

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: P331516-935

Luminaire Tested: **S122DIW-S485D1240U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331516-935  
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-S485D1240U935-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5397.2 lumens  
Efficiency: N/A  
Efficacy: 100.3 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

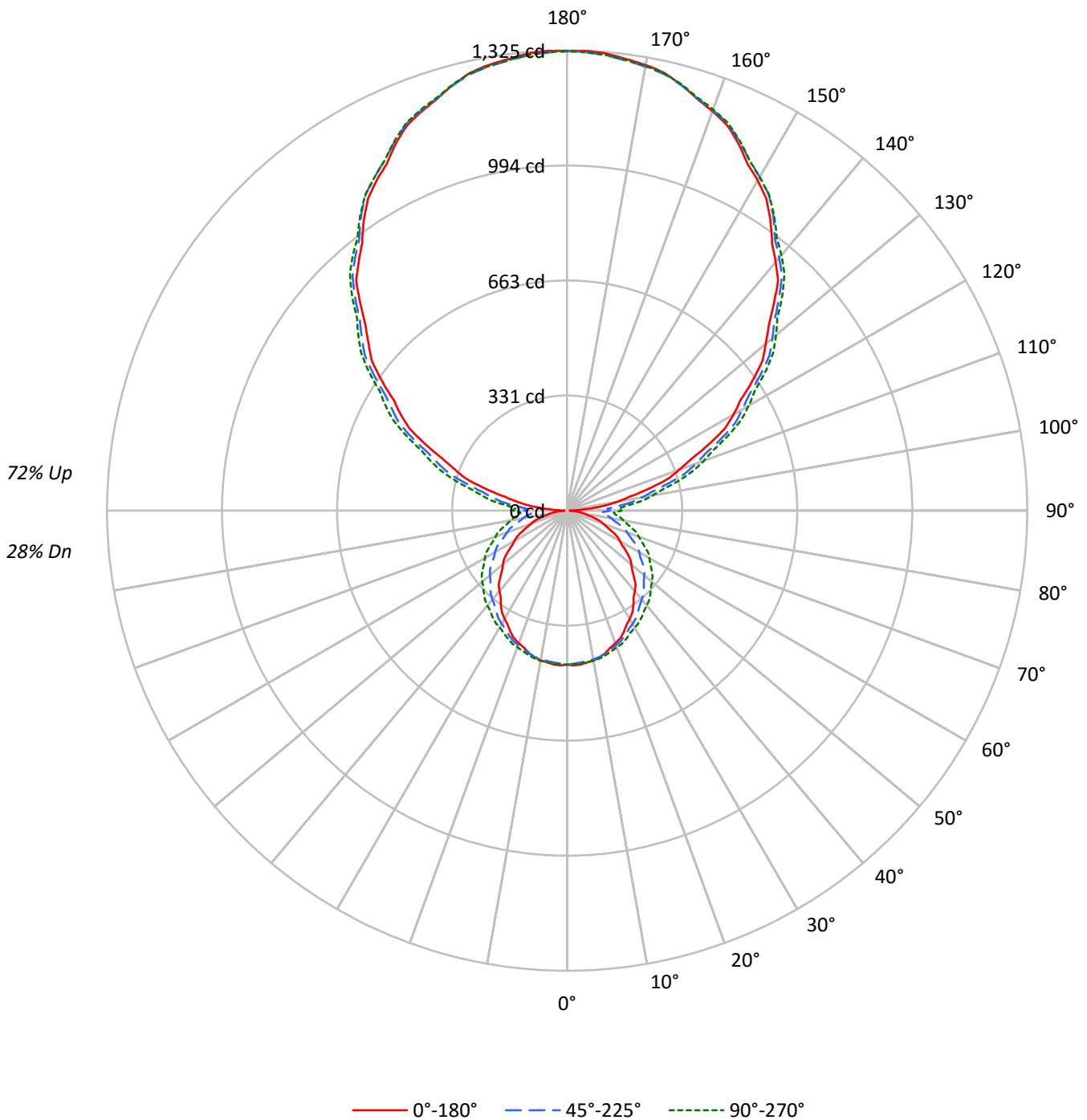
Input Watts (W): 53.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	87	83	80	82	78	75	72	61	59	56	45	43	42	30	29	29	22
2	83	76	70	64	74	68	63	58	53	49	46	39	37	34	26	25	23	18
3	76	66	59	53	67	59	53	48	46	42	38	34	31	29	23	21	19	14
4	69	58	51	44	61	52	46	40	41	36	32	30	27	24	20	18	17	12
5	63	52	44	38	56	46	39	34	36	31	27	27	23	21	18	16	14	10
6	58	46	38	32	52	41	35	29	33	27	24	24	21	18	16	14	12	9
7	54	41	34	28	48	37	30	26	29	24	21	22	18	16	15	13	11	8
8	50	37	30	25	44	34	27	22	27	22	18	20	16	14	14	11	10	7
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	13	10	9	6
10	43	31	24	19	38	28	22	18	22	18	14	17	13	11	12	9	8	6

