

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: P332827-930

Luminaire Tested: **S124DIW-S1020D1340U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332827-930
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: S124DIW-S1020D1340U930-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7987.7 lumens
Efficiency: N/A
Efficacy: 114.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

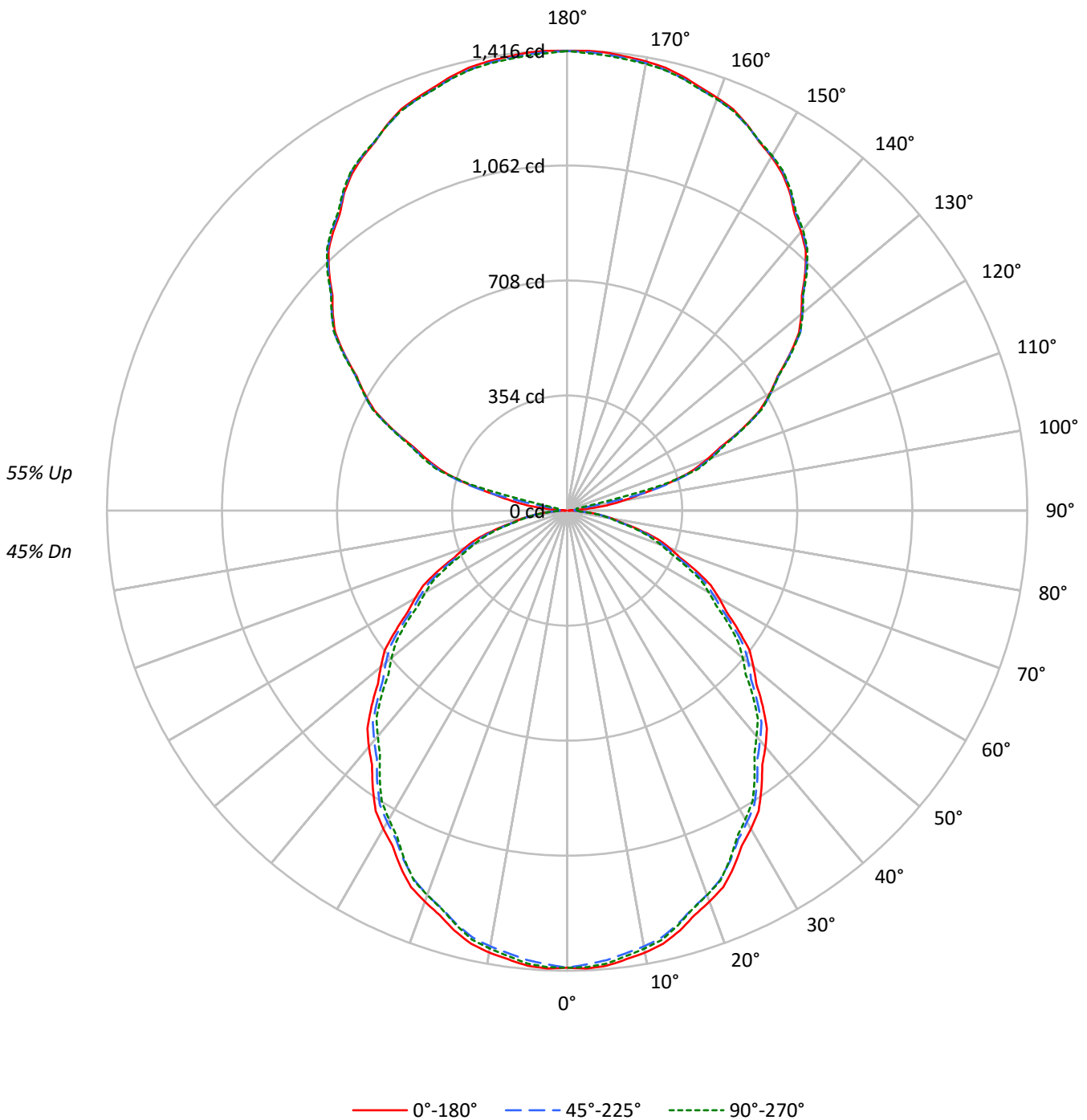
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332827-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332827-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-F

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	0														
RCR																																						
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45																				
1	97	92	88	85	88	85	81	78	71	68	66	58	56	55	46	45	44	38																				
2	88	81	75	69	80	74	69	64	62	58	55	51	48	45	40	38	37	32																				
3	80	71	64	58	73	65	59	54	55	50	46	45	41	38	36	33	31	27																				
4	73	63	55	49	67	58	51	46	48	43	39	40	36	33	32	29	27	23																				
5	67	56	48	42	61	51	44	39	43	38	34	36	32	29	29	26	23	20																				
6	62	50	42	36	57	46	39	34	39	34	29	32	28	25	26	23	21	18																				
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	24	21	18	16																				
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	16	14																				
9	49	37	30	25	45	35	28	23	30	24	21	25	21	18	20	17	15	13																				
10	46	34	27	22	42	32	25	21	27	22	18	23	19	16	19	16	13	11																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11357	11357	11357
5°	11391	11255	11336
10°	11320	11163	11218
15°	11183	11004	11032
20°	11001	10808	10817
25°	10794	10583	10553
30°	10540	10318	10224
35°	10276	10042	9909
40°	10003	9729	9551
45°	9717	9421	9240
50°	9401	9146	8862
55°	9060	8790	8504
60°	8719	8391	8136
65°	8334	8010	7687
70°	7903	7504	7211
75°	7243	6890	6716
80°	6448	6183	6025
85°	5641	5428	5326



