

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: P331577-935

Luminaire Tested: **S122DIW-S865D1240U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331577-935  
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-S865D1240U935-4F0-1E-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**

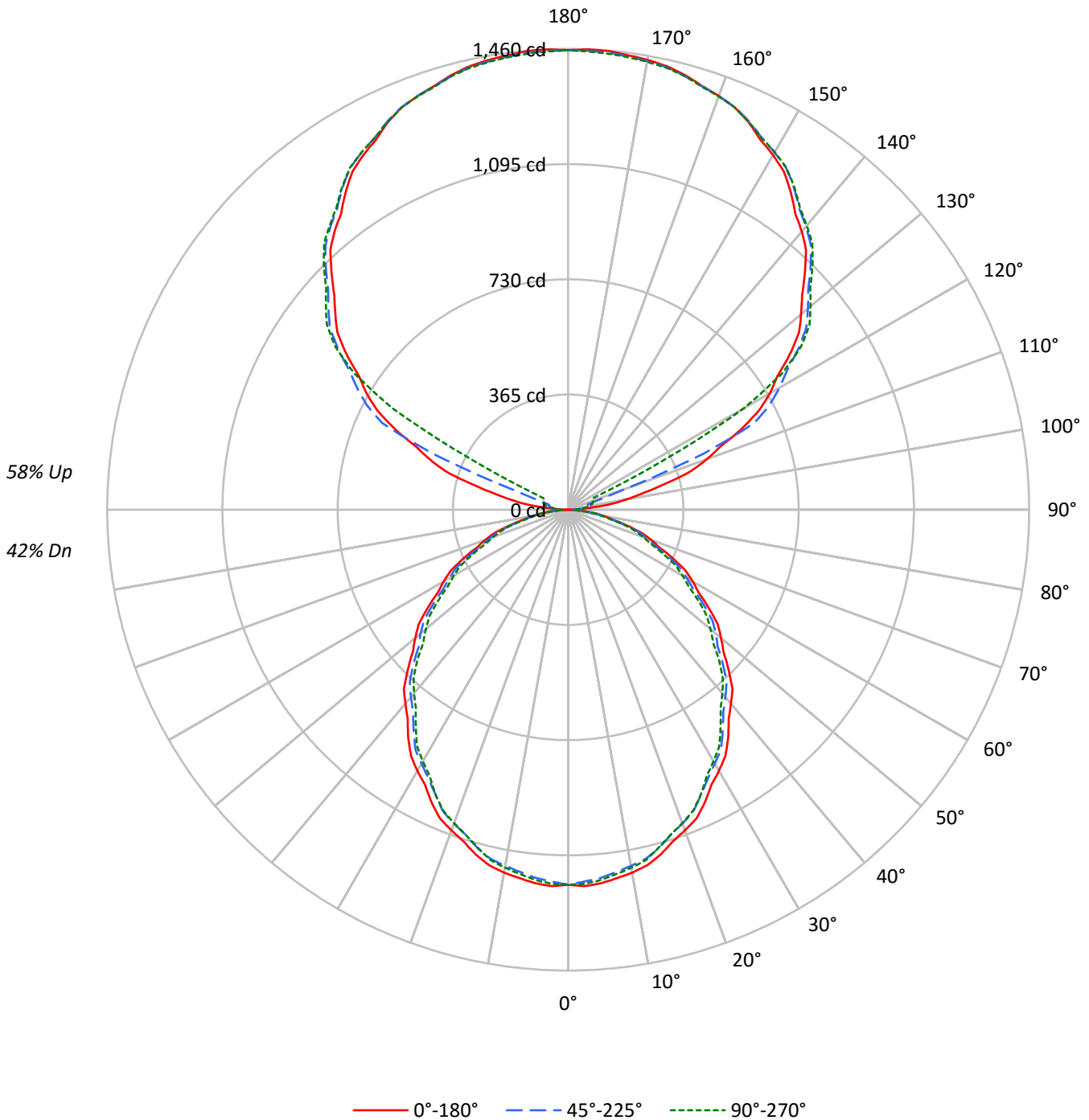
Lumens per Lamp: N/A  
Luminaire Lumens: 7292.1 lumens  
Efficiency: N/A  
Efficacy: 104.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 69.8  
Input Voltage (V): 120  
Input Current (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	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°	19184	19184	19184
5°	19258	18979	19091
10°	19143	18787	18882
15°	18907	18544	18524
20°	18570	18179	18158
25°	18235	17728	17728
30°	17807	17316	17167
35°	17406	16821	16575
40°	16904	16326	16012
45°	16408	15835	15445
50°	15870	15325	14780
55°	15308	14728	14184
60°	14683	14018	13504
65°	14013	13310	12699
70°	13161	12458	11863
75°	11971	11472	11185
80°	10628	10302	9772
85°	8670	8262	7410



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.7	1.5
10°-20°	314.4	4.3
20°-30°	462.1	6.3
30°-40°	536.8	7.4
40°-50°	536.2	7.4
50°-60°	467.6	6.4
60°-70°	345.7	4.7
70°-80°	195.8	2.7
80°-90°	56.2	0.8
90°-100°	48.6	0.7
100°-110°	178.1	2.4
110°-120°	476.0	6.5
120°-130°	785.7	10.8
130°-140°	835.5	11.5
140°-150°	776.6	10.6
150°-160°	624.4	8.6
160°-170°	402.3	5.5
170°-180°	138.5	1.9
0°-30°	888.2	12.2
0°-40°	1425.0	19.5
0°-60°	2428.7	33.3
0°-90°	3026.5	41.5
90°-120°	702.6	9.6
90°-150°	3100.4	42.5
90°-180°	4266.0	58.5
0°-180°	7292.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1188	1188	1188	1188	1188	
5°	1188	1183	1171	1180	1178	113
15°	1131	1124	1109	1113	1108	318
25°	1024	1014	995	997	995	471
35°	883	871	853	847	841	551
45°	719	710	694	681	676	554
55°	544	537	523	510	504	486
65°	367	360	348	338	332	363
75°	192	189	184	178	179	205
85°	47	46	45	41	40	54
90°	1	12	21	26	28	5
95°	68	36	41	46	45	84
105°	320	334	64	75	80	342
115°	606	624	650	185	86	596
125°	856	870	890	897	900	763
