

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: P332202-840

Luminaire Tested: **S123DIW-S1000D1320U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332202-840
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-S1000D1320U840-4F0-1E-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: 9494.3 lumens
Efficiency: N/A
Efficacy: 136.0 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

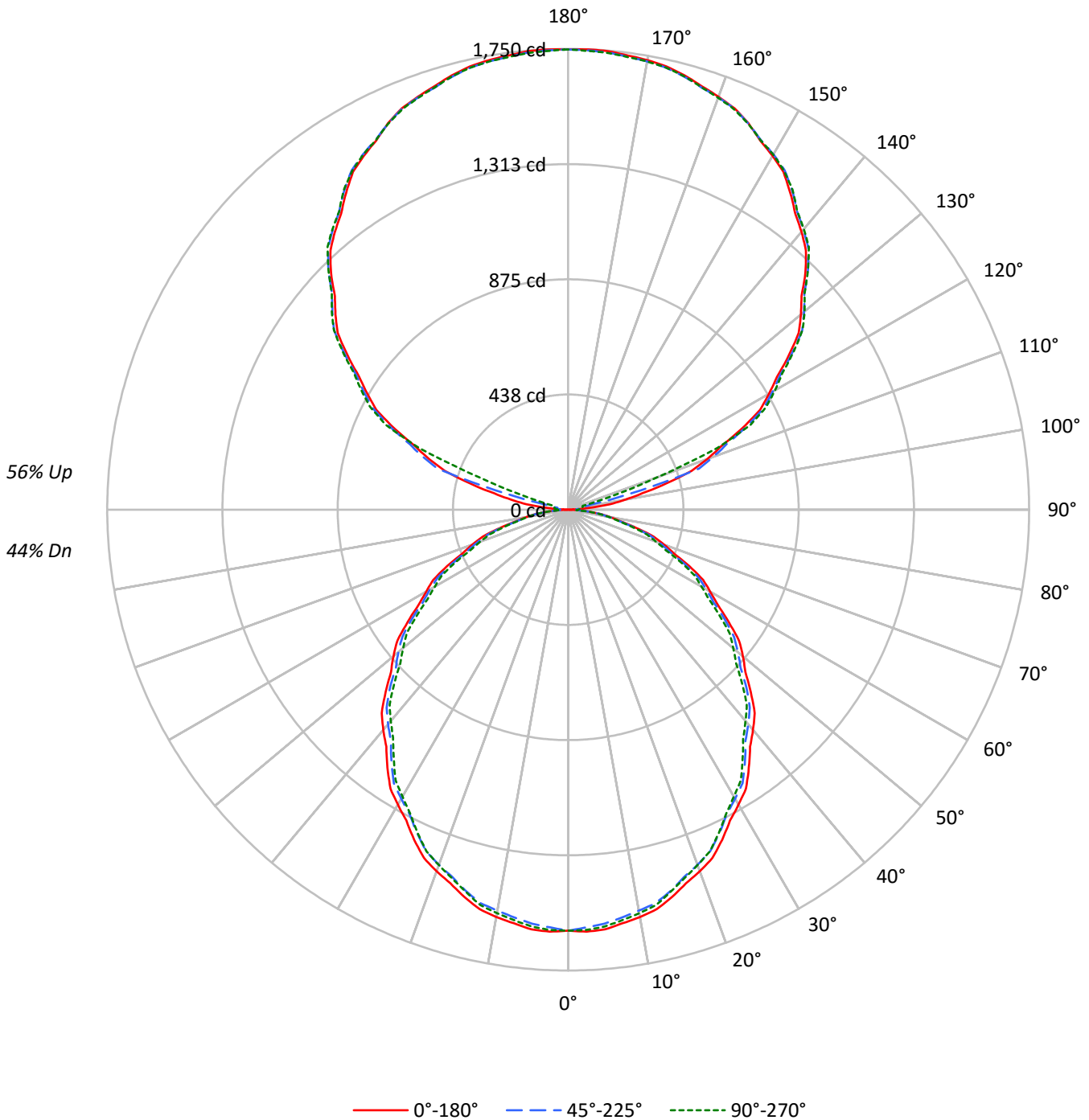
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332202-840

