

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: P332060-927

Luminaire Tested: **S123DIP-S1165D585U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332060-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1165D585U927-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5624.7 lumens  
Efficiency: N/A  
Efficacy: 102.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

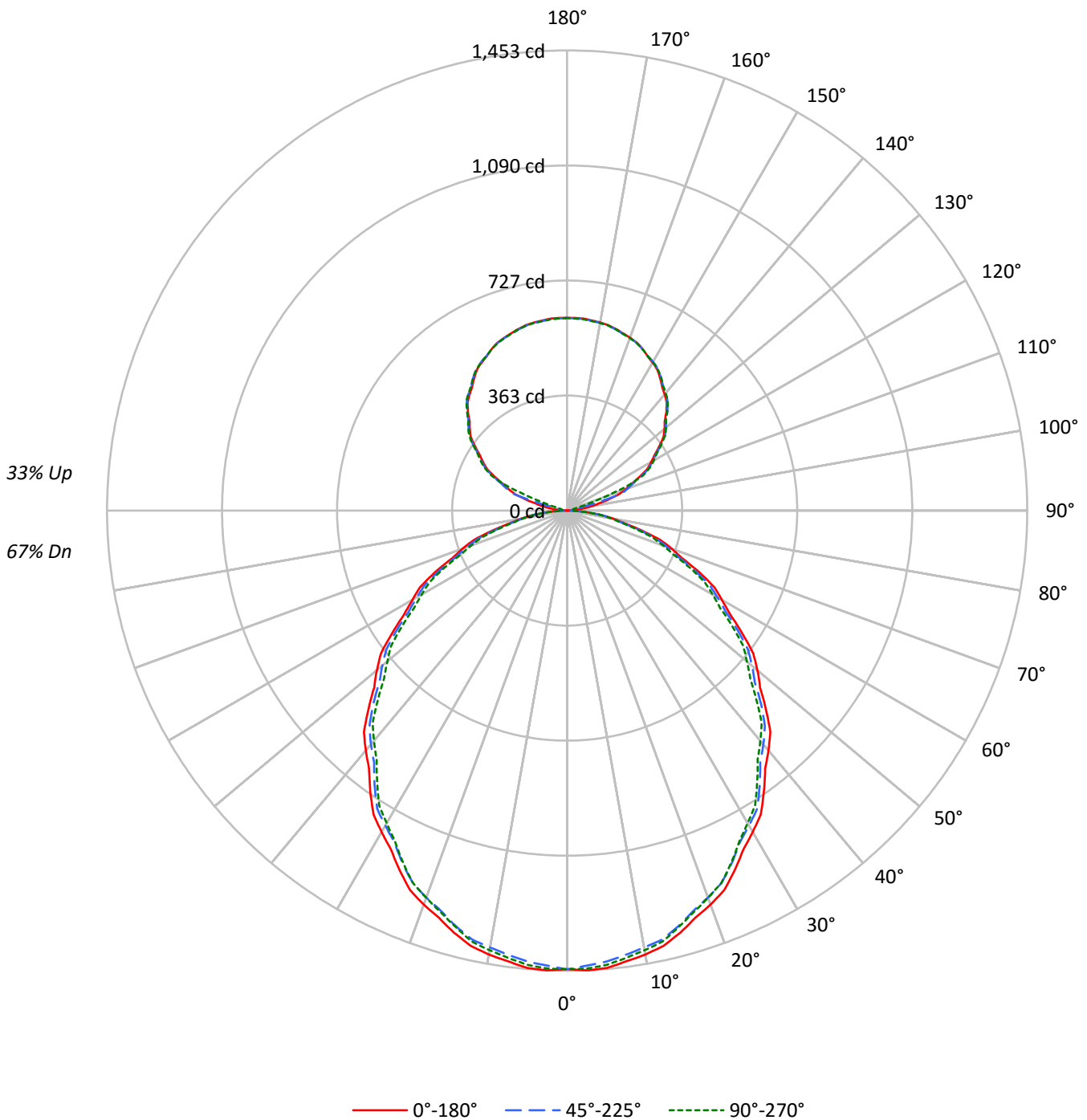
Input Watts (W): 55.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	102	97	93	89	95	92	88	85	81	79	76	72	70	68	63	62	60	56
2	92	85	78	73	87	80	74	70	71	67	63	63	60	57	56	53	51	47
3	84	74	67	61	79	70	64	58	63	57	53	56	52	48	49	46	43	40
4	77	66	58	52	72	62	55	49	56	50	45	50	45	41	44	40	37	34
5	71	59	50	44	67	56	48	43	50	44	39	45	40	36	40	36	32	30
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	25	23
8	56	44	36	30	53	41	34	29	38	31	27	34	29	25	30	26	23	21
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	28	24	21	19
10	49	37	29	24	46	35	28	23	32	26	22	29	24	20	26	22	19	17

