

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: P331601-940

Luminaire Tested: **S122DIW-S1005D970U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331601-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S1005D970U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7069.6 lumens
Efficiency: N/A
Efficacy: 104.9 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

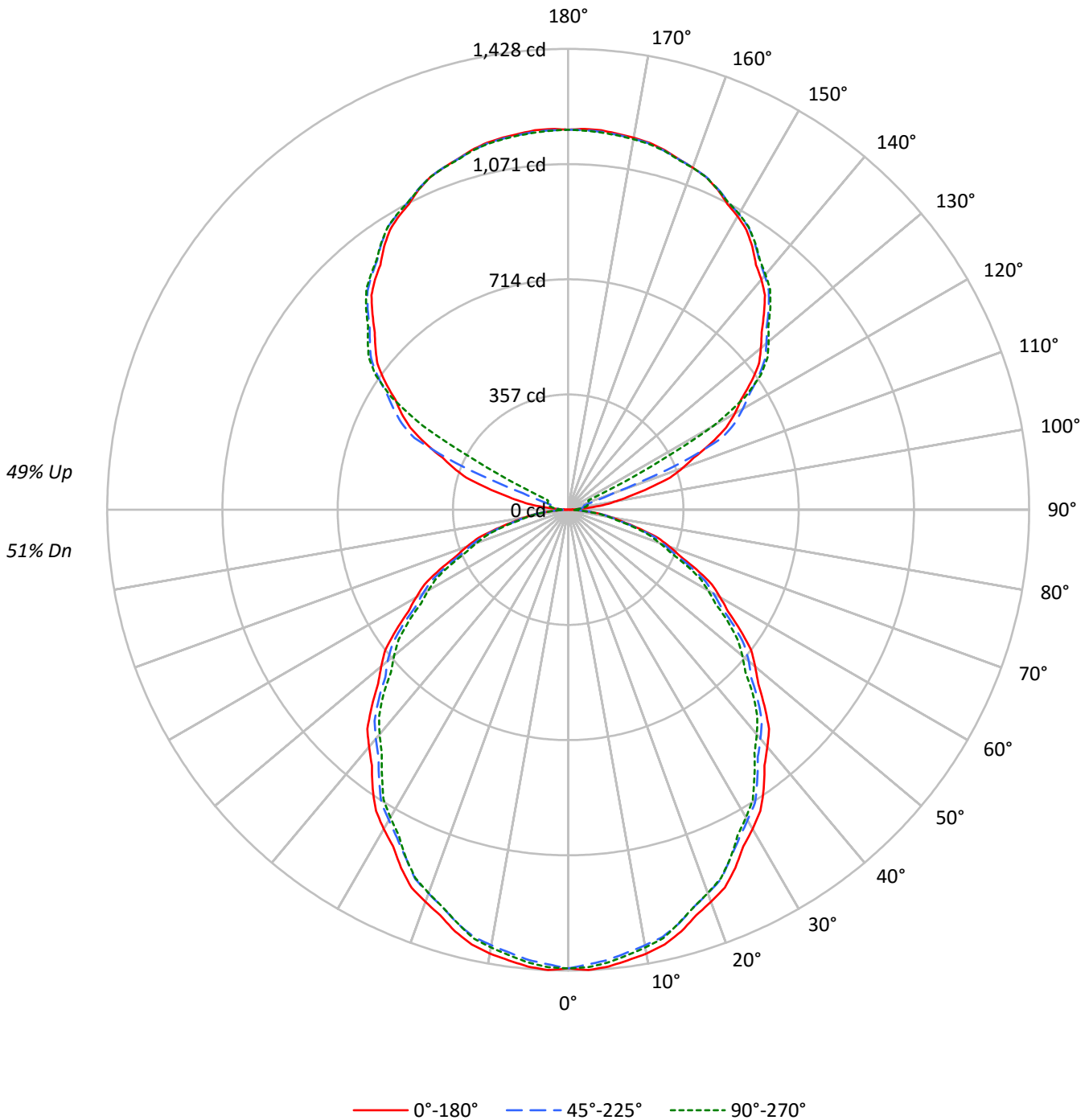
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	86	90	87	83	80	74	71	69	62	60	58	51	49	48	43
2	89	82	76	70	82	76	70	66	65	61	57	54	51	49	44	42	41	36
3	81	72	65	59	75	67	60	55	57	52	48	48	44	41	39	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30	26
5	68	57	49	43	63	53	46	40	45	40	35	38	34	31	32	29	26	23
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	26	47	36	29	24	31	25	22	27	22	19	22	19	17	14
10	47	35	28	23	44	33	26	22	29	23	19	25	20	17	21	17	15	13

