

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: P331594

Luminaire Tested: **S122DIW-S1005D710U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331594  
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-S1005D710U835-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP 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: 6496.5 lumens  
Efficiency: N/A  
Efficacy: 108.6 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: General Diffuse

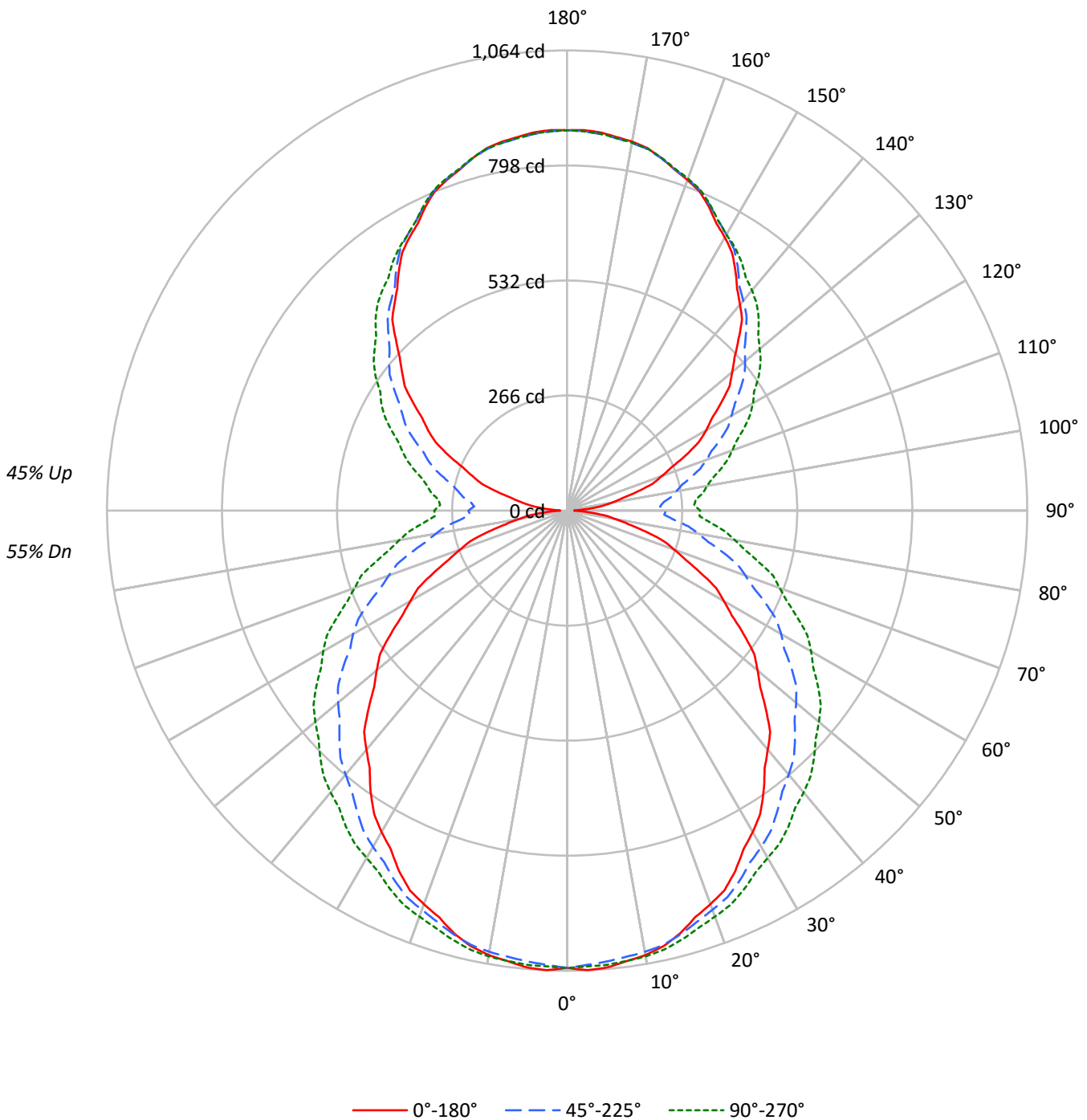
Input Watts (W): 59.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	97	92	88	84	90	86	82	78	73	70	67	62	60	57	51	50	48	43
2	88	80	73	67	81	74	68	63	63	59	55	53	50	47	44	42	39	35
3	80	69	61	55	74	64	57	52	55	50	45	47	42	39	39	35	33	29
4	73	61	53	46	67	57	49	43	49	43	38	41	37	33	34	31	28	24
5	67	54	46	39	61	50	43	37	43	37	32	37	32	28	31	27	24	21
6	61	49	40	34	57	45	37	32	39	33	28	33	28	24	28	24	21	18
7	57	44	35	29	52	41	33	28	35	29	25	30	25	21	25	21	18	16
8	53	40	32	26	48	37	30	25	32	26	22	27	23	19	23	19	16	14
9	49	36	28	23	45	34	27	22	29	24	19	25	20	17	21	17	15	13
10	46	33	26	21	42	31	24	20	27	21	17	23	19	15	20	16	13	11

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

	0°	45°	90°
0°	17073	17073	17073
5°	17157	16435	16373
10°	17049	15949	15770
15°	16814	15435	15136
20°	16517	14884	14525
25°	16223	14353	13970
30°	15810	13808	13414
35°	15392	13280	13021
40°	14952	12831	12629
45°	14535	12429	12294
50°	14086	12066	11964
55°	13616	11675	11627
60°	13040	11269	11271
65°	12441	10795	10850
70°	11770	10285	10393
75°	10911	9784	9973
80°	9555	9272	9549
85°	8259	8830	9217



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.2	1.5
10°-20°	287.3	4.4
20°-30°	435.4	6.7
30°-40°	530.3	8.2
40°-50°	570.5	8.8
50°-60°	554.1	8.5
60°-70°	483.8	7.4
70°-80°	372.4	5.7
80°-90°	253.5	3.9
90°-100°	227.9	3.5
100°-110°	298.8	4.6
110°-120°	378.9	5.8
120°-130°	435.4	6.7
130°-140°	456.1	7.0
140°-150°	431.5	6.6
150°-160°	359.1	5.5
160°-170°	238.2	3.7
170°-180°	83.2	1.3
0°-30°	822.9	12.7
0°-40°	1353.3	20.8
0°-60°	2477.9	38.1
0°-90°	3587.6	55.2
90°-120°	905.6	13.9
90°-150°	2228.5	34.3
90°-180°	2909.0	44.8
0°-180°	6496.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1057	1057	1057	1057	1057	
5°	1060	1056	1047	1055	1054	101
15°	1012	1014	1014	1028	1027	285
25°	920	930	944	962	967	423
