

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: P332117-927

Luminaire Tested: **S123DIW-S340D1535U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332117-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S340D1535U927-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5356.5 lumens  
Efficiency: N/A  
Efficacy: 100.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

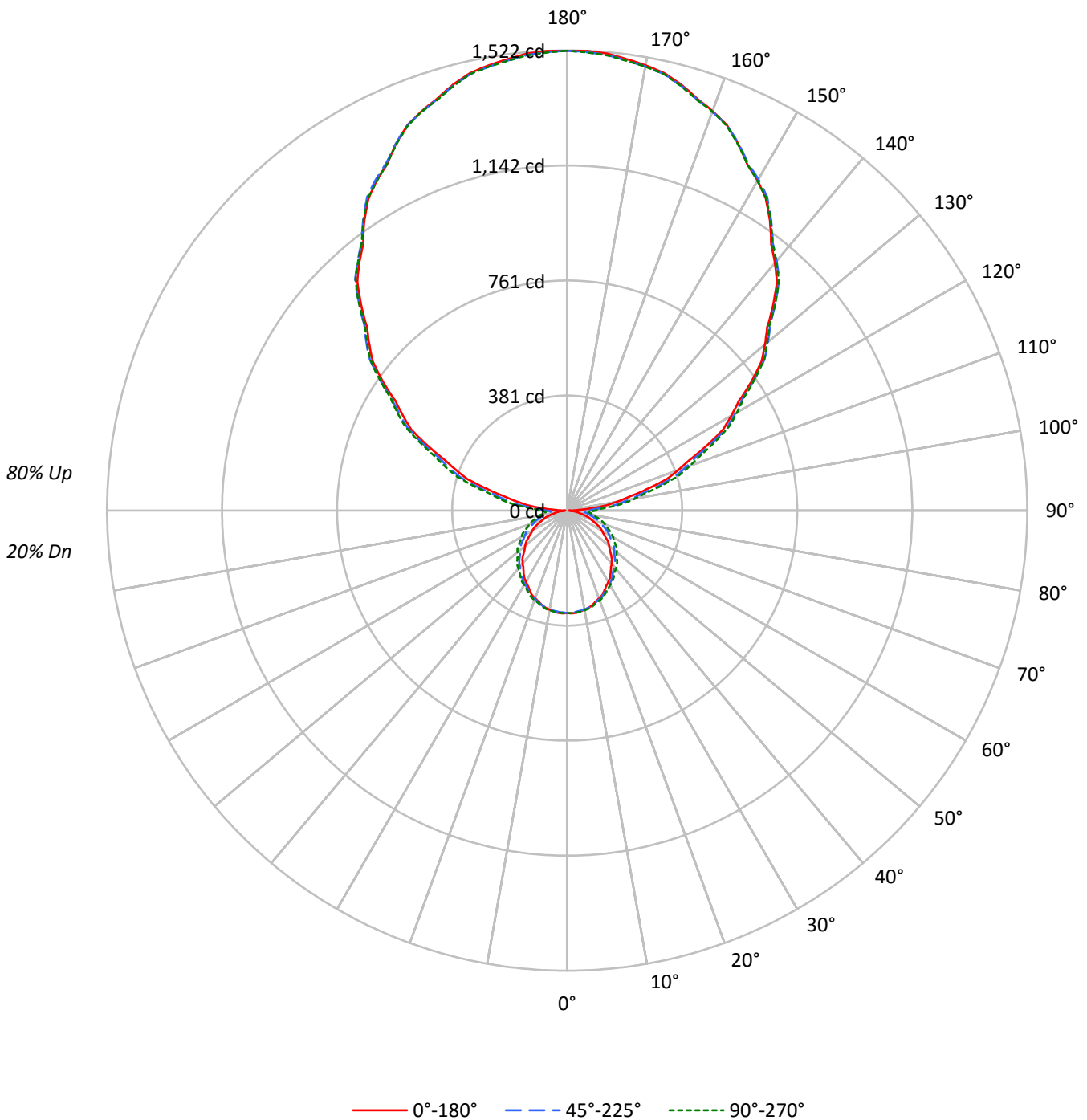
Input Watts (W): 53.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332117-927

