

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: P331856

Luminaire Tested: **S122RDIW-S1005D970U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331856
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-S1005D970U835-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 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: 6843.8 lumens
Efficiency: N/A
Efficacy: 101.5 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

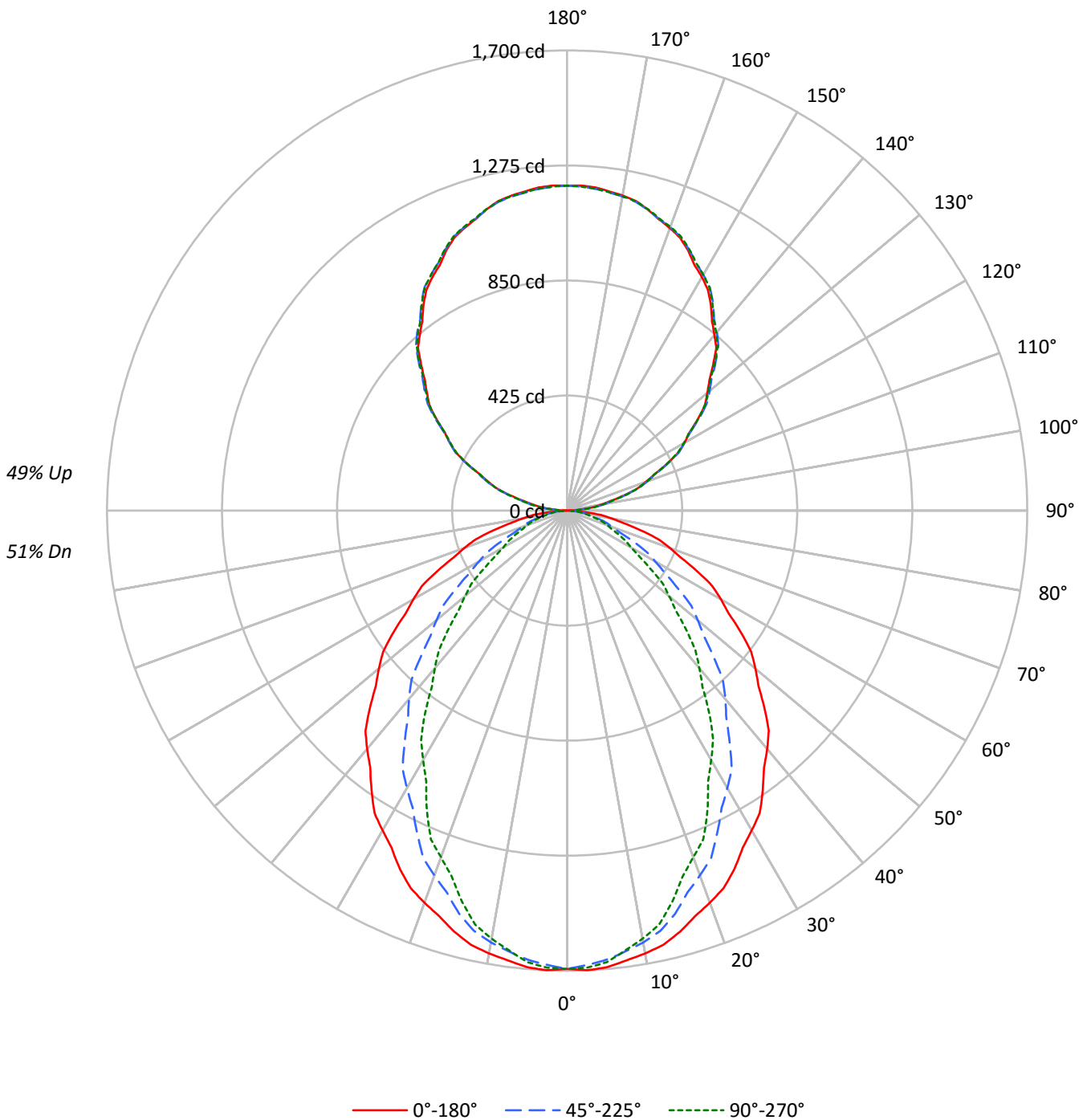
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331856