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

	0°	45°	90°
0°	7164	7164	7164
5°	7199	6896	6870
10°	7153	6692	6617
15°	7055	6477	6350
20°	6930	6245	6094
25°	6807	6022	5862
30°	6634	5793	5628
35°	6458	5572	5464
40°	6275	5384	5299
45°	6100	5215	5159
50°	5912	5062	5019
55°	5713	4898	4878
60°	5473	4730	4729
65°	5222	4530	4552
70°	4938	4315	4361
75°	4578	4106	4186
80°	4008	3889	4005
85°	3471	3705	3868



TEST NUMBER: P331516-935

CATALOG NUMBER: S122DIW-S485D1240U935-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.0	0.8
10°-20°	120.6	2.2
20°-30°	182.7	3.4
30°-40°	222.5	4.1
40°-50°	239.4	4.4
50°-60°	232.5	4.3
60°-70°	203.0	3.8
70°-80°	156.3	2.9
80°-90°	110.2	2.0
90°-100°	156.1	2.9
100°-110°	313.1	5.8
110°-120°	479.9	8.9
120°-130°	604.7	11.2
130°-140°	665.0	12.3
140°-150°	645.5	12.0
150°-160°	540.2	10.0
160°-170°	358.3	6.6
170°-180°	125.2	2.3
0°-30°	345.3	6.4
0°-40°	567.8	10.5
0°-60°	1039.7	19.3
0°-90°	1509.1	28.0
90°-120°	949.1	17.6
90°-150°	2864.3	53.1
90°-180°	3888.0	72.0
0°-180°	5397.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	444	444	444	444	444	
5°	445	443	439	443	442	42
15°	424	426	426	431	431	119
25°	386	390	396	404	406	177
35°	332	343	356	369	374	208
45°	273	290	312	332	339	210
55°	209	233	266	288	297	187
65°	143	175	212	238	247	142
75°	79	115	156	183	192	84
85°	23	63	104	130	140	25
90°	8	59	124	147	156	7
95°	63	105	145	169	175	71
105°	243	266	301	325	333	257
115°	449	464	490	507	512	444
125°	651	662	678	692	697	582
135°	841	853	862	874	876	650
145°	1020	1028	1035	1040	1039	637
155°	1167	1170	1173	1178	1176	537
165°	1269	1268	1268	1275	1270	358
175°	1321	1318	1315	1322	1316	125
180°	1323	1323	1323	1323	1323	