CATALOG NUMBER: S123DIW-S340D1535U927-4F0-1E-UDD-D1

### Luminous Intensity Polar Plot





TEST NUMBER: P332117-927

CATALOG NUMBER: S123DIW-S340D1535U927-4F0-1E-UDD-D1

**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	50	30	10	0		
RCR																										
0	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	20					20			
1	91	86	82	79	80	76	73	70	57	55	53	40	39	38	24	23	23	16					16			
2	82	75	69	64	72	66	61	57	50	47	44	35	33	31	21	20	19	13					13			
3	75	66	59	53	66	58	52	47	44	40	36	31	28	26	18	17	16	11					11			
4	68	58	50	44	60	51	45	40	39	34	31	27	24	22	16	15	14	9					9			
5	62	51	44	38	55	45	39	34	34	30	26	24	21	19	15	13	12	8					8			
6	57	46	38	32	50	41	34	29	31	26	23	22	19	16	13	12	10	7					7			
7	53	41	33	28	46	37	30	25	28	23	20	20	17	14	12	10	9	6					6			
8	49	37	30	25	43	33	27	22	25	21	17	18	15	13	11	9	8	5					5			
9	45	34	26	22	40	30	24	20	23	18	15	16	13	11	10	8	7	5					5			
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	9	8	6	4					4			

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

	0°	45°	90°
0°	3647	3647	3647
5°	3658	3556	3557
10°	3626	3473	3456
15°	3579	3380	3345
20°	3513	3274	3224
25°	3430	3152	3096
30°	3345	3043	2966
35°	3251	2926	2863
40°	3161	2820	2752
45°	3061	2718	2664
50°	2962	2618	2566
55°	2852	2516	2478
60°	2745	2411	2388
65°	2636	2300	2280
70°	2471	2174	2170
75°	2265	2031	2059
80°	2023	1890	1932
85°	1805	1794	1856



TEST NUMBER: P332117-927

CATALOG NUMBER: S123DIW-S340D1535U927-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.1	0.6
10°-20°	91.6	1.7
20°-30°	137.0	2.6
30°-40°	163.6	3.1
40°-50°	171.1	3.2
50°-60°	160.6	3.0
60°-70°	134.1	2.5
70°-80°	96.0	1.8
80°-90°	61.7	1.2
90°-100°	135.0	2.5
100°-110°	322.9	6.0
110°-120°	521.9	9.7
120°-130°	673.4	12.6
130°-140°	750.1	14.0
140°-150°	733.9	13.7
150°-160°	617.0	11.5
160°-170°	410.7	7.7
170°-180°	143.8	2.7
0°-30°	260.6	4.9
0°-40°	424.2	7.9
0°-60°	755.9	14.1
0°-90°	1047.7	19.6
90°-120°	979.8	18.3
90°-150°	3137.2	58.6
90°-180°	4309.0	80.4
0°-180°	5356.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	339	338	336	339	339	32
15°	323	324	324	327	327	91
25°	292	295	296	301	301	134
35°	251	257	262	267	269	157
45°	205	214	223	230	233	158
55°	156	169	182	192	195	140
65°	108	123	139	149	154	107
75°	59	76	94	106	111	63
85°	18	37	56	68	72	19
90°	6	36	70	87	94	8
95°	74	98	125	140	145	82
105°	272	284	310	320	326	291
115°	510	518	528	538	540	504
125°	744	748	756	759	757	663
135°	965	971	974	976	976	743
145°	1170	1172	1175	1177	1174	730
155°	1339	1339	1340	1344	1337	616
165°	1459	1455	1455	1461	1454	411
175°	1517	1513	1512	1519	1511	144
180°	1521	1521	1521	1521	1521	