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	1.9
10°-20°	376.0	5.3
20°-30°	552.7	7.8
30°-40°	642.0	9.1
40°-50°	641.3	9.1
50°-60°	559.3	7.9
60°-70°	413.6	5.8
70°-80°	234.2	3.3
80°-90°	65.9	0.9
90°-100°	39.3	0.6
100°-110°	144.0	2.0
110°-120°	385.0	5.4
120°-130°	635.6	9.0
130°-140°	675.9	9.6
140°-150°	628.3	8.9
150°-160°	505.1	7.1
160°-170°	325.5	4.6
170°-180°	112.0	1.6
0°-30°	1062.4	15.0
0°-40°	1704.4	24.1
0°-60°	2905.1	41.1
0°-90°	3618.7	51.2
90°-120°	568.4	8.0
90°-150°	2508.2	35.5
90°-180°	3451.0	48.8
0°-180°	7069.6	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	10	17	21	23	5
95°	55	29	33	37	37	68
105°	259	270	52	61	65	277
115°	490	505	526	150	70	482
125°	693	704	720	726	728	617
135°	857	870	878	886	885	662
145°	994	994	1008	1013	1010	622
155°	1095	1088	1097	1102	1096	504
165°	1154	1149	1151	1156	1151	326
175°	1180	1175	1176	1181	1173	112
180°	1178	1178	1178	1178	1178	



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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°	19.9	19.8	19.7	19.6	19.5	19.4	19.3	19.1	18.9	18.7	18.2
90°	0.9	2.9	5.0	7.1	9.2	11.0	12.5	14.0	15.5	17.0	18.0
92.5°	17.2	17.0	16.9	16.7	16.5	16.8	17.5	18.3	19.0	19.8	20.2
95°	55.4	49.1	42.9	36.6	30.4	27.9	29.2	30.6	31.9	33.3	34.2
97.5°	109.9	92.3	74.7	57.1	39.5	32.2	35.3	38.3	41.4	44.5	45.2
100°	150.8	124.8	98.9	73.0	47.1	35.7	38.9	42.1	45.4	48.6	50.1
102.5°	195.8	190.3	184.9	179.3	173.8	157.7	130.7	103.8	76.9	49.9	51.9
105°	259.0	264.7	270.4	276.1	281.8	258.8	207.1	155.3	103.7	52.0	54.0
107.5°	331.1	335.7	340.3	344.8	349.5	320.7	258.8	196.7	134.7	72.8	70.6
110°	377.5	381.5	385.4	389.4	393.3	368.0	313.3	258.6	203.8	149.1	130.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	421.1	424.6	428.1	431.7	435.2	430.2	416.7	403.1	389.6	376.1	307.0
115°	489.9	493.1	496.4	499.6	502.8	506.8	511.5	516.2	521.0	525.8	438.0
117.5°	551.4	555.1	558.7	562.2	565.9	569.3	572.6	575.8	579.1	582.3	561.1
120°	596.5	599.3	602.1	604.9	607.8	610.9	614.3	617.8	621.2	624.6	626.9
122.5°	634.6	637.6	640.6	643.5	646.6	650.0	653.6	657.4	661.0	664.8	666.1
125°	692.7	695.2	697.7	700.1	702.6	705.6	709.2	712.8	716.4	720.0	721.3
127.5°	745.4	748.1	750.8	753.6	756.3	759.0	761.7	764.4	767.0	769.7	771.7
130°	778.8	781.9	784.9	787.8	790.9	793.4	795.5	797.6	799.7	801.8	803.9
132.5°	812.9	815.5	818.1	820.6	823.1	825.5	827.6	829.6	831.7	833.8	835.6
135°	857.2	860.2	863.3	866.3	869.3	871.6	873.3	875.0	876.7	878.5	880.4
137.5°	902.0	904.1	906.2	908.4	910.4	912.5	914.4	916.3	918.3	920.2	922.1
140°	931.3	932.8	934.3	935.9	937.4	939.1	941.2	943.3	945.4	947.5	949.2
142.5°	955.8	957.2	958.6	959.9	961.3	963.1	965.5	968.0	970.4	972.7	974.3
145°	994.3	994.2	994.0	993.8	993.6	995.1	998.4	1001.6	1004.8	1008.0	1009.3
147.5°	1028.0	1027.2	1026.4	1025.7	1025.0	1026.3	1029.5	1032.6	1035.8	1039.0	1040.0
150°	1049.7	1048.4	1047.0	1045.8	1044.5	1045.3	1048.3	1051.3	1054.4	1057.4	1058.5
152.5°	1068.2	1066.7	1065.1	1063.7	1062.2	1062.9	1065.8	1068.7	1071.6	1074.4	1075.6
155°	1094.9	1093.1	1091.5	1089.8	1088.1	1088.3	1090.7	1092.9	1095.2	1097.4	1098.6
157.5°	1115.9	1114.5	1112.9	1111.5	1110.1	1110.2	1111.8	1113.4	1114.9	1116.5	1117.8
160°	1128.1	1127.0	1125.9	1124.7	1123.6	1123.6	1124.7	1125.9	1127.0	1128.1	1129.3
162.5°	1139.1	1137.9	1136.8	1135.6	1134.5	1134.4	1135.4	1136.4	1137.4	1138.4	1139.6
165°	1153.7	1152.5	1151.4	1150.3	1149.1	1148.9	1149.4	1150.0	1150.6	1151.1	1152.4
167.5°	1164.6	1163.4	1162.3	1161.2	1160.0	1159.8	1160.3	1160.8	1161.4	1161.9	1163.1
170°	1170.7	1169.6	1168.5	1167.3	1166.2	1165.8	1166.2	1166.5	1167.0	1167.3	1168.7
172.5°	1174.8	1173.7	1172.5	1171.4	1170.3	1169.9	1170.3	1170.6	1171.0	1171.4	1172.8
175°	1180.1	1178.8	1177.4	1176.2	1174.8	1174.3	1174.7	1175.1	1175.5	1175.8	1177.1
177.5°	1181.0	1179.9	1178.8	1177.8	1176.7	1176.3	1176.4	1176.5	1176.7	1176.9	1177.9
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5