CATALOG NUMBER: S123DIW-S1000D1320U840-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332202-840

CATALOG NUMBER: S123DIW-S1000D1320U840-4F0-1E-UDD-F

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	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°	17206	17206	17206
5°	17286	17049	17168
10°	17171	16901	17006
15°	16971	16710	16741
20°	16736	16436	16452
25°	16422	16112	16079
30°	16075	15751	15631
35°	15713	15369	15172
40°	15336	14948	14716
45°	14918	14562	14206
50°	14502	14086	13695
55°	13955	13594	13181
60°	13403	13020	12605
65°	12918	12394	12006
70°	12198	11679	11160
75°	11146	10746	10289
80°	10054	9627	9540
85°	8830	8497	8139



TEST NUMBER: P332202-840

CATALOG NUMBER: S123DIW-S1000D1320U840-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.6	1.6
10°-20°	425.2	4.5
20°-30°	628.0	6.6
30°-40°	733.6	7.7
40°-50°	737.6	7.8
50°-60°	647.9	6.8
60°-70°	482.7	5.1
70°-80°	275.0	2.9
80°-90°	83.8	0.9
90°-100°	63.5	0.7
100°-110°	302.9	3.2
110°-120°	727.5	7.7
120°-130°	926.3	9.8
130°-140°	989.8	10.4
140°-150°	925.5	9.7
150°-160°	746.6	7.9
160°-170°	481.8	5.1
170°-180°	166.1	1.7
0°-30°	1203.8	12.7
0°-40°	1937.4	20.4
0°-60°	3322.8	35.0
0°-90°	4164.3	43.9
90°-120°	1093.9	11.5
90°-150°	3935.5	41.5
90°-180°	5330.0	56.1
0°-180°	9494.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1598	1598	1598	1598	1598	
5°	1600	1593	1578	1591	1589	152
15°	1523	1517	1500	1509	1502	429
25°	1383	1374	1357	1358	1354	637
35°	1196	1187	1170	1162	1155	748
45°	980	974	957	941	933	756
55°	744	741	724	710	702	666
65°	507	500	487	476	471	500
75°	268	263	258	252	247	287
85°	72	69	69	66	66	78
90°	1	14	31	36	39	8
95°	79	30	40	49	49	98
105°	387	394	284	67	57	410
115°	726	734	745	758	764	716
125°	1023	1033	1039	1041	1044	913
135°	1274	1282	1287	1290	1287	980
145°	1470	1479	1482	1484	1484	920
155°	1619	1617	1618	1624	1617	746
165°	1708	1704	1702	1712	1704	482
175°	1748	1742	1743	1751	1741	166
180°	1748	1748	1748	1748	1748	



