

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: P331590-940

Luminaire Tested: **S122DIW-S1005D435U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331590-940
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-S1005D435U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4956.4 lumens
Efficiency: N/A
Efficacy: 94.6 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: Semi-Direct

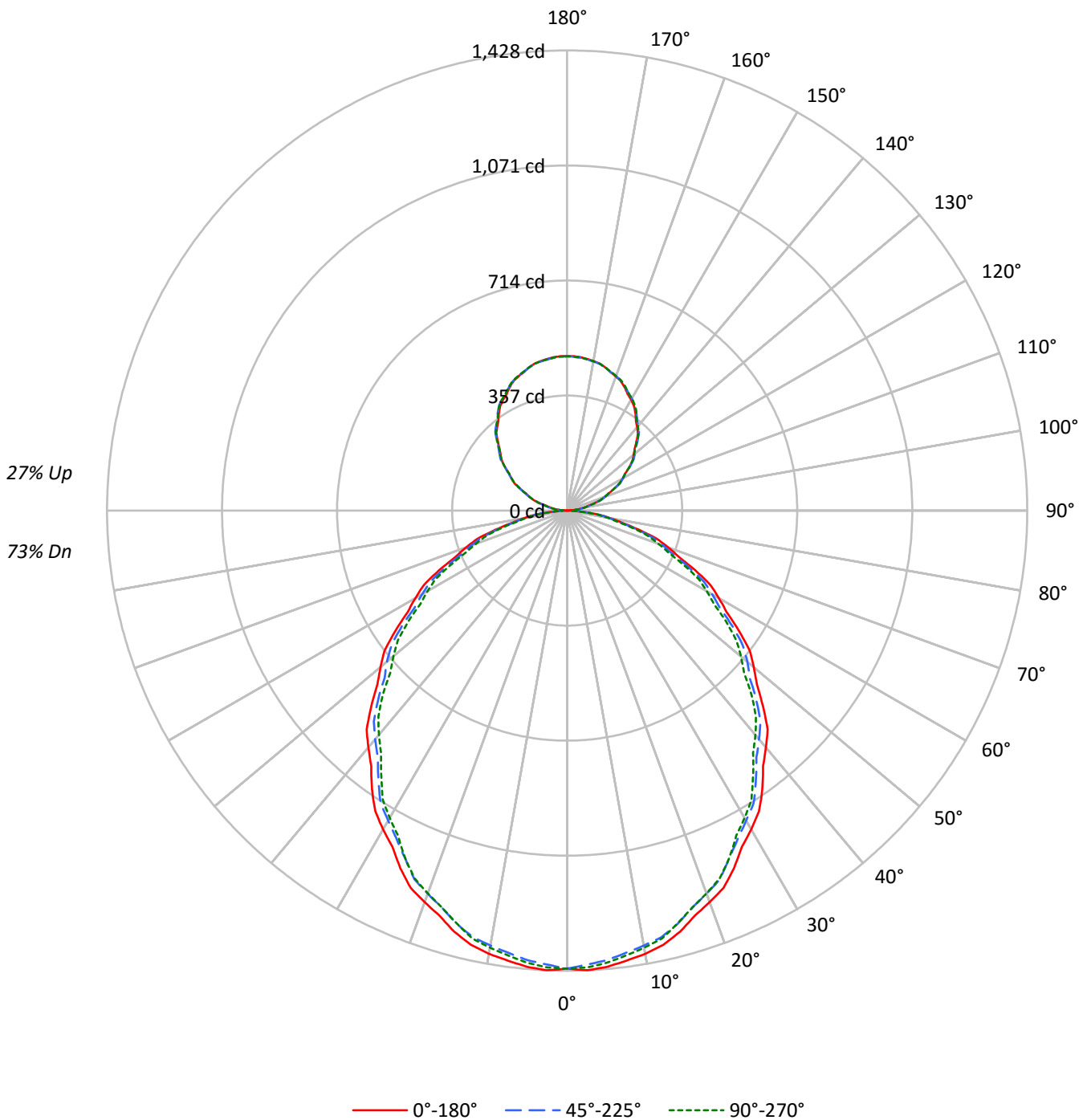
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	103	98	94	91	98	94	90	87	84	82	79	76	74	72	68	67	65	61
2	94	86	80	74	89	82	76	71	74	70	66	67	63	60	60	57	55	52
3	86	76	68	62	81	72	65	60	65	60	55	59	55	51	53	50	47	44
4	78	67	59	53	74	64	57	51	58	52	47	53	48	44	48	44	40	37
5	72	60	51	45	68	57	50	44	52	46	41	47	42	38	43	39	35	33
6	67	54	45	39	63	52	44	38	47	41	36	43	38	33	39	35	31	29
7	62	49	41	35	58	47	39	34	43	36	32	39	34	30	36	31	28	25
8	57	45	36	31	54	43	35	30	39	33	28	36	30	27	33	28	25	23
9	53	41	33	28	51	39	32	27	36	30	25	33	28	24	30	26	22	20
10	50	38	30	25	48	36	29	24	33	27	23	31	25	22	28	24	20	19

