

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: P331605-935

Luminaire Tested: **S122DIW-S1005D1240U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331605-935  
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-S1005D1240U935-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7742.6 lumens  
Efficiency: N/A  
Efficacy: 101.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

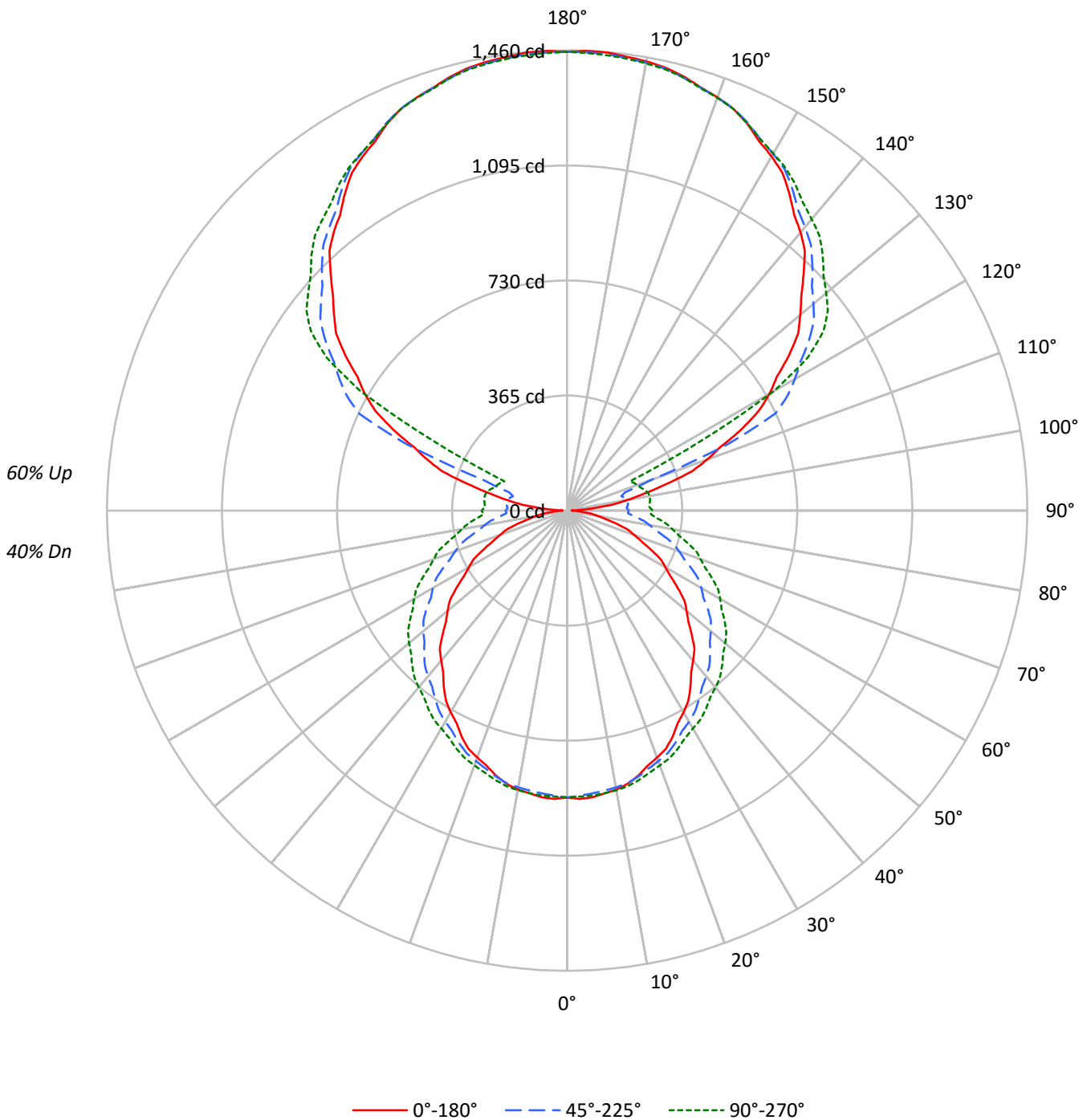
Input Watts (W): 76.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331605-935

