

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: P332744-927

Luminaire Tested: **S124DIW-S350D1560U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332744-927  
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-S350D1560U927-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH 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: 5490.5 lumens  
Efficiency: N/A  
Efficacy: 102.8 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

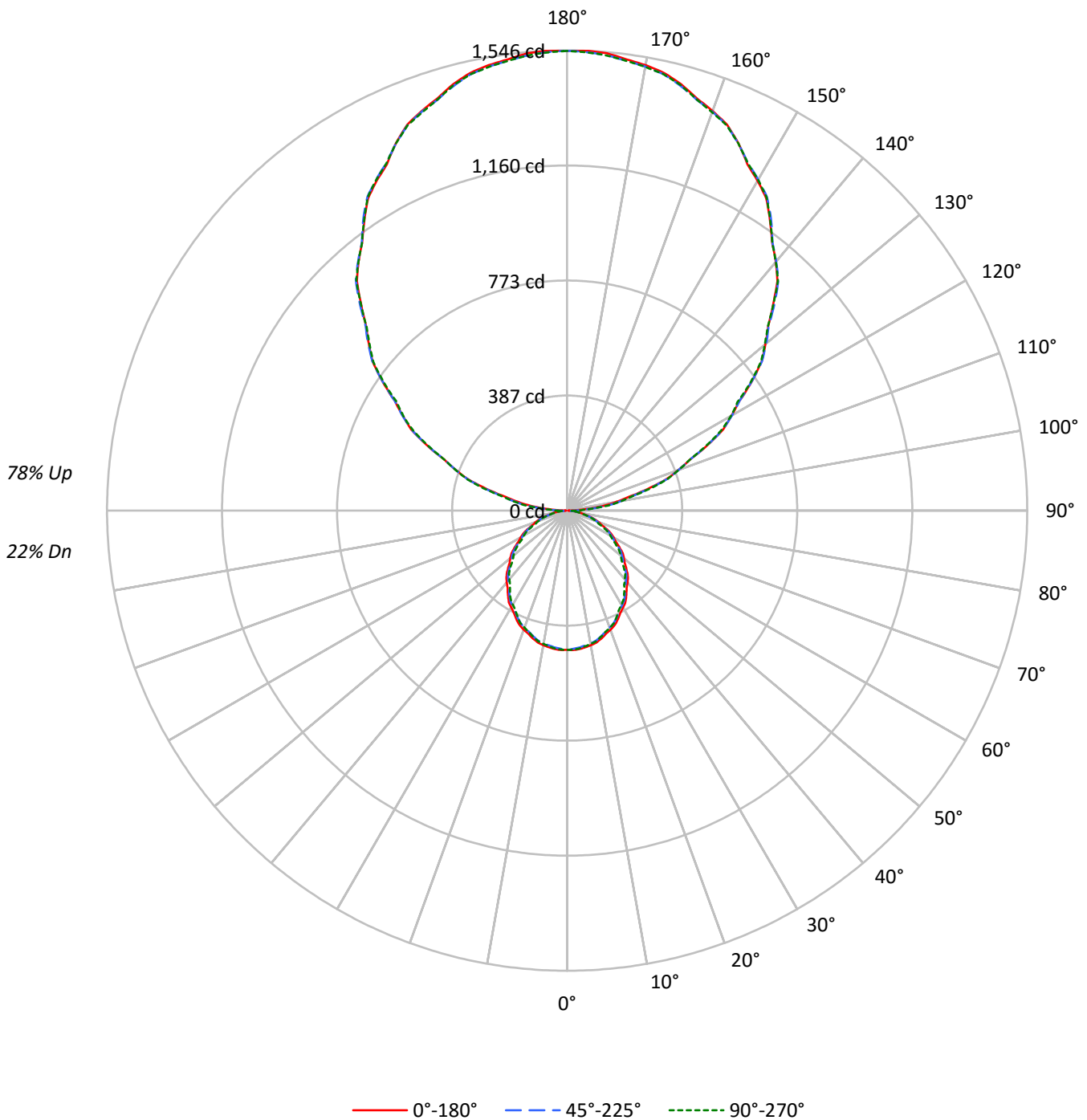
Input Watts (W): 53.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	84	80	81	77	74	72	59	57	55	42	41	40	27	26	25	18				
2	83	76	70	65	74	68	63	59	52	48	46	37	35	33	23	22	21	15				
3	76	67	60	54	67	59	54	49	46	42	38	33	30	28	21	19	18	13				
4	69	59	52	46	61	53	46	41	40	36	32	29	26	24	19	17	16	11				
5	63	52	45	39	56	47	40	35	36	31	28	26	23	21	17	15	14	10				
6	58	47	39	34	51	42	35	30	32	28	24	23	20	18	15	13	12	9				
7	54	42	34	29	47	38	31	26	29	24	21	21	18	16	14	12	11	8				
8	50	38	31	26	44	34	28	23	26	22	19	19	16	14	13	11	9	7				
9	46	35	27	23	41	31	25	21	24	20	16	18	15	12	12	10	8	6				
10	43	32	25	20	38	28	22	18	22	18	15	16	13	11	11	9	8	6				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3777	3777	3777
5°	3789	3743	3771
10°	3765	3713	3731
15°	3719	3661	3670
20°	3660	3594	3598
25°	3591	3520	3510
30°	3506	3432	3402
35°	3418	3341	3297
40°	3327	3236	3177
45°	3232	3134	3075
50°	3127	3042	2948
55°	3013	2923	2829
60°	2900	2792	2706
65°	2772	2665	2558
70°	2629	2497	2398
75°	2408	2293	2233
80°	2143	2060	2004
85°	1880	1806	1769



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.1	0.8
10°-20°	124.2	2.3
20°-30°	182.8	3.3
30°-40°	212.5	3.9
40°-50°	212.5	3.9
50°-60°	185.9	3.4
60°-70°	138.0	2.5
70°-80°	78.4	1.4
80°-90°	27.2	0.5
90°-100°	101.9	1.9
100°-110°	301.8	5.5
110°-120°	512.2	9.3
120°-130°	675.4	12.3
130°-140°	758.5	13.8
140°-150°	745.3	13.6
150°-160°	626.9	11.4
160°-170°	417.1	7.6
170°-180°	146.1	2.7
0°-30°	351.0	6.4
0°-40°	563.5	10.3
0°-60°	961.8	17.5
0°-90°	1205.5	22.0
