

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: P332741-930

Luminaire Tested: **S124DIW-S350D1560U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332741-930
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: S124DIW-S350D1560U930-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6264.4 lumens
Efficiency: N/A
Efficacy: 117.3 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

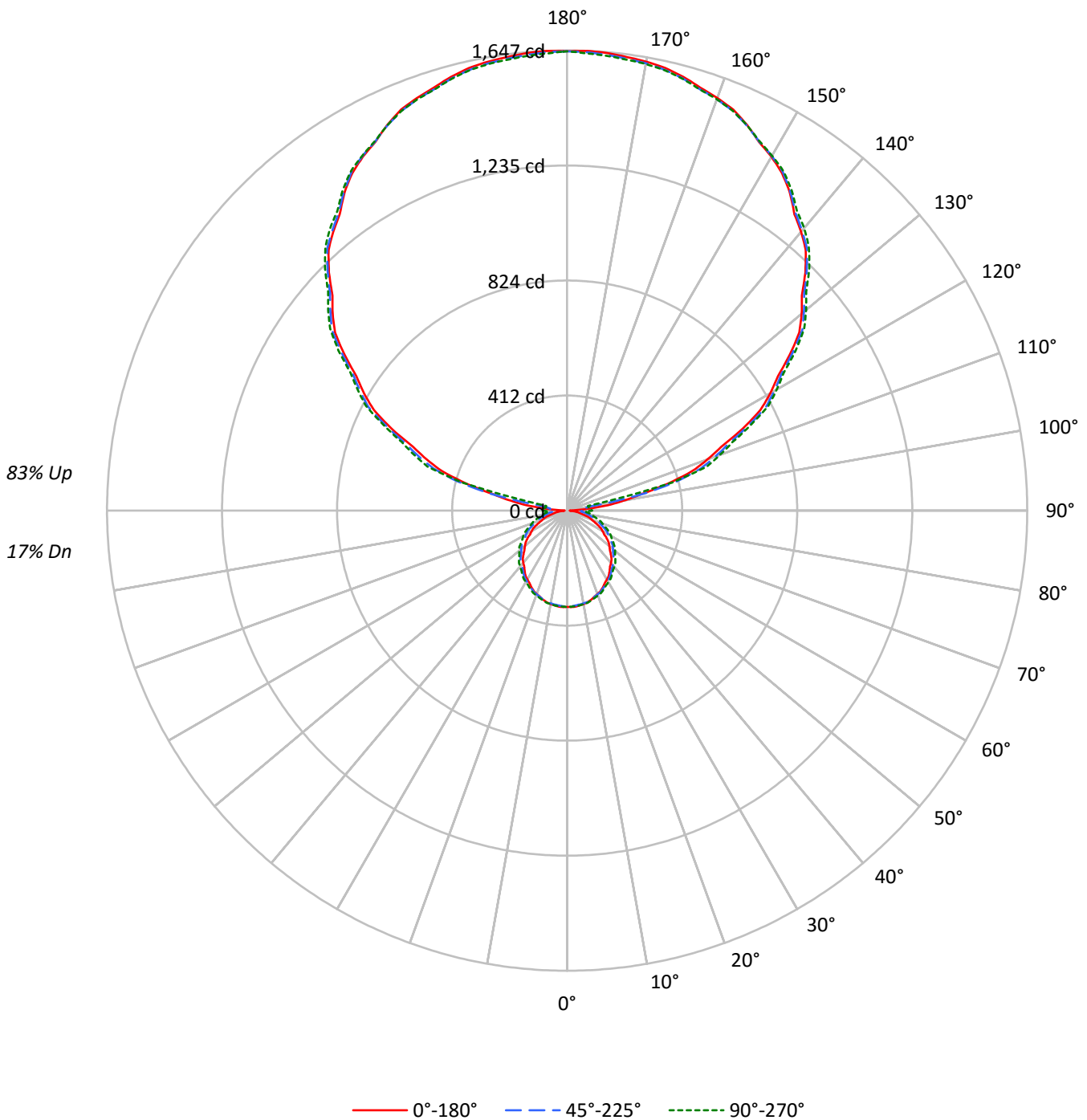
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332741-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332741-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-D

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	0														
RCR																																						
0	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17																				
1	90	86	82	79	79	76	72	70	56	54	52	39	38	36	22	22	21	14																				
2	82	75	69	64	72	66	61	57	49	46	43	34	32	30	20	19	18	11																				
3	74	65	58	53	65	58	52	47	43	39	36	30	27	25	17	16	15	9																				
4	68	58	50	44	59	51	45	40	38	34	30	26	24	21	15	14	13	8																				
5	62	51	43	38	54	45	39	34	34	29	26	23	21	18	14	12	11	7																				
6	57	46	38	32	50	40	34	29	30	26	22	21	18	16	12	11	9	6																				
7	53	41	33	28	46	36	30	25	27	23	19	19	16	14	11	10	8	5																				
8	49	37	29	24	43	33	26	22	25	20	17	17	14	12	10	9	7	5																				
9	45	33	26	21	40	30	24	19	23	18	15	16	13	11	9	8	7	4																				
10	42	30	24	19	37	27	21	17	21	16	13	14	12	10	9	7	6	4																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2782	2782	2782
5°	2791	2719	2726
10°	2774	2675	2673
15°	2749	2623	2608
20°	2711	2566	2547
25°	2669	2503	2478
30°	2623	2439	2408
35°	2571	2374	2347
40°	2530	2313	2282
45°	2468	2256	2228
50°	2417	2190	2169
55°	2363	2129	2101
60°	2280	2049	2039
65°	2187	1965	1962
70°	2076	1868	1874
75°	1922	1763	1793
80°	1750	1660	1713
85°	1534	1571	1669



TEST NUMBER: P332741-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.6	0.5
10°-20°	93.5	1.5
20°-30°	141.4	2.3
30°-40°	171.1	2.7
40°-50°	180.8	2.9
