

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: P332868-830

Luminaire Tested: **SA4XXRDIP-C350D365U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332868-830  
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: SA4XXRDIP-C350D365U830-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

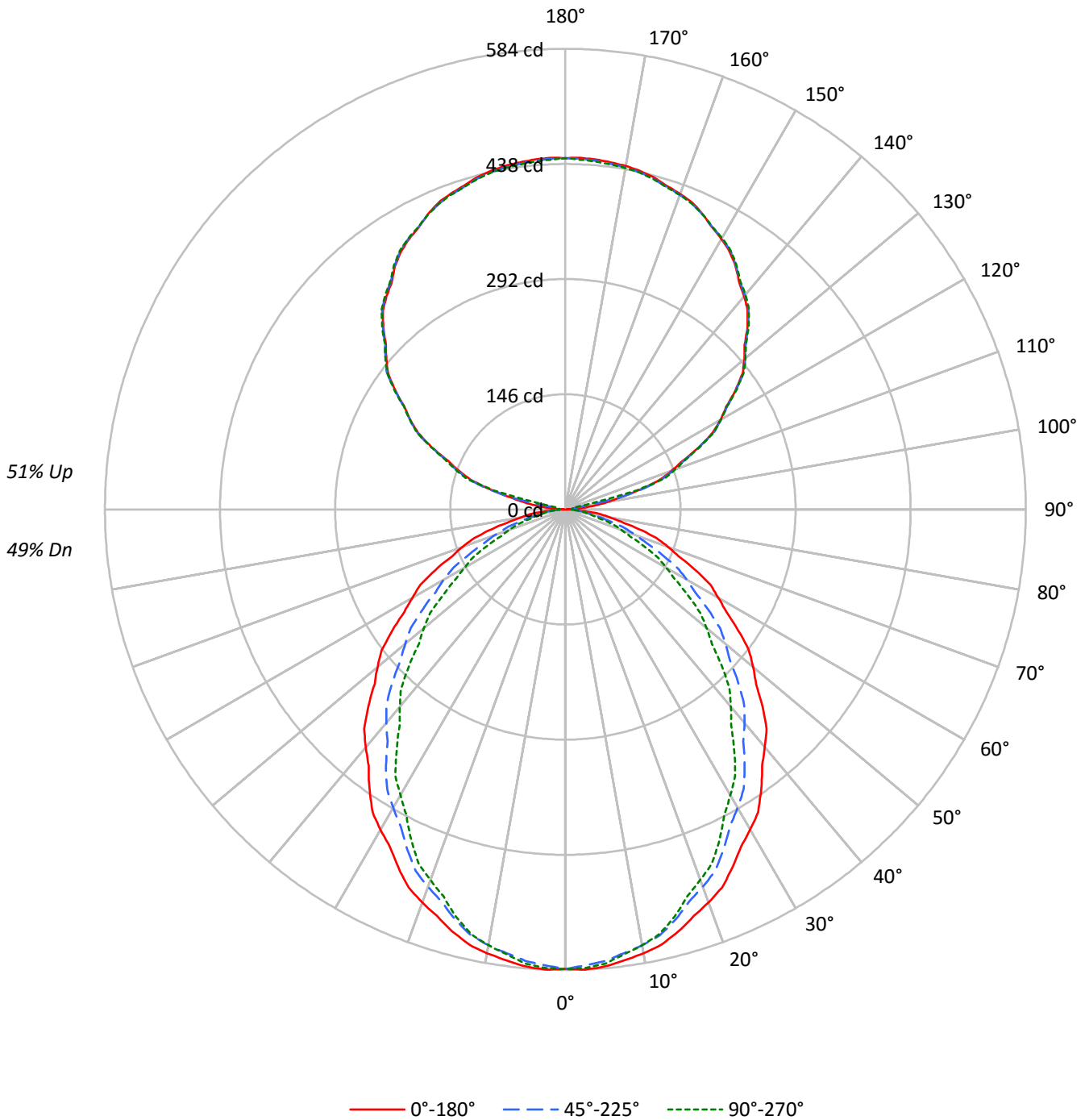
Lumens per Lamp: N/A  
Luminaire Lumens: 2725.1 lumens  
Efficiency: N/A  
Efficacy: 134.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

