

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: P333089-930

Luminaire Tested: **S124RDIW-S1020D1340U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333089-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIW-S1020D1340U930-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

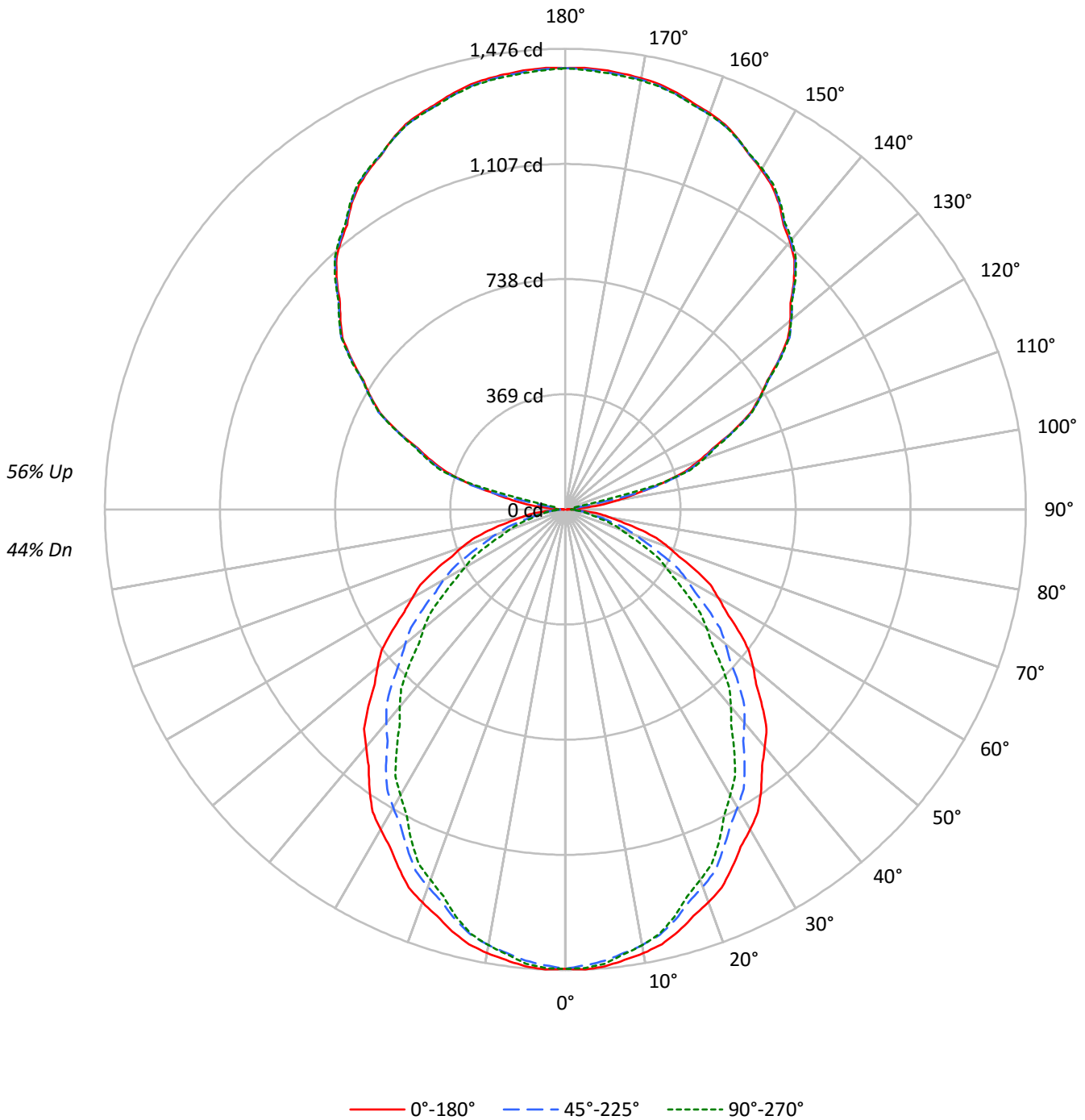
Lumens per Lamp: N/A
Luminaire Lumens: 7778.9 lumens
Efficiency: N/A
Efficacy: 111.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): 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: P333089-930
CATALOG NUMBER: S124RDIW-S1020D1340U930-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P333089-930