TEST NUMBER: P332827-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.5	1.7
10°-20°	373.3	4.7
20°-30°	549.4	6.9
30°-40°	638.7	8.0
40°-50°	638.7	8.0
50°-60°	558.7	7.0
60°-70°	414.9	5.2
70°-80°	235.7	3.0
80°-90°	72.1	0.9
90°-100°	48.4	0.6
100°-110°	308.3	3.9
110°-120°	589.8	7.4
120°-130°	748.7	9.4
130°-140°	801.1	10.0
140°-150°	749.1	9.4
150°-160°	604.1	7.6
160°-170°	389.6	4.9
170°-180°	134.3	1.7
0°-30°	1055.2	13.2
0°-40°	1693.9	21.2
0°-60°	2891.3	36.2
0°-90°	3614.1	45.2
90°-120°	946.5	11.8
90°-150°	3245.5	40.6
90°-180°	4374.0	54.8
0°-180°	7987.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1407	1407	1407	1407	1407	
5°	1406	1401	1389	1400	1399	133
15°	1338	1333	1317	1323	1320	377
25°	1212	1204	1188	1189	1185	557
35°	1043	1034	1019	1011	1006	652
45°	851	843	825	813	809	656
55°	644	640	624	611	604	576
65°	436	430	419	408	402	432
75°	232	227	221	217	215	247
85°	61	61	59	59	58	67
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: P332827-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8
2.5°	1410.4	1409.8	1409.2	1408.6	1408.0	1406.6	1404.4	1402.2	1400.0	1397.7	1399.8
5°	1405.7	1404.7	1403.7	1402.6	1401.7	1399.8	1397.0	1394.2	1391.6	1388.8	1391.6
7.5°	1392.6	1391.6	1390.6	1389.6	1388.6	1386.6	1383.5	1380.5	1377.4	1374.4	1376.6
10°	1380.9	1379.9	1378.8	1377.9	1376.9	1374.8	1371.5	1368.2	1365.0	1361.7	1363.7
12.5°	1365.5	1364.6	1363.5	1362.5	1361.5	1359.3	1355.8	1352.4	1348.9	1345.5	1347.7
15°	1338.1	1337.0	1336.0	1335.1	1334.0	1331.6	1327.9	1324.1	1320.4	1316.6	1318.1
17.5°	1304.9	1303.7	1302.4	1301.1	1299.9	1297.5	1293.9	1290.4	1286.8	1283.3	1284.2
20°	1280.5	1279.3	1278.1	1276.8	1275.5	1273.0	1269.3	1265.5	1261.8	1258.0	1258.7
22.5°	1254.4	1252.7	1251.1	1249.4	1247.8	1245.0	1241.3	1237.5	1233.8	1230.0	1231.4
25°	1211.8	1210.1	1208.3	1206.5	1204.8	1202.2	1198.7	1195.1	1191.6	1188.1	1188.4
27.5°	1163.1	1161.3	1159.4	1157.6	1155.8	1153.3	1150.1	1146.8	1143.5	1140.3	1139.7
30°	1130.7	1128.6	1126.6	1124.6	1122.6	1120.0	1116.7	1113.5	1110.2	1106.9	1106.0
32.5°	1096.3	1094.5	1092.7	1091.0	1089.2	1086.5	1083.0	1079.6	1076.1	1072.7	1071.5
35°	1042.7	1041.0	1039.2	1037.5	1035.7	1033.1	1029.6	1026.1	1022.5	1019.0	1017.2
37.5°	986.1	984.5	982.9	981.3	979.7	977.1	973.2	969.5	965.7	962.0	960.1
40°	949.2	947.1	945.1	943.1	941.1	938.2	934.5	930.7	927.0	923.2	920.7
42.5°	909.5	908.2	907.0	905.9	904.7	902.0	897.8	893.6	889.5	885.3	882.4
45°	851.1	849.3	847.6	845.8	844.1	841.1	837.1	833.2	829.2	825.2	822.4
47.5°	789.9	788.8	787.6	786.4	785.1	782.7	779.0	775.3	771.6	767.8	764.8
50°	748.5	747.5	746.5	745.5	744.4	742.2	738.7	735.2	731.7	728.2	724.7
52.5°	707.9	706.7	705.5	704.3	703.1	700.7	696.9	693.2	689.5	685.8	682.7
55°	643.7	642.9	642.1	641.4	640.7	638.5	635.0	631.5	628.0	624.5	621.5
57.5°	582.4	581.5	580.7	579.8	578.9	576.7	573.3	569.9	566.4	563.0	560.1
60°	540.0	538.7	537.4	536.2	534.9	532.7	529.5	526.2	522.9	519.7	517.4
62.5°	498.5	497.4	496.4	495.3	494.2	492.0	488.5	485.1	481.6	478.2	476.1
65°	436.3	435.0	433.7	432.5	431.2	429.3	426.8	424.4	421.8	419.3	416.9
67.5°	373.6	372.4	371.3	370.1	368.9	367.2	364.8	362.4	360.0	357.6	355.1
70°	334.8	333.0	331.3	329.5	327.8	325.9	323.9	321.9	319.9	317.9	315.8
72.5°	293.3	291.6	289.8	288.0	286.3	284.6	283.0	281.4	279.8	278.2	276.6
75°	232.2	231.0	229.7	228.4	227.2	225.9	224.7	223.5	222.2	220.9	220.0
77.5°	173.8	173.3	172.7	172.2	171.6	170.8	169.7	168.6	167.5	166.4	166.1
80°	138.7	137.9	137.1	136.4	135.7	135.0	134.5	134.0	133.5	133.0	132.5
82.5°	104.4	104.0	103.7	103.3	103.0	102.7	102.6	102.6	102.5	102.3	102.1
85°	60.9	60.9	60.9	60.9	60.9	60.7	60.1	59.6	59.1	58.6	58.6
87.5°	24.1	24.4	24.7	25.0	25.4	25.6	25.8	25.9	26.1	26.3	26.6
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: P332827-930