TEST NUMBER: P332117-927

CATALOG NUMBER: S123DIW-S340D1535U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	340.3	340.2	339.9	339.8	339.5	339.2	338.7	338.1	337.6	337.1	337.6
5°	339.2	339.1	338.9	338.7	338.6	338.3	337.7	337.2	336.8	336.3	336.9
7.5°	335.9	336.0	336.0	336.0	336.0	335.8	335.3	334.9	334.4	333.9	334.7
10°	333.0	333.1	333.3	333.4	333.6	333.5	333.0	332.6	332.2	331.8	332.6
12.5°	329.4	329.6	329.9	330.1	330.3	330.3	330.0	329.7	329.5	329.2	329.9
15°	323.0	323.2	323.4	323.7	323.9	324.1	323.9	323.8	323.8	323.7	324.6
17.5°	314.9	315.4	315.8	316.3	316.8	317.0	317.0	317.0	317.0	317.0	317.7
20°	309.0	309.4	309.9	310.5	310.9	311.2	311.4	311.6	311.7	311.9	312.7
22.5°	302.8	303.2	303.7	304.2	304.8	305.1	305.3	305.5	305.8	306.0	307.0
25°	291.6	292.4	293.3	294.1	294.9	295.4	295.6	295.9	296.1	296.4	297.5
27.5°	280.4	281.3	282.3	283.2	284.2	284.9	285.3	285.9	286.5	286.9	287.9
30°	272.4	273.5	274.6	275.6	276.7	277.5	278.2	278.8	279.5	280.2	281.1
32.5°	263.6	264.7	265.9	267.1	268.3	269.3	270.2	271.1	272.0	272.7	273.9
35°	251.0	252.3	253.7	254.9	256.3	257.5	258.5	259.6	260.6	261.7	262.9
37.5°	237.7	239.2	240.7	242.2	243.6	245.0	246.3	247.6	249.0	250.3	251.7
40°	228.9	230.4	231.8	233.3	234.7	236.3	238.0	239.6	241.2	242.9	244.3
42.5°	219.1	220.9	222.7	224.5	226.3	228.1	229.8	231.5	233.2	234.9	236.5
45°	205.3	207.2	209.1	211.1	213.1	215.1	217.1	219.2	221.3	223.3	224.9
47.5°	190.7	192.9	195.1	197.4	199.6	201.9	204.2	206.6	208.9	211.3	213.0
50°	181.3	183.5	185.8	188.1	190.4	192.8	195.4	198.0	200.5	203.0	204.9
52.5°	171.2	173.6	176.0	178.5	180.9	183.5	186.3	189.2	191.9	194.7	196.7
55°	156.5	159.2	161.9	164.6	167.3	170.2	173.1	176.1	179.0	182.0	184.2
57.5°	142.2	145.0	147.8	150.7	153.4	156.5	159.7	163.0	166.2	169.4	171.7
60°	132.1	135.1	138.1	141.0	143.9	147.1	150.5	153.8	157.2	160.6	162.9
62.5°	122.7	125.7	128.7	131.7	134.8	138.1	141.6	145.2	148.8	152.3	154.6
65°	108.1	111.4	114.5	117.7	121.0	124.4	127.9	131.6	135.1	138.8	141.2
67.5°	93.4	96.8	100.2	103.5	106.9	110.5	114.2	117.9	121.5	125.2	127.9
70°	83.0	86.6	90.1	93.6	97.1	100.9	104.8	108.8	112.7	116.6	119.3
72.5°	73.6	77.2	80.6	84.2	87.7	91.5	95.5	99.7	103.7	107.8	110.5
75°	58.7	62.6	66.4	70.3	74.1	78.1	82.2	86.3	90.4	94.5	97.2
77.5°	45.7	49.6	53.5	57.4	61.2	65.3	69.4	73.5	77.6	81.8	84.7
80°	36.5	40.6	44.6	48.6	52.6	56.8	61.0	65.3	69.6	73.8	76.6
82.5°	28.6	32.6	36.8	40.8	44.9	49.1	53.5	57.8	62.1	66.5	69.2
85°	18.1	22.2	26.3	30.4	34.5	38.7	43.1	47.4	51.7	56.1	58.9
87.5°	10.1	14.7	19.3	23.9	28.5	33.3	38.1	43.0	47.8	52.8	55.8
90°	6.0	12.7	19.3	26.0	32.7	39.8	47.5	55.1	62.7	70.3	74.2
92.5°	33.4	38.8	44.3	49.7	55.1	60.9	66.9	73.0	79.1	85.2	88.8
95°	74.5	79.6	84.7	89.7	94.7	100.4	106.5	112.6	118.8	124.9	128.6
97.5°	128.8	133.1	137.4	141.6	145.8	150.7	156.1	161.4	166.8	172.2	175.9
100°	165.8	170.0	174.2	178.4	182.7	187.4	192.4	197.5	202.6	207.7	210.9
102.5°	208.5	211.8	215.2	218.5	221.7	226.2	231.6	237.1	242.6	248.0	251.1
105°	271.7	274.3	276.7	279.2	281.7	285.9	291.8	297.8	303.7	309.6	311.9
107.5°	344.8	346.9	348.9	350.9	352.8	356.0	360.3	364.6	368.9	373.2	376.2
110°	390.5	392.4	394.4	396.5	398.5	401.4	405.2	409.0	412.8	416.6	419.9



