

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: P332502-935

Luminaire Tested: **S124DIP-S350D590U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332502-935
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-S350D590U935-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3273.7 lumens
Efficiency: N/A
Efficacy: 127.9 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: Semi-Indirect

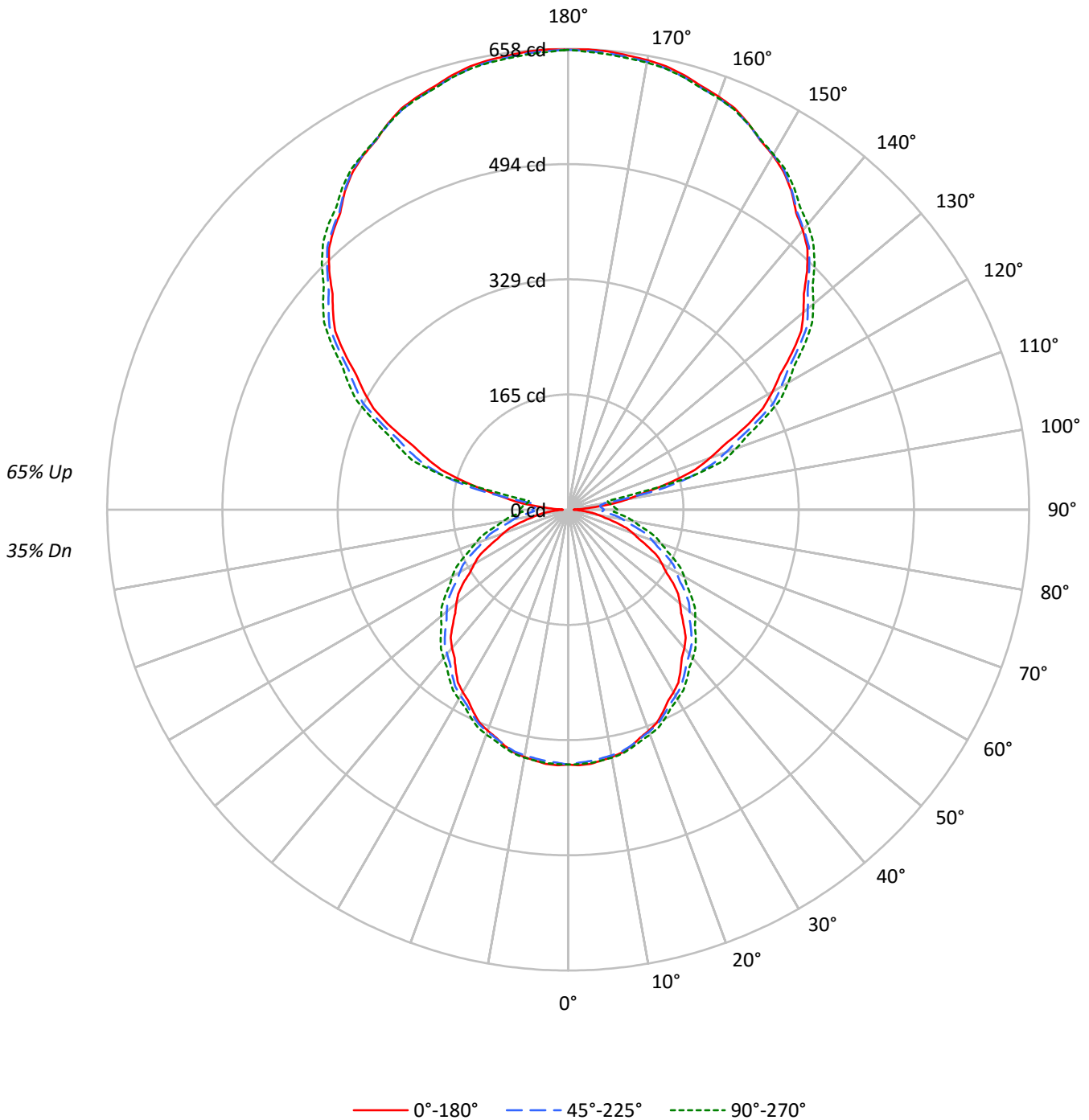
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332502-935

CATALOG NUMBER: S124DIP-S350D590U935-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332502-935