CATALOG NUMBER: S122DIW-S1005D1240U935-4F0-1E-UDD-D

**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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	94	90	85	81	86	81	78	74	66	64	61	52	50	49	39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25
3	78	68	60	54	70	62	55	50	50	45	41	40	36	33	30	27	25	21
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	24	21	17
5	65	53	45	38	58	48	41	35	39	34	30	31	27	24	24	21	18	15
6	60	47	39	33	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10
9	47	35	27	22	43	32	25	21	27	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	14699	14699	14699
5°	14772	14150	14097
10°	14679	13733	13578
15°	14477	13289	13032
20°	14222	12815	12506
25°	13968	12358	12028
30°	13612	11889	11549
35°	13253	11434	11211
40°	12874	11047	10874
45°	12515	10702	10584
50°	12128	10388	10300
55°	11724	10052	10011
60°	11226	9702	9705
65°	10711	9294	9342
70°	10136	8856	8949
75°	9394	8423	8587
80°	8224	7984	8220
85°	7107	7603	7937



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.3	1.1
10°-20°	247.4	3.2
20°-30°	374.9	4.8
30°-40°	456.6	5.9
40°-50°	491.2	6.3
50°-60°	477.0	6.2
60°-70°	416.5	5.4
70°-80°	320.7	4.1
80°-90°	218.8	2.8
90°-100°	196.8	2.5
100°-110°	286.3	3.7
110°-120°	547.5	7.1
120°-130°	825.6	10.7
130°-140°	852.3	11.0
140°-150°	779.5	10.1
150°-160°	624.4	8.1
160°-170°	402.3	5.2
170°-180°	138.5	1.8
0°-30°	708.5	9.2
0°-40°	1165.2	15.0
0°-60°	2133.4	27.6
0°-90°	3089.4	39.9
90°-120°	1030.6	13.3
90°-150°	3487.9	45.0
90°-180°	4653.0	60.1
0°-180°	7742.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	913	909	901	909	908	87
15°	871	873	874	885	884	245
25°	792	801	813	828	833	364
35°	682	705	730	758	768	426
45°	560	596	641	681	695	432
55°	429	478	545	591	610	383
65°	293	358	435	488	507	291
75°	162	237	321	375	394	172
85°	48	129	214	267	288	51
90°	14	103	195	251	271	12
95°	79	110	193	246	263	92
105°	327	381	178	233	254	350
115°	611	646	729	302	220	601
125°	859	875	935	976	993	766
135°	1061	1078	1100	1137	1147	819
145°	1229	1229	1246	1260	1263	769
155°	1353	1345	1357	1362	1354	623
165°	1426	1420	1423	1429	1423	403
175°	1459	1452	1454	1460	1450	139
180°	1456	1456	1456	1456	1456	



