

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: P331835

Luminaire Tested: **S122RDIW-S865D970U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331835
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: S122RDIW-S865D970U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

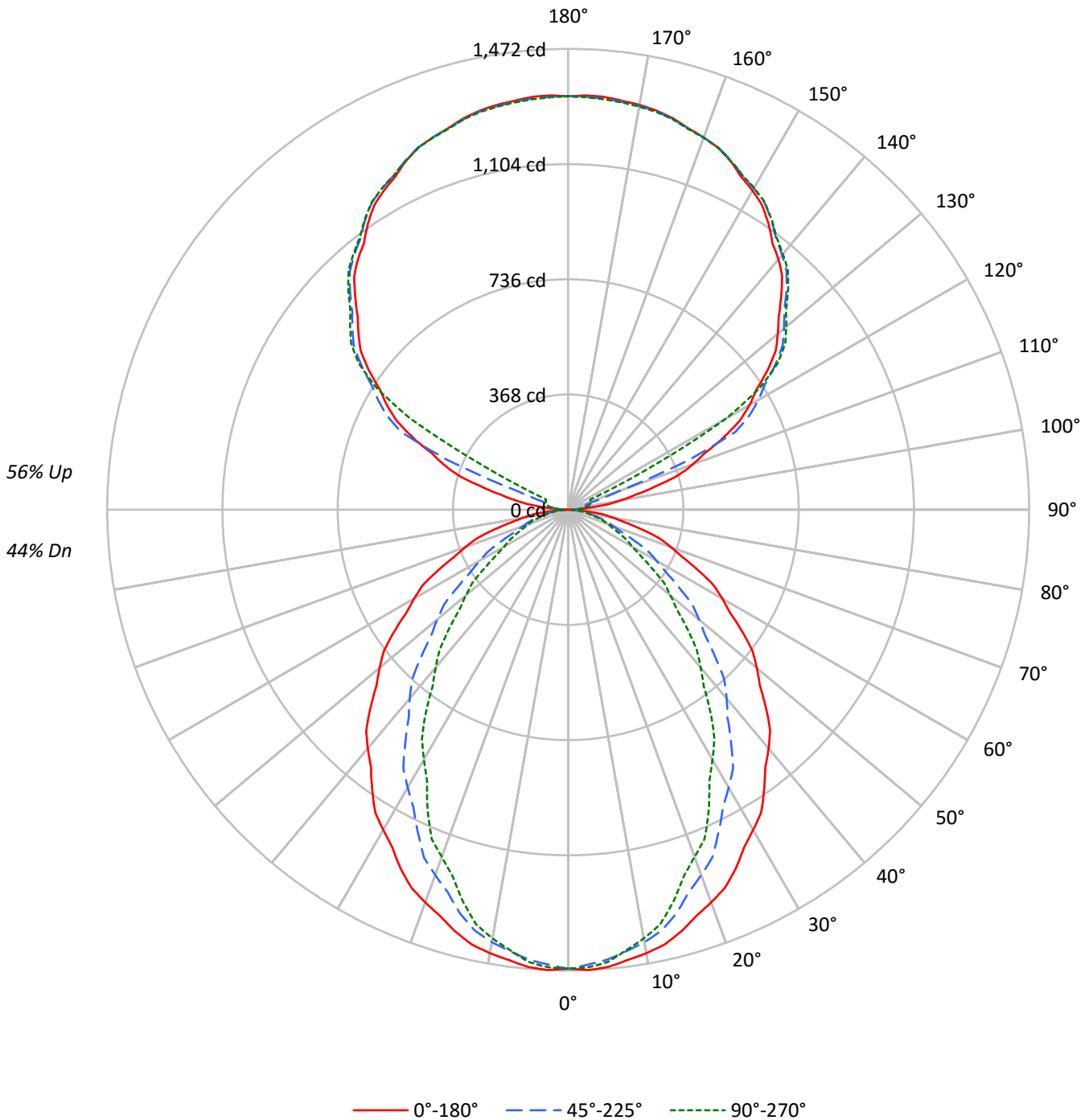
Lumens per Lamp: N/A
Luminaire Lumens: 6888.9 lumens
Efficiency: N/A
Efficacy: 112.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): 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	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	97	93	89	86	88	85	82	79	71	68	66	57	56	55	45	44	43	38				
2	88	81	76	71	81	75	70	65	62	59	56	51	48	46	40	39	37	32				
3	81	72	65	59	74	66	60	55	55	51	47	45	42	40	36	34	32	28				
4	74	64	56	50	68	59	52	47	49	45	41	41	37	34	33	30	28	24				
5	68	57	49	43	62	53	46	41	44	39	35	37	33	30	29	27	25	21				
6	63	51	44	38	58	47	41	36	40	35	31	33	29	26	27	24	22	19				
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	25	22	20	17				
8	54	42	35	30	50	39	32	28	33	28	24	28	24	21	23	20	18	15				
9	50	39	31	26	46	36	29	25	31	26	22	26	22	19	21	18	16	14				
10	47	35	28	24	43	33	27	22	28	23	20	24	20	17	20	17	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23675	23675	23675
5°	23765	23378	23506
10°	23582	22996	22799
15°	23311	22313	21670
20°	22936	21340	20270
25°	22552	20236	18912
30°	22018	19099	17169
35°	21498	17864	15640
40°	20976	16585	13873
45°	20361	15150	12271
50°	19733	13700	10698
55°	19088	12141	9188
60°	18338	10498	7627
65°	17490	8821	6946
70°	16475	7265	6387
75°	15234	6625	5958
80°	13445	5923	5430
85°	10578	4668	4668



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.2	2.0
10°-20°	376.8	5.5
20°-30°	529.2	7.7
30°-40°	577.1	8.4
40°-50°	530.6	7.7
50°-60°	416.7	6.0
60°-70°	271.7	3.9
70°-80°	140.1	2.0
80°-90°	39.6	0.6
90°-100°	44.1	0.6
100°-110°	161.5	2.3
110°-120°	431.8	6.3
120°-130°	712.8	10.3
130°-140°	758.0	11.0
140°-150°	704.6	10.2
150°-160°	566.5	8.2
160°-170°	365.0	5.3
170°-180°	125.6	1.8
0°-30°	1043.3	15.1
0°-40°	1620.3	23.5
0°-60°	2567.6	37.3