CATALOG NUMBER: S124DIW-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: P332827-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8
2.5°	1401.7	1403.8	1405.8	1406.7	1406.5	1406.3	1406.1	1405.9
5°	1394.2	1397.0	1399.8	1400.9	1400.4	1399.9	1399.4	1398.9
7.5°	1378.8	1381.0	1383.2	1384.1	1383.8	1383.5	1383.2	1382.9
10°	1365.7	1367.7	1369.7	1370.4	1369.9	1369.5	1369.0	1368.5
12.5°	1349.9	1352.1	1354.3	1355.0	1354.4	1353.6	1352.9	1352.3
15°	1319.6	1321.1	1322.7	1323.0	1322.3	1321.5	1320.8	1320.0
17.5°	1285.2	1286.1	1287.0	1287.3	1286.8	1286.3	1285.8	1285.2
20°	1259.5	1260.3	1261.0	1261.1	1260.6	1260.1	1259.6	1259.1
22.5°	1232.7	1234.1	1235.4	1235.7	1234.8	1233.9	1233.0	1232.1
25°	1188.6	1188.9	1189.1	1188.7	1187.7	1186.7	1185.7	1184.7
27.5°	1139.1	1138.5	1137.9	1137.0	1135.7	1134.5	1133.2	1132.0
30°	1105.0	1103.9	1102.9	1101.8	1100.6	1099.3	1098.0	1096.8
32.5°	1070.2	1069.1	1067.9	1066.7	1065.4	1064.1	1062.9	1061.6
35°	1015.5	1013.7	1012.0	1010.5	1009.3	1008.0	1006.7	1005.5
37.5°	958.1	956.3	954.4	952.6	951.0	949.3	947.6	946.0
40°	918.2	915.7	913.2	911.3	910.0	908.8	907.6	906.3
42.5°	879.5	876.6	873.7	871.8	871.0	870.1	869.3	868.5
45°	819.6	816.8	814.1	812.4	811.6	810.9	810.1	809.3
47.5°	761.7	758.6	755.5	752.9	751.1	749.1	747.2	745.3
50°	721.2	717.7	714.2	711.7	710.1	708.7	707.2	705.6
52.5°	679.6	676.5	673.4	670.9	669.0	667.1	665.2	663.2
55°	618.5	615.5	612.5	610.3	608.7	607.2	605.7	604.2
57.5°	557.3	554.4	551.5	549.3	547.9	546.5	545.0	543.6
60°	515.2	512.9	510.6	508.9	507.6	506.4	505.2	503.9
62.5°	474.1	472.0	469.9	468.3	467.1	465.8	464.6	463.3
65°	414.3	411.8	409.3	407.4	406.2	405.0	403.7	402.4
67.5°	352.8	350.3	348.0	346.6	346.2	345.8	345.5	345.2
70°	313.9	311.9	309.9	308.5	307.8	307.0	306.2	305.5
72.5°	275.0	273.4	271.8	270.6	269.9	269.1	268.4	267.6
75°	218.9	217.9	217.0	216.3	216.1	215.8	215.6	215.3
77.5°	165.8	165.5	165.2	164.7	164.0	163.4	162.7	162.1
80°	132.0	131.5	131.0	130.6	130.4	130.1	129.9	129.6
82.5°	101.7	101.4	101.2	100.9	100.6	100.4	100.1	99.9
85°	58.6	58.6	58.6	58.5	58.2	58.0	57.7	57.5
87.5°	26.8	27.1	27.4	27.6	27.7	27.8	27.9	28.0
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: P332827-930

CATALOG NUMBER: S124DIW-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)