

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: P331614-940

Luminaire Tested: **S122DIW-S1005D1440U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331614-940
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: S122DIW-S1005D1440U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8076.5 lumens
Efficiency: N/A
Efficacy: 97.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

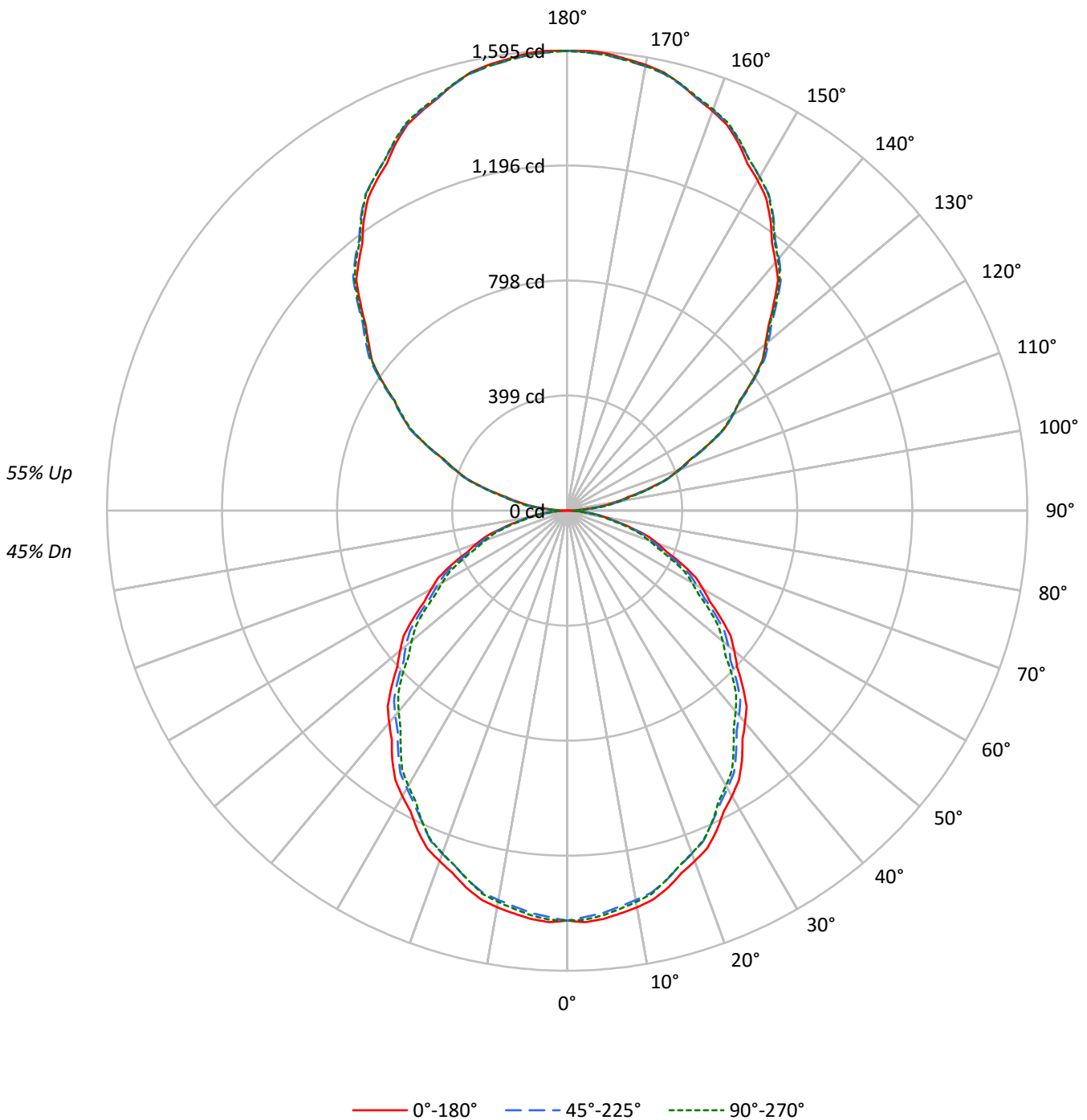
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45
1	97	92	88	85	88	85	81	78	70	68	66	57	56	54	45	44	43	38
2	88	81	74	69	80	74	69	64	62	58	55	50	48	45	40	38	36	32
3	80	71	64	58	73	65	59	54	54	50	46	45	41	38	35	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	28	28	26	23	20
6	62	50	42	36	57	46	39	34	39	33	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	29	24	20	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°	22946	22946	22946
5°	23034	22702	22835
10°	22897	22471	22584
15°	22614	22181	22158
20°	22213	21742	21720
25°	21814	21205	21205
30°	21300	20713	20534
35°	20820	20120	19825
40°	20219	19530	19153
45°	19628	18941	18472
50°	18982	18331	17678
55°	18311	17619	16963
60°	17563	16769	16152
65°	16756	15924	15194
70°	15739	14903	14195
75°	14323	13724	13381
80°	12710	12329	11688
85°	10374	9874	8855