35°	792	819	848	880	892	495
45°	650	692	745	790	808	501
55°	498	555	633	686	708	445
65°	340	416	506	566	588	338
75°	188	275	372	436	458	199
85°	55	150	248	310	334	59
90°	16	115	228	286	307	12
95°	51	131	224	280	299	54
105°	167	216	295	348	367	177
115°	303	327	392	435	452	299
125°	435	444	488	526	541	389
135°	560	569	585	616	627	433
145°	678	683	688	698	702	424
155°	775	778	780	783	781	357
165°	844	843	843	848	844	238
175°	878	876	874	879	875	83
180°	879	879	879	879	879	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1063.6	1062.8	1061.9	1061.1	1060.3	1058.9	1057.0	1055.1	1053.2	1051.3	1052.7
5°	1060.5	1059.5	1058.5	1057.4	1056.4	1054.9	1052.9	1050.8	1048.8	1046.7	1048.8
7.5°	1051.0	1050.3	1049.6	1049.0	1048.3	1047.2	1045.6	1044.0	1042.5	1040.9	1043.3
10°	1043.7	1043.0	1042.3	1041.6	1040.9	1040.1	1039.1	1038.0	1037.0	1036.0	1038.7
12.5°	1031.4	1031.5	1031.7	1031.8	1031.9	1031.6	1030.9	1030.1	1029.4	1028.6	1031.4
15°	1011.5	1012.2	1012.8	1013.5	1014.2	1014.5	1014.5	1014.5	1014.5	1014.5	1017.6
17.5°	985.7	987.2	988.6	990.0	991.4	992.7	993.8	994.9	996.0	997.1	1000.3
20°	968.6	970.3	972.0	973.7	975.4	976.9	978.3	979.6	981.0	982.4	986.1
22.5°	950.2	952.1	954.1	956.1	958.1	960.0	961.9	963.8	965.7	967.6	971.4
25°	919.5	921.9	924.3	926.7	929.1	931.8	934.8	937.9	941.0	944.0	948.1
27.5°	882.7	886.6	890.5	894.4	898.3	902.0	905.6	909.2	912.8	916.5	921.6
30°	858.2	862.6	867.1	871.5	875.9	880.4	884.8	889.2	893.6	898.1	903.5
32.5°	831.2	836.2	841.2	846.2	851.1	856.2	861.5	866.7	872.0	877.2	883.5
35°	792.3	798.1	803.9	809.7	815.5	821.6	828.1	834.5	841.0	847.5	855.0
37.5°	750.0	756.7	763.4	770.0	776.7	784.2	792.6	801.0	809.4	817.8	826.1
40°	721.8	729.3	736.8	744.3	751.8	760.1	769.3	778.5	787.7	796.9	805.8
42.5°	694.9	702.3	709.8	717.3	724.8	733.8	744.4	755.0	765.5	776.1	785.7
45°	649.8	659.0	668.2	677.4	686.6	697.1	709.1	721.0	732.9	744.8	755.4
47.5°	605.4	615.4	625.4	635.4	645.4	657.4	671.4	685.3	699.3	713.2	724.3
50°	574.7	585.3	595.8	606.4	616.9	629.9	645.2	660.5	675.8	691.2	702.8
52.5°	545.3	556.4	567.5	578.6	589.7	603.3	619.4	635.6	651.7	667.9	679.7
55°	498.1	510.3	522.6	534.9	547.1	562.1	579.8	597.5	615.2	632.9	645.2
57.5°	451.5	465.3	479.1	493.0	506.8	522.7	540.8	558.8	576.9	594.9	608.1
60°	418.4	433.0	447.7	462.3	477.0	494.0	513.4	532.8	552.2	571.6	584.6
