

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: P332461-830

Luminaire Tested: **S123RDIW-S1000D1030U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332461-830  
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: S123RDIW-S1000D1030U830-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6944.9 lumens  
Efficiency: N/A  
Efficacy: 113.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

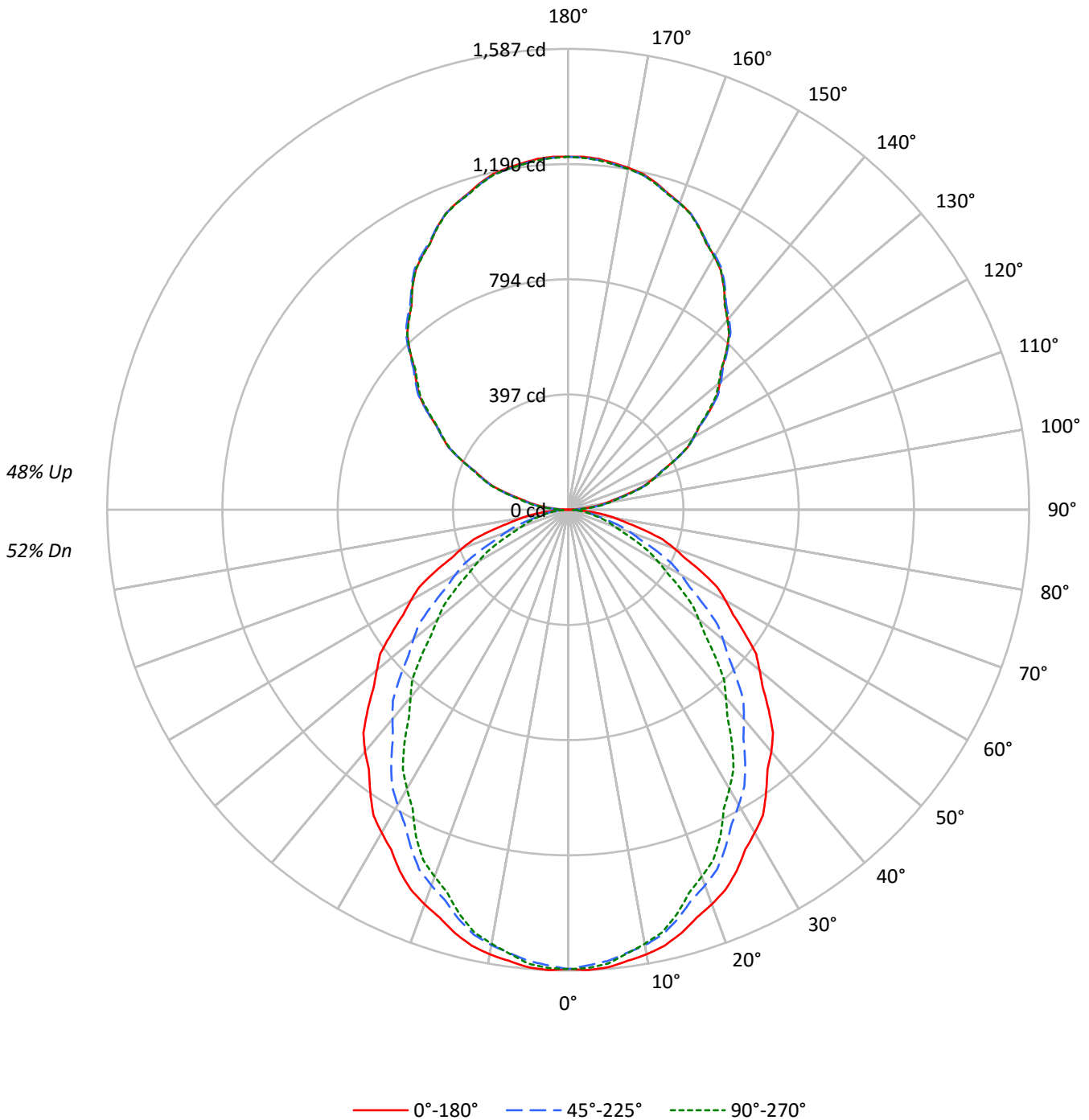
Input Watts (W): 61.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	98	94	90	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	67	65	62	58	55	52	50	46	44	42	37
3	82	73	66	60	76	68	62	56	58	53	49	49	46	43	41	38	36	32
4	75	65	57	51	69	60	53	48	52	47	42	44	40	37	37	34	31	28
5	69	58	50	44	64	54	47	42	46	41	37	40	35	32	33	30	27	24
6	64	52	44	38	59	49	41	36	42	36	32	36	32	28	30	27	24	21
7	59	47	39	34	55	44	37	32	38	33	28	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	22	25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	23	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	17026	17026	17026
5°	17091	16855	16953
10°	16994	16644	16587
15°	16811	16254	16082
20°	16561	15767	15400
25°	16302	15221	14733
30°	15960	14589	13793
35°	15609	13958	12929
40°	15286	13212	11861
45°	14862	12478	10898
50°	14393	11643	9818
55°	13915	10689	8811
60°	13476	9666	7705
65°	12905	8560	6599
70°	12192	7188	5331
75°	11154	5656	5016
80°	9937	5009	4612
85°	8398	4434	4125



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.5	2.1
10°-20°	413.3	6.0
20°-30°	595.1	8.6
30°-40°	670.3	9.7
40°-50°	641.3	9.2
50°-60°	525.1	7.6
60°-70°	354.3	5.1
70°-80°	178.2	2.6
80°-90°	50.8	0.7
90°-100°	79.2	1.1
100°-110°	237.0	3.4
110°-120°	403.1	5.8
120°-130°	530.3	7.6
130°-140°	596.0	8.6
140°-150°	585.8	8.4
150°-160°	493.2	7.1
160°-170°	328.3	4.7
170°-180°	115.0	1.7
0°-30°	1156.9	16.7
0°-40°	1827.2	26.3
0°-60°	2993.6	43.1
0°-90°	3576.9	51.5
90°-120°	719.4	10.4
90°-150°	2431.5	35.0
90°-180°	3368.0	48.5
0°-180°	6944.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1582	1582	1582	1582	1582	