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: P332868-830  
CATALOG NUMBER: SA4XXRDIP-C350D365U830-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P332868-830

CATALOG NUMBER: SA4XXRDIP-C350D365U830-4F0-1E-UDD-F

**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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	49				
1	98	94	90	87	90	87	83	80	73	71	69	61	59	58	50	48	47	42				
2	89	82	76	71	82	76	71	66	64	61	57	54	51	49	44	42	40	36				
3	82	72	65	59	75	67	61	56	57	52	48	48	44	41	39	37	35	31				
4	75	64	56	51	69	60	53	47	51	46	41	43	39	36	35	32	30	26				
5	69	57	49	43	63	53	46	41	46	40	36	38	34	31	32	29	26	23				
6	63	51	43	38	58	48	41	36	41	36	31	35	31	27	29	26	23	20				
7	59	47	39	33	54	43	36	31	37	32	28	32	27	24	26	23	21	18				
8	54	42	35	29	50	39	33	28	34	29	25	29	25	22	24	21	19	16				
9	51	39	31	26	47	36	29	25	31	26	22	27	23	20	22	19	17	15				
10	47	35	28	24	44	33	27	22	29	24	20	25	21	18	21	18	15	13				

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

	0°	45°	90°
0°	4704	4704	4704
5°	4714	4657	4686
10°	4685	4601	4601
15°	4631	4504	4471
20°	4558	4376	4296
25°	4464	4228	4121
30°	4371	4072	3901
35°	4269	3909	3680
40°	4147	3724	3442
45°	4035	3540	3199
50°	3905	3328	2941
55°	3768	3108	2663
60°	3615	2868	2377
65°	3477	2565	2096
70°	3274	2231	1780
75°	3019	1853	1447
80°	2631	1409	1330
85°	2232	1288	1195



TEST NUMBER: P332868-830

CATALOG NUMBER: SA4XXRDIP-C350D365U830-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.7	2.0
10°-20°	152.6	5.6
20°-30°	220.4	8.1
30°-40°	249.8	9.2
40°-50°	241.2	8.9
50°-60°	200.6	7.4
60°-70°	138.5	5.1
70°-80°	70.2	2.6
80°-90°	19.3	0.7
90°-100°	15.2	0.6
100°-110°	97.1	3.6
110°-120°	185.8	6.8
120°-130°	235.8	8.7
130°-140°	252.3	9.3
140°-150°	236.0	8.7
150°-160°	190.3	7.0
160°-170°	122.7	4.5
170°-180°	42.3	1.6
0°-30°	427.8	15.7
0°-40°	677.6	24.9
0°-60°	1119.4	41.1
0°-90°	1347.5	49.4
90°-120°	298.1	10.9
90°-150°	1022.3	37.5
90°-180°	1378.0	50.6
0°-180°	2725.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	583	583	583	583	583	
5°	582	580	575	579	578	55
15°	554	550	539	538	535	156
25°	501	492	475	467	463	231
35°	433	418	397	382	373	271
45°	353	336	310	289	280	272
55°	268	249	221	198	189	239
65°	182	162	134	116	110	180
75°	97	80	59	50	46	102
85°	24	16	14	13	13	27
90°	1	5	7	9	10	2
95°	18	8	7	9	10	24
105°	100	102	104	106	95	105
115°	187	188	188	188	188	184
125°	263	264	264	265	265	235
135°	326	326	327	328	329	251
145°	376	377	377	378	378	235
155°	413	413	412	413	412	190
165°	435	434	434	436	433	123
175°	445	444	444	446	443	42
180°	445	445	445	445	445	



