

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: P331836-840

Luminaire Tested: **S122RDIW-S865D970U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331836-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S865D970U840-4F0-1E-UDD-F1
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, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6439.5 lumens
Efficiency: N/A
Efficacy: 105.2 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

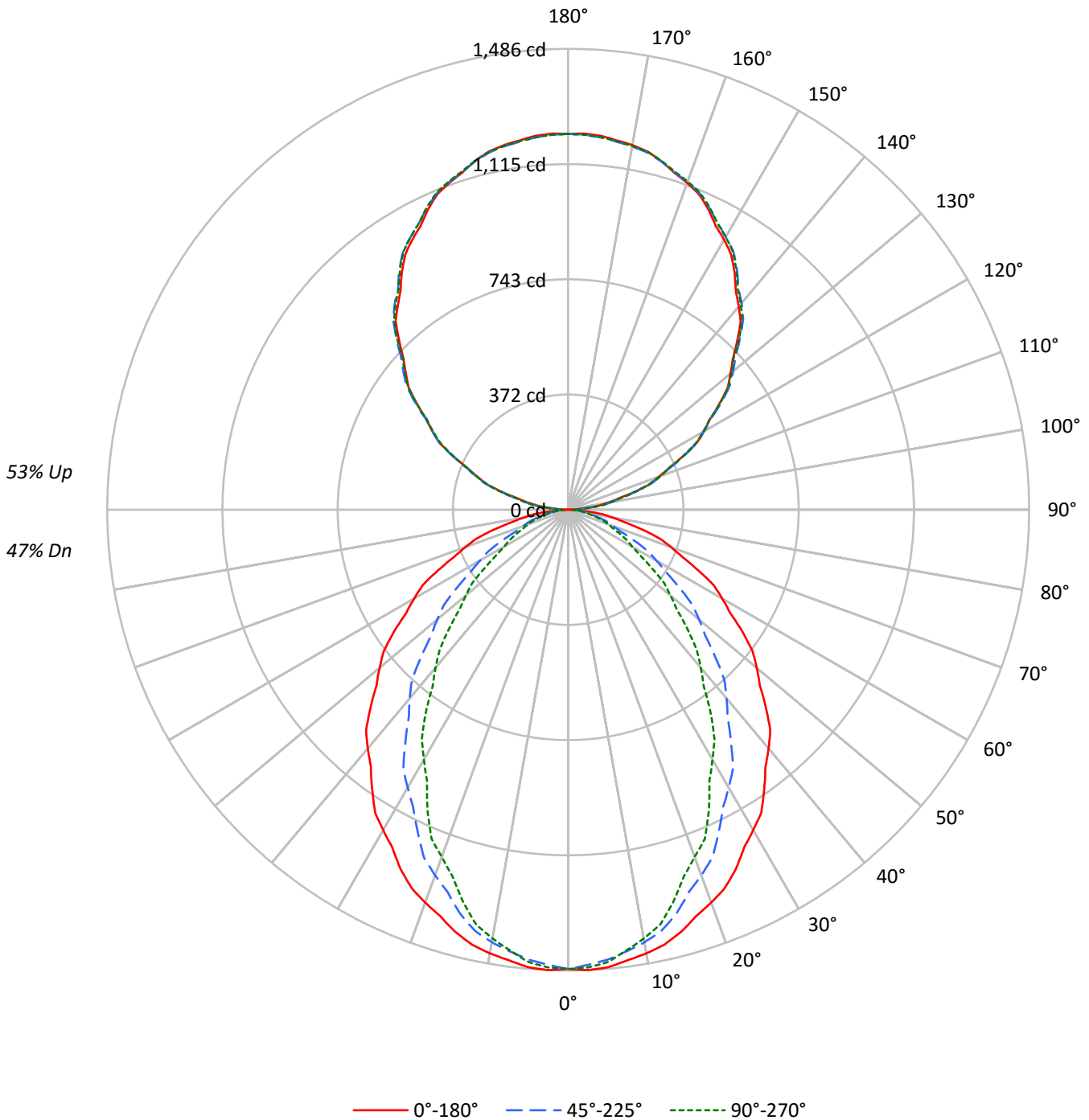
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47				47
1	98	93	90	86	90	86	83	80	72	70	68	60	58	57	48	47	46				41	
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40				35	
3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	38	36	34				30	
4	75	65	57	51	69	60	53	48	51	46	42	42	39	36	35	32	30				26	
5	69	58	50	44	63	54	47	41	46	40	36	38	34	31	31	29	26				23	
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	23				20	
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21				18	
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19				17	
9	51	39	32	27	47	37	30	25	32	26	23	27	23	20	22	19	17				15	
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16				14	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23909	23909	23909
5°	24000	23608	23738
10°	23815	23222	23023
15°	23542	22534	21884
20°	23163	21551	20469
25°	22775	20436	19099
30°	22236	19287	17339
35°	21711	18039	15794
40°	21182	16750	14010
45°	20562	15299	12392
50°	19926	13835	10803
55°	19277	12262	9278
60°	18519	10601	7702
65°	17662	8909	7014
70°	16636	7336	6449
75°	15384	6687	6014
80°	13575	5979	5486
85°	10689	4705	4705



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.6	2.2
10°-20°	380.6	5.9
20°-30°	534.4	8.3
30°-40°	582.7	9.0
40°-50°	535.8	8.3
50°-60°	420.8	6.5
60°-70°	274.4	4.3
70°-80°	141.5	2.2
80°-90°	41.5	0.6
90°-100°	76.8	1.2
100°-110°	238.5	3.7
110°-120°	407.7	6.3
120°-130°	536.2	8.3
130°-140°	601.8	9.3
140°-150°	590.1	9.2
150°-160°	494.9	7.7
160°-170°	328.3	5.1
170°-180°	114.7	1.8
0°-30°	1053.6	16.4
0°-40°	1636.3	25.4
0°-60°	2593.0	40.3