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

	0°	45°	90°
0°	15588	15588	15588
5°	15662	15446	15554
10°	15557	15312	15407
15°	15375	15139	15166
20°	15163	14892	14905
25°	14878	14598	14567
30°	14564	14270	14162
35°	14236	13925	13745
40°	13893	13543	13333
45°	13516	13192	12871
50°	13137	12762	12407
55°	12643	12314	11941
60°	12144	11795	11418
65°	11703	11227	10878
70°	11053	10581	10112
75°	10098	9736	9320
80°	9106	8722	8647
85°	7991	7694	7385



TEST NUMBER: P332060-927

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.4	2.4
10°-20°	385.2	6.8
20°-30°	569.0	10.1
30°-40°	664.6	11.8
40°-50°	668.2	11.9
50°-60°	587.0	10.4
60°-70°	437.3	7.8
70°-80°	249.1	4.4
80°-90°	73.2	1.3
90°-100°	22.1	0.4
100°-110°	105.4	1.9
110°-120°	253.1	4.5
120°-130°	322.3	5.7
130°-140°	344.4	6.1
140°-150°	322.0	5.7
150°-160°	259.8	4.6
160°-170°	167.7	3.0
170°-180°	57.8	1.0
0°-30°	1090.6	19.4
0°-40°	1755.3	31.2
0°-60°	3010.4	53.5
0°-90°	3770.1	67.0
90°-120°	380.6	6.8
90°-150°	1369.4	24.3
90°-180°	1855.0	33.0
0°-180°	5624.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1448	1448	1448	1448	1448	
5°	1450	1443	1430	1441	1440	137
15°	1380	1374	1358	1368	1361	389
25°	1253	1245	1229	1230	1226	577
35°	1083	1075	1060	1052	1046	677
45°	888	882	867	852	846	685
55°	674	672	656	643	636	603
65°	460	453	441	431	427	453
75°	243	238	234	228	224	260
85°	65	62	62	60	60	71
90°	0	5	11	13	14	5
95°	28	10	14	17	17	34
105°	135	137	99	24	20	143
115°	252	255	259	264	266	249
125°	356	360	362	362	363	318
135°	443	446	448	449	448	341
145°	511	515	516	516	516	320
155°	563	563	563	565	562	259
165°	594	593	592	596	593	168
175°	608	606	606	609	606	58
180°	608	608	608	608	608	