62.5°	389.0	404.1	419.3	434.5	449.7	467.0	486.4	505.8	525.3	544.7	558.4
65°	340.2	356.9	373.6	390.3	407.0	425.4	445.5	465.5	485.6	505.7	519.7
67.5°	295.5	312.9	330.3	347.8	365.2	384.2	404.8	425.4	445.9	466.5	480.6
70°	263.6	281.3	299.0	316.7	334.4	353.8	375.0	396.1	417.2	438.3	452.9
72.5°	234.2	252.4	270.7	288.9	307.2	327.0	348.4	369.8	391.2	412.6	426.9
75°	188.5	207.6	226.6	245.7	264.8	285.2	307.0	328.8	350.6	372.4	387.0
77.5°	144.4	164.3	184.3	204.2	224.2	245.2	267.4	289.5	311.6	333.8	348.4
80°	114.9	135.7	156.5	177.3	198.0	219.5	241.6	263.8	285.9	308.0	322.3
82.5°	90.4	110.9	131.4	151.9	172.4	193.9	216.3	238.7	261.1	283.5	297.8
85°	55.2	76.3	97.4	118.5	139.6	161.1	182.9	204.7	226.5	248.3	262.6
87.5°	30.2	50.9	71.6	92.3	113.0	134.6	157.1	179.6	202.1	224.7	238.5
90°	16.1	37.8	59.5	81.3	103.0	126.6	152.0	177.4	202.8	228.3	241.6
92.5°	27.3	47.1	67.0	86.8	106.7	127.5	149.3	171.2	193.0	214.9	228.3
95°	50.8	68.5	86.2	103.8	121.5	140.7	161.4	182.2	203.0	223.7	236.7
97.5°	81.2	96.9	112.6	128.3	144.0	161.9	182.2	202.4	222.7	242.9	255.5
100°	105.0	118.9	132.8	146.7	160.6	177.4	197.0	216.5	236.1	255.7	268.3
102.5°	128.7	141.2	153.8	166.4	178.9	194.8	214.0	233.1	252.3	271.4	283.9
105°	167.2	177.6	187.9	198.3	208.7	222.9	240.9	259.0	277.0	295.0	307.3
107.5°	207.6	216.2	224.8	233.4	242.1	254.9	271.8	288.8	305.7	322.7	334.3
110°	232.5	240.3	248.1	255.9	263.7	275.9	292.6	309.3	326.0	342.7	353.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	261.0	267.7	274.4	281.1	287.8	299.0	314.8	330.5	346.2	362.0	372.5
115°	303.0	307.7	312.4	317.2	321.9	331.8	346.8	361.7	376.7	391.7	401.8
117.5°	343.3	347.0	350.8	354.6	358.4	366.9	380.1	393.3	406.6	419.8	429.5
120°	371.2	373.9	376.5	379.2	381.9	389.4	401.7	414.0	426.3	438.6	448.1
122.5°	396.7	398.8	401.0	403.1	405.2	412.2	424.1	436.0	447.9	459.7	468.6
125°	434.9	436.4	437.9	439.4	440.9	446.8	457.2	467.6	478.0	488.4	497.1
127.5°	473.7	475.2	476.8	478.3	479.8	484.7	492.9	501.1	509.3	517.5	525.3
130°	498.0	499.8	501.6	503.4	505.2	509.5	516.4	523.2	530.0	536.8	544.7
132.5°	525.3	526.7	528.1	529.5	530.9	534.4	540.0	545.6	551.2	556.8	564.0
135°	560.3	562.1	563.9	565.7	567.6	570.3	574.1	577.8	581.5	585.3	592.3
137.5°	598.7	600.2	601.6	603.0	604.4	606.1	608.0	609.9	611.9	613.8	619.9
140°	621.9	623.0	624.2	625.3	626.5	627.8	629.3	630.8	632.3	633.8	639.3