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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°	17.7	17.1	16.6	16.2	16.1	15.9	15.7	15.5
90°	18.9	19.9	20.9	21.5	21.8	22.2	22.6	23.0
92.5°	20.8	21.2	21.8	22.1	22.3	22.6	22.7	23.0
95°	35.1	36.1	37.0	37.4	37.2	37.0	36.8	36.6
97.5°	46.0	46.7	47.5	48.0	48.2	48.4	48.7	48.9
100°	51.6	53.1	54.7	55.6	55.9	56.4	56.7	57.1
102.5°	53.9	55.8	57.8	59.0	59.6	60.1	60.6	61.2
105°	56.2	58.2	60.3	61.7	62.5	63.2	64.0	64.7
107.5°	68.5	66.4	64.3	63.6	64.4	65.1	65.9	66.6
110°	111.2	92.3	73.4	64.3	65.0	65.8	66.5	67.3



TEST NUMBER: P331601-940

CATALOG NUMBER: S122DIW-S1005D970U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	237.9	168.9	99.8	65.5	66.2	66.8	67.4	68.0
115°	350.4	262.7	175.0	124.4	110.8	97.1	83.5	69.9
117.5°	539.8	518.7	497.5	464.5	419.6	374.9	330.1	285.3
120°	629.1	631.3	633.6	622.0	596.5	570.9	545.3	519.8
122.5°	667.5	668.9	670.2	668.4	663.4	658.5	653.5	648.6
125°	722.6	724.0	725.3	726.2	726.8	727.4	727.9	728.5
127.5°	773.6	775.5	777.5	778.5	778.6	778.7	778.8	778.9
130°	805.9	808.1	810.1	811.1	810.8	810.7	810.5	810.3
132.5°	837.4	839.2	841.0	841.8	841.5	841.3	841.2	841.0
135°	882.3	884.1	886.0	886.8	886.4	886.0	885.6	885.3
137.5°	923.9	925.8	927.6	928.3	927.6	926.9	926.3	925.7
140°	950.9	952.6	954.3	954.7	953.8	952.8	951.8	950.9
142.5°	975.8	977.4	978.9	979.2	978.3	977.3	976.4	975.4
145°	1010.7	1012.0	1013.3	1013.5	1012.5	1011.6	1010.7	1009.7
147.5°	1041.0	1042.0	1042.9	1043.0	1042.2	1041.4	1040.6	1039.8
150°	1059.7	1060.8	1061.9	1062.0	1061.1	1060.2	1059.2	1058.3
152.5°	1076.7	1077.8	1079.0	1079.0	1077.7	1076.5	1075.2	1074.0
155°	1099.7	1100.8	1102.0	1101.8	1100.3	1098.8	1097.3	1095.7
157.5°	1119.1	1120.4	1121.7	1121.6	1120.1	1118.7	1117.1	1115.7
160°	1130.4	1131.5	1132.7	1132.6	1131.2	1129.9	1128.6	1127.3
162.5°	1140.9	1142.2	1143.5	1143.4	1141.7	1140.1	1138.4	1136.8
165°	1153.8	1155.1	1156.5	1156.5	1155.1	1153.8	1152.4	1151.1
167.5°	1164.5	1165.8	1167.2	1167.0	1165.3	1163.6	1161.9	1160.2
170°	1170.0	1171.3	1172.6	1172.4	1170.7	1169.0	1167.3	1165.6
172.5°	1174.0	1175.4	1176.7	1176.5	1174.8	1173.1	1171.4	1169.7
175°	1178.5	1179.8	1181.2	1180.9	1178.9	1177.1	1175.2	1173.3
177.5°	1179.0	1180.0	1181.1	1181.0	1179.6	1178.2	1176.9	1175.5
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5

(END OF REPORT)