

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: P332742-935

Luminaire Tested: **S124DIW-S350D1560U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332742-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D1560U935-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5902.9 lumens
Efficiency: N/A
Efficacy: 110.5 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

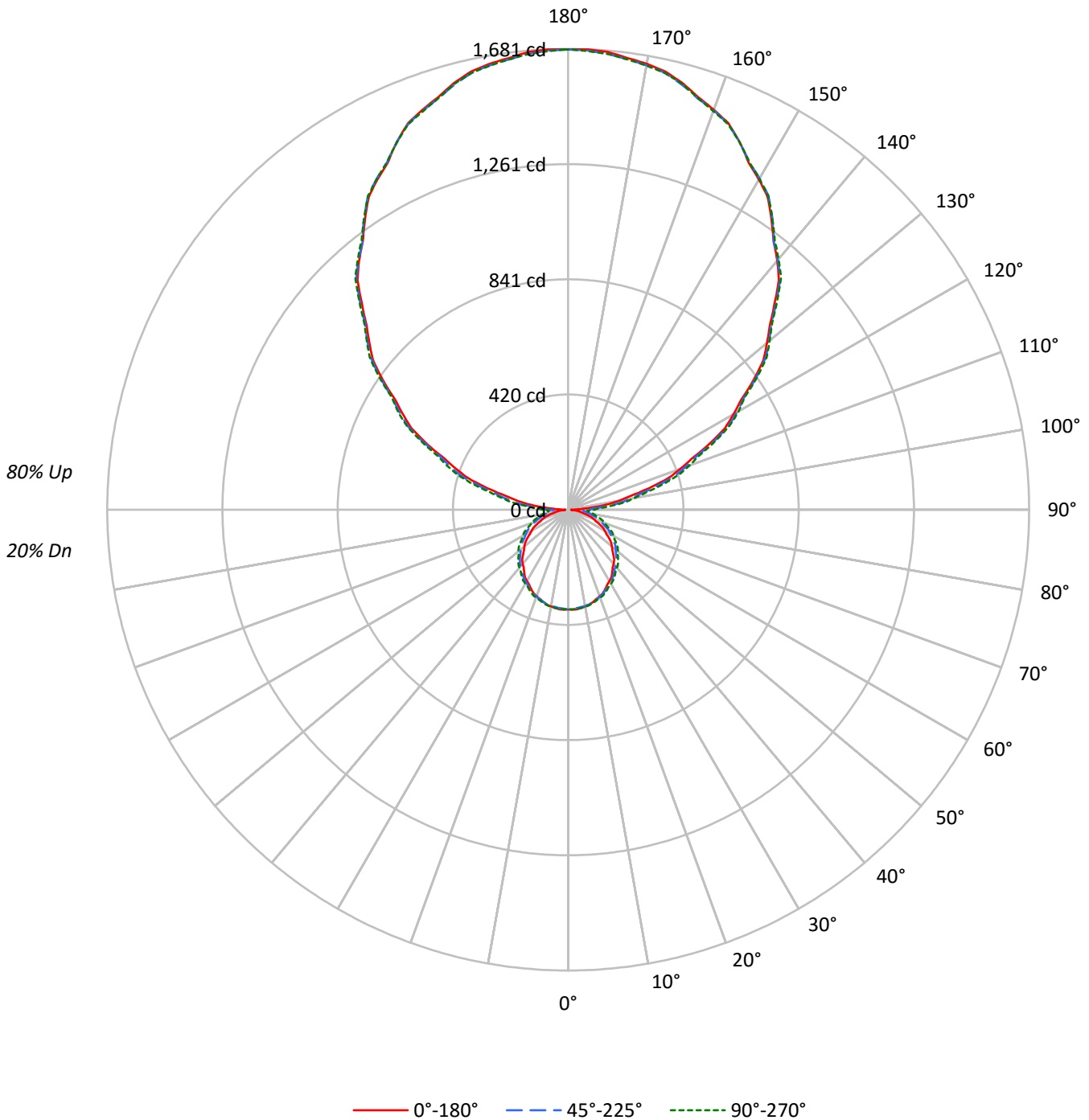
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332742-935

