

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: P332505

Luminaire Tested: **S124DIP-S350D590U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332505
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-S350D590U835-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3877.2 lumens
Efficiency: N/A
Efficacy: 151.5 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: Semi-Indirect

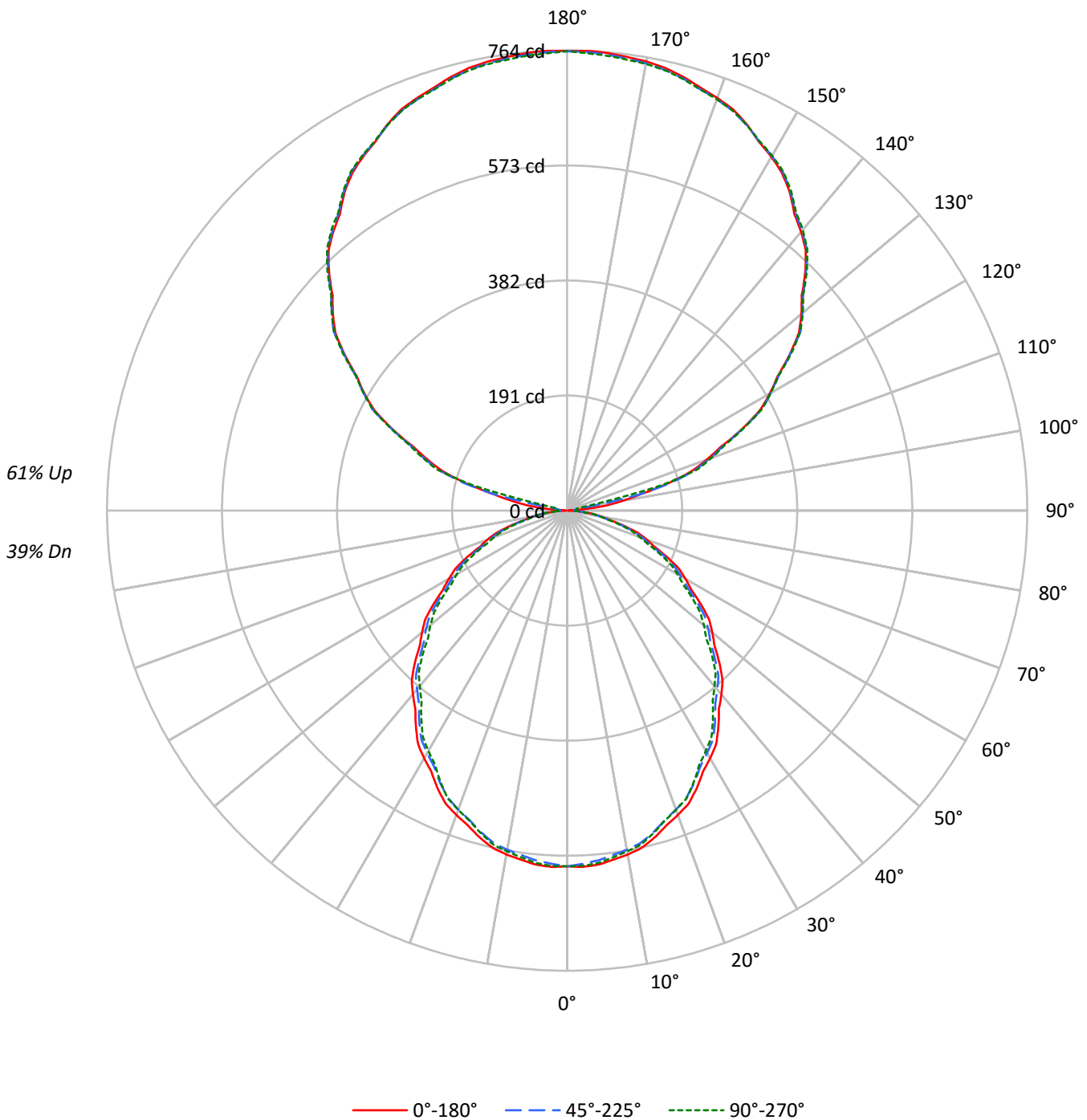
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332505

CATALOG NUMBER: S124DIP-S350D590U835-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332505

CATALOG NUMBER: S124DIP-S350D590U835-4F0-1E-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	0
RCR																		
0	105	105	105	105	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	91	87	84	86	83	80	77	68	65	63	54	52	51	41	40	39	33
2	87	79	73	68	79	72	67	63	59	56	52	47	45	42	36	34	33	28
3	79	70	63	57	72	64	57	52	52	48	44	42	38	36	32	30	28	23
4	72	62	54	48	65	56	50	44	46	41	37	37	33	31	28	26	24	20
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	26	23	21	17
6	61	49	41	36	55	45	38	33	37	32	28	30	26	23	23	20	18	15
7	56	44	37	31	51	41	34	29	34	28	25	27	23	20	21	18	16	14
8	52	40	33	27	47	37	30	25	31	26	22	25	21	18	19	17	15	12
9	49	37	29	24	44	34	27	23	28	23	19	23	19	16	18	15	13	11
10	45	34	26	22	41	31	25	20	26	21	17	21	17	15	17	14	12	10