5°	1582	1575	1560	1571	1569	150
15°	1509	1493	1459	1452	1443	425
25°	1373	1339	1282	1255	1240	631
35°	1188	1140	1062	1009	984	743
45°	976	916	820	749	716	753
55°	742	676	570	498	470	665
65°	507	435	336	276	259	501
75°	268	206	136	124	121	286
85°	68	41	36	34	33	76
90°	1	11	23	27	29	7
95°	56	63	71	74	74	63
105°	215	217	225	226	227	230
115°	406	408	407	408	407	401
125°	594	597	595	591	587	529
135°	771	776	775	772	770	594
145°	935	937	940	938	935	584
155°	1070	1070	1071	1075	1069	493
165°	1166	1163	1163	1168	1162	329
175°	1213	1209	1209	1214	1208	115
180°	1216	1216	1216	1216	1216	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1586.9	1585.9	1585.1	1584.1	1583.2	1581.4	1578.7	1575.9	1573.2	1570.5	1572.9
5°	1581.8	1580.3	1578.9	1577.4	1576.0	1573.6	1570.2	1566.8	1563.4	1559.9	1562.5
7.5°	1567.1	1565.6	1564.1	1562.5	1560.9	1557.9	1553.5	1549.1	1544.6	1540.2	1541.6
10°	1554.8	1552.8	1550.8	1548.8	1546.8	1543.2	1538.1	1533.0	1527.9	1522.8	1523.1
12.5°	1537.4	1535.1	1533.0	1530.7	1528.4	1524.2	1518.0	1511.6	1505.4	1499.1	1498.9
15°	1508.6	1505.5	1502.3	1499.2	1496.1	1490.5	1482.5	1474.5	1466.6	1458.6	1457.2
17.5°	1472.4	1468.8	1465.2	1461.5	1457.8	1451.0	1440.8	1430.7	1420.5	1410.3	1407.3
20°	1445.8	1441.2	1436.6	1432.1	1427.5	1419.8	1409.0	1398.2	1387.3	1376.5	1372.8
22.5°	1416.0	1410.8	1405.5	1400.2	1395.1	1386.7	1375.1	1363.6	1352.1	1340.6	1336.0
25°	1372.6	1365.6	1358.4	1351.2	1344.2	1334.0	1320.9	1307.8	1294.7	1281.6	1275.5
27.5°	1320.0	1312.2	1304.3	1296.5	1288.5	1277.3	1262.7	1248.1	1233.5	1219.0	1210.6
30°	1284.1	1275.5	1267.1	1258.5	1249.9	1237.7	1221.7	1205.7	1189.8	1173.8	1164.1
32.5°	1248.2	1238.5	1228.8	1219.1	1209.5	1196.2	1179.3	1162.4	1145.5	1128.6	1118.0
35°	1187.9	1177.6	1167.3	1157.2	1146.9	1132.8	1115.2	1097.5	1079.9	1062.2	1049.9
37.5°	1126.8	1115.4	1104.0	1092.6	1081.2	1066.1	1047.3	1028.3	1009.5	990.6	976.7
40°	1087.9	1075.3	1062.7	1050.2	1037.6	1021.2	1001.1	980.8	960.5	940.3	925.5
42.5°	1043.7	1031.1	1018.6	1006.1	993.5	976.9	955.9	935.0	914.1	893.2	876.9