TEST NUMBER: P332060-927

CATALOG NUMBER: S123DIP-S1165D585U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2
2.5°	1453.2	1452.3	1451.4	1450.6	1449.6	1448.0	1445.6	1443.1	1440.7	1438.2	1440.4
5°	1449.5	1448.1	1446.7	1445.3	1443.9	1441.7	1438.7	1435.6	1432.6	1429.5	1432.3
7.5°	1435.3	1433.8	1432.5	1431.1	1429.7	1427.4	1424.3	1421.2	1418.0	1414.8	1417.3
10°	1423.3	1421.9	1420.5	1419.1	1417.8	1415.3	1411.7	1408.1	1404.5	1400.9	1403.4
12.5°	1407.4	1406.2	1405.0	1403.9	1402.7	1400.4	1397.1	1393.7	1390.3	1387.0	1388.8
15°	1379.7	1378.6	1377.5	1376.4	1375.3	1372.9	1369.4	1365.7	1362.2	1358.5	1360.7
17.5°	1347.6	1346.2	1344.7	1343.3	1341.8	1339.3	1335.7	1332.1	1328.5	1324.9	1326.5
20°	1323.7	1322.0	1320.3	1318.7	1317.1	1314.4	1310.8	1307.3	1303.6	1300.1	1301.2
22.5°	1296.8	1295.1	1293.5	1291.8	1290.1	1287.5	1283.9	1280.3	1276.8	1273.1	1274.0
25°	1252.7	1251.0	1249.4	1247.7	1246.1	1243.4	1239.8	1236.3	1232.6	1229.1	1229.3
27.5°	1205.6	1204.0	1202.5	1200.8	1199.2	1196.5	1192.6	1188.7	1184.9	1181.0	1181.2
30°	1171.8	1170.4	1169.0	1167.6	1166.3	1163.6	1159.8	1155.9	1152.0	1148.1	1148.1
32.5°	1137.9	1136.1	1134.2	1132.4	1130.6	1128.1	1125.2	1122.2	1119.2	1116.3	1114.7
35°	1083.4	1081.7	1080.1	1078.4	1076.7	1074.1	1070.5	1066.9	1063.3	1059.7	1058.0
37.5°	1027.5	1025.5	1023.3	1021.3	1019.1	1016.3	1012.6	1009.0	1005.4	1001.6	999.7
40°	988.7	987.1	985.4	983.7	982.1	979.3	975.4	971.5	967.7	963.8	961.6
42.5°	949.8	948.0	946.1	944.2	942.3	939.4	935.6	931.7	927.8	924.0	921.8
45°	887.9	886.8	885.7	884.6	883.4	881.1	877.5	873.9	870.3	866.6	863.4
47.5°	826.3	824.7	823.2	821.5	819.9	817.5	814.0	810.6	807.3	803.9	800.7
50°	784.5	783.2	781.7	780.4	779.0	776.5	772.9	769.3	765.6	762.1	759.1
52.5°	740.7	739.7	738.8	737.8	736.9	734.5	730.7	726.9	723.1	719.2	716.6
55°	673.7	673.4	673.1	672.9	672.6	670.7	667.0	663.5	659.8	656.2	653.2
57.5°	609.9	609.0	608.0	607.1	606.2	604.3	601.3	598.5	595.6	592.7	590.0
60°	564.1	563.8	563.6	563.2	563.0	561.2	557.9	554.5	551.2	547.9	545.4
62.5°	523.2	522.5	521.8	521.1	520.4	518.3	515.0	511.7	508.4	505.1	502.6
65°	459.5	458.1	456.7	455.3	453.9	451.9	449.1	446.3	443.5	440.8	438.6
67.5°	392.0	390.8	389.6	388.3	387.1	385.5	383.3	381.3	379.1	377.1	375.1
70°	351.2	349.5	347.8	346.2	344.5	342.9	341.2	339.5	337.9	336.2	334.3
72.5°	308.3	307.1	305.9	304.7	303.5	301.9	300.0	298.1	296.3	294.4	292.6
75°	242.8	241.7	240.6	239.5	238.4	237.4	236.6	235.8	235.0	234.1	232.7
77.5°	184.8	184.2	183.5	183.0	182.4	181.6	180.5	179.6	178.6	177.6	176.7
80°	146.9	146.1	145.3	144.4	143.6	142.9	142.4	141.8	141.2	140.7	140.5
82.5°	110.1	109.9	109.7	109.6	109.4	109.2	109.2	109.1	108.9	108.8	108.4
85°	64.7	64.2	63.6	63.1	62.5	62.3	62.3	62.3	62.3	62.3	61.7
87.5°	26.0	25.5	25.0	24.6	24.2	23.9	24.0	24.0	24.1	24.1	23.9
90°	0.5	1.4	2.5	3.5	4.4	5.6	6.9	8.2	9.5	10.9	11.2
92.5°	8.4	8.2	7.8	7.5	7.3	7.6	8.6	9.6	10.6	11.6	12.2
95°	27.6	23.4	19.3	15.2	11.1	9.6	10.7	11.8	12.9	14.0	14.7
97.5°	55.4	53.6	51.7	49.8	48.0	43.5	36.2	29.0	21.8	14.6	15.4
100°	76.4	78.3	80.4	82.4	84.4	77.6	61.9	46.3	30.6	14.9	15.7
102.5°	100.2	101.6	103.1	104.6	106.0	98.2	81.0	63.9	46.8	29.7	27.3
105°	134.7	135.8	136.9	137.9	139.0	135.1	126.0	117.0	108.0	98.9	81.2
107.5°	171.0	171.8	172.8	173.6	174.5	175.6	177.1	178.5	179.9	181.3	168.3
110°	195.2	196.0	196.8	197.6	198.4	199.4	200.4	201.5	202.6	203.7	200.4