TEST NUMBER: P332868-830

CATALOG NUMBER: SA4XXRDIP-C350D365U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	584.1	583.7	583.4	583.2	582.8	582.2	581.4	580.5	579.6	578.7	579.6
5°	581.7	581.4	581.0	580.6	580.1	579.4	578.2	577.0	575.8	574.7	575.6
7.5°	576.5	576.1	575.7	575.2	574.9	573.8	572.3	570.7	569.2	567.7	568.3
10°	571.5	571.0	570.5	570.0	569.5	568.4	566.6	564.8	563.0	561.3	561.7
12.5°	565.1	564.5	563.9	563.4	562.8	561.5	559.3	557.2	555.2	553.0	553.3
15°	554.1	553.2	552.3	551.4	550.5	548.8	546.4	543.8	541.4	538.9	538.8
17.5°	540.8	539.5	538.2	537.0	535.6	533.5	530.6	527.5	524.6	521.6	521.0
20°	530.5	529.1	527.9	526.6	525.3	523.0	519.6	516.2	512.8	509.4	508.7
22.5°	519.1	517.6	516.1	514.7	513.2	510.7	507.1	503.5	499.9	496.2	495.1
25°	501.1	499.3	497.5	495.7	493.9	491.0	486.9	482.9	478.7	474.7	473.0
27.5°	482.1	479.8	477.6	475.4	473.2	469.9	465.5	461.2	456.9	452.5	450.3
30°	468.9	466.4	463.9	461.5	459.0	455.4	450.7	446.1	441.4	436.8	434.3
32.5°	455.0	452.1	449.4	446.6	443.7	440.0	435.2	430.4	425.6	420.8	417.8
35°	433.2	430.0	426.9	423.7	420.5	416.4	411.5	406.5	401.6	396.6	393.2
37.5°	409.9	406.6	403.4	400.1	396.8	392.5	386.9	381.4	376.0	370.5	366.7
40°	393.5	390.2	386.9	383.7	380.4	376.0	370.3	364.7	359.0	353.4	349.2
42.5°	377.8	374.4	370.9	367.5	364.1	359.4	353.5	347.6	341.8	335.8	331.6
45°	353.4	349.7	346.0	342.3	338.7	333.8	327.9	322.0	316.0	310.1	305.2
47.5°	328.1	324.3	320.6	316.7	312.9	307.9	301.8	295.6	289.4	283.2	278.1
50°	310.9	307.1	303.2	299.4	295.5	290.4	284.1	277.7	271.4	265.0	260.0
52.5°	293.5	289.6	285.9	282.1	278.3	273.1	266.6	260.1	253.6	247.1	242.1
55°	267.7	263.7	259.8	255.8	251.8	246.6	240.2	233.8	227.2	220.8	215.7
57.5°	242.1	238.0	233.9	229.8	225.6	220.5	214.1	207.7	201.4	195.0	189.8
60°	223.9	220.0	216.0	212.1	208.1	202.9	196.6	190.2	183.9	177.6	172.4
62.5°	207.5	203.4	199.3	195.2	191.1	185.8	179.3	172.8	166.3	159.8	155.0
65°	182.0	177.8	173.5	169.3	164.9	159.7	153.4	146.9	140.6	134.3	130.1
67.5°	155.5	151.5	147.3	143.3	139.2	134.2	128.3	122.4	116.5	110.7	107.0
70°	138.7	134.6	130.4	126.3	122.1	117.2	111.5	105.8	100.2	94.5	91.3
72.5°	120.9	117.2	113.4	109.6	105.8	101.3	96.0	90.6	85.3	79.9	77.2
75°	96.8	93.1	89.4	85.8	82.1	77.9	73.3	68.6	64.0	59.4	57.0
77.5°	72.4	69.3	66.2	63.1	59.9	56.5	52.7	48.9	45.1	41.4	40.1
80°	56.6	53.8	50.9	48.1	45.1	42.2	39.3	36.3	33.3	30.3	30.1
82.5°	43.1	40.4	37.8	35.2	32.5	30.3	28.7	27.0	25.3	23.6	23.4
85°	24.1	22.1	20.2	18.1	16.1	15.0	14.7	14.4	14.1	13.9	13.7
87.5°	8.4	7.9	7.4	7.0	6.5	6.3	6.3	6.4	6.4	6.5	6.5
90°	1.0	1.8	2.6	3.5	4.2	5.0	5.6	6.1	6.7	7.4	7.7
92.5°	4.2	4.2	4.2	4.3	4.3	4.7	5.3	5.8	6.5	7.1	7.5
95°	18.3	15.8	13.3	10.7	8.3	7.1	7.1	7.2	7.3	7.4	7.7
97.5°	38.9	40.4	42.0	43.6	45.1	41.8	33.6	25.4	17.1	8.8	8.9
100°	54.7	56.0	57.3	58.6	59.9	55.5	45.3	35.1	24.9	14.7	13.4
102.5°	72.2	73.2	74.2	75.1	76.2	76.0	74.6	73.3	71.9	70.6	57.0
105°	100.3	100.7	101.1	101.6	102.1	102.5	102.8	103.2	103.6	104.0	104.6
107.5°	126.3	126.5	126.8	127.0	127.2	127.5	128.1	128.6	129.0	129.6	129.9
110°	143.9	144.1	144.3	144.6	144.8	145.2	145.5	146.0	146.5	146.9	147.0



