

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: P332493

Luminaire Tested: **S124DIP-S350D365U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332493  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S350D365U835-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2903.9 lumens  
Efficiency: N/A  
Efficacy: 143.0 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

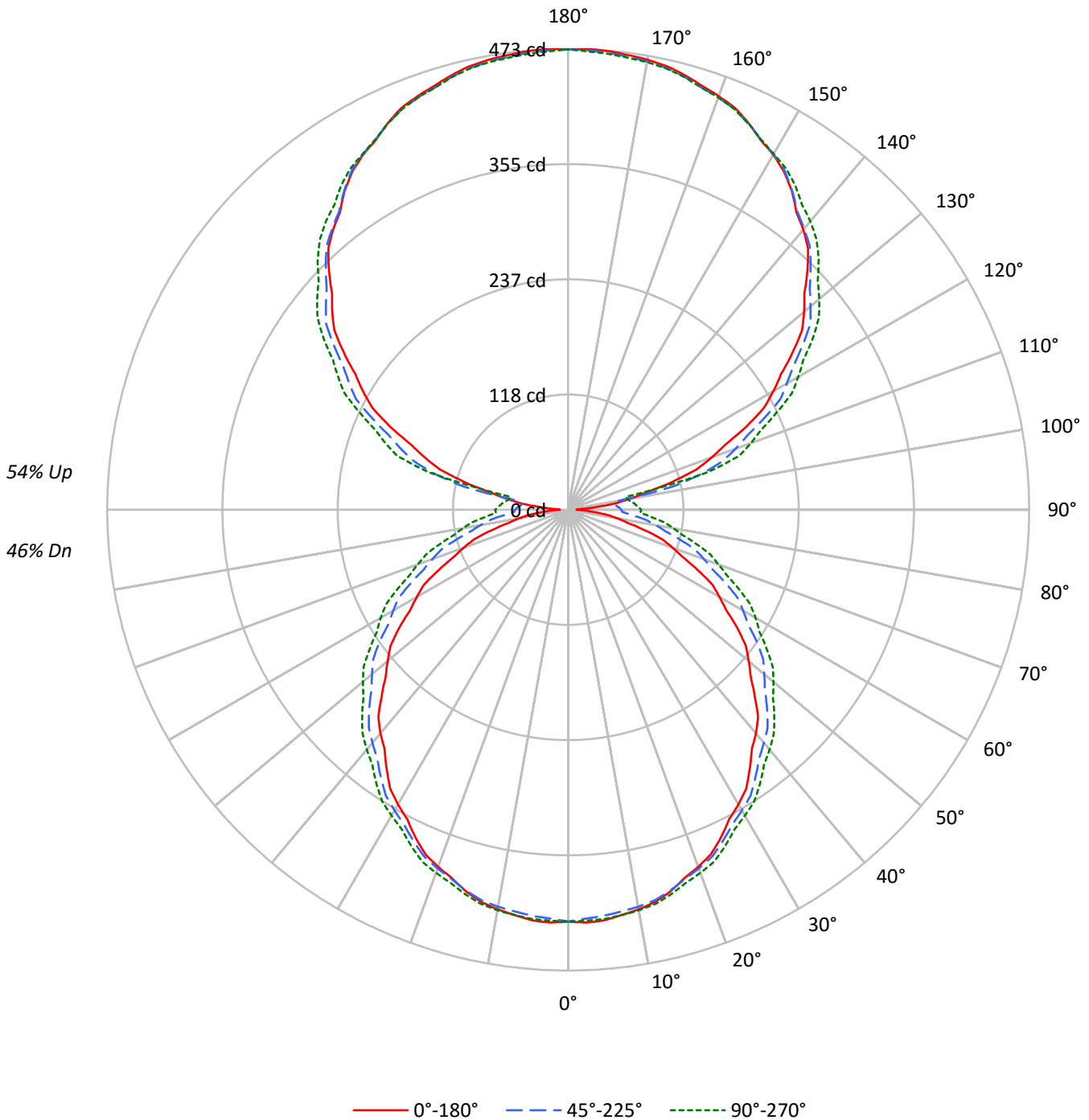
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332493

CATALOG NUMBER: S124DIP-S350D365U835-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P332493

