

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: P332195-935

Luminaire Tested: **S123DIW-S1000D1030U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332195-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S1000D1030U935-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6694.9 lumens  
Efficiency: N/A  
Efficacy: 109.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

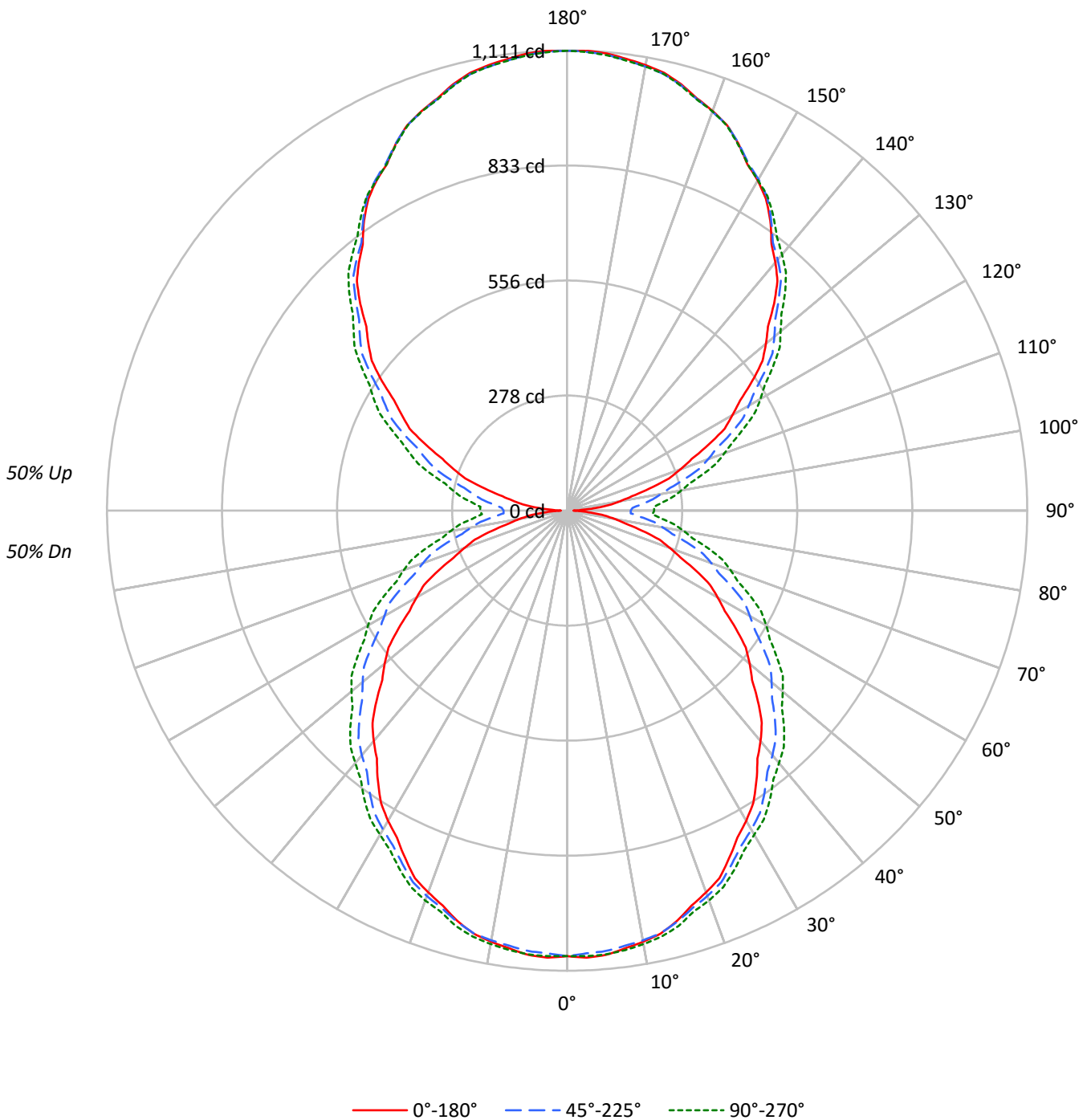
Input Watts (W): 61.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	83	83	83		69	69	69		56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66		59	57	55		48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54		51	48	45		41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45		45	41	38		36	33	31	27
4	73	61	53	47	67	57	49	44	48	42	38		40	36	32		32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32		36	31	28		29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28		32	28	24		26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25		29	25	21		24	20	18	15
8	52	40	32	27	48	37	30	25	32	26	22		27	22	19		22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20		24	20	17		20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18		23	18	15		19	15	13	11

