

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: P331577-830

Luminaire Tested: **S122DIW-S865D1240U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331577-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D1240U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7982.7 lumens
Efficiency: N/A
Efficacy: 114.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

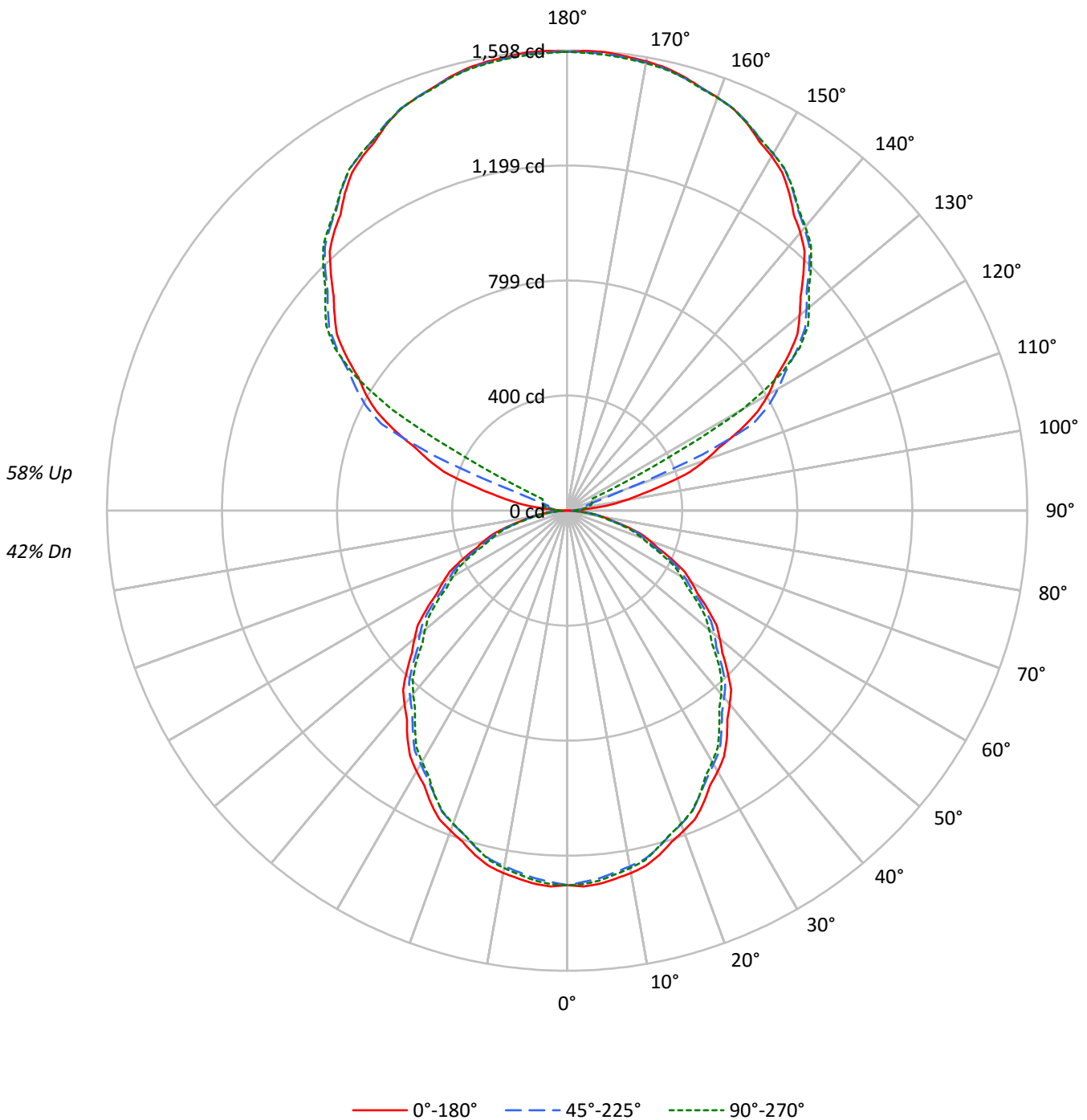
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331577-830

