

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: P332200-830

Luminaire Tested: **S123DIW-S1000D1320U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332200-830
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-S1000D1320U830-4F0-1E-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: 8936.6 lumens
Efficiency: N/A
Efficacy: 128.0 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

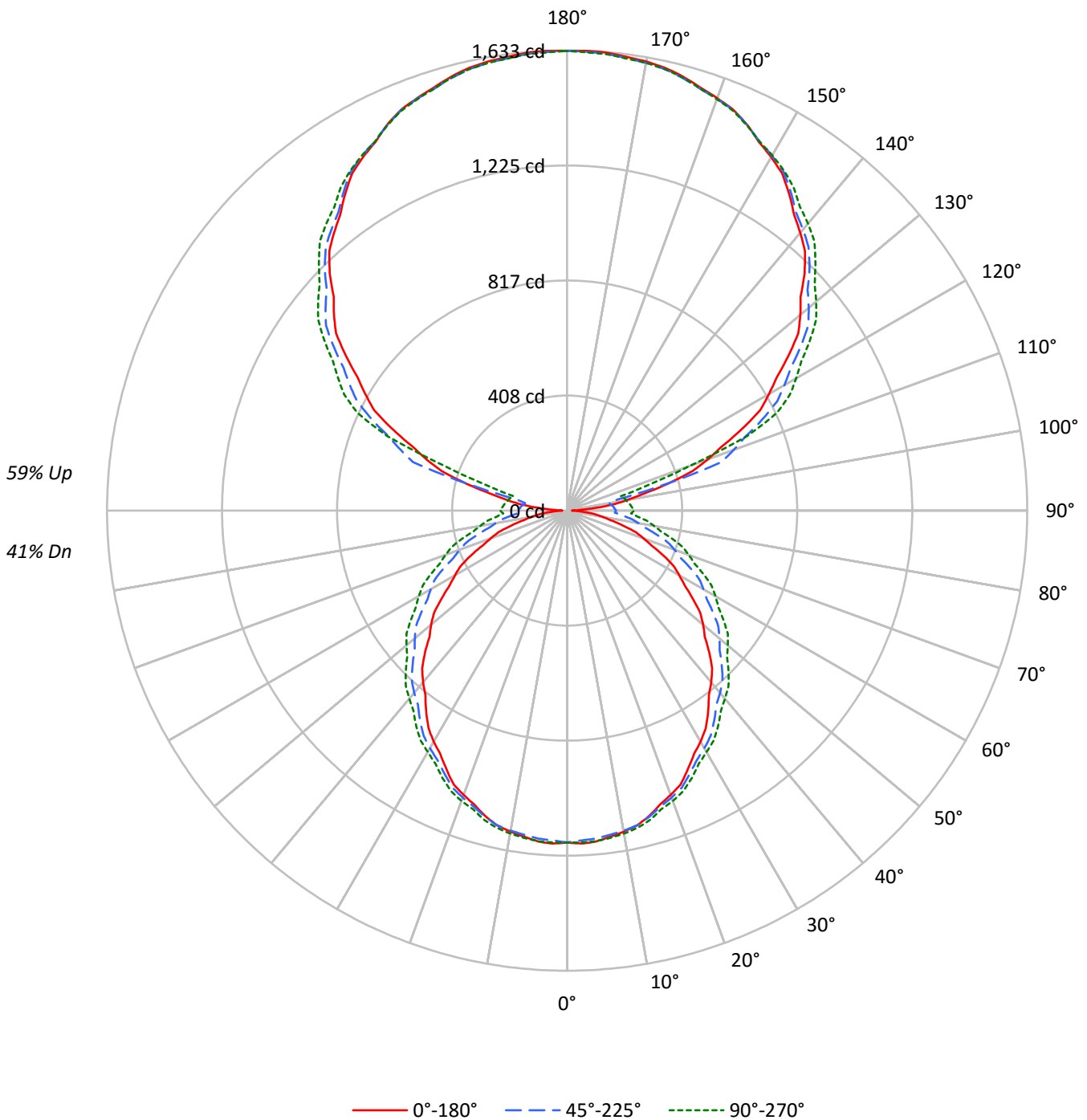
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332200-830

CATALOG NUMBER: S123DIW-S1000D1320U830-4F0-1E-UDD-D

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	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°	12676	12676	12676
5°	12715	12357	12363
10°	12602	12072	12012
15°	12439	11748	11627
20°	12206	11380	11204
25°	11920	10955	10760
30°	11627	10572	10310
35°	11297	10169	9950
40°	10983	9801	9564
45°	10635	9448	9257
50°	10293	9100	8917
55°	9912	8741	8611
60°	9543	8380	8298
65°	9165	7994	7927
70°	8591	7558	7545
75°	7872	7060	7157
80°	7040	6572	6712
85°	6274	6235	6458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.6	1.2
10°-20°	318.2	3.6
20°-30°	476.0	5.3
30°-40°	568.4	6.4
40°-50°	594.7	6.7
50°-60°	558.1	6.2
60°-70°	466.1	5.2
70°-80°	333.5	3.7
80°-90°	203.5	2.3
90°-100°	184.1	2.1
100°-110°	374.4	4.2
110°-120°	740.2	8.3
120°-130°	899.6	10.1
130°-140°	939.5	10.5
140°-150°	867.2	9.7
150°-160°	696.8	7.8
160°-170°	449.7	5.0
170°-180°	155.0	1.7
0°-30°	905.9	10.1
0°-40°	1474.3	16.5
0°-60°	2627.1	29.4
0°-90°	3630.2	40.6
90°-120°	1298.7	14.5
90°-150°	4004.9	44.8
90°-180°	5306.0	59.4
0°-180°	8936.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1179	1176	1169	1178	1178	112
15°	1122	1126	1125	1137	1137	316
25°	1013	1026	1030	1046	1047	467
35°	872	893	910	928	934	545
45°	713	744	776	800	811	550
55°	544	586	632	666	677	487
65°	376	426	482	519	534	371
75°	204	264	328	369	386	218
85°	63	127	195	237	252	66
90°	18	93	174	221	238	15
95°	88	93	165	211	226	102
105°	372	410	362	194	197	393
115°	684	708	764	805	822	675
125°	959	970	1011	1039	1051	856