TEST NUMBER: P332060-927

CATALOG NUMBER: S123DIP-S1165D585U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	218.3	219.0	219.8	220.5	221.2	222.1	223.2	224.3	225.5	226.6	226.6
115°	252.5	253.2	253.7	254.4	255.0	255.7	256.7	257.5	258.4	259.4	260.4
117.5°	285.7	286.5	287.2	288.0	288.7	289.3	289.8	290.3	290.7	291.1	292.0
120°	306.3	307.2	308.2	309.0	310.0	310.5	310.9	311.2	311.5	311.7	312.6
122.5°	327.3	328.0	328.8	329.5	330.3	330.8	331.2	331.6	332.0	332.4	333.0
125°	356.0	356.9	357.7	358.5	359.3	359.9	360.3	360.7	361.1	361.5	361.6
127.5°	383.9	384.7	385.5	386.3	387.1	387.7	388.2	388.7	389.2	389.7	390.0
130°	401.2	402.0	402.8	403.6	404.4	405.0	405.4	405.8	406.2	406.6	407.0
132.5°	417.9	418.7	419.5	420.3	421.0	421.6	421.9	422.2	422.6	422.9	423.3
135°	443.2	443.9	444.4	445.0	445.7	446.2	446.6	446.9	447.3	447.7	448.1
137.5°	464.9	465.7	466.4	467.2	467.9	468.5	468.7	468.9	469.1	469.4	469.8
140°	479.3	480.0	480.6	481.2	481.8	482.3	482.5	482.8	483.2	483.5	483.9
142.5°	492.7	493.4	494.0	494.6	495.2	495.6	495.9	496.2	496.5	496.9	497.2
145°	511.4	512.1	512.9	513.6	514.3	514.8	514.9	515.2	515.3	515.6	515.7
147.5°	529.1	529.6	530.0	530.4	530.9	531.2	531.5	531.6	531.9	532.1	532.3
150°	540.0	540.3	540.5	540.8	541.1	541.4	541.6	541.8	542.0	542.2	542.4
152.5°	549.7	549.9	549.9	550.1	550.2	550.4	550.5	550.6	550.7	550.9	551.2
155°	563.4	563.2	563.0	562.8	562.6	562.6	562.7	562.8	562.8	563.0	563.5
157.5°	574.1	574.1	574.0	574.0	574.0	573.9	573.9	573.8	573.6	573.5	574.2
160°	580.6	580.5	580.4	580.3	580.2	580.1	580.0	579.9	579.8	579.7	580.3
162.5°	586.8	586.5	586.2	586.0	585.7	585.5	585.4	585.3	585.2	585.1	585.8
165°	594.1	593.8	593.6	593.3	592.9	592.7	592.6	592.6	592.5	592.3	593.2
167.5°	599.9	599.5	599.1	598.7	598.3	598.1	598.1	598.1	598.1	598.1	599.0
170°	603.2	602.8	602.4	602.0	601.6	601.3	601.3	601.3	601.3	601.3	602.2
172.5°	605.4	604.9	604.4	603.9	603.4	603.2	603.3	603.4	603.5	603.6	604.4
175°	608.2	607.7	607.1	606.7	606.2	605.9	606.0	606.2	606.3	606.3	607.0
177.5°	608.9	608.5	608.1	607.7	607.3	607.1	607.2	607.3	607.4	607.4	608.1
180°	608.2	608.2	608.2	608.2	608.2	608.2	608.2	608.2	608.2	608.2	608.2