TEST NUMBER: P331614-940

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	1.7
10°-20°	376.0	4.7
20°-30°	552.7	6.8
30°-40°	642.0	7.9
40°-50°	641.3	7.9
50°-60°	559.3	6.9
60°-70°	413.6	5.1
70°-80°	234.2	2.9
80°-90°	69.4	0.9
90°-100°	100.9	1.2
100°-110°	313.5	3.9
110°-120°	535.9	6.6
120°-130°	704.7	8.7
130°-140°	791.0	9.8
140°-150°	775.6	9.6
150°-160°	650.5	8.1
160°-170°	431.5	5.3
170°-180°	150.8	1.9
0°-30°	1062.4	13.2
0°-40°	1704.4	21.1
0°-60°	2905.1	36.0
0°-90°	3622.2	44.8
90°-120°	950.3	11.8
90°-150°	3221.6	39.9
90°-180°	4454.0	55.1
0°-180°	8076.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1421	1421	1421	1421	1421	
5°	1421	1415	1401	1411	1409	135
15°	1353	1344	1327	1332	1326	381
25°	1224	1213	1190	1193	1190	563
35°	1056	1042	1021	1013	1006	659
45°	860	849	830	815	809	663
55°	650	642	626	610	603	581
65°	439	430	417	405	398	434
75°	230	227	220	212	214	245
85°	56	55	53	49	48	64
90°	1	18	47	45	46	6
95°	70	83	86	86	83	80
105°	289	293	296	298	298	305
115°	538	545	543	542	538	532
125°	782	794	790	787	785	699
135°	1012	1026	1030	1028	1024	782
145°	1229	1238	1246	1247	1242	767
155°	1405	1409	1413	1419	1416	646
165°	1528	1527	1527	1536	1530	431
175°	1590	1586	1584	1592	1585	151
180°	1593	1593	1593	1593	1593	