CATALOG NUMBER: S124DIP-S350D365U835-4F0-1E-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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46				
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	42	37				
2	87	79	73	67	79	73	67	62	60	56	53	49	46	44	39	37	35	30				
3	79	69	62	55	72	64	57	51	53	48	44	43	40	36	34	31	29	25				
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	27	25	21				
5	66	54	46	40	60	50	42	37	42	36	32	34	30	27	27	24	22	18				
6	61	48	40	34	55	45	37	32	37	32	27	31	26	23	25	21	19	16				
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	22	19	17	14				
8	52	40	32	26	48	37	29	25	31	25	21	25	21	18	20	17	15	12				
9	48	36	28	23	44	33	26	22	28	23	19	23	19	16	19	16	13	11				
10	45	33	26	21	41	31	24	20	26	21	17	22	17	15	17	14	12	10				

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

	0°	45°	90°
0°	3412	3412	3412
5°	3423	3335	3344
10°	3402	3281	3278
15°	3371	3217	3200
20°	3325	3147	3124
25°	3274	3070	3039
30°	3217	2992	2954
35°	3154	2912	2878
40°	3103	2836	2800
45°	3027	2766	2732
50°	2964	2686	2661
55°	2899	2610	2577
60°	2796	2513	2501
65°	2682	2410	2407
70°	2547	2292	2298
75°	2356	2161	2199
80°	2145	2037	2102
85°	1878	1926	2046



TEST NUMBER: P332493

CATALOG NUMBER: S124DIP-S350D365U835-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.0	1.4
10°-20°	114.7	3.9
20°-30°	173.4	6.0
30°-40°	209.8	7.2
40°-50°	221.8	7.6
50°-60°	208.8	7.2
60°-70°	173.2	6.0
70°-80°	121.7	4.2
80°-90°	70.1	2.4
90°-100°	57.0	2.0
100°-110°	133.3	4.6
110°-120°	217.4	7.5
120°-130°	261.7	9.0
130°-140°	272.7	9.4
140°-150°	251.4	8.7
150°-160°	201.9	7.0
160°-170°	130.2	4.5
170°-180°	44.9	1.5
0°-30°	328.1	11.3
0°-40°	537.9	18.5
0°-60°	968.5	33.4
0°-90°	1333.5	45.9
90°-120°	407.7	14.0
90°-150°	1193.4	41.1
90°-180°	1570.0	54.1
0°-180°	2903.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	423	422	418	422	422	40
15°	406	406	405	409	408	114
25°	371	374	375	380	381	171
35°	325	330	335	341	343	203
45°	271	280	289	296	299	209
55°	212	222	236	245	248	189
65°	147	162	178	189	194	145
75°	81	99	119	132	136	87
85°	25	45	66	80	85	27
90°	9	31	55	70	75	6
95°	26	30	49	63	68	30
105°	111	123	142	155	148	116
115°	202	207	222	232	236	198
125°	281	283	293	303	306	251
135°	347	347	352	360	364	268
145°	400	400	400	404	406	250
155°	438	438	437	438	438	202
165°	462	460	460	463	460	130
175°	472	470	471	474	470	45
180°	472	472	472	472	472	