50°-60°	170.2	2.7
60°-70°	141.2	2.3
70°-80°	99.2	1.6
80°-90°	60.8	1.0
90°-100°	89.5	1.4
100°-110°	383.1	6.1
110°-120°	702.3	11.2
120°-130°	879.9	14.0
130°-140°	935.4	14.9
140°-150°	871.8	13.9
150°-160°	702.4	11.2
160°-170°	453.0	7.2
170°-180°	156.1	2.5
0°-30°	267.5	4.3
0°-40°	438.6	7.0
0°-60°	789.6	12.6
0°-90°	1090.8	17.4
90°-120°	1174.9	18.8
90°-150°	3862.0	61.7
90°-180°	5174.0	82.6
0°-180°	6264.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	345	344	341	344	344	33
15°	331	331	330	333	333	93
25°	303	305	306	310	311	139
35°	265	269	273	278	280	166
45°	221	228	235	242	244	171
55°	173	181	193	200	203	154
65°	120	132	145	154	158	119
75°	66	81	97	107	111	71
85°	20	37	54	65	70	22
90°	10	39	65	83	89	7
95°	73	46	61	78	83	91
105°	374	389	409	426	389	391
115°	693	701	712	722	725	682
125°	973	978	985	995	999	868
135°	1206	1205	1212	1220	1226	929
145°	1390	1393	1393	1397	1401	868
155°	1523	1524	1521	1525	1522	702
165°	1607	1601	1601	1610	1600	454
175°	1644	1637	1638	1647	1634	156
180°	1644	1644	1644	1644	1644	



TEST NUMBER: P332741-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	345.8	345.6	345.4	345.2	345.0	344.6	344.1	343.6	343.0	342.4	342.9
5°	345.0	344.7	344.5	344.2	344.0	343.6	342.9	342.3	341.8	341.1	341.9
7.5°	342.1	341.9	341.8	341.6	341.4	341.1	340.6	340.1	339.7	339.2	339.9
10°	339.6	339.5	339.4	339.3	339.2	339.0	338.6	338.1	337.7	337.3	338.0
12.5°	336.2	336.1	336.1	336.1	336.1	336.0	335.7	335.4	335.1	334.8	335.5
15°	330.7	330.8	330.9	331.0	331.1	331.0	330.7	330.4	330.2	330.0	330.7
17.5°	323.3	323.5	323.8	324.0	324.2	324.4	324.3	324.2	324.2	324.2	325.0
20°	318.0	318.2	318.5	318.8	319.0	319.2	319.3	319.4	319.4	319.5	320.4
22.5°	312.1	312.4	312.7	313.1	313.4	313.6	313.8	314.0	314.1	314.3	315.1
25°	302.6	303.0	303.6	304.1	304.6	305.0	305.2	305.5	305.7	306.1	307.0
27.5°	291.9	292.7	293.4	294.2	294.9	295.5	295.9	296.3	296.7	297.1	297.9
30°	284.8	285.5	286.2	286.8	287.6	288.2	288.8	289.3	290.0	290.6	291.6
32.5°	277.1	277.9	278.8	279.6	280.4	281.1	281.8	282.4	283.2	283.8	284.9
35°	264.7	265.8	266.8	267.8	268.9	269.8	270.7	271.5	272.4	273.2	274.4