CATALOG NUMBER: S124DIP-S350D590U935-4F0-1E-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	0
RCR																				
0	104	104	104	104	94	94	94	94	75	75	75		58	58	58		42	42	42	35
1	94	89	85	81	84	81	77	74	65	62	60		50	48	47		36	35	34	28
2	85	77	71	66	76	70	65	60	56	52	49		43	41	38		32	30	28	23
3	77	68	60	54	69	61	55	50	49	45	41		38	35	32		28	26	24	19
4	71	60	52	46	63	54	47	42	44	38	34		34	30	27		25	22	20	16
5	65	53	45	39	58	48	41	36	39	34	29		30	26	23		22	20	17	14
6	59	47	39	33	53	43	36	31	35	29	26		27	23	20		20	17	15	12
7	55	43	35	29	49	39	32	27	31	26	22		25	21	18		18	15	13	11
8	51	38	31	26	46	35	28	24	29	23	20		22	19	16		17	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17		20	17	14		15	13	11	8
10	44	32	25	20	40	29	23	19	24	19	16		19	15	13		14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2938	2938	2938
5°	2948	2871	2880
10°	2929	2825	2823
15°	2902	2770	2755
20°	2863	2710	2690
25°	2819	2643	2617
30°	2770	2576	2543
35°	2716	2507	2478
40°	2672	2442	2410
45°	2607	2382	2352
50°	2553	2313	2291
55°	2496	2248	2220
60°	2408	2164	2153
65°	2309	2076	2073
70°	2192	1973	1979
75°	2029	1861	1894
80°	1846	1754	1809
85°	1616	1659	1762



TEST NUMBER: P332502-935

CATALOG NUMBER: S124DIP-S350D590U935-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	1.1
10°-20°	98.7	3.0
20°-30°	149.3	4.6
30°-40°	180.7	5.5
40°-50°	191.0	5.8
50°-60°	179.7	5.5
60°-70°	149.1	4.6
70°-80°	104.7	3.2
80°-90°	61.1	1.9
90°-100°	57.6	1.8
100°-110°	169.2	5.2
110°-120°	291.4	8.9
120°-130°	357.6	10.9
130°-140°	376.3	11.5
140°-150°	348.8	10.7
150°-160°	280.6	8.6
160°-170°	181.0	5.5
170°-180°	62.4	1.9
0°-30°	282.5	8.6
0°-40°	463.2	14.1
0°-60°	833.9	25.5
0°-90°	1148.9	35.1
90°-120°	518.2	15.8
90°-150°	1600.9	48.9
90°-180°	2125.0	64.9
0°-180°	3273.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	364	363	360	363	363	35
15°	349	350	348	352	352	98
25°	320	322	323	327	328	147
35°	280	284	288	294	296	175
45°	233	241	249	255	258	180
55°	183	191	203	211	214	163
65°	126	139	153	163	167	125
75°	70	85	102	113	117	75
85°	22	39	57	69	73	23
90°	8	30	51	65	70	6
95°	32	30	46	60	64	39
105°	152	163	180	193	180	159
115°	278	284	296	306	309	274
125°	390	392	400	409	412	348
135°	482	482	486	494	497	371
145°	555	556	556	559	562	347
155°	609	609	608	609	608	281
165°	642	640	640	643	639	181
175°	657	654	654	658	653	63
180°	657	657	657	657	657	