135°	1192	1198	1216	1242	1246	917
145°	1373	1380	1383	1395	1401	859
155°	1511	1509	1510	1515	1509	696
165°	1594	1590	1589	1598	1590	450
175°	1631	1626	1626	1634	1625	155
180°	1631	1631	1631	1631	1631	



TEST NUMBER: P332200-830

CATALOG NUMBER: S123DIW-S1000D1320U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1182.8	1182.1	1181.4	1180.7	1180.1	1178.7	1177.0	1175.2	1173.3	1171.5	1173.3
5°	1178.9	1178.4	1177.8	1177.2	1176.7	1175.5	1173.8	1172.1	1170.4	1168.7	1170.9
7.5°	1167.3	1167.5	1167.6	1167.7	1167.8	1167.1	1165.5	1163.8	1162.1	1160.5	1163.3
10°	1157.2	1157.7	1158.3	1158.9	1159.4	1159.0	1157.5	1156.1	1154.7	1153.3	1156.1
12.5°	1144.8	1145.6	1146.4	1147.2	1148.0	1147.9	1147.0	1145.9	1145.0	1144.1	1146.7
15°	1122.5	1123.3	1124.2	1125.0	1125.9	1126.1	1125.9	1125.6	1125.3	1125.0	1127.9
17.5°	1094.3	1096.0	1097.7	1099.4	1101.1	1101.9	1101.8	1101.6	1101.5	1101.5	1104.0
20°	1073.7	1075.4	1077.1	1078.8	1080.5	1081.8	1082.3	1082.9	1083.5	1084.0	1086.6
22.5°	1052.2	1053.9	1055.6	1057.3	1059.0	1060.3	1061.1	1061.9	1062.7	1063.5	1066.7
25°	1013.4	1016.2	1019.2	1022.0	1024.8	1026.7	1027.6	1028.4	1029.3	1030.1	1033.8
27.5°	974.4	977.7	980.9	984.2	987.4	990.0	991.8	993.6	995.4	997.3	1000.5
30°	946.7	950.5	954.1	957.8	961.6	964.5	966.9	969.1	971.4	973.6	977.1
32.5°	916.0	920.1	924.3	928.4	932.6	936.1	939.1	942.1	945.1	948.0	951.7
35°	872.3	876.8	881.5	886.0	890.6	894.7	898.4	902.1	905.8	909.6	913.8
37.5°	826.1	831.3	836.4	841.5	846.7	851.5	856.1	860.6	865.2	869.8	874.6
40°	795.3	800.5	805.6	810.8	815.9	821.3	827.0	832.7	838.4	844.1	848.9
42.5°	761.5	767.8	774.0	780.3	786.6	792.7	798.6	804.6	810.5	816.4	821.7
45°	713.2	720.1	727.0	733.8	740.6	747.6	754.7	761.9	769.0	776.1	781.6
47.5°	662.7	670.4	678.3	686.0	693.7	701.7	709.8	718.0	726.1	734.3	740.4
50°	629.9	637.8	645.8	653.8	661.8	670.2	679.0	687.9	696.7	705.6	712.1
52.5°	594.9	603.4	611.9	620.3	628.8	637.8	647.6	657.3	667.0	676.8	683.6
55°	543.9	553.4	562.7	572.1	581.5	591.4	601.6	611.9	622.2	632.4	640.2