0°-90°	3050.3	47.4
90°-120°	723.1	11.2
90°-150°	2451.2	38.1
90°-180°	3389.0	52.6
0°-180°	6439.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1481	1481	1481	1481	1481	
5°	1481	1473	1457	1468	1465	140
15°	1408	1392	1348	1323	1309	397
25°	1278	1233	1147	1094	1072	588
35°	1102	1030	915	834	801	689
45°	900	808	670	578	543	695
55°	685	578	436	358	330	612
65°	462	353	233	190	184	458
75°	247	155	107	98	96	261
85°	58	31	25	25	25	68
90°	1	14	36	34	35	5
95°	53	63	65	65	63	61
105°	220	223	225	227	227	232
115°	409	415	413	412	409	405
125°	595	604	602	598	597	532
135°	770	781	784	782	779	595
145°	935	942	948	949	945	584
155°	1069	1072	1075	1080	1077	492
165°	1163	1162	1162	1168	1164	328
175°	1210	1207	1205	1211	1206	115
180°	1212	1212	1212	1212	1212	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1486.1	1484.9	1483.7	1482.5	1481.4	1479.5	1476.8	1474.2	1471.6	1468.9	1471.4
5°	1480.8	1479.3	1477.7	1476.2	1474.8	1472.1	1468.2	1464.4	1460.5	1456.6	1459.3
7.5°	1465.4	1463.6	1461.8	1460.0	1458.0	1454.9	1450.4	1445.8	1441.3	1436.7	1437.5
10°	1452.6	1450.5	1448.4	1446.3	1444.2	1440.3	1434.3	1428.4	1422.4	1416.4	1415.5
12.5°	1436.5	1433.9	1431.4	1428.9	1426.2	1421.2	1413.5	1405.9	1398.3	1390.7	1389.1
15°	1408.4	1405.1	1401.8	1398.6	1395.2	1388.6	1378.5	1368.4	1358.2	1348.1	1342.4
17.5°	1373.8	1368.8	1363.8	1358.8	1353.8	1344.8	1331.8	1318.8	1305.9	1292.8	1286.2
20°	1348.1	1342.1	1336.2	1330.2	1324.2	1313.8	1298.9	1284.0	1269.2	1254.3	1246.8
22.5°	1320.2	1313.5	1306.9	1300.2	1293.5	1281.8	1265.0	1248.2	1231.4	1214.6	1205.0
25°	1278.4	1268.9	1259.3	1249.8	1240.3	1225.7	1206.0	1186.4	1166.7	1147.1	1134.9
27.5°	1228.0	1217.6	1207.3	1196.9	1186.6	1170.3	1148.1	1126.0	1103.8	1081.7	1067.4
30°	1192.7	1181.3	1170.0	1158.7	1147.4	1129.8	1106.0	1082.2	1058.3	1034.5	1019.4
32.5°	1158.3	1145.1	1131.9	1118.6	1105.4	1086.7	1062.4	1038.0	1013.8	989.5	972.2
35°	1101.5	1086.3	1071.2	1055.9	1040.8	1020.1	993.8	967.7	941.5	915.2	896.5
37.5°	1044.7	1028.0	1011.4	994.6	978.0	955.6	927.8	899.8	871.9	843.9	823.2
40°	1005.0	987.1	969.3	951.4	933.5	910.2	881.3	852.4	823.5	794.7	773.5