TEST NUMBER: P331516-935

CATALOG NUMBER: S122DIW-S485D1240U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	446.3	445.9	445.6	445.2	444.9	444.3	443.5	442.7	442.0	441.1	441.7
5°	445.0	444.5	444.1	443.7	443.2	442.6	441.8	440.9	440.1	439.2	440.1
7.5°	441.0	440.7	440.4	440.1	439.9	439.4	438.7	438.1	437.4	436.7	437.7
10°	437.9	437.6	437.3	437.0	436.8	436.4	436.0	435.6	435.1	434.7	435.8
12.5°	432.7	432.8	432.9	432.9	433.0	432.8	432.6	432.2	431.9	431.6	432.7
15°	424.4	424.6	425.0	425.2	425.5	425.7	425.7	425.7	425.7	425.7	427.0
17.5°	413.6	414.2	414.8	415.4	416.0	416.6	417.0	417.4	417.9	418.4	419.7
20°	406.4	407.1	407.9	408.5	409.2	409.9	410.4	411.0	411.6	412.2	413.7
22.5°	398.6	399.5	400.4	401.1	402.0	402.8	403.6	404.4	405.2	406.0	407.6
25°	385.8	386.8	387.8	388.8	389.8	391.0	392.3	393.6	394.9	396.1	397.8
27.5°	370.4	372.0	373.7	375.3	376.9	378.5	380.0	381.5	383.0	384.5	386.7
30°	360.1	362.0	363.8	365.7	367.6	369.4	371.3	373.1	375.0	376.8	379.1
32.5°	348.8	350.9	352.9	355.1	357.1	359.3	361.4	363.7	365.8	368.1	370.7
35°	332.4	334.8	337.3	339.8	342.2	344.7	347.4	350.2	352.8	355.6	358.7
37.5°	314.7	317.5	320.3	323.1	325.9	329.1	332.6	336.0	339.6	343.1	346.6
40°	302.9	306.0	309.2	312.3	315.5	318.9	322.8	326.7	330.5	334.4	338.1
42.5°	291.5	294.7	297.8	301.0	304.1	307.9	312.4	316.8	321.2	325.6	329.7
45°	272.7	276.5	280.3	284.2	288.1	292.5	297.5	302.5	307.5	312.5	316.9
47.5°	254.0	258.2	262.4	266.6	270.8	275.9	281.7	287.6	293.4	299.3	303.9
50°	241.2	245.6	250.0	254.4	258.8	264.2	270.7	277.2	283.6	290.0	294.9
52.5°	228.8	233.4	238.1	242.8	247.5	253.1	259.9	266.7	273.5	280.3	285.2
55°	209.0	214.1	219.3	224.4	229.5	235.8	243.3	250.7	258.1	265.5	270.7
57.5°	189.4	195.3	201.0	206.8	212.7	219.3	226.9	234.5	242.0	249.6	255.2
60°	175.6	181.7	187.9	194.0	200.1	207.2	215.4	223.5	231.7	239.9	245.3
62.5°	163.2	169.5	176.0	182.4	188.7	196.0	204.1	212.2	220.4	228.5	234.3
65°	142.8	149.7	156.8	163.8	170.7	178.5	186.9	195.4	203.8	212.2	218.1
67.5°	124.0	131.3	138.6	145.9	153.3	161.2	169.9	178.5	187.1	195.7	201.6
70°	110.6	118.0	125.4	132.9	140.3	148.4	157.3	166.2	175.0	183.9	190.0
72.5°	98.2	105.9	113.6	121.2	128.9	137.2	146.2	155.2	164.1	173.1	179.2
75°	79.1	87.1	95.1	103.1	111.1	119.7	128.8	137.9	147.1	156.3	162.4
77.5°	60.6	69.0	77.3	85.7	94.1	102.9	112.2	121.5	130.8	140.1	146.2
80°	48.2	56.9	65.7	74.4	83.1	92.1	101.4	110.6	119.9	129.2	135.3
82.5°	38.0	46.6	55.1	63.7	72.3	81.4	90.7	100.1	109.5	119.0	124.9
85°	23.2	32.0	40.9	49.8	58.5	67.6	76.7	85.8	95.1	104.2	110.2
87.5°	12.8	22.0	31.1	40.1	49.2	59.0	69.2	79.4	89.6	99.9	105.6
90°	7.6	18.8	30.0	41.3	52.6	65.5	80.2	94.7	109.3	124.0	129.2
92.5°	25.8	35.6	45.5	55.4	65.3	75.4	85.5	95.6	105.6	115.7	121.5
95°	63.2	72.4	81.6	90.7	100.0	109.1	118.2	127.3	136.3	145.4	150.8
97.5°	110.6	118.7	126.9	135.0	143.2	151.9	161.0	170.2	179.3	188.6	193.8
100°	146.3	153.5	160.8	168.1	175.4	183.4	192.1	200.9	209.7	218.3	223.7
102.5°	183.3	189.7	196.1	202.5	209.0	216.5	225.2	233.9	242.6	251.4	256.8
105°	243.2	248.1	253.0	257.9	262.8	269.2	277.2	285.1	293.0	300.9	306.4
107.5°	304.3	308.7	313.1	317.5	321.9	327.7	334.8	341.9	349.0	356.1	361.2
110°	343.1	347.4	351.8	356.1	360.5	366.1	373.2	380.1	387.1	394.2	398.7



