

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: P332200

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332200
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: S123DIW-S1000D1320U835-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9481.4 lumens
Efficiency: N/A
Efficacy: 135.8 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

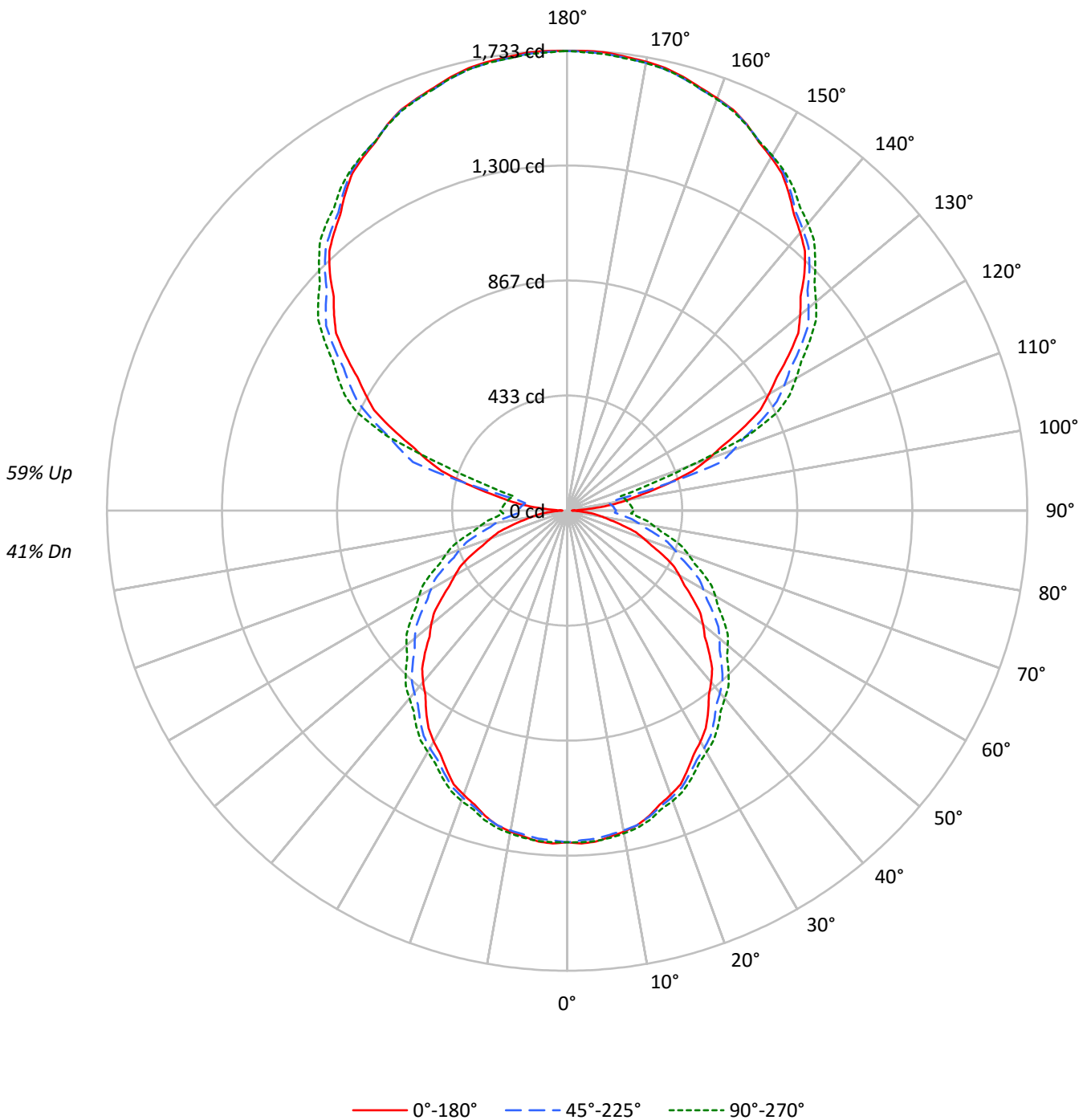
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41				
1	95	90	86	82	86	82	79	75	67	65	62	53	52	50	41	39	38	32				
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26				
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	29	27	22				
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19				
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16				
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14				
7	56	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12				
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11				
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10				
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9				