TEST NUMBER: P331605-935

CATALOG NUMBER: S122DIW-S1005D1240U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	915.8	915.1	914.3	913.6	912.9	911.7	910.1	908.4	906.8	905.2	906.4
5°	913.1	912.2	911.4	910.4	909.6	908.3	906.5	904.7	903.0	901.2	903.0
7.5°	904.9	904.3	903.7	903.2	902.6	901.6	900.3	898.9	897.6	896.2	898.3
10°	898.6	898.0	897.4	896.8	896.2	895.5	894.7	893.7	892.9	892.0	894.3
12.5°	888.0	888.1	888.3	888.4	888.5	888.2	887.6	886.9	886.3	885.6	888.0
15°	870.9	871.5	872.0	872.6	873.2	873.5	873.5	873.5	873.5	873.5	876.2
17.5°	848.7	850.0	851.2	852.4	853.6	854.7	855.7	856.6	857.6	858.5	861.3
20°	834.0	835.4	836.9	838.4	839.8	841.1	842.3	843.4	844.6	845.8	849.0
22.5°	818.1	819.8	821.5	823.2	824.9	826.6	828.2	829.8	831.5	833.1	836.4
25°	791.7	793.8	795.8	797.9	800.0	802.3	804.9	807.5	810.2	812.8	816.3
27.5°	760.0	763.4	766.7	770.1	773.4	776.6	779.7	782.8	785.9	789.1	793.5
30°	738.9	742.7	746.6	750.4	754.1	758.0	761.8	765.6	769.4	773.3	777.9
32.5°	715.7	720.0	724.3	728.6	732.8	737.2	741.8	746.2	750.8	755.3	760.7
35°	682.2	687.2	692.2	697.2	702.1	707.4	713.0	718.5	724.1	729.7	736.2
37.5°	645.8	651.5	657.3	663.0	668.7	675.2	682.4	689.7	696.9	704.1	711.3
40°	621.5	627.9	634.4	640.8	647.3	654.4	662.4	670.3	678.2	686.1	693.8
42.5°	598.3	604.7	611.1	617.6	624.1	631.8	640.9	650.1	659.1	668.2	676.5
45°	559.5	567.4	575.3	583.2	591.2	600.2	610.5	620.8	631.0	641.3	650.4
47.5°	521.2	529.9	538.5	547.1	555.7	566.0	578.1	590.0	602.1	614.1	623.6
50°	494.8	503.9	513.0	522.1	531.2	542.3	555.5	568.7	581.9	595.1	605.1
52.5°	469.5	479.1	488.6	498.2	507.7	519.4	533.3	547.3	561.1	575.1	585.2
55°	428.9	439.4	450.0	460.5	471.1	484.0	499.2	514.4	529.7	544.9	555.5
57.5°	388.7	400.6	412.5	424.5	436.4	450.0	465.6	481.1	496.7	512.2	523.6
60°	360.2	372.8	385.5	398.0	410.7	425.3	442.0	458.7	475.4	492.1	503.3
62.5°	334.9	347.9	361.0	374.1	387.2	402.1	418.8	435.5	452.3	469.0	480.8
65°	292.9	307.3	321.7	336.0	350.4	366.3	383.6	400.8	418.1	435.4	447.5
67.5°	254.4	269.4	284.4	299.5	314.4	330.8	348.5	366.3	383.9	401.7	413.8
70°	227.0	242.2	257.4	272.7	287.9	304.6	322.9	341.0	359.2	377.4	389.9
72.5°	201.6	217.3	233.1	248.7	264.5	281.5	300.0	318.4	336.8	355.2	367.6
75°	162.3	178.7	195.1	211.5	228.0	245.6	264.3	283.1	301.9	320.6	333.2
77.5°	124.3	141.5	158.7	175.8	193.0	211.1	230.2	249.3	268.3	287.4	300.0
80°	98.9	116.8	134.7	152.7	170.5	189.0	208.0	227.1	246.2	265.2	277.5
82.5°	77.8	95.5	113.1	130.8	148.4	166.9	186.2	205.5	224.8	244.1	256.4
85°	47.5	65.7	83.9	102.0	120.2	138.7	157.5	176.2	195.0	213.8	226.1
87.5°	26.1	44.1	62.1	80.1	98.1	116.6	135.8	154.9	174.0	193.2	205.3
90°	14.2	33.8	53.4	73.0	92.6	112.7	133.3	153.9	174.6	195.3	208.1
92.5°	33.4	49.0	64.6	80.2	95.8	113.1	132.1	151.1	170.1	189.1	201.2
95°	79.0	85.1	91.1	97.2	103.2	115.9	135.1	154.4	173.6	192.8	205.1
97.5°	145.1	135.6	126.1	116.6	107.0	112.6	133.4	154.0	174.7	195.4	207.2
100°	195.6	174.4	153.3	132.0	110.8	110.4	130.8	151.2	171.6	192.0	204.7
102.5°	250.2	253.3	256.5	259.6	262.7	255.6	238.2	220.9	203.6	186.3	199.3
105°	326.7	342.3	357.8	373.3	388.9	372.3	323.6	275.0	226.4	177.7	190.5
107.5°	415.6	428.1	440.6	453.1	465.5	440.7	378.7	316.7	254.6	192.6	199.8
110°	471.8	482.7	493.4	504.2	515.0	493.7	440.5	387.2	333.9	280.6	266.7