CATALOG NUMBER: S124RDIW-S1020D1340U930-4F0-1E-UDD-F

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	92	89	85	88	85	82	79	70	68	66	57	56	54	45	44	43	37				
2	88	81	75	70	80	74	69	65	62	58	55	50	48	46	40	38	37	32				
3	81	71	64	59	73	66	59	54	55	50	46	45	41	39	35	33	31	27				
4	74	63	56	50	67	58	51	46	49	44	40	40	36	33	32	29	27	23				
5	68	56	48	43	62	52	45	40	44	38	34	36	32	29	29	26	24	20				
6	62	51	43	37	57	47	40	35	39	34	30	33	29	25	26	23	21	18				
7	58	46	38	32	53	42	35	30	36	30	26	30	26	23	24	21	19	16				
8	54	41	34	29	49	38	32	27	33	27	24	27	23	20	22	19	17	14				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13				
10	47	35	28	23	43	32	26	22	28	22	19	23	19	16	19	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11885	11885	11885
5°	11912	11766	11839
10°	11837	11625	11625
15°	11701	11381	11295
20°	11515	11059	10856
25°	11276	10684	10413
30°	11044	10288	9857
35°	10787	9876	9298
40°	10478	9409	8696
45°	10193	8944	8082
50°	9868	8410	7433
55°	9520	7854	6726
60°	9137	7245	6006
65°	8785	6481	5297
70°	8275	5641	4497
75°	7629	4676	3656
80°	6657	3561	3357
85°	5641	3242	3029



TEST NUMBER: P333089-930

CATALOG NUMBER: S124RDIW-S1020D1340U930-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.3	1.8
10°-20°	385.6	5.0
20°-30°	556.9	7.2
30°-40°	631.2	8.1
40°-50°	609.5	7.8
50°-60°	506.9	6.5
60°-70°	350.0	4.5
70°-80°	177.4	2.3
80°-90°	49.6	0.6
90°-100°	48.4	0.6
100°-110°	308.3	4.0
110°-120°	589.8	7.6
120°-130°	748.7	9.6
130°-140°	801.1	10.3
140°-150°	749.1	9.6
150°-160°	604.1	7.8
160°-170°	389.6	5.0
170°-180°	134.3	1.7
0°-30°	1080.8	13.9
0°-40°	1712.0	22.0
0°-60°	2828.4	36.4
0°-90°	3405.4	43.8
90°-120°	946.5	12.2
90°-150°	3245.5	41.7
90°-180°	4374.0	56.2
0°-180°	7778.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1472	1472	1472	1472	1472	
5°	1470	1465	1452	1462	1461	139
15°	1400	1389	1362	1359	1352	394
25°	1266	1244	1199	1181	1169	583
35°	1094	1057	1002	965	944	684
45°	893	850	783	730	708	688
55°	676	630	558	501	478	605
65°	460	410	339	293	277	454
75°	245	202	150	125	117	258
85°	61	39	35	33	33	69
90°	3	15	23	29	32	6
95°	58	24	23	29	31	75
105°	318	325	330	337	301	333
115°	594	597	596	598	598	585
125°	835	839	838	841	842	746
135°	1036	1036	1040	1042	1044	798
145°	1195	1198	1198	1199	1201	746
155°	1310	1311	1308	1312	1309	604
165°	1382	1377	1377	1384	1376	390
175°	1414	1408	1409	1417	1405	135
180°	1414	1414	1414	1414	1414	



