

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: P332736

Luminaire Tested: **S124DIW-S350D1340U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332736  
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-S350D1340U835-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6098.2 lumens  
Efficiency: N/A  
Efficacy: 130.9 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

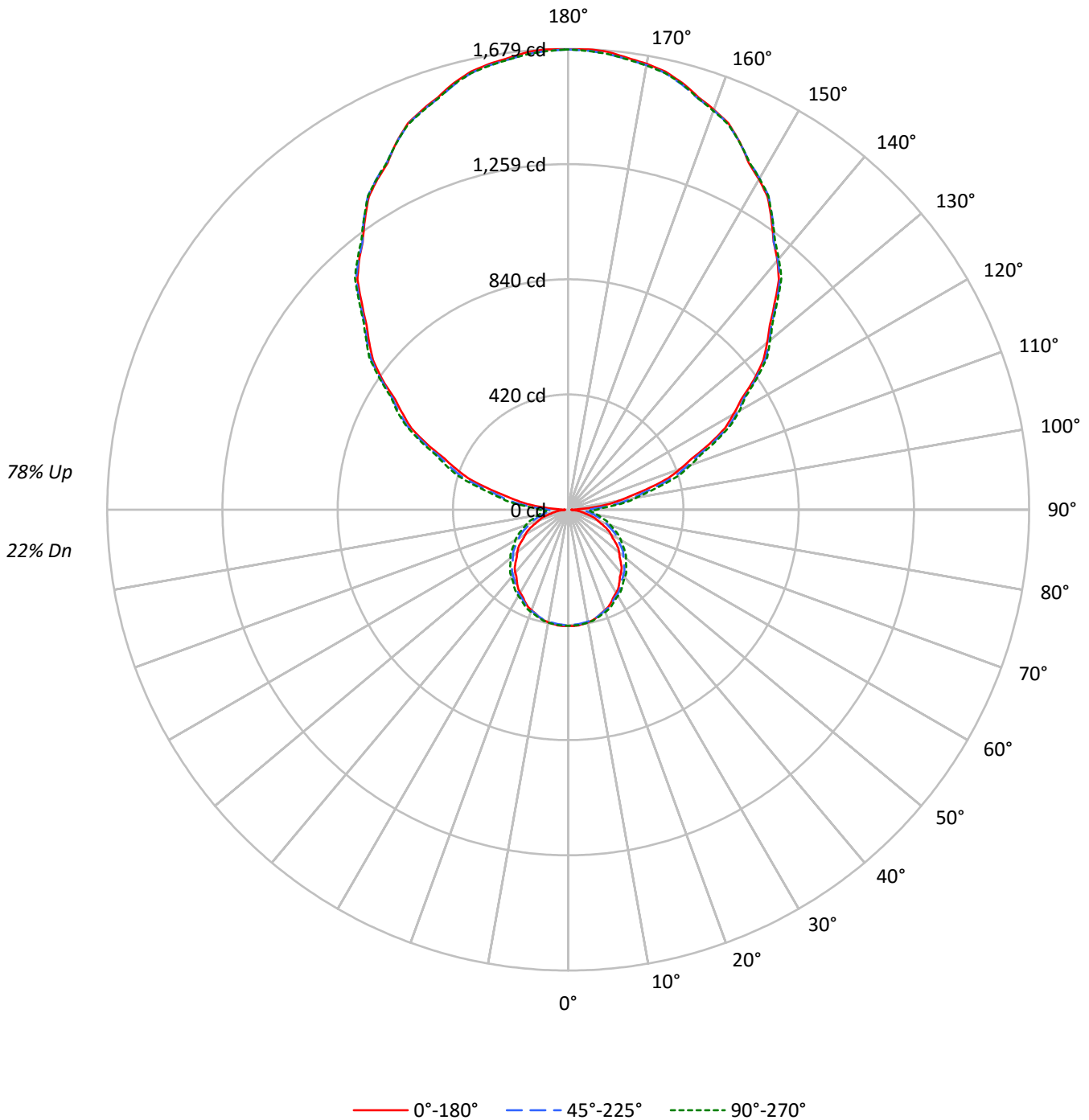
Input Watts (W): 46.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**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	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30	22				
1	91	87	83	79	80	77	74	71	58	56	54	42	40	39	26	25	25	18				
2	83	75	69	64	73	67	62	58	51	48	45	36	34	32	23	21	20	14				
3	75	66	59	53	66	59	53	48	45	41	37	32	29	27	20	18	17	12				
4	69	58	51	45	60	52	45	40	39	35	31	28	25	23	18	16	15	10				
5	63	52	44	38	55	46	39	34	35	30	27	25	22	20	16	14	13	9				
6	58	46	38	33	51	41	34	29	31	27	23	23	19	17	14	12	11	8				
7	53	41	34	28	47	37	30	26	28	24	20	20	17	15	13	11	10	7				
8	49	37	30	25	43	33	27	22	26	21	18	19	15	13	12	10	9	6				
9	46	34	27	22	40	30	24	20	23	19	16	17	14	12	11	9	8	5				
10	42	31	24	19	38	28	22	17	21	17	14	16	13	10	10	8	7	5				