TEST NUMBER: P331605-935

CATALOG NUMBER: S122DIW-S1005D1240U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	525.8	535.0	544.3	553.6	562.9	566.0	563.0	559.9	556.9	553.8	477.9
115°	610.9	618.1	625.3	632.5	639.7	652.8	671.8	691.0	710.0	729.0	629.5
117.5°	685.6	692.2	698.7	705.2	711.9	723.2	739.4	755.7	771.9	788.2	770.6
120°	741.2	745.9	750.6	755.3	759.9	770.3	786.2	802.1	818.1	834.1	845.1
122.5°	788.4	792.6	796.8	800.9	805.0	814.9	830.6	846.2	861.8	877.4	887.1
125°	858.9	861.9	865.0	868.1	871.1	879.5	893.4	907.1	921.0	934.9	944.4
127.5°	924.0	927.0	930.1	933.2	936.3	943.3	954.2	965.1	975.9	986.9	996.5
130°	965.3	968.7	972.2	975.7	979.1	985.2	993.9	1002.6	1011.4	1020.1	1029.8
132.5°	1007.5	1010.3	1013.2	1016.1	1019.0	1024.1	1031.4	1038.7	1046.0	1053.3	1062.4
135°	1060.8	1064.6	1068.3	1072.1	1075.8	1080.2	1085.3	1090.3	1095.4	1100.4	1108.9
137.5°	1116.3	1118.9	1121.4	1123.9	1126.5	1129.6	1133.3	1137.0	1140.7	1144.4	1152.0
140°	1152.5	1154.1	1155.6	1157.3	1158.8	1161.1	1164.3	1167.5	1170.7	1173.8	1180.6
142.5°	1182.8	1184.2	1185.6	1187.0	1188.4	1190.6	1193.7	1196.8	1199.8	1202.9	1208.6
145°	1229.1	1228.9	1228.6	1228.4	1228.2	1230.0	1234.1	1238.0	1242.0	1246.0	1249.4
147.5°	1270.6	1269.7	1268.9	1267.9	1267.0	1268.6	1272.5	1276.4	1280.4	1284.3	1285.7
150°	1297.6	1296.0	1294.3	1292.6	1291.0	1292.1	1295.8	1299.6	1303.3	1307.1	1308.5
152.5°	1320.3	1318.5	1316.6	1314.8	1313.0	1313.9	1317.4	1321.0	1324.6	1328.1	1329.6
155°	1353.4	1351.3	1349.2	1347.0	1345.0	1345.3	1348.2	1350.9	1353.8	1356.6	1358.0
157.5°	1379.3	1377.5	1375.7	1374.0	1372.2	1372.3	1374.2	1376.2	1378.2	1380.2	1381.7
160°	1394.5	1393.1	1391.6	1390.3	1388.9	1388.9	1390.3	1391.6	1393.1	1394.5	1395.9
162.5°	1408.0	1406.5	1405.2	1403.8	1402.3	1402.2	1403.4	1404.6	1405.9	1407.1	1408.7
165°	1426.1	1424.7	1423.2	1421.9	1420.5	1420.1	1420.8	1421.5	1422.2	1422.9	1424.5
167.5°	1439.6	1438.1	1436.8	1435.4	1433.9	1433.6	1434.3	1434.9	1435.5	1436.1	1437.8
170°	1447.2	1445.7	1444.3	1442.9	1441.5	1441.1	1441.5	1442.0	1442.4	1442.9	1444.6
172.5°	1452.2	1450.8	1449.4	1447.9	1446.6	1446.1	1446.6	1447.0	1447.5	1447.9	1449.6
175°	1458.7	1457.1	1455.4	1453.8	1452.2	1451.6	1452.1	1452.5	1453.0	1453.5	1455.1
177.5°	1459.7	1458.4	1457.2	1455.9	1454.5	1454.0	1454.1	1454.3	1454.5	1454.7	1456.0
180°	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5