CATALOG NUMBER: S122DIW-S865D1240U830-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P331577-830

CATALOG NUMBER: S122DIW-S865D1240U830-4F0-1E-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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	42
1	96	92	88	84	87	84	80	77	69	67	64	55	54	52	43	42	41	35
2	87	80	74	69	79	73	68	64	60	57	53	48	46	44	38	36	34	29
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	33	31	29	25
4	73	62	54	48	66	57	50	45	47	42	38	38	35	32	30	27	25	21
5	67	55	47	41	61	51	44	39	42	37	33	34	30	27	27	24	22	18
6	61	50	42	36	56	46	39	33	38	33	29	31	27	24	24	21	19	16
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17	14
8	53	41	33	28	48	37	31	26	31	26	22	26	22	19	20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21001	21001	21001
5°	21081	20778	20900
10°	20956	20566	20669
15°	20697	20301	20277
20°	20330	19900	19878
25°	19963	19408	19408
30°	19494	18957	18793
35°	19056	18413	18143
40°	18506	17873	17530
45°	17961	17335	16908
50°	17372	16777	16179
55°	16757	16124	15527
60°	16075	15345	14783
65°	15339	14571	13903
70°	14408	13638	12987
75°	13107	12558	12246
80°	11632	11278	10702
85°	9503	9040	8096



TEST NUMBER: P331577-830

CATALOG NUMBER: S122DIW-S865D1240U830-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.3	1.5
10°-20°	344.2	4.3
20°-30°	505.9	6.3
30°-40°	587.6	7.4
40°-50°	587.0	7.4
50°-60°	511.9	6.4
60°-70°	378.5	4.7
70°-80°	214.4	2.7
80°-90°	61.6	0.8
90°-100°	53.1	0.7
100°-110°	194.9	2.4
110°-120°	521.0	6.5
120°-130°	860.1	10.8
130°-140°	914.7	11.5
140°-150°	850.1	10.6
150°-160°	683.5	8.6
160°-170°	440.5	5.5
170°-180°	151.6	1.9
0°-30°	972.3	12.2
0°-40°	1559.9	19.5
0°-60°	2658.7	33.3
0°-90°	3313.2	41.5
90°-120°	769.1	9.6
90°-150°	3394.0	42.5
90°-180°	4670.0	58.5
0°-180°	7982.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1301	1301	1301	1301	1301	
5°	1301	1295	1282	1291	1290	123
15°	1238	1230	1214	1219	1213	348
25°	1121	1110	1089	1092	1089	515
35°	967	954	934	927	920	603
45°	787	777	759	746	740	607
55°	595	587	573	558	552	532
65°	402	394	381	370	364	397
75°	210	207	201	194	196	224
85°	51	50	49	45	44	59
90°	1	14	23	29	31	6
95°	75	39	45	50	50	92
105°	350	366	70	83	88	375
115°	663	683	711	203	94	653
125°	937	953	974	982	986	835
135°	1160	1178	1189	1200	1198	896
145°	1346	1346	1364	1371	1366	841
155°	1482	1472	1485	1491	1483	682
165°	1561	1555	1558	1565	1558	441
175°	1597	1589	1591	1598	1588	152
180°	1593	1593	1593	1593	1593	