57.5°	494.2	504.0	513.8	523.6	533.4	543.9	555.2	566.4	577.6	588.8	596.5
60°	459.3	469.5	479.8	490.0	500.3	511.2	522.9	534.7	546.4	558.1	566.0
62.5°	426.4	436.9	447.4	457.9	468.3	479.8	492.2	504.5	516.9	529.3	537.2
65°	375.9	387.0	398.1	409.3	420.4	432.2	444.7	457.2	469.8	482.4	490.9
67.5°	324.5	336.4	348.2	360.0	371.7	384.1	396.8	409.6	422.4	435.2	444.5
70°	288.6	300.9	313.1	325.5	337.7	350.6	364.3	378.1	391.7	405.4	414.5
72.5°	255.8	268.1	280.3	292.6	304.8	318.0	332.2	346.3	360.4	374.6	383.9
75°	204.0	217.4	230.7	244.2	257.6	271.4	285.7	299.9	314.1	328.4	337.8
77.5°	158.8	172.3	185.9	199.3	212.8	226.8	241.2	255.5	269.9	284.3	294.2
80°	127.0	141.0	155.0	168.9	182.9	197.3	212.1	227.0	241.8	256.6	266.3
82.5°	99.2	113.5	127.7	141.9	156.1	170.7	185.8	200.8	215.8	230.9	240.6
85°	62.9	77.1	91.3	105.7	119.9	134.6	149.7	164.8	179.8	195.0	204.7
87.5°	34.4	49.1	63.8	78.6	93.3	108.3	123.6	138.7	154.0	169.3	179.2
90°	17.9	34.6	51.2	67.9	84.5	101.9	119.9	138.0	156.0	174.1	184.8
92.5°	38.2	50.0	61.9	73.7	85.6	100.0	117.0	133.8	150.8	167.8	179.0
95°	88.0	88.1	88.2	88.2	88.3	96.9	113.8	130.7	147.6	164.6	175.3
97.5°	161.2	166.3	171.4	176.3	181.4	181.0	174.9	168.9	162.9	156.7	167.4
100°	216.4	230.8	245.3	259.9	274.4	267.2	238.3	209.4	180.5	151.6	162.0
102.5°	279.4	291.4	303.5	315.6	327.7	317.3	284.2	251.2	218.2	185.2	186.5
105°	371.5	381.3	391.1	400.9	410.7	409.5	397.6	385.6	373.6	361.7	322.0
107.5°	467.3	475.5	483.7	491.9	500.1	511.9	527.4	542.8	558.3	573.7	546.4
110°	531.2	538.6	545.8	553.1	560.4	571.2	585.6	599.9	614.3	628.7	627.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	593.3	599.5	605.6	611.8	617.9	628.0	641.9	655.8	669.7	683.6	691.0
115°	683.9	688.9	694.0	699.0	704.1	712.9	725.6	738.3	750.9	763.6	773.2
117.5°	772.6	776.7	780.8	784.9	789.0	796.4	807.4	818.2	829.2	840.0	848.9
120°	826.8	830.7	834.5	838.4	842.3	849.2	859.5	869.7	879.9	890.1	898.8
122.5°	883.1	885.8	888.5	891.3	894.0	900.3	910.3	920.3	930.3	940.3	948.1
125°	958.8	961.0	963.2	965.4	967.5	973.3	982.6	991.9	1001.3	1010.6	1017.1