135°	1060	1076	1086	1096	1094	818
145°	1229	1229	1246	1253	1248	768
155°	1353	1345	1357	1362	1354	623
165°	1426	1420	1423	1429	1423	403
175°	1459	1452	1454	1460	1450	139
180°	1456	1456	1456	1456	1456	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2
2.5°	1193.7	1192.7	1191.6	1190.7	1189.6	1188.0	1185.8	1183.5	1181.3	1179.1	1181.1
5°	1188.2	1187.1	1186.2	1185.2	1184.1	1182.2	1179.5	1176.6	1173.9	1171.0	1173.1
7.5°	1177.7	1176.1	1174.6	1172.9	1171.4	1169.2	1166.3	1163.5	1160.6	1157.8	1159.9
10°	1167.6	1165.9	1164.1	1162.3	1160.5	1158.1	1155.0	1152.0	1149.0	1145.9	1148.0
12.5°	1153.9	1152.4	1150.8	1149.2	1147.6	1145.3	1142.3	1139.2	1136.2	1133.2	1134.5
15°	1131.1	1129.5	1128.0	1126.5	1125.0	1122.6	1119.3	1115.9	1112.7	1109.4	1110.3
17.5°	1101.8	1100.3	1098.8	1097.3	1095.7	1093.3	1089.9	1086.6	1083.2	1079.9	1081.1
20°	1080.8	1079.3	1077.8	1076.2	1074.7	1072.2	1068.6	1065.1	1061.5	1058.0	1058.7
22.5°	1059.8	1057.7	1055.5	1053.3	1051.3	1048.5	1045.2	1041.8	1038.5	1035.1	1035.3
25°	1023.6	1021.7	1019.6	1017.6	1015.5	1012.4	1008.1	1003.8	999.4	995.1	995.7
27.5°	982.6	980.8	978.9	977.1	975.3	972.6	969.2	965.8	962.4	959.0	958.3
30°	955.1	953.1	951.1	949.1	947.0	944.1	940.3	936.5	932.6	928.8	928.1
32.5°	925.9	924.3	922.6	921.0	919.4	916.5	912.6	908.5	904.6	900.5	899.1
35°	883.1	880.6	878.0	875.6	873.0	869.7	865.6	861.6	857.5	853.4	852.0
37.5°	834.9	832.7	830.4	828.2	826.0	822.9	818.8	814.8	810.6	806.6	804.7
40°	802.0	800.0	798.0	795.9	793.9	790.8	786.8	782.7	778.7	774.6	772.3
42.5°	770.1	768.0	765.9	764.0	761.9	758.9	754.8	750.8	746.7	742.6	740.1
45°	718.6	716.9	715.1	713.3	711.5	708.7	704.9	701.1	697.3	693.5	690.7
47.5°	667.4	665.8	664.1	662.5	660.7	657.9	653.9	650.0	646.0	642.0	639.1
50°	631.8	630.5	629.3	628.0	626.7	624.3	620.8	617.2	613.6	610.1	606.6
52.5°	597.1	595.4	593.7	592.0	590.4	587.9	584.5	581.2	577.8	574.5	571.5
55°	543.8	542.3	540.8	539.2	537.7	535.5	532.4	529.3	526.3	523.2	520.2
57.5°	490.3	489.1	487.9	486.7	485.5	483.2	479.8	476.5	473.1	469.8	466.8