45°	976.3	963.4	950.6	937.7	924.9	907.6	885.6	863.7	841.7	819.7	803.5
47.5°	908.8	894.7	880.6	866.5	852.4	834.4	812.5	790.5	768.5	746.6	729.0
50°	859.5	846.1	832.7	819.4	805.9	787.7	764.6	741.5	718.4	695.3	677.6
52.5°	815.4	800.9	786.3	771.8	757.2	738.5	715.7	692.8	670.0	647.1	628.7
55°	741.5	727.5	713.5	699.6	685.6	666.5	642.2	618.0	593.8	569.6	553.1
57.5°	673.3	658.0	642.8	627.5	612.4	592.6	568.2	543.8	519.5	495.2	479.6
60°	626.0	610.4	594.7	579.0	563.3	543.7	520.0	496.3	472.7	449.0	433.6
62.5°	578.8	563.2	547.4	531.8	516.1	496.4	472.8	449.1	425.5	401.8	387.3
65°	506.7	491.1	475.3	459.7	444.0	425.1	402.8	380.6	358.4	336.1	322.2
67.5°	434.6	418.8	402.9	387.1	371.3	352.6	331.3	310.0	288.7	267.3	256.9
70°	387.4	372.0	356.7	341.2	325.8	308.2	288.2	268.2	248.3	228.4	218.4
72.5°	340.2	325.1	309.9	294.7	279.6	262.9	244.8	226.7	208.5	190.4	182.2
75°	268.2	254.4	240.7	227.1	213.4	198.7	183.0	167.3	151.7	136.0	133.1
77.5°	202.5	190.0	177.7	165.3	153.0	141.7	131.6	121.5	111.4	101.3	99.8
80°	160.3	148.6	137.0	125.3	113.6	104.8	98.8	92.7	86.8	80.8	79.9
82.5°	120.4	110.3	100.2	90.0	79.9	73.5	70.7	68.0	65.1	62.3	61.5
85°	68.0	61.7	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.8	22.7	20.6	18.6	16.5	15.7	16.3	16.8	17.3	17.9	17.9
90°	0.9	3.1	5.2	7.4	9.4	11.9	14.6	17.4	20.2	22.9	23.8
92.5°	23.1	24.5	26.0	27.4	28.8	30.3	32.0	33.6	35.1	36.7	37.3
95°	56.4	57.8	59.3	60.8	62.3	63.9	65.6	67.3	69.0	70.7	71.5
97.5°	100.1	101.1	102.3	103.4	104.5	105.7	106.9	108.1	109.3	110.6	111.6
100°	129.9	131.1	132.4	133.7	135.0	136.1	137.2	138.3	139.3	140.3	141.0
102.5°	164.3	165.0	165.8	166.5	167.3	168.3	169.8	171.2	172.6	174.0	174.7
105°	214.9	215.3	215.7	216.1	216.6	217.7	219.6	221.5	223.5	225.4	225.4
107.5°	273.7	273.9	274.2	274.5	274.7	275.2	276.0	276.7	277.5	278.2	278.9
110°	310.4	310.8	311.2	311.6	312.1	312.5	312.9	313.3	313.8	314.1	315.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	348.6	348.8	349.0	349.3	349.6	349.7	349.8	349.9	350.0	350.1	351.1
115°	405.9	406.4	407.1	407.7	408.4	408.5	408.0	407.6	407.2	406.8	407.0