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	1.2
10°-20°	337.6	3.6
20°-30°	505.0	5.3
30°-40°	603.1	6.4
40°-50°	631.0	6.7
50°-60°	592.1	6.2
60°-70°	494.5	5.2
70°-80°	353.8	3.7
80°-90°	215.8	2.3
90°-100°	195.3	2.1
100°-110°	397.2	4.2
110°-120°	785.3	8.3
120°-130°	954.4	10.1
130°-140°	996.8	10.5
140°-150°	920.1	9.7
150°-160°	739.3	7.8
160°-170°	477.1	5.0
170°-180°	164.4	1.7
0°-30°	961.1	10.1
0°-40°	1564.1	16.5
0°-60°	2787.2	29.4
0°-90°	3851.4	40.6
90°-120°	1377.8	14.5
90°-150°	4249.1	44.8
90°-180°	5630.0	59.4
0°-180°	9481.4	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	252	16
95°	93	98	175	224	239	109
105°	394	435	384	206	209	417
115°	726	752	810	854	872	716
125°	1017	1030	1072	1102	1116	909
135°	1264	1271	1291	1318	1322	973
145°	1457	1464	1467	1480	1486	911
155°	1603	1601	1602	1608	1601	738
165°	1691	1687	1686	1695	1687	478
175°	1731	1725	1726	1734	1724	165
180°	1731	1731	1731	1731	1731	



TEST NUMBER: P332200

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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	147.2	163.4	179.6	190.1
90°	19.0	36.7	54.3	72.0	89.7	108.1	127.2	146.4	165.5	184.7	196.1
92.5°	40.5	53.1	65.7	78.2	90.8	106.1	124.1	142.0	160.0	178.0	189.9
95°	93.4	93.5	93.6	93.6	93.7	102.8	120.7	138.7	156.6	174.6	186.0
97.5°	171.0	176.4	181.8	187.1	192.5	192.0	185.6	179.2	172.8	166.3	177.6
100°	229.6	244.9	260.3	275.7	291.1	283.5	252.8	222.2	191.5	160.8	171.9
102.5°	296.4	309.2	322.0	334.8	347.7	336.6	301.5	266.5	231.5	196.5	197.9
105°	394.1	404.5	414.9	425.3	435.7	434.5	421.8	409.1	396.4	383.7	341.6
107.5°	495.8	504.5	513.2	521.9	530.6	543.1	559.5	575.9	592.3	608.7	579.7
110°	563.6	571.4	579.1	586.8	594.6	606.0	621.3	636.5	651.8	667.0	665.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	629.5	636.0	642.5	649.1	655.6	666.3	681.0	695.8	710.5	725.3	733.1
115°	725.6	730.9	736.3	741.6	747.0	756.4	769.8	783.3	796.7	810.2	820.3
117.5°	819.7	824.0	828.4	832.7	837.1	845.0	856.6	868.1	879.7	891.2	900.7
120°	877.2	881.3	885.4	889.5	893.6	901.0	911.9	922.7	933.5	944.4	953.6
122.5°	936.9	939.8	942.7	945.6	948.5	955.2	965.8	976.4	987.0	997.6	1005.9
125°	1017.3	1019.6	1021.9	1024.2	1026.5	1032.6	1042.5	1052.4	1062.3	1072.2	1079.1
127.5°	1096.5	1098.5	1100.5	1102.5	1104.5	1109.8	1118.4	1127.0	1135.7	1144.3	1151.2
130°	1145.9	1147.9	1149.9	1151.8	1153.8	1158.4	1165.6	1172.8	1180.0	1187.2	1194.1
132.5°	1192.1	1194.4	1196.6	1198.8	1201.0	1205.0	1210.8	1216.5	1222.3	1228.0	1234.7
135°	1264.1	1265.5	1266.9	1268.4	1269.8	1272.7	1277.2	1281.6	1286.1	1290.6	1296.9
137.5°	1325.6	1327.5	1329.4	1331.4	1333.3	1335.5	1338.0	1340.5	1343.0	1345.5	1351.7
140°	1365.6	1367.3	1369.1	1370.8	1372.5	1374.2	1376.0	1377.8	1379.5	1381.3	1387.0
142.5°	1403.7	1405.2	1406.6	1408.1	1409.6	1410.8	1411.9	1412.9	1413.9	1415.0	1420.0
145°	1456.9	1458.6	1460.3	1462.0	1463.7	1464.8	1465.4	1466.0	1466.6	1467.1	1470.1
147.5°	1505.7	1507.0	1508.3	1509.6	1511.0	1511.9	1512.5	1513.0	1513.6	1514.2	1515.5
150°	1536.6	1537.4	1538.3	1539.1	1540.0	1540.7	1541.3	1541.8	1542.4	1543.0	1543.6
152.5°	1564.3	1564.7	1565.1	1565.5	1565.9	1566.3	1566.7	1567.0	1567.3	1567.7	1568.7
155°	1603.4	1602.9	1602.3	1601.7	1601.1	1601.0	1601.3	1601.6	1601.9	1602.1	1603.6
157.5°	1633.8	1633.7	1633.7	1633.6	1633.5	1633.4	1633.1	1632.8	1632.5	1632.2	1633.9
160°	1652.3	1652.0	1651.7	1651.4	1651.1	1650.9	1650.6	1650.3	1650.0	1649.7	1651.4
162.5°	1669.8	1669.0	1668.3	1667.5	1666.8	1666.3	1666.0	1665.7	1665.4	1665.1	1667.1
165°	1690.9	1690.0	1689.1	1688.3	1687.4	1686.9	1686.6	1686.3	1686.0	1685.7	1688.0
167.5°	1707.3	1706.2	1705.0	1703.9	1702.7	1702.2	1702.2	1702.2	1702.2	1702.2	1704.5
170°	1716.6	1715.4	1714.3	1713.2	1712.0	1711.4	1711.4	1711.4	1711.4	1711.4	1713.7
172.5°	1722.8	1721.4	1720.0	1718.6	1717.3	1716.7	1716.9	1717.2	1717.4	1717.6	1719.9
175°	1730.7	1729.3	1727.9	1726.4	1725.0	1724.4	1724.7	1725.0	1725.3	1725.6	1727.6
177.5°	1732.8	1731.6	1730.5	1729.4	1728.2	1727.8	1728.0	1728.2	1728.4	1728.7	1730.5
180°	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7