TEST NUMBER: P332060-927

CATALOG NUMBER: S123DIP-S1165D585U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2
2.5°	1442.6	1444.9	1447.1	1448.1	1447.9	1447.6	1447.4	1447.2
5°	1435.0	1437.8	1440.6	1441.7	1441.1	1440.6	1440.0	1439.5
7.5°	1419.8	1422.3	1424.8	1425.8	1425.5	1425.2	1424.9	1424.6
10°	1405.9	1408.3	1410.9	1411.8	1411.3	1410.7	1410.2	1409.6
12.5°	1390.6	1392.4	1394.2	1395.0	1394.6	1394.3	1394.0	1393.7
15°	1362.9	1365.2	1367.4	1367.7	1366.0	1364.4	1362.7	1361.0
17.5°	1328.0	1329.6	1331.1	1331.6	1331.0	1330.4	1329.8	1329.2
20°	1302.3	1303.4	1304.5	1304.6	1303.8	1302.9	1302.1	1301.2
22.5°	1274.9	1275.8	1276.7	1276.6	1275.6	1274.5	1273.4	1272.4
25°	1229.6	1229.9	1230.2	1229.9	1229.1	1228.2	1227.4	1226.5
27.5°	1181.5	1181.6	1181.9	1181.5	1180.4	1179.3	1178.3	1177.3
30°	1148.1	1148.1	1148.1	1147.2	1145.2	1143.3	1141.3	1139.4
32.5°	1113.1	1111.6	1110.0	1108.7	1107.7	1106.6	1105.6	1104.5
35°	1056.4	1054.7	1053.0	1051.5	1050.1	1048.8	1047.3	1046.0
37.5°	997.7	995.7	993.7	992.3	991.3	990.5	989.6	988.7
40°	959.4	957.2	955.0	953.3	952.2	951.1	950.0	948.9
42.5°	919.6	917.3	915.1	913.5	912.4	911.2	910.1	909.0
45°	860.1	856.7	853.4	851.0	849.7	848.3	846.9	845.5
47.5°	797.4	794.2	790.8	788.6	787.4	786.2	785.0	783.8
50°	756.0	753.0	749.9	747.6	745.9	744.3	742.6	740.9
52.5°	714.1	711.5	708.8	706.7	705.0	703.4	701.7	700.1
55°	650.1	647.1	644.0	641.8	640.5	639.1	637.7	636.3
57.5°	587.3	584.6	581.9	579.7	578.1	576.6	574.9	573.3
60°	543.0	540.4	538.0	536.0	534.6	533.2	531.9	530.4
62.5°	500.1	497.6	495.1	493.4	492.4	491.5	490.6	489.6
65°	436.4	434.2	432.0	430.5	429.6	428.8	427.9	427.1
67.5°	373.2	371.2	369.3	367.7	366.6	365.4	364.2	363.1
70°	332.3	330.4	328.4	326.8	325.4	324.0	322.7	321.3
72.5°	291.0	289.2	287.5	286.3	285.6	284.9	284.2	283.4
75°	231.3	230.0	228.5	227.4	226.6	225.8	225.0	224.1
77.5°	175.7	174.8	173.8	173.3	173.3	173.3	173.3	173.3
80°	140.1	139.9	139.6	139.5	139.5	139.5	139.5	139.5
82.5°	107.8	107.3	106.9	106.5	106.2	106.1	105.8	105.6
85°	61.2	60.6	60.0	59.8	59.8	59.8	59.8	59.8
87.5°	23.8	23.7	23.5	23.4	23.5	23.5	23.6	23.6
90°	11.6	12.0	12.4	12.8	13.0	13.2	13.4	13.5
92.5°	12.8	13.5	14.1	14.5	14.7	14.7	14.9	15.0
95°	15.4	16.1	16.8	17.2	17.2	17.2	17.2	17.2
97.5°	16.2	17.0	17.7	18.2	18.3	18.4	18.5	18.6
100°	16.5	17.3	18.1	18.5	18.7	18.8	18.9	19.0
102.5°	24.7	22.3	19.8	18.6	18.8	19.0	19.2	19.3
105°	63.4	45.6	27.9	19.1	19.3	19.5	19.6	19.9
107.5°	155.3	142.3	129.2	116.1	102.6	89.2	75.8	62.4
110°	197.2	193.8	190.5	181.6	167.3	153.0	138.6	124.2