60°	454.7	453.7	452.7	451.7	450.6	448.4	444.8	441.3	437.7	434.1	431.4
62.5°	420.0	418.4	416.7	415.1	413.5	411.3	408.5	405.8	403.0	400.4	397.8
65°	366.8	365.2	363.7	362.1	360.7	358.6	356.1	353.5	351.0	348.4	346.2
67.5°	312.6	311.3	310.1	308.9	307.7	306.0	303.7	301.4	299.1	296.8	295.1
70°	278.8	277.8	276.7	275.7	274.7	273.0	270.8	268.5	266.2	263.9	262.2
72.5°	244.0	243.1	242.0	241.0	240.0	238.8	237.3	235.8	234.3	232.8	231.1
75°	191.9	191.4	190.9	190.5	189.9	189.0	187.8	186.5	185.2	183.9	182.4
77.5°	145.3	144.5	143.6	142.8	141.9	141.2	140.7	140.2	139.7	139.1	138.4
80°	114.3	114.0	113.7	113.5	113.2	112.9	112.4	111.8	111.3	110.8	110.0
82.5°	85.0	85.0	84.9	84.8	84.8	84.6	84.3	84.0	83.7	83.4	82.4
85°	46.8	46.6	46.3	46.1	45.8	45.5	45.3	45.0	44.8	44.6	43.8
87.5°	16.7	16.8	16.9	17.0	17.1	17.1	17.1	17.0	17.0	17.0	16.6
90°	1.0	3.6	6.2	8.8	11.4	13.6	15.4	17.3	19.2	21.1	22.2
92.5°	21.3	21.0	20.8	20.6	20.3	20.7	21.6	22.6	23.5	24.5	25.1
95°	68.4	60.7	53.0	45.3	37.5	34.5	36.2	37.8	39.4	41.1	42.3
97.5°	135.9	114.1	92.3	70.6	48.8	39.8	43.6	47.4	51.2	55.0	55.9
100°	186.4	154.4	122.3	90.2	58.2	44.1	48.1	52.1	56.1	60.0	61.9
102.5°	242.0	235.2	228.4	221.7	214.9	194.8	161.5	128.3	95.0	61.7	64.1
105°	320.2	327.2	334.2	341.2	348.3	319.9	256.0	192.0	128.1	64.2	66.8
107.5°	409.3	414.9	420.6	426.3	432.0	396.5	319.9	243.2	166.6	90.0	87.3
110°	466.6	471.5	476.4	481.3	486.2	454.9	387.3	319.6	251.9	184.3	160.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	520.5	524.9	529.2	533.6	538.0	531.8	515.1	498.3	481.6	464.9	379.5
115°	605.6	609.6	613.5	617.5	621.6	626.5	632.3	638.2	644.0	649.9	541.5
117.5°	681.7	686.1	690.5	695.0	699.5	703.7	707.7	711.7	715.7	719.8	693.5
120°	737.3	740.8	744.2	747.8	751.3	755.2	759.4	763.6	767.8	772.0	774.8
122.5°	784.5	788.2	791.9	795.6	799.3	803.4	808.0	812.5	817.2	821.7	823.4
125°	856.3	859.3	862.4	865.4	868.4	872.2	876.7	881.1	885.5	890.0	891.7
127.5°	921.4	924.7	928.1	931.5	934.9	938.2	941.5	944.9	948.1	951.5	953.9
130°	962.7	966.4	970.2	973.9	977.7	980.8	983.3	985.9	988.5	991.1	993.7