90°-120°	915.8	16.7
90°-150°	3095.0	56.4
90°-180°	4285.0	78.0
0°-180°	5490.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	468	468	468	468	468	
5°	468	466	462	466	465	44
15°	445	443	438	440	439	125
25°	403	400	395	396	394	185
35°	347	344	339	336	334	217
45°	283	280	274	270	269	218
55°	214	213	208	203	201	192
65°	145	143	140	136	134	144
75°	77	75	74	72	72	82
85°	20	20	20	20	19	22
90°	4	17	26	33	36	6
95°	72	82	91	94	94	80
105°	278	280	284	288	291	295
115°	521	521	518	517	516	513
125°	758	758	757	755	752	676
135°	978	985	986	983	980	757
145°	1188	1193	1194	1193	1190	743
155°	1362	1362	1360	1365	1360	626
165°	1482	1479	1476	1483	1479	418
175°	1542	1536	1535	1542	1535	146
180°	1544	1544	1544	1544	1544	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	469.1	469.0	468.7	468.6	468.3	467.9	467.1	466.4	465.7	464.9	465.6
5°	467.5	467.2	466.9	466.6	466.3	465.6	464.7	463.8	462.9	461.9	462.9
7.5°	463.3	462.9	462.6	462.2	461.9	461.2	460.2	459.2	458.2	457.2	457.9
10°	459.3	459.0	458.7	458.4	458.0	457.3	456.2	455.1	454.1	453.0	453.6
12.5°	454.2	453.9	453.6	453.2	452.9	452.2	451.0	449.9	448.7	447.6	448.3
15°	445.0	444.7	444.4	444.1	443.8	443.0	441.7	440.5	439.2	438.0	438.5
17.5°	434.0	433.6	433.2	432.8	432.4	431.6	430.4	429.2	428.0	426.8	427.1
20°	426.0	425.6	425.2	424.7	424.3	423.5	422.2	421.0	419.7	418.4	418.7
22.5°	417.2	416.7	416.1	415.6	415.0	414.2	412.9	411.7	410.4	409.2	409.6
25°	403.1	402.5	402.0	401.3	400.8	399.9	398.7	397.5	396.4	395.2	395.3
27.5°	386.9	386.3	385.7	385.1	384.5	383.7	382.5	381.5	380.4	379.3	379.1
30°	376.1	375.4	374.8	374.1	373.4	372.6	371.5	370.3	369.3	368.2	367.9
32.5°	364.7	364.1	363.5	362.9	362.3	361.4	360.3	359.1	358.0	356.8	356.4
35°	346.8	346.3	345.7	345.1	344.5	343.6	342.5	341.3	340.2	339.0	338.4
37.5°	328.0	327.5	326.9	326.5	325.9	325.0	323.8	322.5	321.2	320.0	319.3
40°	315.7	315.1	314.4	313.7	313.1	312.1	310.9	309.6	308.3	307.1	306.3
42.5°	302.5	302.1	301.7	301.3	301.0	300.0	298.7	297.2	295.9	294.5	293.5
45°	283.1	282.5	281.9	281.4	280.7	279.8	278.5	277.1	275.8	274.5	273.5