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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	211.1	221.6	228.4	231.6	234.7	237.9	241.0
90°	207.5	218.9	230.4	237.9	241.5	245.1	248.7	252.3
92.5°	201.7	213.6	225.5	233.0	236.1	239.2	242.4	245.5
95°	197.4	208.7	220.1	227.3	230.3	233.4	236.4	239.4
97.5°	188.9	200.2	211.5	218.8	222.2	225.5	228.8	232.1
100°	183.0	194.0	205.1	212.3	215.6	218.9	222.2	225.5
102.5°	199.4	200.8	202.3	204.7	208.3	211.8	215.4	218.9
105°	299.5	257.4	215.2	195.8	199.1	202.4	205.7	209.0
107.5°	550.7	521.7	492.7	460.5	425.1	389.6	354.2	318.7
110°	663.9	662.3	660.8	640.7	602.3	563.9	525.4	487.0



TEST NUMBER: P332200

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	740.9	748.7	756.5	757.4	751.4	745.4	739.5	733.5
115°	830.4	840.5	850.7	857.5	861.1	864.6	868.2	871.8
117.5°	910.2	919.6	929.1	935.2	937.8	940.3	942.9	945.5
120°	962.9	972.1	981.4	987.0	989.2	991.3	993.4	995.5
122.5°	1014.2	1022.5	1030.8	1036.2	1038.5	1040.9	1043.2	1045.5
125°	1086.1	1093.0	1099.9	1104.7	1107.4	1110.1	1112.8	1115.5
127.5°	1158.1	1165.0	1171.9	1176.1	1177.6	1179.1	1180.5	1182.0
130°	1201.0	1207.9	1214.7	1218.8	1220.1	1221.3	1222.5	1223.8
132.5°	1241.3	1248.0	1254.6	1258.6	1259.8	1261.1	1262.3	1263.6
135°	1303.2	1309.5	1315.8	1319.3	1319.9	1320.6	1321.2	1321.9
137.5°	1357.8	1364.0	1370.1	1373.7	1374.6	1375.5	1376.5	1377.4
140°	1392.6	1398.3	1404.0	1407.3	1408.2	1409.2	1410.1	1411.1
142.5°	1424.9	1429.9	1434.9	1437.7	1438.4	1439.1	1439.8	1440.5
145°	1473.1	1476.1	1479.1	1481.2	1482.4	1483.6	1484.8	1486.0
147.5°	1516.8	1518.1	1519.4	1519.9	1519.7	1519.5	1519.2	1519.0
150°	1544.1	1544.7	1545.3	1545.4	1545.2	1544.9	1544.7	1544.4
152.5°	1569.7	1570.8	1571.8	1571.7	1570.5	1569.3	1568.1	1566.9
155°	1605.0	1606.4	1607.9	1607.7	1606.0	1604.3	1602.6	1600.9
157.5°	1635.7	1637.4	1639.1	1638.8	1636.6	1634.4	1632.1	1629.9
160°	1653.1	1654.9	1656.6	1656.4	1654.4	1652.4	1650.4	1648.4
162.5°	1669.0	1671.0	1672.9	1673.0	1671.2	1669.5	1667.7	1665.9
165°	1690.3	1692.6	1694.9	1695.0	1693.0	1691.0	1689.0	1687.0
167.5°	1706.8	1709.0	1711.3	1711.3	1709.0	1706.8	1704.5	1702.2
170°	1716.0	1718.3	1720.6	1720.6	1718.3	1716.0	1713.7	1711.4
172.5°	1722.2	1724.5	1726.8	1726.6	1724.1	1721.6	1719.1	1716.6
175°	1729.6	1731.6	1733.6	1733.4	1731.2	1728.9	1726.6	1724.3
177.5°	1732.3	1734.2	1736.0	1735.8	1733.5	1731.2	1728.9	1726.6
180°	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7

(END OF REPORT)