TEST NUMBER: P332868-830

CATALOG NUMBER: SA4XXRDIP-C350D365U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	161.0	161.4	161.7	162.1	162.6	162.9	163.1	163.2	163.4	163.7	163.6
115°	187.2	187.5	187.7	187.8	188.1	188.1	188.1	188.0	187.9	187.8	188.0
117.5°	210.8	211.1	211.4	211.8	212.1	212.3	212.4	212.6	212.7	212.9	212.9
120°	226.9	227.2	227.4	227.7	228.0	228.1	228.1	228.0	227.9	227.8	228.0
122.5°	241.8	242.0	242.1	242.3	242.5	242.6	242.7	242.8	242.9	243.1	243.1
125°	263.2	263.4	263.7	264.0	264.4	264.4	264.3	264.1	264.0	263.8	264.0
127.5°	283.4	283.5	283.5	283.6	283.7	283.9	284.3	284.6	284.9	285.3	285.2
130°	296.4	296.5	296.6	296.7	296.8	296.9	297.1	297.4	297.6	297.8	297.8
132.5°	308.5	308.6	308.7	308.9	309.0	309.2	309.4	309.7	310.0	310.3	310.4
135°	326.4	326.4	326.3	326.2	326.1	326.2	326.6	326.9	327.2	327.4	327.6
137.5°	342.3	342.4	342.4	342.4	342.5	342.7	343.0	343.3	343.7	343.9	344.1
140°	352.8	352.9	353.1	353.2	353.4	353.5	353.6	353.8	353.9	354.1	354.3
142.5°	362.1	362.3	362.6	362.9	363.2	363.4	363.4	363.5	363.6	363.7	363.8
145°	376.5	376.6	376.8	377.1	377.3	377.4	377.4	377.4	377.4	377.4	377.5
147.5°	387.8	388.2	388.6	389.1	389.5	389.6	389.6	389.5	389.4	389.4	389.4
150°	396.1	396.3	396.6	397.0	397.3	397.4	397.3	397.2	397.1	397.1	397.1
152.5°	403.0	403.2	403.5	403.7	404.0	404.0	403.9	403.7	403.6	403.5	403.6
155°	412.7	412.8	412.8	412.9	413.0	412.9	412.7	412.5	412.3	412.1	412.4
157.5°	420.9	420.8	420.8	420.8	420.8	420.6	420.4	420.1	419.8	419.6	420.0
160°	425.7	425.5	425.3	425.1	424.8	424.7	424.6	424.5	424.4	424.3	424.8
162.5°	430.0	429.7	429.4	429.1	428.9	428.7	428.6	428.5	428.5	428.4	428.9
165°	435.4	435.0	434.6	434.2	433.9	433.7	433.7	433.7	433.7	433.7	434.3
167.5°	439.6	439.2	438.8	438.5	438.1	437.9	437.8	437.8	437.7	437.7	438.4
170°	442.1	441.6	441.1	440.7	440.3	440.1	440.2	440.3	440.3	440.4	440.9
172.5°	443.7	443.2	442.7	442.3	441.9	441.7	441.8	441.9	441.9	442.0	442.5
175°	445.4	444.9	444.5	444.0	443.6	443.4	443.5	443.6	443.7	443.7	444.4
177.5°	446.2	445.7	445.4	444.9	444.5	444.3	444.5	444.6	444.7	444.8	445.4
180°	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4