CATALOG NUMBER: S122RDIW-S1005D970U835-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P331856

CATALOG NUMBER: S122RDIW-S1005D970U835-4F0-1E-UDD-F1

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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	91	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	67	66	62	59	55	53	50	46	44	42	38
3	82	73	66	61	76	68	62	57	58	54	50	49	46	43	41	38	36	32
4	76	65	58	52	70	61	54	49	52	47	43	44	40	37	37	34	32	28
5	70	58	50	45	64	54	47	42	47	41	37	40	36	33	33	30	28	25
6	64	53	45	39	59	49	42	37	42	37	33	36	32	29	30	27	25	22
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	22	20
8	55	43	36	31	51	41	34	29	35	30	26	30	26	23	26	23	20	18
9	52	40	32	27	48	37	31	26	33	27	23	28	24	21	24	21	18	16
10	48	36	29	25	45	34	28	24	30	25	21	26	22	19	22	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	27341	27341	27341
5°	27446	27000	27149
10°	27237	26558	26332
15°	26924	25770	25028
20°	26490	24646	23409
25°	26045	23370	21841
30°	25430	22057	19829
35°	24829	20631	18065
40°	24226	19155	16021
45°	23516	17497	14173
50°	22790	15822	12356
55°	22044	14021	10612
60°	21180	12126	8809
65°	20199	10189	8023
70°	19029	8393	7378
75°	17592	7648	6881
80°	15528	6843	6267
85°	12208	5391	5391



TEST NUMBER: P331856

CATALOG NUMBER: S122RDIW-S1005D970U835-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.5	2.3
10°-20°	435.2	6.4
20°-30°	611.2	8.9
30°-40°	666.5	9.7
40°-50°	612.8	9.0
50°-60°	481.3	7.0
60°-70°	313.8	4.6
70°-80°	161.8	2.4
80°-90°	46.8	0.7
90°-100°	76.0	1.1
100°-110°	236.2	3.5
110°-120°	403.8	5.9
120°-130°	531.0	7.8
130°-140°	595.9	8.7
140°-150°	584.3	8.5
150°-160°	490.1	7.2
160°-170°	325.1	4.7
170°-180°	113.6	1.7
0°-30°	1204.9	17.6
0°-40°	1871.4	27.3
0°-60°	2965.4	43.3
0°-90°	3487.8	51.0
90°-120°	716.0	10.5
90°-150°	2427.3	35.5
90°-180°	3356.0	49.0
0°-180°	6843.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1693	1693	1693	1693	1693	
5°	1693	1685	1666	1679	1675	160
15°	1611	1592	1542	1513	1497	454
25°	1462	1410	1312	1251	1226	672
35°	1260	1178	1047	954	916	788
45°	1030	924	766	661	621	795
55°	783	661	498	410	377	700
65°	529	404	267	217	210	524
75°	282	178	123	112	110	298
85°	66	35	29	29	29	78
90°	1	14	35	34	34	5
95°	53	62	65	65	63	60
105°	218	221	223	225	225	230
115°	405	411	409	408	405	401
125°	590	598	596	593	592	527
135°	763	773	776	775	772	589
145°	926	933	939	940	936	578
155°	1058	1061	1064	1069	1066	487
165°	1152	1151	1151	1157	1153	325
175°	1198	1195	1193	1200	1194	114
180°	1200	1200	1200	1200	1200	



