

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: P332227-927

Luminaire Tested: **S123DIW-S1165D1030U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332227-927  
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-S1165D1030U927-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

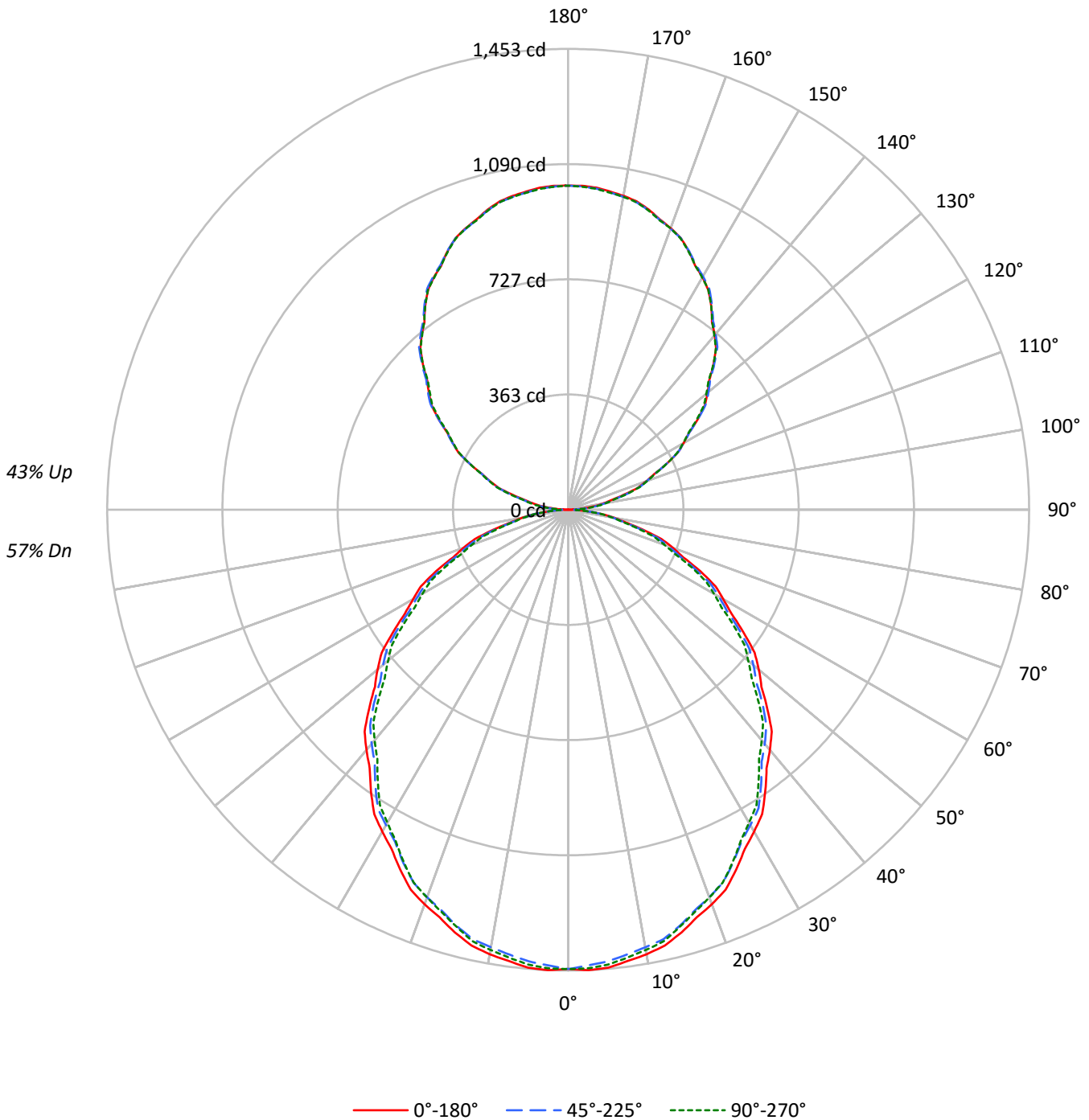
Lumens per Lamp: N/A  
Luminaire Lumens: 6602.1 lumens  
Efficiency: N/A  
Efficacy: 98.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 67.4  
Input Voltage (V): 120  
Input Current (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: P332227-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-F1

### Luminous Intensity Polar Plot





TEST NUMBER: P332227-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-F1

**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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63	57
1	99	95	91	87	92	88	85	82	76	74	72	65	64	62	55	54	53	48
2	90	83	77	71	84	77	72	67	67	63	59	57	54	52	49	46	44	40
3	82	73	65	59	76	68	61	56	59	54	50	51	47	44	43	40	38	34
4	75	64	56	50	70	60	53	48	52	47	42	45	41	37	38	35	33	29
5	69	57	49	43	64	54	46	41	47	41	37	41	36	32	35	31	28	25
6	64	52	43	37	59	48	41	36	42	36	32	37	32	28	31	28	25	22
7	59	47	39	33	55	44	36	31	38	33	28	33	29	25	29	25	22	20
8	55	42	34	29	51	40	33	28	35	29	25	31	26	22	26	23	20	18
9	51	39	31	26	48	36	30	25	32	26	22	28	24	20	24	21	18	16
10	48	36	28	23	44	34	27	22	30	24	20	26	21	18	23	19	16	14