TEST NUMBER: P331516-935

CATALOG NUMBER: S122DIW-S485D1240U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	386.0	389.9	393.7	397.6	401.5	406.7	413.1	419.6	426.0	432.5	436.5
115°	449.1	452.2	455.3	458.3	461.4	465.9	471.8	477.8	483.7	489.7	493.6
117.5°	511.4	514.4	517.5	520.5	523.5	527.3	531.8	536.4	541.0	545.5	549.1
120°	553.5	556.0	558.5	561.1	563.7	566.8	570.5	574.3	578.0	581.7	585.7
122.5°	591.9	594.4	597.1	599.7	602.3	605.5	609.6	613.5	617.5	621.5	624.8
125°	651.0	653.2	655.5	657.7	660.0	663.0	666.8	670.6	674.5	678.3	681.4
127.5°	709.3	712.0	714.7	717.4	720.1	722.8	725.6	728.4	731.2	734.0	736.6
130°	746.0	749.0	752.1	755.2	758.3	761.0	763.5	766.0	768.5	771.1	774.0
132.5°	787.0	789.5	791.9	794.4	796.9	799.4	801.8	804.3	806.7	809.1	811.3
135°	841.3	844.0	846.8	849.5	852.2	854.5	856.4	858.4	860.3	862.2	865.0
137.5°	899.1	901.3	903.5	905.8	907.9	909.6	910.9	912.2	913.5	914.8	917.2
140°	933.9	936.1	938.1	940.2	942.4	944.2	945.6	947.2	948.7	950.2	952.5
142.5°	969.7	971.8	973.9	975.9	978.0	979.6	980.4	981.4	982.2	983.2	985.2
145°	1020.4	1022.2	1023.9	1025.6	1027.3	1029.0	1030.4	1031.9	1033.5	1034.9	1036.0
147.5°	1066.2	1068.2	1070.3	1072.5	1074.5	1076.1	1077.0	1078.1	1079.0	1080.0	1080.6
150°	1097.4	1098.9	1100.4	1101.9	1103.4	1104.7	1105.6	1106.6	1107.6	1108.6	1109.3
152.5°	1125.2	1126.6	1128.1	1129.5	1131.1	1132.4	1133.6	1134.8	1136.0	1137.2	1138.2
155°	1166.7	1167.4	1168.1	1168.9	1169.7	1170.4	1171.1	1171.8	1172.6	1173.4	1174.6
157.5°	1202.1	1202.6	1203.2	1203.7	1204.1	1204.6	1205.1	1205.5	1205.9	1206.4	1208.1
160°	1223.6	1224.1	1224.6	1225.1	1225.5	1226.0	1226.2	1226.4	1226.7	1226.9	1228.4
162.5°	1243.2	1243.4	1243.5	1243.5	1243.6	1243.8	1244.1	1244.3	1244.6	1244.8	1246.5
165°	1269.4	1269.1	1268.9	1268.6	1268.3	1268.3	1268.3	1268.3	1268.3	1268.3	1270.0
167.5°	1291.2	1290.5	1289.8	1289.0	1288.2	1287.9	1287.8	1287.8	1287.7	1287.6	1289.4
170°	1302.9	1302.1	1301.4	1300.6	1299.9	1299.4	1299.2	1298.9	1298.6	1298.4	1300.1
172.5°	1310.9	1310.2	1309.4	1308.6	1307.9	1307.4	1307.2	1306.9	1306.7	1306.4	1308.2
175°	1320.7	1320.0	1319.2	1318.4	1317.8	1317.2	1316.6	1316.1	1315.6	1315.1	1316.9
177.5°	1324.7	1324.1	1323.5	1322.9	1322.3	1321.9	1321.5	1321.0	1320.7	1320.3	1321.5
180°	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9