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

	0°	45°	90°
0°	11579	11579	11579
5°	11615	11288	11294
10°	11511	11028	10973
15°	11363	10732	10622
20°	11151	10395	10235
25°	10888	10007	9829
30°	10621	9658	9417
35°	10321	9289	9089
40°	10033	8953	8737
45°	9715	8630	8455
50°	9402	8312	8146
55°	9056	7985	7866
60°	8718	7655	7580
65°	8372	7303	7241
70°	7847	6904	6893
75°	7189	6449	6538
80°	6431	6003	6131
85°	5726	5695	5898



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.0	1.5
10°-20°	290.7	4.3
20°-30°	434.8	6.5
30°-40°	519.2	7.8
40°-50°	543.3	8.1
50°-60°	509.8	7.6
60°-70°	425.8	6.4
70°-80°	304.6	4.6
80°-90°	185.0	2.8
90°-100°	186.3	2.8
100°-110°	300.3	4.5
110°-120°	424.2	6.3
120°-130°	516.4	7.7
130°-140°	558.8	8.3
140°-150°	538.2	8.0
150°-160°	450.6	6.7
160°-170°	299.9	4.5
170°-180°	105.0	1.6
0°-30°	827.5	12.4
0°-40°	1346.7	20.1
0°-60°	2399.8	35.8
0°-90°	3315.2	49.5
90°-120°	910.8	13.6
90°-150°	2524.2	37.7
90°-180°	3380.0	50.5
0°-180°	6694.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1076	1076	1076	1076	1076	
5°	1077	1074	1068	1076	1076	102
15°	1025	1029	1028	1039	1038	289
25°	926	937	941	955	956	426
35°	797	815	831	848	853	498
45°	652	680	709	731	741	502
55°	497	536	578	608	619	445
65°	343	389	441	474	488	339
75°	186	242	300	337	353	199
85°	57	116	178	216	230	60
90°	16	82	153	195	210	14
95°	64	117	181	219	232	68
105°	206	237	294	325	339	220
115°	377	395	434	462	471	373
125°	546	550	581	601	607	487
135°	706	711	722	739	744	544
145°	855	856	858	866	868	534
155°	978	978	979	982	976	450
165°	1065	1063	1062	1067	1062	300
175°	1108	1104	1104	1109	1104	105
180°	1110	1110	1110	1110	1110	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1080.5	1079.9	1079.2	1078.6	1078.0	1076.8	1075.1	1073.5	1071.8	1070.1	1071.8
5°	1076.9	1076.4	1075.9	1075.4	1074.9	1073.8	1072.3	1070.7	1069.1	1067.6	1069.6
7.5°	1066.3	1066.5	1066.6	1066.7	1066.8	1066.1	1064.6	1063.1	1061.5	1060.1	1062.6
10°	1057.0	1057.6	1058.1	1058.6	1059.1	1058.7	1057.4	1056.1	1054.8	1053.5	1056.1
12.5°	1045.8	1046.5	1047.2	1047.9	1048.7	1048.6	1047.8	1046.8	1045.9	1045.1	1047.5
15°	1025.4	1026.1	1026.9	1027.7	1028.5	1028.7	1028.5	1028.2	1027.9	1027.7	1030.4
17.5°	999.6	1001.2	1002.7	1004.3	1005.8	1006.6	1006.5	1006.3	1006.3	1006.2	1008.5
20°	980.9	982.4	984.0	985.5	987.1	988.2	988.7	989.2	989.7	990.2	992.6
22.5°	961.1	962.7	964.3	965.9	967.4	968.5	969.3	970.0	970.8	971.5	974.4
25°	925.7	928.3	931.0	933.6	936.2	937.9	938.7	939.4	940.2	941.0	944.3
27.5°	890.1	893.1	896.0	899.1	902.0	904.3	906.0	907.7	909.3	911.0	914.0
30°	864.8	868.2	871.6	874.9	878.4	881.1	883.2	885.3	887.3	889.4	892.6
32.5°	836.7	840.5	844.3	848.1	851.9	855.1	857.9	860.6	863.3	866.0	869.4
35°	796.9	801.0	805.2	809.3	813.6	817.3	820.7	824.1	827.4	830.9	834.7
37.5°	754.7	759.4	764.1	768.7	773.4	777.8	782.0	786.2	790.3	794.5	798.9
40°	726.5	731.2	735.9	740.6	745.3	750.3	755.4	760.7	765.9	771.1	775.5
42.5°	695.6	701.4	707.1	712.8	718.5	724.1	729.5	734.9	740.4	745.8	750.6
45°	651.5	657.8	664.1	670.3	676.6	682.9	689.4	695.9	702.5	708.9	713.9
47.5°	605.4	612.4	619.6	626.6	633.7	641.0	648.4	655.9	663.3	670.8	676.3