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: P332505

CATALOG NUMBER: S124DIP-S350D590U835-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.6	1.4
10°-20°	156.7	4.0
20°-30°	230.7	6.0
30°-40°	268.2	6.9
40°-50°	268.2	6.9
50°-60°	234.6	6.1
60°-70°	174.2	4.5
70°-80°	99.0	2.6
80°-90°	30.8	0.8
90°-100°	26.1	0.7
100°-110°	166.3	4.3
110°-120°	318.2	8.2
120°-130°	403.9	10.4
130°-140°	432.1	11.1
140°-150°	404.1	10.4
150°-160°	325.9	8.4
160°-170°	210.2	5.4
170°-180°	72.4	1.9
0°-30°	443.1	11.4
0°-40°	711.3	18.3
0°-60°	1214.1	31.3
0°-90°	1518.1	39.2
90°-120°	510.6	13.2
90°-150°	1750.6	45.2
90°-180°	2359.0	60.8
0°-180°	3877.2	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°	2	8	12	16	17	3
95°	31	13	12	16	16	40
105°	172	175	178	182	163	180
115°	321	322	322	323	323	315
125°	451	453	452	453	454	402
135°	559	559	561	562	563	431
145°	645	646	646	647	648	403
155°	707	707	706	708	706	326
165°	746	743	743	747	742	211
175°	763	759	760	764	758	73
180°	763	763	763	763	763	



TEST NUMBER: P332505

CATALOG NUMBER: S124DIP-S350D590U835-4F0-1E-UDD-F

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°	10.2	10.4	10.6	10.8	11.0	11.1	11.2	11.4	11.5	11.6	11.7
90°	1.7	3.1	4.5	5.9	7.3	8.5	9.5	10.5	11.5	12.5	13.3
92.5°	7.2	7.3	7.3	7.4	7.5	8.0	9.1	10.1	11.1	12.1	12.9
95°	31.4	27.1	22.8	18.4	14.1	12.0	12.2	12.3	12.4	12.5	13.3
97.5°	66.6	69.3	72.0	74.7	77.4	71.6	57.5	43.4	29.2	15.1	15.1
100°	93.5	95.8	98.1	100.4	102.7	95.1	77.6	60.1	42.6	25.1	22.9
102.5°	123.7	125.3	127.0	128.7	130.4	130.1	127.8	125.5	123.2	120.9	97.7
105°	171.7	172.5	173.2	174.0	174.7	175.4	176.1	176.7	177.3	178.0	179.1
107.5°	216.3	216.7	217.1	217.4	217.8	218.4	219.3	220.2	221.0	221.9	222.5
110°	246.4	246.8	247.2	247.6	247.9	248.5	249.3	250.0	250.8	251.6	251.8



TEST NUMBER: P332505

CATALOG NUMBER: S124DIP-S350D590U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	275.6	276.3	277.0	277.7	278.4	278.9	279.2	279.6	280.0	280.3	280.3
115°	320.6	321.0	321.3	321.7	322.1	322.2	322.1	322.0	321.8	321.7	322.0
117.5°	361.1	361.6	362.1	362.6	363.1	363.5	363.8	364.1	364.3	364.6	364.6
120°	388.5	389.0	389.5	390.0	390.5	390.7	390.6	390.4	390.3	390.2	390.4
122.5°	414.0	414.3	414.6	414.9	415.2	415.5	415.7	415.8	416.0	416.2	416.3
125°	450.6	451.1	451.7	452.2	452.7	452.8	452.5	452.3	452.0	451.8	452.2
127.5°	485.3	485.4	485.6	485.7	485.8	486.2	486.8	487.3	487.9	488.5	488.4
130°	507.7	507.8	507.9	508.1	508.2	508.4	508.8	509.2	509.6	510.0	510.1
132.5°	528.2	528.4	528.7	528.9	529.1	529.5	530.0	530.4	530.9	531.4	531.5
135°	559.0	558.9	558.8	558.6	558.5	558.7	559.2	559.7	560.2	560.7	561.0
137.5°	586.3	586.3	586.4	586.4	586.5	586.8	587.3	587.9	588.5	589.0	589.3
140°	604.1	604.3	604.6	604.8	605.1	605.3	605.6	605.9	606.1	606.4	606.7
142.5°	620.1	620.5	621.0	621.4	621.9	622.2	622.3	622.5	622.6	622.8	623.1
145°	644.6	645.0	645.3	645.7	646.1	646.3	646.3	646.3	646.3	646.3	646.4
147.5°	664.1	664.8	665.5	666.2	666.9	667.2	667.1	667.0	666.8	666.7	666.8
150°	678.2	678.7	679.3	679.8	680.3	680.5	680.3	680.2	680.1	679.9	679.9
152.5°	690.1	690.5	690.9	691.3	691.7	691.8	691.6	691.4	691.1	690.9	691.1
155°	706.8	706.9	707.0	707.1	707.3	707.1	706.8	706.4	706.0	705.6	706.1
157.5°	720.8	720.7	720.6	720.6	720.5	720.2	719.8	719.4	718.9	718.5	719.2
160°	729.0	728.6	728.2	727.9	727.5	727.2	727.1	727.0	726.8	726.7	727.5
162.5°	736.3	735.8	735.3	734.9	734.4	734.1	733.9	733.8	733.7	733.6	734.3
165°	745.5	744.9	744.3	743.6	743.0	742.7	742.7	742.7	742.7	742.7	743.7
167.5°	752.8	752.2	751.5	750.9	750.2	749.8	749.8	749.7	749.6	749.5	750.7
170°	757.0	756.2	755.4	754.7	753.9	753.6	753.7	753.8	754.0	754.1	755.1
172.5°	759.7	758.9	758.2	757.4	756.7	756.3	756.5	756.6	756.7	756.8	757.9
175°	762.7	761.9	761.1	760.4	759.6	759.3	759.4	759.6	759.7	759.8	760.9
177.5°	764.0	763.3	762.6	761.9	761.2	760.9	761.1	761.3	761.5	761.7	762.6
180°	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7