TEST NUMBER: P331856

CATALOG NUMBER: S122RDIW-S1005D970U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4
2.5°	1699.6	1698.2	1696.8	1695.5	1694.1	1691.9	1688.9	1686.0	1683.0	1680.0	1682.7
5°	1693.4	1691.7	1690.0	1688.3	1686.6	1683.6	1679.1	1674.7	1670.3	1665.9	1668.9
7.5°	1676.0	1673.9	1671.8	1669.6	1667.5	1663.9	1658.7	1653.5	1648.4	1643.2	1644.1
10°	1661.3	1658.9	1656.5	1654.1	1651.7	1647.1	1640.3	1633.5	1626.7	1619.9	1618.9
12.5°	1642.9	1639.9	1637.0	1634.1	1631.2	1625.3	1616.6	1607.9	1599.2	1590.5	1588.6
15°	1610.7	1606.9	1603.2	1599.4	1595.7	1588.0	1576.5	1564.9	1553.3	1541.7	1535.3
17.5°	1571.1	1565.4	1559.7	1554.0	1548.3	1538.0	1523.1	1508.3	1493.4	1478.6	1470.9
20°	1541.7	1534.9	1528.1	1521.3	1514.5	1502.6	1485.5	1468.5	1451.5	1434.4	1425.9
22.5°	1509.8	1502.2	1494.6	1487.0	1479.3	1465.9	1446.7	1427.5	1408.3	1389.1	1378.1
25°	1462.0	1451.1	1440.2	1429.3	1418.4	1401.8	1379.3	1356.8	1334.3	1311.8	1297.9
27.5°	1404.4	1392.6	1380.7	1368.9	1357.0	1338.4	1313.1	1287.7	1262.4	1237.1	1220.8
30°	1364.0	1351.0	1338.1	1325.1	1312.2	1292.1	1264.8	1237.6	1210.4	1183.1	1165.7
32.5°	1324.7	1309.6	1294.5	1279.4	1264.2	1242.8	1215.0	1187.2	1159.4	1131.6	1111.8
35°	1259.7	1242.4	1225.0	1207.6	1190.3	1166.6	1136.6	1106.7	1076.7	1046.7	1025.3
37.5°	1194.8	1175.7	1156.6	1137.5	1118.5	1093.0	1061.0	1029.1	997.1	965.2	941.6
40°	1149.4	1129.0	1108.5	1088.1	1067.7	1040.9	1007.9	974.9	941.8	908.8	884.6
42.5°	1102.8	1081.3	1059.8	1038.2	1016.7	988.9	954.8	920.6	886.5	852.4	827.4
45°	1029.9	1007.0	984.2	961.4	938.6	909.3	873.5	837.8	802.0	766.3	742.1
47.5°	958.7	934.6	910.4	886.2	862.0	831.5	794.6	757.6	720.7	683.8	659.8
50°	907.3	883.1	858.9	834.7	810.5	779.7	742.3	704.8	667.3	629.9	606.4
52.5°	857.0	831.7	806.5	781.2	755.9	725.0	688.3	651.7	615.0	578.4	555.7
55°	783.1	756.6	730.0	703.4	676.9	645.2	608.4	571.6	534.9	498.1	477.6
57.5°	707.4	680.2	652.9	625.7	598.4	567.1	531.8	496.4	461.1	425.7	407.0
60°	655.9	628.7	601.4	574.2	546.9	515.8	480.7	445.6	410.5	375.5	358.1
62.5°	605.7	578.4	551.2	523.9	496.7	466.3	432.9	399.4	366.0	332.6	316.0
65°	528.7	501.1	473.6	446.0	418.4	389.3	358.6	328.0	297.3	266.7	255.1
67.5°	454.5	427.2	399.8	372.4	345.0	317.5	290.0	262.4	234.8	207.2	201.9
70°	403.1	376.5	349.9	323.4	296.8	271.8	248.3	224.8	201.3	177.8	174.4
72.5°	354.0	328.5	303.1	277.6	252.1	229.9	211.1	192.2	173.3	154.5	151.6
75°	282.0	258.1	234.3	210.5	186.6	168.9	157.3	145.8	134.2	122.6	120.2
77.5°	211.2	190.3	169.4	148.5	127.5	114.3	108.7	103.1	97.5	92.0	90.6
80°	167.0	149.7	132.3	114.9	97.6	87.2	83.8	80.4	77.0	73.6	72.2
82.5°	126.6	113.0	99.5	85.9	72.4	64.4	62.1	59.8	57.5	55.2	54.4
85°	65.9	58.7	51.6	44.4	37.3	33.2	32.2	31.2	30.1	29.1	29.1
87.5°	19.8	18.2	16.5	14.9	13.3	12.9	13.9	14.9	15.9	16.9	16.5
90°	1.0	3.7	6.4	9.1	11.8	15.6	20.6	25.5	30.5	35.4	35.0
92.5°	18.0	20.0	22.0	24.0	26.0	27.5	28.7	29.9	31.0	32.2	32.3
95°	52.7	54.9	57.2	59.4	61.7	63.0	63.5	63.9	64.4	64.8	64.8
97.5°	96.2	98.2	100.2	102.2	104.1	105.6	106.4	107.3	108.1	109.0	109.0
100°	128.6	130.4	132.2	134.0	135.8	137.1	137.7	138.4	139.1	139.8	139.8
102.5°	162.7	164.1	165.5	167.0	168.4	169.6	170.4	171.3	172.1	173.0	173.2
105°	217.8	218.4	219.1	219.8	220.5	221.0	221.5	221.9	222.4	222.8	223.3
107.5°	273.3	274.3	275.2	276.2	277.2	277.7	277.7	277.7	277.7	277.7	277.9
110°	308.9	310.3	311.6	313.0	314.3	315.0	315.0	315.0	315.0	315.0	315.0