132.5°	1004.8	1008.0	1011.2	1014.3	1017.5	1020.4	1023.0	1025.5	1028.1	1030.7	1032.9
135°	1059.5	1063.2	1067.0	1070.7	1074.5	1077.5	1079.5	1081.7	1083.7	1085.9	1088.2
137.5°	1114.9	1117.6	1120.2	1122.8	1125.4	1127.9	1130.3	1132.7	1135.1	1137.5	1139.8
140°	1151.2	1153.1	1154.9	1156.8	1158.6	1160.9	1163.5	1166.1	1168.6	1171.2	1173.3
142.5°	1181.6	1183.2	1184.9	1186.5	1188.3	1190.6	1193.5	1196.4	1199.4	1202.4	1204.3
145°	1229.1	1228.9	1228.6	1228.4	1228.2	1230.0	1234.1	1238.0	1242.0	1246.0	1247.6
147.5°	1270.6	1269.7	1268.9	1267.9	1267.0	1268.6	1272.5	1276.4	1280.4	1284.3	1285.6
150°	1297.6	1296.0	1294.3	1292.6	1291.0	1292.1	1295.8	1299.6	1303.3	1307.1	1308.5
152.5°	1320.3	1318.5	1316.6	1314.8	1313.0	1313.9	1317.4	1321.0	1324.6	1328.1	1329.6
155°	1353.4	1351.3	1349.2	1347.0	1345.0	1345.3	1348.2	1350.9	1353.8	1356.6	1358.0
157.5°	1379.3	1377.5	1375.7	1374.0	1372.2	1372.3	1374.2	1376.2	1378.2	1380.2	1381.7
160°	1394.5	1393.1	1391.6	1390.3	1388.9	1388.9	1390.3	1391.6	1393.1	1394.5	1395.9
162.5°	1408.0	1406.5	1405.2	1403.8	1402.3	1402.2	1403.4	1404.6	1405.9	1407.1	1408.7
165°	1426.1	1424.7	1423.2	1421.9	1420.5	1420.1	1420.8	1421.5	1422.2	1422.9	1424.5
167.5°	1439.6	1438.1	1436.8	1435.4	1433.9	1433.6	1434.3	1434.9	1435.5	1436.1	1437.8
170°	1447.2	1445.7	1444.3	1442.9	1441.5	1441.1	1441.5	1442.0	1442.4	1442.9	1444.6
172.5°	1452.2	1450.8	1449.4	1447.9	1446.6	1446.1	1446.6	1447.0	1447.5	1447.9	1449.6
175°	1458.7	1457.1	1455.4	1453.8	1452.2	1451.6	1452.1	1452.5	1453.0	1453.5	1455.1
177.5°	1459.7	1458.4	1457.2	1455.9	1454.5	1454.0	1454.1	1454.3	1454.5	1454.7	1456.0
180°	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1188.2	1188.2	<b>1188.2</b>	1188.2	1188.2	1188.2	1188.2	1188.2
2.5°	1183.1	1185.2	<b>1187.1</b>	1188.0	1187.6	1187.1	1186.8	1186.4
5°	1175.1	1177.2	<b>1179.2</b>	1179.9	1179.5	1179.0	1178.5	1177.9
7.5°	1161.8	1163.9	<b>1166.0</b>	1166.7	1166.1	1165.5	1165.0	1164.4
10°	1150.0	1152.0	<b>1154.1</b>	1154.7	1153.9	1153.1	1152.4	1151.7
12.5°	1136.0	1137.4	<b>1138.8</b>	1139.3	1138.7	1138.2	1137.6	1137.0