0°-90°	3019.0	43.8
90°-120°	637.4	9.3
90°-150°	2812.8	40.8
90°-180°	3870.0	56.2
0°-180°	6888.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1466	1466	1466	1466	1466	
5°	1466	1459	1442	1453	1450	139
15°	1395	1378	1335	1310	1296	393
25°	1266	1221	1136	1083	1062	582
35°	1091	1020	906	826	794	682
45°	892	800	664	573	537	688
55°	678	572	431	355	326	606
65°	458	350	231	188	182	454
75°	244	154	106	97	96	258
85°	57	31	25	25	25	67
90°	1	11	19	24	26	5
95°	62	33	37	42	41	76
105°	290	303	58	68	73	310
115°	549	566	590	168	78	541
125°	777	790	807	814	817	692
135°	961	976	985	994	993	742
145°	1115	1115	1130	1136	1132	697
155°	1228	1220	1231	1236	1229	566
165°	1294	1289	1291	1297	1291	365
175°	1323	1317	1319	1324	1316	126
180°	1320	1320	1320	1320	1320	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3
2.5°	1471.6	1470.4	1469.2	1468.0	1466.9	1465.0	1462.4	1459.8	1457.2	1454.6	1457.0
5°	1466.3	1464.8	1463.3	1461.8	1460.4	1457.7	1453.9	1450.1	1446.2	1442.4	1445.0
7.5°	1451.1	1449.3	1447.5	1445.7	1443.8	1440.7	1436.2	1431.7	1427.2	1422.7	1423.5
10°	1438.4	1436.3	1434.3	1432.2	1430.1	1426.2	1420.3	1414.4	1408.5	1402.6	1401.7
12.5°	1422.5	1419.9	1417.4	1414.9	1412.3	1407.3	1399.7	1392.2	1384.6	1377.1	1375.5
15°	1394.6	1391.4	1388.1	1384.9	1381.6	1375.0	1365.0	1355.0	1344.9	1334.9	1329.3
17.5°	1360.4	1355.4	1350.5	1345.5	1340.6	1331.7	1318.8	1305.9	1293.1	1280.2	1273.6
20°	1334.9	1329.0	1323.1	1317.2	1311.3	1301.0	1286.2	1271.5	1256.8	1242.0	1234.6
22.5°	1307.3	1300.7	1294.1	1287.5	1280.9	1269.3	1252.6	1236.0	1219.4	1202.7	1193.2
25°	1265.9	1256.5	1247.0	1237.6	1228.2	1213.7	1194.2	1174.8	1155.3	1135.9	1123.8
27.5°	1216.0	1205.7	1195.5	1185.2	1175.0	1158.9	1136.9	1115.0	1093.0	1071.1	1057.0
30°	1181.0	1169.8	1158.6	1147.4	1136.2	1118.8	1095.2	1071.6	1048.0	1024.4	1009.4
32.5°	1147.0	1133.9	1120.8	1107.7	1094.6	1076.1	1052.0	1027.9	1003.9	979.8	962.7
35°	1090.7	1075.7	1060.7	1045.6	1030.6	1010.1	984.1	958.2	932.3	906.3	887.7
37.5°	1034.5	1018.0	1001.5	984.9	968.4	946.3	918.7	891.0	863.4	835.7	815.2
40°	995.2	977.5	959.8	942.1	924.4	901.3	872.7	844.1	815.5	786.9	765.9