TEST NUMBER: P332868-830

CATALOG NUMBER: SA4XXRDIP-C350D365U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	580.5	581.4	582.2	582.6	582.5	582.5	582.4	582.3
5°	576.6	577.6	578.6	579.0	578.8	578.6	578.3	578.2
7.5°	568.9	569.6	570.2	570.3	570.0	569.8	569.4	569.1
10°	562.0	562.4	562.8	562.8	562.4	562.0	561.7	561.3
12.5°	553.5	553.7	554.0	553.8	553.3	552.7	552.1	551.6
15°	538.6	538.4	538.1	537.7	537.0	536.3	535.6	534.9
17.5°	520.5	520.0	519.4	518.6	517.6	516.5	515.5	514.4
20°	507.9	507.1	506.3	505.3	504.0	502.7	501.4	500.1
22.5°	493.9	492.7	491.5	490.4	489.4	488.3	487.3	486.2
25°	471.3	469.7	468.0	466.7	465.6	464.6	463.6	462.6
27.5°	448.3	446.2	444.1	442.4	440.9	439.5	438.1	436.7
30°	431.8	429.3	426.9	424.8	423.2	421.7	420.1	418.5
32.5°	415.0	412.1	409.3	407.0	405.5	404.0	402.5	401.0
35°	389.8	386.5	383.1	380.6	378.8	377.0	375.2	373.4
37.5°	363.0	359.2	355.4	352.6	350.8	349.0	347.2	345.4
40°	345.0	340.8	336.7	333.8	332.0	330.2	328.4	326.6
42.5°	327.3	323.1	318.9	315.8	314.0	312.1	310.2	308.4
45°	300.4	295.5	290.6	287.3	285.5	283.7	281.9	280.2
47.5°	273.1	268.1	263.1	259.6	257.6	255.6	253.6	251.8
50°	255.1	250.2	245.2	241.8	239.9	238.0	236.1	234.2
52.5°	237.0	232.1	227.1	223.5	221.6	219.6	217.6	215.7
55°	210.6	205.4	200.2	196.7	194.8	192.9	191.1	189.2
57.5°	184.5	179.4	174.1	170.8	169.4	168.0	166.5	165.0
60°	167.2	162.1	156.9	153.5	151.9	150.4	148.8	147.2
62.5°	150.2	145.4	140.7	137.7	136.4	135.2	133.8	132.6
65°	125.7	121.5	117.3	114.5	113.3	112.2	110.9	109.7
67.5°	103.3	99.6	96.0	93.5	92.2	90.9	89.5	88.2
70°	88.0	84.7	81.5	79.4	78.3	77.4	76.3	75.4
72.5°	74.4	71.5	68.8	66.9	66.0	65.1	64.2	63.2
75°	54.8	52.5	50.2	48.8	48.2	47.6	47.0	46.4
77.5°	38.7	37.4	36.1	35.3	35.2	35.0	34.8	34.6
80°	29.8	29.4	29.1	28.9	28.8	28.7	28.7	28.6
82.5°	23.1	22.9	22.7	22.5	22.4	22.3	22.2	22.1
85°	13.5	13.2	13.0	12.9	12.9	12.9	12.9	12.9
87.5°	6.5	6.5	6.5	6.6	6.7	6.8	6.9	7.0
90°	8.2	8.7	9.1	9.4	9.5	9.7	9.8	10.0
92.5°	7.9	8.4	8.9	9.0	9.1	9.1	9.1	9.2
95°	8.2	8.7	9.1	9.3	9.4	9.5	9.6	9.6
97.5°	8.9	9.0	9.0	9.0	9.1	9.1	9.2	9.3
100°	12.2	10.8	9.6	9.0	9.1	9.1	9.2	9.3
102.5°	43.5	29.9	16.3	9.5	9.5	9.5	9.6	9.6
105°	105.3	105.9	106.6	105.6	102.9	100.3	97.6	94.9
107.5°	130.3	130.5	130.9	131.2	131.5	131.8	132.1	132.3
110°	147.2	147.3	147.5	147.7	147.9	148.2	148.4	148.5





