

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: P331856-830

Luminaire Tested: **S122RDIW-S1005D970U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331856-830  
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-S1005D970U830-4F0-1E-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: 6450.6 lumens  
Efficiency: N/A  
Efficacy: 95.7 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

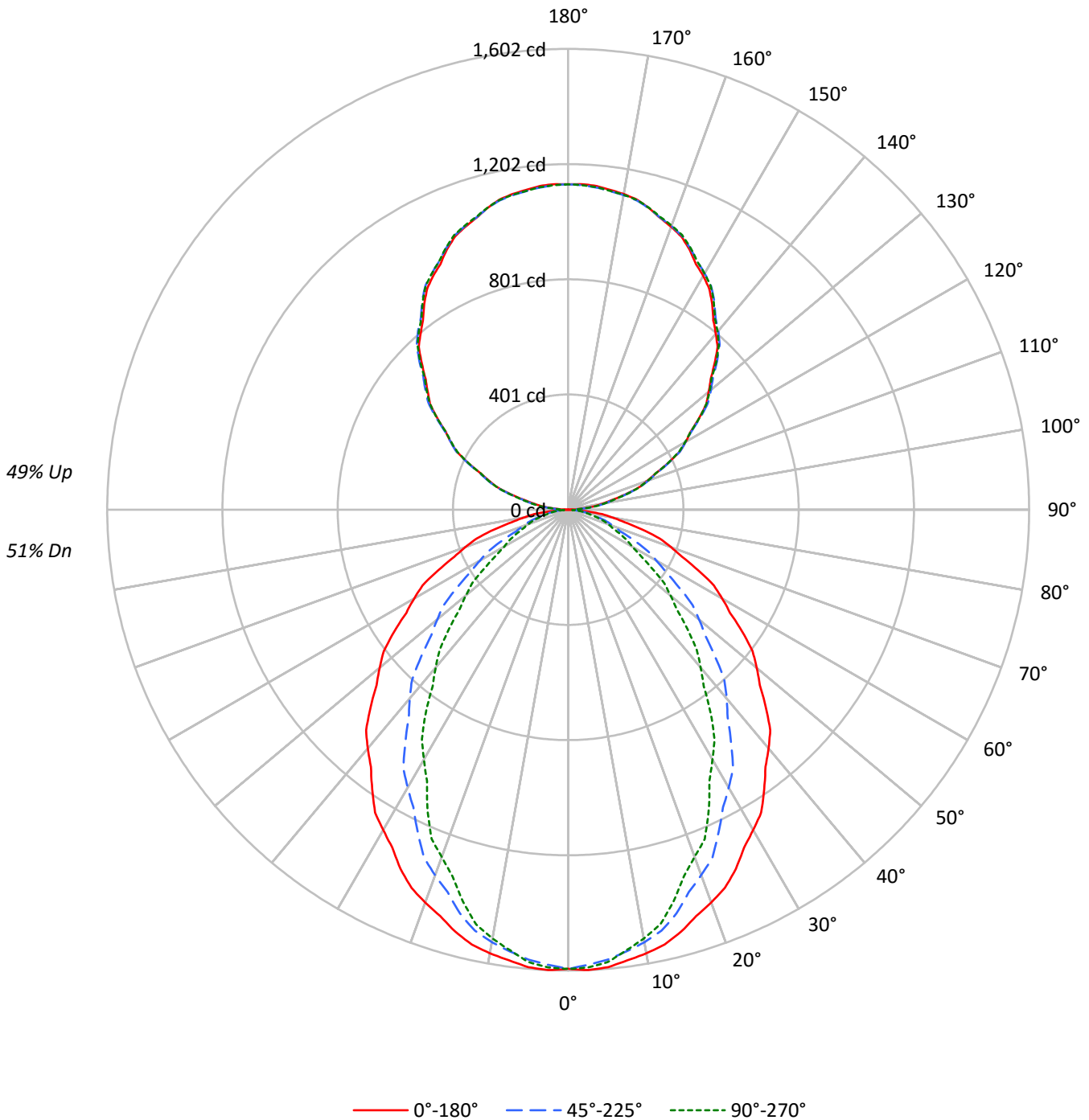
Input Watts (W): 67.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331856-830