50°	575.4	582.6	590.0	597.3	604.5	612.3	620.3	628.4	636.5	644.5	650.5
52.5°	543.5	551.2	559.0	566.6	574.4	582.6	591.6	600.5	609.3	618.3	624.5
55°	496.9	505.5	514.0	522.6	531.2	540.2	549.6	559.0	568.3	577.7	584.8
57.5°	451.4	460.4	469.3	478.3	487.2	496.9	507.1	517.4	527.6	537.9	544.9
60°	419.6	428.9	438.2	447.6	457.0	467.0	477.7	488.4	499.1	509.8	517.0
62.5°	389.5	399.1	408.7	418.3	427.8	438.3	449.6	460.9	472.2	483.5	490.8
65°	343.4	353.5	363.7	373.8	384.0	394.8	406.2	417.7	429.1	440.7	448.4
67.5°	296.4	307.3	318.1	328.8	339.6	350.9	362.5	374.2	385.8	397.5	406.0
70°	263.6	274.8	286.0	297.3	308.5	320.3	332.8	345.3	357.8	370.3	378.7
72.5°	233.7	244.9	256.1	267.3	278.4	290.5	303.4	316.3	329.2	342.2	350.7
75°	186.3	198.5	210.8	223.1	235.3	247.9	261.0	274.0	287.0	300.0	308.6
77.5°	145.1	157.4	169.8	182.1	194.4	207.2	220.3	233.4	246.6	259.7	268.7
80°	116.0	128.8	141.5	154.3	167.0	180.2	193.7	207.3	220.8	234.4	243.2
82.5°	90.7	103.7	116.7	129.6	142.6	155.9	169.7	183.4	197.2	210.9	219.8
85°	57.4	70.4	83.4	96.5	109.5	123.0	136.7	150.5	164.3	178.1	187.0
87.5°	31.3	44.7	58.0	71.4	84.8	98.3	112.1	125.9	139.7	153.5	162.5
90°	16.1	30.8	45.5	60.2	74.9	90.1	106.0	121.7	137.6	153.3	163.0
92.5°	35.4	48.2	61.0	73.9	86.7	100.4	114.9	129.4	143.9	158.4	167.7
95°	64.3	75.9	87.4	98.9	110.4	123.3	137.6	152.0	166.3	180.6	189.4
97.5°	102.9	113.0	123.2	133.5	143.6	155.3	168.7	181.9	195.3	208.6	217.2
100°	129.2	138.7	148.2	157.6	167.2	178.4	191.3	204.3	217.2	230.1	238.3
102.5°	159.6	167.8	176.1	184.3	192.4	203.0	216.1	229.2	242.2	255.3	263.2
105°	205.6	212.2	219.0	225.6	232.2	241.9	254.9	267.9	280.8	293.8	301.0
107.5°	258.0	263.6	269.1	274.6	280.2	288.6	299.9	311.3	322.5	333.9	341.5
110°	290.5	295.6	300.7	305.7	310.8	318.7	329.6	340.4	351.2	362.0	369.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	325.5	329.5	333.6	337.7	341.7	348.9	359.0	369.0	379.1	389.2	396.7
115°	376.6	380.3	384.0	387.7	391.4	397.8	406.7	415.7	424.7	433.7	440.1
117.5°	429.0	431.4	433.7	436.0	438.3	443.6	451.9	460.2	468.5	476.8	482.9
120°	460.9	463.4	465.8	468.3	470.8	475.8	483.5	491.0	498.7	506.3	512.1
122.5°	495.1	496.6	498.2	499.6	501.2	505.8	513.5	521.2	528.8	536.5	541.7
125°	546.0	546.6	547.3	547.9	548.4	552.2	559.5	566.6	573.8	580.9	585.7
127.5°	594.3	595.2	596.2	597.2	598.1	601.6	607.3	613.2	619.1	624.8	629.0
130°	626.3	627.6	628.9	630.2	631.5	634.5	639.1	643.7	648.3	653.0	657.1
132.5°	657.5	659.0	660.5	662.0	663.5	666.1	669.9	673.6	677.3	681.1	684.8
135°	706.3	707.2	708.1	709.0	709.9	711.7	714.4	717.0	719.7	722.4	726.3
137.5°	751.4	752.2	752.9	753.7	754.5	755.9	758.0	760.1	762.2	764.4	767.7
140°	781.9	782.8	783.9	784.8	785.7	786.7	787.7	788.7	789.6	790.7	794.4
142.5°	810.5	811.2	812.0	812.8	813.6	814.2	814.7	815.2	815.7	816.1	819.5
145°	855.1	855.2	855.4	855.5	855.7	856.0	856.6	857.2	857.7	858.3	860.2
147.5°	893.0	893.7	894.4	895.2	895.9	896.5	897.0	897.6	898.1	898.6	899.2
150°	920.2	920.7	921.0	921.4	921.8	922.2	922.6	923.0	923.3	923.8	923.8
152.5°	942.6	943.1	943.7	944.3	944.8	945.1	945.4	945.6	945.9	946.1	946.4
155°	977.8	977.8	977.8	977.8	977.8	977.9	978.1	978.4	978.5	978.7	979.5
157.5°	1007.9	1007.6	1007.4	1007.1	1006.9	1006.9	1007.0	1007.2	1007.4	1007.5	1008.3
