

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: P332202

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332202
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-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9401.5 lumens
Efficiency: N/A
Efficacy: 134.7 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

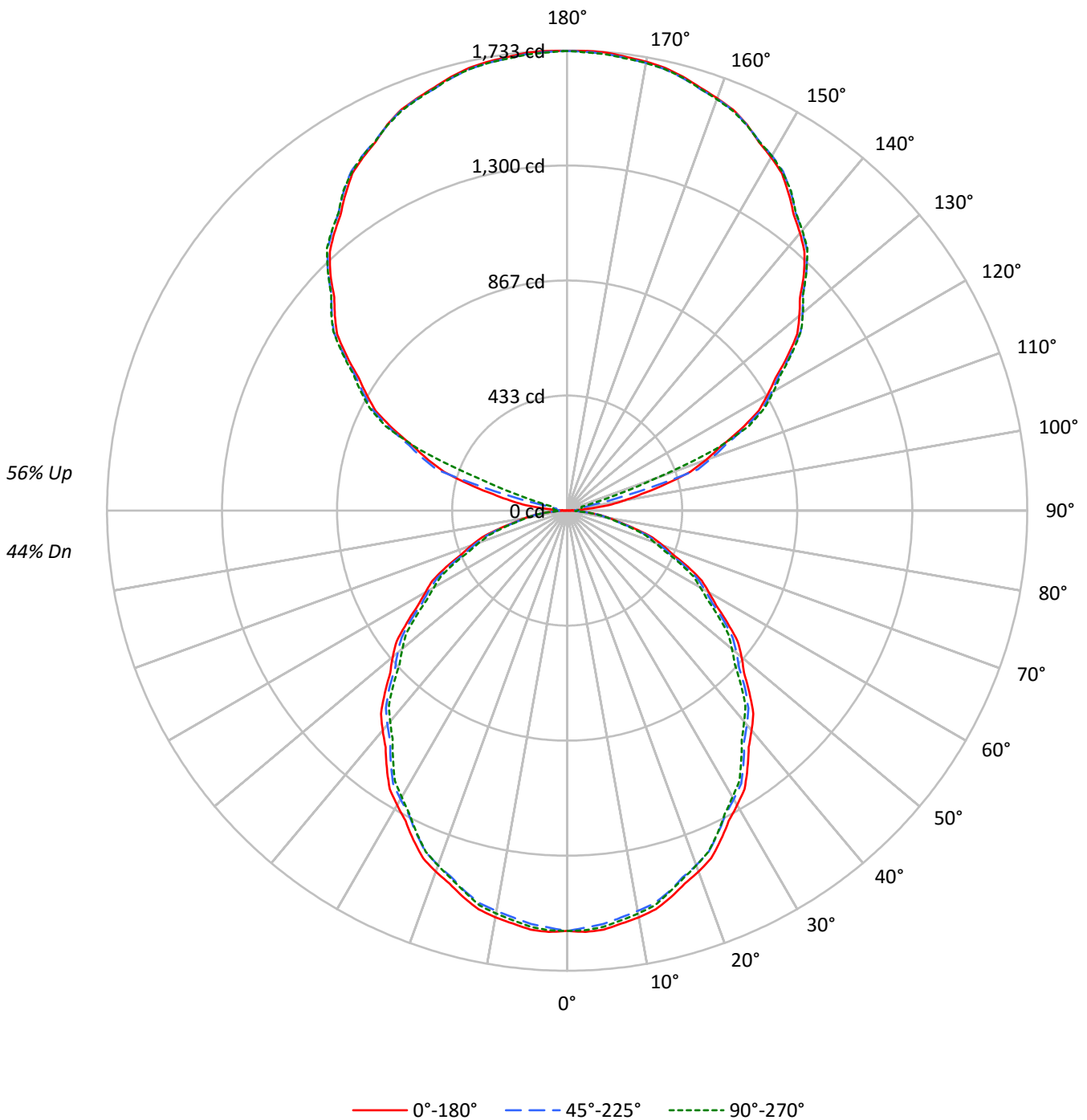
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	50	50	50	44				
1	96	92	88	85	88	84	81	78	70	68	65	57	55	54	45	43	42	37				
2	88	80	74	69	80	74	68	64	61	57	54	50	47	45	39	37	36	31				
3	80	71	63	57	73	65	58	53	54	49	45	44	41	38	35	32	30	26				
4	73	62	55	49	67	57	51	45	48	43	39	39	35	32	31	28	26	22				
5	67	56	47	42	61	51	44	39	43	37	33	35	31	28	28	25	23	19				
6	62	50	42	36	56	46	39	34	39	33	29	32	28	24	25	22	20	17				
7	57	45	37	31	52	41	34	29	35	29	25	29	25	22	23	20	18	15				
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	21	18	16	13				
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	20	17	14	12				
10	46	34	27	22	42	32	25	21	27	22	18	22	18	16	18	15	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17038	17038	17038
5°	17117	16883	17001
10°	17004	16736	16840
15°	16805	16547	16577
20°	16573	16276	16292
25°	16262	15954	15922
30°	15918	15597	15478
35°	15559	15219	15023
40°	15185	14802	14573
45°	14772	14420	14067
50°	14359	13949	13561
55°	13818	13461	13052
60°	13272	12893	12482
65°	12791	12271	11889
70°	12079	11566	11050
75°	11038	10643	10189
80°	9955	9534	9447
85°	8744	8410	8065



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.1	1.6
10°-20°	421.0	4.5
20°-30°	621.9	6.6
30°-40°	726.5	7.7
40°-50°	730.4	7.8
50°-60°	641.5	6.8
60°-70°	478.0	5.1
70°-80°	272.3	2.9
80°-90°	83.0	0.9
90°-100°	62.9	0.7
100°-110°	299.9	3.2
110°-120°	720.3	7.7
120°-130°	917.3	9.8
130°-140°	980.1	10.4
140°-150°	916.5	9.7
150°-160°	739.3	7.9
160°-170°	477.1	5.1
170°-180°	164.4	1.7
0°-30°	1192.0	12.7
0°-40°	1918.5	20.4
0°-60°	3290.4	35.0
0°-90°	4123.7	43.9
90°-120°	1083.2	11.5
90°-150°	3897.1	41.5
90°-180°	5278.0	56.1
0°-180°	9401.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1583	1583	1583	1583	1583	
5°	1584	1577	1562	1575	1573	150
15°	1508	1502	1485	1495	1488	425
