

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: P332201

Luminaire Tested: **S123DIW-S1000D1320U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332201  
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-S1000D1320U835-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

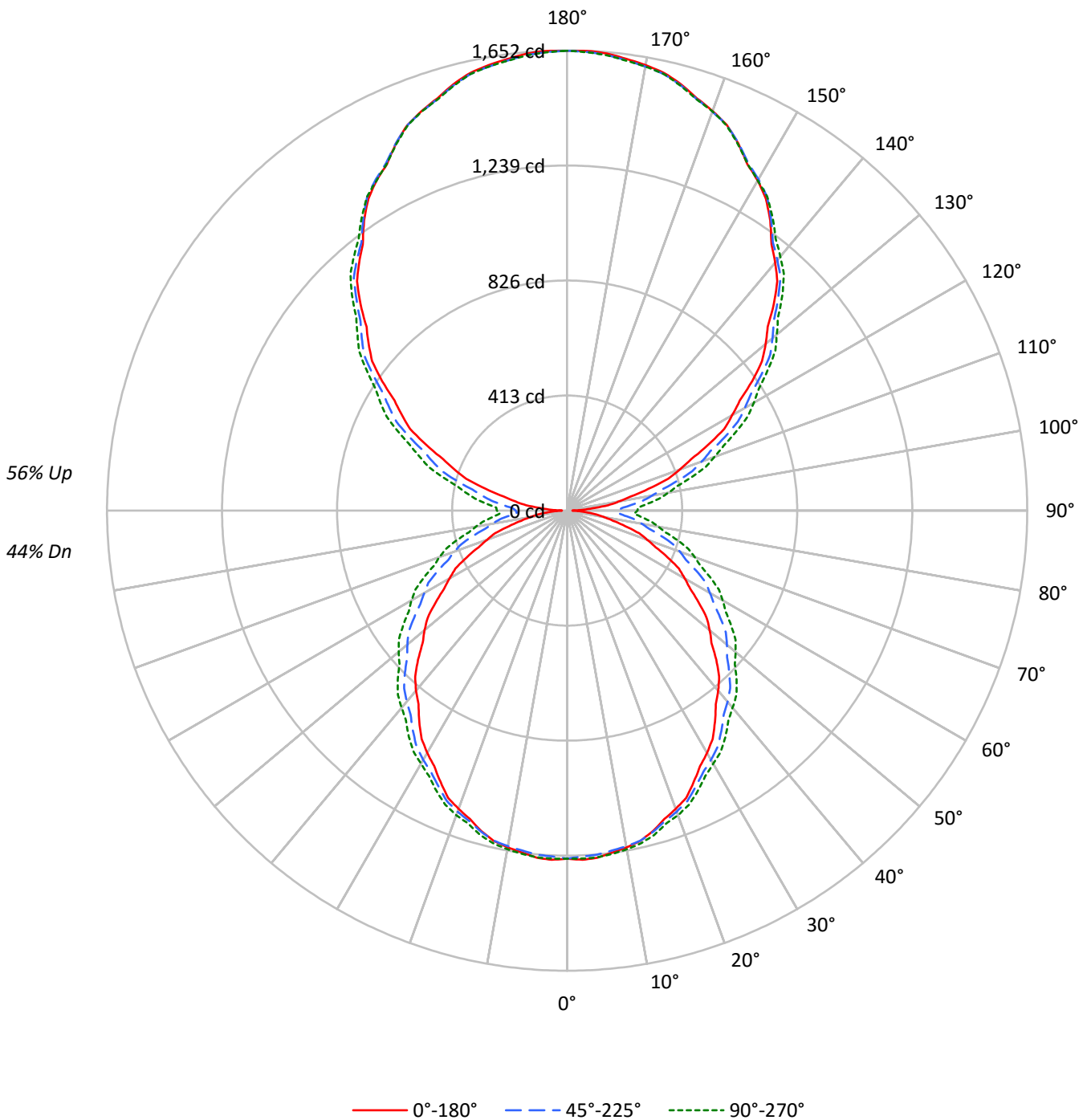
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8778.0 lumens  
Efficiency: N/A  
Efficacy: 125.8 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: General Diffuse  
  
Input Watts (W): 69.8  
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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	50	50	50	44
1	95	91	87	83	87	83	79	76	69	66	64	55	54	52	43	42	41	35
2	87	79	72	67	79	72	66	62	60	55	52	48	45	43	37	35	34	29
3	79	69	61	55	72	63	56	51	52	47	43	42	39	36	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	37	37	33	30	29	26	24	20
5	66	54	46	40	60	50	42	37	41	36	31	33	29	26	26	23	21	17
6	61	48	40	34	55	44	37	32	37	31	27	30	26	23	24	21	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	22	18	16	13
8	52	39	32	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	26	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

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

	0°	45°	90°
0°	13448	13448	13448
5°	13490	13110	13117
10°	13370	12808	12744
15°	13197	12465	12336
20°	12951	12074	11888
25°	12647	11623	11416
30°	12335	11217	10938
35°	11987	10789	10556
40°	11653	10399	10147
45°	11284	10024	9821
50°	10920	9654	9461
55°	10517	9275	9136
60°	10125	8890	8804
65°	9723	8481	8409
70°	9115	8019	8005
75°	8351	7490	7593
80°	7467	6971	7122
85°	6653	6616	6850



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.4	1.3
10°-20°	337.6	3.8
20°-30°	505.0	5.8
30°-40°	603.1	6.9
40°-50°	631.0	7.2
50°-60°	592.1	6.7
60°-70°	494.5	5.6
70°-80°	353.8	4.0
80°-90°	215.9	2.5
90°-100°	240.0	2.7
100°-110°	419.2	4.8
110°-120°	612.5	7.0
120°-130°	757.3	8.6
130°-140°	826.2	9.4
140°-150°	799.3	9.1
150°-160°	669.9	7.6
160°-170°	445.9	5.1
170°-180°	156.2	1.8
0°-30°	961.1	10.9
0°-40°	1564.1	17.8
0°-60°	2787.2	31.8
0°-90°	3851.5	43.9
90°-120°	1271.7	14.5