TEST NUMBER: P331614-940

CATALOG NUMBER: S122DIW-S1005D1440U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2
2.5°	1427.8	1426.6	1425.4	1424.2	1422.9	1421.0	1418.4	1415.7	1413.0	1410.3	1412.7
5°	1421.2	1420.0	1418.8	1417.6	1416.4	1414.1	1410.8	1407.4	1404.1	1400.7	1403.2
7.5°	1408.6	1406.8	1404.9	1403.0	1401.1	1398.5	1395.1	1391.7	1388.3	1384.9	1387.3
10°	1396.6	1394.5	1392.4	1390.3	1388.1	1385.3	1381.6	1378.0	1374.3	1370.6	1373.1
12.5°	1380.3	1378.3	1376.4	1374.6	1372.7	1369.9	1366.3	1362.6	1359.1	1355.4	1357.1
15°	1352.9	1351.1	1349.2	1347.5	1345.6	1342.7	1338.8	1334.8	1330.9	1327.0	1328.2
17.5°	1317.9	1316.1	1314.3	1312.4	1310.6	1307.7	1303.7	1299.7	1295.7	1291.7	1293.1
20°	1292.8	1290.9	1289.1	1287.3	1285.5	1282.5	1278.2	1274.0	1269.7	1265.4	1266.3
22.5°	1267.7	1265.1	1262.6	1260.0	1257.4	1254.2	1250.2	1246.2	1242.2	1238.1	1238.3
25°	1224.5	1222.0	1219.6	1217.2	1214.8	1210.9	1205.8	1200.6	1195.4	1190.3	1190.9
27.5°	1175.3	1173.0	1170.9	1168.7	1166.5	1163.4	1159.3	1155.2	1151.2	1147.1	1146.2
30°	1142.5	1140.1	1137.6	1135.1	1132.7	1129.3	1124.7	1120.2	1115.6	1111.0	1110.1
32.5°	1107.5	1105.5	1103.6	1101.6	1099.7	1096.4	1091.5	1086.7	1081.9	1077.1	1075.5
35°	1056.3	1053.3	1050.3	1047.2	1044.2	1040.3	1035.4	1030.6	1025.7	1020.8	1019.0
37.5°	998.7	996.0	993.4	990.7	988.0	984.3	979.4	974.6	969.6	964.8	962.5
40°	959.3	956.9	954.5	952.1	949.6	946.0	941.1	936.3	931.4	926.6	923.8
42.5°	921.0	918.6	916.2	913.8	911.3	907.7	902.9	898.0	893.1	888.2	885.3
45°	859.6	857.5	855.3	853.2	851.0	847.7	843.2	838.7	834.1	829.5	826.2
47.5°	798.3	796.4	794.3	792.4	790.3	786.9	782.2	777.5	772.8	768.0	764.5
50°	755.7	754.2	752.7	751.2	749.7	746.7	742.5	738.2	734.0	729.8	725.5
52.5°	714.2	712.2	710.2	708.2	706.1	703.1	699.1	695.1	691.2	687.2	683.6
55°	650.5	648.6	646.8	645.1	643.2	640.4	636.9	633.2	629.5	625.9	622.2
57.5°	586.6	585.1	583.6	582.2	580.7	578.0	574.0	570.0	566.0	562.0	558.4
60°	543.9	542.7	541.4	540.3	539.0	536.3	532.1	527.8	523.5	519.3	515.9
62.5°	502.4	500.4	498.5	496.5	494.5	492.0	488.7	485.4	482.1	478.8	475.7
65°	438.6	436.8	435.1	433.2	431.4	428.9	425.9	422.8	419.8	416.8	414.1
67.5°	373.9	372.5	371.0	369.5	368.1	366.0	363.2	360.5	357.8	355.1	352.9
70°	333.4	332.3	331.0	329.8	328.6	326.6	323.9	321.1	318.4	315.7	313.5
72.5°	291.9	290.7	289.4	288.3	287.0	285.5	283.8	282.0	280.3	278.5	276.3
75°	229.6	229.0	228.4	227.7	227.1	226.0	224.5	223.0	221.5	220.0	218.2
77.5°	173.8	172.8	171.7	170.8	169.7	168.9	168.3	167.6	167.0	166.5	165.5
80°	136.7	136.3	136.1	135.7	135.5	135.0	134.4	133.8	133.1	132.6	131.6
82.5°	101.7	101.7	101.6	101.5	101.4	101.2	100.9	100.5	100.1	99.8	98.6
85°	56.0	55.7	55.5	55.1	54.8	54.5	54.2	53.9	53.6	53.3	52.3
87.5°	20.0	20.2	20.4	20.6	20.9	21.4	22.2	23.1	23.9	24.7	23.9
90°	1.3	4.9	8.5	12.1	15.7	20.8	27.4	33.9	40.5	47.1	46.5
92.5°	23.9	26.6	29.2	31.8	34.4	36.6	38.1	39.7	41.2	42.7	42.9
95°	69.9	72.9	75.9	78.8	81.9	83.6	84.3	84.8	85.4	86.1	86.1
97.5°	127.7	130.4	133.0	135.6	138.2	140.1	141.2	142.4	143.5	144.6	144.6
100°	170.8	173.1	175.5	177.9	180.3	181.9	182.8	183.7	184.6	185.5	185.5
102.5°	215.9	217.8	219.7	221.6	223.6	225.1	226.2	227.3	228.5	229.6	229.9
105°	289.0	289.9	290.8	291.7	292.6	293.4	294.0	294.5	295.2	295.8	296.3
107.5°	362.7	364.0	365.3	366.7	367.9	368.6	368.6	368.6	368.6	368.6	368.8
110°	410.0	411.8	413.6	415.4	417.1	418.1	418.1	418.1	418.1	418.1	418.1