15°	1111.4	1112.4	<b>1113.4</b>	1113.3	1112.1	1110.8	1109.5	1108.2
17.5°	1082.2	1083.4	<b>1084.6</b>	1084.5	1083.3	1082.1	1080.9	1079.7
20°	1059.5	1060.2	<b>1061.0</b>	1060.8	1059.9	1058.9	1057.8	1056.8
22.5°	1035.4	1035.5	<b>1035.7</b>	1035.5	1034.8	1034.2	1033.6	1033.0
25°	996.2	996.6	<b>997.1</b>	997.1	996.6	996.2	995.7	995.1
27.5°	957.5	956.7	<b>956.0</b>	955.0	953.7	952.5	951.3	950.1
30°	927.3	926.6	<b>925.8</b>	924.9	923.9	922.9	921.9	920.8
32.5°	897.8	896.4	<b>895.0</b>	893.8	892.9	891.8	890.8	889.8
35°	850.4	848.9	<b>847.4</b>	845.9	844.7	843.4	842.1	840.9
37.5°	802.9	801.0	<b>799.1</b>	797.5	796.3	795.1	793.9	792.6
40°	770.1	767.8	<b>765.5</b>	763.8	762.8	761.8	760.8	759.7
42.5°	737.6	735.1	<b>732.7</b>	730.7	729.3	727.9	726.4	725.0
45°	687.9	685.1	<b>682.3</b>	680.4	679.4	678.4	677.3	676.4
47.5°	636.2	633.3	<b>630.3</b>	628.1	626.6	625.2	623.7	622.2
50°	603.0	599.4	<b>595.9</b>	593.5	592.2	590.9	589.7	588.4
52.5°	568.5	565.6	<b>562.7</b>	560.3	558.7	557.0	555.3	553.6
55°	517.2	514.1	<b>511.1</b>	508.9	507.6	506.4	505.1	503.9
57.5°	463.8	460.8	<b>457.8</b>	455.8	454.9	453.9	453.0	451.9
60°	428.6	425.8	<b>423.0</b>	421.2	420.4	419.7	418.9	418.2
62.5°	395.1	392.5	<b>389.9</b>	388.2	387.2	386.2	385.3	384.4
65°	343.9	341.6	<b>339.3</b>	337.5	336.3	335.0	333.7	332.4
67.5°	293.3	291.4	<b>289.7</b>	288.3	287.3	286.3	285.2	284.2
70°	260.4	258.6	<b>256.8</b>	255.4	254.4	253.4	252.4	251.3
72.5°	229.3	227.5	<b>225.8</b>	224.5	223.6	222.8	222.0	221.2
75°	180.9	179.3	<b>177.9</b>	177.4	177.9	178.4	178.8	179.3
77.5°	137.7	136.9	<b>136.1</b>	135.3	134.7	134.0	133.3	132.5
80°	109.3	108.6	<b>107.8</b>	107.1	106.6	106.2	105.6	105.1
82.5°	81.5	80.5	<b>79.6</b>	79.0	78.9	78.8	78.7	78.6
85°	43.0	42.3	<b>41.5</b>	41.0	40.7	40.5	40.2	40.0
87.5°	16.3	15.8	<b>15.5</b>	15.2	15.2	15.1	14.9	14.8
90°	23.4	24.5	<b>25.7</b>	26.6	27.0	27.5	28.0	28.4
92.5°	25.7	26.3	<b>26.9</b>	27.3	27.6	27.9	28.2	28.4
95°	43.4	44.6	<b>45.7</b>	46.2	46.0	45.7	45.5	45.3
97.5°	56.8	57.8	<b>58.7</b>	59.3	59.6	59.9	60.2	60.4
100°	63.8	65.6	<b>67.5</b>	68.7	69.1	69.7	70.1	70.6