127.5°	1033.5	1035.4	1037.3	1039.2	1041.0	1046.0	1054.1	1062.2	1070.4	1078.6	1085.1
130°	1080.1	1081.9	1083.8	1085.6	1087.5	1091.8	1098.6	1105.4	1112.2	1119.0	1125.5
132.5°	1123.6	1125.8	1127.8	1129.9	1132.0	1135.8	1141.2	1146.6	1152.1	1157.4	1163.8
135°	1191.5	1192.8	1194.1	1195.5	1196.8	1199.6	1203.8	1208.0	1212.2	1216.4	1222.4
137.5°	1249.4	1251.2	1253.0	1254.9	1256.7	1258.8	1261.1	1263.5	1265.8	1268.2	1274.0
140°	1287.1	1288.7	1290.4	1292.0	1293.6	1295.2	1296.9	1298.6	1300.2	1301.9	1307.3
142.5°	1323.0	1324.5	1325.8	1327.2	1328.6	1329.7	1330.8	1331.7	1332.7	1333.7	1338.4
145°	1373.2	1374.8	1376.4	1378.0	1379.6	1380.6	1381.2	1381.8	1382.3	1382.8	1385.6
147.5°	1419.2	1420.4	1421.6	1422.9	1424.2	1425.0	1425.6	1426.1	1426.6	1427.2	1428.4
150°	1448.3	1449.1	1449.9	1450.7	1451.5	1452.2	1452.7	1453.2	1453.8	1454.3	1454.9
152.5°	1474.4	1474.8	1475.2	1475.6	1475.9	1476.3	1476.7	1477.0	1477.2	1477.6	1478.6
155°	1511.3	1510.8	1510.2	1509.7	1509.1	1509.0	1509.3	1509.6	1509.9	1510.0	1511.5
157.5°	1539.9	1539.8	1539.8	1539.7	1539.6	1539.5	1539.3	1539.0	1538.7	1538.4	1540.0
160°	1557.4	1557.1	1556.8	1556.5	1556.2	1556.0	1555.8	1555.5	1555.2	1554.9	1556.5
162.5°	1573.9	1573.1	1572.4	1571.7	1571.0	1570.6	1570.3	1570.0	1569.7	1569.4	1571.3
165°	1593.7	1592.9	1592.0	1591.3	1590.4	1590.0	1589.7	1589.4	1589.1	1588.8	1591.0
167.5°	1609.2	1608.2	1607.0	1606.0	1604.9	1604.4	1604.4	1604.4	1604.4	1604.4	1606.6
170°	1618.0	1616.8	1615.8	1614.8	1613.6	1613.1	1613.1	1613.1	1613.1	1613.1	1615.2
172.5°	1623.8	1622.5	1621.2	1619.9	1618.6	1618.1	1618.3	1618.5	1618.7	1618.9	1621.1
175°	1631.3	1629.9	1628.6	1627.2	1625.9	1625.3	1625.6	1625.9	1626.2	1626.5	1628.3
177.5°	1633.2	1632.1	1631.1	1630.0	1628.9	1628.5	1628.7	1628.9	1629.1	1629.4	1631.1
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1175.2	1177.0	1178.7	1179.6	1179.3	1179.1	1178.9	1178.6
5°	1173.2	1175.5	1177.8	1178.7	1178.5	1178.2	1177.9	1177.6
7.5°	1166.1	1169.0	1171.9	1173.1	1172.8	1172.4	1172.1	1171.8
10°	1159.0	1161.8	1164.7	1165.8	1165.3	1164.7	1164.1	1163.6