CATALOG NUMBER: S122RDIW-S1005D970U830-4F0-1E-UDD-F1

### Luminous Intensity Polar Plot





TEST NUMBER: P331856-830

CATALOG NUMBER: S122RDIW-S1005D970U830-4F0-1E-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°	25770	25770	25770
5°	25869	25449	25590
10°	25671	25032	24819
15°	25377	24289	23590
20°	24967	23230	22063
25°	24549	22026	20587
30°	23968	20789	18690
35°	23402	19446	17026
40°	22835	18054	15099
45°	22165	16493	13358
50°	21481	14913	11645
55°	20777	13216	10001
60°	19963	11428	8302
65°	19037	9605	7561
70°	17934	7912	6954
75°	16581	7211	6488
80°	14635	6453	5904
85°	11504	5076	5076



TEST NUMBER: P331856-830

CATALOG NUMBER: S122RDIW-S1005D970U830-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.4	2.3
10°-20°	410.2	6.4
20°-30°	576.1	8.9
30°-40°	628.2	9.7
40°-50°	577.6	9.0
50°-60°	453.6	7.0
60°-70°	295.8	4.6
70°-80°	152.5	2.4
80°-90°	44.1	0.7
90°-100°	71.7	1.1
100°-110°	222.6	3.5
110°-120°	380.6	5.9
120°-130°	500.5	7.8
130°-140°	561.7	8.7
140°-150°	550.8	8.5
150°-160°	462.0	7.2
160°-170°	306.4	4.7
170°-180°	107.1	1.7
0°-30°	1135.7	17.6
0°-40°	1763.9	27.3
0°-60°	2795.1	43.3
0°-90°	3287.4	51.0
90°-120°	674.9	10.5
90°-150°	2287.8	35.5
90°-180°	3163.0	49.0
0°-180°	6450.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1596	1596	1596	1596	1596	
5°	1596	1588	1570	1582	1579	151
15°	1518	1500	1453	1426	1411	427
25°	1378	1329	1236	1179	1156	633
35°	1187	1111	987	899	864	743
45°	971	871	722	623	585	749
55°	738	623	470	386	355	659
65°	498	381	251	205	198	494
75°	266	168	116	106	104	281
85°	62	33	27	27	27	73
90°	1	13	33	32	32	5
95°	50	59	61	61	59	57
105°	205	208	210	212	212	217
115°	382	387	386	385	382	378
125°	556	564	561	559	558	496
135°	719	729	731	730	728	555
145°	872	879	885	886	882	545
155°	998	1000	1003	1008	1005	459
165°	1085	1085	1084	1090	1086	306
175°	1129	1126	1124	1131	1126	107
180°	1131	1131	1131	1131	1131	