CATALOG NUMBER: S124DIW-S350D1560U935-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P332742-935

CATALOG NUMBER: S124DIW-S350D1560U935-4F0-1E-UDD-D1

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	28	28	28	20
1	91	86	82	79	80	76	73	70	57	55	53	40	39	38	24	23	23	23	23	23	16
2	82	75	69	64	72	66	61	57	50	47	44	35	33	31	21	20	19	19	19	19	13
3	75	66	59	53	66	58	52	47	44	40	36	31	28	26	18	17	16	16	16	16	11
4	68	58	50	44	60	51	45	40	39	34	31	27	24	22	16	15	14	14	14	14	9
5	62	51	43	38	55	45	39	34	34	30	26	24	21	19	15	13	12	12	12	12	8
6	57	46	38	32	50	41	34	29	31	26	23	22	19	16	13	11	10	10	10	10	7
7	53	41	33	28	46	36	30	25	28	23	20	20	17	14	12	10	9	9	9	9	6
8	49	37	30	25	43	33	27	22	25	21	17	18	15	13	11	9	8	8	8	8	5
9	45	34	26	22	40	30	24	20	23	18	15	16	13	11	10	8	7	7	7	7	5
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	9	8	6	6	6	6	4

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: P332742-935

CATALOG NUMBER: S124DIW-S350D1560U935-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	0.6
10°-20°	98.7	1.7
20°-30°	149.3	2.5
30°-40°	180.7	3.1
40°-50°	191.0	3.2
50°-60°	179.7	3.0
60°-70°	149.1	2.5
70°-80°	104.7	1.8
80°-90°	64.2	1.1
90°-100°	145.9	2.5
100°-110°	354.0	6.0
110°-120°	574.2	9.7
120°-130°	743.9	12.6
130°-140°	828.6	14.0
140°-150°	810.9	13.7
150°-160°	681.3	11.5
160°-170°	453.3	7.7
170°-180°	158.7	2.7
0°-30°	282.5	4.8
0°-40°	463.2	7.8
0°-60°	833.9	14.1
0°-90°	1152.0	19.5
90°-120°	1074.1	18.2
90°-150°	3457.5	58.6
90°-180°	4751.0	80.5
0°-180°	5902.9	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°	10	41	69	88	94	9
95°	83	108	134	148	153	91
105°	306	316	336	350	357	325
115°	568	572	583	590	592	561
125°	826	826	834	839	840	736
135°	1064	1072	1075	1078	1077	823
145°	1292	1297	1298	1299	1297	808
155°	1480	1480	1479	1483	1479	681
165°	1611	1607	1605	1612	1607	454
175°	1676	1670	1668	1676	1668	159
180°	1679	1679	1679	1679	1679	



TEST NUMBER: P332742-935

CATALOG NUMBER: S124DIW-S350D1560U935-4F0-1E-UDD-D1

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°	12.8	17.1	21.5	25.8	30.1	34.5	39.0	43.4	47.8	52.3	55.2
90°	10.4	17.2	24.0	30.8	37.6	44.1	50.3	56.5	62.7	68.9	73.3
92.5°	34.0	40.9	47.8	54.7	61.6	67.8	73.3	78.8	84.3	89.8	93.4
95°	83.2	88.8	94.4	100.0	105.6	111.2	116.9	122.7	128.4	134.1	137.4
97.5°	140.9	145.5	150.2	154.8	159.5	164.8	170.8	176.9	183.0	189.0	192.3
100°	186.2	189.8	193.3	196.7	200.3	205.1	211.2	217.3	223.5	229.6	232.6
102.5°	234.0	236.5	239.1	241.6	244.1	248.3	254.1	259.9	265.8	271.6	274.7
105°	306.2	308.2	310.4	312.5	314.5	317.9	322.4	326.8	331.4	335.9	339.0
107.5°	382.7	384.5	386.3	388.1	390.0	392.6	395.9	399.2	402.6	406.0	409.0
110°	434.3	436.1	438.0	439.8	441.7	444.0	446.9	449.8	452.6	455.6	457.0