TEST NUMBER: P331516-935

CATALOG NUMBER: S122DIW-S485D1240U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	442.3	442.8	443.4	443.6	443.3	443.2	442.9	442.6
5°	440.9	441.8	442.6	443.0	442.8	442.7	442.6	442.4
7.5°	438.8	439.8	440.8	441.3	441.2	441.0	440.8	440.7
10°	437.0	438.1	439.3	439.8	439.6	439.5	439.4	439.2
12.5°	433.9	435.1	436.2	436.7	436.5	436.4	436.3	436.1
15°	428.3	429.6	430.8	431.4	431.3	431.1	430.9	430.8
17.5°	421.0	422.4	423.7	424.4	424.4	424.4	424.4	424.4
20°	415.3	416.9	418.4	419.2	419.2	419.2	419.2	419.2
22.5°	409.1	410.7	412.3	413.2	413.5	413.6	413.9	414.1
25°	399.5	401.2	402.9	404.1	404.5	404.9	405.4	405.8
27.5°	388.9	391.1	393.2	394.4	394.8	395.1	395.4	395.7
30°	381.4	383.7	386.0	387.3	387.7	388.1	388.6	389.0
32.5°	373.3	375.9	378.6	380.3	381.1	381.9	382.6	383.4
35°	361.9	365.1	368.2	370.2	371.3	372.2	373.2	374.3
37.5°	350.1	353.6	357.1	359.3	360.4	361.4	362.5	363.6
40°	341.8	345.5	349.2	351.7	353.0	354.3	355.6	356.9
42.5°	333.7	337.8	341.8	344.6	345.8	347.1	348.4	349.7
45°	321.4	325.8	330.2	333.1	334.6	336.0	337.4	338.9
47.5°	308.5	313.1	317.8	320.9	322.4	324.0	325.6	327.2
50°	299.7	304.5	309.4	312.6	314.3	315.8	317.4	318.9
52.5°	290.2	295.2	300.1	303.4	305.1	306.9	308.5	310.2
55°	275.9	281.0	286.1	289.6	291.5	293.3	295.2	297.0
57.5°	260.7	266.2	271.8	275.5	277.4	279.3	281.2	283.1
60°	250.7	256.1	261.6	265.3	267.3	269.3	271.3	273.3
62.5°	240.0	245.8	251.6	255.5	257.4	259.2	261.1	263.0
65°	223.9	229.8	235.7	239.5	241.3	243.2	245.0	246.9
67.5°	207.6	213.4	219.4	223.3	225.2	227.2	229.2	231.1
70°	196.2	202.3	208.4	212.4	214.1	215.9	217.6	219.3
72.5°	185.2	191.2	197.3	201.3	203.3	205.3	207.4	209.5
75°	168.6	174.7	180.8	184.9	186.7	188.6	190.4	192.3
77.5°	152.3	158.4	164.5	168.6	170.6	172.5	174.6	176.6
80°	141.3	147.2	153.3	157.2	159.3	161.3	163.2	165.2
82.5°	131.0	137.0	142.9	146.9	148.8	150.7	152.6	154.5
85°	116.1	122.2	128.2	132.2	134.1	136.2	138.2	140.2
87.5°	111.3	117.1	122.8	126.7	128.5	130.4	132.2	134.1
90°	134.4	139.7	144.8	148.4	150.4	152.3	154.3	156.3
92.5°	127.2	132.9	138.5	142.3	144.0	145.9	147.6	149.4
95°	156.3	161.7	167.1	170.5	171.7	172.9	174.1	175.3
97.5°	199.1	204.4	209.7	213.2	214.8	216.5	218.1	219.7
100°	228.9	234.2	239.5	242.8	244.2	245.5	246.8	248.1
102.5°	262.1	267.5	272.9	276.2	277.5	278.9	280.2	281.5
105°	311.9	317.4	322.9	326.4	328.0	329.6	331.1	332.7
107.5°	366.2	371.2	376.2	378.8	379.3	379.7	380.1	380.6
110°	403.3	407.9	412.4	415.2	415.9	416.8	417.6	418.4