TEST NUMBER: P332502-935

CATALOG NUMBER: S124DIP-S350D590U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	365.2	365.0	364.8	364.5	364.4	363.9	363.4	362.8	362.2	361.6	362.1
5°	364.4	364.0	363.8	363.5	363.3	362.8	362.1	361.5	360.9	360.2	361.0
7.5°	361.3	361.1	360.9	360.8	360.6	360.2	359.7	359.2	358.7	358.2	359.0
10°	358.6	358.5	358.4	358.3	358.3	358.0	357.6	357.1	356.6	356.2	357.0
12.5°	355.1	355.0	355.0	355.0	355.0	354.8	354.5	354.2	353.9	353.6	354.3
15°	349.2	349.4	349.5	349.6	349.7	349.6	349.2	349.0	348.7	348.4	349.2
17.5°	341.4	341.6	341.9	342.2	342.4	342.6	342.5	342.4	342.4	342.3	343.2
20°	335.8	336.0	336.4	336.7	336.9	337.1	337.2	337.3	337.3	337.4	338.4
22.5°	329.6	329.9	330.3	330.6	331.0	331.2	331.4	331.6	331.7	331.9	332.8
25°	319.5	320.0	320.6	321.2	321.7	322.1	322.4	322.6	322.9	323.2	324.2
27.5°	308.2	309.1	309.9	310.6	311.4	312.0	312.5	312.9	313.3	313.7	314.6
30°	300.7	301.5	302.2	302.9	303.7	304.4	305.0	305.6	306.3	306.9	307.9
32.5°	292.7	293.5	294.4	295.2	296.1	296.9	297.6	298.3	299.0	299.7	300.8
35°	279.6	280.7	281.7	282.8	284.0	284.9	285.9	286.7	287.7	288.5	289.8
37.5°	266.5	267.7	269.0	270.2	271.5	272.6	273.8	274.9	276.0	277.2	278.4
40°	258.0	259.2	260.4	261.5	262.7	263.9	265.2	266.5	267.7	269.0	270.4
42.5°	248.2	249.5	250.8	252.2	253.5	254.9	256.4	257.9	259.3	260.8	262.3
45°	233.1	234.8	236.5	238.2	240.0	241.7	243.4	245.1	246.8	248.6	250.1
47.5°	218.7	220.5	222.2	224.0	225.8	227.6	229.6	231.7	233.7	235.7	237.2
50°	208.3	210.3	212.2	214.2	216.2	218.2	220.2	222.2	224.2	226.2	228.0
52.5°	197.9	199.8	201.8	203.8	205.8	207.9	210.2	212.5	214.7	217.1	218.9
55°	182.6	184.5	186.4	188.3	190.2	192.5	195.2	197.9	200.6	203.4	205.2
57.5°	165.6	167.9	170.2	172.6	175.0	177.5	180.2	182.9	185.5	188.3	190.5
60°	154.5	156.8	159.2	161.5	163.8	166.5	169.5	172.5	175.5	178.5	180.6
62.5°	143.7	146.3	148.9	151.4	153.9	156.8	159.7	162.7	165.7	168.8	170.8
65°	126.3	129.2	132.2	135.0	137.9	140.9	144.0	147.1	150.2	153.3	155.5
67.5°	109.6	112.7	115.8	118.9	121.9	125.1	128.5	131.7	135.0	138.3	140.6
70°	98.2	101.3	104.4	107.5	110.6	113.8	117.3	120.7	124.2	127.6	130.0
72.5°	87.1	90.3	93.4	96.6	99.7	103.1	106.8	110.5	114.1	117.8	120.1
75°	70.1	73.4	76.8	80.2	83.5	87.0	90.9	94.7	98.5	102.3	104.9
77.5°	54.2	57.8	61.3	64.8	68.4	72.2	76.1	80.2	84.1	88.1	90.7
80°	44.4	48.0	51.7	55.3	58.9	62.7	66.7	70.7	74.6	78.7	81.4
82.5°	34.6	38.4	42.2	46.0	49.7	53.6	57.6	61.6	65.5	69.6	72.3
85°	21.6	25.4	29.2	33.0	36.9	40.7	44.9	48.9	53.0	57.1	59.8
87.5°	12.4	16.3	20.2	24.2	28.1	32.1	36.2	40.4	44.6	48.7	51.5
90°	8.0	12.8	17.7	22.5	27.3	32.1	36.9	41.6	46.4	51.1	54.4
92.5°	12.4	15.7	19.0	22.4	25.7	29.7	34.5	39.3	44.0	48.8	52.0
95°	32.3	31.6	30.8	30.1	29.4	31.0	34.8	38.7	42.4	46.2	49.3
97.5°	62.2	67.1	72.0	76.8	81.7	79.9	71.4	62.9	54.4	45.9	48.3
100°	85.1	89.4	93.7	98.0	102.3	98.7	87.1	75.7	64.1	52.6	53.2
102.5°	111.0	114.4	118.0	121.5	125.0	127.5	129.0	130.4	132.0	133.5	115.8
105°	151.5	153.9	156.4	158.9	161.4	164.5	168.4	172.4	176.2	180.1	183.4
107.5°	189.9	191.7	193.5	195.3	197.1	199.9	203.9	207.8	211.6	215.6	218.3
110°	215.4	217.1	218.6	220.2	221.8	224.5	228.3	232.2	236.0	239.8	242.1