117.5°	463.5	463.9	464.4	464.8	465.2	465.1	464.6	464.0	463.4	463.0	462.9
120°	499.5	500.7	502.0	503.2	504.5	504.6	503.5	502.5	501.4	500.4	500.1
122.5°	536.9	537.8	538.8	539.6	540.5	540.7	540.3	539.7	539.1	538.6	538.0
125°	594.0	594.6	595.2	595.9	596.5	596.6	596.2	595.8	595.3	594.9	594.1
127.5°	646.7	648.0	649.4	650.7	652.1	652.5	652.1	651.6	651.1	650.6	649.5
130°	681.8	683.5	685.2	686.9	688.6	689.1	688.5	687.9	687.2	686.5	685.7
132.5°	716.9	718.6	720.3	722.1	723.8	724.3	723.9	723.4	722.9	722.5	721.4
135°	770.6	771.8	773.2	774.4	775.7	776.2	776.0	775.8	775.6	775.3	774.5
137.5°	820.3	821.3	822.4	823.4	824.5	825.3	825.9	826.4	827.0	827.6	826.6
140°	854.6	855.7	856.8	857.8	858.8	859.5	859.7	860.0	860.2	860.4	860.2
142.5°	886.0	887.0	888.1	889.1	890.2	890.9	891.3	891.6	892.1	892.5	892.2
145°	934.8	935.3	935.7	936.1	936.5	937.1	937.7	938.4	939.0	939.6	939.4
147.5°	977.6	978.4	979.1	980.0	980.7	981.4	981.9	982.6	983.2	983.7	983.7
150°	1007.4	1007.9	1008.2	1008.7	1009.1	1009.6	1009.9	1010.4	1010.8	1011.3	1011.3
152.5°	1031.9	1032.5	1033.0	1033.7	1034.3	1034.6	1034.9	1035.2	1035.5	1035.7	1036.0
155°	1070.4	1070.4	1070.4	1070.4	1070.4	1070.5	1070.7	1071.0	1071.2	1071.4	1072.2
157.5°	1103.3	1103.1	1102.8	1102.5	1102.3	1102.2	1102.4	1102.6	1102.8	1102.9	1103.8
160°	1123.9	1123.5	1123.0	1122.7	1122.2	1122.0	1122.0	1122.0	1122.0	1122.0	1123.0
162.5°	1142.3	1141.7	1141.0	1140.5	1139.9	1139.6	1139.8	1140.0	1140.2	1140.4	1141.4
165°	1165.9	1165.3	1164.7	1164.0	1163.4	1163.1	1163.1	1163.1	1163.1	1163.1	1164.3
167.5°	1184.9	1184.0	1183.2	1182.3	1181.5	1181.1	1181.3	1181.5	1181.7	1181.8	1183.1
170°	1195.5	1194.7	1193.8	1193.0	1192.1	1191.8	1191.8	1191.8	1191.8	1191.8	1193.2
172.5°	1203.9	1203.1	1202.2	1201.4	1200.5	1200.1	1200.1	1200.1	1200.1	1200.1	1201.5
175°	1212.8	1211.9	1211.1	1210.2	1209.4	1208.9	1208.9	1208.9	1208.9	1208.9	1210.2
177.5°	1216.4	1215.7	1215.0	1214.3	1213.6	1213.3	1213.3	1213.3	1213.3	1213.3	1214.3
180°	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1575.5	1578.0	1580.5	1581.5	1581.0	1580.6	1580.2	1579.7