42.5°	954.9	936.2	917.6	899.0	880.3	856.2	826.7	797.1	767.6	738.0	716.4
45°	891.7	871.9	852.2	832.4	812.7	787.3	756.4	725.4	694.4	663.5	642.5
47.5°	830.1	809.2	788.3	767.3	746.4	719.9	688.0	656.0	624.0	592.1	571.3
50°	785.6	764.6	743.7	722.7	701.8	675.1	642.7	610.2	577.8	545.4	525.0
52.5°	742.0	720.1	698.3	676.4	654.5	627.7	596.0	564.2	532.5	500.8	481.1
55°	678.1	655.1	632.1	609.1	586.1	558.6	526.8	494.9	463.1	431.3	413.6
57.5°	612.5	588.9	565.3	541.7	518.2	491.1	460.4	429.8	399.2	368.6	352.4
60°	567.9	544.3	520.8	497.2	473.6	446.6	416.2	385.8	355.5	325.1	310.1
62.5°	524.4	500.8	477.2	453.6	430.0	403.8	374.8	345.9	316.9	287.9	273.6
65°	457.8	433.9	410.0	386.1	362.3	337.0	310.5	284.0	257.4	230.9	220.9
67.5°	393.6	369.9	346.2	322.4	298.7	274.9	251.1	227.2	203.3	179.4	174.8
70°	349.0	326.0	303.0	280.0	257.0	235.3	215.0	194.6	174.3	153.9	151.0
72.5°	306.5	284.5	262.4	240.4	218.3	199.1	182.8	166.4	150.1	133.8	131.3
75°	244.2	223.5	202.9	182.2	161.6	146.3	136.2	126.2	116.2	106.2	104.1
77.5°	182.9	164.7	146.6	128.5	110.4	99.0	94.1	89.3	84.5	79.6	78.4
80°	144.6	129.6	114.6	99.5	84.5	75.5	72.5	69.6	66.6	63.7	62.5
82.5°	109.6	97.9	86.1	74.4	62.7	55.8	53.8	51.8	49.8	47.8	47.1
85°	57.1	50.9	44.7	38.5	32.3	28.8	27.9	27.0	26.1	25.2	25.2
87.5°	17.2	15.8	14.3	12.9	11.5	11.0	11.3	11.6	12.0	12.3	12.3
90°	1.0	3.3	5.6	8.0	10.3	12.3	14.0	15.7	17.4	19.1	20.2
92.5°	19.3	19.1	18.9	18.7	18.5	18.8	19.6	20.5	21.3	22.2	22.7
95°	62.1	55.1	48.1	41.1	34.1	31.3	32.8	34.3	35.8	37.3	38.3
97.5°	123.3	103.5	83.8	64.0	44.3	36.1	39.6	43.0	46.4	49.9	50.7
100°	169.1	140.0	110.9	81.9	52.8	40.0	43.6	47.2	50.9	54.5	56.2
102.5°	219.6	213.4	207.3	201.1	194.9	176.8	146.6	116.4	86.2	56.0	58.2
105°	290.5	296.9	303.2	309.6	316.0	290.2	232.2	174.2	116.3	58.3	60.6
107.5°	371.3	376.5	381.6	386.7	391.9	359.7	290.2	220.6	151.1	81.6	79.2
110°	423.3	427.8	432.2	436.7	441.1	412.7	351.3	290.0	228.6	167.2	146.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	472.2	476.2	480.1	484.1	488.0	482.4	467.3	452.1	436.9	421.8	344.3