47.5°	262.8	262.4	262.0	261.6	261.2	260.4	259.1	257.9	256.7	255.4	254.4
50°	249.0	248.7	248.3	248.0	247.6	246.9	245.7	244.5	243.4	242.2	241.1
52.5°	235.5	235.0	234.6	234.2	233.9	233.1	231.8	230.6	229.3	228.1	227.1
55°	214.1	213.9	213.6	213.3	213.1	212.4	211.2	210.1	208.9	207.7	206.8
57.5°	193.7	193.5	193.1	192.9	192.6	191.9	190.7	189.6	188.4	187.3	186.3
60°	179.6	179.2	178.8	178.3	177.9	177.2	176.1	175.0	174.0	172.9	172.1
62.5°	165.8	165.5	165.1	164.8	164.4	163.7	162.5	161.4	160.2	159.1	158.4
65°	145.1	144.7	144.3	143.9	143.5	142.8	142.0	141.2	140.3	139.5	138.6
67.5°	124.3	123.9	123.5	123.1	122.7	122.2	121.4	120.6	119.8	118.9	118.1
70°	111.4	110.7	110.2	109.6	109.0	108.4	107.7	107.1	106.4	105.8	105.0
72.5°	97.6	97.0	96.4	95.9	95.2	94.7	94.1	93.6	93.1	92.5	92.0
75°	77.2	76.8	76.4	76.0	75.6	75.2	74.8	74.3	73.9	73.5	73.2
77.5°	57.8	57.7	57.4	57.3	57.1	56.8	56.5	56.1	55.7	55.4	55.2
80°	46.1	45.9	45.6	45.4	45.2	44.9	44.8	44.6	44.4	44.3	44.0
82.5°	34.7	34.6	34.5	34.4	34.2	34.1	34.1	34.1	34.1	34.1	34.0
85°	20.3	20.3	20.3	20.3	20.3	20.2	20.0	19.8	19.6	19.5	19.5
87.5°	8.6	9.0	9.6	10.1	10.6	11.0	11.4	11.7	12.1	12.4	12.8
90°	3.6	6.5	9.4	12.4	15.3	17.8	19.9	22.0	24.2	26.3	27.9
92.5°	25.6	28.9	32.2	35.6	39.0	41.4	42.9	44.4	45.8	47.3	48.2
95°	71.7	74.1	76.4	78.8	81.2	83.3	85.2	87.1	89.0	90.8	91.6
97.5°	125.2	127.1	129.0	130.9	132.8	134.9	137.0	139.2	141.4	143.5	144.5
100°	167.2	168.3	169.4	170.4	171.5	173.2	175.6	178.0	180.4	182.8	183.3
102.5°	211.2	211.6	212.1	212.5	212.9	214.2	216.3	218.6	220.7	222.9	223.6
105°	278.3	278.6	278.8	279.1	279.4	280.0	281.1	282.2	283.2	284.3	285.1
107.5°	348.8	349.1	349.4	349.7	350.1	350.3	350.5	350.6	350.8	350.9	351.6
110°	396.6	397.1	397.6	398.2	398.7	398.9	398.5	398.3	398.0	397.8	397.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	446.2	446.4	446.5	446.6	446.7	446.5	446.0	445.5	445.0	444.6	444.5
115°	520.8	520.8	520.8	520.8	520.8	520.5	520.0	519.4	519.0	518.4	518.2
117.5°	591.0	591.2	591.4	591.7	591.9	591.8	591.4	591.0	590.7	590.3	589.4