42.5°	964.3	945.4	926.7	907.9	889.0	864.6	834.9	805.0	775.2	745.3	723.5
45°	900.5	880.5	860.6	840.6	820.7	795.1	763.9	732.6	701.3	670.0	648.8
47.5°	838.3	817.2	796.1	774.9	753.8	727.0	694.8	662.5	630.2	597.9	576.9
50°	793.3	772.1	751.0	729.8	708.7	681.8	649.0	616.2	583.5	550.8	530.2
52.5°	749.3	727.2	705.2	683.1	661.0	633.9	601.9	569.8	537.8	505.7	485.8
55°	684.8	661.6	638.3	615.1	591.9	564.1	532.0	499.8	467.7	435.6	417.7
57.5°	618.5	594.7	570.9	547.0	523.3	495.9	464.9	434.0	403.1	372.2	355.9
60°	573.5	549.7	525.9	502.1	478.3	451.0	420.3	389.6	359.0	328.3	313.2
62.5°	529.6	505.7	481.9	458.1	434.2	407.8	378.5	349.3	320.0	290.7	276.3
65°	462.3	438.2	414.0	389.9	365.9	340.3	313.6	286.8	259.9	233.2	223.1
67.5°	397.5	373.5	349.6	325.6	301.6	277.6	253.6	229.4	205.3	181.2	176.5
70°	352.4	329.2	306.0	282.8	259.5	237.6	217.1	196.5	176.0	155.4	152.5
72.5°	309.5	287.3	265.0	242.8	220.5	201.1	184.6	168.0	151.6	135.1	132.6
75°	246.6	225.7	204.9	184.0	163.2	147.7	137.5	127.4	117.3	107.2	105.1
77.5°	184.7	166.3	148.0	129.8	111.5	100.0	95.0	90.2	85.3	80.4	79.2
80°	146.0	130.9	115.7	100.5	85.3	76.2	73.2	70.3	67.3	64.3	63.1
82.5°	110.7	98.9	86.9	75.1	63.3	56.4	54.3	52.3	50.3	48.3	47.6
85°	57.7	51.4	45.1	38.9	32.6	29.1	28.2	27.3	26.4	25.4	25.4
87.5°	17.4	16.0	14.6	13.2	11.9	11.7	12.7	13.7	14.7	15.8	15.5
90°	1.0	3.7	6.5	9.2	11.9	15.8	20.8	25.8	30.8	35.7	35.3
92.5°	18.2	20.2	22.2	24.2	26.3	27.8	29.0	30.2	31.3	32.5	32.6
95°	53.2	55.4	57.8	60.0	62.3	63.6	64.1	64.5	65.0	65.4	65.4
97.5°	97.1	99.2	101.2	103.2	105.1	106.6	107.4	108.4	109.2	110.1	110.1
100°	129.9	131.7	133.5	135.3	137.1	138.5	139.1	139.8	140.5	141.2	141.2
102.5°	164.3	165.7	167.1	168.6	170.1	171.3	172.1	173.0	173.8	174.7	174.9
105°	219.9	220.6	221.3	222.0	222.7	223.2	223.7	224.1	224.6	225.0	225.5
107.5°	276.0	277.0	277.9	278.9	279.9	280.4	280.4	280.4	280.4	280.4	280.6
110°	311.9	313.4	314.7	316.1	317.4	318.1	318.1	318.1	318.1	318.1	318.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	351.2	352.6	354.0	355.4	356.7	357.3	357.1	356.9	356.8	356.6	356.0