TEST NUMBER: P331856

CATALOG NUMBER: S122RDIW-S1005D970U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	347.8	349.2	350.5	351.9	353.2	353.8	353.6	353.4	353.3	353.1	352.5
115°	405.1	406.5	407.8	409.2	410.5	411.0	410.5	410.1	409.6	409.2	409.0
117.5°	462.3	464.1	465.9	467.7	469.5	469.7	468.5	467.2	466.0	464.7	464.2
120°	500.4	502.2	504.0	505.8	507.6	507.6	505.8	504.0	502.2	500.4	500.4
122.5°	535.2	537.4	539.5	541.7	543.8	544.3	543.0	541.8	540.5	539.2	538.7
125°	589.5	591.5	593.5	595.6	597.6	598.3	597.6	596.9	596.2	595.6	594.9
127.5°	642.4	644.9	647.5	650.1	652.6	653.5	652.7	651.9	651.1	650.3	649.4
130°	675.6	678.5	681.4	684.4	687.3	688.5	688.1	687.6	687.2	686.7	686.3
132.5°	712.8	715.2	717.6	720.0	722.4	723.6	723.7	723.8	723.9	724.0	723.0
135°	762.7	765.2	767.6	770.1	772.6	774.0	774.5	774.9	775.4	775.8	775.6
137.5°	815.1	817.2	819.2	821.2	823.2	824.6	825.1	825.7	826.3	826.9	826.7
140°	846.7	848.8	850.8	852.8	854.8	856.4	857.6	858.7	859.8	860.9	860.9
142.5°	879.2	881.2	883.2	885.2	887.3	888.7	889.4	890.2	891.0	891.7	891.9
145°	925.7	927.3	928.9	930.5	932.1	933.5	934.9	936.2	937.6	938.9	939.1
147.5°	967.3	969.2	971.1	972.9	974.8	976.2	977.1	978.0	978.9	979.8	980.3
150°	995.6	997.0	998.3	999.7	1001.0	1002.2	1003.1	1004.0	1004.9	1005.8	1006.4
152.5°	1020.8	1022.1	1023.5	1024.8	1026.2	1027.4	1028.5	1029.5	1030.6	1031.7	1032.5
155°	1058.4	1059.1	1059.8	1060.5	1061.1	1061.8	1062.5	1063.2	1063.8	1064.5	1065.6
157.5°	1090.6	1091.1	1091.5	1092.0	1092.4	1092.9	1093.3	1093.7	1094.1	1094.5	1096.0
160°	1110.1	1110.5	1111.0	1111.4	1111.9	1112.2	1112.5	1112.7	1112.9	1113.1	1114.5
162.5°	1127.9	1128.0	1128.1	1128.2	1128.3	1128.4	1128.7	1128.9	1129.1	1129.3	1130.9
165°	1151.6	1151.4	1151.2	1150.9	1150.7	1150.6	1150.6	1150.6	1150.6	1150.6	1152.2
167.5°	1171.5	1170.8	1170.1	1169.4	1168.8	1168.4	1168.4	1168.3	1168.3	1168.2	1169.8
170°	1182.0	1181.3	1180.7	1180.0	1179.3	1178.9	1178.6	1178.4	1178.2	1178.0	1179.5
172.5°	1189.3	1188.6	1187.9	1187.3	1186.6	1186.1	1185.9	1185.7	1185.5	1185.2	1186.8
175°	1198.2	1197.5	1196.9	1196.2	1195.5	1194.9	1194.5	1194.0	1193.6	1193.1	1194.7
177.5°	1201.9	1201.3	1200.8	1200.2	1199.7	1199.2	1198.9	1198.5	1198.2	1197.8	1198.9
180°	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2