**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: P332227-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.4	2.1
10°-20°	385.2	5.8
20°-30°	569.0	8.6
30°-40°	664.6	10.1
40°-50°	668.2	10.1
50°-60°	587.0	8.9
60°-70°	437.3	6.6
70°-80°	249.1	3.8
80°-90°	74.5	1.1
90°-100°	66.6	1.0
100°-110°	199.2	3.0
110°-120°	338.8	5.1
120°-130°	445.7	6.8
130°-140°	500.9	7.6
140°-150°	492.4	7.5
150°-160°	414.5	6.3
160°-170°	275.9	4.2
170°-180°	96.6	1.5
0°-30°	1090.6	16.5
0°-40°	1755.3	26.6
0°-60°	3010.4	45.6
0°-90°	3771.4	57.1
90°-120°	604.6	9.2
90°-150°	2043.6	31.0
90°-180°	2831.0	42.9
0°-180°	6602.1	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°	1	9	19	22	24	6
95°	47	53	59	62	63	53
105°	181	182	189	190	191	193
115°	341	343	342	343	342	337
125°	499	501	500	497	494	445
135°	648	652	652	649	647	499
145°	786	787	790	789	786	491
155°	900	900	900	903	898	414
165°	980	978	978	982	977	276
175°	1019	1016	1016	1020	1015	97
180°	1022	1022	1022	1022	1022	



TEST NUMBER: P332227-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-F1

**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°	26.1	25.7	25.4	25.1	24.8	24.8	25.0	25.3	25.5	25.7	25.7
90°	0.8	2.6	4.4	6.2	7.9	10.0	12.3	14.7	17.0	19.3	20.0
92.5°	19.4	20.6	21.9	23.1	24.2	25.5	26.9	28.2	29.5	30.8	31.4
95°	47.4	48.6	49.8	51.1	52.4	53.7	55.1	56.6	58.0	59.4	60.1
97.5°	84.1	85.0	86.0	86.9	87.9	88.8	89.8	90.9	91.9	92.9	93.8
100°	109.2	110.2	111.3	112.3	113.4	114.4	115.3	116.2	117.1	118.0	118.5
102.5°	138.1	138.7	139.3	140.0	140.6	141.5	142.7	143.9	145.0	146.2	146.8
105°	180.6	180.9	181.3	181.6	182.0	183.0	184.6	186.2	187.8	189.4	189.4
107.5°	230.0	230.2	230.4	230.7	230.8	231.3	232.0	232.6	233.2	233.9	234.4
110°	260.9	261.2	261.6	261.9	262.3	262.6	263.0	263.3	263.7	264.0	264.7



TEST NUMBER: P332227-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	292.9	293.2	293.3	293.6	293.8	293.9	294.0	294.1	294.1	294.2	295.1
115°	341.1	341.6	342.1	342.7	343.3	343.3	342.9	342.6	342.2	341.9	342.1
117.5°	389.6	389.9	390.3	390.6	391.0	390.9	390.5	390.0	389.5	389.1	389.0
120°	419.8	420.8	421.9	422.9	424.1	424.1	423.2	422.3	421.4	420.6	420.3
122.5°	451.2	452.0	452.8	453.5	454.3	454.5	454.1	453.6	453.1	452.7	452.2
125°	499.2	499.7	500.3	500.8	501.4	501.5	501.1	500.7	500.3	500.0	499.3
127.5°	543.5	544.6	545.8	546.9	548.0	548.4	548.0	547.6	547.2	546.8	545.9
130°	573.1	574.5	575.9	577.3	578.8	579.2	578.7	578.1	577.6	577.0	576.3
132.5°	602.5	604.0	605.4	606.9	608.3	608.8	608.4	608.0	607.6	607.2	606.3
135°	647.7	648.7	649.8	650.9	652.0	652.4	652.2	652.0	651.9	651.6	650.9
137.5°	689.4	690.3	691.2	692.1	693.0	693.6	694.1	694.6	695.1	695.5	694.7
140°	718.3	719.2	720.1	721.0	721.8	722.4	722.5	722.8	722.9	723.1	722.9
142.5°	744.7	745.5	746.4	747.3	748.2	748.8	749.1	749.4	749.8	750.1	749.9
145°	785.7	786.1	786.4	786.8	787.1	787.6	788.1	788.7	789.2	789.7	789.6
147.5°	821.7	822.3	822.9	823.6	824.3	824.8	825.3	825.9	826.3	826.8	826.8
150°	846.7	847.1	847.4	847.8	848.1	848.5	848.8	849.2	849.5	849.9	849.9
152.5°	867.3	867.8	868.2	868.8	869.3	869.6	869.8	870.1	870.3	870.4	870.8
155°	899.7	899.7	899.7	899.7	899.7	899.8	899.9	900.2	900.3	900.5	901.2
157.5°	927.3	927.1	926.9	926.6	926.5	926.4	926.5	926.7	926.9	926.9	927.7
160°	944.6	944.3	943.9	943.6	943.2	943.0	943.0	943.0	943.0	943.0	943.9
162.5°	960.0	959.6	959.0	958.5	958.1	957.8	958.0	958.1	958.3	958.5	959.3
165°	979.9	979.4	978.9	978.3	977.8	977.6	977.6	977.6	977.6	977.6	978.6
167.5°	995.9	995.1	994.4	993.7	993.0	992.7	992.8	993.0	993.2	993.2	994.3
170°	1004.8	1004.1	1003.4	1002.7	1002.0	1001.6	1001.6	1001.6	1001.6	1001.6	1002.8
172.5°	1011.9	1011.1	1010.4	1009.7	1009.0	1008.7	1008.7	1008.7	1008.7	1008.7	1009.8
175°	1019.3	1018.6	1017.9	1017.2	1016.4	1016.1	1016.1	1016.1	1016.1	1016.1	1017.2
177.5°	1022.3	1021.8	1021.2	1020.6	1020.0	1019.8	1019.8	1019.8	1019.8	1019.8	1020.6
180°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7