37.5°	252.3	253.5	254.7	255.8	257.1	258.1	259.3	260.3	261.4	262.4	263.7
40°	244.3	245.4	246.5	247.6	248.7	249.9	251.1	252.3	253.5	254.7	256.0
42.5°	235.1	236.3	237.5	238.8	240.0	241.3	242.8	244.2	245.6	247.0	248.4
45°	220.7	222.3	224.0	225.6	227.2	228.9	230.5	232.1	233.7	235.4	236.8
47.5°	207.1	208.8	210.4	212.1	213.8	215.6	217.4	219.4	221.3	223.1	224.6
50°	197.2	199.1	201.0	202.8	204.7	206.6	208.6	210.4	212.3	214.2	215.9
52.5°	187.4	189.2	191.1	193.0	194.9	196.9	199.0	201.2	203.3	205.5	207.2
55°	172.9	174.7	176.5	178.3	180.1	182.3	184.8	187.4	190.0	192.6	194.3
57.5°	156.8	159.0	161.2	163.5	165.7	168.0	170.6	173.2	175.7	178.3	180.3
60°	146.3	148.5	150.7	153.0	155.2	157.7	160.5	163.4	166.2	169.0	171.0
62.5°	136.1	138.5	141.0	143.4	145.8	148.5	151.2	154.1	156.9	159.8	161.8
65°	119.6	122.4	125.1	127.8	130.6	133.5	136.3	139.3	142.2	145.1	147.2
67.5°	103.8	106.7	109.7	112.6	115.4	118.5	121.6	124.7	127.8	130.9	133.1
70°	93.0	95.9	98.8	101.7	104.7	107.8	111.0	114.3	117.6	120.8	123.1
72.5°	82.5	85.5	88.5	91.5	94.4	97.7	101.1	104.6	108.0	111.5	113.7
75°	66.4	69.5	72.7	75.9	79.1	82.4	86.1	89.7	93.3	96.9	99.3
77.5°	51.4	54.7	58.0	61.4	64.7	68.3	72.1	75.9	79.7	83.4	85.9
80°	42.1	45.5	48.9	52.3	55.8	59.4	63.2	66.9	70.7	74.5	77.0
82.5°	32.8	36.4	39.9	43.5	47.0	50.7	54.5	58.3	62.0	65.9	68.5
85°	20.5	24.1	27.6	31.2	34.9	38.6	42.5	46.3	50.1	54.1	56.6
87.5°	12.1	16.2	20.4	24.5	28.5	32.7	36.9	41.1	45.2	49.5	52.3
90°	9.9	16.3	22.7	29.2	35.6	41.7	47.6	53.5	59.4	65.2	69.4
92.5°	21.4	24.6	27.9	31.1	34.3	38.9	44.8	50.7	56.6	62.5	66.4
95°	72.6	66.2	59.7	53.2	46.8	45.5	49.2	53.1	56.8	60.7	64.6
97.5°	148.1	156.4	164.6	172.8	181.1	171.7	144.6	117.6	90.7	63.7	66.0
100°	205.9	213.0	220.2	227.3	234.5	220.9	186.5	152.1	117.8	83.4	81.1
102.5°	270.8	276.4	281.9	287.5	293.0	295.0	293.3	291.7	290.1	288.5	240.6
105°	373.6	376.9	380.3	383.6	386.9	390.9	395.4	400.0	404.6	409.0	413.7
107.5°	469.6	471.8	474.1	476.3	478.5	482.1	486.9	491.8	496.7	501.5	504.8
110°	534.3	536.2	538.3	540.3	542.3	545.7	550.2	554.9	559.5	564.2	566.7



TEST NUMBER: P332741-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	596.9	599.4	601.9	604.5	607.0	610.1	613.8	617.3	621.0	624.6	626.4