90°-150°	3654.5	41.6
90°-180°	4927.0	56.1
0°-180°	8778.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1249	1249	1249	1249	1249	
5°	1251	1248	1240	1250	1249	119
15°	1191	1195	1194	1206	1206	335
25°	1075	1088	1093	1110	1111	495
35°	926	947	965	985	991	579
45°	757	790	823	848	860	583
55°	577	622	671	706	719	517
65°	399	452	512	551	566	394
75°	216	281	348	392	410	231
85°	67	135	207	251	267	70
90°	19	99	185	234	253	17
95°	92	154	231	276	292	98
105°	303	340	408	445	461	324
115°	558	580	625	657	668	552
125°	811	817	852	874	879	723
135°	1049	1056	1070	1088	1093	808
145°	1271	1272	1276	1285	1286	793
155°	1454	1454	1455	1460	1451	669
165°	1584	1580	1580	1587	1578	446
175°	1647	1642	1642	1649	1641	156
180°	1651	1651	1651	1651	1651	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4
2.5°	1254.9	1254.2	1253.4	1252.7	1252.0	1250.6	1248.7	1246.8	1244.8	1242.9	1244.8
5°	1250.8	1250.2	1249.6	1249.0	1248.4	1247.2	1245.4	1243.5	1241.7	1239.9	1242.3
7.5°	1238.5	1238.7	1238.8	1238.9	1239.0	1238.2	1236.5	1234.7	1232.9	1231.2	1234.2
10°	1227.7	1228.3	1228.9	1229.5	1230.1	1229.6	1228.1	1226.6	1225.1	1223.6	1226.6
12.5°	1214.6	1215.4	1216.3	1217.1	1218.0	1217.9	1216.9	1215.8	1214.8	1213.8	1216.6
15°	1190.9	1191.8	1192.7	1193.6	1194.5	1194.8	1194.5	1194.2	1193.9	1193.6	1196.7
17.5°	1161.0	1162.8	1164.6	1166.4	1168.2	1169.1	1169.0	1168.8	1168.7	1168.6	1171.3
20°	1139.2	1141.0	1142.8	1144.6	1146.4	1147.7	1148.3	1148.9	1149.5	1150.1	1152.8
22.5°	1116.3	1118.1	1120.0	1121.8	1123.6	1124.9	1125.8	1126.6	1127.5	1128.3	1131.7
25°	1075.2	1078.2	1081.3	1084.3	1087.3	1089.3	1090.2	1091.1	1092.0	1092.9	1096.8
27.5°	1033.8	1037.3	1040.7	1044.2	1047.6	1050.3	1052.3	1054.2	1056.1	1058.1	1061.5
30°	1004.4	1008.4	1012.3	1016.2	1020.2	1023.3	1025.8	1028.2	1030.6	1033.0	1036.7
32.5°	971.8	976.2	980.6	985.0	989.4	993.2	996.4	999.5	1002.7	1005.8	1009.7
35°	925.5	930.3	935.2	940.0	944.9	949.2	953.2	957.1	961.0	965.0	969.5
37.5°	876.5	882.0	887.4	892.8	898.3	903.4	908.3	913.1	917.9	922.8	927.9
40°	843.8	849.3	854.7	860.2	865.6	871.4	877.4	883.5	889.5	895.6	900.7
42.5°	807.9	814.6	821.2	827.9	834.5	841.0	847.3	853.6	859.9	866.2	871.8