115°	409.1	410.5	411.8	413.2	414.5	415.1	414.5	414.1	413.6	413.2	413.0
117.5°	466.9	468.7	470.5	472.3	474.1	474.3	473.1	471.8	470.6	469.3	468.8
120°	505.3	507.2	509.0	510.8	512.6	512.6	510.8	509.0	507.2	505.3	505.3
122.5°	540.5	542.7	544.8	547.0	549.2	549.7	548.4	547.1	545.8	544.5	544.0
125°	595.3	597.3	599.4	601.5	603.5	604.2	603.5	602.8	602.1	601.5	600.8
127.5°	648.7	651.3	653.9	656.5	659.0	659.9	659.1	658.3	657.5	656.7	655.8
130°	682.3	685.2	688.1	691.2	694.1	695.3	694.9	694.4	694.0	693.5	693.1
132.5°	719.8	722.3	724.7	727.1	729.5	730.7	730.8	730.9	731.0	731.1	730.1
135°	770.2	772.7	775.2	777.7	780.2	781.6	782.1	782.5	783.0	783.5	783.3
137.5°	823.1	825.3	827.3	829.3	831.3	832.7	833.2	833.8	834.5	835.1	834.9
140°	855.1	857.2	859.2	861.2	863.2	864.8	866.1	867.2	868.3	869.4	869.4
142.5°	887.9	889.9	891.9	893.9	896.1	897.5	898.2	899.0	899.8	900.5	900.7
145°	934.8	936.4	938.1	939.7	941.3	942.7	944.1	945.4	946.8	948.2	948.4
147.5°	976.8	978.8	980.7	982.5	984.4	985.8	986.7	987.6	988.6	989.5	990.0
150°	1005.4	1006.8	1008.1	1009.6	1010.9	1012.1	1013.0	1013.9	1014.8	1015.7	1016.3
152.5°	1030.9	1032.2	1033.6	1034.9	1036.3	1037.5	1038.6	1039.7	1040.8	1041.9	1042.7
155°	1068.8	1069.5	1070.3	1071.0	1071.6	1072.3	1073.0	1073.7	1074.3	1075.0	1076.1
157.5°	1101.4	1101.9	1102.3	1102.8	1103.2	1103.7	1104.1	1104.5	1104.9	1105.3	1106.8
160°	1121.1	1121.5	1122.0	1122.4	1122.9	1123.2	1123.5	1123.7	1123.9	1124.1	1125.5
162.5°	1139.0	1139.1	1139.2	1139.3	1139.4	1139.5	1139.8	1140.0	1140.2	1140.4	1142.1
165°	1163.0	1162.8	1162.6	1162.3	1162.1	1162.0	1162.0	1162.0	1162.0	1162.0	1163.6
167.5°	1183.1	1182.3	1181.6	1180.9	1180.3	1179.9	1179.9	1179.8	1179.8	1179.7	1181.3
170°	1193.7	1193.0	1192.3	1191.6	1190.9	1190.5	1190.2	1190.0	1189.8	1189.6	1191.1
172.5°	1201.0	1200.3	1199.6	1199.0	1198.3	1197.8	1197.6	1197.4	1197.2	1196.9	1198.5
175°	1210.0	1209.3	1208.7	1208.0	1207.3	1206.7	1206.3	1205.8	1205.4	1204.9	1206.5
177.5°	1213.8	1213.2	1212.6	1212.0	1211.5	1211.0	1210.7	1210.3	1210.0	1209.6	1210.7