TEST NUMBER: P332493

CATALOG NUMBER: S124DIP-S350D365U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	424.2	423.9	423.7	423.4	423.2	422.7	422.1	421.4	420.7	420.0	420.6
5°	423.2	422.8	422.5	422.2	421.9	421.4	420.6	419.9	419.2	418.4	419.3
7.5°	419.6	419.4	419.2	419.0	418.8	418.4	417.8	417.2	416.6	416.0	416.9
10°	416.5	416.4	416.3	416.2	416.1	415.8	415.3	414.7	414.2	413.7	414.6
12.5°	412.4	412.3	412.3	412.3	412.3	412.1	411.7	411.4	411.0	410.7	411.5
15°	405.6	405.8	405.9	406.0	406.1	406.0	405.6	405.3	405.0	404.7	405.6
17.5°	396.5	396.8	397.1	397.4	397.7	397.9	397.8	397.7	397.7	397.6	398.6
20°	390.0	390.3	390.7	391.0	391.3	391.5	391.6	391.7	391.8	391.9	393.0
22.5°	382.8	383.2	383.6	384.0	384.4	384.7	384.9	385.1	385.3	385.5	386.5
25°	371.1	371.7	372.4	373.0	373.6	374.1	374.4	374.7	375.0	375.4	376.5
27.5°	358.0	359.0	359.9	360.8	361.7	362.4	362.9	363.4	363.9	364.4	365.4
30°	349.3	350.2	351.0	351.8	352.7	353.5	354.2	354.9	355.7	356.4	357.6
32.5°	339.9	340.9	341.9	342.9	343.9	344.8	345.6	346.4	347.3	348.1	349.4
35°	324.7	326.0	327.2	328.5	329.8	330.9	332.0	333.0	334.1	335.1	336.6
37.5°	309.5	310.9	312.4	313.8	315.3	316.6	318.0	319.3	320.6	321.9	323.4
40°	299.6	301.0	302.4	303.7	305.1	306.5	308.0	309.5	310.9	312.4	314.0
42.5°	288.3	289.8	291.3	292.9	294.4	296.0	297.8	299.5	301.2	302.9	304.7
45°	270.7	272.7	274.7	276.7	278.7	280.7	282.7	284.7	286.7	288.7	290.5
47.5°	254.0	256.1	258.1	260.2	262.2	264.4	266.7	269.1	271.4	273.7	275.5
50°	241.9	244.2	246.5	248.8	251.1	253.4	255.8	258.1	260.4	262.7	264.8
52.5°	229.8	232.1	234.4	236.7	239.0	241.5	244.1	246.8	249.4	252.1	254.2
55°	212.1	214.3	216.5	218.7	220.9	223.6	226.7	229.9	233.0	236.2	238.3
57.5°	192.3	195.0	197.7	200.5	203.2	206.1	209.3	212.4	215.5	218.7	221.2
60°	179.4	182.1	184.9	187.6	190.3	193.4	196.9	200.4	203.8	207.3	209.7
62.5°	166.9	169.9	172.9	175.9	178.8	182.1	185.5	189.0	192.5	196.0	198.4
65°	146.7	150.1	153.5	156.8	160.2	163.7	167.2	170.8	174.4	178.0	180.6
67.5°	127.3	130.9	134.5	138.1	141.6	145.3	149.2	153.0	156.8	160.6	163.3
70°	114.1	117.6	121.2	124.8	128.4	132.2	136.2	140.2	144.2	148.2	151.0
72.5°	101.2	104.9	108.5	112.2	115.8	119.8	124.0	128.3	132.5	136.8	139.5
75°	81.4	85.3	89.2	93.1	97.0	101.1	105.6	110.0	114.4	118.8	121.8
77.5°	63.0	67.1	71.2	75.3	79.4	83.8	88.4	93.1	97.7	102.3	105.3
80°	51.6	55.8	60.0	64.2	68.4	72.8	77.5	82.1	86.7	91.4	94.5
82.5°	40.2	44.6	49.0	53.4	57.7	62.2	66.9	71.5	76.1	80.8	84.0
85°	25.1	29.5	33.9	38.3	42.8	47.3	52.1	56.8	61.5	66.3	69.4
87.5°	14.2	18.7	23.2	27.6	32.1	36.7	41.4	46.1	50.9	55.6	58.8
90°	8.6	13.7	18.8	23.8	28.9	34.0	39.2	44.3	49.5	54.6	58.2
92.5°	11.6	15.5	19.3	23.1	27.0	31.5	36.6	41.8	46.9	52.1	55.5
95°	25.6	26.4	27.2	28.0	28.8	31.4	35.8	40.2	44.6	49.0	52.3
97.5°	46.9	51.5	56.2	60.8	65.5	65.6	61.1	56.6	52.1	47.6	50.4
100°	63.2	67.3	71.5	75.6	79.8	78.5	71.7	65.0	58.3	51.5	53.0
102.5°	81.8	85.3	88.7	92.1	95.6	98.6	101.2	103.8	106.4	109.0	97.4
105°	110.6	113.2	115.8	118.4	120.9	124.4	128.7	132.9	137.2	141.5	144.8
107.5°	138.2	140.1	142.1	144.1	146.0	149.1	153.3	157.5	161.8	166.0	168.9
110°	156.5	158.2	159.9	161.6	163.3	166.2	170.4	174.5	178.7	182.8	185.4