TEST NUMBER: P331516-935

CATALOG NUMBER: S122DIW-S485D1240U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	440.5	444.4	448.4	450.9	451.9	453.0	454.0	455.0
115°	497.7	501.7	505.8	508.2	509.0	509.9	510.7	511.5
117.5°	552.8	556.4	560.1	562.2	562.9	563.7	564.4	565.1
120°	589.7	593.7	597.7	600.1	601.0	601.8	602.6	603.5
122.5°	628.1	631.4	634.6	636.7	637.5	638.3	639.1	639.9
125°	684.6	687.7	690.8	692.8	693.9	694.9	695.9	697.0
127.5°	739.3	741.9	744.6	746.1	746.6	747.1	747.5	748.0
130°	777.0	779.9	782.8	784.4	784.5	784.6	784.8	785.0
132.5°	813.6	815.7	817.9	819.2	819.6	819.9	820.3	820.6
135°	867.7	870.5	873.2	874.9	875.2	875.6	876.1	876.4
137.5°	919.6	922.0	924.5	925.7	925.7	925.7	925.7	925.7
140°	954.8	957.1	959.4	960.4	960.4	960.2	960.0	959.9
142.5°	987.2	989.2	991.3	992.1	991.9	991.6	991.4	991.2
145°	1037.2	1038.2	1039.3	1039.7	1039.5	1039.2	1038.9	1038.6
147.5°	1081.3	1082.0	1082.6	1082.7	1082.1	1081.5	1080.9	1080.3
150°	1110.1	1110.9	1111.6	1111.6	1110.9	1110.1	1109.3	1108.6
152.5°	1139.1	1140.0	1140.9	1140.9	1140.0	1139.1	1138.2	1137.2
155°	1175.9	1177.1	1178.3	1178.5	1177.8	1177.1	1176.3	1175.6
157.5°	1209.8	1211.4	1213.1	1213.4	1212.2	1211.0	1209.8	1208.6
160°	1229.9	1231.4	1232.9	1233.1	1232.2	1231.1	1230.2	1229.2
162.5°	1248.2	1249.8	1251.5	1251.8	1250.6	1249.4	1248.2	1247.1
165°	1271.7	1273.4	1275.2	1275.4	1274.2	1273.0	1271.7	1270.5
167.5°	1291.2	1292.9	1294.6	1294.9	1293.6	1292.3	1291.0	1289.7
170°	1301.8	1303.6	1305.4	1305.4	1304.0	1302.5	1301.0	1299.5
172.5°	1309.9	1311.6	1313.4	1313.5	1312.0	1310.5	1309.1	1307.5
175°	1318.6	1320.3	1322.1	1322.2	1320.7	1319.2	1317.8	1316.2
177.5°	1322.7	1323.9	1325.0	1325.0	1323.9	1322.7	1321.5	1320.3
180°	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9

(END OF REPORT)