25°	1369	1360	1343	1344	1341	630
35°	1184	1175	1158	1150	1143	740
45°	970	964	947	932	924	749
55°	736	734	717	703	696	659
65°	502	495	482	471	467	495
75°	265	260	256	249	245	284
85°	71	68	68	65	65	78
90°	1	14	31	36	39	8
95°	78	29	40	48	49	97
105°	383	390	282	67	57	406
115°	719	727	738	750	756	709
125°	1013	1023	1029	1031	1034	905
135°	1261	1269	1274	1278	1274	971
145°	1456	1464	1467	1470	1470	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	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9
2.5°	1588.3	1587.4	1586.4	1585.4	1584.5	1582.6	1580.0	1577.3	1574.7	1572.0	1574.4
5°	1584.2	1582.7	1581.2	1579.7	1578.2	1575.8	1572.5	1569.1	1565.8	1562.5	1565.5
7.5°	1568.7	1567.2	1565.7	1564.2	1562.7	1560.2	1556.8	1553.3	1549.9	1546.4	1549.1
10°	1555.7	1554.2	1552.6	1551.1	1549.6	1546.9	1543.0	1539.0	1535.1	1531.2	1533.9
12.5°	1538.2	1537.0	1535.7	1534.4	1533.2	1530.7	1527.0	1523.3	1519.6	1515.9	1517.9
15°	1508.0	1506.8	1505.6	1504.4	1503.2	1500.6	1496.7	1492.8	1488.8	1484.9	1487.3
17.5°	1472.9	1471.3	1469.8	1468.2	1466.6	1463.9	1459.9	1456.0	1452.1	1448.1	1449.8
20°	1446.8	1445.0	1443.2	1441.3	1439.5	1436.6	1432.7	1428.8	1424.9	1420.9	1422.1
22.5°	1417.4	1415.6	1413.8	1411.9	1410.1	1407.3	1403.3	1399.4	1395.5	1391.5	1392.5
25°	1369.2	1367.4	1365.6	1363.8	1361.9	1359.1	1355.1	1351.2	1347.3	1343.3	1343.6
27.5°	1317.8	1316.0	1314.2	1312.5	1310.7	1307.7	1303.5	1299.3	1295.0	1290.8	1291.0
30°	1280.7	1279.2	1277.7	1276.2	1274.7	1271.8	1267.6	1263.3	1259.1	1254.9	1254.9
32.5°	1243.7	1241.7	1239.7	1237.7	1235.7	1233.1	1229.8	1226.6	1223.3	1220.0	1218.3
35°	1184.1	1182.3	1180.5	1178.7	1176.8	1174.0	1170.0	1166.1	1162.2	1158.2	1156.4
37.5°	1123.1	1120.8	1118.5	1116.2	1113.9	1110.8	1106.8	1102.8	1098.8	1094.8	1092.6
40°	1080.7	1078.8	1077.0	1075.2	1073.4	1070.4	1066.1	1061.9	1057.7	1053.4	1051.0
42.5°	1038.2	1036.1	1034.1	1032.0	1030.0	1026.8	1022.6	1018.4	1014.1	1009.9	1007.5
45°	970.4	969.2	968.0	966.8	965.6	963.0	959.1	955.1	951.2	947.3	943.7
47.5°	903.2	901.4	899.7	897.9	896.2	893.4	889.8	886.1	882.4	878.7	875.1
50°	857.5	855.9	854.4	852.9	851.4	848.7	844.7	840.8	836.9	833.0	829.6
52.5°	809.5	808.5	807.5	806.5	805.4	802.8	798.7	794.5	790.3	786.1	783.3