180°	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1473.7	1476.1	1478.4	1479.5	1478.9	1478.4	1478.0	1477.5
5°	1462.0	1464.6	1467.3	1468.2	1467.3	1466.4	1465.5	1464.6
7.5°	1438.4	1439.1	1439.9	1439.5	1437.9	1436.4	1434.8	1433.3
10°	1414.6	1413.7	1412.8	1411.5	1409.7	1408.0	1406.1	1404.3
12.5°	1387.5	1385.8	1384.2	1382.0	1379.0	1376.0	1373.0	1370.1
15°	1336.8	1331.1	1325.4	1321.1	1318.2	1315.1	1312.2	1309.2
17.5°	1279.4	1272.6	1266.0	1260.0	1254.9	1249.8	1244.7	1239.5
20°	1239.4	1231.9	1224.5	1217.5	1210.9	1204.4	1197.8	1191.3
22.5°	1195.5	1185.9	1176.3	1169.0	1164.2	1159.2	1154.4	1149.5
25°	1122.7	1110.4	1098.2	1089.8	1085.4	1081.0	1076.5	1072.1
27.5°	1053.2	1038.9	1024.7	1014.1	1007.0	999.9	992.8	985.7
30°	1004.1	989.0	973.7	962.1	954.1	946.0	938.1	930.0
32.5°	954.8	937.5	920.2	907.7	900.2	892.6	885.0	877.5
35°	877.7	859.0	840.2	827.6	821.0	814.5	807.9	801.3
37.5°	802.6	781.9	761.3	747.2	739.7	732.2	724.7	717.2
40°	752.3	731.2	710.0	695.6	687.9	680.1	672.4	664.7
42.5°	701.7	679.7	657.9	643.2	635.7	628.2	620.7	613.2
45°	627.7	606.6	585.4	571.3	564.1	557.0	549.9	542.7
47.5°	555.8	534.8	513.8	500.1	493.6	487.1	480.6	474.1
50°	509.7	489.1	468.6	455.1	448.9	442.6	436.4	430.1
52.5°	466.1	446.3	426.4	413.6	407.8	402.0	396.3	390.5
55°	399.8	381.9	364.1	352.2	346.6	340.9	335.3	329.6
57.5°	339.5	323.2	306.8	296.2	291.4	286.6	281.9	277.1
60°	297.9	282.8	267.5	257.6	252.8	248.0	243.3	238.5
62.5°	261.9	247.4	232.9	224.2	221.4	218.5	215.6	212.8
65°	212.9	202.8	192.7	187.1	186.2	185.4	184.5	183.6
67.5°	171.9	167.2	162.6	159.8	158.9	157.8	156.9	156.0
70°	149.5	146.5	143.5	141.5	140.3	139.1	137.8	136.6
72.5°	130.1	127.5	125.0	123.5	122.7	122.0	121.3	120.6
75°	103.0	101.0	98.9	97.7	97.4	97.0	96.7	96.4
77.5°	78.1	76.9	75.6	74.8	74.3	73.8	73.4	72.9
80°	61.9	60.8	59.6	59.0	59.0	59.0	59.0	59.0
82.5°	46.9	46.0	45.3	45.0	45.0	45.0	45.0	45.0
85°	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
87.5°	15.0	14.7	14.4	14.2	14.3	14.3	14.4	14.4
90°	34.8	34.4	33.9	33.8	34.1	34.3	34.5	34.7
92.5°	32.7	32.8	32.9	32.9	33.0	33.0	33.1	33.1
95°	65.4	65.4	65.4	65.2	64.7	64.3	63.8	63.4