115°	549.4	553.0	556.7	560.3	563.9	568.3	573.6	578.9	584.3	589.6	491.2
117.5°	618.4	622.5	626.5	630.5	634.6	638.4	642.1	645.7	649.4	653.0	629.2
120°	668.9	672.1	675.2	678.4	681.6	685.1	688.9	692.8	696.6	700.4	703.0
122.5°	711.7	715.0	718.4	721.7	725.1	728.9	733.0	737.2	741.3	745.5	747.0
125°	776.8	779.6	782.4	785.1	787.9	791.3	795.3	799.4	803.4	807.4	808.9
127.5°	835.9	839.0	842.0	845.1	848.1	851.2	854.2	857.2	860.2	863.2	865.4
130°	873.4	876.8	880.2	883.5	886.9	889.8	892.1	894.5	896.8	899.2	901.5
132.5°	911.6	914.5	917.4	920.2	923.1	925.7	928.1	930.4	932.7	935.1	937.1
135°	961.3	964.7	968.1	971.5	974.9	977.5	979.4	981.3	983.2	985.2	987.3
137.5°	1011.5	1013.9	1016.3	1018.7	1021.0	1023.3	1025.5	1027.6	1029.8	1032.0	1034.1
140°	1044.4	1046.1	1047.8	1049.5	1051.2	1053.2	1055.5	1057.9	1060.2	1062.6	1064.5
142.5°	1071.9	1073.4	1075.0	1076.5	1078.0	1080.1	1082.8	1085.5	1088.2	1090.8	1092.6
145°	1115.1	1114.9	1114.7	1114.5	1114.3	1116.0	1119.6	1123.2	1126.8	1130.4	1131.9
147.5°	1152.8	1151.9	1151.1	1150.3	1149.5	1150.9	1154.5	1158.0	1161.6	1165.2	1166.3
150°	1177.2	1175.7	1174.2	1172.8	1171.3	1172.2	1175.6	1179.0	1182.4	1185.8	1187.1
152.5°	1197.9	1196.2	1194.5	1192.9	1191.2	1192.0	1195.2	1198.5	1201.7	1204.9	1206.2
155°	1227.9	1225.9	1224.0	1222.1	1220.2	1220.5	1223.1	1225.6	1228.2	1230.7	1232.0
157.5°	1251.4	1249.8	1248.1	1246.5	1244.9	1245.0	1246.8	1248.6	1250.3	1252.1	1253.6
160°	1265.1	1263.9	1262.6	1261.3	1260.0	1260.0	1261.3	1262.6	1263.9	1265.1	1266.4
162.5°	1277.4	1276.1	1274.8	1273.5	1272.3	1272.2	1273.3	1274.4	1275.5	1276.6	1278.0
165°	1293.8	1292.5	1291.2	1290.0	1288.7	1288.4	1289.0	1289.6	1290.3	1290.9	1292.4
167.5°	1306.0	1304.7	1303.5	1302.2	1300.9	1300.6	1301.2	1301.8	1302.4	1303.0	1304.4
170°	1312.9	1311.6	1310.4	1309.1	1307.8	1307.4	1307.8	1308.2	1308.7	1309.1	1310.6
172.5°	1317.5	1316.2	1314.9	1313.7	1312.4	1312.0	1312.4	1312.8	1313.2	1313.7	1315.2
175°	1323.4	1321.9	1320.4	1319.0	1317.5	1316.9	1317.4	1317.8	1318.2	1318.6	1320.1
177.5°	1324.4	1323.2	1322.0	1320.8	1319.6	1319.1	1319.3	1319.4	1319.6	1319.8	1321.0