TEST NUMBER: P331577-830

CATALOG NUMBER: S122DIW-S865D1240U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7
2.5°	1306.7	1305.6	1304.5	1303.4	1302.3	1300.5	1298.1	1295.6	1293.2	1290.7	1293.0
5°	1300.7	1299.6	1298.5	1297.4	1296.3	1294.2	1291.2	1288.1	1285.1	1282.0	1284.2
7.5°	1289.2	1287.5	1285.8	1284.0	1282.3	1279.9	1276.8	1273.7	1270.5	1267.4	1269.7
10°	1278.2	1276.3	1274.3	1272.3	1270.5	1267.8	1264.4	1261.1	1257.8	1254.4	1256.7
12.5°	1263.2	1261.5	1259.8	1258.0	1256.3	1253.8	1250.5	1247.1	1243.8	1240.5	1242.0
15°	1238.2	1236.5	1234.8	1233.2	1231.5	1228.9	1225.3	1221.6	1218.0	1214.5	1215.5
17.5°	1206.2	1204.5	1202.9	1201.2	1199.5	1196.8	1193.2	1189.5	1185.8	1182.1	1183.5
20°	1183.2	1181.5	1179.9	1178.2	1176.5	1173.7	1169.8	1165.9	1162.1	1158.2	1159.0
22.5°	1160.2	1157.8	1155.5	1153.1	1150.8	1147.8	1144.2	1140.5	1136.8	1133.1	1133.3
25°	1120.6	1118.4	1116.2	1114.0	1111.7	1108.2	1103.5	1098.8	1094.1	1089.4	1090.0
27.5°	1075.6	1073.7	1071.6	1069.6	1067.6	1064.7	1061.0	1057.2	1053.6	1049.8	1049.0
30°	1045.6	1043.4	1041.1	1039.0	1036.7	1033.5	1029.4	1025.2	1021.0	1016.8	1016.0
32.5°	1013.6	1011.8	1010.0	1008.2	1006.4	1003.3	999.0	994.6	990.2	985.8	984.3
35°	966.8	964.0	961.2	958.5	955.6	952.1	947.6	943.2	938.7	934.2	932.6
37.5°	914.0	911.5	909.1	906.6	904.3	900.8	896.4	891.9	887.4	883.0	880.9
40°	878.0	875.8	873.5	871.3	869.1	865.7	861.3	856.9	852.4	848.0	845.5
42.5°	843.0	840.7	838.5	836.3	834.1	830.8	826.3	821.9	817.4	812.9	810.2
45°	786.6	784.8	782.8	780.9	778.9	775.8	771.7	767.5	763.4	759.2	756.1
47.5°	730.7	728.9	727.0	725.2	723.3	720.2	715.9	711.5	707.2	702.9	699.6
50°	691.6	690.2	688.9	687.5	686.1	683.4	679.6	675.6	671.8	667.9	664.0
52.5°	653.7	651.8	650.0	648.1	646.3	643.6	639.9	636.2	632.5	628.9	625.7
55°	595.3	593.7	592.0	590.3	588.6	586.2	582.9	579.5	576.2	572.8	569.5
57.5°	536.8	535.5	534.1	532.8	531.5	529.0	525.3	521.6	517.9	514.3	511.0
60°	497.8	496.6	495.6	494.5	493.3	490.9	486.9	483.1	479.2	475.2	472.2
62.5°	459.8	458.0	456.2	454.4	452.6	450.3	447.2	444.2	441.2	438.3	435.5
65°	401.5	399.8	398.1	396.4	394.8	392.6	389.8	387.0	384.3	381.4	379.0
67.5°	342.2	340.8	339.5	338.2	336.9	335.0	332.4	329.9	327.4	324.9	323.0
70°	305.2	304.1	302.9	301.8	300.8	298.9	296.4	293.9	291.4	288.9	287.0
72.5°	267.1	266.1	264.9	263.8	262.7	261.4	259.8	258.2	256.5	254.9	253.0
75°	210.1	209.5	209.0	208.5	207.9	206.9	205.6	204.2	202.7	201.3	199.7
77.5°	159.1	158.2	157.2	156.3	155.3	154.6	154.0	153.4	152.9	152.3	151.5
80°	125.1	124.8	124.5	124.2	123.9	123.6	123.0	122.4	121.9	121.3	120.5
82.5°	93.0	93.0	92.9	92.8	92.8	92.7	92.3	92.0	91.6	91.3	90.2
85°	51.3	51.0	50.7	50.4	50.1	49.9	49.6	49.3	49.0	48.8	48.0
87.5°	18.3	18.4	18.5	18.6	18.8	18.8	18.8	18.7	18.7	18.7	18.2
90°	1.1	4.0	6.8	9.6	12.4	14.9	16.9	18.9	21.0	23.1	24.3
92.5°	23.3	23.0	22.8	22.5	22.2	22.6	23.7	24.7	25.7	26.8	27.4
95°	74.9	66.4	58.1	49.6	41.1	37.8	39.6	41.4	43.2	45.0	46.3
97.5°	148.7	124.9	101.0	77.3	53.4	43.5	47.7	51.8	56.1	60.2	61.2
100°	204.1	169.0	133.8	98.8	63.7	48.3	52.7	57.0	61.4	65.7	67.8
102.5°	264.9	257.5	250.1	242.7	235.3	213.3	176.8	140.4	104.0	67.6	70.2
105°	350.5	358.2	365.9	373.5	381.3	350.2	280.2	210.2	140.3	70.3	73.1
107.5°	448.1	454.2	460.4	466.7	472.9	434.0	350.2	266.3	182.4	98.5	95.6
110°	510.8	516.1	521.5	526.9	532.3	497.9	424.0	349.9	275.8	201.8	176.2



