.3	314.6	314.8	315.1	315.2	315.1	315.1	315.1	315.0	315.8
20°	309.0	309.2	309.5	309.7	310.0	310.1	310.2	310.3	310.4	310.5	311.3
22.5°	303.2	303.6	303.9	304.2	304.5	304.8	304.9	305.1	305.2	305.4	306.2
25°	294.0	294.5	295.0	295.5	296.0	296.4	296.6	296.8	297.1	297.4	298.3
27.5°	283.6	284.4	285.1	285.8	286.5	287.1	287.5	287.9	288.3	288.7	289.5
30°	276.7	277.4	278.1	278.7	279.4	280.0	280.6	281.1	281.8	282.3	283.3
32.5°	269.3	270.1	270.8	271.6	272.4	273.1	273.8	274.4	275.1	275.8	276.8
35°	257.2	258.3	259.2	260.2	261.3	262.1	263.0	263.8	264.7	265.5	266.6
37.5°	245.2	246.3	247.5	248.6	249.8	250.8	251.9	252.9	254.0	255.0	256.2
40°	237.3	238.4	239.6	240.6	241.7	242.8	244.0	245.2	246.3	247.5	248.7
42.5°	228.4	229.6	230.8	232.0	233.2	234.5	235.9	237.3	238.6	240.0	241.4
45°	214.4	216.0	217.6	219.2	220.8	222.4	223.9	225.5	227.1	228.7	230.1
47.5°	201.2	202.9	204.5	206.1	207.7	209.5	211.3	213.2	215.0	216.8	218.2
50°	191.6	193.5	195.3	197.1	198.9	200.7	202.6	204.5	206.3	208.1	209.8
52.5°	182.0	183.9	185.7	187.5	189.3	191.3	193.4	195.5	197.6	199.7	201.4
55°	168.0	169.8	171.5	173.3	175.0	177.1	179.6	182.1	184.6	187.1	188.8
57.5°	152.3	154.5	156.6	158.8	161.0	163.3	165.8	168.3	170.7	173.3	175.2
60°	142.1	144.3	146.5	148.6	150.8	153.2	156.0	158.8	161.4	164.2	166.1
62.5°	132.2	134.6	137.0	139.3	141.6	144.3	146.9	149.7	152.5	155.3	157.2
65°	116.2	118.9	121.6	124.2	126.9	129.7	132.5	135.3	138.2	141.0	143.1
67.5°	100.8	103.7	106.5	109.4	112.2	115.1	118.2	121.2	124.2	127.2	129.4
70°	90.4	93.2	96.0	98.9	101.7	104.7	107.9	111.1	114.2	117.4	119.6
72.5°	80.2	83.1	86.0	88.9	91.7	94.9	98.2	101.6	105.0	108.4	110.5
75°	64.5	67.6	70.7	73.8	76.8	80.1	83.7	87.1	90.6	94.1	96.5
77.5°	49.9	53.2	56.4	59.7	62.9	66.4	70.0	73.8	77.4	81.0	83.4
80°	40.9	44.2	47.5	50.9	54.2	57.7	61.4	65.0	68.7	72.4	74.9
82.5°	31.8	35.3	38.8	42.3	45.7	49.3	53.0	56.6	60.3	64.0	66.5
85°	19.9	23.4	26.9	30.3	33.9	37.5	41.3	45.0	48.7	52.5	55.0
87.5°	11.2	14.7	18.2	21.7	25.1	28.7	32.6	36.3	40.1	43.8	46.2
90°	6.3	10.1	14.3	18.0	21.5	25.0	30.3	33.9	38.0	42.1	44.3
92.5°	8.9	13.3	19.0	25.4	32.5	41.6	59.4	84.7	109.5	124.1	111.6
95°	14.1	17.7	23.3	29.6	39.1	53.9	81.8	131.0	201.4	260.8	269.5
97.5°	21.0	23.4	28.1	33.9	42.0	54.7	76.8	118.2	188.1	270.6	327.3
100°	25.4	27.6	31.7	37.2	44.7	56.4	76.1	111.1	171.4	253.6	327.5
102.5°	29.9	32.2	35.9	40.9	47.9	58.9	77.1	108.1	159.9	233.1	309.2
105°	36.1	38.7	41.7	46.7	53.5	63.9	80.5	106.8	149.1	208.4	276.3
107.5°	43.8	45.7	48.5	53.4	59.6	69.8	85.0	109.1	145.4	193.7	249.5
110°	48.6	50.4	52.9	57.4	63.7	73.3	88.5	111.0	144.7	188.2	235.8