**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



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.0	0.7
10°-20°	114.7	1.9
20°-30°	173.4	2.8
30°-40°	209.8	3.4
40°-50°	221.8	3.6
50°-60°	208.8	3.4
60°-70°	173.2	2.8
70°-80°	121.7	2.0
80°-90°	73.8	1.2
90°-100°	151.4	2.5
100°-110°	357.9	5.9
110°-120°	576.4	9.5
120°-130°	744.7	12.2
130°-140°	828.4	13.6
140°-150°	810.2	13.3
150°-160°	680.6	11.2
160°-170°	452.8	7.4
170°-180°	158.6	2.6
0°-30°	328.1	5.4
0°-40°	537.9	8.8
0°-60°	968.5	15.9
0°-90°	1337.1	21.9
90°-120°	1085.7	17.8
90°-150°	3469.1	56.9
90°-180°	4761.0	78.1
0°-180°	6098.2	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°	12	45	75	96	103	10
95°	84	111	140	156	161	91
105°	306	318	340	355	363	325
115°	568	573	585	594	596	560
125°	825	826	836	842	842	736
135°	1063	1071	1074	1079	1078	822
145°	1291	1295	1297	1298	1296	808
155°	1478	1478	1477	1482	1477	680
165°	1609	1606	1603	1610	1606	453
175°	1674	1668	1666	1675	1666	159
180°	1677	1677	1677	1677	1677	



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**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°	14.8	19.7	24.6	29.6	34.5	39.5	44.6	49.6	54.7	59.8	63.2
90°	11.5	18.8	26.2	33.6	41.0	48.1	54.9	61.7	68.6	75.4	80.2
92.5°	34.9	42.4	49.8	57.2	64.6	71.4	77.5	83.7	89.8	95.9	99.9
95°	84.0	90.0	96.1	102.2	108.2	114.4	120.8	127.1	133.4	139.7	143.4
97.5°	141.5	146.6	151.6	156.7	161.7	167.6	174.2	180.9	187.5	194.1	197.9
100°	186.8	190.7	194.5	198.4	202.3	207.6	214.3	221.0	227.7	234.4	237.8
102.5°	234.5	237.4	240.2	243.1	245.9	250.6	256.9	263.3	269.7	276.1	279.6
105°	306.4	308.8	311.2	313.6	316.0	319.7	324.8	329.8	334.9	339.9	343.4
107.5°	382.9	384.9	387.0	389.1	391.1	394.1	398.0	401.8	405.7	409.5	412.9
110°	434.4	436.4	438.4	440.5	442.5	445.3	448.7	452.1	455.4	458.8	460.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	487.9	489.3	490.8	492.2	493.6	495.8	498.8	501.8	504.8	507.8	510.0
115°	568.3	569.2	570.2	571.1	572.1	573.9	576.7	579.5	582.3	585.1	587.1
117.5°	644.4	645.2	646.0	646.8	647.6	649.4	652.1	654.9	657.6	660.3	661.5
120°	694.9	696.4	697.8	699.3	700.8	702.6	704.8	707.0	709.2	711.3	712.0
122.5°	747.8	748.3	748.9	749.4	749.9	751.4	753.9	756.4	758.8	761.3	762.5
125°	825.4	825.3	825.2	825.1	825.0	826.1	828.5	830.8	833.1	835.5	836.9
127.5°	896.1	896.9	897.6	898.4	899.2	900.3	901.9	903.4	905.0	906.6	907.9
130°	945.6	946.3	947.1	947.8	948.6	949.8	951.5	953.2	954.9	956.5	957.9
132.5°	996.4	996.9	997.4	998.0	998.5	999.3	1000.4	1001.6	1002.7	1003.8	1005.0
135°	1063.1	1064.8	1066.6	1068.3	1070.0	1071.2	1072.0	1072.7	1073.5	1074.2	1075.3
137.5°	1136.2	1136.9	1137.6	1138.3	1139.0	1139.8	1140.6	1141.4	1142.3	1143.1	1143.9
140°	1185.0	1185.5	1185.9	1186.4	1186.9	1187.2	1187.3	1187.4	1187.5	1187.6	1188.7
142.5°	1229.2	1229.8	1230.3	1230.9	1231.5	1231.6	1231.3	1231.0	1230.7	1230.4	1231.6
145°	1290.9	1291.9	1293.0	1294.0	1295.1	1295.7	1296.0	1296.3	1296.6	1296.9	1297.2
147.5°	1352.1	1353.4	1354.6	1355.9	1357.2	1357.7	1357.5	1357.3	1357.0	1356.8	1356.7
150°	1389.4	1390.5	1391.5	1392.6	1393.6	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1
152.5°	1424.3	1425.0	1425.7	1426.3	1427.0	1427.5	1427.7	1427.9	1428.2	1428.4	1429.1
155°	1478.4	1478.4	1478.4	1478.4	1478.4	1478.3	1478.0	1477.7	1477.4	1477.2	1478.3
157.5°	1524.1	1523.6	1523.1	1522.5	1522.0	1521.7	1521.7	1521.6	1521.6	1521.5	1522.4
160°	1551.1	1550.8	1550.5	1550.2	1549.9	1549.6	1549.3	1549.1	1548.8	1548.5	1549.3
162.5°	1576.0	1575.2	1574.5	1573.7	1573.0	1572.5	1572.2	1571.9	1571.6	1571.3	1572.9
165°	1609.4	1608.6	1607.7	1606.8	1606.0	1605.3	1604.7	1604.1	1603.5	1602.9	1604.7
167.5°	1635.1	1633.9	1632.7	1631.5	1630.3	1629.7	1629.8	1629.8	1629.9	1629.9	1631.7
170°	1649.6	1648.2	1646.8	1645.3	1643.9	1643.3	1643.6	1643.9	1644.2	1644.4	1646.2
172.5°	1660.0	1658.8	1657.6	1656.4	1655.2	1654.6	1654.7	1654.7	1654.8	1654.8	1656.8
175°	1674.3	1672.8	1671.4	1670.0	1668.5	1667.6	1667.4	1667.1	1666.8	1666.5	1668.5
177.5°	1678.9	1677.8	1676.6	1675.5	1674.3	1673.8	1673.8	1673.8	1673.8	1673.8	1675.4
180°	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9