102.5°	66.6	69.1	<b>71.5</b>	73.0	73.6	74.3	75.0	75.6
105°	69.4	72.0	<b>74.6</b>	76.3	77.2	78.2	79.1	80.1
107.5°	84.7	82.1	<b>79.5</b>	78.6	79.6	80.5	81.5	82.4
110°	137.5	114.1	<b>90.7</b>	79.5	80.4	81.4	82.3	83.2





TEST NUMBER: P331577-935

CATALOG NUMBER: S122DIW-S865D1240U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	294.1	208.8	123.4	81.0	81.8	82.6	83.3	84.0
115°	433.1	324.8	216.4	153.8	136.9	120.1	103.2	86.4
117.5°	667.4	641.1	614.9	574.1	518.8	463.4	408.0	352.6
120°	777.7	780.4	783.3	768.9	737.3	705.7	674.1	642.5
122.5°	825.1	826.8	828.5	826.2	820.1	814.0	807.9	801.7
125°	893.3	894.9	896.6	897.7	898.4	899.1	899.8	900.5
127.5°	956.2	958.6	961.0	962.3	962.4	962.6	962.7	962.9
130°	996.3	998.8	1001.3	1002.5	1002.3	1002.1	1001.9	1001.6
132.5°	1035.1	1037.2	1039.5	1040.4	1040.3	1040.0	1039.7	1039.6
135°	1090.5	1092.9	1095.3	1096.1	1095.7	1095.3	1094.8	1094.3
137.5°	1142.0	1144.4	1146.7	1147.4	1146.6	1145.8	1145.0	1144.2
140°	1175.4	1177.5	1179.7	1180.1	1178.9	1177.8	1176.6	1175.4
142.5°	1206.2	1208.2	1210.0	1210.4	1209.3	1208.1	1206.9	1205.7
145°	1249.2	1250.9	1252.5	1252.8	1251.5	1250.4	1249.2	1248.1
147.5°	1286.8	1288.0	1289.2	1289.3	1288.3	1287.3	1286.3	1285.4
150°	1309.8	1311.3	1312.7	1312.8	1311.6	1310.4	1309.2	1308.1
152.5°	1330.9	1332.3	1333.8	1333.7	1332.1	1330.6	1329.0	1327.5
155°	1359.3	1360.8	1362.2	1361.9	1360.0	1358.2	1356.3	1354.4
157.5°	1383.4	1384.9	1386.6	1386.4	1384.6	1382.8	1381.0	1379.1
160°	1397.3	1398.7	1400.1	1400.0	1398.4	1396.7	1395.1	1393.4
162.5°	1410.3	1411.9	1413.5	1413.2	1411.3	1409.2	1407.2	1405.2
165°	1426.2	1427.8	1429.4	1429.4	1427.8	1426.2	1424.5	1422.9
167.5°	1439.4	1441.1	1442.7	1442.5	1440.4	1438.3	1436.1	1434.1
170°	1446.2	1447.9	1449.5	1449.2	1447.2	1445.0	1442.9	1440.8
172.5°	1451.2	1452.9	1454.5	1454.3	1452.2	1450.1	1447.9	1445.9
175°	1456.7	1458.4	1460.0	1459.7	1457.3	1455.0	1452.6	1450.3
177.5°	1457.3	1458.6	1460.0	1459.7	1458.1	1456.4	1454.7	1453.0
180°	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5

(END OF REPORT)