TEST NUMBER: P332495-927

CATALOG NUMBER: SA4XXDIP-C350D365U927-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	53.2	54.8	57.5	61.7	67.7	77.2	91.9	113.1	144.7	184.7	227.3
115°	59.9	61.6	64.2	67.8	73.8	83.1	97.0	116.5	145.1	181.4	218.5
117.5°	67.3	68.4	70.7	74.2	79.6	89.0	102.0	120.0	145.8	178.9	213.3
120°	71.9	72.6	74.9	78.2	83.3	92.4	105.4	122.5	146.4	177.4	210.1
122.5°	76.4	76.9	79.0	81.9	87.1	95.9	108.8	124.8	147.0	175.6	206.8
125°	81.8	82.9	84.5	87.5	92.7	101.6	113.8	128.7	148.4	173.4	201.9
127.5°	87.0	87.8	89.8	93.2	98.6	107.3	118.7	132.1	149.0	170.6	195.6
130°	89.6	90.6	92.8	96.9	102.1	110.9	121.8	134.0	149.6	168.9	191.6
132.5°	92.5	93.3	96.2	100.1	105.8	113.9	124.5	136.3	150.3	167.5	188.1
135°	96.3	97.4	100.1	104.9	110.7	118.4	128.2	138.9	150.9	164.9	182.5
137.5°	100.3	101.3	104.3	108.8	114.8	121.8	130.7	140.4	150.9	163.1	177.8
140°	103.2	104.0	106.9	111.6	117.5	124.1	132.6	141.7	151.3	162.0	175.2
142.5°	106.1	106.9	109.7	114.2	119.9	126.4	134.4	142.7	151.7	161.4	173.1
145°	110.4	111.1	113.9	117.7	122.9	129.0	136.3	143.9	152.0	160.7	170.2
147.5°	115.4	115.6	118.0	121.9	126.3	131.7	138.6	145.2	152.3	159.7	167.6
150°	118.5	118.7	120.9	124.1	128.3	133.6	139.7	145.8	152.3	159.0	166.0
152.5°	121.1	121.2	123.4	126.5	130.2	135.1	140.6	146.3	151.9	157.9	164.2
155°	125.2	125.4	127.1	129.9	133.0	137.2	142.0	146.7	151.2	156.2	161.5
157.5°	129.1	129.1	130.7	132.8	135.5	138.9	142.9	146.7	150.4	154.5	158.8
160°	131.6	131.6	132.7	134.7	136.9	140.0	143.4	146.7	149.8	153.1	156.8
162.5°	133.8	133.6	134.5	136.3	138.2	140.7	143.8	146.7	149.1	151.8	155.0
165°	136.3	136.3	136.9	138.3	139.7	141.4	143.9	146.2	147.8	149.8	152.0
167.5°	138.9	138.6	138.9	139.9	140.7	142.0	143.9	145.4	146.5	147.7	149.3
170°	140.0	139.7	140.0	140.9	141.4	142.2	143.6	145.0	145.6	146.4	147.6
172.5°	141.1	140.9	140.9	141.5	141.8	142.4	143.4	144.6	144.7	145.0	146.0
175°	142.2	142.0	142.0	142.2	142.5	142.5	143.1	143.9	143.6	143.6	144.2
177.5°	142.8	142.5	142.3	142.5	142.5	142.5	142.8	143.1	142.8	142.8	143.0
180°	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5