TEST NUMBER: P331856-830

CATALOG NUMBER: S122RDIW-S1005D970U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1
2.5°	1601.9	1600.6	1599.3	1598.1	1596.8	1594.7	1591.9	1589.1	1586.3	1583.5	1586.0
5°	1596.1	1594.5	1592.9	1591.3	1589.7	1586.9	1582.6	1578.5	1574.3	1570.2	1573.0
7.5°	1579.7	1577.7	1575.7	1573.7	1571.7	1568.3	1563.4	1558.5	1553.7	1548.8	1549.6
10°	1565.8	1563.6	1561.3	1559.1	1556.8	1552.5	1546.1	1539.6	1533.2	1526.8	1525.9
12.5°	1548.5	1545.7	1542.9	1540.2	1537.5	1531.9	1523.7	1515.5	1507.3	1499.1	1497.3
15°	1518.2	1514.6	1511.1	1507.5	1504.0	1496.8	1485.9	1475.0	1464.1	1453.1	1447.1
17.5°	1480.8	1475.5	1470.1	1464.7	1459.3	1449.6	1435.6	1421.6	1407.6	1393.6	1386.4
20°	1453.1	1446.7	1440.3	1433.9	1427.5	1416.3	1400.1	1384.1	1368.1	1352.0	1344.0
22.5°	1423.1	1415.9	1408.7	1401.6	1394.3	1381.7	1363.6	1345.5	1327.4	1309.3	1298.9
25°	1378.0	1367.7	1357.4	1347.2	1336.9	1321.3	1300.0	1278.8	1257.6	1236.4	1223.3
27.5°	1323.7	1312.6	1301.4	1290.2	1279.0	1261.5	1237.7	1213.7	1189.9	1166.0	1150.7
30°	1285.6	1273.4	1261.2	1249.0	1236.8	1217.9	1192.1	1166.5	1140.9	1115.1	1098.7
32.5°	1248.6	1234.4	1220.1	1205.9	1191.6	1171.4	1145.2	1119.0	1092.8	1066.6	1047.9
35°	1187.3	1171.0	1154.6	1138.2	1121.9	1099.6	1071.3	1043.1	1014.8	986.6	966.4
37.5°	1126.1	1108.1	1090.1	1072.1	1054.2	1030.2	1000.0	970.0	939.8	909.7	887.5
40°	1083.4	1064.1	1044.8	1025.6	1006.4	981.1	950.0	918.9	887.7	856.6	833.8
42.5°	1039.4	1019.2	998.9	978.5	958.3	932.1	899.9	867.7	835.6	803.4	779.9
45°	970.7	949.1	927.7	906.2	884.7	857.1	823.3	789.7	755.9	722.3	699.5
47.5°	903.6	880.9	858.1	835.3	812.5	783.7	748.9	714.1	679.3	644.5	621.9
50°	855.2	832.4	809.5	786.7	763.9	734.9	699.6	664.3	629.0	593.7	571.6
52.5°	807.8	783.9	760.2	736.3	712.5	683.3	648.8	614.3	579.7	545.2	523.8
55°	738.1	713.1	688.1	663.0	638.0	608.1	573.4	538.8	504.2	469.5	450.2
57.5°	666.8	641.1	615.4	589.7	564.0	534.5	501.2	467.9	434.6	401.2	383.6
60°	618.2	592.6	566.8	541.2	515.5	486.2	453.1	420.0	386.9	353.9	337.5
62.5°	570.9	545.2	519.5	493.8	468.2	439.5	408.0	376.5	345.0	313.5	297.8
65°	498.3	472.3	446.4	420.4	394.4	366.9	338.0	309.2	280.2	251.4	240.4
67.5°	428.4	402.7	376.8	351.0	325.2	299.3	273.3	247.3	221.3	195.3	190.3
70°	379.9	354.9	329.8	304.8	279.7	256.2	234.0	211.9	189.7	167.6	164.4
72.5°	333.7	309.6	285.7	261.6	237.6	216.7	199.0	181.2	163.3	145.6	142.9
75°	265.8	243.3	220.8	198.4	175.9	159.2	148.3	137.4	126.5	115.6	113.3
77.5°	199.1	179.4	159.7	140.0	120.2	107.7	102.5	97.2	91.9	86.7	85.4
80°	157.4	141.1	124.7	108.3	92.0	82.2	79.0	75.8	72.6	69.4	68.1
82.5°	119.3	106.5	93.8	81.0	68.2	60.7	58.5	56.4	54.2	52.0	51.3
85°	62.1	55.3	48.6	41.8	35.2	31.3	30.3	29.4	28.4	27.4	27.4
87.5°	18.7	17.2	15.6	14.0	12.5	12.2	13.1	14.0	15.0	15.9	15.6
90°	0.9	3.5	6.0	8.6	11.1	14.7	19.4	24.0	28.7	33.4	33.0
92.5°	17.0	18.9	20.7	22.6	24.5	25.9	27.1	28.2	29.2	30.3	30.4
95°	49.7	51.7	53.9	56.0	58.2	59.4	59.9	60.2	60.7	61.1	61.1
97.5°	90.7	92.6	94.4	96.3	98.1	99.5	100.3	101.1	101.9	102.7	102.7
100°	121.2	122.9	124.6	126.3	128.0	129.2	129.8	130.4	131.1	131.8	131.8
102.5°	153.4	154.7	156.0	157.4	158.7	159.9	160.6	161.5	162.2	163.1	163.2
105°	205.3	205.9	206.5	207.2	207.8	208.3	208.8	209.2	209.6	210.0	210.5
107.5°	257.6	258.5	259.4	260.3	261.3	261.7	261.7	261.7	261.7	261.7	261.9
110°	291.2	292.5	293.7	295.0	296.2	296.9	296.9	296.9	296.9	296.9	296.9