TEST NUMBER: P332868-830

CATALOG NUMBER: SA4XXRDIP-C350D365U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	163.6	163.6	163.5	163.7	164.0	164.3	164.6	164.9
115°	188.1	188.3	188.5	188.5	188.5	188.5	188.5	188.5
117.5°	212.8	212.8	212.8	212.7	212.7	212.7	212.7	212.6
120°	228.1	228.3	228.5	228.5	228.3	228.1	228.0	227.8
122.5°	243.2	243.3	243.4	243.4	243.2	243.1	242.9	242.8
125°	264.3	264.5	264.7	264.9	264.9	265.0	265.0	265.1
127.5°	285.2	285.1	285.1	285.0	285.0	284.9	284.8	284.8
130°	297.9	298.0	298.1	298.1	298.1	298.1	298.1	298.1
132.5°	310.5	310.6	310.7	310.7	310.6	310.5	310.5	310.4
135°	327.7	327.9	328.0	328.2	328.3	328.5	328.7	328.8
137.5°	344.3	344.5	344.6	344.7	344.6	344.6	344.5	344.5
140°	354.5	354.8	355.0	355.2	355.2	355.2	355.3	355.4
142.5°	364.0	364.2	364.3	364.4	364.5	364.5	364.5	364.5
145°	377.6	377.7	377.7	377.8	378.0	378.1	378.2	378.4
147.5°	389.5	389.6	389.6	389.6	389.7	389.7	389.8	389.9
150°	397.1	397.1	397.1	397.1	397.2	397.3	397.3	397.4
152.5°	403.7	403.8	404.0	404.0	403.9	403.9	403.9	403.8
155°	412.6	412.9	413.2	413.3	413.0	412.8	412.6	412.4
157.5°	420.4	420.8	421.1	421.1	420.8	420.4	420.0	419.6
160°	425.3	425.7	426.1	426.1	425.7	425.3	424.8	424.3
162.5°	429.2	429.7	430.2	430.1	429.6	429.1	428.6	428.1
165°	434.9	435.5	436.1	436.0	435.4	434.7	434.0	433.4
167.5°	439.0	439.7	440.3	440.3	439.5	438.8	438.0	437.3
170°	441.6	442.1	442.7	442.6	442.0	441.2	440.5	439.7
172.5°	443.2	443.7	444.3	444.2	443.5	442.6	441.9	441.0
175°	445.1	445.7	446.4	446.3	445.4	444.5	443.6	442.7
177.5°	445.8	446.3	446.8	446.6	445.9	445.2	444.5	443.7
180°	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4

(END OF REPORT)