5°	1565.1	1567.6	1570.2	1571.2	1570.7	1570.1	1569.5	1569.0
7.5°	1543.0	1544.5	1545.9	1546.1	1545.1	1544.2	1543.2	1542.2
10°	1523.3	1523.6	1523.9	1523.3	1521.8	1520.4	1519.0	1517.6
12.5°	1498.7	1498.6	1498.5	1497.5	1495.9	1494.2	1492.6	1490.9
15°	1455.8	1454.3	1452.9	1451.1	1449.2	1447.2	1445.2	1443.2
17.5°	1404.3	1401.3	1398.3	1395.2	1392.3	1389.3	1386.4	1383.4
20°	1369.0	1365.4	1361.7	1358.1	1354.7	1351.2	1347.8	1344.4
22.5°	1331.3	1326.7	1322.1	1318.1	1315.0	1311.8	1308.6	1305.4
25°	1269.6	1263.6	1257.6	1253.0	1249.9	1246.8	1243.7	1240.5
27.5°	1202.3	1194.0	1185.6	1179.1	1174.3	1169.5	1164.7	1160.0
30°	1154.4	1144.7	1135.0	1127.9	1123.3	1118.8	1114.2	1109.7
32.5°	1107.4	1096.8	1086.2	1078.6	1073.7	1068.9	1064.1	1059.3
35°	1037.6	1025.4	1013.1	1004.5	999.4	994.2	989.1	983.9
37.5°	962.8	948.9	935.0	924.8	918.5	912.2	905.9	899.6
40°	910.7	895.9	881.0	870.3	863.7	857.2	850.6	844.1
42.5°	860.7	844.5	828.3	817.3	811.4	805.6	799.7	793.8
45°	787.2	771.0	754.7	743.2	736.3	729.5	722.6	715.9
47.5°	711.2	693.6	675.9	664.0	657.9	651.9	645.7	639.6
50°	660.0	642.2	624.6	612.5	606.0	599.4	592.9	586.3
52.5°	610.4	592.0	573.6	561.5	555.6	549.8	543.9	538.0
55°	536.5	520.0	503.4	492.3	486.6	480.9	475.2	469.5
57.5°	463.9	448.3	432.7	422.4	417.6	412.7	407.9	403.0
60°	418.2	402.8	387.4	377.3	372.5	367.6	362.8	357.9
62.5°	372.8	358.4	343.8	334.0	329.0	324.0	318.9	313.8
65°	308.2	294.2	280.2	271.6	268.5	265.4	262.3	259.1
67.5°	246.5	236.0	225.6	218.7	215.4	212.0	208.6	205.3
70°	208.4	198.4	188.4	181.9	178.7	175.6	172.5	169.4
72.5°	174.1	165.9	157.8	153.1	151.7	150.4	149.1	147.8
75°	130.3	127.4	124.6	122.9	122.3	121.7	121.1	120.6
77.5°	98.3	96.7	95.2	94.2	93.6	93.0	92.5	91.9
80°	79.1	78.2	77.4	76.7	76.2	75.6	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.2	58.1	58.0
85°	34.8	34.2	33.6	33.4	33.4	33.4	33.4	33.4
87.5°	17.8	17.7	17.7	17.6	17.4	17.3	17.2	17.1
90°	24.6	25.4	26.3	27.0	27.3	27.8	28.2	28.7
92.5°	38.0	38.7	39.4	39.6	39.3	39.1	38.8	38.5
95°	72.4	73.2	74.1	74.5	74.5	74.5	74.5	74.5
97.5°	112.5	113.5	114.5	114.9	114.8	114.8	114.7	114.6
