

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: P331596-940

Luminaire Tested: **S122DIW-S1005D710U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331596-940
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-S1005D710U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5811.5 lumens
Efficiency: N/A
Efficacy: 97.2 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

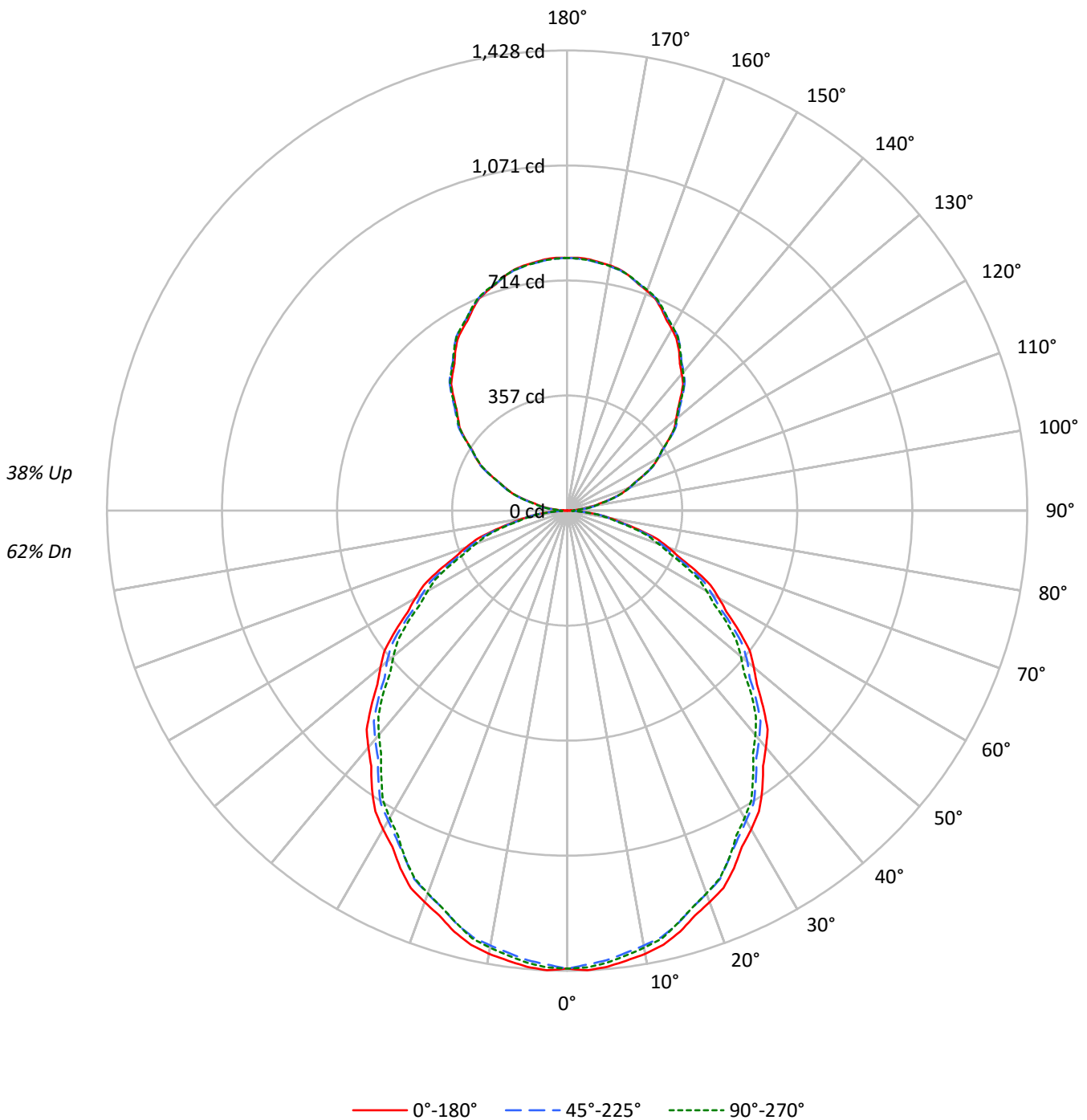
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331596-940

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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	110	110	110	110	103	103	103	103	90	90	90		78	78	78		67	67	67	62
1	101	96	92	89	94	90	87	84	79	77	74		69	67	65		60	58	57	52
2	92	84	78	72	86	79	73	69	69	65	61		61	57	55		52	50	48	44
3	84	74	66	60	78	69	63	57	61	56	52		54	50	46		46	43	41	37
4	76	65	57	51	71	62	54	49	54	49	44		48	43	40		42	38	35	32
5	70	58	50	44	66	55	48	42	49	43	38		43	38	34		37	34	31	28
6	65	52	44	38	61	50	42	37	44	38	33		39	34	30		34	30	27	24
7	60	47	39	34	56	45	37	32	40	34	29		35	30	27		31	27	24	22
8	56	43	35	30	52	41	34	29	37	31	26		32	28	24		29	25	22	19
9	52	39	32	27	49	37	30	26	34	28	24		30	25	22		26	22	20	17
10	49	36	29	24	46	34	28	23	31	25	21		28	23	20		25	21	18	16