TEST NUMBER: P331856-830

CATALOG NUMBER: S122RDIW-S1005D970U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	327.8	329.1	330.4	331.7	332.9	333.5	333.3	333.1	333.0	332.8	332.2
115°	381.8	383.1	384.4	385.7	386.9	387.4	386.9	386.5	386.1	385.7	385.5
117.5°	435.7	437.4	439.1	440.8	442.5	442.7	441.6	440.4	439.2	438.0	437.5
120°	471.6	473.3	475.0	476.7	478.4	478.4	476.7	475.0	473.3	471.6	471.6
122.5°	504.4	506.5	508.5	510.6	512.6	513.0	511.8	510.7	509.4	508.2	507.7
125°	555.6	557.5	559.4	561.4	563.3	563.9	563.3	562.6	561.9	561.4	560.7
127.5°	605.5	607.8	610.3	612.7	615.1	616.0	615.2	614.4	613.7	612.9	612.1
130°	636.8	639.5	642.2	645.1	647.8	648.9	648.6	648.1	647.7	647.2	646.9
132.5°	671.8	674.1	676.4	678.6	680.9	682.0	682.1	682.2	682.3	682.4	681.5
135°	718.9	721.2	723.5	725.9	728.2	729.5	730.0	730.4	730.8	731.2	731.0
137.5°	768.3	770.2	772.1	774.0	775.9	777.2	777.7	778.3	778.8	779.4	779.2
140°	798.1	800.0	801.9	803.8	805.7	807.2	808.3	809.4	810.4	811.4	811.4
142.5°	828.7	830.6	832.5	834.3	836.3	837.6	838.3	839.1	839.8	840.5	840.7
145°	872.5	874.0	875.5	877.0	878.5	879.9	881.2	882.4	883.7	885.0	885.1
147.5°	911.7	913.5	915.3	917.0	918.8	920.1	921.0	921.8	922.7	923.5	924.0
150°	938.4	939.7	940.9	942.3	943.5	944.6	945.5	946.3	947.2	948.0	948.6
152.5°	962.1	963.4	964.7	965.9	967.2	968.4	969.4	970.3	971.4	972.4	973.2
155°	997.6	998.2	998.9	999.6	1000.1	1000.8	1001.5	1002.1	1002.7	1003.3	1004.4
157.5°	1027.9	1028.4	1028.8	1029.3	1029.6	1030.1	1030.5	1030.9	1031.2	1031.6	1033.0
160°	1046.3	1046.7	1047.2	1047.5	1048.0	1048.3	1048.6	1048.8	1049.0	1049.1	1050.5
162.5°	1063.1	1063.2	1063.3	1063.4	1063.5	1063.6	1063.8	1064.0	1064.2	1064.4	1065.9
165°	1085.4	1085.2	1085.1	1084.8	1084.6	1084.5	1084.5	1084.5	1084.5	1084.5	1086.0
167.5°	1104.2	1103.5	1102.9	1102.2	1101.6	1101.3	1101.3	1101.2	1101.2	1101.1	1102.6
170°	1114.1	1113.4	1112.9	1112.2	1111.5	1111.2	1110.9	1110.7	1110.5	1110.3	1111.7
172.5°	1121.0	1120.3	1119.6	1119.1	1118.4	1117.9	1117.8	1117.6	1117.4	1117.1	1118.6
175°	1129.4	1128.7	1128.1	1127.5	1126.8	1126.2	1125.9	1125.4	1125.0	1124.5	1126.1
177.5°	1132.8	1132.3	1131.8	1131.2	1130.8	1130.3	1130.0	1129.6	1129.4	1129.0	1130.0
180°	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2