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**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°	66.6	69.9	73.3	75.6	76.6	77.6	78.7	79.7
90°	85.0	89.7	94.5	97.6	99.0	100.4	101.9	103.3
92.5°	104.0	108.0	112.0	114.6	115.7	116.9	118.1	119.3
95°	147.2	150.9	154.6	156.9	157.8	158.8	159.7	160.7
97.5°	201.7	205.5	209.3	211.7	212.6	213.5	214.4	215.3
100°	241.2	244.6	248.1	250.1	250.9	251.6	252.3	253.1
102.5°	283.2	286.8	290.3	292.6	293.7	294.7	295.8	296.8
105°	346.9	350.4	353.9	356.5	358.2	359.9	361.6	363.3
107.5°	416.3	419.7	423.1	425.1	425.8	426.5	427.2	427.9
110°	462.5	464.4	466.2	468.0	469.7	471.4	473.1	474.8





TEST NUMBER: P332736

CATALOG NUMBER: S124DIW-S350D1340U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	512.2	514.4	516.7	518.3	519.3	520.3	521.3	522.3
115°	589.1	591.2	593.2	594.4	594.9	595.3	595.8	596.2
117.5°	662.7	664.0	665.2	665.9	666.2	666.4	666.7	667.0
120°	712.7	713.3	714.0	715.0	716.5	717.9	719.3	720.7
122.5°	763.6	764.7	765.8	766.2	766.0	765.7	765.4	765.1
125°	838.3	839.7	841.2	841.9	842.0	842.0	842.1	842.1
127.5°	909.2	910.5	911.8	912.6	912.9	913.1	913.4	913.6
130°	959.2	960.5	961.8	962.2	961.7	961.2	960.6	960.1
132.5°	1006.3	1007.5	1008.7	1009.4	1009.6	1009.8	1009.9	1010.1
135°	1076.4	1077.5	1078.6	1079.1	1078.8	1078.6	1078.4	1078.1
137.5°	1144.7	1145.4	1146.2	1147.0	1147.7	1148.4	1149.1	1149.8
140°	1189.8	1190.8	1191.9	1192.6	1192.8	1193.0	1193.3	1193.5
142.5°	1232.7	1233.8	1235.0	1235.7	1236.1	1236.5	1236.9	1237.3
145°	1297.6	1297.9	1298.3	1298.2	1297.8	1297.3	1296.9	1296.4
147.5°	1356.5	1356.4	1356.2	1356.2	1356.2	1356.3	1356.3	1356.4
150°	1394.1	1394.1	1394.1	1394.0	1393.7	1393.4	1393.1	1392.9
152.5°	1429.8	1430.5	1431.2	1431.1	1430.4	1429.6	1428.9	1428.1
155°	1479.5	1480.6	1481.8	1481.8	1480.6	1479.5	1478.3	1477.2
157.5°	1523.2	1524.1	1525.0	1524.9	1523.9	1522.9	1522.0	1521.0
160°	1550.2	1551.1	1551.9	1551.6	1550.2	1548.8	1547.3	1545.9
162.5°	1574.4	1576.0	1577.5	1577.6	1576.1	1574.7	1573.3	1571.8
165°	1606.4	1608.1	1609.9	1610.2	1609.0	1607.8	1606.7	1605.5
167.5°	1633.4	1635.1	1636.8	1636.8	1635.0	1633.2	1631.5	1629.7
170°	1647.9	1649.6	1651.4	1651.2	1649.2	1647.2	1645.2	1643.2
172.5°	1658.7	1660.7	1662.7	1662.6	1660.6	1658.6	1656.6	1654.6
175°	1670.5	1672.5	1674.6	1674.6	1672.5	1670.5	1668.5	1666.5
177.5°	1677.0	1678.6	1680.2	1680.1	1678.3	1676.4	1674.6	1672.7
180°	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9

(END OF REPORT)