TEST NUMBER: P332202-840

CATALOG NUMBER: S123DIW-S1000D1320U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5
2.5°	1604.0	1603.1	1602.0	1601.0	1600.1	1598.2	1595.6	1592.9	1590.2	1587.5	1589.9
5°	1599.8	1598.3	1596.8	1595.3	1593.8	1591.3	1588.0	1584.6	1581.2	1577.9	1580.9
7.5°	1584.2	1582.7	1581.1	1579.6	1578.1	1575.6	1572.2	1568.6	1565.2	1561.7	1564.4
10°	1571.0	1569.5	1567.9	1566.4	1564.9	1562.2	1558.2	1554.2	1550.2	1546.3	1549.0
12.5°	1553.4	1552.2	1550.8	1549.5	1548.3	1545.8	1542.1	1538.3	1534.6	1530.9	1532.9
15°	1522.9	1521.7	1520.5	1519.2	1518.0	1515.4	1511.5	1507.5	1503.5	1499.5	1502.0
17.5°	1487.4	1485.8	1484.3	1482.7	1481.1	1478.3	1474.3	1470.4	1466.4	1462.4	1464.1
20°	1461.1	1459.3	1457.4	1455.5	1453.7	1450.8	1446.8	1442.9	1439.0	1434.9	1436.1
22.5°	1431.4	1429.6	1427.7	1425.8	1424.0	1421.2	1417.1	1413.2	1409.3	1405.2	1406.2
25°	1382.7	1380.9	1379.1	1377.3	1375.3	1372.5	1368.5	1364.5	1360.6	1356.6	1356.9
27.5°	1330.8	1329.0	1327.2	1325.4	1323.6	1320.6	1316.4	1312.1	1307.8	1303.5	1303.7
30°	1293.3	1291.8	1290.3	1288.8	1287.3	1284.3	1280.1	1275.8	1271.5	1267.3	1267.3
32.5°	1256.0	1253.9	1251.9	1249.9	1247.9	1245.3	1241.9	1238.7	1235.4	1232.0	1230.3
35°	1195.8	1194.0	1192.1	1190.3	1188.4	1185.6	1181.5	1177.6	1173.7	1169.6	1167.8
37.5°	1134.2	1131.9	1129.5	1127.2	1124.9	1121.8	1117.7	1113.7	1109.6	1105.6	1103.4
40°	1091.4	1089.4	1087.6	1085.8	1084.0	1081.0	1076.6	1072.4	1068.1	1063.8	1061.4
42.5°	1048.4	1046.3	1044.3	1042.2	1040.2	1036.9	1032.7	1028.4	1024.1	1019.9	1017.4
45°	980.0	978.8	977.5	976.3	975.1	972.5	968.6	964.5	960.6	956.6	953.0
47.5°	912.1	910.3	908.6	906.8	905.0	902.2	898.6	894.8	891.1	887.4	883.7
50°	866.0	864.3	862.8	861.3	859.8	857.1	853.0	849.1	845.2	841.2	837.8
52.5°	817.5	816.5	815.5	814.5	813.3	810.7	806.6	802.3	798.1	793.9	791.0
55°	743.6	743.3	743.0	742.7	742.4	740.2	736.3	732.3	728.3	724.4	720.9
57.5°	673.2	672.2	671.2	670.1	669.0	666.9	663.8	660.6	657.4	654.3	651.3
60°	622.6	622.3	622.0	621.7	621.4	619.5	615.7	612.1	608.4	604.8	602.0
62.5°	577.5	576.7	575.9	575.1	574.4	572.2	568.5	564.8	561.2	557.4	554.7
65°	507.2	505.6	504.1	502.6	501.1	498.8	495.7	492.7	489.6	486.6	484.1
67.5°	432.7	431.3	430.0	428.7	427.3	425.5	423.1	420.8	418.5	416.2	414.0
70°	387.6	385.8	384.0	382.1	380.3	378.4	376.6	374.8	372.9	371.1	369.0
72.5°	340.3	339.0	337.6	336.3	335.0	333.3	331.1	329.1	327.0	324.9	323.1
75°	268.0	266.8	265.6	264.4	263.2	262.1	261.2	260.2	259.3	258.4	256.9
77.5°	204.0	203.3	202.6	202.0	201.3	200.4	199.3	198.2	197.1	196.0	195.0
80°	162.2	161.3	160.4	159.5	158.5	157.7	157.1	156.5	155.9	155.3	155.0
82.5°	121.5	121.3	121.2	121.0	120.8	120.6	120.5	120.4	120.3	120.2	119.6
85°	71.5	70.9	70.3	69.7	69.1	68.8	68.8	68.8	68.8	68.8	68.1
87.5°	28.9	28.7	28.6	28.4	28.2	28.4	28.9	29.4	29.9	30.4	30.4
90°	1.3	4.1	7.1	10.0	12.8	16.2	19.9	23.6	27.4	31.2	32.3
92.5°	24.1	23.3	22.5	21.7	20.9	21.9	24.7	27.6	30.4	33.2	35.0
95°	79.2	67.4	55.5	43.7	31.9	27.6	30.7	33.9	37.1	40.3	42.3
97.5°	159.2	153.9	148.6	143.3	137.9	124.9	104.1	83.4	62.6	41.8	44.1
100°	219.4	225.2	231.0	236.7	242.6	222.9	177.9	132.9	87.9	42.8	45.1
102.5°	288.0	292.2	296.3	300.4	304.7	282.2	233.0	183.8	134.6	85.4	78.3
105°	387.0	390.1	393.3	396.5	399.6	388.3	362.2	336.3	310.3	284.4	233.3
107.5°	491.4	493.9	496.4	499.0	501.5	504.8	509.0	513.0	517.2	521.2	483.7
110°	561.0	563.3	565.5	567.8	570.2	572.9	576.1	579.3	582.5	585.6	576.1