115°	693.3	694.9	696.5	698.1	699.7	701.7	704.2	706.6	709.1	711.6	714.0
117.5°	780.5	782.0	783.7	785.2	786.8	789.1	792.2	795.4	798.6	801.7	803.4
120°	839.2	840.6	842.0	843.3	844.7	846.4	848.6	850.8	853.0	855.2	857.5
122.5°	894.3	895.0	895.7	896.4	897.2	898.9	901.6	904.3	907.0	909.8	911.8
125°	972.8	973.9	974.9	975.9	976.9	978.2	979.7	981.4	983.0	984.6	987.0
127.5°	1047.5	1047.7	1047.9	1048.1	1048.3	1049.9	1052.7	1055.6	1058.5	1061.4	1062.8
130°	1095.4	1095.6	1095.8	1096.0	1096.2	1097.4	1099.5	1101.7	1103.9	1106.1	1107.9
132.5°	1139.7	1140.1	1140.5	1140.9	1141.3	1142.6	1144.7	1146.9	1149.0	1151.1	1152.8
135°	1205.7	1205.4	1205.2	1204.8	1204.6	1205.3	1207.0	1208.7	1210.4	1212.1	1214.0
137.5°	1264.4	1264.4	1264.5	1264.5	1264.5	1265.3	1266.8	1268.3	1269.8	1271.3	1273.2
140°	1302.8	1303.3	1303.7	1304.2	1304.6	1305.2	1305.9	1306.4	1307.1	1307.7	1309.7
142.5°	1336.9	1337.9	1338.9	1339.9	1340.8	1341.4	1341.7	1342.0	1342.2	1342.6	1344.1
145°	1389.8	1390.5	1391.2	1392.0	1392.7	1393.0	1393.0	1393.0	1393.0	1393.0	1393.8
147.5°	1431.7	1433.2	1434.7	1436.1	1437.5	1438.1	1437.9	1437.6	1437.3	1437.0	1437.3
150°	1462.2	1463.3	1464.3	1465.3	1466.3	1466.6	1466.4	1466.2	1465.8	1465.6	1465.6
152.5°	1487.5	1488.4	1489.2	1490.1	1490.9	1491.2	1490.6	1490.1	1489.6	1489.1	1489.6
155°	1523.4	1523.6	1523.9	1524.2	1524.4	1524.2	1523.4	1522.6	1521.8	1520.9	1522.0
157.5°	1553.6	1553.5	1553.3	1553.1	1553.0	1552.4	1551.4	1550.5	1549.6	1548.7	1550.1
160°	1571.3	1570.5	1569.7	1568.9	1568.1	1567.5	1567.2	1566.9	1566.7	1566.4	1568.1
162.5°	1587.1	1586.0	1584.9	1584.0	1582.9	1582.3	1581.9	1581.7	1581.4	1581.1	1582.7
165°	1607.0	1605.6	1604.3	1602.9	1601.5	1600.8	1600.8	1600.8	1600.8	1600.8	1603.0
167.5°	1622.7	1621.3	1619.8	1618.5	1617.0	1616.2	1616.1	1615.9	1615.8	1615.6	1618.0
170°	1631.6	1629.9	1628.2	1626.6	1625.0	1624.3	1624.6	1624.9	1625.1	1625.4	1627.6
172.5°	1637.4	1635.8	1634.2	1632.6	1630.9	1630.2	1630.5	1630.8	1631.0	1631.3	1633.5
175°	1643.8	1642.2	1640.5	1638.9	1637.3	1636.6	1636.9	1637.1	1637.4	1637.7	1640.1