TEST NUMBER: P333089-930

CATALOG NUMBER: S124RDIW-S1020D1340U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1472.2	1472.2	1472.2	1472.2	1472.2	1472.2	1472.2	1472.2	1472.2	1472.2	1472.2
2.5°	1475.8	1475.0	1474.1	1473.4	1472.6	1471.0	1468.8	1466.6	1464.4	1462.2	1464.4
5°	1469.9	1468.9	1467.9	1466.9	1465.9	1463.9	1460.9	1457.9	1454.9	1451.9	1454.4
7.5°	1456.6	1455.6	1454.5	1453.4	1452.4	1449.9	1446.0	1442.1	1438.2	1434.3	1435.9
10°	1444.0	1442.8	1441.4	1440.2	1439.0	1436.1	1431.6	1427.1	1422.5	1418.1	1419.0
12.5°	1427.8	1426.3	1424.8	1423.4	1422.0	1418.5	1413.2	1407.9	1402.6	1397.3	1397.9
15°	1400.0	1397.7	1395.5	1393.3	1391.0	1386.7	1380.5	1374.2	1368.0	1361.7	1361.2
17.5°	1366.4	1363.2	1359.9	1356.7	1353.4	1348.0	1340.5	1333.0	1325.5	1317.9	1316.5
20°	1340.3	1337.0	1333.7	1330.5	1327.2	1321.4	1312.9	1304.3	1295.8	1287.3	1285.3
22.5°	1311.4	1307.7	1304.1	1300.5	1296.8	1290.4	1281.3	1272.2	1263.1	1253.9	1250.9
25°	1265.9	1261.3	1256.9	1252.4	1247.8	1240.5	1230.2	1219.9	1209.7	1199.4	1195.1
27.5°	1218.1	1212.4	1206.8	1201.1	1195.5	1187.2	1176.2	1165.2	1154.2	1143.2	1138.0
30°	1184.7	1178.4	1172.2	1166.0	1159.7	1150.6	1138.9	1127.1	1115.3	1103.6	1097.3
32.5°	1149.6	1142.5	1135.4	1128.4	1121.3	1111.7	1099.5	1087.4	1075.1	1063.0	1055.7
35°	1094.5	1086.5	1078.5	1070.5	1062.5	1052.2	1039.7	1027.2	1014.6	1002.1	993.6
37.5°	1035.7	1027.4	1019.2	1010.9	1002.7	991.6	977.7	963.8	949.9	936.0	926.5
40°	994.3	985.9	977.7	969.4	961.2	949.9	935.6	921.3	907.0	892.8	882.2
42.5°	954.6	945.9	937.2	928.5	919.9	908.1	893.2	878.3	863.5	848.6	837.9
45°	892.8	883.5	874.2	865.0	855.7	843.5	828.5	813.5	798.4	783.4	771.2
47.5°	829.0	819.4	809.8	800.3	790.7	778.1	762.5	746.8	731.2	715.6	702.9
50°	785.7	775.9	766.1	756.4	746.6	733.7	717.7	701.6	685.6	669.6	657.0
52.5°	741.5	731.9	722.4	712.8	703.2	690.2	673.8	657.4	640.9	624.5	611.8
55°	676.4	666.3	656.3	646.3	636.3	623.1	606.8	590.5	574.3	558.0	544.9
57.5°	611.9	601.4	591.0	580.6	570.2	556.9	541.0	524.9	508.8	492.8	479.6
60°	565.9	555.9	545.8	535.8	525.8	512.7	496.8	480.7	464.6	448.7	435.6
62.5°	524.4	514.0	503.5	493.1	482.7	469.3	452.8	436.4	420.0	403.6	391.5
65°	459.9	449.1	438.4	427.6	416.9	403.4	387.4	371.4	355.3	339.3	328.6
67.5°	393.0	382.6	372.3	362.0	351.6	339.1	324.2	309.3	294.4	279.6	270.3
70°	350.6	340.1	329.5	319.0	308.5	296.1	281.8	267.5	253.2	239.0	230.7
72.5°	305.5	296.0	286.4	277.0	267.4	255.9	242.5	228.9	215.5	202.0	194.9
75°	244.6	235.4	226.1	216.8	207.6	197.0	185.2	173.5	161.7	149.9	144.1
77.5°	182.9	175.0	167.1	159.2	151.4	142.7	133.1	123.7	114.1	104.6	101.3
80°	143.2	135.9	128.7	121.4	114.1	106.7	99.2	91.7	84.1	76.6	75.9
82.5°	108.9	102.2	95.6	88.9	82.3	76.7	72.5	68.2	63.8	59.5	58.9
85°	60.9	55.8	50.9	45.8	40.8	37.9	37.2	36.4	35.7	35.0	34.4
87.5°	21.4	20.3	19.2	18.1	17.0	16.6	16.7	17.0	17.1	17.3	17.4
90°	3.2	5.8	8.3	10.9	13.5	15.7	17.6	19.5	21.4	23.2	24.7
92.5°	13.3	13.5	13.6	13.8	13.9	14.9	16.8	18.7	20.5	22.4	23.8
95°	58.1	50.1	42.2	34.2	26.2	22.3	22.6	22.8	23.0	23.2	24.7
97.5°	123.5	128.5	133.5	138.4	143.4	132.8	106.6	80.4	54.1	27.9	28.0
100°	173.4	177.7	181.9	186.1	190.4	176.3	143.8	111.4	78.9	46.6	42.6
102.5°	229.3	232.4	235.5	238.6	241.7	241.1	236.8	232.7	228.4	224.2	181.1
105°	318.3	319.7	321.1	322.5	323.9	325.2	326.4	327.6	328.7	330.0	332.1
107.5°	401.0	401.7	402.4	403.1	403.8	405.0	406.6	408.1	409.8	411.4	412.4
110°	456.8	457.5	458.3	458.9	459.7	460.7	462.1	463.5	465.0	466.4	466.8