120°	637.9	638.9	640.0	641.0	642.1	642.2	641.4	640.6	639.8	639.1	637.7
122.5°	686.6	687.0	687.5	687.9	688.2	688.3	687.9	687.5	687.2	686.8	686.0
125°	758.5	758.5	758.5	758.5	758.5	758.4	758.1	757.8	757.6	757.3	756.8
127.5°	823.7	824.5	825.3	826.1	826.9	827.1	826.6	826.2	825.9	825.4	824.8
130°	869.6	870.4	871.2	872.0	872.7	873.1	873.1	873.1	873.1	873.1	872.7
132.5°	916.4	917.0	917.6	918.1	918.8	918.9	918.7	918.5	918.3	918.1	917.6
135°	978.3	979.9	981.4	983.1	984.7	985.5	985.5	985.5	985.5	985.5	984.9
137.5°	1045.7	1046.4	1047.1	1047.9	1048.6	1049.2	1049.6	1050.0	1050.5	1050.9	1050.2
140°	1090.6	1091.1	1091.6	1092.2	1092.7	1093.0	1093.0	1093.0	1093.0	1093.0	1092.7
142.5°	1131.6	1132.2	1132.7	1133.2	1133.8	1133.9	1133.7	1133.5	1133.3	1133.1	1133.1
145°	1188.5	1189.5	1190.6	1191.7	1192.8	1193.4	1193.7	1194.0	1194.2	1194.5	1194.2
147.5°	1244.9	1246.2	1247.4	1248.7	1250.0	1250.5	1250.3	1250.1	1249.9	1249.7	1249.4
150°	1279.3	1280.3	1281.4	1282.5	1283.6	1284.0	1284.0	1284.0	1284.0	1284.0	1284.0
152.5°	1311.8	1312.4	1313.0	1313.7	1314.3	1314.8	1314.9	1315.2	1315.4	1315.6	1316.2
155°	1361.7	1361.7	1361.7	1361.7	1361.7	1361.6	1361.3	1361.0	1360.8	1360.5	1361.6
157.5°	1403.7	1403.3	1402.8	1402.3	1401.8	1401.6	1401.5	1401.4	1401.4	1401.4	1402.2
160°	1428.6	1428.3	1428.1	1427.8	1427.5	1427.3	1427.0	1426.7	1426.5	1426.2	1427.0
162.5°	1451.5	1450.9	1450.2	1449.5	1448.7	1448.3	1448.0	1447.8	1447.5	1447.2	1448.7
165°	1482.3	1481.5	1480.7	1480.0	1479.2	1478.5	1478.0	1477.4	1476.9	1476.4	1478.0
167.5°	1506.0	1504.9	1503.8	1502.7	1501.6	1501.0	1501.1	1501.1	1501.2	1501.3	1502.8
170°	1519.4	1518.1	1516.7	1515.4	1514.1	1513.5	1513.8	1514.1	1514.3	1514.6	1516.2
172.5°	1528.9	1527.8	1526.7	1525.6	1524.5	1523.9	1524.0	1524.1	1524.1	1524.2	1526.0
175°	1542.1	1540.7	1539.4	1538.1	1536.8	1536.0	1535.7	1535.4	1535.2	1534.9	1536.8
177.5°	1546.3	1545.3	1544.3	1543.2	1542.1	1541.6	1541.6	1541.6	1541.6	1541.6	1543.1
180°	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	466.3	467.0	467.6	467.9	467.9	467.8	467.7	467.6
