

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: P332498

Luminaire Tested: **SA4XXDIP-C350D365U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332498  
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-C350D365U835-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

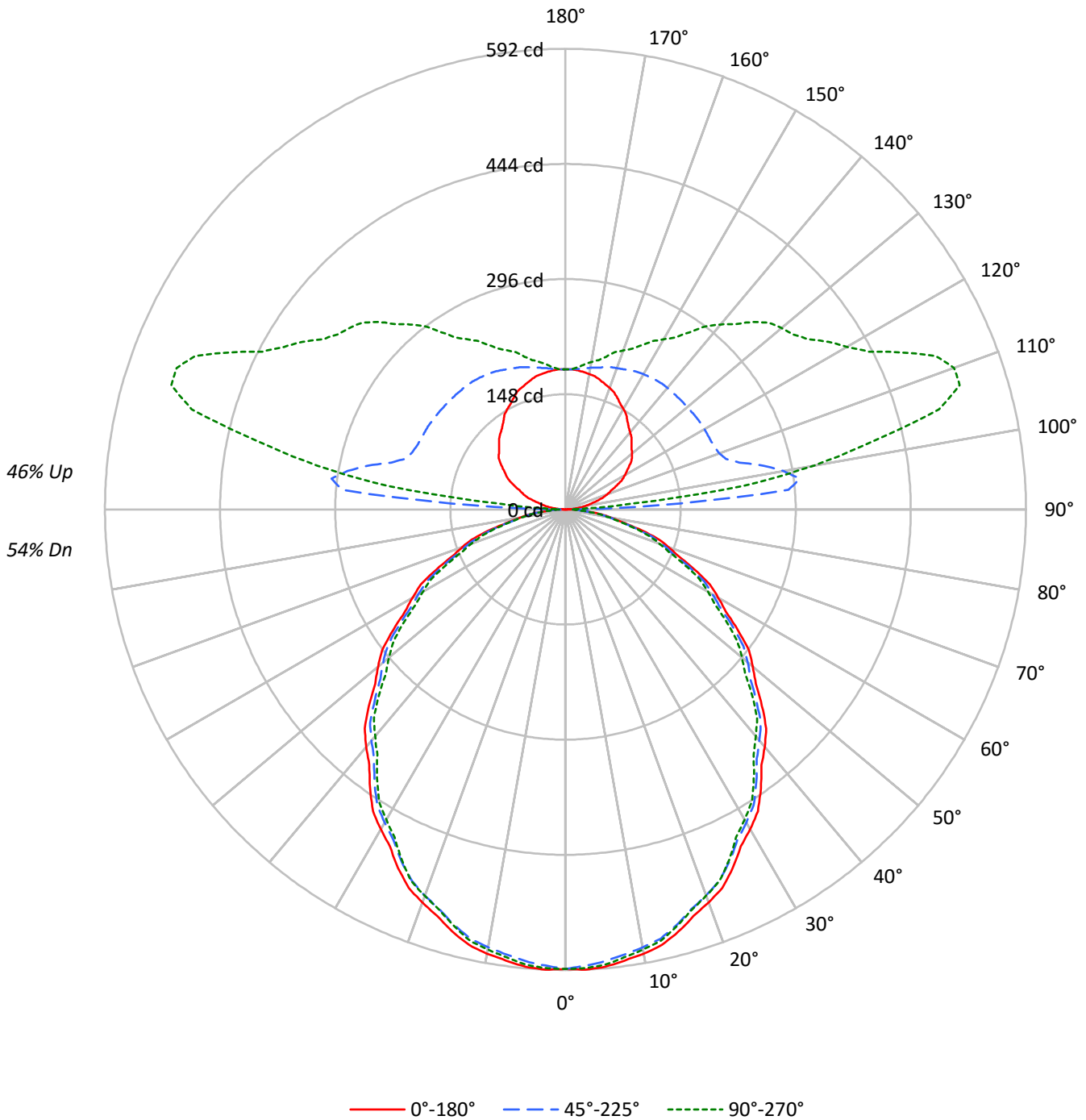
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2825.2 lumens  
Efficiency: N/A  
Efficacy: 139.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
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