TEST NUMBER: P332060-927

CATALOG NUMBER: S123DIP-S1165D585U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	226.6	226.7	226.8	225.3	222.3	219.2	216.2	213.2
115°	261.3	262.4	263.4	264.0	264.4	264.9	265.3	265.7
117.5°	292.8	293.6	294.4	294.9	294.9	295.0	295.1	295.2
120°	313.4	314.2	315.0	315.4	315.4	315.4	315.4	315.4
122.5°	333.5	334.1	334.6	334.9	335.0	335.1	335.2	335.3
125°	361.9	362.0	362.3	362.5	362.7	362.9	363.1	363.3
127.5°	390.3	390.6	390.9	391.0	390.8	390.6	390.4	390.2
130°	407.4	407.8	408.2	408.4	408.1	408.0	407.7	407.6
132.5°	423.7	424.1	424.5	424.6	424.3	424.0	423.7	423.4
135°	448.4	448.7	448.9	448.9	448.7	448.4	448.1	447.7
137.5°	470.3	470.8	471.3	471.4	471.2	471.0	470.8	470.6
140°	484.3	484.7	485.1	485.1	485.0	484.7	484.6	484.3
142.5°	497.5	497.8	498.1	498.1	497.9	497.6	497.3	497.0
145°	515.9	516.1	516.3	516.4	516.4	516.4	516.4	516.4
147.5°	532.5	532.7	532.9	532.7	532.3	531.8	531.4	530.9
150°	542.6	542.8	543.0	543.0	542.6	542.3	542.0	541.8
152.5°	551.6	551.9	552.3	552.2	551.8	551.4	550.9	550.4
155°	564.0	564.5	565.0	564.9	564.4	563.7	563.2	562.5
157.5°	574.7	575.4	576.0	575.8	575.0	574.3	573.5	572.7
160°	580.9	581.5	582.1	582.0	581.4	580.7	580.0	579.2
162.5°	586.5	587.2	587.9	587.9	587.2	586.6	586.0	585.4
165°	594.0	594.8	595.6	595.6	594.9	594.2	593.5	592.8
167.5°	599.8	600.6	601.3	601.3	600.6	599.8	599.0	598.1
170°	603.0	603.8	604.6	604.6	603.8	603.0	602.2	601.3
172.5°	605.1	605.9	606.7	606.7	605.9	605.0	604.0	603.2
175°	607.8	608.5	609.2	609.1	608.3	607.5	606.7	605.9
177.5°	608.7	609.3	610.0	609.9	609.1	608.3	607.5	606.7
180°	608.2	608.2	608.2	608.2	608.2	608.2	608.2	608.2

(END OF REPORT)