TEST NUMBER: P333089-930

CATALOG NUMBER: S124RDIW-S1020D1340U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	510.9	512.3	513.6	514.8	516.1	517.0	517.7	518.4	519.0	519.7	519.6
115°	594.3	595.0	595.7	596.4	597.1	597.4	597.1	596.9	596.6	596.4	596.9
117.5°	669.4	670.3	671.2	672.2	673.1	673.8	674.4	674.9	675.4	676.0	675.9
120°	720.2	721.1	722.0	723.0	723.9	724.2	724.1	723.8	723.6	723.3	723.8
122.5°	767.5	768.1	768.7	769.2	769.8	770.2	770.5	770.9	771.2	771.5	771.8
125°	835.4	836.3	837.3	838.2	839.2	839.4	838.9	838.5	838.0	837.6	838.2
127.5°	899.7	899.9	900.2	900.4	900.7	901.3	902.4	903.4	904.6	905.6	905.5
130°	941.2	941.4	941.7	941.8	942.1	942.6	943.3	944.0	944.7	945.4	945.7
132.5°	979.3	979.7	980.1	980.5	980.9	981.6	982.5	983.3	984.2	985.1	985.4
135°	1036.3	1036.1	1035.8	1035.7	1035.4	1035.8	1036.7	1037.6	1038.6	1039.5	1040.0
137.5°	1086.9	1087.0	1087.0	1087.2	1087.3	1087.9	1088.8	1089.9	1091.0	1091.9	1092.5
140°	1119.9	1120.4	1120.8	1121.3	1121.8	1122.3	1122.7	1123.2	1123.6	1124.1	1124.8
142.5°	1149.5	1150.3	1151.2	1152.0	1152.9	1153.4	1153.7	1154.0	1154.3	1154.5	1155.1
145°	1195.0	1195.6	1196.4	1197.1	1197.8	1198.2	1198.2	1198.2	1198.2	1198.2	1198.4
147.5°	1231.1	1232.4	1233.8	1235.1	1236.4	1237.0	1236.7	1236.5	1236.2	1236.0	1236.2
150°	1257.4	1258.3	1259.2	1260.2	1261.1	1261.4	1261.3	1261.0	1260.8	1260.5	1260.5
152.5°	1279.4	1280.1	1280.8	1281.6	1282.4	1282.5	1282.1	1281.7	1281.2	1280.8	1281.2
155°	1310.3	1310.4	1310.7	1310.9	1311.2	1310.9	1310.3	1309.5	1308.8	1308.1	1309.0
157.5°	1336.3	1336.1	1335.9	1335.8	1335.7	1335.2	1334.4	1333.6	1332.9	1332.0	1333.3
160°	1351.4	1350.8	1350.1	1349.3	1348.7	1348.2	1347.9	1347.7	1347.4	1347.3	1348.7
162.5°	1365.0	1364.1	1363.3	1362.4	1361.5	1360.9	1360.7	1360.4	1360.2	1359.9	1361.3
165°	1382.2	1381.0	1379.8	1378.6	1377.4	1376.9	1376.9	1376.9	1376.9	1376.9	1378.8
167.5°	1395.7	1394.5	1393.3	1392.0	1390.8	1390.1	1390.0	1389.8	1389.7	1389.5	1391.6
170°	1403.3	1401.9	1400.4	1399.1	1397.7	1397.1	1397.3	1397.5	1397.7	1398.0	1399.9
172.5°	1408.3	1407.0	1405.6	1404.1	1402.7	1402.2	1402.4	1402.6	1402.8	1403.0	1404.9
175°	1413.9	1412.4	1411.0	1409.7	1408.2	1407.6	1407.9	1408.1	1408.3	1408.6	1410.7
177.5°	1416.4	1415.1	1413.7	1412.4	1411.1	1410.6	1411.0	1411.4	1411.8	1412.2	1413.6
180°	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9