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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	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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	60	60	60	54				
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	53	51	50	45				
2	90	82	76	71	83	76	71	66	66	61	58	56	53	50	46	44	42	38				
3	82	72	65	59	76	67	61	56	58	53	49	49	45	42	41	38	36	32				
4	75	64	56	50	69	60	53	47	51	46	42	44	40	36	37	34	31	27				
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	30	27	24				
6	63	51	43	37	59	48	41	35	41	36	31	36	31	28	30	26	24	21				
7	59	46	38	33	54	43	36	31	38	32	28	32	28	24	27	24	21	19				
8	54	42	34	29	50	39	32	27	34	29	25	30	25	22	25	22	19	17				
9	51	38	31	26	47	36	29	24	31	26	22	27	23	20	23	20	17	15				
10	47	35	28	23	44	33	26	22	29	24	20	25	21	18	22	18	16	14				

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

	0°	45°	90°
0°	4769	4769	4769
5°	4783	4725	4760
10°	4753	4687	4710
15°	4695	4621	4633
20°	4619	4538	4542
25°	4532	4444	4431
30°	4426	4333	4294
35°	4315	4217	4161
40°	4200	4086	4011
45°	4080	3956	3881
50°	3947	3841	3721
55°	3804	3690	3571
60°	3660	3523	3416
65°	3500	3364	3228
70°	3319	3151	3028
75°	3041	2895	2820
80°	2706	2599	2529
85°	2371	2279	2232



TEST NUMBER: P332498

CATALOG NUMBER: SA4XXDIP-C350D365U835-4F0-1E-UDD-F4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.6	2.0
10°-20°	156.7	5.5
20°-30°	230.7	8.2
30°-40°	268.2	9.5
40°-50°	268.2	9.5
50°-60°	234.6	8.3
60°-70°	174.2	6.2
70°-80°	99.0	3.5
80°-90°	29.6	1.0
90°-100°	129.9	4.6
100°-110°	270.4	9.6
110°-120°	242.2	8.6
120°-130°	203.7	7.2
130°-140°	169.9	6.0
140°-150°	129.8	4.6
150°-160°	91.2	3.2
160°-170°	53.7	1.9
170°-180°	17.5	0.6
0°-30°	443.1	15.7
0°-40°	711.3	25.2
0°-60°	1214.1	43.0
0°-90°	1516.9	53.7
90°-120°	642.6	22.7
90°-150°	1146.0	40.6
90°-180°	1308.0	46.3
0°-180°	2825.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	591	591	591	591	591	
5°	590	588	583	588	587	56
15°	562	560	553	555	554	158
25°	509	505	499	499	498	234
35°	438	434	428	425	422	274
45°	357	354	346	342	340	275
55°	270	269	262	257	254	242
65°	183	181	176	172	169	181
75°	98	95	93	91	90	104
85°	26	26	25	25	24	28
90°	0	3	6	7	7	2
95°	12	37	288	143	86	13
105°	41	60	232	499	497	44
115°	73	91	207	397	478	72
125°	101	121	206	338	381	90
135°	120	144	204	300	341	93
145°	139	159	203	253	278	87
155°	158	171	197	223	233	73
165°	172	177	189	200	203	49
175°	180	180	181	184	183	17
180°	180	180	180	180	180	