TEST NUMBER: P332202-840

CATALOG NUMBER: S123DIW-S1000D1320U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	627.4	629.5	631.6	633.7	635.7	638.3	641.6	644.7	647.9	651.1	651.3
115°	725.9	727.6	729.3	731.0	732.8	735.0	737.5	740.1	742.8	745.4	748.2
117.5°	821.2	823.3	825.5	827.6	829.7	831.4	832.7	834.1	835.5	836.8	839.1
120°	880.4	883.0	885.6	888.2	890.8	892.5	893.3	894.2	895.1	896.0	898.3
122.5°	940.7	942.8	944.9	947.1	949.2	950.8	951.9	953.0	954.1	955.2	956.8
125°	1023.2	1025.5	1027.8	1030.2	1032.5	1034.2	1035.3	1036.5	1037.6	1038.8	1039.4
127.5°	1103.2	1105.5	1107.8	1110.1	1112.5	1114.3	1115.7	1117.1	1118.4	1119.8	1120.7
130°	1153.1	1155.4	1157.7	1160.0	1162.4	1164.1	1165.2	1166.4	1167.5	1168.6	1169.8
132.5°	1200.8	1203.2	1205.5	1207.8	1210.1	1211.7	1212.6	1213.6	1214.5	1215.4	1216.6
135°	1273.8	1275.6	1277.3	1279.0	1280.8	1282.2	1283.3	1284.5	1285.7	1286.9	1287.7
137.5°	1336.2	1338.4	1340.6	1342.7	1344.9	1346.4	1347.0	1347.7	1348.3	1348.9	1350.3
140°	1377.8	1379.5	1381.2	1382.9	1384.6	1385.9	1386.8	1387.7	1388.6	1389.4	1390.6
142.5°	1416.1	1417.9	1419.7	1421.4	1423.1	1424.4	1425.2	1426.1	1426.9	1427.8	1428.8
145°	1470.0	1472.0	1474.0	1476.0	1478.0	1479.3	1479.9	1480.5	1481.1	1481.6	1482.2
147.5°	1520.6	1521.9	1523.2	1524.5	1525.9	1526.8	1527.4	1527.9	1528.5	1529.1	1529.7
150°	1551.8	1552.6	1553.5	1554.3	1555.2	1555.9	1556.5	1557.0	1557.6	1558.2	1558.8
152.5°	1579.7	1580.1	1580.5	1580.9	1581.3	1581.8	1582.2	1582.5	1582.8	1583.2	1584.2
155°	1619.2	1618.7	1618.1	1617.5	1616.9	1616.8	1617.1	1617.4	1617.7	1617.9	1619.4
157.5°	1649.9	1649.8	1649.8	1649.7	1649.6	1649.5	1649.2	1648.9	1648.6	1648.3	1650.0
160°	1668.6	1668.3	1668.0	1667.7	1667.4	1667.2	1666.9	1666.6	1666.3	1666.0	1667.7
162.5°	1686.3	1685.5	1684.8	1683.9	1683.2	1682.7	1682.4	1682.1	1681.8	1681.5	1683.5
165°	1707.6	1706.7	1705.8	1705.0	1704.0	1703.5	1703.2	1702.9	1702.6	1702.3	1704.7
167.5°	1724.1	1723.0	1721.8	1720.7	1719.5	1719.0	1719.0	1719.0	1719.0	1719.0	1721.3
170°	1733.5	1732.3	1731.2	1730.1	1728.9	1728.3	1728.3	1728.3	1728.3	1728.3	1730.6
172.5°	1739.8	1738.4	1737.0	1735.6	1734.2	1733.6	1733.8	1734.1	1734.3	1734.5	1736.9
175°	1747.8	1746.4	1744.9	1743.4	1742.0	1741.4	1741.7	1742.0	1742.3	1742.6	1744.6
177.5°	1749.9	1748.7	1747.6	1746.5	1745.2	1744.8	1745.0	1745.2	1745.5	1745.8	1747.6
180°	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8