TEST NUMBER: P331614-940

CATALOG NUMBER: S122DIW-S1005D1440U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	461.6	463.4	465.2	467.0	468.8	469.6	469.3	469.1	468.9	468.6	467.9
115°	537.7	539.5	541.3	543.1	544.9	545.5	544.9	544.3	543.7	543.1	542.8
117.5°	613.6	615.9	618.3	620.7	623.1	623.5	621.8	620.1	618.4	616.8	616.1
120°	664.1	666.5	668.9	671.3	673.7	673.7	671.3	668.9	666.5	664.1	664.1
122.5°	710.3	713.2	716.0	718.9	721.8	722.4	720.8	719.1	717.4	715.7	715.0
125°	782.4	785.1	787.7	790.4	793.2	794.1	793.2	792.3	791.4	790.4	789.5
127.5°	852.6	856.0	859.3	862.8	866.2	867.4	866.3	865.2	864.2	863.1	861.9
130°	896.6	900.5	904.5	908.3	912.2	913.8	913.2	912.7	912.0	911.4	910.9
132.5°	946.1	949.3	952.4	955.6	958.8	960.5	960.6	960.6	960.8	960.9	959.6
135°	1012.3	1015.6	1018.9	1022.1	1025.4	1027.3	1028.0	1028.6	1029.1	1029.7	1029.5
137.5°	1081.9	1084.6	1087.3	1089.9	1092.6	1094.4	1095.2	1095.9	1096.7	1097.5	1097.3
140°	1123.8	1126.5	1129.3	1131.9	1134.6	1136.7	1138.2	1139.7	1141.2	1142.6	1142.6
142.5°	1166.9	1169.6	1172.2	1174.9	1177.6	1179.5	1180.4	1181.5	1182.5	1183.6	1183.7
145°	1228.7	1230.8	1232.9	1234.9	1237.1	1239.0	1240.8	1242.6	1244.4	1246.2	1246.4
147.5°	1283.8	1286.3	1288.8	1291.4	1293.9	1295.7	1296.9	1298.1	1299.3	1300.5	1301.2
150°	1321.4	1323.2	1325.1	1326.9	1328.6	1330.1	1331.3	1332.5	1333.7	1334.9	1335.8
152.5°	1354.8	1356.6	1358.3	1360.1	1362.0	1363.6	1365.0	1366.5	1367.9	1369.3	1370.5
155°	1404.8	1405.7	1406.6	1407.5	1408.4	1409.3	1410.2	1411.0	1411.9	1412.8	1414.3
157.5°	1447.5	1448.1	1448.8	1449.4	1449.9	1450.5	1451.1	1451.6	1452.2	1452.7	1454.6
160°	1473.4	1474.0	1474.5	1475.2	1475.8	1476.2	1476.5	1476.8	1477.1	1477.4	1479.2
162.5°	1497.0	1497.2	1497.3	1497.4	1497.5	1497.7	1498.0	1498.3	1498.6	1498.9	1500.9
165°	1528.5	1528.2	1527.9	1527.6	1527.3	1527.1	1527.1	1527.1	1527.1	1527.1	1529.2
167.5°	1554.8	1553.9	1553.0	1552.1	1551.2	1550.8	1550.7	1550.7	1550.6	1550.5	1552.6
170°	1568.8	1567.9	1567.0	1566.1	1565.2	1564.6	1564.3	1564.1	1563.7	1563.4	1565.5
172.5°	1578.5	1577.6	1576.7	1575.8	1574.9	1574.3	1574.0	1573.7	1573.4	1573.1	1575.2
175°	1590.3	1589.4	1588.5	1587.6	1586.7	1586.0	1585.4	1584.7	1584.2	1583.6	1585.7
177.5°	1595.2	1594.5	1593.8	1593.0	1592.3	1591.7	1591.2	1590.7	1590.3	1589.7	1591.2
180°	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0