TEST NUMBER: P332498

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7
2.5°	592.2	592.0	591.7	591.5	591.2	590.6	589.7	588.8	587.9	586.9	587.8
5°	590.2	589.8	589.4	589.0	588.6	587.8	586.6	585.5	584.3	583.1	584.3
7.5°	584.8	584.3	583.9	583.5	583.1	582.2	580.9	579.7	578.4	577.1	578.0
10°	579.8	579.4	579.0	578.6	578.2	577.3	575.9	574.5	573.2	571.8	572.6
12.5°	573.4	573.0	572.6	572.1	571.7	570.8	569.3	567.9	566.4	565.0	565.9
15°	561.8	561.4	561.0	560.6	560.2	559.2	557.6	556.0	554.4	552.9	553.5
17.5°	547.9	547.4	546.9	546.4	545.8	544.8	543.3	541.8	540.3	538.8	539.2
20°	537.7	537.2	536.7	536.1	535.6	534.6	533.0	531.4	529.8	528.2	528.6
22.5°	526.7	526.0	525.3	524.6	523.9	522.8	521.2	519.7	518.1	516.5	517.1
25°	508.8	508.1	507.4	506.6	505.9	504.8	503.3	501.8	500.4	498.9	499.0
27.5°	488.4	487.6	486.9	486.1	485.4	484.3	482.9	481.6	480.2	478.8	478.6
30°	474.8	473.9	473.1	472.2	471.4	470.3	468.9	467.5	466.2	464.8	464.4
32.5°	460.4	459.6	458.8	458.1	457.3	456.2	454.8	453.3	451.9	450.4	449.9
35°	437.8	437.1	436.4	435.6	434.9	433.8	432.3	430.8	429.4	427.9	427.2
37.5°	414.1	413.4	412.7	412.1	411.4	410.3	408.7	407.1	405.5	403.9	403.1
40°	398.5	397.7	396.9	396.0	395.2	394.0	392.4	390.8	389.2	387.7	386.6
42.5°	381.9	381.4	380.9	380.4	379.9	378.7	377.0	375.2	373.5	371.8	370.5
45°	357.4	356.6	355.9	355.2	354.4	353.2	351.5	349.8	348.2	346.5	345.3
47.5°	331.7	331.2	330.7	330.2	329.7	328.7	327.1	325.5	324.0	322.4	321.1
50°	314.3	313.9	313.5	313.0	312.6	311.7	310.2	308.7	307.2	305.8	304.3
52.5°	297.3	296.7	296.2	295.7	295.2	294.2	292.6	291.1	289.5	288.0	286.7
55°	270.3	270.0	269.6	269.3	269.0	268.1	266.6	265.2	263.7	262.2	261.0
57.5°	244.5	244.2	243.8	243.5	243.1	242.2	240.7	239.3	237.8	236.4	235.2
60°	226.7	226.2	225.7	225.1	224.6	223.7	222.3	220.9	219.6	218.2	217.3
62.5°	209.3	208.9	208.4	208.0	207.5	206.6	205.1	203.7	202.2	200.8	199.9
65°	183.2	182.7	182.1	181.6	181.1	180.3	179.2	178.2	177.1	176.1	175.0
67.5°	156.9	156.4	155.9	155.4	154.9	154.2	153.2	152.2	151.2	150.1	149.1
70°	140.6	139.8	139.1	138.4	137.6	136.8	136.0	135.2	134.3	133.5	132.6
72.5°	123.2	122.4	121.7	121.0	120.2	119.5	118.8	118.2	117.5	116.8	116.1
75°	97.5	97.0	96.5	95.9	95.4	94.9	94.4	93.8	93.3	92.8	92.4
77.5°	73.0	72.8	72.5	72.3	72.1	71.7	71.3	70.8	70.3	69.9	69.7
80°	58.2	57.9	57.6	57.3	57.0	56.7	56.5	56.3	56.1	55.9	55.6
82.5°	43.8	43.7	43.5	43.4	43.2	43.1	43.1	43.1	43.0	43.0	42.9
85°	25.6	25.6	25.6	25.6	25.6	25.5	25.2	25.0	24.8	24.6	24.6
87.5°	9.9	10.0	10.1	10.1	10.1	10.0	10.3	10.2	10.3	10.4	10.3
90°	0.4	1.1	2.1	2.5	2.8	2.8	4.9	4.9	5.7	6.4	6.0
92.5°	4.0	5.9	9.2	13.5	18.7	26.0	44.0	71.4	98.1	112.1	93.4
95°	11.7	12.7	16.3	20.9	29.3	44.2	74.9	132.9	217.4	288.0	296.2
97.5°	20.9	20.9	24.0	28.2	35.5	47.9	71.6	119.5	203.4	303.4	372.1
100°	26.9	26.9	29.3	33.6	40.3	51.6	72.5	112.4	184.5	284.2	374.6
102.5°	32.5	33.1	35.3	39.2	45.7	56.4	75.3	110.4	171.8	260.1	353.4
105°	41.4	42.4	44.2	48.4	54.8	65.0	82.0	111.3	160.8	231.8	314.9
107.5°	51.1	51.8	53.6	58.1	64.2	74.3	89.8	116.6	158.8	216.0	283.8
110°	57.6	58.3	60.1	64.3	70.7	80.2	95.8	120.5	159.4	210.6	268.3