TEST NUMBER: P332493

CATALOG NUMBER: S124DIP-S350D365U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	174.2	175.9	177.6	179.4	181.1	183.8	187.6	191.3	195.0	198.8	201.1
115°	201.5	202.6	203.8	205.0	206.2	208.4	211.7	215.0	218.3	221.6	224.0
117.5°	226.5	227.3	228.2	229.1	230.0	232.1	235.4	238.7	242.0	245.3	247.5
120°	243.0	243.7	244.3	244.9	245.6	247.4	250.3	253.3	256.3	259.2	261.5
122.5°	258.9	259.1	259.4	259.6	259.9	261.5	264.5	267.5	270.5	273.5	275.7
125°	281.1	281.3	281.5	281.7	281.9	283.3	285.7	288.2	290.7	293.2	295.4
127.5°	302.5	302.5	302.4	302.4	302.4	303.6	305.9	308.3	310.7	313.1	314.9
130°	316.0	315.9	315.9	315.9	315.9	316.8	318.7	320.6	322.6	324.5	326.4
132.5°	328.7	328.7	328.8	328.8	328.8	329.7	331.3	333.0	334.6	336.2	338.1
135°	347.3	347.2	347.1	347.1	347.0	347.5	348.5	349.6	350.6	351.7	353.5
137.5°	364.2	364.1	364.0	364.0	363.9	364.2	364.9	365.6	366.3	367.0	368.7
140°	375.2	375.3	375.3	375.4	375.4	375.6	375.8	376.1	376.4	376.6	378.2
142.5°	384.7	385.0	385.3	385.5	385.8	385.9	386.0	386.0	386.0	386.0	387.4
145°	399.8	400.0	400.1	400.2	400.4	400.4	400.4	400.4	400.4	400.4	401.1
147.5°	411.9	412.3	412.6	412.9	413.3	413.4	413.3	413.2	413.1	413.1	413.2
150°	420.7	420.9	421.1	421.3	421.5	421.6	421.5	421.4	421.3	421.3	421.3
152.5°	427.7	427.9	428.1	428.3	428.6	428.6	428.5	428.3	428.2	428.1	428.2
155°	437.9	438.0	438.0	438.1	438.2	438.1	437.9	437.6	437.4	437.2	437.5
157.5°	446.6	446.5	446.5	446.4	446.4	446.2	446.0	445.7	445.4	445.2	445.6
160°	451.7	451.4	451.2	451.0	450.7	450.6	450.5	450.4	450.3	450.2	450.7
162.5°	456.2	455.9	455.6	455.3	455.0	454.8	454.7	454.6	454.6	454.5	455.0
165°	461.9	461.5	461.1	460.7	460.3	460.1	460.1	460.1	460.1	460.1	460.8
167.5°	466.4	466.0	465.6	465.2	464.8	464.6	464.5	464.5	464.4	464.4	465.1
170°	469.0	468.5	468.0	467.6	467.1	466.9	467.0	467.1	467.1	467.2	467.8
172.5°	470.7	470.2	469.7	469.3	468.8	468.6	468.7	468.8	468.8	468.9	469.5
175°	472.5	472.0	471.6	471.1	470.6	470.4	470.5	470.6	470.7	470.7	471.5
177.5°	473.4	472.9	472.5	472.0	471.6	471.4	471.6	471.7	471.8	471.9	472.5
180°	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5



TEST NUMBER: P332493

CATALOG NUMBER: S124DIP-S350D365U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	421.2	421.8	422.4	422.6	422.6	422.5	422.4	422.3
5°	420.1	420.9	421.8	422.2	422.1	421.9	421.8	421.7
7.5°	417.9	418.8	419.8	420.2	420.1	420.0	419.9	419.8
10°	415.6	416.5	417.5	417.9	417.8	417.7	417.6	417.5
12.5°	412.4	413.3	414.1	414.5	414.5	414.5	414.5	414.4
15°	406.6	407.5	408.5	408.9	408.8	408.7	408.6	408.5
17.5°	399.5	400.5	401.5	401.9	401.8	401.7	401.7	401.6
20°	394.0	395.1	396.1	396.7	396.7	396.7	396.7	396.7
22.5°	387.6	388.6	389.7	390.3	390.5	390.6	390.8	391.0
25°	377.7	378.8	380.0	380.6	380.7	380.8	380.9	381.0
27.5°	366.5	367.6	368.7	369.3	369.4	369.5	369.6	369.8
30°	358.7	359.9	361.0	361.7	361.9	362.2	362.4	362.6
32.5°	350.7	352.1	353.4	354.2	354.4	354.6	354.8	355.0
35°	338.1	339.5	341.0	341.9	342.2	342.5	342.9	343.2
37.5°	324.9	326.3	327.8	328.8	329.1	329.4	329.8	330.1
40°	315.6	317.1	318.7	319.7	320.1	320.6	321.0	321.4
42.5°	306.4	308.2	309.9	311.0	311.3	311.6	312.0	312.3
45°	292.3	294.1	295.9	297.0	297.6	298.1	298.6	299.1
47.5°	277.4	279.2	281.1	282.3	283.0	283.6	284.2	284.9
50°	266.9	269.0	271.1	272.5	273.1	273.7	274.4	275.0
52.5°	256.3	258.4	260.5	261.9	262.5	263.1	263.8	264.4
55°	240.4	242.5	244.6	246.0	246.6	247.2	247.9	248.5
57.5°	223.7	226.2	228.7	230.2	230.8	231.4	232.0	232.6
60°	212.2	214.6	217.0	218.6	219.5	220.3	221.2	222.0
62.5°	200.8	203.2	205.6	207.3	208.1	208.9	209.8	210.6
65°	183.2	185.9	188.5	190.2	191.1	191.9	192.8	193.6
67.5°	166.0	168.7	171.3	173.1	173.9	174.7	175.5	176.4
70°	153.8	156.7	159.5	161.3	162.0	162.8	163.5	164.2
72.5°	142.3	145.1	147.8	149.6	150.4	151.2	152.1	152.9
75°	124.7	127.6	130.6	132.5	133.5	134.4	135.4	136.3
77.5°	108.3	111.3	114.3	116.3	117.3	118.3	119.3	120.3
80°	97.7	100.8	104.0	106.0	106.8	107.7	108.5	109.3
82.5°	87.2	90.5	93.7	95.8	96.7	97.6	98.6	99.5
85°	72.6	75.7	78.9	81.0	82.0	83.1	84.1	85.2
87.5°	61.9	65.0	68.2	70.2	71.2	72.2	73.1	74.1
90°	61.7	65.2	68.7	71.0	72.0	73.0	74.0	75.0
92.5°	59.0	62.4	65.8	68.0	68.9	69.7	70.6	71.5
95°	55.6	58.9	62.2	64.4	65.4	66.4	67.4	68.5
97.5°	53.2	56.0	58.8	60.7	61.7	62.6	63.6	64.6
100°	54.5	56.0	57.5	58.7	59.5	60.3	61.1	62.0
102.5°	85.7	74.1	62.4	57.0	57.8	58.7	59.5	60.4
105°	148.2	151.5	154.9	155.5	153.5	151.6	149.6	147.6
107.5°	171.8	174.8	177.7	179.7	180.8	181.8	182.9	183.9
110°	188.0	190.6	193.1	195.0	196.0	197.1	198.2	199.3