TEST NUMBER: P332505

CATALOG NUMBER: S124DIP-S350D590U835-4F0-1E-UDD-F

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°	11.9	12.1	12.2	12.3	12.4	12.4	12.5	12.5
90°	14.1	14.8	15.6	16.1	16.4	16.6	16.9	17.1
92.5°	13.6	14.4	15.1	15.5	15.6	15.6	15.7	15.7
95°	14.1	14.8	15.6	16.0	16.2	16.3	16.4	16.5
97.5°	15.2	15.3	15.4	15.5	15.6	15.7	15.8	16.0
100°	20.8	18.6	16.5	15.5	15.6	15.7	15.8	16.0
102.5°	74.4	51.2	27.9	16.3	16.4	16.4	16.4	16.4
105°	180.3	181.4	182.5	180.8	176.3	171.7	167.1	162.6
107.5°	223.0	223.6	224.1	224.6	225.1	225.6	226.1	226.6
110°	252.1	252.3	252.6	252.9	253.3	253.6	254.0	254.4



TEST NUMBER: P332505

CATALOG NUMBER: S124DIP-S350D590U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	280.2	280.2	280.1	280.3	280.8	281.3	281.8	282.2
115°	322.2	322.5	322.7	322.9	322.9	322.9	322.9	322.9
117.5°	364.5	364.5	364.4	364.4	364.3	364.3	364.2	364.2
120°	390.7	390.9	391.2	391.2	390.9	390.7	390.4	390.2
122.5°	416.5	416.6	416.8	416.7	416.5	416.2	416.0	415.7
125°	452.5	452.9	453.3	453.6	453.7	453.8	453.9	454.1
127.5°	488.4	488.3	488.2	488.1	488.0	487.9	487.8	487.7
130°	510.2	510.3	510.5	510.5	510.5	510.5	510.5	510.5
132.5°	531.7	531.8	531.9	531.9	531.8	531.7	531.6	531.5
135°	561.2	561.5	561.7	562.0	562.2	562.5	562.8	563.0
137.5°	589.6	589.9	590.1	590.2	590.2	590.1	590.0	589.9
140°	607.1	607.5	607.9	608.1	608.3	608.4	608.5	608.6
142.5°	623.3	623.6	623.9	624.1	624.1	624.1	624.1	624.2
145°	646.5	646.7	646.8	647.0	647.2	647.5	647.8	648.0
147.5°	666.9	667.0	667.1	667.2	667.4	667.5	667.6	667.7
150°	679.9	679.9	679.9	680.0	680.1	680.3	680.4	680.5
152.5°	691.3	691.5	691.7	691.8	691.7	691.6	691.5	691.5
155°	706.6	707.1	707.6	707.7	707.3	706.9	706.6	706.2
157.5°	719.8	720.5	721.1	721.1	720.5	719.8	719.2	718.5
160°	728.2	729.0	729.8	729.8	729.0	728.2	727.5	726.7
162.5°	735.1	735.8	736.6	736.6	735.7	734.8	734.0	733.1
165°	744.7	745.7	746.8	746.7	745.5	744.4	743.3	742.1
167.5°	751.8	752.9	754.0	753.9	752.7	751.4	750.1	748.9
170°	756.1	757.1	758.2	758.0	756.8	755.5	754.2	753.0
172.5°	758.9	759.9	760.9	760.7	759.4	758.0	756.6	755.2
175°	762.1	763.2	764.4	764.2	762.7	761.1	759.6	758.1
177.5°	763.4	764.2	765.0	764.8	763.6	762.4	761.1	759.9
180°	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7

(END OF REPORT)