55°	736.3	736.0	735.7	735.4	735.1	733.0	729.1	725.1	721.2	717.3	713.9
57.5°	666.6	665.6	664.6	663.6	662.5	660.4	657.3	654.1	651.0	647.9	644.9
60°	616.5	616.2	615.9	615.6	615.3	613.4	609.7	606.1	602.5	598.9	596.1
62.5°	571.9	571.1	570.3	569.5	568.8	566.6	562.9	559.3	555.7	552.0	549.3
65°	502.2	500.7	499.2	497.7	496.2	493.9	490.9	487.9	484.8	481.8	479.4
67.5°	428.5	427.1	425.8	424.5	423.1	421.3	419.0	416.7	414.4	412.1	410.0
70°	383.8	382.0	380.2	378.4	376.6	374.7	372.9	371.1	369.3	367.5	365.4
72.5°	337.0	335.7	334.3	333.0	331.7	330.0	327.9	325.9	323.8	321.7	319.9
75°	265.4	264.2	263.0	261.8	260.6	259.5	258.6	257.7	256.8	255.9	254.4
77.5°	202.0	201.3	200.6	200.0	199.3	198.4	197.4	196.3	195.2	194.1	193.1
80°	160.6	159.7	158.8	157.9	157.0	156.2	155.6	155.0	154.4	153.8	153.5
82.5°	120.3	120.1	120.0	119.8	119.6	119.4	119.3	119.2	119.1	119.0	118.4
85°	70.8	70.2	69.6	69.0	68.4	68.1	68.1	68.1	68.1	68.1	67.4
87.5°	28.6	28.4	28.3	28.1	27.9	28.1	28.6	29.1	29.6	30.1	30.1
90°	1.3	4.1	7.0	9.9	12.7	16.0	19.7	23.4	27.1	30.9	32.0
92.5°	23.9	23.1	22.3	21.5	20.7	21.7	24.5	27.3	30.1	32.9	34.7
95°	78.4	66.7	55.0	43.3	31.6	27.3	30.4	33.6	36.7	39.9	41.9
97.5°	157.6	152.4	147.1	141.9	136.6	123.7	103.1	82.6	62.0	41.4	43.7
100°	217.3	223.0	228.7	234.4	240.2	220.7	176.2	131.6	87.0	42.4	44.7
102.5°	285.2	289.3	293.4	297.5	301.7	279.4	230.7	182.0	133.3	84.6	77.5
105°	383.2	386.3	389.5	392.6	395.7	384.5	358.7	333.0	307.3	281.6	231.0
107.5°	486.6	489.1	491.6	494.1	496.6	499.9	504.0	508.0	512.1	516.1	479.0
110°	555.5	557.8	560.0	562.3	564.6	567.3	570.5	573.6	576.8	579.9	570.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	621.3	623.4	625.4	627.5	629.5	632.1	635.3	638.4	641.6	644.7	644.9
115°	718.8	720.5	722.2	723.9	725.6	727.8	730.3	732.9	735.5	738.1	740.9
117.5°	813.2	815.3	817.4	819.5	821.6	823.3	824.6	826.0	827.3	828.6	830.9
120°	871.8	874.4	876.9	879.5	882.1	883.8	884.6	885.5	886.4	887.2	889.5
122.5°	931.5	933.6	935.7	937.8	939.9	941.5	942.6	943.7	944.8	945.9	947.5
125°	1013.2	1015.5	1017.8	1020.1	1022.4	1024.1	1025.2	1026.4	1027.5	1028.7	1029.2
127.5°	1092.4	1094.7	1097.0	1099.3	1101.6	1103.4	1104.8	1106.2	1107.5	1108.9	1109.8