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: P331596-940

CATALOG NUMBER: S122DIW-S1005D710U940-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	2.3
10°-20°	376.0	6.5
20°-30°	552.7	9.5
30°-40°	642.0	11.0
40°-50°	641.3	11.0
50°-60°	559.3	9.6
60°-70°	413.6	7.1
70°-80°	234.2	4.0
80°-90°	66.1	1.1
90°-100°	49.7	0.9
100°-110°	154.3	2.7
110°-120°	263.8	4.5
120°-130°	346.9	6.0
130°-140°	389.3	6.7
140°-150°	381.7	6.6
150°-160°	320.2	5.5
160°-170°	212.4	3.7
170°-180°	74.2	1.3
0°-30°	1062.4	18.3
0°-40°	1704.4	29.3
0°-60°	2905.1	50.0
0°-90°	3619.0	62.3
90°-120°	467.8	8.0
90°-150°	1585.7	27.3
90°-180°	2193.0	37.7
0°-180°	5811.5	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	9	23	22	22	4
95°	34	41	42	42	41	39
105°	142	144	146	147	147	150
115°	265	268	267	267	265	262
125°	385	391	389	387	386	344
135°	498	505	507	506	504	385
145°	605	609	613	614	611	378
155°	691	693	695	698	697	318
165°	752	752	752	756	753	212
175°	783	781	779	784	780	74
180°	784	784	784	784	784	



TEST NUMBER: P331596-940

CATALOG NUMBER: S122DIW-S1005D710U940-4F0-1E-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°	19.8	19.7	19.5	19.4	19.3	19.3	19.4	19.6	19.8	20.0	19.2
90°	0.6	2.4	4.2	6.0	7.8	10.3	13.5	16.7	19.9	23.2	22.8
92.5°	11.8	13.1	14.4	15.7	16.9	18.0	18.7	19.5	20.2	21.0	21.1
95°	34.4	35.8	37.4	38.8	40.3	41.2	41.5	41.7	42.1	42.4	42.4
97.5°	62.9	64.1	65.5	66.7	68.0	68.9	69.6	70.1	70.6	71.2	71.2
100°	84.0	85.2	86.4	87.6	88.7	89.5	90.0	90.4	90.9	91.3	91.3
102.5°	106.3	107.2	108.2	109.1	110.0	110.8	111.4	111.9	112.4	113.0	113.2
105°	142.2	142.7	143.1	143.6	144.0	144.4	144.7	145.0	145.3	145.6	145.9
107.5°	178.5	179.1	179.9	180.5	181.1	181.5	181.5	181.5	181.5	181.5	181.6
110°	201.8	202.7	203.6	204.5	205.4	205.8	205.8	205.8	205.8	205.8	205.8



TEST NUMBER: P331596-940

CATALOG NUMBER: S122DIW-S1005D710U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	227.2	228.1	229.0	229.9	230.8	231.1	231.0	230.9	230.8	230.7	230.3
115°	264.7	265.6	266.4	267.3	268.2	268.5	268.2	267.9	267.6	267.3	267.2
117.5°	302.0	303.2	304.3	305.5	306.7	306.8	306.0	305.2	304.4	303.6	303.3
120°	326.9	328.1	329.2	330.4	331.5	331.5	330.4	329.2	328.1	326.9	326.9
122.5°	349.6	351.1	352.5	353.8	355.3	355.6	354.7	353.9	353.1	352.3	352.0
125°	385.1	386.5	387.7	389.1	390.4	390.8	390.4	389.9	389.5	389.1	388.6
127.5°	419.6	421.3	423.0	424.6	426.3	427.0	426.4	425.9	425.3	424.8	424.3
130°	441.3	443.3	445.1	447.1	449.0	449.8	449.5	449.2	448.9	448.6	448.4
132.5°	465.7	467.3	468.9	470.4	471.9	472.8	472.8	472.9	473.0	473.0	472.3
135°	498.3	499.9	501.5	503.1	504.7	505.7	506.0	506.3	506.6	506.8	506.7
137.5°	532.5	533.9	535.2	536.5	537.8	538.7	539.0	539.5	539.8	540.2	540.1
140°	553.2	554.5	555.8	557.1	558.5	559.5	560.3	561.0	561.7	562.4	562.4
142.5°	574.4	575.7	577.0	578.4	579.6	580.6	581.0	581.6	582.0	582.6	582.6
145°	604.8	605.8	606.8	607.9	608.9	609.8	610.7	611.6	612.5	613.4	613.5
147.5°	632.0	633.1	634.4	635.6	636.9	637.8	638.4	638.9	639.5	640.2	640.4
150°	650.4	651.3	652.2	653.1	654.0	654.7	655.3	655.9	656.5	657.1	657.5
152.5°	666.8	667.7	668.6	669.5	670.4	671.2	671.9	672.6	673.3	674.0	674.6
155°	691.4	691.9	692.3	692.8	693.2	693.7	694.1	694.6	695.0	695.4	696.2
157.5°	712.5	712.8	713.1	713.4	713.7	714.0	714.3	714.5	714.8	715.1	716.0
160°	725.2	725.5	725.8	726.1	726.4	726.7	726.7	726.9	727.0	727.2	728.1
162.5°	736.8	736.9	737.0	737.0	737.1	737.2	737.4	737.5	737.6	737.8	738.8
165°	752.3	752.2	752.1	751.9	751.8	751.7	751.7	751.7	751.7	751.7	752.7
167.5°	765.4	764.9	764.5	764.0	763.6	763.3	763.3	763.2	763.2	763.2	764.2
170°	772.2	771.8	771.3	770.9	770.4	770.2	770.0	769.8	769.7	769.5	770.6
172.5°	776.9	776.5	776.1	775.6	775.2	774.9	774.7	774.6	774.5	774.3	775.3
175°	782.7	782.4	781.9	781.5	781.0	780.7	780.3	780.1	779.8	779.4	780.5
177.5°	785.2	784.8	784.4	784.1	783.7	783.5	783.2	783.0	782.7	782.5	783.2
180°	784.1	784.1	784.1	784.1	784.1	784.1	784.1	784.1	784.1	784.1	784.1