TEST NUMBER: P333089-930

CATALOG NUMBER: S124RDIW-S1020D1340U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1472.2	1472.2	1472.2	1472.2	1472.2	1472.2	1472.2	1472.2
2.5°	1466.6	1468.8	1471.0	1472.1	1471.9	1471.7	1471.5	1471.3
5°	1456.9	1459.4	1461.9	1462.9	1462.4	1461.9	1461.4	1460.9
7.5°	1437.5	1439.1	1440.7	1441.1	1440.3	1439.5	1438.7	1437.9
10°	1420.1	1421.1	1422.0	1422.0	1421.1	1420.1	1419.0	1418.1
12.5°	1398.5	1399.1	1399.7	1399.3	1397.9	1396.5	1395.1	1393.8
15°	1360.7	1360.2	1359.7	1358.5	1356.8	1355.0	1353.3	1351.5
17.5°	1315.2	1313.8	1312.4	1310.3	1307.7	1305.0	1302.4	1299.7
20°	1283.3	1281.3	1279.3	1276.7	1273.4	1270.2	1266.9	1263.6
22.5°	1247.9	1244.9	1241.9	1239.1	1236.4	1233.8	1231.1	1228.5
25°	1190.8	1186.6	1182.3	1178.9	1176.5	1173.9	1171.4	1169.0
27.5°	1132.7	1127.5	1122.2	1117.8	1114.2	1110.5	1106.9	1103.3
30°	1091.0	1084.8	1078.5	1073.3	1069.3	1065.4	1061.4	1057.4
32.5°	1048.5	1041.2	1034.0	1028.4	1024.6	1020.8	1017.0	1013.2
35°	985.0	976.6	968.0	961.6	957.0	952.5	948.0	943.5
37.5°	917.0	907.5	898.0	891.0	886.5	881.9	877.4	872.9
40°	871.7	861.2	850.7	843.2	838.7	834.1	829.6	825.2
42.5°	827.1	816.4	805.7	798.0	793.3	788.6	783.8	779.2
45°	758.9	746.6	734.3	725.9	721.5	716.9	712.4	707.9
47.5°	690.2	677.4	664.6	655.8	650.9	645.9	640.9	636.0
50°	644.5	632.0	619.5	610.8	606.1	601.3	596.6	591.8
52.5°	599.0	586.3	573.6	564.8	559.8	554.8	549.8	544.9
55°	531.9	518.9	505.9	497.0	492.2	487.5	482.7	477.9
57.5°	466.4	453.1	439.9	431.5	427.9	424.3	420.7	417.1
60°	422.6	409.5	396.6	388.0	384.0	380.0	376.0	372.0
62.5°	379.5	367.5	355.5	347.8	344.6	341.4	338.2	335.0
65°	317.7	307.0	296.2	289.3	286.3	283.3	280.3	277.3
67.5°	261.0	251.8	242.5	236.2	232.8	229.6	226.2	223.0
70°	222.4	214.2	205.9	200.5	198.0	195.5	193.0	190.5
72.5°	187.8	180.8	173.7	169.1	166.7	164.4	162.2	159.9
75°	138.4	132.6	126.9	123.3	121.7	120.3	118.7	117.2
77.5°	97.9	94.6	91.2	89.3	88.8	88.4	87.9	87.5
80°	75.2	74.4	73.6	73.1	72.9	72.6	72.4	72.2
82.5°	58.4	57.9	57.3	56.9	56.7	56.4	56.2	55.9
85°	33.9	33.4	32.9	32.7	32.7	32.7	32.7	32.7
87.5°	17.4	17.5	17.6	17.8	18.1	18.3	18.7	19.0
90°	26.1	27.5	28.9	29.8	30.3	30.8	31.2	31.7
92.5°	25.3	26.7	28.0	28.8	28.9	29.0	29.1	29.2
95°	26.1	27.5	28.9	29.8	29.9	30.2	30.4	30.7
97.5°	28.2	28.4	28.5	28.7	28.9	29.1	29.4	29.6
100°	38.6	34.6	30.6	28.7	28.9	29.1	29.4	29.6
102.5°	138.0	94.9	51.8	30.2	30.3	30.3	30.4	30.5
105°	334.2	336.3	338.4	335.3	326.8	318.3	309.8	301.4
107.5°	413.4	414.5	415.5	416.5	417.4	418.2	419.1	420.0
110°	467.3	467.7	468.2	468.8	469.5	470.3	470.9	471.7