130°	1141.8	1144.1	1146.4	1148.7	1151.0	1152.7	1153.8	1155.0	1156.1	1157.2	1158.4
132.5°	1189.1	1191.4	1193.7	1196.0	1198.3	1199.9	1200.8	1201.7	1202.6	1203.5	1204.7
135°	1261.4	1263.1	1264.8	1266.5	1268.3	1269.7	1270.8	1272.0	1273.1	1274.3	1275.1
137.5°	1323.1	1325.3	1327.5	1329.6	1331.8	1333.2	1333.8	1334.5	1335.1	1335.7	1337.1
140°	1364.3	1366.0	1367.7	1369.4	1371.1	1372.4	1373.3	1374.1	1375.0	1375.8	1377.0
142.5°	1402.3	1404.0	1405.8	1407.5	1409.2	1410.5	1411.3	1412.2	1413.0	1413.9	1414.8
145°	1455.6	1457.6	1459.6	1461.6	1463.6	1464.8	1465.4	1466.0	1466.6	1467.1	1467.7
147.5°	1505.7	1507.0	1508.3	1509.6	1511.0	1511.9	1512.5	1513.0	1513.6	1514.2	1514.8
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°	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9
2.5°	1576.8	1579.3	1581.7	1582.8	1582.5	1582.3	1582.0	1581.8
5°	1568.5	1571.5	1574.6	1575.8	1575.2	1574.6	1574.0	1573.4
7.5°	1551.9	1554.6	1557.3	1558.5	1558.1	1557.8	1557.4	1557.0
10°	1536.6	1539.3	1542.1	1543.1	1542.5	1541.9	1541.3	1540.7
12.5°	1519.9	1521.9	1523.9	1524.7	1524.4	1524.0	1523.6	1523.3
15°	1489.7	1492.1	1494.6	1494.9	1493.1	1491.2	1489.4	1487.6
17.5°	1451.5	1453.2	1454.9	1455.4	1454.8	1454.1	1453.4	1452.8
20°	1423.3	1424.6	1425.8	1425.9	1425.0	1424.1	1423.2	1422.3
22.5°	1393.5	1394.4	1395.4	1395.3	1394.2	1393.0	1391.9	1390.7
25°	1343.9	1344.3	1344.6	1344.3	1343.3	1342.4	1341.5	1340.6
27.5°	1291.3	1291.5	1291.8	1291.3	1290.2	1289.0	1287.9	1286.7
30°	1254.9	1254.9	1254.9	1253.8	1251.7	1249.6	1247.5	1245.3
32.5°	1216.6	1215.0	1213.3	1211.8	1210.7	1209.5	1208.4	1207.2
35°	1154.6	1152.8	1151.0	1149.3	1147.8	1146.3	1144.8	1143.3
37.5°	1090.5	1088.3	1086.1	1084.5	1083.6	1082.6	1081.6	1080.7
40°	1048.6	1046.2	1043.8	1041.9	1040.7	1039.5	1038.3	1037.1
42.5°	1005.0	1002.6	1000.2	998.4	997.2	996.0	994.8	993.6
45°	940.0	936.4	932.8	930.2	928.7	927.2	925.7	924.1
47.5°	871.5	868.0	864.4	862.0	860.6	859.3	858.0	856.6
50°	826.3	823.0	819.6	817.1	815.3	813.4	811.6	809.8
52.5°	780.4	777.6	774.8	772.4	770.6	768.8	767.0	765.2
55°	710.6	707.3	704.0	701.5	700.0	698.5	697.0	695.5
57.5°	641.9	639.0	636.0	633.6	631.9	630.1	628.4	626.6
60°	593.4	590.7	588.0	585.9	584.3	582.8	581.3	579.8