TEST NUMBER: P332202-840

CATALOG NUMBER: S123DIW-S1000D1320U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5
2.5°	1592.4	1594.9	1597.3	1598.4	1598.1	1597.9	1597.6	1597.4
5°	1584.0	1587.0	1590.1	1591.3	1590.7	1590.1	1589.5	1588.9
7.5°	1567.2	1569.9	1572.7	1573.9	1573.5	1573.2	1572.8	1572.4
10°	1551.8	1554.5	1557.3	1558.3	1557.7	1557.1	1556.5	1555.9
12.5°	1534.9	1536.9	1538.9	1539.7	1539.4	1539.0	1538.6	1538.3
15°	1504.4	1506.8	1509.3	1509.6	1507.8	1505.9	1504.1	1502.3
17.5°	1465.8	1467.5	1469.3	1469.8	1469.2	1468.4	1467.7	1467.1
20°	1437.3	1438.7	1439.9	1440.0	1439.1	1438.1	1437.2	1436.3
22.5°	1407.2	1408.2	1409.2	1409.1	1408.0	1406.7	1405.6	1404.4
25°	1357.2	1357.6	1357.9	1357.6	1356.6	1355.6	1354.7	1353.8
27.5°	1304.0	1304.2	1304.5	1304.0	1302.9	1301.7	1300.6	1299.4
30°	1267.3	1267.3	1267.3	1266.2	1264.0	1261.9	1259.8	1257.6
32.5°	1228.6	1227.0	1225.3	1223.8	1222.6	1221.4	1220.3	1219.1
35°	1166.0	1164.2	1162.4	1160.6	1159.1	1157.6	1156.1	1154.6
37.5°	1101.3	1099.0	1096.8	1095.2	1094.3	1093.3	1092.3	1091.4
40°	1058.9	1056.5	1054.1	1052.2	1051.0	1049.8	1048.5	1047.3
42.5°	1014.9	1012.5	1010.1	1008.2	1007.0	1005.8	1004.6	1003.4
45°	949.3	945.6	942.0	939.4	937.9	936.3	934.8	933.2
47.5°	880.1	876.6	872.9	870.5	869.1	867.8	866.5	865.1
50°	834.5	831.1	827.7	825.2	823.3	821.4	819.6	817.8
52.5°	788.1	785.3	782.4	780.0	778.2	776.4	774.6	772.7
55°	717.6	714.3	710.9	708.4	706.9	705.4	703.9	702.4
57.5°	648.2	645.3	642.3	639.9	638.1	636.3	634.6	632.8
60°	599.3	596.5	593.8	591.7	590.1	588.5	587.0	585.5
62.5°	552.0	549.3	546.4	544.6	543.5	542.5	541.5	540.5
65°	481.7	479.2	476.8	475.1	474.2	473.3	472.3	471.4
67.5°	411.9	409.8	407.7	406.0	404.7	403.3	402.0	400.8
70°	366.8	364.7	362.5	360.7	359.2	357.7	356.2	354.6
72.5°	321.1	319.2	317.3	316.0	315.2	314.4	313.7	312.9
75°	255.4	253.8	252.3	251.1	250.1	249.2	248.3	247.4
77.5°	193.9	192.9	191.9	191.4	191.4	191.4	191.4	191.4
80°	154.7	154.4	154.1	153.9	153.9	153.9	153.9	153.9
82.5°	119.1	118.5	118.0	117.5	117.2	117.0	116.8	116.5
85°	67.5	66.9	66.2	65.9	65.9	65.9	65.9	65.9
87.5°	30.4	30.4	30.4	30.4	30.5	30.7	30.8	30.9
90°	33.4	34.6	35.7	36.7	37.3	37.8	38.4	39.0
92.5°	37.0	38.8	40.6	41.7	42.1	42.4	42.7	43.1
95°	44.3	46.4	48.4	49.4	49.4	49.4	49.4	49.4
97.5°	46.5	48.8	51.0	52.3	52.6	52.9	53.2	53.5
100°	47.5	49.8	52.1	53.4	53.6	53.9	54.2	54.5
102.5°	71.1	63.9	56.9	53.5	54.0	54.5	55.0	55.5
105°	182.2	131.2	80.1	54.8	55.4	55.9	56.6	57.2
107.5°	446.4	408.9	371.4	333.5	295.0	256.4	217.9	179.5
110°	566.5	557.0	547.5	522.1	480.9	439.6	398.4	357.1