TEST NUMBER: P332493

CATALOG NUMBER: S124DIP-S350D365U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	203.4	205.7	208.0	209.7	210.8	212.0	213.1	214.2
115°	226.5	229.0	231.5	233.1	233.8	234.5	235.3	236.0
117.5°	249.6	251.8	253.9	255.4	256.2	257.0	257.8	258.7
120°	263.8	266.0	268.3	269.8	270.4	271.1	271.8	272.5
122.5°	277.9	280.1	282.3	283.7	284.3	284.9	285.5	286.1
125°	297.6	299.9	302.1	303.6	304.3	305.0	305.7	306.4
127.5°	316.8	318.6	320.5	321.7	322.4	323.0	323.7	324.3
130°	328.4	330.4	332.4	333.7	334.3	334.9	335.6	336.2
132.5°	340.0	341.9	343.8	345.0	345.6	346.2	346.7	347.3
135°	355.3	357.2	359.0	360.3	361.1	361.9	362.7	363.5
137.5°	370.4	372.1	373.9	374.9	375.4	375.9	376.4	376.9
140°	379.8	381.4	383.0	384.1	384.7	385.3	386.0	386.6
142.5°	388.8	390.2	391.5	392.4	392.9	393.4	393.8	394.3
145°	401.8	402.5	403.3	403.9	404.5	405.1	405.6	406.2
147.5°	413.4	413.5	413.7	413.9	414.4	414.8	415.2	415.6
150°	421.3	421.3	421.3	421.3	421.4	421.5	421.5	421.6
152.5°	428.3	428.4	428.6	428.6	428.5	428.5	428.5	428.4
155°	437.8	438.1	438.4	438.5	438.2	438.0	437.8	437.5
157.5°	446.0	446.4	446.8	446.8	446.4	446.0	445.6	445.2
160°	451.2	451.7	452.1	452.1	451.7	451.2	450.7	450.2
162.5°	455.4	455.9	456.4	456.3	455.8	455.3	454.7	454.2
165°	461.4	462.0	462.7	462.6	461.9	461.2	460.5	459.8
167.5°	465.8	466.5	467.1	467.1	466.3	465.5	464.7	464.0
170°	468.5	469.1	469.7	469.6	468.9	468.1	467.3	466.5
172.5°	470.2	470.8	471.4	471.3	470.5	469.6	468.8	467.9
175°	472.2	472.9	473.6	473.5	472.5	471.6	470.6	469.7
177.5°	473.0	473.5	474.0	473.8	473.1	472.3	471.6	470.8
180°	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5

(END OF REPORT)