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	2.7
10°-20°	376.0	7.6
20°-30°	552.7	11.2
30°-40°	642.0	13.0
40°-50°	641.3	12.9
50°-60°	559.3	11.3
60°-70°	413.6	8.3
70°-80°	234.2	4.7
80°-90°	64.9	1.3
90°-100°	30.3	0.6
100°-110°	94.2	1.9
110°-120°	161.0	3.2
120°-130°	211.8	4.3
130°-140°	237.7	4.8
140°-150°	233.1	4.7
150°-160°	195.5	3.9
160°-170°	129.7	2.6
170°-180°	45.3	0.9
0°-30°	1062.4	21.4
0°-40°	1704.4	34.4
0°-60°	2905.1	58.6
0°-90°	3617.7	73.0
90°-120°	285.6	5.8
90°-150°	968.1	19.5
90°-180°	1339.0	27.0
0°-180°	4956.4	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°	0	5	14	13	14	4
95°	21	25	26	26	25	24
105°	87	88	89	90	90	92
115°	162	164	163	163	162	160
125°	235	238	238	236	236	210
135°	304	308	309	309	308	235
145°	369	372	374	375	373	231
155°	422	423	425	426	425	194
165°	459	459	459	462	460	129
175°	478	477	476	478	476	45
180°	479	479	479	479	479	



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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°	19.8	19.5	19.3	18.9	18.6	18.5	18.4	18.3	18.2	18.1	17.4
90°	0.4	1.5	2.6	3.7	4.7	6.2	8.2	10.2	12.1	14.2	14.0
92.5°	7.2	8.0	8.7	9.5	10.3	11.0	11.4	11.9	12.4	12.8	12.8
95°	21.0	21.9	22.8	23.7	24.6	25.1	25.3	25.5	25.7	25.9	25.9
97.5°	38.3	39.1	39.9	40.8	41.6	42.1	42.4	42.8	43.2	43.4	43.4
100°	51.3	52.0	52.7	53.5	54.2	54.7	54.9	55.2	55.5	55.7	55.7
102.5°	64.9	65.5	66.0	66.6	67.1	67.7	67.9	68.3	68.7	69.0	69.1
105°	86.9	87.1	87.4	87.7	87.9	88.2	88.4	88.5	88.7	88.9	89.1
107.5°	109.0	109.4	109.8	110.2	110.6	110.8	110.8	110.8	110.8	110.8	110.8
110°	123.2	123.8	124.3	124.8	125.4	125.6	125.6	125.6	125.6	125.6	125.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	138.8	139.3	139.8	140.4	140.9	141.2	141.1	141.0	140.9	140.8	140.6
115°	161.6	162.1	162.6	163.2	163.7	163.9	163.7	163.5	163.4	163.2	163.1
117.5°	184.4	185.1	185.8	186.5	187.3	187.3	186.9	186.4	185.8	185.4	185.1
120°	199.6	200.3	201.0	201.7	202.4	202.4	201.7	201.0	200.3	199.6	199.6
122.5°	213.5	214.4	215.2	216.1	217.0	217.1	216.6	216.1	215.6	215.1	214.9
125°	235.1	235.9	236.7	237.6	238.4	238.6	238.4	238.1	237.8	237.6	237.3
127.5°	256.2	257.3	258.2	259.3	260.3	260.6	260.4	260.0	259.7	259.4	259.0
130°	269.5	270.6	271.8	273.0	274.1	274.6	274.5	274.3	274.1	273.9	273.8
132.5°	284.4	285.3	286.2	287.2	288.1	288.6	288.6	288.7	288.7	288.7	288.4
135°	304.3	305.2	306.2	307.2	308.2	308.7	308.9	309.1	309.2	309.4	309.3
137.5°	325.1	325.9	326.7	327.5	328.3	328.9	329.1	329.4	329.6	329.8	329.8
140°	337.8	338.6	339.4	340.2	341.0	341.6	342.1	342.5	343.0	343.4	343.4
142.5°	350.7	351.5	352.3	353.1	353.9	354.5	354.7	355.1	355.3	355.7	355.8
145°	369.3	369.9	370.5	371.1	371.8	372.4	372.9	373.4	374.0	374.5	374.6
147.5°	385.8	386.6	387.4	388.1	388.9	389.4	389.8	390.1	390.5	390.8	391.0
150°	397.2	397.7	398.2	398.8	399.3	399.8	400.1	400.5	400.8	401.2	401.4
152.5°	407.2	407.7	408.2	408.8	409.3	409.8	410.2	410.6	411.1	411.5	411.9
155°	422.1	422.4	422.7	423.0	423.3	423.6	423.8	424.1	424.4	424.6	425.1
157.5°	435.1	435.2	435.4	435.6	435.8	435.9	436.0	436.2	436.4	436.6	437.2
160°	442.8	443.0	443.2	443.4	443.5	443.6	443.7	443.8	443.9	444.0	444.5
162.5°	449.9	450.0	450.0	450.0	450.0	450.1	450.2	450.3	450.4	450.5	451.0
165°	459.3	459.2	459.1	459.1	459.0	459.0	459.0	459.0	459.0	459.0	459.6
167.5°	467.3	467.0	466.7	466.5	466.2	466.0	466.0	466.0	466.0	466.0	466.6
170°	471.4	471.2	470.9	470.6	470.4	470.2	470.1	470.0	469.9	469.8	470.5
172.5°	474.4	474.1	473.9	473.6	473.3	473.1	473.1	473.0	472.9	472.8	473.4
175°	478.0	477.7	477.4	477.2	476.9	476.6	476.4	476.3	476.1	475.9	476.5
177.5°	479.4	479.2	478.9	478.8	478.5	478.3	478.2	478.0	477.9	477.8	478.2
180°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8