TEST NUMBER: P332502-935

CATALOG NUMBER: S124DIP-S350D590U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	240.2	241.9	243.7	245.4	247.1	249.6	253.0	256.3	259.6	262.9	264.9
115°	278.4	279.6	280.8	281.9	283.0	285.0	287.7	290.6	293.3	296.2	298.3
117.5°	313.2	314.2	315.1	316.1	316.9	318.9	321.8	324.8	327.7	330.6	332.5
120°	336.5	337.2	337.9	338.6	339.3	341.0	343.5	345.9	348.5	351.0	353.0
122.5°	358.5	358.8	359.1	359.5	359.8	361.3	363.9	366.5	369.1	371.8	373.8
125°	389.6	389.9	390.3	390.6	391.0	392.2	394.3	396.3	398.4	400.4	402.4
127.5°	419.4	419.4	419.5	419.5	419.5	420.6	422.8	425.1	427.3	429.6	431.1
130°	438.3	438.3	438.3	438.4	438.4	439.3	441.1	442.9	444.6	446.4	448.2
132.5°	456.0	456.2	456.2	456.3	456.4	457.3	458.8	460.5	462.0	463.6	465.2
135°	482.2	482.0	481.9	481.8	481.7	482.2	483.3	484.3	485.3	486.5	488.1
137.5°	505.6	505.6	505.5	505.5	505.4	505.8	506.6	507.4	508.2	508.9	510.5
140°	520.9	521.1	521.2	521.3	521.4	521.7	521.9	522.3	522.6	522.9	524.4
142.5°	534.3	534.8	535.1	535.5	535.9	536.1	536.1	536.2	536.3	536.4	537.7
145°	555.4	555.6	555.9	556.1	556.4	556.5	556.5	556.5	556.5	556.5	557.2
147.5°	572.2	572.7	573.3	573.8	574.3	574.5	574.4	574.3	574.1	574.0	574.2
150°	584.4	584.7	585.0	585.4	585.7	585.9	585.7	585.7	585.6	585.4	585.4
152.5°	594.3	594.6	595.0	595.2	595.6	595.6	595.5	595.3	595.0	594.9	595.0
155°	608.6	608.6	608.7	608.8	609.0	608.8	608.6	608.2	607.9	607.5	608.0
157.5°	620.6	620.5	620.4	620.4	620.4	620.1	619.7	619.4	619.0	618.6	619.2
160°	627.7	627.3	627.0	626.7	626.4	626.1	626.0	625.9	625.8	625.7	626.4
162.5°	634.0	633.5	633.1	632.7	632.3	632.1	631.9	631.8	631.7	631.6	632.2
165°	641.9	641.4	640.8	640.2	639.7	639.5	639.5	639.5	639.5	639.5	640.3
167.5°	648.2	647.6	647.0	646.5	645.9	645.6	645.6	645.5	645.4	645.3	646.4
170°	651.8	651.1	650.4	649.8	649.1	648.8	648.9	649.0	649.2	649.3	650.1
172.5°	654.1	653.4	652.8	652.1	651.5	651.2	651.3	651.4	651.5	651.6	652.6
175°	656.7	656.0	655.3	654.7	654.0	653.8	653.8	654.0	654.1	654.2	655.1
177.5°	657.8	657.2	656.6	656.0	655.4	655.1	655.3	655.5	655.7	655.8	656.6
180°	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7