160°	1026.7	1026.3	1025.9	1025.5	1025.1	1024.9	1024.9	1024.9	1024.9	1024.9	1025.9
162.5°	1043.4	1042.9	1042.3	1041.8	1041.3	1041.0	1041.2	1041.4	1041.6	1041.7	1042.7
165°	1065.1	1064.5	1063.9	1063.3	1062.7	1062.5	1062.5	1062.5	1062.5	1062.5	1063.6
167.5°	1082.4	1081.6	1080.8	1080.0	1079.3	1078.9	1079.1	1079.3	1079.4	1079.5	1080.7
170°	1092.1	1091.3	1090.5	1089.8	1089.0	1088.6	1088.6	1088.6	1088.6	1088.6	1089.9
172.5°	1099.8	1099.0	1098.2	1097.4	1096.7	1096.3	1096.3	1096.3	1096.3	1096.3	1097.5
175°	1107.8	1107.1	1106.3	1105.5	1104.7	1104.3	1104.3	1104.3	1104.3	1104.3	1105.5
177.5°	1111.1	1110.5	1109.9	1109.2	1108.6	1108.4	1108.4	1108.4	1108.4	1108.4	1109.2
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1073.5	1075.1	1076.8	1077.5	1077.3	1077.1	1076.9	1076.7
5°	1071.7	1073.8	1075.9	1076.8	1076.5	1076.2	1076.0	1075.7
7.5°	1065.2	1067.9	1070.5	1071.6	1071.3	1071.0	1070.7	1070.4
10°	1058.7	1061.3	1063.9	1065.0	1064.5	1063.9	1063.4	1062.9
12.5°	1049.8	1052.2	1054.6	1055.6	1055.1	1054.6	1054.0	1053.5
15°	1032.9	1035.5	1038.1	1039.3	1039.1	1038.8	1038.5	1038.3
17.5°	1010.8	1013.2	1015.5	1016.5	1016.2	1015.8	1015.5	1015.0
20°	994.9	997.2	999.6	1000.9	1001.2	1001.4	1001.7	1001.9
22.5°	977.4	980.3	983.3	984.7	984.6	984.5	984.3	984.1
25°	947.8	951.1	954.5	956.2	956.2	956.2	956.2	956.2
27.5°	916.8	919.7	922.6	924.2	924.5	924.6	924.9	925.1
30°	895.7	898.8	901.9	903.5	903.5	903.5	903.5	903.5
32.5°	872.7	876.0	879.3	881.3	881.9	882.5	883.2	883.8
35°	838.6	842.6	846.4	848.9	850.0	851.0	852.0	853.1
37.5°	803.4	807.8	812.3	814.9	815.7	816.5	817.3	818.2
40°	779.9	784.4	788.8	791.5	792.6	793.6	794.6	795.7
42.5°	755.4	760.3	765.2	768.3	769.7	771.2	772.7	774.1
45°	718.8	723.8	728.8	732.3	734.3	736.4	738.6	740.6
47.5°	681.9	687.5	693.0	696.6	698.3	699.9	701.5	703.1
50°	656.5	662.5	668.5	672.4	674.2	676.1	677.9	679.7
52.5°	630.7	636.9	643.1	647.3	649.5	651.8	654.0	656.3
55°	591.8	598.8	605.9	610.4	612.5	614.6	616.6	618.7
57.5°	552.1	559.1	566.2	571.0	573.4	575.8	578.3	580.7
60°	524.3	531.7	538.9	544.0	546.9	549.7	552.6	555.4
62.5°	498.1	505.4	512.6	517.6	520.3	523.0	525.6	528.3
65°	456.2	464.1	471.8	477.1	479.7	482.2	484.9	487.5
67.5°	414.6	423.1	431.6	437.0	439.2	441.4	443.6	445.7
70°	386.9	395.3	403.6	409.1	411.7	414.3	416.9	419.6
72.5°	359.3	367.8	376.3	381.9	384.5	387.1	389.8	392.4
75°	317.2	325.8	334.3	340.3	343.4	346.5	349.6	352.8
77.5°	277.8	286.9	295.9	301.7	304.0	306.4	308.8	311.3
80°	252.1	261.0	269.8	275.5	278.1	280.7	283.4	285.9
82.5°	228.7	237.5	246.3	252.1	254.7	257.3	259.8	262.5
85°	195.8	204.7	213.5	219.3	221.9	224.5	227.0	229.7
87.5°	171.5	180.5	189.5	195.4	198.0	200.7	203.4	206.1
90°	172.6	182.3	191.8	198.2	201.2	204.1	207.2	210.2
92.5°	176.9	186.2	195.4	201.2	203.4	205.5	207.7	209.8
95°	198.3	207.1	215.9	221.7	224.3	226.9	229.5	232.1
97.5°	225.9	234.5	243.2	248.7	251.3	253.8	256.4	258.9
100°	246.4	254.6	262.7	268.3	271.3	274.2	277.2	280.3
102.5°	271.1	279.1	287.0	292.2	294.7	297.2	299.8	302.3
105°	308.3	315.6	322.9	328.0	330.6	333.4	336.1	338.9
107.5°	349.0	356.7	364.3	369.1	371.2	373.2	375.3	377.4
110°	377.0	384.6	392.2	396.7	398.5	400.2	401.9	403.6