177.5°	1646.8	1645.3	1643.7	1642.2	1640.7	1640.1	1640.5	1641.0	1641.4	1641.8	1643.6
180°	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8



TEST NUMBER: P332741-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	343.4	343.9	344.4	344.5	344.5	344.5	344.4	344.3
5°	342.5	343.2	343.9	344.2	344.1	344.0	343.9	343.8
7.5°	340.7	341.4	342.3	342.6	342.5	342.4	342.3	342.3
10°	338.8	339.6	340.4	340.7	340.6	340.6	340.5	340.4
12.5°	336.2	337.0	337.6	337.9	337.9	337.9	337.9	337.9
15°	331.5	332.2	333.0	333.4	333.3	333.2	333.1	333.0
17.5°	325.7	326.5	327.3	327.7	327.6	327.5	327.5	327.4
20°	321.2	322.1	322.9	323.4	323.4	323.4	323.4	323.4
22.5°	316.0	316.8	317.7	318.2	318.4	318.5	318.6	318.8
25°	307.9	308.8	309.8	310.3	310.4	310.5	310.5	310.6
27.5°	298.8	299.7	300.6	301.1	301.2	301.3	301.3	301.5
30°	292.4	293.4	294.3	294.9	295.1	295.3	295.5	295.6
32.5°	285.9	287.1	288.1	288.8	288.9	289.1	289.3	289.4
35°	275.7	276.8	278.0	278.8	279.0	279.2	279.6	279.8
37.5°	264.9	266.0	267.3	268.1	268.3	268.6	268.9	269.1
40°	257.3	258.5	259.8	260.7	261.0	261.4	261.7	262.0
42.5°	249.8	251.3	252.7	253.6	253.8	254.0	254.4	254.6
45°	238.3	239.8	241.2	242.1	242.6	243.0	243.4	243.9
47.5°	226.2	227.6	229.2	230.2	230.7	231.2	231.7	232.3
50°	217.6	219.3	221.0	222.2	222.7	223.1	223.7	224.2
52.5°	209.0	210.7	212.4	213.5	214.0	214.5	215.1	215.6
55°	196.0	197.7	199.4	200.6	201.1	201.5	202.1	202.6
57.5°	182.4	184.4	186.5	187.7	188.2	188.7	189.1	189.6
60°	173.0	175.0	176.9	178.2	179.0	179.6	180.3	181.0
62.5°	163.7	165.7	167.6	169.0	169.7	170.3	171.0	171.7
65°	149.4	151.6	153.7	155.1	155.8	156.5	157.2	157.8
67.5°	135.3	137.5	139.7	141.1	141.8	142.4	143.1	143.8
70°	125.4	127.8	130.0	131.5	132.1	132.7	133.3	133.9
72.5°	116.0	118.3	120.5	122.0	122.6	123.3	124.0	124.7
75°	101.7	104.0	106.5	108.0	108.8	109.6	110.4	111.1
77.5°	88.3	90.7	93.2	94.8	95.6	96.4	97.3	98.1
80°	79.7	82.2	84.8	86.4	87.1	87.8	88.5	89.1
82.5°	71.1	73.8	76.4	78.1	78.8	79.6	80.4	81.1
85°	59.2	61.7	64.3	66.0	66.9	67.8	68.6	69.5
87.5°	55.1	57.9	60.7	62.6	63.4	64.3	65.1	66.0
90°	73.5	77.6	81.8	84.5	85.7	86.9	88.1	89.4
92.5°	70.5	74.6	78.7	81.0	81.9	82.7	83.5	84.2