TEST NUMBER: P331856

CATALOG NUMBER: S122RDIW-S1005D970U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4
2.5°	1685.4	1688.1	1690.9	1691.9	1691.4	1690.9	1690.3	1689.8
5°	1672.0	1675.1	1678.1	1679.1	1678.1	1677.1	1676.1	1675.1
7.5°	1644.9	1645.8	1646.7	1646.3	1644.5	1642.7	1641.0	1639.2
10°	1617.8	1616.8	1615.8	1614.3	1612.2	1610.2	1608.1	1606.1
12.5°	1586.8	1584.9	1583.1	1580.5	1577.1	1573.7	1570.3	1566.9
15°	1528.8	1522.3	1515.8	1510.9	1507.5	1504.1	1500.7	1497.3
17.5°	1463.2	1455.5	1447.8	1441.0	1435.2	1429.3	1423.4	1417.6
20°	1417.4	1408.9	1400.4	1392.4	1384.9	1377.4	1369.9	1362.4
22.5°	1367.2	1356.2	1345.2	1336.9	1331.4	1325.8	1320.2	1314.6
25°	1283.9	1270.0	1256.0	1246.5	1241.3	1236.2	1231.1	1226.0
27.5°	1204.5	1188.2	1171.9	1159.7	1151.6	1143.5	1135.4	1127.3
30°	1148.4	1131.0	1113.6	1100.4	1091.2	1082.0	1072.8	1063.6
32.5°	1092.0	1072.2	1052.3	1038.1	1029.5	1020.8	1012.1	1003.5
35°	1003.8	982.4	960.9	946.4	938.9	931.4	923.9	916.5
37.5°	917.9	894.3	870.6	854.5	846.0	837.4	828.8	820.2
40°	860.4	836.2	812.1	795.6	786.7	777.8	769.0	760.1
42.5°	802.4	777.4	752.4	735.6	727.0	718.4	709.9	701.3
45°	717.9	693.7	669.5	653.4	645.2	637.0	628.8	620.7
47.5°	635.7	611.7	587.6	571.9	564.5	557.1	549.6	542.2
50°	582.9	559.4	535.9	520.5	513.4	506.2	499.1	491.9
52.5°	533.0	510.3	487.7	473.0	466.4	459.8	453.2	446.6
55°	457.2	436.8	416.3	402.9	396.4	389.9	383.5	377.0
57.5°	388.3	369.5	350.8	338.7	333.3	327.8	322.4	316.9
60°	340.7	323.4	306.0	294.6	289.1	283.7	278.2	272.8
62.5°	299.5	282.9	266.4	256.4	253.2	249.9	246.6	243.4
65°	243.5	231.9	220.3	214.0	213.0	212.0	211.0	210.0
67.5°	196.6	191.3	185.9	182.7	181.7	180.6	179.5	178.4
70°	171.0	167.6	164.2	161.8	160.4	159.0	157.7	156.3
72.5°	148.8	145.9	143.0	141.2	140.4	139.6	138.7	137.9
75°	117.8	115.5	113.1	111.7	111.4	111.0	110.7	110.3
77.5°	89.2	87.9	86.5	85.5	85.0	84.5	83.9	83.4
80°	70.8	69.5	68.1	67.4	67.4	67.4	67.4	67.4
82.5°	53.5	52.7	51.9	51.5	51.5	51.5	51.5	51.5
85°	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
87.5°	16.2	15.8	15.4	15.3	15.3	15.4	15.4	15.5
90°	34.5	34.1	33.6	33.5	33.8	34.0	34.2	34.4
92.5°	32.4	32.5	32.6	32.6	32.7	32.7	32.8	32.8
95°	64.8	64.8	64.8	64.6	64.1	63.7	63.2	62.8
97.5°	109.0	109.0	109.0	109.0	108.9	108.9	108.8	108.8
100°	139.8	139.8	139.8	139.7	139.4	139.2	139.0	138.8
102.5°	173.4	173.5	173.7	173.7	173.5	173.2	173.0	172.8
105°	223.7	224.2	224.6	224.9	224.9	224.9	224.9	224.9
107.5°	278.1	278.3	278.4	278.0	277.0	275.9	274.9	273.9
110°	315.0	315.0	315.0	314.7	314.0	313.3	312.6	312.0



