

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: P332197-830

Luminaire Tested: **S123DIW-S1000D1030U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332197-830
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: S123DIW-S1000D1030U830-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7253.7 lumens
Efficiency: N/A
Efficacy: 118.5 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

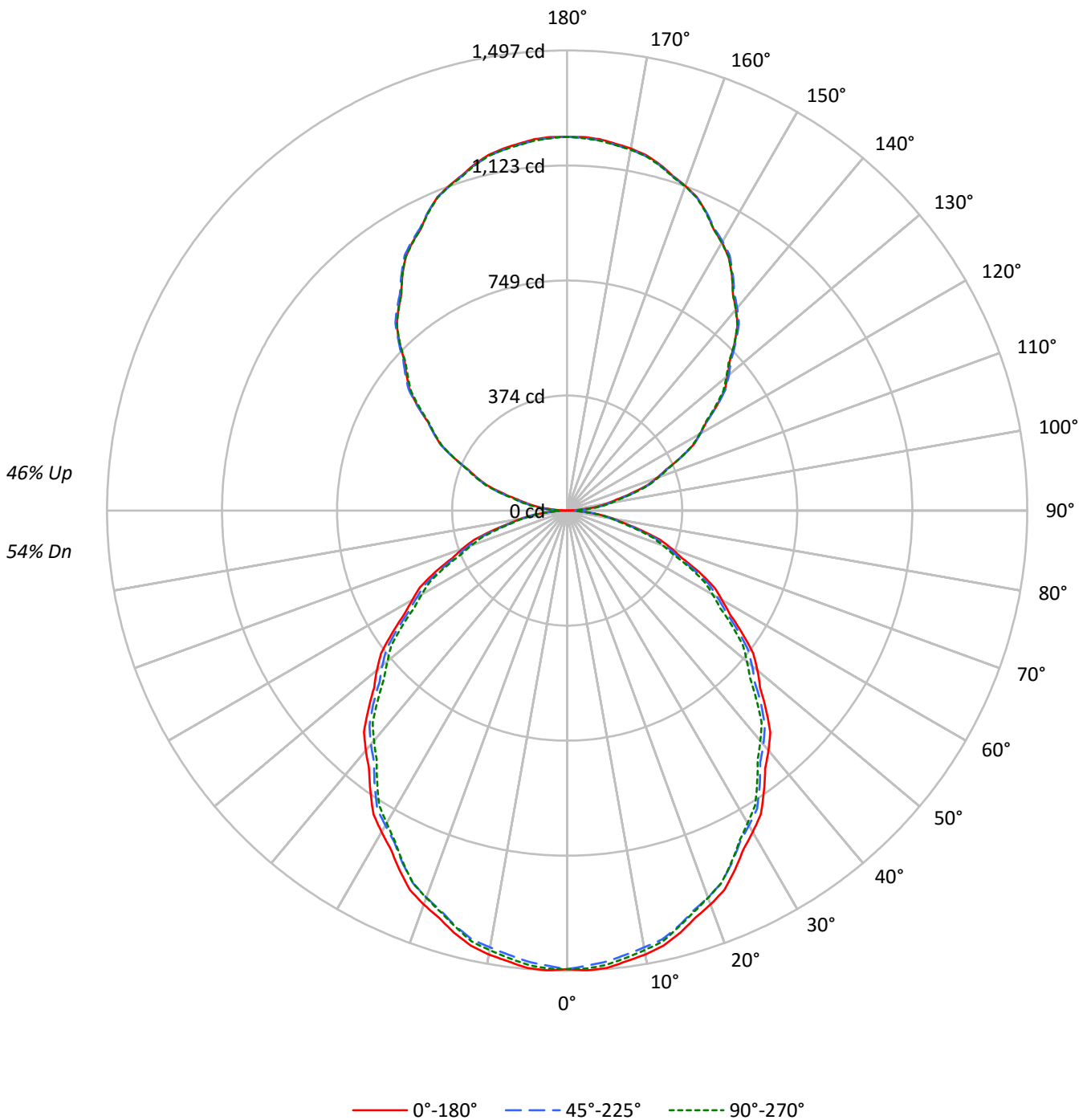
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	54
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	52	51	50	45
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	38
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36	32
4	75	64	56	50	69	60	52	47	51	46	41	44	39	36	36	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	30	27	24
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24	21
7	59	46	38	32	54	43	36	31	37	32	27	32	28	24	27	24	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	22	25	21	19	16
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16060	16060	16060
5°	16134	15913	16024
10°	16027	15774	15872
15°	15840	15597	15624
20°	15621	15341	15356
25°	15327	15037	15007
30°	15003	14701	14588
35°	14666	14345	14160
40°	14313	13952	13735
45°	13922	13592	13259
50°	13534	13147	12782
55°	13024	12688	12301
60°	12510	12152	11765
65°	12055	11566	11207
70°	11383	10902	10414
75°	10405	10031	9603
80°	9385	8988	8901
85°	8238	7929	7595