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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°	16.6	15.9	15.1	14.6	14.4	14.1	13.9	13.6
90°	13.8	13.6	13.5	13.4	13.5	13.6	13.6	13.7
92.5°	12.9	12.9	13.0	13.0	13.0	13.0	13.1	13.1
95°	25.9	25.9	25.9	25.8	25.6	25.4	25.2	25.1
97.5°	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4
100°	55.7	55.7	55.7	55.7	55.6	55.6	55.5	55.4
102.5°	69.1	69.2	69.3	69.3	69.2	69.1	69.0	68.9
105°	89.3	89.4	89.6	89.7	89.7	89.7	89.7	89.7
107.5°	110.9	111.0	111.1	110.9	110.5	110.0	109.7	109.2
110°	125.6	125.6	125.6	125.5	125.2	124.9	124.7	124.4



TEST NUMBER: P331590-940

CATALOG NUMBER: S122DIW-S1005D435U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	140.4	140.2	140.0	139.7	139.6	139.4	139.2	139.0
115°	163.0	162.9	162.8	162.6	162.4	162.1	161.8	161.6
117.5°	184.9	184.7	184.5	184.2	184.0	183.7	183.4	183.2
120°	199.6	199.6	199.6	199.5	199.2	198.9	198.7	198.4
122.5°	214.6	214.5	214.2	214.0	213.8	213.7	213.4	213.2
125°	237.0	236.7	236.5	236.3	236.2	236.1	236.0	235.9
127.5°	258.7	258.4	258.1	257.8	257.4	257.2	256.9	256.6
130°	273.6	273.4	273.2	273.0	272.6	272.2	271.9	271.5
132.5°	288.0	287.6	287.2	286.9	286.6	286.2	286.0	285.7
135°	309.2	309.2	309.1	308.9	308.6	308.4	308.1	307.8
137.5°	329.7	329.6	329.6	329.3	329.0	328.6	328.2	327.9
140°	343.4	343.4	343.4	343.2	342.9	342.5	342.1	341.8
142.5°	355.8	355.9	356.0	355.8	355.4	355.1	354.7	354.4
145°	374.7	374.8	374.9	374.7	374.3	374.0	373.6	373.3
147.5°	391.2	391.5	391.6	391.6	391.2	390.8	390.5	390.2
150°	401.7	402.0	402.3	402.3	402.0	401.7	401.4	401.2
152.5°	412.1	412.5	412.9	412.9	412.5	412.1	411.9	411.5
155°	425.5	426.0	426.4	426.5	426.2	426.0	425.7	425.4
157.5°	437.7	438.4	439.0	439.1	438.6	438.2	437.8	437.4
160°	445.1	445.6	446.1	446.2	445.9	445.5	445.1	444.8
162.5°	451.7	452.3	452.9	453.0	452.5	452.1	451.7	451.3
165°	460.2	460.8	461.5	461.5	461.1	460.7	460.2	459.8
167.5°	467.3	467.9	468.5	468.6	468.1	467.6	467.2	466.7
170°	471.1	471.7	472.3	472.4	471.9	471.4	470.8	470.3
172.5°	474.0	474.7	475.3	475.3	474.7	474.2	473.7	473.1
175°	477.2	477.8	478.4	478.5	478.0	477.4	476.9	476.4
177.5°	478.7	479.0	479.5	479.5	479.0	478.7	478.2	477.8
180°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8

(END OF REPORT)