97.5°	110.1	110.1	110.1	110.1	110.0	110.0	109.9	109.9
100°	141.2	141.2	141.2	141.1	140.8	140.6	140.4	140.2
102.5°	175.1	175.2	175.4	175.4	175.2	174.9	174.7	174.5
105°	225.9	226.4	226.8	227.1	227.1	227.1	227.1	227.1
107.5°	280.8	281.0	281.1	280.7	279.7	278.6	277.6	276.6
110°	318.1	318.1	318.1	317.8	317.1	316.4	315.7	315.1



TEST NUMBER: P331836-840

CATALOG NUMBER: S122RDIW-S865D970U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	355.5	355.0	354.4	353.9	353.4	352.8	352.3	351.8
115°	412.7	412.5	412.3	411.8	411.2	410.5	409.8	409.1
117.5°	468.2	467.7	467.1	466.5	465.9	465.1	464.4	463.7
120°	505.3	505.3	505.3	504.9	504.2	503.6	502.9	502.2
122.5°	543.5	542.9	542.4	541.9	541.4	540.9	540.4	539.9
125°	600.1	599.4	598.7	598.2	598.0	597.8	597.5	597.3
127.5°	655.0	654.2	653.4	652.6	651.9	651.2	650.5	649.7
130°	692.6	692.2	691.7	690.9	690.0	689.1	688.2	687.3
132.5°	729.1	728.1	727.1	726.3	725.6	724.8	724.1	723.4
135°	783.0	782.8	782.5	782.1	781.4	780.7	780.1	779.4
137.5°	834.7	834.6	834.4	833.7	832.8	831.9	831.0	830.1
140°	869.4	869.4	869.4	869.0	868.1	867.2	866.3	865.4
142.5°	900.9	901.1	901.2	900.9	900.0	899.1	898.2	897.3
145°	948.7	948.9	949.1	948.8	947.9	947.0	946.0	945.1
147.5°	990.5	991.0	991.5	991.3	990.5	989.6	988.8	987.8
150°	1017.0	1017.7	1018.4	1018.4	1017.7	1017.0	1016.3	1015.7
152.5°	1043.6	1044.5	1045.3	1045.3	1044.5	1043.6	1042.7	1041.9
155°	1077.3	1078.4	1079.5	1079.7	1079.1	1078.4	1077.7	1077.0
157.5°	1108.4	1109.9	1111.5	1111.7	1110.6	1109.5	1108.4	1107.3
160°	1126.8	1128.2	1129.5	1129.8	1128.9	1128.0	1127.1	1126.2
162.5°	1143.6	1145.1	1146.7	1146.9	1145.8	1144.7	1143.6	1142.6
165°	1165.2	1166.7	1168.3	1168.5	1167.4	1166.3	1165.2	1164.0
167.5°	1183.0	1184.6	1186.1	1186.3	1185.2	1184.0	1182.8	1181.6
170°	1192.8	1194.4	1196.0	1196.1	1194.7	1193.4	1191.9	1190.6
172.5°	1200.1	1201.7	1203.3	1203.5	1202.0	1200.7	1199.3	1198.0
175°	1208.1	1209.7	1211.2	1211.4	1210.0	1208.7	1207.3	1206.0
177.5°	1211.8	1212.8	1214.0	1214.0	1212.8	1211.8	1210.7	1209.6
180°	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0

(END OF REPORT)