TEST NUMBER: P332117-927

CATALOG NUMBER: S123DIW-S340D1535U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	438.2	439.7	441.3	442.8	444.3	446.8	450.0	453.3	456.5	459.8	463.1
115°	509.5	511.4	513.1	514.9	516.7	518.8	521.2	523.6	526.0	528.5	530.7
117.5°	581.6	582.7	583.9	585.0	586.1	587.8	589.9	591.9	594.1	596.1	598.0
120°	626.2	628.2	630.3	632.2	634.2	636.0	637.3	638.7	640.1	641.4	643.1
122.5°	673.0	674.5	675.8	677.2	678.6	680.2	682.1	684.0	685.9	687.8	688.9
125°	744.1	744.9	745.8	746.6	747.3	748.6	750.5	752.3	754.2	756.1	756.7
127.5°	810.1	811.7	813.3	814.9	816.5	818.0	819.4	820.8	822.2	823.6	823.7
130°	854.1	856.0	858.1	860.2	862.2	863.6	864.5	865.3	866.2	867.0	867.5
132.5°	897.7	899.8	901.9	904.0	906.1	907.5	908.2	909.0	909.7	910.5	910.7
135°	964.7	966.3	967.8	969.3	970.8	971.8	972.5	973.1	973.8	974.4	974.9
137.5°	1026.8	1028.1	1029.4	1030.5	1031.8	1033.1	1034.3	1035.5	1036.6	1037.8	1038.1
140°	1069.5	1070.9	1072.1	1073.5	1074.8	1075.7	1076.3	1076.7	1077.3	1077.8	1078.7
142.5°	1108.7	1109.9	1111.2	1112.5	1113.7	1114.6	1115.2	1115.7	1116.2	1116.7	1117.6
145°	1169.8	1170.3	1170.8	1171.2	1171.6	1172.3	1173.1	1173.9	1174.6	1175.4	1175.8
147.5°	1223.0	1223.9	1224.9	1225.9	1226.9	1227.6	1228.4	1229.2	1229.9	1230.7	1230.8
150°	1260.3	1260.8	1261.3	1261.9	1262.4	1262.9	1263.5	1264.0	1264.5	1265.0	1265.0
152.5°	1290.9	1291.6	1292.4	1293.1	1293.8	1294.3	1294.7	1295.0	1295.3	1295.6	1296.1
155°	1339.1	1339.1	1339.1	1339.1	1339.1	1339.3	1339.5	1339.7	1340.1	1340.3	1341.4
157.5°	1380.2	1379.9	1379.6	1379.3	1379.0	1378.9	1379.1	1379.3	1379.5	1379.7	1380.9
160°	1406.0	1405.5	1404.9	1404.4	1403.9	1403.6	1403.6	1403.6	1403.6	1403.6	1404.9
162.5°	1428.9	1428.2	1427.4	1426.7	1426.0	1425.7	1425.9	1426.2	1426.3	1426.6	1427.9
165°	1458.6	1457.8	1457.0	1456.2	1455.4	1455.0	1455.0	1455.0	1455.0	1455.0	1456.6
167.5°	1482.3	1481.1	1480.1	1479.0	1478.0	1477.6	1477.7	1478.0	1478.2	1478.4	1480.0
170°	1495.6	1494.5	1493.5	1492.4	1491.4	1490.8	1490.8	1490.8	1490.8	1490.8	1492.7
172.5°	1506.1	1505.1	1504.0	1502.9	1501.9	1501.3	1501.3	1501.3	1501.3	1501.3	1503.0
175°	1517.1	1516.1	1515.0	1513.9	1512.8	1512.4	1512.4	1512.4	1512.4	1512.4	1513.9
177.5°	1521.6	1520.8	1520.0	1519.1	1518.2	1517.8	1517.8	1517.8	1517.8	1517.8	1519.1
180°	1520.7	1520.7	1520.7	1520.7	1520.7	1520.7	1520.7	1520.7	1520.7	1520.7	1520.7