12.5°	1149.2	1151.9	1154.5	1155.6	1155.0	1154.4	1153.9	1153.3
15°	1130.8	1133.6	1136.4	1137.7	1137.5	1137.2	1136.9	1136.6
17.5°	1106.5	1109.2	1111.7	1112.8	1112.4	1112.0	1111.6	1111.2
20°	1089.1	1091.7	1094.3	1095.7	1096.0	1096.3	1096.6	1096.8
22.5°	1070.0	1073.2	1076.5	1078.0	1077.8	1077.7	1077.5	1077.3
25°	1037.6	1041.2	1044.9	1046.8	1046.8	1046.8	1046.8	1046.8
27.5°	1003.6	1006.8	1010.0	1011.7	1012.0	1012.2	1012.5	1012.7
30°	980.5	983.9	987.3	989.1	989.1	989.1	989.1	989.1
32.5°	955.4	958.9	962.6	964.8	965.4	966.1	966.9	967.5
35°	918.0	922.4	926.6	929.3	930.5	931.6	932.7	933.9
37.5°	879.5	884.3	889.2	892.0	893.0	893.8	894.8	895.7
40°	853.8	858.7	863.5	866.5	867.6	868.7	869.9	871.0
42.5°	827.0	832.3	837.6	841.0	842.6	844.2	845.8	847.4
45°	786.9	792.4	797.8	801.6	803.9	806.2	808.5	810.8
47.5°	746.5	752.6	758.7	762.6	764.4	766.2	767.9	769.7
50°	718.7	725.2	731.8	736.0	738.1	740.1	742.1	744.0
52.5°	690.4	697.2	704.0	708.6	711.1	713.5	716.0	718.4
55°	647.8	655.5	663.3	668.2	670.5	672.8	675.0	677.3
57.5°	604.4	612.1	619.8	625.1	627.7	630.4	633.1	635.7
60°	574.0	582.0	589.9	595.5	598.7	601.8	604.9	608.0
62.5°	545.3	553.3	561.2	566.7	569.6	572.5	575.4	578.3
65°	499.5	508.0	516.5	522.3	525.1	527.9	530.8	533.7
67.5°	453.8	463.2	472.5	478.4	480.8	483.2	485.6	488.0
70°	423.6	432.7	441.9	447.9	450.7	453.6	456.4	459.3
72.5°	393.3	402.7	412.0	418.1	420.9	423.8	426.7	429.5
75°	347.2	356.7	366.0	372.5	375.9	379.3	382.7	386.2
77.5°	304.2	314.1	324.0	330.3	332.8	335.5	338.1	340.7
80°	276.0	285.7	295.3	301.6	304.4	307.3	310.2	313.0
82.5°	250.3	260.0	269.7	276.0	278.8	281.6	284.5	287.4
85°	214.3	224.0	233.8	240.1	242.9	245.7	248.5	251.5
87.5°	189.1	199.0	208.9	215.3	218.3	221.2	224.2	227.2
90°	195.6	206.3	217.2	224.2	227.6	231.0	234.4	237.8
92.5°	190.1	201.3	212.5	219.6	222.5	225.5	228.5	231.4
95°	186.1	196.7	207.5	214.2	217.1	220.0	222.8	225.6
97.5°	178.0	188.7	199.3	206.2	209.4	212.5	215.7	218.8
100°	172.5	182.9	193.3	200.1	203.2	206.3	209.4	212.5