TEST NUMBER: P331577-830

CATALOG NUMBER: S122DIW-S865D1240U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	569.8	574.6	579.3	584.1	588.9	582.1	563.8	545.5	527.3	508.9	415.5
115°	663.0	667.3	671.7	676.0	680.4	685.8	692.2	698.6	705.0	711.4	592.8
117.5°	746.2	751.1	755.9	760.8	765.7	770.3	774.7	779.1	783.5	788.0	759.2
120°	807.1	811.0	814.7	818.6	822.5	826.7	831.3	835.9	840.6	845.1	848.2
122.5°	858.8	862.8	866.9	870.9	875.0	879.5	884.5	889.5	894.6	899.6	901.4
125°	937.4	940.7	944.1	947.3	950.6	954.8	959.7	964.5	969.4	974.3	976.1
127.5°	1008.6	1012.3	1016.0	1019.7	1023.4	1027.1	1030.7	1034.3	1037.9	1041.6	1044.2
130°	1053.9	1057.9	1062.1	1066.1	1070.3	1073.7	1076.5	1079.3	1082.1	1085.0	1087.8
132.5°	1099.9	1103.4	1106.9	1110.4	1113.9	1117.0	1119.8	1122.7	1125.5	1128.3	1130.7
135°	1159.9	1163.9	1168.1	1172.1	1176.3	1179.5	1181.8	1184.1	1186.4	1188.7	1191.3
137.5°	1220.5	1223.4	1226.2	1229.2	1232.0	1234.7	1237.4	1240.0	1242.6	1245.2	1247.7
140°	1260.2	1262.3	1264.3	1266.3	1268.4	1270.8	1273.7	1276.5	1279.3	1282.1	1284.4
142.5°	1293.5	1295.2	1297.1	1298.9	1300.8	1303.3	1306.6	1309.8	1313.0	1316.3	1318.3
145°	1345.5	1345.3	1345.0	1344.7	1344.5	1346.5	1350.9	1355.3	1359.6	1364.0	1365.7
147.5°	1390.9	1390.0	1389.0	1388.0	1387.0	1388.7	1393.0	1397.3	1401.7	1405.9	1407.3
150°	1420.5	1418.7	1416.9	1415.0	1413.2	1414.5	1418.5	1422.7	1426.7	1430.9	1432.4
152.5°	1445.4	1443.4	1441.3	1439.4	1437.4	1438.3	1442.2	1446.1	1450.0	1453.9	1455.5
155°	1481.6	1479.2	1477.0	1474.6	1472.3	1472.7	1475.8	1478.8	1482.0	1485.1	1486.6
157.5°	1510.0	1508.0	1506.0	1504.1	1502.1	1502.2	1504.4	1506.6	1508.7	1510.9	1512.6
160°	1526.5	1525.0	1523.4	1521.9	1520.4	1520.4	1521.9	1523.4	1525.0	1526.5	1528.0
162.5°	1541.3	1539.7	1538.2	1536.7	1535.1	1535.0	1536.3	1537.7	1539.1	1540.4	1542.1
165°	1561.1	1559.6	1558.0	1556.5	1555.0	1554.6	1555.4	1556.1	1556.9	1557.6	1559.4
167.5°	1575.9	1574.3	1572.8	1571.3	1569.7	1569.3	1570.1	1570.7	1571.5	1572.2	1574.0
170°	1584.2	1582.6	1581.1	1579.6	1578.0	1577.5	1578.0	1578.6	1579.0	1579.6	1581.4
172.5°	1589.7	1588.2	1586.7	1585.1	1583.6	1583.1	1583.6	1584.0	1584.6	1585.1	1586.9
175°	1596.9	1595.1	1593.3	1591.5	1589.7	1589.0	1589.6	1590.1	1590.6	1591.1	1592.9
177.5°	1598.0	1596.6	1595.2	1593.7	1592.2	1591.7	1591.9	1592.0	1592.2	1592.5	1593.9
180°	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4



