

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: P332203

Luminaire Tested: **S123DIW-S1000D1320U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332203  
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-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH 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: 8698.2 lumens  
Efficiency: N/A  
Efficacy: 124.6 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

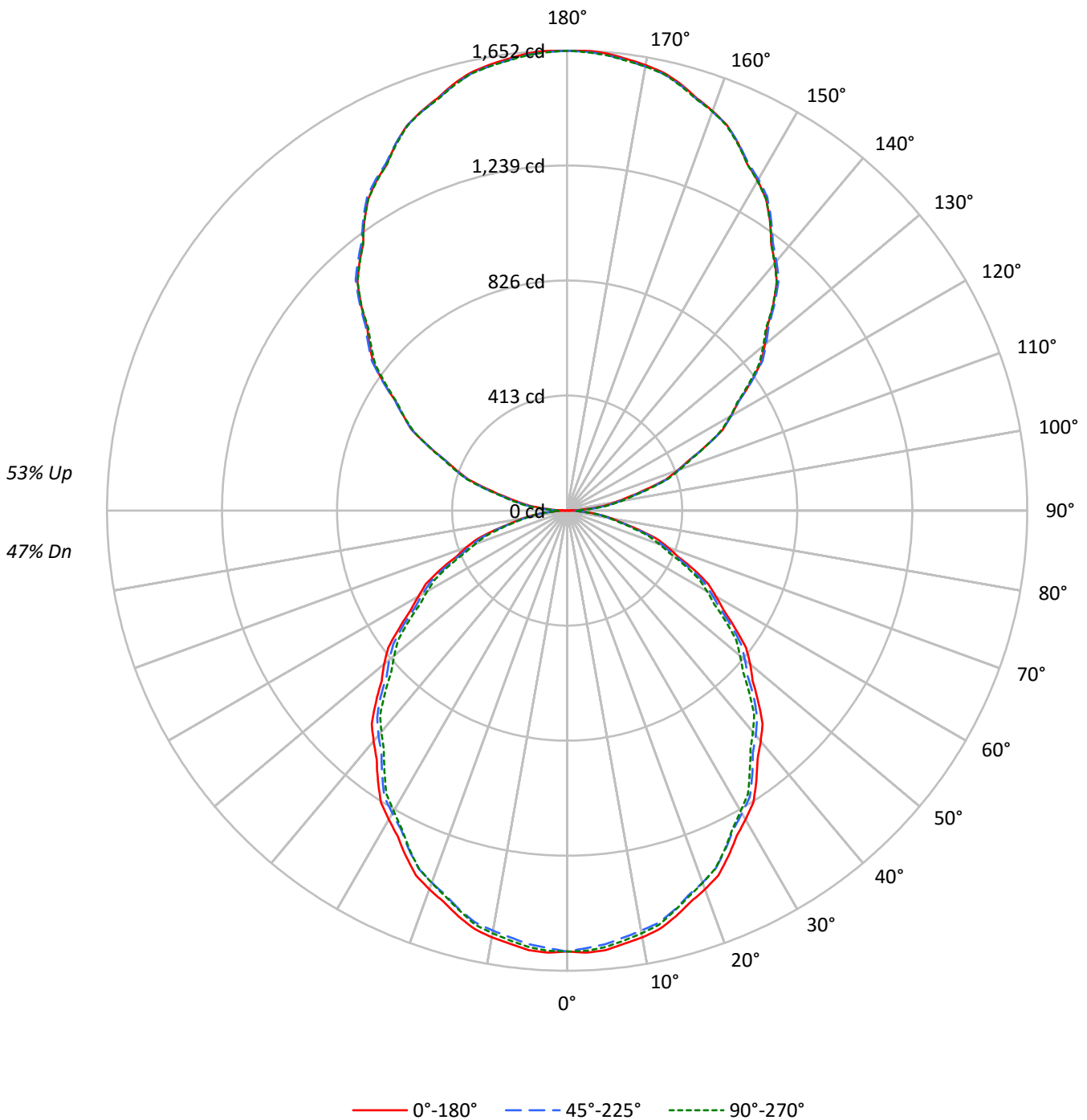
Input Watts (W): 69.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
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	50	30	10	0														
RCR																																						
0	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47	47	47	47	47	47	47														
1	97	93	89	85	89	85	82	79	72	69	67	59	57	56	47	46	45	40	40	40	40	40	40	40														
2	88	81	75	70	81	75	69	65	63	59	55	52	49	47	42	40	38	33	33	33	33	33	33	33														
3	81	71	64	58	74	66	59	54	55	51	47	46	42	39	37	34	32	28	28	28	28	28	28	28														
4	74	63	55	49	67	58	51	46	49	44	40	41	37	34	33	30	28	24	24	24	24	24	24	24														
5	68	56	48	42	62	52	45	39	44	38	34	37	32	29	30	27	24	21	21	21	21	21	21	21														
6	62	50	42	36	57	47	39	34	40	34	30	33	29	26	27	24	21	18	18	18	18	18	18	18														
7	58	45	37	32	53	42	35	30	36	30	26	30	26	23	25	21	19	16	16	16	16	16	16	16														
8	53	41	33	28	49	38	31	26	33	27	23	27	23	20	23	19	17	15	15	15	15	15	15	15														
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	21	18	15	13	13	13	13	13	13	13														
10	46	34	27	22	43	32	26	21	28	22	19	23	19	16	19	16	14	12	12	12	12	12	12	12														