TEST NUMBER: P332498

CATALOG NUMBER: SA4XXDIP-C350D365U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	63.8	64.5	66.6	70.5	76.9	86.4	101.4	124.8	161.1	208.1	259.5
115°	72.8	73.9	76.3	79.9	86.6	96.1	110.3	131.5	164.3	206.8	251.3
117.5°	82.1	83.1	85.3	89.2	95.5	105.4	118.8	138.3	167.8	206.4	247.6
120°	88.4	89.1	91.5	95.4	101.4	111.3	124.8	143.1	170.4	206.4	245.6
122.5°	94.0	94.7	97.2	100.8	107.4	117.0	130.4	147.7	172.9	206.1	243.4
125°	101.4	102.8	105.0	108.9	115.6	125.5	138.2	154.4	176.7	205.7	239.6
127.5°	108.0	109.1	111.7	116.1	123.1	133.1	145.4	160.3	179.8	204.9	234.6
130°	111.7	113.1	115.9	121.2	127.9	138.2	150.2	164.0	182.0	204.6	231.5
132.5°	115.4	116.5	120.2	125.2	132.5	142.1	154.2	167.7	184.0	204.4	228.7
135°	120.5	121.9	125.5	131.5	138.9	148.1	159.7	172.5	187.0	203.9	224.4
137.5°	125.7	127.0	130.9	136.6	144.3	153.1	164.0	175.9	188.7	203.9	220.8
140°	129.4	130.4	134.3	140.3	147.7	156.2	166.8	178.1	190.1	203.6	218.8
142.5°	133.3	134.4	138.0	143.7	150.8	159.0	169.4	179.8	191.3	203.6	217.1
145°	138.9	140.0	143.5	148.4	155.2	162.9	172.1	181.7	191.9	202.9	214.2
147.5°	145.2	145.5	148.7	153.7	159.3	166.3	174.9	183.3	192.3	201.6	211.6
150°	149.1	149.5	152.3	156.6	161.9	168.6	176.4	184.1	192.3	200.7	209.6
152.5°	152.8	152.9	155.7	159.7	164.4	170.6	177.5	184.7	191.7	199.3	207.3
155°	158.0	158.3	160.5	164.0	167.9	173.2	179.2	185.2	190.9	197.2	203.9
157.5°	163.0	163.0	165.0	167.7	171.1	175.3	180.4	185.2	189.9	195.0	200.5
160°	166.1	166.1	167.5	170.0	172.8	176.7	181.0	185.2	189.1	193.3	197.9
162.5°	168.9	168.7	169.8	172.0	174.5	177.6	181.5	185.2	188.2	191.6	195.7
165°	172.1	172.1	172.8	174.6	176.4	178.5	181.7	184.5	186.6	189.1	191.9
167.5°	175.3	174.9	175.3	176.6	177.6	179.3	181.6	183.6	184.9	186.5	188.5
170°	176.7	176.4	176.7	177.8	178.5	179.5	181.3	183.1	183.8	184.8	186.3
172.5°	178.1	177.8	177.8	178.6	179.0	179.8	181.0	182.5	182.7	183.1	184.3
175°	179.5	179.2	179.2	179.5	179.9	179.9	180.6	181.7	181.3	181.3	182.0
177.5°	180.2	179.9	179.6	179.9	179.9	179.9	180.2	180.7	180.2	180.2	180.5
180°	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9



TEST NUMBER: P332498

CATALOG NUMBER: SA4XXDIP-C350D365U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7
2.5°	588.6	589.5	590.3	590.7	590.6	590.5	590.4	590.3
5°	585.5	586.6	587.8	588.2	588.0	587.8	587.6	587.4
7.5°	578.9	579.9	580.8	581.2	581.1	580.9	580.8	580.7
10°	573.5	574.3	575.2	575.5	575.3	575.0	574.8	574.6
12.5°	566.8	567.7	568.7	569.0	568.7	568.4	568.1	567.8
15°	554.1	554.7	555.4	555.5	555.2	554.9	554.6	554.3
17.5°	539.6	540.0	540.4	540.5	540.3	540.1	539.9	539.7
20°	528.9	529.2	529.5	529.6	529.3	529.1	528.9	528.7
22.5°	517.6	518.2	518.8	518.9	518.5	518.1	517.7	517.4
25°	499.1	499.2	499.3	499.2	498.7	498.3	497.9	497.5
27.5°	478.3	478.1	477.8	477.4	476.9	476.4	475.8	475.3
30°	464.0	463.6	463.1	462.7	462.1	461.6	461.1	460.6
32.5°	449.4	448.9	448.4	447.9	447.4	446.8	446.3	445.8
35°	426.4	425.7	424.9	424.3	423.8	423.3	422.7	422.2
37.5°	402.3	401.5	400.7	400.0	399.3	398.6	397.9	397.2
40°	385.6	384.5	383.5	382.7	382.1	381.6	381.1	380.6
42.5°	369.3	368.1	366.9	366.1	365.7	365.4	365.0	364.7
45°	344.2	343.0	341.9	341.1	340.8	340.5	340.2	339.9
47.5°	319.8	318.5	317.2	316.2	315.4	314.6	313.8	313.0
50°	302.8	301.4	299.9	298.8	298.2	297.6	296.9	296.3
52.5°	285.4	284.1	282.8	281.7	280.9	280.1	279.3	278.5
55°	259.7	258.4	257.2	256.2	255.6	255.0	254.3	253.7
57.5°	234.0	232.8	231.6	230.7	230.1	229.5	228.9	228.2
60°	216.3	215.4	214.4	213.7	213.2	212.6	212.1	211.6
62.5°	199.1	198.2	197.3	196.6	196.1	195.6	195.1	194.5
65°	174.0	172.9	171.9	171.1	170.6	170.0	169.5	169.0
67.5°	148.1	147.1	146.1	145.5	145.4	145.2	145.1	144.9
70°	131.8	131.0	130.1	129.5	129.2	128.9	128.6	128.3
72.5°	115.5	114.8	114.1	113.6	113.3	113.0	112.7	112.4
75°	91.9	91.5	91.1	90.8	90.7	90.6	90.5	90.4
77.5°	69.6	69.5	69.4	69.2	68.9	68.6	68.3	68.1
80°	55.4	55.2	55.0	54.9	54.7	54.6	54.5	54.4
82.5°	42.7	42.6	42.5	42.4	42.3	42.1	42.0	41.9
85°	24.6	24.6	24.6	24.6	24.5	24.4	24.2	24.1
87.5°	10.4	10.4	10.5	10.5	10.6	10.6	10.6	10.6
90°	6.4	6.7	7.1	7.1	7.4	7.8	7.4	7.4
92.5°	69.4	52.2	41.6	34.5	30.3	28.4	27.2	27.2
95°	261.9	207.1	159.7	125.5	108.1	97.2	90.8	86.2
97.5°	386.9	366.6	332.0	295.1	269.7	248.5	237.9	230.5
100°	426.2	433.3	416.0	389.8	359.1	337.5	326.9	324.1
102.5°	424.3	459.3	464.3	453.4	434.6	419.0	407.8	405.5
105°	395.8	457.0	492.0	506.5	507.2	504.3	499.4	497.3
107.5°	355.5	420.6	469.8	501.4	518.8	526.9	530.4	531.3
110°	331.2	392.3	443.6	482.4	507.5	522.4	528.7	531.9