TEST NUMBER: P332117-927

CATALOG NUMBER: S123DIW-S340D1535U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	338.1	338.7	339.2	339.4	339.4	339.3	339.2	339.1
5°	337.5	338.3	338.9	339.2	339.1	339.0	338.9	338.8
7.5°	335.6	336.4	337.2	337.5	337.5	337.3	337.2	337.2
10°	333.5	334.3	335.1	335.4	335.3	335.1	334.9	334.8
12.5°	330.7	331.4	332.2	332.5	332.3	332.2	332.0	331.8
15°	325.3	326.1	327.0	327.3	327.3	327.2	327.1	327.0
17.5°	318.4	319.2	319.9	320.2	320.0	320.0	319.9	319.7
20°	313.4	314.1	314.9	315.3	315.4	315.4	315.5	315.6
22.5°	307.8	308.8	309.7	310.2	310.1	310.1	310.1	310.0
25°	298.5	299.6	300.6	301.2	301.2	301.2	301.2	301.2
27.5°	288.8	289.7	290.7	291.1	291.2	291.3	291.3	291.4
30°	282.1	283.1	284.1	284.6	284.6	284.6	284.6	284.6
32.5°	274.9	275.9	276.9	277.6	277.8	278.0	278.2	278.4
35°	264.2	265.4	266.6	267.4	267.8	268.1	268.4	268.7
37.5°	253.0	254.4	255.9	256.7	256.9	257.2	257.5	257.7
40°	245.7	247.1	248.4	249.3	249.6	250.0	250.3	250.6
42.5°	238.0	239.5	241.0	242.0	242.5	242.9	243.4	243.8
45°	226.4	228.0	229.6	230.7	231.3	232.0	232.7	233.3
47.5°	214.8	216.6	218.3	219.4	219.9	220.5	220.9	221.5
50°	206.8	208.7	210.6	211.8	212.4	212.9	213.5	214.1
52.5°	198.7	200.6	202.6	203.9	204.6	205.3	206.0	206.7
55°	186.4	188.6	190.8	192.3	192.9	193.6	194.2	194.9
57.5°	173.9	176.1	178.3	179.8	180.6	181.4	182.2	182.9
60°	165.2	167.5	169.8	171.3	172.2	173.2	174.0	175.0
62.5°	156.9	159.1	161.4	163.0	163.9	164.7	165.6	166.4
65°	143.7	146.2	148.6	150.3	151.1	151.9	152.7	153.5
67.5°	130.6	133.2	135.9	137.7	138.3	139.0	139.7	140.4
70°	121.9	124.5	127.1	128.9	129.7	130.5	131.3	132.1
72.5°	113.1	115.8	118.5	120.3	121.1	121.9	122.8	123.6
75°	99.9	102.6	105.4	107.2	108.1	109.2	110.1	111.1
77.5°	87.5	90.4	93.2	95.0	95.8	96.6	97.3	98.1
80°	79.4	82.2	85.0	86.7	87.6	88.4	89.3	90.1
82.5°	72.0	74.8	77.6	79.4	80.2	81.0	81.8	82.7
85°	61.7	64.5	67.3	69.1	69.9	70.7	71.5	72.3
87.5°	58.8	61.8	64.8	66.7	67.7	68.6	69.5	70.4
90°	78.1	81.9	85.8	88.4	89.8	91.1	92.4	93.8
92.5°	92.4	95.9	99.5	101.5	102.0	102.3	102.8	103.2
95°	132.1	135.8	139.3	141.6	142.4	143.2	144.0	144.9
97.5°	179.5	183.2	186.9	189.1	189.8	190.5	191.2	191.9
100°	214.0	217.2	220.4	222.7	224.0	225.4	226.7	228.1
102.5°	254.2	257.3	260.4	262.4	263.1	263.8	264.5	265.2
105°	314.2	316.5	318.8	320.6	321.9	323.1	324.4	325.7
107.5°	379.3	382.3	385.4	387.1	387.5	387.9	388.3	388.7
110°	423.0	426.2	429.4	431.1	431.2	431.3	431.4	431.6