5°	463.8	464.7	465.6	466.0	465.8	465.6	465.5	465.3
7.5°	458.6	459.4	460.1	460.4	460.3	460.2	460.1	460.0
10°	454.3	455.0	455.7	455.9	455.7	455.5	455.3	455.2
12.5°	449.0	449.7	450.5	450.8	450.5	450.3	450.0	449.8
15°	438.9	439.4	440.0	440.1	439.8	439.6	439.3	439.1
17.5°	427.5	427.8	428.1	428.2	428.0	427.9	427.7	427.5
20°	419.0	419.2	419.5	419.5	419.3	419.1	419.0	418.8
22.5°	410.0	410.5	411.0	411.1	410.7	410.4	410.1	409.9
25°	395.4	395.5	395.5	395.5	395.1	394.7	394.4	394.1
27.5°	378.9	378.7	378.5	378.2	377.8	377.4	376.9	376.5
30°	367.6	367.3	366.9	366.5	366.1	365.7	365.3	364.9
32.5°	356.0	355.6	355.2	354.8	354.4	353.9	353.6	353.2
35°	337.8	337.2	336.6	336.1	335.7	335.3	334.9	334.5
37.5°	318.7	318.1	317.4	316.9	316.3	315.8	315.2	314.7
40°	305.5	304.6	303.8	303.2	302.7	302.3	301.9	301.5
42.5°	292.6	291.6	290.7	290.0	289.7	289.5	289.1	288.9
45°	272.7	271.7	270.8	270.2	270.0	269.7	269.5	269.3
47.5°	253.3	252.3	251.3	250.5	249.9	249.2	248.6	248.0
50°	239.9	238.8	237.6	236.7	236.2	235.8	235.2	234.7
52.5°	226.1	225.1	224.0	223.2	222.5	221.9	221.3	220.6
55°	205.7	204.7	203.7	203.0	202.5	202.0	201.5	201.0
57.5°	185.4	184.4	183.5	182.8	182.3	181.8	181.3	180.8
60°	171.3	170.6	169.8	169.3	168.9	168.4	168.0	167.6
62.5°	157.7	157.0	156.3	155.7	155.3	155.0	154.6	154.1
65°	137.8	137.0	136.2	135.5	135.1	134.7	134.3	133.9
67.5°	117.3	116.5	115.7	115.3	115.2	115.0	114.9	114.8
70°	104.4	103.8	103.1	102.6	102.3	102.1	101.9	101.6
72.5°	91.5	90.9	90.4	90.0	89.8	89.5	89.3	89.0
75°	72.8	72.5	72.2	71.9	71.9	71.8	71.7	71.6
77.5°	55.1	55.1	55.0	54.8	54.6	54.3	54.1	53.9
80°	43.9	43.7	43.6	43.5	43.3	43.3	43.2	43.1
82.5°	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2
85°	19.5	19.5	19.5	19.5	19.4	19.3	19.2	19.1
87.5°	13.1	13.4	13.7	13.9	14.0	14.2	14.3	14.3
90°	29.5	31.1	32.6	33.7	34.2	34.8	35.3	35.8
92.5°	49.2	50.1	51.1	51.7	52.0	52.4	52.7	53.0
95°	92.4	93.2	94.0	94.3	94.3	94.3	94.3	94.3
97.5°	145.5	146.5	147.4	147.9	147.9	147.9	147.9	147.9
100°	183.8	184.3	184.9	185.1	185.1	185.1	185.1	185.1