TEST NUMBER: P332498

CATALOG NUMBER: SA4XXDIP-C350D365U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	313.3	367.4	415.8	454.7	483.2	501.2	510.1	515.2
115°	295.5	338.9	380.3	414.2	442.1	463.3	474.7	477.5
117.5°	286.7	322.7	355.2	384.0	407.8	425.6	437.0	439.2
120°	282.7	315.6	343.9	369.0	389.1	404.7	413.9	417.8
122.5°	279.3	311.1	336.8	358.8	375.8	389.1	396.9	400.8
125°	273.6	303.9	328.3	347.8	361.9	372.2	378.9	381.0
127.5°	266.5	295.5	319.9	338.3	352.5	361.6	367.3	369.4
130°	260.8	288.8	312.8	331.5	346.0	354.8	360.5	362.6
132.5°	254.9	281.1	304.6	323.3	337.5	347.5	352.9	355.0
135°	246.7	269.7	291.2	308.9	323.0	332.9	338.6	340.7
137.5°	239.3	258.7	276.9	292.8	306.1	315.8	320.5	323.0
140°	235.0	251.6	267.5	282.4	294.8	302.5	307.5	310.3
142.5°	231.1	245.7	259.3	272.2	283.2	290.4	294.8	296.7
145°	225.5	237.5	248.1	258.0	266.8	272.8	276.4	278.1
147.5°	220.9	230.4	238.9	246.7	253.2	258.4	261.0	261.7
150°	218.1	226.2	233.3	239.6	245.3	249.9	252.0	252.3
152.5°	215.0	222.0	228.5	233.7	238.5	242.2	243.5	243.9
155°	210.3	215.9	221.2	225.5	229.0	231.8	232.9	232.9
157.5°	205.3	210.0	214.5	217.9	220.5	222.7	223.3	223.3
160°	202.2	206.0	209.9	212.8	214.9	217.0	217.4	217.4
162.5°	199.1	202.4	205.4	208.0	209.5	211.6	212.0	211.7
165°	194.7	196.9	199.3	201.1	202.5	203.9	203.6	203.2
167.5°	190.6	192.2	194.2	195.2	195.9	196.9	196.8	196.5
170°	188.0	189.1	190.5	191.6	192.3	192.6	192.3	192.3
172.5°	185.8	186.5	187.4	188.2	188.6	188.9	188.6	188.0
175°	182.7	183.1	183.8	183.8	183.8	184.5	183.8	183.1
177.5°	180.7	181.0	181.0	181.3	181.0	181.3	180.7	180.2
180°	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9

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