TEST NUMBER: P332502-935

CATALOG NUMBER: S124DIP-S350D590U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	362.7	363.2	363.7	363.9	363.9	363.8	363.7	363.6
5°	361.7	362.4	363.2	363.5	363.4	363.3	363.2	363.1
7.5°	359.8	360.6	361.4	361.8	361.7	361.6	361.5	361.4
10°	357.8	358.6	359.5	359.8	359.7	359.6	359.6	359.5
12.5°	355.1	355.9	356.5	356.9	356.9	356.9	356.9	356.8
15°	350.1	350.9	351.7	352.1	352.0	351.9	351.8	351.7
17.5°	344.0	344.8	345.7	346.0	345.9	345.9	345.9	345.8
20°	339.2	340.2	341.0	341.6	341.6	341.6	341.6	341.6
22.5°	333.7	334.6	335.5	336.0	336.2	336.3	336.5	336.7
25°	325.2	326.1	327.2	327.7	327.8	327.9	328.0	328.0
27.5°	315.6	316.5	317.5	318.0	318.1	318.1	318.2	318.4
30°	308.8	309.9	310.8	311.4	311.6	311.9	312.0	312.2
32.5°	302.0	303.2	304.3	305.0	305.1	305.3	305.5	305.7
35°	291.1	292.3	293.6	294.4	294.6	294.9	295.2	295.5
37.5°	279.7	280.9	282.2	283.1	283.4	283.6	284.0	284.2
40°	271.7	273.0	274.4	275.3	275.6	276.0	276.4	276.7
42.5°	263.8	265.4	266.8	267.8	268.0	268.3	268.6	268.9
45°	251.7	253.2	254.8	255.7	256.2	256.7	257.1	257.5
47.5°	238.8	240.4	242.0	243.1	243.7	244.2	244.7	245.3
50°	229.8	231.6	233.4	234.6	235.1	235.7	236.3	236.8
52.5°	220.7	222.5	224.3	225.5	226.0	226.5	227.1	227.6
55°	207.0	208.8	210.6	211.8	212.3	212.8	213.4	214.0
57.5°	192.6	194.8	196.9	198.2	198.7	199.2	199.8	200.3
60°	182.7	184.8	186.8	188.2	189.0	189.7	190.5	191.1
62.5°	172.9	175.0	177.0	178.5	179.2	179.9	180.6	181.3
65°	157.7	160.1	162.3	163.8	164.5	165.2	166.0	166.7
67.5°	142.9	145.3	147.5	149.0	149.7	150.4	151.1	151.9
70°	132.4	134.9	137.3	138.9	139.5	140.2	140.8	141.4
72.5°	122.5	124.9	127.3	128.8	129.5	130.2	131.0	131.6
75°	107.4	109.9	112.4	114.1	114.9	115.7	116.6	117.4
77.5°	93.2	95.8	98.4	100.1	101.0	101.9	102.7	103.6
80°	84.1	86.8	89.5	91.3	92.0	92.7	93.4	94.1
82.5°	75.1	77.9	80.7	82.5	83.3	84.0	84.9	85.7
85°	62.5	65.2	67.9	69.7	70.6	71.5	72.4	73.4
87.5°	54.2	57.0	59.8	61.6	62.3	63.2	64.1	64.9
90°	57.7	61.0	64.3	66.4	67.3	68.3	69.2	70.2
92.5°	55.2	58.5	61.6	63.6	64.4	65.2	66.0	66.7
95°	52.4	55.5	58.6	60.7	61.6	62.5	63.5	64.4
97.5°	50.8	53.2	55.6	57.3	58.2	59.1	60.0	60.9
100°	53.7	54.3	54.9	55.6	56.3	57.1	57.9	58.5
102.5°	98.2	80.5	62.9	54.4	55.2	55.9	56.7	57.3
105°	186.7	189.9	193.1	193.1	189.9	186.8	183.6	180.3
107.5°	221.0	223.7	226.4	228.3	229.4	230.4	231.5	232.6
110°	244.4	246.8	249.0	250.7	251.8	252.8	253.8	254.9



TEST NUMBER: P332502-935

CATALOG NUMBER: S124DIP-S350D590U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	266.9	268.8	270.8	272.3	273.5	274.7	275.8	276.9
115°	300.6	302.8	305.0	306.4	307.0	307.7	308.3	308.9
117.5°	334.3	336.1	338.0	339.2	339.9	340.6	341.3	342.0
120°	355.1	357.1	359.1	360.4	360.9	361.4	361.9	362.4
122.5°	375.7	377.6	379.5	380.7	381.2	381.6	382.0	382.5
125°	404.5	406.6	408.5	409.9	410.6	411.2	411.9	412.5
127.5°	432.7	434.3	435.8	436.9	437.4	437.9	438.5	439.0
130°	449.9	451.6	453.4	454.5	455.0	455.6	456.2	456.7
132.5°	466.9	468.6	470.3	471.3	471.7	472.3	472.7	473.1
135°	489.8	491.5	493.1	494.3	495.1	495.8	496.6	497.4
137.5°	512.0	513.6	515.2	516.2	516.5	516.9	517.3	517.7
140°	525.9	527.4	528.9	529.9	530.5	531.1	531.7	532.2
142.5°	538.9	540.2	541.5	542.3	542.7	543.1	543.5	543.9
145°	557.8	558.4	559.0	559.6	560.3	560.9	561.5	562.0
147.5°	574.4	574.5	574.7	575.0	575.3	575.8	576.2	576.5
150°	585.4	585.4	585.4	585.5	585.6	585.7	585.8	585.9
152.5°	595.2	595.4	595.6	595.6	595.6	595.5	595.4	595.4
155°	608.4	608.8	609.2	609.3	609.0	608.6	608.4	608.0
157.5°	619.7	620.4	620.9	620.9	620.4	619.7	619.2	618.6
160°	627.0	627.7	628.4	628.4	627.7	627.0	626.4	625.7
162.5°	632.9	633.5	634.2	634.2	633.4	632.7	632.0	631.2
165°	641.2	642.0	643.0	642.9	641.9	640.9	640.0	638.9
167.5°	647.3	648.2	649.2	649.1	648.1	647.0	645.8	644.8
170°	651.0	651.9	652.8	652.6	651.6	650.5	649.4	648.3
172.5°	653.4	654.3	655.1	655.0	653.8	652.6	651.4	650.2
175°	656.2	657.1	658.1	658.0	656.7	655.3	654.0	652.7
177.5°	657.3	658.0	658.7	658.5	657.5	656.4	655.3	654.3
180°	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7

(END OF REPORT)