TEST NUMBER: P331614-940

CATALOG NUMBER: S122DIW-S1005D1440U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2
2.5°	1415.1	1417.6	1420.0	1421.0	1420.5	1420.0	1419.5	1419.1
5°	1405.6	1408.0	1410.4	1411.4	1410.8	1410.2	1409.5	1408.9
7.5°	1389.7	1392.1	1394.6	1395.5	1394.8	1394.2	1393.5	1392.9
10°	1375.6	1378.0	1380.4	1381.2	1380.3	1379.3	1378.4	1377.5
12.5°	1358.8	1360.5	1362.2	1362.7	1362.0	1361.4	1360.7	1360.0
15°	1329.4	1330.6	1331.8	1331.7	1330.2	1328.6	1327.1	1325.6
17.5°	1294.5	1295.9	1297.3	1297.3	1295.7	1294.3	1292.9	1291.4
20°	1267.3	1268.2	1269.1	1268.9	1267.7	1266.5	1265.3	1264.1
22.5°	1238.5	1238.7	1238.9	1238.6	1237.9	1237.2	1236.4	1235.6
25°	1191.5	1192.1	1192.8	1192.8	1192.1	1191.5	1190.9	1190.3
27.5°	1145.3	1144.3	1143.4	1142.3	1140.9	1139.3	1137.9	1136.5
30°	1109.2	1108.3	1107.4	1106.3	1105.1	1103.8	1102.7	1101.4
32.5°	1073.9	1072.2	1070.6	1069.2	1067.9	1066.8	1065.5	1064.3
35°	1017.2	1015.4	1013.5	1011.9	1010.4	1008.9	1007.3	1005.8
37.5°	960.3	958.1	955.8	954.0	952.5	951.0	949.6	948.2
40°	921.0	918.4	915.6	913.6	912.4	911.2	910.0	908.7
42.5°	882.3	879.3	876.4	874.1	872.4	870.7	869.0	867.2
45°	822.9	819.5	816.2	813.9	812.6	811.5	810.2	809.0
47.5°	761.0	757.4	753.9	751.3	749.5	747.8	746.0	744.2
50°	721.2	717.0	712.7	709.9	708.4	706.9	705.3	703.8
52.5°	680.1	676.5	673.1	670.3	668.2	666.3	664.2	662.3
55°	618.6	614.9	611.4	608.8	607.3	605.7	604.2	602.6
57.5°	554.7	551.2	547.6	545.2	544.1	543.0	541.8	540.6
60°	512.6	509.3	506.0	503.8	502.9	502.0	501.1	500.2
62.5°	472.7	469.6	466.5	464.3	463.2	462.0	460.8	459.7
65°	411.3	408.6	405.9	403.8	402.3	400.7	399.2	397.7
67.5°	350.8	348.7	346.5	344.8	343.7	342.4	341.3	340.0
70°	311.4	309.3	307.2	305.5	304.3	303.1	301.8	300.7
72.5°	274.3	272.2	270.0	268.5	267.5	266.5	265.6	264.6
75°	216.4	214.5	212.8	212.1	212.8	213.3	213.9	214.5
77.5°	164.6	163.7	162.8	161.9	161.0	160.2	159.3	158.5
80°	130.7	129.8	128.9	128.1	127.5	127.0	126.4	125.7
82.5°	97.5	96.3	95.1	94.5	94.3	94.3	94.2	94.0
85°	51.5	50.6	49.7	49.0	48.8	48.4	48.2	47.8
87.5°	23.0	22.2	21.3	20.8	20.6	20.4	20.2	20.1
90°	45.8	45.3	44.7	44.5	44.9	45.1	45.4	45.7
92.5°	43.0	43.1	43.2	43.3	43.3	43.4	43.5	43.5
95°	86.1	86.1	86.1	85.7	85.2	84.5	83.9	83.4
97.5°	144.6	144.6	144.6	144.6	144.5	144.5	144.5	144.4
100°	185.5	185.5	185.5	185.4	185.0	184.8	184.5	184.1
102.5°	230.1	230.3	230.6	230.5	230.2	230.0	229.6	229.3
105°	296.9	297.6	298.1	298.5	298.5	298.5	298.5	298.5
107.5°	369.1	369.3	369.5	369.0	367.7	366.2	364.9	363.5
110°	418.1	418.1	418.1	417.6	416.7	415.8	414.9	414.0