TEST NUMBER: P331856-830

CATALOG NUMBER: S122RDIW-S1005D970U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1
2.5°	1588.6	1591.1	1593.7	1594.7	1594.2	1593.7	1593.2	1592.7
5°	1575.9	1578.9	1581.7	1582.6	1581.7	1580.7	1579.8	1578.9
7.5°	1550.4	1551.2	1552.1	1551.7	1550.0	1548.3	1546.7	1545.0
10°	1524.8	1523.9	1523.0	1521.5	1519.6	1517.7	1515.7	1513.8
12.5°	1495.6	1493.8	1492.1	1489.7	1486.5	1483.3	1480.1	1476.9
15°	1441.0	1434.8	1428.7	1424.1	1420.9	1417.7	1414.5	1411.3
17.5°	1379.1	1371.9	1364.6	1358.2	1352.7	1347.2	1341.6	1336.1
20°	1336.0	1327.9	1319.9	1312.4	1305.3	1298.3	1291.2	1284.1
22.5°	1288.6	1278.3	1267.9	1260.1	1254.9	1249.6	1244.3	1239.1
25°	1210.1	1197.0	1183.8	1174.9	1170.0	1165.2	1160.4	1155.6
27.5°	1135.3	1119.9	1104.6	1093.1	1085.4	1077.8	1070.2	1062.5
30°	1082.4	1066.0	1049.6	1037.2	1028.5	1019.8	1011.2	1002.5
32.5°	1029.3	1010.6	991.8	978.5	970.3	962.1	953.9	945.8
35°	946.1	926.0	905.7	892.0	885.0	877.9	870.8	863.8
37.5°	865.2	842.9	820.6	805.4	797.4	789.3	781.2	773.1
40°	811.0	788.2	765.4	749.9	741.5	733.1	724.8	716.4
42.5°	756.3	732.7	709.2	693.3	685.2	677.1	669.1	661.0
45°	676.7	653.8	631.0	615.9	608.1	600.4	592.7	585.0
47.5°	599.2	576.6	553.8	539.0	532.1	525.1	518.0	511.0
50°	549.4	527.3	505.1	490.6	483.9	477.1	470.4	463.6
52.5°	502.4	481.0	459.7	445.8	439.6	433.4	427.2	420.9
55°	430.9	411.7	392.4	379.8	373.6	367.5	361.5	355.3
57.5°	366.0	348.3	330.6	319.2	314.1	309.0	303.9	298.7
60°	321.1	304.8	288.4	277.7	272.5	267.4	262.2	257.1
62.5°	282.3	266.6	251.1	241.7	238.7	235.5	232.4	229.4
65°	229.5	218.6	207.6	201.7	200.8	199.8	198.9	197.9
67.5°	185.3	180.3	175.2	172.2	171.3	170.2	169.2	168.1
70°	161.2	158.0	154.8	152.5	151.2	149.9	148.6	147.3
72.5°	140.3	137.5	134.8	133.1	132.3	131.6	130.7	130.0
75°	111.0	108.9	106.6	105.3	105.0	104.6	104.3	104.0
77.5°	84.1	82.8	81.5	80.6	80.1	79.6	79.1	78.6
80°	66.7	65.5	64.2	63.5	63.5	63.5	63.5	63.5
82.5°	50.4	49.7	48.9	48.5	48.5	48.5	48.5	48.5
85°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
87.5°	15.3	14.9	14.5	14.4	14.4	14.5	14.5	14.6
90°	32.5	32.1	31.7	31.6	31.9	32.0	32.2	32.4
92.5°	30.5	30.6	30.7	30.7	30.8	30.8	30.9	30.9
95°	61.1	61.1	61.1	60.9	60.4	60.0	59.6	59.2
97.5°	102.7	102.7	102.7	102.7	102.6	102.6	102.5	102.5
100°	131.8	131.8	131.8	131.7	131.4	131.2	131.0	130.8
102.5°	163.4	163.5	163.7	163.7	163.5	163.2	163.1	162.9
105°	210.8	211.3	211.7	212.0	212.0	212.0	212.0	212.0
107.5°	262.1	262.3	262.4	262.0	261.1	260.0	259.1	258.2
110°	296.9	296.9	296.9	296.6	296.0	295.3	294.6	294.1