TEST NUMBER: P332117-927

CATALOG NUMBER: S123DIW-S340D1535U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	466.4	469.8	473.2	475.2	475.7	476.3	477.0	477.6
115°	532.9	535.1	537.4	538.7	539.1	539.5	539.9	540.3
117.5°	599.9	601.8	603.7	604.6	604.5	604.4	604.3	604.2
120°	644.7	646.3	647.9	648.8	648.8	648.9	648.9	649.0
122.5°	690.0	691.2	692.3	692.8	692.6	692.4	692.3	692.1
125°	757.3	758.0	758.7	758.8	758.3	757.8	757.3	756.8
127.5°	823.9	824.0	824.1	823.9	823.2	822.5	821.9	821.2
130°	868.0	868.5	869.0	868.5	867.2	865.9	864.5	863.1
132.5°	910.9	911.1	911.3	911.0	910.1	909.3	908.4	907.5
135°	975.3	975.7	976.0	976.2	976.1	976.0	975.9	975.7
137.5°	1038.2	1038.4	1038.6	1038.4	1037.8	1037.2	1036.6	1036.0
140°	1079.7	1080.7	1081.6	1081.4	1080.0	1078.5	1077.1	1075.6
142.5°	1118.4	1119.3	1120.1	1120.0	1119.0	1117.9	1116.9	1115.9
145°	1176.2	1176.6	1177.0	1176.9	1176.1	1175.4	1174.6	1173.9
147.5°	1231.1	1231.2	1231.4	1230.9	1229.5	1228.3	1227.0	1225.7
150°	1265.0	1265.0	1265.0	1264.3	1262.9	1261.5	1260.0	1258.6
152.5°	1296.5	1296.9	1297.4	1296.9	1295.5	1294.2	1292.8	1291.5
155°	1342.4	1343.5	1344.6	1344.2	1342.3	1340.5	1338.6	1336.7
157.5°	1382.0	1383.1	1384.2	1384.0	1382.5	1381.0	1379.5	1378.1
160°	1406.3	1407.6	1408.9	1409.1	1408.0	1406.9	1405.9	1404.8
162.5°	1429.2	1430.5	1431.9	1431.7	1430.0	1428.3	1426.6	1424.9
165°	1458.2	1459.8	1461.3	1461.3	1459.4	1457.5	1455.6	1453.8
167.5°	1481.7	1483.4	1484.9	1484.9	1483.4	1481.7	1480.0	1478.4
170°	1494.5	1496.4	1498.3	1498.3	1496.4	1494.5	1492.7	1490.8
172.5°	1504.6	1506.3	1507.9	1507.8	1505.9	1504.1	1502.2	1500.4
175°	1515.5	1517.1	1518.7	1518.5	1516.7	1514.8	1513.0	1511.2
177.5°	1520.4	1521.6	1522.9	1522.8	1521.3	1519.8	1518.4	1516.9
180°	1520.7	1520.7	1520.7	1520.7	1520.7	1520.7	1520.7	1520.7

(END OF REPORT)