95°	68.6	72.5	76.5	78.9	80.0	81.0	82.1	83.2
97.5°	68.5	70.8	73.3	75.0	76.0	77.0	78.0	79.0
100°	78.8	76.5	74.1	73.4	74.3	75.1	76.0	76.9
102.5°	192.7	144.9	97.0	73.5	74.1	74.8	75.6	76.3
105°	418.2	422.9	427.5	425.2	416.0	406.9	397.8	388.7
107.5°	508.1	511.4	514.8	517.2	518.9	520.6	522.2	523.8
110°	569.2	571.8	574.3	576.3	577.8	579.3	580.8	582.3



TEST NUMBER: P332741-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	628.2	630.0	631.8	633.6	635.3	637.0	638.7	640.5
115°	716.4	718.8	721.3	722.8	723.4	724.1	724.6	725.2
117.5°	805.1	806.7	808.5	809.5	810.1	810.7	811.3	811.9
120°	859.8	862.0	864.3	865.5	865.7	865.8	865.9	866.1
122.5°	913.9	915.9	917.9	919.0	919.1	919.2	919.2	919.3
125°	989.4	991.9	994.3	996.0	996.8	997.6	998.3	999.1
127.5°	1064.2	1065.6	1067.0	1067.8	1068.2	1068.5	1068.9	1069.3
130°	1109.8	1111.6	1113.4	1114.6	1115.1	1115.6	1116.1	1116.6
132.5°	1154.6	1156.3	1158.1	1159.1	1159.4	1159.8	1160.0	1160.3
135°	1215.9	1217.8	1219.8	1221.2	1222.3	1223.4	1224.4	1225.5
137.5°	1275.0	1276.8	1278.7	1279.8	1280.0	1280.3	1280.5	1280.8
140°	1311.6	1313.5	1315.5	1316.8	1317.5	1318.2	1318.9	1319.6
142.5°	1345.7	1347.3	1348.8	1349.8	1350.2	1350.7	1351.1	1351.5
145°	1394.6	1395.4	1396.2	1397.0	1397.9	1398.8	1399.7	1400.6
147.5°	1437.6	1437.9	1438.2	1438.6	1439.2	1439.7	1440.2	1440.8
150°	1465.6	1465.6	1465.6	1465.7	1466.0	1466.2	1466.6	1466.8
152.5°	1490.0	1490.4	1490.9	1491.0	1490.9	1490.7	1490.5	1490.4
155°	1523.1	1524.2	1525.3	1525.4	1524.6	1523.8	1523.0	1522.2
157.5°	1551.5	1553.0	1554.4	1554.4	1553.0	1551.5	1550.1	1548.7
160°	1569.7	1571.3	1573.0	1573.0	1571.3	1569.7	1568.1	1566.4
162.5°	1584.5	1586.1	1587.7	1587.6	1585.8	1583.9	1582.0	1580.1
165°	1605.2	1607.4	1609.6	1609.4	1607.0	1604.5	1602.1	1599.6
167.5°	1620.4	1622.8	1625.2	1625.1	1622.3	1619.6	1616.8	1614.1
170°	1629.8	1632.0	1634.2	1633.9	1631.2	1628.4	1625.7	1622.9
172.5°	1635.7	1637.9	1640.1	1639.6	1636.7	1633.8	1630.8	1627.8
175°	1642.6	1645.1	1647.6	1647.1	1643.8	1640.5	1637.3	1634.0
177.5°	1645.4	1647.1	1648.9	1648.5	1645.8	1643.2	1640.5	1637.9
180°	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8

(END OF REPORT)