**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	1.7
10°-20°	421.0	4.8
20°-30°	621.9	7.1
30°-40°	726.5	8.4
40°-50°	730.4	8.4
50°-60°	641.5	7.4
60°-70°	478.0	5.5
70°-80°	272.3	3.1
80°-90°	83.0	1.0
90°-100°	107.6	1.2
100°-110°	321.9	3.7
110°-120°	547.5	6.3
120°-130°	720.2	8.3
130°-140°	809.5	9.3
140°-150°	795.7	9.1
150°-160°	669.9	7.7
160°-170°	445.9	5.1
170°-180°	156.2	1.8
0°-30°	1192.0	13.7
0°-40°	1918.5	22.1
0°-60°	3290.4	37.8
0°-90°	4123.7	47.4
90°-120°	977.1	11.2
90°-150°	3302.5	38.0
90°-180°	4574.0	52.6
0°-180°	8698.2	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	9
95°	76	86	96	101	101	86
105°	292	295	306	306	309	313
115°	551	555	552	554	552	545
125°	807	810	808	803	798	719
135°	1047	1054	1053	1048	1045	806
145°	1270	1272	1276	1275	1270	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°	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	28.0	28.2	28.7	29.2	29.7	30.2	30.2
90°	1.3	4.2	7.1	9.9	12.8	16.1	19.9	23.6	27.4	31.1	32.3
92.5°	31.4	33.3	35.3	37.3	39.2	41.3	43.4	45.5	47.7	49.8	50.7
95°	76.5	78.5	80.6	82.6	84.6	86.8	89.1	91.4	93.7	96.0	97.1
97.5°	135.9	137.4	138.9	140.4	141.9	143.5	145.2	146.8	148.5	150.2	151.5
100°	176.4	178.1	179.8	181.6	183.3	184.9	186.3	187.8	189.2	190.7	191.5
102.5°	223.1	224.1	225.2	226.2	227.2	228.7	230.6	232.5	234.4	236.3	237.2
105°	291.8	292.4	293.0	293.5	294.1	295.7	298.3	300.9	303.5	306.1	306.1
107.5°	371.7	372.1	372.4	372.8	373.1	373.8	374.8	375.9	376.9	377.9	378.9
110°	421.5	422.1	422.7	423.2	423.8	424.4	425.0	425.6	426.1	426.7	427.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	473.4	473.7	474.1	474.4	474.8	475.0	475.1	475.2	475.4	475.5	476.9
115°	551.2	552.1	552.9	553.8	554.7	554.8	554.2	553.7	553.1	552.5	552.8
117.5°	629.6	630.1	630.7	631.3	631.9	631.8	631.0	630.3	629.5	628.8	628.7
120°	678.3	680.0	681.8	683.5	685.2	685.4	683.9	682.5	681.1	679.6	679.3
122.5°	729.2	730.4	731.7	733.0	734.2	734.5	733.7	733.0	732.2	731.5	730.7
125°	806.7	807.6	808.4	809.3	810.2	810.3	809.7	809.2	808.6	808.0	806.9
127.5°	878.3	880.2	882.0	883.8	885.7	886.3	885.7	885.0	884.4	883.8	882.1
130°	926.0	928.3	930.7	933.0	935.3	936.0	935.1	934.3	933.4	932.5	931.4
132.5°	973.8	976.1	978.4	980.7	983.0	983.8	983.2	982.6	981.9	981.3	979.9
135°	1046.7	1048.4	1050.1	1051.8	1053.6	1054.3	1054.0	1053.7	1053.4	1053.1	1052.0
137.5°	1114.1	1115.5	1117.0	1118.4	1119.9	1121.0	1121.7	1122.5	1123.2	1124.0	1122.7
140°	1160.8	1162.2	1163.7	1165.1	1166.6	1167.4	1167.7	1168.0	1168.3	1168.6	1168.3
142.5°	1203.3	1204.8	1206.2	1207.7	1209.1	1210.1	1210.6	1211.1	1211.6	1212.2	1211.9
145°	1269.7	1270.3	1270.9	1271.5	1272.0	1272.8	1273.6	1274.5	1275.4	1276.2	1275.9
147.5°	1327.8	1328.9	1329.9	1331.0	1332.0	1332.9	1333.7	1334.5	1335.3	1336.1	1336.1
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°	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°	30.2	30.1	30.1	30.2	30.3	30.4	30.5	30.6
90°	33.4	34.6	35.7	36.6	37.2	37.8	38.3	38.9
92.5°	51.6	52.6	53.5	53.8	53.4	53.1	52.7	52.4
95°	98.3	99.4	100.6	101.2	101.2	101.2	101.2	101.2
97.5°	152.8	154.2	155.5	156.1	156.0	155.9	155.8	155.6
100°	192.4	193.2	194.1	194.8	195.4	196.0	196.6	197.1
102.5°	238.0	238.9	239.8	240.1	240.0	239.9	239.8	239.7
105°	306.1	306.1	306.1	306.4	307.0	307.5	308.1	308.7
107.5°	379.8	380.7	381.6	381.9	381.6	381.2	380.9	380.5
110°	429.0	430.2	431.3	431.6	431.0	430.5	429.9	429.3