TEST NUMBER: P332202-840

CATALOG NUMBER: S123DIW-S1000D1320U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	651.5	651.6	651.8	647.5	638.7	630.1	621.4	612.7
115°	751.1	754.0	756.9	758.9	760.0	761.2	762.3	763.6
117.5°	841.4	843.6	846.0	847.3	847.5	847.7	848.0	848.2
120°	900.6	902.9	905.2	906.4	906.4	906.4	906.4	906.4
122.5°	958.5	960.1	961.7	962.6	962.8	963.0	963.3	963.5
125°	1040.0	1040.6	1041.1	1041.7	1042.3	1042.9	1043.4	1044.0
127.5°	1121.7	1122.6	1123.6	1123.7	1123.2	1122.6	1122.0	1121.4
130°	1170.9	1172.2	1173.3	1173.6	1173.0	1172.5	1171.8	1171.2
132.5°	1217.7	1218.9	1220.0	1220.2	1219.4	1218.6	1217.8	1217.0
135°	1288.6	1289.4	1290.3	1290.3	1289.4	1288.6	1287.7	1286.9
137.5°	1351.7	1353.0	1354.4	1354.8	1354.2	1353.7	1353.1	1352.5
140°	1391.7	1392.9	1394.0	1394.3	1393.7	1393.1	1392.6	1392.0
142.5°	1429.7	1430.6	1431.6	1431.6	1430.8	1430.0	1429.2	1428.4
145°	1482.8	1483.3	1483.9	1484.2	1484.2	1484.2	1484.2	1484.2
147.5°	1530.2	1530.9	1531.5	1531.1	1529.7	1528.4	1527.1	1525.7
150°	1559.3	1559.9	1560.5	1560.3	1559.5	1558.6	1557.8	1556.9
152.5°	1585.2	1586.3	1587.3	1587.2	1585.8	1584.5	1583.2	1581.9
155°	1620.8	1622.2	1623.8	1623.6	1621.8	1620.1	1618.4	1616.7
157.5°	1651.8	1653.6	1655.3	1655.0	1652.7	1650.5	1648.2	1646.0
160°	1669.4	1671.2	1672.9	1672.7	1670.7	1668.7	1666.7	1664.7
162.5°	1685.5	1687.5	1689.4	1689.5	1687.7	1686.0	1684.2	1682.3
165°	1707.0	1709.3	1711.6	1711.7	1709.7	1707.7	1705.7	1703.6
167.5°	1723.6	1725.9	1728.2	1728.2	1725.9	1723.6	1721.3	1719.0
170°	1732.9	1735.3	1737.6	1737.6	1735.3	1732.9	1730.6	1728.3
172.5°	1739.2	1741.5	1743.8	1743.6	1741.1	1738.6	1736.1	1733.5
175°	1746.7	1748.7	1750.7	1750.5	1748.3	1746.0	1743.6	1741.3
177.5°	1749.4	1751.3	1753.1	1752.9	1750.6	1748.3	1746.0	1743.6
180°	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8

(END OF REPORT)