TEST NUMBER: P332495-927

CATALOG NUMBER: SA4XXDIP-C350D365U927-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	333.7	334.1	334.6	334.8	334.8	334.7	334.6	334.5
5°	332.8	333.4	334.1	334.5	334.4	334.2	334.1	334.1
7.5°	331.1	331.8	332.6	332.9	332.8	332.7	332.6	332.6
10°	329.2	329.9	330.7	331.1	331.0	330.9	330.8	330.7
12.5°	326.7	327.4	328.0	328.4	328.4	328.4	328.4	328.3
15°	322.1	322.8	323.6	323.9	323.8	323.8	323.7	323.6
17.5°	316.5	317.3	318.1	318.4	318.3	318.2	318.2	318.1
20°	312.1	313.0	313.8	314.3	314.3	314.3	314.3	314.3
22.5°	307.0	307.8	308.7	309.2	309.3	309.4	309.6	309.7
25°	299.2	300.1	301.0	301.5	301.6	301.7	301.7	301.8
27.5°	290.3	291.2	292.1	292.6	292.6	292.7	292.8	292.9
30°	284.2	285.1	286.0	286.5	286.7	286.9	287.1	287.2
32.5°	277.8	278.9	280.0	280.6	280.7	280.9	281.1	281.2
35°	267.8	268.9	270.1	270.8	271.1	271.3	271.6	271.9
37.5°	257.4	258.5	259.7	260.5	260.7	260.9	261.3	261.5
40°	250.0	251.2	252.5	253.3	253.6	254.0	254.3	254.6
42.5°	242.7	244.2	245.5	246.4	246.6	246.8	247.2	247.4
45°	231.6	233.0	234.4	235.3	235.8	236.1	236.5	236.9
47.5°	219.8	221.2	222.7	223.6	224.2	224.7	225.1	225.7
50°	211.4	213.1	214.8	215.9	216.3	216.8	217.4	217.9
52.5°	203.0	204.7	206.4	207.5	207.9	208.4	209.0	209.5
55°	190.4	192.1	193.8	194.9	195.4	195.8	196.4	196.9
57.5°	177.2	179.2	181.2	182.4	182.8	183.3	183.8	184.3
60°	168.1	170.0	171.9	173.2	173.9	174.5	175.2	175.9
62.5°	159.1	161.0	162.9	164.2	164.9	165.5	166.2	166.8
65°	145.1	147.3	149.3	150.7	151.4	152.0	152.7	153.4
67.5°	131.5	133.6	135.7	137.1	137.8	138.4	139.0	139.7
70°	121.8	124.1	126.4	127.8	128.3	129.0	129.5	130.1
72.5°	112.7	114.9	117.1	118.5	119.1	119.8	120.5	121.1
75°	98.8	101.1	103.5	105.0	105.8	106.5	107.3	108.0
77.5°	85.8	88.2	90.5	92.1	92.9	93.7	94.5	95.3
80°	77.4	79.9	82.4	84.0	84.6	85.3	86.0	86.6
82.5°	69.1	71.7	74.2	75.9	76.6	77.3	78.1	78.8
85°	57.5	60.0	62.5	64.2	65.0	65.8	66.6	67.5
87.5°	48.6	51.1	53.6	55.2	56.0	56.8	57.4	58.1
90°	47.0	49.7	52.4	53.9	54.9	55.8	56.2	56.9
92.5°	95.0	83.7	77.6	73.6	70.9	70.1	69.8	70.4
95°	244.5	203.4	168.2	142.5	129.5	121.6	117.3	114.5
97.5°	341.2	327.3	302.1	274.3	254.8	238.8	231.1	225.9
100°	370.7	378.5	367.0	347.8	323.9	307.4	299.7	298.0
102.5°	367.4	397.4	403.5	396.3	382.1	370.3	362.1	361.0
105°	342.5	393.0	422.8	435.7	436.9	435.3	432.1	431.0
107.5°	308.2	361.9	403.0	429.3	443.7	450.7	454.1	455.4
110°	287.6	337.9	380.4	412.5	433.1	445.4	451.1	454.4





TEST NUMBER: P332495-927

CATALOG NUMBER: SA4XXDIP-C350D365U927-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	271.8	316.5	356.7	388.7	412.0	426.9	434.6	439.3
115°	255.3	291.6	326.2	354.3	377.0	394.3	403.9	406.8
117.5°	246.0	276.2	303.7	327.6	347.2	362.0	371.7	374.1
120°	241.2	268.9	292.9	314.0	330.7	343.6	351.6	355.3
122.5°	237.0	263.8	285.9	304.4	318.5	329.6	336.4	340.1
125°	230.4	256.0	276.9	293.3	305.1	313.7	319.5	321.7
127.5°	222.4	246.8	267.6	283.3	295.1	302.9	307.9	310.2
130°	216.3	240.0	260.5	276.4	288.4	295.9	300.8	303.0
132.5°	210.3	232.5	252.5	268.4	280.1	288.5	293.3	295.5
135°	201.5	221.0	239.4	254.3	266.0	274.3	279.3	281.5
137.5°	193.6	210.2	225.9	239.3	250.3	258.3	262.4	264.9
140°	189.1	203.4	217.1	229.6	239.7	246.3	250.6	253.3
142.5°	185.1	197.6	209.4	220.2	229.3	235.4	239.2	241.1
145°	179.6	189.6	198.5	206.8	214.1	219.2	222.4	224.1
147.5°	175.2	182.8	189.6	195.8	201.3	205.7	208.0	208.8
150°	172.8	179.2	184.8	189.8	194.3	198.0	199.6	199.9
152.5°	170.3	175.9	181.0	185.1	188.9	191.9	192.9	193.2
155°	166.6	171.0	175.2	178.6	181.4	183.6	184.5	184.5
157.5°	162.6	166.4	169.9	172.6	174.7	176.4	176.9	176.9
160°	160.2	163.2	166.3	168.6	170.2	171.9	172.2	172.2
162.5°	157.7	160.3	162.7	164.8	166.0	167.6	167.9	167.7
165°	154.2	156.0	157.9	159.3	160.4	161.5	161.3	161.0
167.5°	151.0	152.3	153.8	154.6	155.2	156.0	155.9	155.7
170°	148.9	149.8	150.9	151.8	152.3	152.6	152.3	152.3
172.5°	147.2	147.7	148.5	149.1	149.4	149.6	149.4	148.9
175°	144.7	145.0	145.6	145.6	145.6	146.2	145.6	145.0
177.5°	143.1	143.4	143.4	143.6	143.4	143.6	143.1	142.8
180°	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5

(END OF REPORT)