TEST NUMBER: P331614-940

CATALOG NUMBER: S122DIW-S1005D1440U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	467.2	466.5	465.7	465.0	464.4	463.8	463.1	462.4
115°	542.5	542.2	541.9	541.3	540.4	539.5	538.6	537.7
117.5°	615.4	614.7	613.9	613.1	612.2	611.3	610.4	609.5
120°	664.1	664.1	664.1	663.6	662.7	661.8	660.9	660.0
122.5°	714.3	713.5	712.8	712.1	711.5	710.9	710.2	709.5
125°	788.6	787.7	786.8	786.3	786.0	785.7	785.4	785.1
127.5°	860.9	859.8	858.7	857.7	856.8	855.8	854.9	853.9
130°	910.3	909.6	909.0	908.1	907.0	905.8	904.6	903.4
132.5°	958.3	957.0	955.6	954.5	953.6	952.6	951.6	950.7
135°	1029.1	1028.9	1028.6	1028.0	1027.1	1026.2	1025.3	1024.4
137.5°	1097.0	1096.8	1096.5	1095.8	1094.7	1093.4	1092.3	1091.0
140°	1142.6	1142.6	1142.6	1142.1	1140.9	1139.7	1138.4	1137.3
142.5°	1184.0	1184.3	1184.5	1184.0	1182.9	1181.6	1180.4	1179.2
145°	1246.8	1247.1	1247.3	1246.9	1245.7	1244.6	1243.3	1242.2
147.5°	1301.8	1302.4	1303.1	1302.9	1301.7	1300.6	1299.5	1298.3
150°	1336.7	1337.6	1338.5	1338.5	1337.6	1336.7	1335.8	1334.9
152.5°	1371.5	1372.7	1373.9	1373.9	1372.7	1371.5	1370.5	1369.3
155°	1415.9	1417.4	1418.8	1419.2	1418.3	1417.4	1416.5	1415.6
157.5°	1456.7	1458.7	1460.8	1461.1	1459.6	1458.2	1456.8	1455.4
160°	1481.0	1482.7	1484.5	1484.9	1483.6	1482.5	1481.3	1480.1
162.5°	1503.0	1505.0	1507.0	1507.3	1505.9	1504.5	1503.1	1501.6
165°	1531.3	1533.4	1535.5	1535.8	1534.3	1532.9	1531.3	1529.8
167.5°	1554.7	1556.8	1558.9	1559.2	1557.6	1556.0	1554.5	1552.9
170°	1567.6	1569.7	1571.8	1571.9	1570.1	1568.3	1566.6	1564.8
172.5°	1577.3	1579.4	1581.4	1581.6	1579.8	1578.1	1576.3	1574.5
175°	1587.8	1589.8	1592.0	1592.1	1590.3	1588.5	1586.7	1584.9
177.5°	1592.7	1594.1	1595.5	1595.5	1594.1	1592.7	1591.2	1589.7
180°	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0

(END OF REPORT)