TEST NUMBER: P331596-940

CATALOG NUMBER: S122DIW-S1005D710U940-4F0-1E-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°	18.4	17.6	16.8	16.3	16.1	15.9	15.6	15.4
90°	22.6	22.3	22.0	21.9	22.0	22.2	22.4	22.5
92.5°	21.1	21.2	21.3	21.3	21.3	21.4	21.4	21.4
95°	42.4	42.4	42.4	42.2	41.9	41.6	41.3	41.0
97.5°	71.2	71.2	71.2	71.2	71.2	71.2	71.1	71.1
100°	91.3	91.3	91.3	91.2	91.1	91.0	90.8	90.7
102.5°	113.2	113.3	113.5	113.5	113.3	113.2	113.1	112.9
105°	146.2	146.4	146.8	146.9	146.9	146.9	146.9	146.9
107.5°	181.6	181.8	181.9	181.6	180.9	180.3	179.6	179.0
110°	205.8	205.8	205.8	205.5	205.1	204.6	204.2	203.8



TEST NUMBER: P331596-940

CATALOG NUMBER: S122DIW-S1005D710U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	230.0	229.6	229.3	228.9	228.6	228.3	227.9	227.7
115°	267.1	266.9	266.7	266.4	266.0	265.6	265.1	264.7
117.5°	302.9	302.6	302.2	301.8	301.3	300.9	300.4	300.0
120°	326.9	326.9	326.9	326.6	326.2	325.7	325.3	324.9
122.5°	351.6	351.2	350.9	350.5	350.2	349.9	349.6	349.3
125°	388.2	387.7	387.3	387.0	386.9	386.7	386.6	386.5
127.5°	423.7	423.2	422.7	422.2	421.7	421.2	420.8	420.4
130°	448.1	447.7	447.5	447.0	446.4	445.9	445.2	444.7
132.5°	471.7	471.0	470.4	469.8	469.4	468.9	468.4	468.0
135°	506.6	506.4	506.3	506.0	505.5	505.1	504.6	504.2
137.5°	539.9	539.8	539.8	539.4	538.8	538.2	537.6	537.0
140°	562.4	562.4	562.4	562.1	561.6	561.0	560.4	559.8
142.5°	582.8	582.9	583.0	582.8	582.2	581.6	581.0	580.4
145°	613.7	613.9	613.9	613.8	613.1	612.6	612.0	611.4
147.5°	640.8	641.1	641.4	641.3	640.8	640.2	639.6	639.1
150°	657.9	658.4	658.8	658.8	658.4	657.9	657.5	657.1
152.5°	675.1	675.6	676.3	676.3	675.6	675.1	674.6	674.0
155°	696.9	697.7	698.4	698.6	698.1	697.7	697.2	696.8
157.5°	717.0	718.0	719.0	719.2	718.5	717.7	717.0	716.3
160°	729.0	729.9	730.8	730.8	730.3	729.7	729.2	728.5
162.5°	739.8	740.8	741.8	741.9	741.2	740.6	739.9	739.1
165°	753.8	754.7	755.8	756.0	755.2	754.5	753.8	753.0
167.5°	765.3	766.2	767.3	767.4	766.7	765.9	765.2	764.4
170°	771.6	772.7	773.6	773.7	772.8	772.0	771.1	770.2
172.5°	776.4	777.4	778.5	778.5	777.7	776.8	775.9	775.0
175°	781.5	782.6	783.6	783.6	782.7	781.9	781.0	780.2
177.5°	783.9	784.6	785.3	785.3	784.6	783.9	783.2	782.5
180°	784.1	784.1	784.1	784.1	784.1	784.1	784.1	784.1

(END OF REPORT)