TEST NUMBER: P333089-930

CATALOG NUMBER: S124RDIW-S1020D1340U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	519.4	519.3	519.3	519.7	520.6	521.5	522.4	523.3
115°	597.4	597.9	598.3	598.5	598.5	598.5	598.5	598.5
117.5°	675.7	675.6	675.6	675.5	675.4	675.3	675.2	675.1
120°	724.2	724.7	725.2	725.2	724.7	724.2	723.8	723.3
122.5°	772.1	772.4	772.7	772.6	772.1	771.6	771.2	770.7
125°	838.9	839.7	840.3	840.8	841.1	841.3	841.6	841.8
127.5°	905.4	905.2	905.1	904.9	904.7	904.5	904.3	904.2
130°	945.8	946.1	946.3	946.5	946.5	946.5	946.5	946.5
132.5°	985.6	985.9	986.1	986.1	985.9	985.8	985.5	985.4
135°	1040.5	1040.9	1041.4	1041.9	1042.4	1042.8	1043.3	1043.7
137.5°	1093.0	1093.5	1094.1	1094.2	1094.1	1094.0	1093.8	1093.6
140°	1125.5	1126.3	1126.9	1127.4	1127.6	1127.9	1128.1	1128.4
142.5°	1155.6	1156.1	1156.7	1156.9	1157.0	1157.0	1157.1	1157.1
145°	1198.6	1198.8	1199.1	1199.5	1199.9	1200.4	1200.9	1201.3
147.5°	1236.4	1236.6	1236.7	1237.0	1237.2	1237.5	1237.6	1237.9
150°	1260.5	1260.5	1260.5	1260.6	1260.9	1261.1	1261.3	1261.6
152.5°	1281.6	1282.0	1282.3	1282.5	1282.3	1282.1	1282.1	1281.9
155°	1310.0	1310.9	1311.9	1312.0	1311.3	1310.6	1309.9	1309.2
157.5°	1334.5	1335.7	1336.9	1336.9	1335.7	1334.5	1333.3	1332.0
160°	1350.1	1351.4	1352.9	1352.9	1351.4	1350.1	1348.7	1347.3
162.5°	1362.8	1364.2	1365.5	1365.5	1363.9	1362.3	1360.7	1359.1
165°	1380.6	1382.5	1384.4	1384.2	1382.2	1380.1	1377.9	1375.8
167.5°	1393.7	1395.7	1397.8	1397.7	1395.3	1392.9	1390.7	1388.3
170°	1401.7	1403.6	1405.5	1405.2	1403.0	1400.6	1398.2	1395.9
172.5°	1406.8	1408.8	1410.6	1410.3	1407.7	1405.2	1402.6	1400.1
175°	1412.8	1415.0	1417.1	1416.7	1413.9	1411.0	1408.2	1405.4
177.5°	1415.2	1416.7	1418.2	1417.8	1415.5	1413.3	1411.0	1408.8
180°	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9

(END OF REPORT)