45°	756.7	764.0	771.3	778.5	785.8	793.2	800.7	808.3	815.9	823.4	829.2
47.5°	703.1	711.3	719.6	727.8	736.0	744.5	753.1	761.8	770.4	779.1	785.5
50°	668.3	676.7	685.2	693.7	702.1	711.1	720.4	729.8	739.2	748.6	755.5
52.5°	631.2	640.2	649.2	658.1	667.1	676.7	687.1	697.4	707.7	718.1	725.3
55°	577.1	587.1	597.0	607.0	617.0	627.4	638.3	649.2	660.1	671.0	679.2
57.5°	524.3	534.7	545.1	555.5	565.9	577.1	589.0	600.9	612.8	624.7	632.9
60°	487.3	498.1	509.0	519.9	530.8	542.4	554.8	567.3	579.7	592.1	600.5
62.5°	452.4	463.5	474.7	485.8	496.9	509.1	522.2	535.3	548.4	561.6	570.0
65°	398.8	410.6	422.4	434.2	446.0	458.5	471.8	485.1	498.4	511.8	520.8
67.5°	344.3	356.9	369.4	381.9	394.4	407.5	421.0	434.6	448.1	461.7	471.6
70°	306.2	319.2	332.2	345.3	358.3	372.0	386.5	401.1	415.6	430.1	439.8
72.5°	271.4	284.4	297.4	310.4	323.4	337.4	352.4	367.4	382.4	397.4	407.3
75°	216.4	230.6	244.8	259.1	273.3	287.9	303.1	318.2	333.3	348.4	358.4
77.5°	168.5	182.8	197.2	211.5	225.8	240.6	255.9	271.1	286.4	301.6	312.1
80°	134.7	149.6	164.4	179.2	194.0	209.3	225.0	240.8	256.5	272.2	282.5
82.5°	105.3	120.4	135.5	150.5	165.6	181.1	197.1	213.0	229.0	245.0	255.3
85°	66.7	81.8	96.9	112.1	127.2	142.8	158.8	174.8	190.8	206.9	217.2
87.5°	36.5	52.1	67.7	83.4	99.0	114.9	131.1	147.3	163.4	179.6	190.1
90°	19.0	36.7	54.4	72.1	89.8	108.2	127.4	146.6	165.8	184.9	196.4
92.5°	48.0	63.3	78.6	94.0	109.3	125.6	142.9	160.3	177.6	194.9	205.9
95°	91.5	105.3	119.1	132.9	146.7	162.2	179.3	196.5	213.6	230.7	241.2
97.5°	149.3	161.4	173.6	185.7	197.8	211.8	227.7	243.5	259.3	275.1	285.5
100°	188.6	200.0	211.5	222.9	234.3	247.7	263.0	278.4	293.7	309.1	318.7
102.5°	234.2	244.0	253.7	263.5	273.2	285.9	301.5	317.0	332.6	348.2	357.6
105°	302.7	310.5	318.4	326.2	334.0	345.8	361.4	377.0	392.6	408.2	416.6
107.5°	381.0	387.5	394.0	400.5	407.0	417.0	430.4	443.7	457.1	470.5	479.5
110°	429.7	435.7	441.7	447.7	453.8	463.1	475.8	488.5	501.1	513.8	522.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	481.6	486.4	491.2	496.0	500.9	509.1	520.9	532.6	544.3	556.0	565.1
115°	558.0	562.5	567.0	571.5	576.0	583.4	593.7	604.0	614.3	624.6	632.2