TEST NUMBER: P331605-935

CATALOG NUMBER: S122DIW-S1005D1240U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	907.5	908.7	909.9	910.2	909.7	909.3	908.8	908.4
5°	904.7	906.5	908.3	909.0	908.7	908.4	908.1	907.8
7.5°	900.4	902.6	904.7	905.6	905.3	905.0	904.7	904.4
10°	896.6	899.1	901.4	902.4	902.1	901.8	901.6	901.2
12.5°	890.4	892.7	895.0	896.0	895.8	895.4	895.2	894.9
15°	878.8	881.4	884.1	885.3	884.9	884.7	884.3	884.1
17.5°	864.0	866.8	869.5	870.9	870.9	870.9	870.9	870.9
20°	852.2	855.5	858.7	860.3	860.3	860.3	860.3	860.3
22.5°	839.6	842.8	846.0	847.9	848.3	848.9	849.3	849.8
25°	819.8	823.4	826.9	829.1	830.0	830.9	831.7	832.6
27.5°	798.0	802.5	806.9	809.4	810.1	810.7	811.4	812.0
30°	782.6	787.3	792.0	794.8	795.7	796.5	797.5	798.3
32.5°	766.1	771.5	776.9	780.3	782.0	783.5	785.1	786.7
35°	742.6	749.1	755.5	759.7	761.8	763.9	765.9	767.9
37.5°	718.4	725.6	732.7	737.4	739.5	741.8	743.9	746.1
40°	701.4	709.0	716.6	721.8	724.4	727.0	729.7	732.4
42.5°	684.8	693.2	701.5	707.0	709.6	712.3	714.9	717.6
45°	659.4	668.6	677.6	683.6	686.6	689.5	692.4	695.3
47.5°	633.1	642.6	652.1	658.5	661.7	665.0	668.1	671.4
50°	615.0	625.0	635.0	641.6	644.8	648.0	651.3	654.4
52.5°	595.5	605.6	615.9	622.7	626.1	629.6	633.1	636.5
55°	566.1	576.6	587.2	594.3	598.1	602.0	605.8	609.6
57.5°	535.0	546.4	557.8	565.3	569.2	573.1	577.0	580.8
60°	514.4	525.6	536.7	544.4	548.5	552.6	556.7	560.8
62.5°	492.7	504.5	516.3	524.2	528.1	531.9	535.8	539.7
65°	459.5	471.5	483.5	491.5	495.2	499.0	502.9	506.7
67.5°	425.9	438.1	450.2	458.3	462.3	466.2	470.3	474.2
70°	402.6	415.2	427.8	435.8	439.4	442.9	446.4	450.0
72.5°	380.0	392.4	404.7	413.0	417.2	421.5	425.7	429.9
75°	345.9	358.4	371.1	379.3	383.1	386.9	390.7	394.5
77.5°	312.5	325.0	337.6	345.9	350.0	354.1	358.3	362.3
80°	289.8	302.2	314.5	322.7	326.8	330.9	335.0	339.1
82.5°	268.7	281.0	293.3	301.4	305.3	309.2	313.1	316.9
85°	238.4	250.7	263.0	271.2	275.3	279.5	283.5	287.7
87.5°	217.6	229.8	241.9	249.9	253.8	257.7	261.5	265.4
90°	221.0	233.9	246.8	255.3	259.2	263.3	267.3	271.2
92.5°	213.4	225.4	237.5	245.5	249.3	253.0	256.8	260.7
95°	217.4	229.8	242.1	249.9	253.1	256.4	259.8	263.0
97.5°	219.0	230.7	242.5	250.3	254.0	257.8	261.5	265.3
100°	217.4	230.1	242.9	251.1	254.8	258.5	262.2	265.9
102.5°	212.4	225.4	238.5	246.9	250.8	254.7	258.6	262.4
105°	203.4	216.2	229.1	237.5	241.8	245.9	250.0	254.3
107.5°	207.1	214.3	221.5	227.2	231.4	235.6	239.7	243.8
110°	252.6	238.6	224.5	219.6	223.8	227.9	232.1	236.3