62.5°	546.6	543.9	541.1	539.3	538.2	537.2	536.2	535.2
65°	477.0	474.5	472.1	470.5	469.6	468.7	467.7	466.8
67.5°	407.9	405.8	403.7	402.0	400.7	399.4	398.1	396.9
70°	363.2	361.1	359.0	357.2	355.7	354.2	352.7	351.1
72.5°	318.0	316.1	314.2	312.9	312.1	311.3	310.6	309.8
75°	252.9	251.3	249.8	248.6	247.7	246.8	245.9	245.0
77.5°	192.0	191.0	190.0	189.5	189.5	189.5	189.5	189.5
80°	153.2	152.9	152.6	152.4	152.4	152.4	152.4	152.4
82.5°	117.9	117.3	116.8	116.4	116.1	115.9	115.7	115.4
85°	66.8	66.2	65.6	65.3	65.3	65.3	65.3	65.3
87.5°	30.1	30.1	30.1	30.1	30.2	30.4	30.5	30.6
90°	33.1	34.3	35.4	36.3	36.9	37.4	38.0	38.6
92.5°	36.6	38.4	40.2	41.3	41.7	42.0	42.3	42.7
95°	43.9	45.9	47.9	48.9	48.9	48.9	48.9	48.9
97.5°	46.0	48.3	50.5	51.8	52.1	52.4	52.7	53.0
100°	47.0	49.3	51.6	52.9	53.1	53.4	53.7	54.0
102.5°	70.4	63.3	56.3	53.0	53.5	54.0	54.5	55.0
105°	180.4	129.9	79.3	54.3	54.9	55.4	56.0	56.6
107.5°	442.0	404.9	367.8	330.2	292.1	253.9	215.8	177.7
110°	561.0	551.6	542.2	517.0	476.2	435.3	394.5	353.6



TEST NUMBER: P332202

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	645.1	645.2	645.4	641.2	632.5	623.9	615.3	606.7
115°	743.8	746.6	749.5	751.5	752.6	753.8	754.9	756.1
117.5°	833.2	835.4	837.7	839.0	839.2	839.4	839.7	839.9
120°	891.8	894.1	896.4	897.5	897.5	897.5	897.5	897.5
122.5°	949.1	950.7	952.3	953.2	953.4	953.6	953.9	954.1
125°	1029.8	1030.4	1030.9	1031.5	1032.1	1032.7	1033.2	1033.8
127.5°	1110.7	1111.6	1112.6	1112.7	1112.2	1111.6	1111.0	1110.4
130°	1159.5	1160.7	1161.8	1162.1	1161.5	1161.0	1160.4	1159.8
132.5°	1205.8	1207.0	1208.1	1208.3	1207.5	1206.7	1205.9	1205.1
135°	1276.0	1276.8	1277.7	1277.7	1276.8	1276.0	1275.1	1274.3
137.5°	1338.5	1339.8	1341.2	1341.6	1341.0	1340.5	1339.9	1339.3
140°	1378.1	1379.3	1380.4	1380.7	1380.1	1379.5	1379.0	1378.4
142.5°	1415.7	1416.6	1417.6	1417.6	1416.8	1416.0	1415.2	1414.4
145°	1468.3	1468.8	1469.4	1469.7	1469.7	1469.7	1469.7	1469.7
147.5°	1515.3	1515.9	1516.5	1516.1	1514.8	1513.5	1512.2	1510.8
150°	1544.1	1544.7	1545.3	1545.1	1544.3	1543.4	1542.6	1541.7
152.5°	1569.7	1570.8	1571.8	1571.7	1570.3	1569.0	1567.7	1566.4
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)