TEST NUMBER: P332195-935

CATALOG NUMBER: S123DIW-S1000D1030U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	404.2	411.6	419.1	424.0	426.2	428.4	430.6	432.8
115°	446.6	453.1	459.5	463.6	465.5	467.4	469.3	471.2
117.5°	489.1	495.2	501.4	505.2	506.7	508.2	509.7	511.2
120°	517.9	523.7	529.5	533.1	534.5	536.0	537.4	538.8
122.5°	547.1	552.3	557.6	560.9	562.1	563.4	564.7	566.0
125°	590.3	595.0	599.7	602.6	603.6	604.7	605.7	606.7
127.5°	633.0	637.1	641.1	643.6	644.5	645.4	646.3	647.1
130°	661.3	665.5	669.7	671.8	672.0	672.3	672.4	672.7
132.5°	688.7	692.5	696.3	698.5	699.3	700.0	700.8	701.5
135°	730.2	734.1	738.0	740.5	741.3	742.3	743.1	744.1
137.5°	770.9	774.3	777.6	779.5	780.1	780.7	781.2	781.8
140°	798.1	801.8	805.5	807.3	807.3	807.2	807.1	807.1
142.5°	822.8	826.0	829.4	831.1	831.4	831.6	831.9	832.2
145°	862.1	864.0	865.9	866.9	867.2	867.5	867.8	868.1
147.5°	899.9	900.5	901.1	901.3	901.1	900.9	900.7	900.4
150°	923.8	923.8	923.8	923.4	922.8	922.1	921.5	920.8
152.5°	946.7	947.0	947.4	947.0	946.2	945.2	944.3	943.4
155°	980.2	981.0	981.8	981.5	980.2	978.8	977.5	976.1
157.5°	1009.1	1010.0	1010.7	1010.6	1009.5	1008.5	1007.4	1006.3
160°	1026.9	1027.9	1028.8	1028.9	1028.1	1027.3	1026.6	1025.8
162.5°	1043.6	1044.6	1045.6	1045.4	1044.2	1042.9	1041.7	1040.4
165°	1064.8	1065.9	1067.1	1067.0	1065.7	1064.3	1062.9	1061.6
167.5°	1081.9	1083.1	1084.3	1084.3	1083.1	1081.9	1080.7	1079.5
170°	1091.3	1092.7	1094.1	1094.1	1092.7	1091.3	1089.9	1088.6
172.5°	1098.7	1099.9	1101.1	1101.0	1099.7	1098.3	1096.9	1095.6
175°	1106.6	1107.8	1109.0	1108.9	1107.5	1106.1	1104.8	1103.5
177.5°	1110.2	1111.1	1112.1	1112.0	1110.9	1109.8	1108.7	1107.7
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4

(END OF REPORT)