TEST NUMBER: P331856-830

CATALOG NUMBER: S122RDIW-S1005D970U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	331.8	331.3	330.7	330.3	329.8	329.3	328.9	328.4
115°	385.2	385.0	384.8	384.4	383.8	383.1	382.5	381.8
117.5°	437.0	436.5	435.9	435.4	434.8	434.1	433.5	432.8
120°	471.6	471.6	471.6	471.3	470.6	470.0	469.4	468.7
122.5°	507.3	506.7	506.2	505.8	505.3	504.8	504.4	503.9
125°	560.1	559.4	558.8	558.4	558.2	558.0	557.7	557.5
127.5°	611.3	610.6	609.8	609.1	608.4	607.8	607.1	606.4
130°	646.4	646.0	645.5	644.9	644.0	643.2	642.3	641.5
132.5°	680.5	679.6	678.6	677.9	677.2	676.5	675.8	675.1
135°	730.8	730.7	730.4	730.0	729.3	728.7	728.1	727.5
137.5°	779.0	778.9	778.7	778.2	777.3	776.5	775.6	774.8
140°	811.4	811.4	811.4	811.1	810.2	809.4	808.5	807.7
142.5°	840.8	841.0	841.1	840.8	840.0	839.1	838.3	837.4
145°	885.4	885.6	885.8	885.5	884.7	883.8	883.0	882.1
147.5°	924.4	924.9	925.4	925.2	924.4	923.6	922.8	922.0
150°	949.2	949.9	950.6	950.6	949.9	949.2	948.6	948.0
152.5°	974.0	974.9	975.6	975.6	974.9	974.0	973.2	972.4
155°	1005.5	1006.5	1007.6	1007.8	1007.2	1006.5	1005.9	1005.2
157.5°	1034.5	1035.9	1037.4	1037.6	1036.6	1035.6	1034.5	1033.5
160°	1051.7	1053.0	1054.2	1054.5	1053.7	1052.8	1052.0	1051.1
162.5°	1067.3	1068.7	1070.3	1070.4	1069.4	1068.4	1067.3	1066.4
165°	1087.5	1088.9	1090.4	1090.6	1089.6	1088.5	1087.5	1086.4
167.5°	1104.1	1105.6	1107.0	1107.2	1106.2	1105.0	1103.9	1102.9
170°	1113.2	1114.7	1116.3	1116.3	1115.0	1113.8	1112.5	1111.3
172.5°	1120.1	1121.6	1123.0	1123.2	1121.9	1120.7	1119.4	1118.1
175°	1127.6	1129.1	1130.5	1130.7	1129.4	1128.1	1126.8	1125.6
177.5°	1131.1	1132.0	1133.0	1133.0	1132.0	1131.1	1130.0	1129.0
180°	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2

(END OF REPORT)