117.5°	636.1	638.9	641.7	644.5	647.3	653.5	663.0	672.4	681.9	691.4	698.5
120°	683.8	687.0	690.2	693.5	696.7	702.6	711.2	719.7	728.2	736.8	743.4
122.5°	734.6	736.7	738.7	740.8	742.8	748.2	757.0	765.7	774.5	783.2	789.2
125°	810.8	811.7	812.5	813.4	814.3	818.8	827.0	835.2	843.4	851.6	856.8
127.5°	882.4	883.9	885.5	887.0	888.6	892.6	899.3	905.9	912.5	919.1	923.5
130°	930.1	932.1	934.1	936.1	938.1	941.7	946.9	952.1	957.3	962.5	967.1
132.5°	976.8	979.0	981.3	983.5	985.7	989.0	993.2	997.4	1001.6	1005.8	1009.9
135°	1049.4	1050.8	1052.2	1053.7	1055.1	1057.3	1060.4	1063.4	1066.4	1069.5	1073.8
137.5°	1116.6	1117.8	1119.0	1120.2	1121.3	1123.3	1125.9	1128.5	1131.1	1133.8	1137.3
140°	1162.2	1163.6	1165.0	1166.5	1167.9	1169.2	1170.4	1171.6	1172.8	1174.0	1178.3
142.5°	1204.7	1205.9	1207.1	1208.3	1209.5	1210.4	1211.1	1211.8	1212.5	1213.2	1217.0
145°	1271.1	1271.4	1271.6	1271.9	1272.2	1272.8	1273.6	1274.5	1275.4	1276.2	1278.4
147.5°	1327.8	1328.9	1329.9	1331.0	1332.0	1332.9	1333.7	1334.5	1335.3	1336.1	1336.9
150°	1368.3	1368.9	1369.5	1370.0	1370.6	1371.2	1371.8	1372.3	1372.9	1373.5	1373.5
152.5°	1401.5	1402.3	1403.1	1403.9	1404.7	1405.3	1405.7	1406.0	1406.4	1406.7	1407.2
155°	1453.9	1453.9	1453.9	1453.9	1453.9	1454.1	1454.3	1454.6	1454.9	1455.2	1456.4
157.5°	1498.5	1498.2	1497.8	1497.5	1497.1	1497.1	1497.3	1497.5	1497.8	1498.0	1499.2
160°	1526.5	1526.0	1525.4	1524.8	1524.2	1523.9	1523.9	1523.9	1523.9	1523.9	1525.4
162.5°	1551.4	1550.6	1549.8	1549.0	1548.2	1547.9	1548.2	1548.4	1548.6	1548.8	1550.3
165°	1583.6	1582.7	1581.9	1581.0	1580.2	1579.7	1579.7	1579.7	1579.7	1579.7	1581.4
167.5°	1609.3	1608.1	1607.0	1605.8	1604.7	1604.2	1604.4	1604.7	1604.9	1605.1	1606.9
170°	1623.8	1622.7	1621.5	1620.4	1619.2	1618.6	1618.6	1618.6	1618.6	1618.6	1620.6
172.5°	1635.2	1634.1	1632.9	1631.8	1630.6	1630.0	1630.0	1630.0	1630.0	1630.0	1631.8
175°	1647.2	1646.0	1644.9	1643.7	1642.5	1642.0	1642.0	1642.0	1642.0	1642.0	1643.7
177.5°	1652.1	1651.2	1650.2	1649.3	1648.4	1647.9	1647.9	1647.9	1647.9	1647.9	1649.3
180°	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4