TEST NUMBER: P332742-935

CATALOG NUMBER: S124DIW-S350D1560U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	487.9	489.2	490.4	491.7	492.9	494.8	497.3	499.8	502.3	504.8	506.7
115°	568.5	569.3	570.2	570.9	571.7	573.3	575.7	578.0	580.3	582.6	584.3
117.5°	644.7	645.5	646.2	646.9	647.6	649.1	651.4	653.7	656.0	658.3	659.2
120°	695.3	696.7	698.2	699.6	701.0	702.6	704.4	706.1	707.9	709.6	710.0
122.5°	748.3	748.8	749.3	749.8	750.4	751.7	753.7	755.8	757.9	759.9	760.8
125°	826.0	826.0	825.9	825.8	825.6	826.6	828.5	830.5	832.5	834.5	835.7
127.5°	896.8	897.6	898.4	899.1	899.9	901.0	902.2	903.5	904.7	906.0	907.1
130°	946.3	947.1	947.9	948.6	949.4	950.5	952.0	953.5	954.9	956.3	957.4
132.5°	997.2	997.8	998.3	998.8	999.4	1000.1	1001.1	1002.0	1003.0	1003.8	1004.9
135°	1064.1	1065.8	1067.6	1069.3	1071.0	1072.2	1072.8	1073.5	1074.1	1074.7	1075.6
137.5°	1137.3	1138.0	1138.8	1139.4	1140.1	1140.9	1141.7	1142.5	1143.2	1144.0	1144.5
140°	1186.1	1186.6	1187.1	1187.6	1188.1	1188.4	1188.4	1188.5	1188.6	1188.7	1189.6
142.5°	1230.5	1231.0	1231.6	1232.1	1232.7	1232.8	1232.5	1232.3	1232.0	1231.7	1232.7
145°	1292.2	1293.2	1294.3	1295.4	1296.4	1297.1	1297.4	1297.7	1298.0	1298.2	1298.5
147.5°	1353.4	1354.7	1356.0	1357.4	1358.7	1359.2	1358.9	1358.7	1358.5	1358.2	1358.1
150°	1390.9	1391.9	1392.9	1394.0	1395.1	1395.6	1395.6	1395.6	1395.6	1395.6	1395.6
152.5°	1425.8	1426.5	1427.2	1427.9	1428.5	1429.0	1429.2	1429.4	1429.7	1429.9	1430.6
155°	1480.0	1480.0	1480.0	1480.0	1480.0	1479.9	1479.5	1479.3	1479.0	1478.7	1479.9
157.5°	1525.7	1525.2	1524.7	1524.1	1523.6	1523.4	1523.3	1523.2	1523.2	1523.1	1524.0
160°	1552.7	1552.4	1552.1	1551.9	1551.5	1551.3	1551.0	1550.7	1550.4	1550.1	1551.0
162.5°	1577.6	1576.9	1576.1	1575.4	1574.6	1574.1	1573.8	1573.6	1573.2	1573.0	1574.5
165°	1611.1	1610.2	1609.4	1608.5	1607.7	1607.0	1606.4	1605.8	1605.2	1604.6	1606.4
167.5°	1636.8	1635.6	1634.4	1633.2	1632.0	1631.4	1631.5	1631.5	1631.6	1631.7	1633.4
170°	1651.4	1649.9	1648.5	1647.0	1645.6	1645.0	1645.3	1645.6	1645.9	1646.1	1647.9
172.5°	1661.7	1660.5	1659.3	1658.1	1656.9	1656.3	1656.4	1656.5	1656.5	1656.6	1658.5
175°	1676.0	1674.6	1673.2	1671.7	1670.3	1669.4	1669.1	1668.8	1668.5	1668.3	1670.3
177.5°	1680.7	1679.6	1678.4	1677.2	1676.1	1675.5	1675.5	1675.5	1675.5	1675.5	1677.1
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6