TEST NUMBER: P331577-830

CATALOG NUMBER: S122DIW-S865D1240U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7
2.5°	1295.1	1297.4	1299.6	1300.5	1300.0	1299.6	1299.2	1298.7
5°	1286.4	1288.6	1290.9	1291.7	1291.2	1290.6	1290.1	1289.5
7.5°	1271.9	1274.1	1276.4	1277.1	1276.6	1275.9	1275.4	1274.7
10°	1258.9	1261.1	1263.4	1264.0	1263.2	1262.3	1261.5	1260.7
12.5°	1243.6	1245.1	1246.7	1247.2	1246.5	1245.9	1245.3	1244.7
15°	1216.6	1217.8	1218.9	1218.7	1217.4	1216.0	1214.6	1213.1
17.5°	1184.7	1186.0	1187.3	1187.2	1185.9	1184.6	1183.3	1181.9
20°	1159.8	1160.6	1161.5	1161.3	1160.3	1159.1	1158.0	1156.9
22.5°	1133.5	1133.6	1133.8	1133.6	1132.8	1132.2	1131.5	1130.9
25°	1090.5	1091.0	1091.6	1091.6	1091.0	1090.5	1090.0	1089.4
27.5°	1048.2	1047.4	1046.5	1045.5	1044.1	1042.7	1041.4	1040.1
30°	1015.1	1014.4	1013.5	1012.5	1011.4	1010.3	1009.2	1008.0
32.5°	982.8	981.3	979.8	978.5	977.4	976.3	975.2	974.0
35°	930.9	929.3	927.7	926.0	924.7	923.3	921.9	920.5
37.5°	878.9	876.8	874.8	873.1	871.8	870.4	869.1	867.7
40°	843.0	840.5	838.0	836.1	835.1	834.0	832.8	831.7
42.5°	807.5	804.7	802.1	799.9	798.3	796.8	795.2	793.7
45°	753.1	750.0	747.0	744.9	743.8	742.6	741.5	740.5
47.5°	696.4	693.2	690.0	687.6	686.0	684.4	682.8	681.2
50°	660.1	656.2	652.3	649.7	648.3	646.9	645.5	644.1
52.5°	622.4	619.2	616.0	613.4	611.6	609.7	607.9	606.1
55°	566.2	562.8	559.5	557.1	555.7	554.3	553.0	551.6
57.5°	507.7	504.4	501.1	499.0	497.9	496.9	495.9	494.7
60°	469.2	466.1	463.1	461.1	460.2	459.4	458.5	457.8
62.5°	432.5	429.7	426.9	425.0	423.9	422.8	421.8	420.8
65°	376.5	374.0	371.5	369.5	368.2	366.7	365.3	363.9
67.5°	321.0	319.1	317.2	315.7	314.5	313.4	312.3	311.1
70°	285.0	283.0	281.2	279.6	278.5	277.4	276.3	275.1
72.5°	251.0	249.0	247.1	245.7	244.8	243.9	243.0	242.1
75°	198.0	196.3	194.7	194.2	194.7	195.3	195.8	196.3
77.5°	150.7	149.9	149.0	148.2	147.4	146.7	145.9	145.1
80°	119.6	118.9	118.0	117.3	116.7	116.2	115.6	115.1
82.5°	89.2	88.1	87.1	86.5	86.3	86.2	86.1	86.1
85°	47.1	46.3	45.4	44.9	44.6	44.3	44.0	43.7
87.5°	17.8	17.3	17.0	16.7	16.6	16.5	16.3	16.2
90°	25.6	26.9	28.2	29.1	29.6	30.1	30.6	31.1
92.5°	28.1	28.7	29.4	29.9	30.2	30.5	30.8	31.1
95°	47.5	48.8	50.0	50.6	50.3	50.0	49.9	49.6
97.5°	62.2	63.2	64.3	64.9	65.2	65.6	65.9	66.2
100°	69.8	71.8	73.9	75.2	75.7	76.3	76.7	77.3
102.5°	72.9	75.6	78.2	79.9	80.6	81.3	82.1	82.8
105°	76.0	78.8	81.6	83.5	84.5	85.6	86.6	87.7
107.5°	92.7	89.8	87.0	86.1	87.1	88.1	89.2	90.2
110°	150.5	124.9	99.2	87.0	88.0	89.1	90.1	91.0