2.5°	1246.8	1248.7	1250.6	1251.5	1251.2	1251.0	1250.8	1250.5
5°	1244.7	1247.2	1249.6	1250.6	1250.3	1250.0	1249.7	1249.4
7.5°	1237.2	1240.3	1243.3	1244.6	1244.3	1243.9	1243.5	1243.2
10°	1229.6	1232.6	1235.7	1236.9	1236.3	1235.7	1235.1	1234.5
12.5°	1219.3	1222.1	1224.9	1226.0	1225.4	1224.8	1224.2	1223.6
15°	1199.7	1202.7	1205.7	1207.1	1206.8	1206.5	1206.2	1205.9
17.5°	1174.0	1176.8	1179.5	1180.6	1180.2	1179.8	1179.4	1178.9
20°	1155.5	1158.2	1161.0	1162.5	1162.8	1163.1	1163.4	1163.7
22.5°	1135.2	1138.6	1142.1	1143.7	1143.5	1143.4	1143.2	1143.0
25°	1100.8	1104.7	1108.6	1110.6	1110.6	1110.6	1110.6	1110.6
27.5°	1064.8	1068.2	1071.6	1073.4	1073.7	1073.9	1074.2	1074.4
30°	1040.3	1043.9	1047.5	1049.4	1049.4	1049.4	1049.4	1049.4
32.5°	1013.6	1017.4	1021.3	1023.6	1024.3	1025.0	1025.8	1026.5
35°	974.0	978.6	983.1	986.0	987.2	988.4	989.6	990.8
37.5°	933.1	938.2	943.4	946.4	947.4	948.3	949.3	950.3
40°	905.8	911.0	916.1	919.3	920.5	921.7	922.9	924.1
42.5°	877.4	883.0	888.7	892.3	894.0	895.7	897.4	899.1
45°	834.9	840.7	846.4	850.5	852.9	855.3	857.8	860.2
47.5°	792.0	798.5	804.9	809.1	811.0	812.9	814.7	816.6
50°	762.5	769.4	776.4	780.9	783.1	785.2	787.3	789.4
52.5°	732.5	739.7	746.9	751.8	754.4	757.0	759.6	762.2
55°	687.3	695.5	703.7	708.9	711.4	713.8	716.2	718.6
57.5°	641.2	649.4	657.6	663.2	666.0	668.8	671.7	674.5
60°	609.0	617.5	625.9	631.8	635.2	638.5	641.8	645.1
62.5°	578.5	587.0	595.4	601.2	604.3	607.4	610.5	613.6
65°	529.9	539.0	548.0	554.1	557.1	560.1	563.2	566.2
67.5°	481.5	491.4	501.3	507.6	510.1	512.7	515.2	517.7
70°	449.4	459.1	468.8	475.2	478.2	481.2	484.2	487.3
72.5°	417.3	427.2	437.1	443.6	446.6	449.6	452.7	455.7
75°	368.4	378.4	388.3	395.2	398.8	402.4	406.0	409.7
77.5°	322.7	333.2	343.7	350.4	353.1	355.9	358.7	361.5
80°	292.8	303.1	313.3	320.0	323.0	326.0	329.1	332.1
82.5°	265.6	275.8	286.1	292.8	295.8	298.8	301.8	304.9
85°	227.4	237.7	248.0	254.7	257.7	260.7	263.7	266.8
87.5°	200.6	211.2	221.7	228.5	231.6	234.8	237.9	241.1
90°	207.8	219.2	230.7	238.2	241.8	245.4	249.0	252.6
92.5°	216.8	227.8	238.7	245.4	247.9	250.3	252.8	255.2
95°	251.8	262.3	272.8	279.6	282.6	285.7	288.7	291.7