102.5°	187.9	189.3	190.7	192.9	196.3	199.6	203.0	206.3
105°	282.3	242.6	202.8	184.5	187.7	190.8	193.9	197.0
107.5°	519.1	491.7	464.4	434.0	400.7	367.2	333.8	300.4
110°	625.8	624.2	622.8	603.9	567.7	531.5	495.2	459.0



TEST NUMBER: P332200-830

CATALOG NUMBER: S123DIW-S1000D1320U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	698.3	705.7	713.0	713.9	708.2	702.6	697.0	691.4
115°	782.7	792.2	801.8	808.2	811.6	814.9	818.3	821.7
117.5°	857.9	866.8	875.7	881.5	883.9	886.3	888.7	891.2
120°	907.6	916.2	925.0	930.3	932.4	934.3	936.3	938.3
122.5°	955.9	963.7	971.6	976.7	978.8	981.1	983.3	985.4
125°	1023.7	1030.2	1036.7	1041.2	1043.8	1046.3	1048.9	1051.4
127.5°	1091.6	1098.1	1104.6	1108.5	1109.9	1111.4	1112.7	1114.1
130°	1132.0	1138.5	1144.9	1148.8	1150.0	1151.1	1152.3	1153.5
132.5°	1170.0	1176.3	1182.5	1186.3	1187.4	1188.6	1189.8	1191.0
135°	1228.3	1234.3	1240.2	1243.5	1244.1	1244.7	1245.3	1245.9
137.5°	1279.8	1285.6	1291.4	1294.8	1295.6	1296.5	1297.4	1298.3
140°	1312.6	1318.0	1323.3	1326.4	1327.3	1328.2	1329.1	1330.0
142.5°	1343.0	1347.7	1352.5	1355.1	1355.8	1356.4	1357.1	1357.7
145°	1388.5	1391.3	1394.1	1396.1	1397.2	1398.4	1399.5	1400.6
147.5°	1429.6	1430.9	1432.1	1432.6	1432.4	1432.2	1431.9	1431.7
150°	1455.4	1455.9	1456.5	1456.6	1456.4	1456.1	1455.9	1455.7
152.5°	1479.5	1480.5	1481.5	1481.4	1480.3	1479.1	1478.0	1476.9
155°	1512.8	1514.1	1515.5	1515.3	1513.7	1512.1	1510.5	1508.9
157.5°	1541.7	1543.3	1544.9	1544.6	1542.6	1540.5	1538.3	1536.3
160°	1558.1	1559.8	1561.4	1561.2	1559.3	1557.5	1555.6	1553.7
162.5°	1573.1	1575.0	1576.8	1576.9	1575.2	1573.6	1571.9	1570.2
165°	1593.2	1595.3	1597.5	1597.6	1595.7	1593.8	1592.0	1590.1
167.5°	1608.7	1610.8	1613.0	1613.0	1610.8	1608.7	1606.6	1604.4
170°	1617.4	1619.6	1621.7	1621.7	1619.6	1617.4	1615.2	1613.1
172.5°	1623.2	1625.4	1627.6	1627.4	1625.0	1622.7	1620.3	1618.0
175°	1630.2	1632.1	1634.0	1633.8	1631.7	1629.6	1627.4	1625.2
177.5°	1632.8	1634.6	1636.3	1636.1	1633.9	1631.7	1629.6	1627.4
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3

(END OF REPORT)