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.5	1.9
10°-20°	396.8	5.5
20°-30°	586.2	8.1
30°-40°	684.7	9.4
40°-50°	688.4	9.5
50°-60°	604.7	8.3
60°-70°	450.5	6.2
70°-80°	256.7	3.5
80°-90°	77.3	1.1
90°-100°	79.2	1.1
100°-110°	237.0	3.3
110°-120°	403.1	5.6
120°-130°	530.3	7.3
130°-140°	596.0	8.2
140°-150°	585.8	8.1
150°-160°	493.2	6.8
160°-170°	328.3	4.5
170°-180°	115.0	1.6
0°-30°	1123.5	15.5
0°-40°	1808.2	24.9
0°-60°	3101.3	42.8
0°-90°	3885.8	53.6
90°-120°	719.4	9.9
90°-150°	2431.5	33.5
90°-180°	3368.0	46.4
0°-180°	7253.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1492	1492	1492	1492	1492	
5°	1493	1486	1473	1485	1483	141
15°	1421	1416	1400	1409	1402	401
25°	1290	1282	1266	1267	1264	594
35°	1116	1108	1092	1084	1078	698
45°	915	909	893	878	871	706
55°	694	692	676	662	656	621
65°	473	467	454	444	440	467
75°	250	245	241	235	231	267
85°	67	64	64	62	62	73
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°	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0
2.5°	1497.0	1496.2	1495.2	1494.3	1493.5	1491.7	1489.2	1486.7	1484.2	1481.7	1483.9
5°	1493.2	1491.8	1490.3	1488.9	1487.5	1485.3	1482.1	1478.9	1475.8	1472.7	1475.6
7.5°	1478.6	1477.2	1475.7	1474.3	1472.9	1470.6	1467.4	1464.1	1460.8	1457.5	1460.1
10°	1466.3	1464.9	1463.4	1462.0	1460.6	1458.0	1454.3	1450.6	1446.9	1443.2	1445.8
12.5°	1449.8	1448.7	1447.5	1446.2	1445.1	1442.7	1439.3	1435.8	1432.3	1428.8	1430.7
15°	1421.4	1420.2	1419.1	1418.0	1416.8	1414.4	1410.7	1407.0	1403.3	1399.6	1401.8
17.5°	1388.3	1386.8	1385.3	1383.8	1382.3	1379.8	1376.0	1372.3	1368.7	1364.9	1366.5
20°	1363.7	1362.0	1360.3	1358.5	1356.8	1354.1	1350.4	1346.7	1343.0	1339.3	1340.4
22.5°	1336.0	1334.3	1332.6	1330.8	1329.1	1326.4	1322.7	1319.0	1315.3	1311.5	1312.5
25°	1290.5	1288.8	1287.1	1285.4	1283.6	1281.0	1277.2	1273.6	1269.9	1266.1	1266.4
27.5°	1242.1	1240.4	1238.7	1237.1	1235.4	1232.6	1228.6	1224.6	1220.6	1216.6	1216.8
30°	1207.1	1205.7	1204.3	1202.9	1201.5	1198.7	1194.8	1190.7	1186.8	1182.8	1182.8
32.5°	1172.2	1170.4	1168.5	1166.6	1164.7	1162.2	1159.1	1156.1	1153.0	1149.9	1148.3
35°	1116.1	1114.4	1112.7	1111.0	1109.2	1106.5	1102.8	1099.1	1095.4	1091.7	1090.0
37.5°	1058.6	1056.4	1054.2	1052.1	1049.9	1047.0	1043.2	1039.4	1035.7	1031.9	1029.8
40°	1018.6	1016.8	1015.1	1013.4	1011.7	1008.9	1004.8	1000.9	996.9	992.9	990.6
42.5°	978.5	976.6	974.7	972.7	970.8	967.8	963.8	959.9	955.8	951.9	949.6
45°	914.6	913.5	912.4	911.3	910.1	907.7	904.0	900.2	896.5	892.9	889.5
47.5°	851.3	849.6	848.0	846.3	844.7	842.1	838.7	835.2	831.7	828.2	824.8
50°	808.2	806.7	805.3	803.9	802.5	799.9	796.2	792.5	788.8	785.1	781.9
52.5°	763.0	762.0	761.1	760.2	759.1	756.7	752.8	748.9	744.9	740.9	738.3
55°	694.0	693.7	693.4	693.1	692.9	690.9	687.2	683.4	679.8	676.1	672.9
57.5°	628.3	627.4	626.4	625.5	624.4	622.5	619.5	616.5	613.6	610.7	607.8
60°	581.1	580.8	580.5	580.2	579.9	578.2	574.7	571.3	567.9	564.5	561.8
62.5°	539.0	538.3	537.5	536.8	536.1	534.0	530.6	527.2	523.8	520.3	517.7