97.5°	295.8	306.1	316.5	323.1	326.0	328.9	331.8	334.7
100°	328.3	338.0	347.6	354.2	357.8	361.4	365.0	368.6
102.5°	367.0	376.4	385.8	391.9	394.8	397.7	400.6	403.6
105°	425.1	433.6	442.0	447.9	451.2	454.5	457.8	461.1
107.5°	488.5	497.6	506.6	512.3	514.6	516.9	519.2	521.5
110°	531.8	540.9	549.9	555.3	557.2	559.0	560.8	562.7





TEST NUMBER: P332201

CATALOG NUMBER: S123DIW-S1000D1320U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	574.1	583.1	592.1	597.8	600.4	602.9	605.5	608.0
115°	639.7	647.3	654.8	659.7	661.8	663.9	666.1	668.2
117.5°	705.7	712.8	719.9	724.3	725.8	727.4	728.9	730.5
120°	750.1	756.8	763.5	767.6	769.1	770.6	772.2	773.7
122.5°	795.1	801.1	807.1	810.7	812.0	813.3	814.6	816.0
125°	862.0	867.2	872.4	875.4	876.4	877.4	878.3	879.3
127.5°	927.9	932.3	936.6	939.2	939.9	940.7	941.4	942.1
130°	971.7	976.3	980.8	983.0	982.8	982.6	982.4	982.2
132.5°	1014.0	1018.2	1022.3	1024.6	1025.1	1025.6	1026.1	1026.6
135°	1078.1	1082.4	1086.6	1089.3	1090.2	1091.1	1092.1	1093.0
137.5°	1140.9	1144.5	1148.0	1150.0	1150.4	1150.9	1151.3	1151.7
140°	1182.5	1186.8	1191.0	1192.9	1192.4	1191.9	1191.4	1190.9
142.5°	1220.8	1224.5	1228.3	1230.2	1230.1	1230.1	1230.0	1230.0
145°	1280.5	1282.6	1284.8	1285.8	1285.9	1286.0	1286.0	1286.1
147.5°	1337.6	1338.3	1339.0	1339.1	1338.5	1337.8	1337.2	1336.5
150°	1373.5	1373.5	1373.5	1372.9	1371.8	1370.7	1369.6	1368.4
152.5°	1407.6	1408.1	1408.5	1408.1	1406.7	1405.3	1404.0	1402.6
155°	1457.5	1458.7	1459.8	1459.4	1457.4	1455.4	1453.3	1451.3
157.5°	1500.4	1501.6	1502.9	1502.6	1501.0	1499.4	1497.8	1496.2
160°	1526.8	1528.3	1529.7	1529.9	1528.7	1527.6	1526.4	1525.2
162.5°	1551.7	1553.2	1554.6	1554.4	1552.6	1550.7	1548.9	1547.0
165°	1583.2	1584.9	1586.6	1586.5	1584.5	1582.5	1580.4	1578.4
167.5°	1608.7	1610.5	1612.3	1612.3	1610.5	1608.7	1606.9	1605.1
170°	1622.7	1624.7	1626.7	1626.7	1624.7	1622.7	1620.6	1618.6
172.5°	1633.6	1635.4	1637.2	1637.1	1635.1	1633.0	1631.0	1629.0
175°	1645.4	1647.2	1648.9	1648.7	1646.7	1644.7	1642.7	1640.7
177.5°	1650.7	1652.1	1653.5	1653.4	1651.7	1650.1	1648.5	1646.9
180°	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1

(END OF REPORT)