TEST NUMBER: P331605-935

CATALOG NUMBER: S122DIW-S1005D1240U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	401.8	325.8	249.9	213.8	217.8	221.8	225.8	229.7
115°	529.9	430.3	330.7	274.1	260.5	246.8	233.2	219.6
117.5°	753.0	735.6	718.0	683.0	630.7	578.2	525.9	473.5
120°	856.1	867.1	878.1	869.4	841.0	812.7	784.3	756.0
122.5°	896.7	906.4	916.0	919.2	915.8	912.5	909.0	905.7
125°	954.0	963.5	973.1	979.5	982.8	986.2	989.5	992.9
127.5°	1006.2	1015.8	1025.5	1031.7	1034.4	1037.1	1039.8	1042.6
130°	1039.3	1049.0	1058.6	1064.5	1066.5	1068.7	1070.7	1072.9
132.5°	1071.4	1080.4	1089.4	1094.9	1097.1	1099.2	1101.3	1103.4
135°	1117.4	1125.8	1134.4	1139.5	1141.4	1143.3	1145.2	1147.1
137.5°	1159.8	1167.4	1175.1	1179.6	1180.8	1182.0	1183.1	1184.3
140°	1187.4	1194.2	1201.0	1204.7	1205.3	1205.9	1206.5	1207.0
142.5°	1214.3	1220.0	1225.5	1228.6	1229.0	1229.3	1229.7	1230.0
145°	1252.8	1256.2	1259.6	1261.4	1261.7	1262.0	1262.3	1262.6
147.5°	1287.2	1288.7	1290.1	1290.7	1290.4	1290.1	1289.9	1289.6
150°	1309.8	1311.3	1312.7	1312.8	1311.6	1310.4	1309.2	1308.1
152.5°	1330.9	1332.3	1333.8	1333.7	1332.1	1330.6	1329.0	1327.5
155°	1359.3	1360.8	1362.2	1361.9	1360.0	1358.2	1356.3	1354.4
157.5°	1383.4	1384.9	1386.6	1386.4	1384.6	1382.8	1381.0	1379.1
160°	1397.3	1398.7	1400.1	1400.0	1398.4	1396.7	1395.1	1393.4
162.5°	1410.3	1411.9	1413.5	1413.2	1411.3	1409.2	1407.2	1405.2
165°	1426.2	1427.8	1429.4	1429.4	1427.8	1426.2	1424.5	1422.9
167.5°	1439.4	1441.1	1442.7	1442.5	1440.4	1438.3	1436.1	1434.1
170°	1446.2	1447.9	1449.5	1449.2	1447.2	1445.0	1442.9	1440.8
172.5°	1451.2	1452.9	1454.5	1454.3	1452.2	1450.1	1447.9	1445.9
175°	1456.7	1458.4	1460.0	1459.7	1457.3	1455.0	1452.6	1450.3
177.5°	1457.3	1458.6	1460.0	1459.7	1458.1	1456.4	1454.7	1453.0
180°	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5

(END OF REPORT)