65°	473.3	471.9	470.5	469.1	467.7	465.5	462.7	459.9	456.9	454.1	451.9
67.5°	403.9	402.6	401.3	400.1	398.8	397.1	394.9	392.8	390.6	388.4	386.4
70°	361.7	360.1	358.4	356.7	355.0	353.2	351.5	349.8	348.1	346.4	344.4
72.5°	317.6	316.4	315.1	313.9	312.6	311.0	309.1	307.2	305.2	303.2	301.5
75°	250.2	249.0	247.9	246.8	245.6	244.6	243.7	242.9	242.0	241.2	239.8
77.5°	190.4	189.7	189.1	188.5	187.8	187.0	186.1	185.0	184.0	182.9	182.0
80°	151.4	150.5	149.7	148.8	148.0	147.2	146.7	146.1	145.5	145.0	144.7
82.5°	113.4	113.2	113.1	112.9	112.7	112.5	112.4	112.4	112.3	112.2	111.6
85°	66.7	66.2	65.6	65.0	64.5	64.2	64.2	64.2	64.2	64.2	63.5
87.5°	26.9	26.6	26.4	26.1	25.8	25.8	26.2	26.5	26.9	27.1	27.1
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°	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0
2.5°	1486.2	1488.6	1490.8	1491.9	1491.6	1491.4	1491.1	1490.9
5°	1478.4	1481.2	1484.1	1485.3	1484.7	1484.1	1483.6	1483.0
7.5°	1462.7	1465.3	1467.8	1469.0	1468.6	1468.3	1467.9	1467.5
10°	1448.3	1450.9	1453.5	1454.4	1453.9	1453.3	1452.7	1452.2
12.5°	1432.6	1434.5	1436.3	1437.1	1436.8	1436.4	1436.1	1435.8
15°	1404.1	1406.4	1408.7	1409.0	1407.3	1405.5	1403.8	1402.1
17.5°	1368.1	1369.7	1371.3	1371.8	1371.2	1370.6	1369.9	1369.3
20°	1341.5	1342.7	1343.9	1344.0	1343.1	1342.3	1341.4	1340.6
22.5°	1313.4	1314.3	1315.2	1315.1	1314.1	1313.0	1311.9	1310.8
25°	1266.7	1267.1	1267.3	1267.1	1266.1	1265.3	1264.4	1263.6
27.5°	1217.1	1217.3	1217.6	1217.1	1216.1	1214.9	1213.9	1212.8
30°	1182.8	1182.8	1182.8	1181.8	1179.8	1177.8	1175.8	1173.7
32.5°	1146.7	1145.2	1143.6	1142.2	1141.1	1140.0	1139.0	1137.8
35°	1088.3	1086.6	1084.9	1083.3	1081.9	1080.4	1079.0	1077.6
37.5°	1027.8	1025.8	1023.7	1022.2	1021.3	1020.4	1019.5	1018.6
40°	988.4	986.1	983.8	982.0	980.9	979.8	978.6	977.5
42.5°	947.3	945.0	942.7	941.0	939.9	938.8	937.6	936.5
45°	886.0	882.6	879.2	876.8	875.3	873.9	872.5	871.0
47.5°	821.4	818.1	814.7	812.5	811.2	809.9	808.7	807.4
50°	778.8	775.7	772.5	770.2	768.5	766.7	765.0	763.3
52.5°	735.6	732.9	730.3	728.0	726.3	724.6	722.9	721.2
55°	669.8	666.7	663.5	661.2	659.8	658.4	657.0	655.5
57.5°	605.0	602.3	599.5	597.2	595.6	593.9	592.3	590.6
60°	559.3	556.8	554.2	552.2	550.7	549.3	547.9	546.5
62.5°	515.2	512.6	510.0	508.3	507.3	506.3	505.4	504.4
65°	449.6	447.2	445.0	443.5	442.6	441.8	440.8	440.0
67.5°	384.5	382.5	380.5	378.9	377.7	376.5	375.2	374.1
70°	342.3	340.4	338.4	336.7	335.3	333.8	332.4	330.9
72.5°	299.7	297.9	296.1	294.9	294.2	293.4	292.8	292.0
75°	238.4	236.9	235.4	234.3	233.5	232.6	231.8	230.9
77.5°	181.0	180.0	179.1	178.6	178.6	178.6	178.6	178.6
80°	144.4	144.1	143.8	143.6	143.6	143.6	143.6	143.6
82.5°	111.1	110.6	110.1	109.7	109.4	109.2	109.1	108.8
85°	63.0	62.4	61.8	61.5	61.5	61.5	61.5	61.5
87.5°	27.1	27.0	27.0	27.0	27.1	27.1	27.2	27.2
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: P332197-830

CATALOG NUMBER: S123DIW-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)