TEST NUMBER: P331856

CATALOG NUMBER: S122RDIW-S1005D970U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	352.0	351.5	350.9	350.4	349.9	349.4	348.9	348.4
115°	408.7	408.5	408.3	407.8	407.2	406.5	405.8	405.1
117.5°	463.6	463.1	462.5	461.9	461.3	460.6	459.9	459.2
120°	500.4	500.4	500.4	500.0	499.3	498.7	498.0	497.3
122.5°	538.2	537.6	537.1	536.6	536.1	535.6	535.1	534.6
125°	594.2	593.5	592.9	592.4	592.2	592.0	591.7	591.5
127.5°	648.6	647.8	647.0	646.2	645.5	644.8	644.1	643.4
130°	685.8	685.4	684.9	684.2	683.3	682.4	681.5	680.6
132.5°	722.0	721.0	720.0	719.2	718.5	717.7	717.0	716.3
135°	775.4	775.2	774.9	774.5	773.8	773.1	772.5	771.8
137.5°	826.5	826.4	826.2	825.6	824.7	823.8	822.9	822.0
140°	860.9	860.9	860.9	860.5	859.6	858.7	857.8	856.9
142.5°	892.1	892.3	892.4	892.1	891.2	890.3	889.4	888.5
145°	939.4	939.6	939.8	939.5	938.6	937.7	936.8	935.9
147.5°	980.8	981.3	981.8	981.6	980.8	979.9	979.1	978.2
150°	1007.1	1007.8	1008.5	1008.5	1007.8	1007.1	1006.4	1005.8
152.5°	1033.4	1034.3	1035.1	1035.1	1034.3	1033.4	1032.5	1031.7
155°	1066.8	1067.9	1069.0	1069.2	1068.6	1067.9	1067.2	1066.5
157.5°	1097.6	1099.1	1100.6	1100.8	1099.8	1098.7	1097.6	1096.5
160°	1115.8	1117.2	1118.5	1118.8	1117.9	1117.0	1116.1	1115.2
162.5°	1132.4	1133.9	1135.5	1135.7	1134.6	1133.5	1132.4	1131.4
165°	1153.8	1155.3	1156.9	1157.1	1156.0	1154.9	1153.8	1152.6
167.5°	1171.4	1173.0	1174.5	1174.7	1173.6	1172.4	1171.2	1170.1
170°	1181.1	1182.7	1184.3	1184.4	1183.0	1181.7	1180.3	1179.0
172.5°	1188.4	1190.0	1191.5	1191.7	1190.3	1189.0	1187.6	1186.3
175°	1196.3	1197.9	1199.4	1199.6	1198.2	1196.9	1195.5	1194.2
177.5°	1200.0	1201.0	1202.1	1202.1	1201.0	1200.0	1198.9	1197.8
180°	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2

(END OF REPORT)