180°	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3
2.5°	1459.3	1461.7	1464.0	1465.0	1464.5	1464.0	1463.6	1463.1
5°	1447.7	1450.3	1453.0	1453.9	1453.0	1452.1	1451.2	1450.3
7.5°	1424.3	1425.0	1425.8	1425.4	1423.9	1422.4	1420.8	1419.3
10°	1400.8	1399.9	1399.0	1397.7	1395.9	1394.2	1392.4	1390.6
12.5°	1373.9	1372.3	1370.7	1368.5	1365.5	1362.6	1359.6	1356.7
15°	1323.7	1318.1	1312.5	1308.2	1305.3	1302.3	1299.4	1296.4
17.5°	1266.9	1260.2	1253.6	1247.7	1242.6	1237.6	1232.5	1227.4
20°	1227.3	1219.9	1212.5	1205.6	1199.1	1192.6	1186.1	1179.7
22.5°	1183.8	1174.3	1164.8	1157.6	1152.8	1147.9	1143.1	1138.3
25°	1111.7	1099.6	1087.5	1079.2	1074.8	1070.4	1066.0	1061.6
27.5°	1042.9	1028.8	1014.7	1004.2	997.2	990.1	983.1	976.1
30°	994.3	979.3	964.2	952.7	944.8	936.8	928.9	920.9
32.5°	945.5	928.3	911.2	898.8	891.4	883.9	876.4	868.9
35°	869.1	850.6	832.0	819.5	813.0	806.5	800.0	793.5
37.5°	794.8	774.3	753.9	739.9	732.5	725.0	717.6	710.2
40°	745.0	724.1	703.1	688.8	681.2	673.5	665.8	658.2
42.5°	694.8	673.1	651.5	636.9	629.5	622.1	614.6	607.2
45°	621.6	600.7	579.7	565.7	558.6	551.6	544.5	537.4
47.5°	550.4	529.6	508.8	495.2	488.8	482.3	475.9	469.5
50°	504.7	484.3	464.0	450.7	444.5	438.3	432.1	425.9
52.5°	461.5	441.9	422.2	409.6	403.8	398.1	392.4	386.7
55°	395.9	378.2	360.5	348.8	343.2	337.6	332.0	326.4
57.5°	336.2	320.0	303.8	293.3	288.6	283.8	279.1	274.4
60°	295.0	280.0	264.9	255.1	250.3	245.6	240.9	236.2
62.5°	259.3	245.0	230.6	222.0	219.2	216.4	213.5	210.7
65°	210.8	200.8	190.8	185.3	184.4	183.6	182.7	181.8
67.5°	170.2	165.6	161.0	158.2	157.3	156.3	155.4	154.5
70°	148.0	145.1	142.1	140.1	138.9	137.7	136.5	135.3
72.5°	128.8	126.3	123.8	122.3	121.5	120.8	120.1	119.4
75°	102.0	100.0	97.9	96.7	96.4	96.1	95.8	95.5
77.5°	77.3	76.1	74.9	74.1	73.6	73.1	72.7	72.2
80°	61.3	60.2	59.0	58.4	58.4	58.4	58.4	58.4
82.5°	46.4	45.6	44.9	44.6	44.6	44.6	44.6	44.6
85°	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
87.5°	12.3	12.2	12.2	12.3	12.3	12.4	12.5	12.6
90°	21.2	22.3	23.4	24.1	24.5	24.9	25.4	25.8
92.5°	23.3	23.8	24.4	24.8	25.0	25.3	25.5	25.8
95°	39.4	40.5	41.5	41.9	41.7	41.5	41.3	41.1