100°	141.7	142.3	142.9	143.5	143.8	144.3	144.7	145.2
102.5°	175.2	175.9	176.5	176.8	176.7	176.6	176.5	176.4
105°	225.4	225.4	225.4	225.6	226.0	226.4	226.9	227.2
107.5°	279.7	280.3	281.0	281.2	281.0	280.7	280.4	280.1
110°	315.8	316.7	317.5	317.7	317.4	316.9	316.5	316.0





TEST NUMBER: P332461-830

CATALOG NUMBER: S123RDIW-S1000D1030U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	352.1	353.1	354.1	354.6	354.5	354.4	354.4	354.3
115°	407.2	407.5	407.6	407.6	407.5	407.2	407.0	406.8
117.5°	462.9	462.8	462.8	462.4	461.8	461.3	460.6	460.1
120°	499.9	499.7	499.5	499.2	498.8	498.3	497.9	497.5
122.5°	537.4	536.9	536.4	535.7	535.2	534.6	534.0	533.4
125°	593.2	592.4	591.5	590.7	589.8	589.0	588.1	587.3
127.5°	648.3	647.1	645.9	644.8	643.9	642.9	641.9	640.9
130°	684.9	684.0	683.2	682.0	680.5	679.0	677.6	676.1
132.5°	720.5	719.4	718.4	717.4	716.1	715.0	713.9	712.8
135°	773.6	772.8	771.9	771.4	770.9	770.5	770.1	769.7
137.5°	825.8	824.8	824.0	823.1	822.3	821.5	820.7	819.9
140°	860.0	859.7	859.5	858.7	857.1	855.7	854.2	852.7
142.5°	892.0	891.8	891.6	890.9	889.8	888.6	887.5	886.4
145°	939.2	939.0	938.8	938.2	937.4	936.5	935.7	934.8
147.5°	983.7	983.7	983.7	983.1	981.8	980.5	979.3	978.0
150°	1011.3	1011.3	1011.3	1010.6	1009.4	1008.0	1006.8	1005.5
152.5°	1036.3	1036.7	1037.1	1036.7	1035.6	1034.4	1033.3	1032.3
155°	1073.1	1073.9	1074.8	1074.5	1073.0	1071.5	1070.1	1068.6
157.5°	1104.7	1105.6	1106.5	1106.4	1105.1	1104.0	1102.8	1101.5
160°	1124.2	1125.2	1126.2	1126.3	1125.5	1124.6	1123.8	1122.9
162.5°	1142.5	1143.5	1144.6	1144.4	1143.1	1141.7	1140.4	1139.0
165°	1165.6	1166.9	1168.2	1168.1	1166.6	1165.1	1163.6	1162.2
167.5°	1184.4	1185.7	1187.0	1187.0	1185.7	1184.4	1183.1	1181.8
170°	1194.7	1196.2	1197.7	1197.7	1196.2	1194.7	1193.2	1191.8
172.5°	1202.8	1204.1	1205.4	1205.3	1203.8	1202.3	1200.8	1199.4
175°	1211.4	1212.8	1214.0	1213.9	1212.4	1210.9	1209.5	1208.0
177.5°	1215.3	1216.4	1217.4	1217.3	1216.1	1214.9	1213.7	1212.6
180°	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6

(END OF REPORT)