TEST NUMBER: P332742-935

CATALOG NUMBER: S124DIW-S350D1560U935-4F0-1E-UDD-D1

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°	58.2	61.1	64.1	66.1	67.0	67.9	68.8	69.7
90°	77.7	82.0	86.4	89.2	90.5	91.8	93.1	94.4
92.5°	96.9	100.6	104.2	106.5	107.5	108.7	109.7	110.8
95°	140.8	144.0	147.4	149.5	150.2	151.0	151.9	152.7
97.5°	195.8	199.2	202.6	204.7	205.5	206.3	207.1	207.8
100°	235.7	238.7	241.7	243.5	244.2	244.8	245.4	246.1
102.5°	277.9	281.1	284.3	286.4	287.3	288.3	289.2	290.2
105°	342.2	345.3	348.4	350.8	352.3	354.0	355.5	357.1
107.5°	412.0	415.1	418.1	419.9	420.5	421.1	421.7	422.3
110°	458.6	460.0	461.6	463.1	464.7	466.3	467.9	469.5



TEST NUMBER: P332742-935

CATALOG NUMBER: S124DIW-S350D1560U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	508.6	510.5	512.4	513.8	514.7	515.6	516.5	517.4
115°	586.0	587.7	589.4	590.5	590.8	591.2	591.5	591.9
117.5°	660.1	661.0	661.9	662.5	662.6	662.7	662.9	663.1
120°	710.4	710.8	711.1	712.0	713.3	714.5	715.8	717.1
122.5°	761.6	762.4	763.3	763.4	763.1	762.7	762.3	761.9
125°	836.8	837.9	839.0	839.6	839.6	839.6	839.6	839.5
127.5°	908.2	909.2	910.2	910.9	911.0	911.2	911.4	911.5
130°	958.5	959.5	960.5	960.8	960.2	959.6	959.0	958.4
132.5°	1005.8	1006.8	1007.8	1008.3	1008.4	1008.5	1008.6	1008.7
135°	1076.5	1077.4	1078.2	1078.5	1078.1	1077.8	1077.5	1077.2
137.5°	1145.1	1145.7	1146.2	1146.9	1147.5	1148.1	1148.7	1149.3
140°	1190.5	1191.4	1192.2	1192.8	1193.0	1193.1	1193.3	1193.4
142.5°	1233.6	1234.6	1235.6	1236.2	1236.6	1236.9	1237.2	1237.5
145°	1298.7	1299.0	1299.2	1299.2	1298.6	1298.1	1297.6	1297.1
147.5°	1357.9	1357.7	1357.6	1357.5	1357.5	1357.5	1357.5	1357.5
150°	1395.6	1395.6	1395.6	1395.5	1395.2	1394.9	1394.6	1394.3
152.5°	1431.2	1431.9	1432.6	1432.6	1431.8	1431.2	1430.4	1429.6
155°	1481.0	1482.1	1483.3	1483.3	1482.1	1481.0	1479.9	1478.7
157.5°	1524.8	1525.7	1526.6	1526.5	1525.5	1524.6	1523.5	1522.6
160°	1551.9	1552.7	1553.6	1553.2	1551.9	1550.4	1548.9	1547.5
162.5°	1576.1	1577.6	1579.2	1579.2	1577.8	1576.4	1574.9	1573.5
165°	1608.1	1609.8	1611.5	1611.9	1610.7	1609.6	1608.3	1607.2
167.5°	1635.1	1636.8	1638.6	1638.6	1636.8	1635.0	1633.1	1631.3
170°	1649.7	1651.4	1653.1	1652.9	1651.0	1648.9	1646.9	1644.9
172.5°	1660.5	1662.4	1664.4	1664.4	1662.3	1660.4	1658.3	1656.3
175°	1672.3	1674.3	1676.4	1676.4	1674.3	1672.3	1670.3	1668.3
177.5°	1678.8	1680.3	1682.0	1681.9	1680.0	1678.2	1676.4	1674.5
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6

(END OF REPORT)