TEST NUMBER: P332203

CATALOG NUMBER: S123DIW-S1000D1320U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	478.2	479.6	481.0	481.6	481.5	481.4	481.3	481.2
115°	553.1	553.4	553.7	553.7	553.4	553.1	552.8	552.5
117.5°	628.7	628.6	628.5	628.1	627.3	626.5	625.7	624.9
120°	679.0	678.8	678.5	678.0	677.5	676.9	676.3	675.7
122.5°	730.0	729.2	728.5	727.7	726.9	726.1	725.3	724.5
125°	805.7	804.6	803.4	802.3	801.1	799.9	798.8	797.6
127.5°	880.5	878.9	877.3	875.8	874.5	873.2	871.9	870.5
130°	930.2	929.1	927.9	926.3	924.3	922.3	920.3	918.3
132.5°	978.5	977.1	975.8	974.3	972.7	971.2	969.6	968.1
135°	1050.8	1049.7	1048.5	1047.7	1047.1	1046.5	1045.9	1045.4
137.5°	1121.5	1120.3	1119.1	1118.0	1116.9	1115.8	1114.7	1113.6
140°	1168.0	1167.7	1167.4	1166.3	1164.3	1162.2	1160.2	1158.2
142.5°	1211.6	1211.3	1211.0	1210.1	1208.5	1207.0	1205.4	1203.9
145°	1275.6	1275.4	1275.1	1274.4	1273.2	1272.0	1270.9	1269.7
147.5°	1336.1	1336.1	1336.1	1335.3	1333.6	1331.8	1330.1	1328.4
150°	1373.5	1373.5	1373.5	1372.6	1370.9	1369.2	1367.4	1365.7
152.5°	1407.6	1408.1	1408.5	1408.0	1406.5	1405.0	1403.5	1402.0
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)