TEST NUMBER: P331577-830

CATALOG NUMBER: S122DIW-S865D1240U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	322.0	228.6	135.1	88.7	89.5	90.4	91.1	92.0
115°	474.1	355.5	236.9	168.3	149.9	131.5	113.0	94.5
117.5°	730.6	701.8	673.2	628.5	567.9	507.3	446.7	386.0
120°	851.3	854.3	857.4	841.7	807.1	772.5	737.9	703.3
122.5°	903.2	905.1	906.9	904.5	897.8	891.1	884.4	877.6
125°	977.9	979.7	981.5	982.7	983.4	984.3	985.1	985.8
127.5°	1046.8	1049.4	1052.1	1053.5	1053.6	1053.8	1053.9	1054.0
130°	1090.6	1093.4	1096.2	1097.5	1097.2	1097.0	1096.7	1096.5
132.5°	1133.1	1135.5	1137.9	1139.0	1138.8	1138.5	1138.2	1138.0
135°	1193.8	1196.4	1199.0	1200.0	1199.5	1199.0	1198.4	1198.0
137.5°	1250.2	1252.7	1255.3	1256.0	1255.2	1254.3	1253.5	1252.5
140°	1286.8	1289.0	1291.4	1291.8	1290.5	1289.3	1288.0	1286.8
142.5°	1320.4	1322.6	1324.6	1325.0	1323.8	1322.5	1321.2	1319.9
145°	1367.5	1369.3	1371.1	1371.4	1370.1	1368.9	1367.5	1366.3
147.5°	1408.6	1409.9	1411.3	1411.4	1410.3	1409.2	1408.2	1407.1
150°	1433.9	1435.5	1437.0	1437.1	1435.9	1434.5	1433.2	1432.0
152.5°	1457.0	1458.5	1460.1	1460.0	1458.3	1456.6	1454.9	1453.2
155°	1488.1	1489.7	1491.2	1490.9	1488.8	1486.9	1484.8	1482.7
157.5°	1514.4	1516.1	1517.9	1517.7	1515.7	1513.7	1511.7	1509.7
160°	1529.7	1531.2	1532.7	1532.6	1530.8	1529.0	1527.2	1525.4
162.5°	1543.9	1545.6	1547.4	1547.1	1544.9	1542.7	1540.5	1538.3
165°	1561.2	1563.0	1564.8	1564.8	1563.0	1561.2	1559.4	1557.6
167.5°	1575.7	1577.5	1579.3	1579.1	1576.8	1574.5	1572.2	1569.9
170°	1583.2	1585.0	1586.8	1586.5	1584.2	1581.9	1579.6	1577.3
172.5°	1588.7	1590.4	1592.2	1592.0	1589.7	1587.4	1585.1	1582.8
175°	1594.7	1596.5	1598.3	1597.9	1595.3	1592.8	1590.2	1587.6
177.5°	1595.3	1596.8	1598.3	1598.0	1596.2	1594.3	1592.5	1590.6
180°	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4

(END OF REPORT)