102.5°	224.3	225.1	225.9	226.3	226.6	226.8	227.0	227.2
105°	285.9	286.7	287.5	288.3	289.1	289.9	290.7	291.4
107.5°	352.4	353.2	353.9	354.3	354.2	354.2	354.1	354.0
110°	396.7	396.2	395.6	395.8	396.6	397.4	398.2	398.9





TEST NUMBER: P332744-927

CATALOG NUMBER: S124DIW-S350D1560U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	444.3	444.3	444.2	444.2	444.3	444.5	444.7	444.8
115°	517.8	517.6	517.4	517.1	516.8	516.6	516.3	516.0
117.5°	588.5	587.6	586.7	586.0	585.4	584.9	584.4	583.8
120°	636.4	635.1	633.7	633.3	633.9	634.4	634.9	635.5
122.5°	685.0	684.1	683.3	682.3	681.4	680.4	679.5	678.5
125°	756.2	755.7	755.2	754.6	754.1	753.6	753.0	752.5
127.5°	824.3	823.8	823.2	822.8	822.4	822.0	821.5	821.1
130°	872.1	871.6	871.0	870.2	869.2	868.2	867.0	866.0
132.5°	917.0	916.5	915.9	915.4	915.0	914.7	914.2	913.8
135°	984.4	983.9	983.3	982.6	981.8	981.0	980.2	979.5
137.5°	1049.6	1048.8	1048.1	1047.9	1048.1	1048.2	1048.4	1048.5
140°	1092.4	1092.2	1091.9	1091.6	1091.4	1091.1	1090.8	1090.6
142.5°	1133.0	1132.9	1132.9	1132.8	1132.7	1132.7	1132.7	1132.6
145°	1194.0	1193.7	1193.4	1192.9	1192.1	1191.3	1190.5	1189.7
147.5°	1249.3	1249.0	1248.8	1248.6	1248.3	1248.1	1247.8	1247.5
150°	1284.0	1284.0	1284.0	1284.0	1283.7	1283.4	1283.2	1282.9
152.5°	1316.8	1317.5	1318.1	1318.1	1317.4	1316.8	1316.1	1315.3
155°	1362.6	1363.7	1364.8	1364.8	1363.7	1362.6	1361.6	1360.5
157.5°	1403.0	1403.7	1404.5	1404.5	1403.6	1402.7	1401.8	1400.9
160°	1427.8	1428.6	1429.4	1429.1	1427.8	1426.5	1425.1	1423.8
162.5°	1450.1	1451.5	1452.9	1453.0	1451.7	1450.4	1449.1	1447.7
165°	1479.6	1481.1	1482.7	1483.0	1481.9	1480.9	1479.8	1478.8
167.5°	1504.4	1506.0	1507.6	1507.6	1505.9	1504.3	1502.6	1500.9
170°	1517.8	1519.4	1521.0	1520.8	1519.0	1517.1	1515.3	1513.4
172.5°	1527.8	1529.5	1531.4	1531.4	1529.5	1527.6	1525.7	1523.9
175°	1538.7	1540.5	1542.4	1542.4	1540.5	1538.7	1536.8	1534.9
177.5°	1544.6	1546.0	1547.5	1547.4	1545.7	1544.0	1542.4	1540.6
180°	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4

(END OF REPORT)