TEST NUMBER: P332227-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-F1

**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°	25.6	25.5	25.4	25.4	25.5	25.6	25.7	25.7
90°	20.7	21.4	22.1	22.7	23.0	23.4	23.7	24.1
92.5°	31.9	32.6	33.1	33.3	33.0	32.9	32.6	32.4
95°	60.8	61.6	62.3	62.6	62.6	62.6	62.6	62.6
97.5°	94.6	95.4	96.3	96.6	96.5	96.5	96.4	96.3
100°	119.1	119.6	120.1	120.6	120.9	121.3	121.6	122.0
102.5°	147.3	147.8	148.4	148.6	148.5	148.5	148.4	148.3
105°	189.4	189.4	189.4	189.6	190.0	190.3	190.7	191.0
107.5°	235.0	235.6	236.1	236.3	236.1	235.9	235.7	235.4
110°	265.5	266.2	266.9	267.0	266.7	266.3	266.0	265.6





TEST NUMBER: P332227-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	296.0	296.8	297.6	298.0	297.9	297.9	297.9	297.8
115°	342.2	342.5	342.6	342.6	342.5	342.2	342.1	341.9
117.5°	389.0	389.0	389.0	388.6	388.2	387.7	387.1	386.7
120°	420.2	420.0	419.9	419.5	419.2	418.8	418.5	418.1
122.5°	451.7	451.2	450.8	450.3	449.8	449.3	448.9	448.3
125°	498.6	497.9	497.2	496.5	495.7	495.0	494.3	493.6
127.5°	544.9	543.9	542.9	541.9	541.1	540.3	539.5	538.7
130°	575.6	574.9	574.2	573.2	572.0	570.7	569.5	568.2
132.5°	605.5	604.7	603.8	602.9	601.9	600.9	600.0	599.0
135°	650.2	649.5	648.8	648.3	647.9	647.6	647.2	646.9
137.5°	694.0	693.2	692.5	691.8	691.1	690.5	689.8	689.1
140°	722.8	722.5	722.4	721.7	720.4	719.2	718.0	716.7
142.5°	749.7	749.6	749.4	748.8	747.8	746.9	745.9	745.0
145°	789.4	789.2	789.0	788.5	787.8	787.1	786.4	785.7
147.5°	826.8	826.8	826.8	826.2	825.2	824.1	823.1	822.0
150°	849.9	849.9	849.9	849.4	848.3	847.2	846.2	845.1
152.5°	871.0	871.3	871.6	871.3	870.4	869.4	868.5	867.6
155°	901.9	902.6	903.3	903.1	901.8	900.6	899.4	898.1
157.5°	928.4	929.2	929.9	929.9	928.8	927.9	926.9	925.8
160°	944.8	945.7	946.6	946.7	945.9	945.2	944.5	943.8
162.5°	960.2	961.1	962.0	961.9	960.8	959.6	958.5	957.3
165°	979.7	980.7	981.8	981.8	980.5	979.2	977.9	976.8
167.5°	995.5	996.6	997.7	997.7	996.6	995.5	994.3	993.2
170°	1004.1	1005.4	1006.6	1006.6	1005.4	1004.1	1002.8	1001.6
172.5°	1010.9	1012.0	1013.1	1013.0	1011.8	1010.5	1009.2	1008.1
175°	1018.2	1019.3	1020.3	1020.3	1019.0	1017.7	1016.5	1015.3
177.5°	1021.4	1022.3	1023.2	1023.1	1022.1	1021.1	1020.1	1019.1
180°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7

(END OF REPORT)