97.5°	51.6	52.4	53.3	53.8	54.1	54.3	54.6	54.8
100°	57.9	59.6	61.3	62.3	62.7	63.2	63.6	64.0
102.5°	60.4	62.6	64.8	66.2	66.8	67.4	68.0	68.6
105°	63.0	65.3	67.6	69.2	70.1	70.9	71.8	72.6
107.5°	76.8	74.5	72.1	71.3	72.2	73.0	73.9	74.7
110°	124.7	103.5	82.3	72.1	72.9	73.8	74.6	75.5



TEST NUMBER: P331835

CATALOG NUMBER: S122RDIW-S865D970U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	266.8	189.4	111.9	73.5	74.2	74.9	75.6	76.3
115°	392.9	294.6	196.3	139.5	124.2	108.9	93.6	78.4
117.5°	605.4	581.7	557.9	520.9	470.6	420.4	370.2	319.9
120°	705.5	708.0	710.6	697.5	668.9	640.2	611.5	582.9
122.5°	748.6	750.1	751.6	749.6	744.0	738.5	732.9	727.4
125°	810.4	811.9	813.4	814.4	815.1	815.7	816.3	817.0
127.5°	867.6	869.7	871.9	873.0	873.2	873.3	873.4	873.5
130°	903.8	906.2	908.5	909.6	909.3	909.1	908.9	908.7
132.5°	939.1	941.1	943.1	944.0	943.7	943.5	943.3	943.1
135°	989.4	991.5	993.6	994.5	994.1	993.6	993.2	992.8
137.5°	1036.1	1038.2	1040.3	1041.0	1040.3	1039.5	1038.8	1038.1
140°	1066.4	1068.3	1070.2	1070.6	1069.6	1068.5	1067.4	1066.4
142.5°	1094.3	1096.1	1097.8	1098.1	1097.1	1096.0	1095.0	1093.9
145°	1133.4	1134.9	1136.3	1136.6	1135.5	1134.4	1133.4	1132.3
147.5°	1167.4	1168.5	1169.6	1169.7	1168.8	1167.9	1167.0	1166.1
150°	1188.4	1189.6	1190.9	1191.0	1190.0	1188.9	1187.8	1186.8
152.5°	1207.5	1208.7	1210.0	1210.0	1208.6	1207.2	1205.8	1204.4
155°	1233.3	1234.5	1235.8	1235.6	1233.9	1232.2	1230.5	1228.8
157.5°	1255.0	1256.5	1257.9	1257.8	1256.1	1254.5	1252.8	1251.2
160°	1267.7	1268.9	1270.2	1270.1	1268.6	1267.1	1265.7	1264.2
162.5°	1279.5	1280.9	1282.4	1282.2	1280.3	1278.5	1276.7	1274.9
165°	1293.9	1295.4	1296.9	1296.9	1295.4	1293.9	1292.4	1290.9
167.5°	1305.9	1307.4	1308.9	1308.7	1306.8	1304.9	1303.0	1301.1
170°	1312.1	1313.5	1315.0	1314.8	1312.9	1311.0	1309.1	1307.2
172.5°	1316.6	1318.1	1319.6	1319.4	1317.5	1315.6	1313.7	1311.8
175°	1321.6	1323.1	1324.6	1324.3	1322.1	1320.0	1317.9	1315.8
177.5°	1322.2	1323.3	1324.5	1324.4	1322.8	1321.3	1319.8	1318.3
180°	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5

(END OF REPORT)