142.5°	645.6	646.8	647.9	649.1	650.2	651.1	651.8	652.5	653.2	653.9	658.4
145°	678.2	679.4	680.5	681.7	682.9	683.9	684.9	685.9	686.9	687.9	690.1
147.5°	708.7	710.0	711.4	712.8	714.2	715.2	715.9	716.5	717.2	717.9	718.5
150°	729.4	730.4	731.4	732.4	733.4	734.2	734.9	735.5	736.2	736.9	737.4
152.5°	747.8	748.8	749.8	750.8	751.8	752.7	753.5	754.3	755.1	755.9	756.5
155°	775.4	775.9	776.4	776.9	777.4	777.9	778.4	778.9	779.4	779.9	780.7
157.5°	799.0	799.4	799.7	800.0	800.4	800.7	801.0	801.3	801.6	801.9	803.0
160°	813.3	813.6	813.9	814.3	814.6	814.9	815.0	815.2	815.3	815.5	816.5
162.5°	826.3	826.4	826.5	826.5	826.6	826.7	826.9	827.1	827.2	827.4	828.5
165°	843.7	843.5	843.4	843.2	843.1	843.0	843.0	843.0	843.0	843.0	844.1
167.5°	858.3	857.8	857.3	856.8	856.3	856.0	856.0	855.9	855.9	855.9	857.0
170°	866.0	865.5	865.0	864.5	864.0	863.7	863.5	863.3	863.2	863.0	864.2
172.5°	871.3	870.8	870.3	869.8	869.3	869.0	868.8	868.7	868.5	868.3	869.5
175°	877.8	877.4	876.9	876.4	875.9	875.5	875.1	874.8	874.5	874.1	875.3
177.5°	880.5	880.1	879.7	879.3	878.9	878.6	878.3	878.1	877.8	877.5	878.3
180°	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1054.0	1055.4	1056.8	1057.2	1056.6	1056.1	1055.5	1055.0
5°	1050.8	1052.9	1054.9	1055.7	1055.4	1055.1	1054.7	1054.4
7.5°	1045.8	1048.3	1050.7	1051.8	1051.4	1051.1	1050.7	1050.4
10°	1041.4	1044.2	1046.9	1048.1	1047.7	1047.4	1047.1	1046.7
12.5°	1034.1	1036.8	1039.5	1040.7	1040.4	1040.0	1039.7	1039.4
15°	1020.7	1023.7	1026.8	1028.2	1027.8	1027.5	1027.1	1026.8
17.5°	1003.5	1006.7	1009.9	1011.5	1011.5	1011.5	1011.5	1011.5
20°	989.8	993.6	997.3	999.2	999.2	999.2	999.2	999.2
22.5°	975.1	978.9	982.6	984.8	985.3	985.9	986.4	987.0
25°	952.2	956.3	960.4	962.9	964.0	965.0	966.0	967.0
27.5°	926.8	932.0	937.2	940.1	940.9	941.6	942.4	943.1
30°	909.0	914.4	919.9	923.1	924.1	925.1	926.2	927.2
32.5°	889.8	896.0	902.3	906.3	908.2	910.0	911.9	913.7
35°	862.5	870.0	877.5	882.4	884.8	887.2	889.6	891.9
37.5°	834.4	842.7	851.0	856.4	858.9	861.5	864.0	866.5
40°	814.6	823.5	832.3	838.3	841.4	844.4	847.5	850.6
42.5°	795.4	805.1	814.8	821.1	824.2	827.3	830.3	833.4
45°	765.9	776.5	787.0	794.0	797.4	800.8	804.2	807.6
47.5°	735.3	746.3	757.4	764.8	768.5	772.3	776.0	779.8
50°	714.3	725.9	737.5	745.2	748.9	752.6	756.4	760.1
52.5°	691.6	703.4	715.3	723.2	727.2	731.3	735.3	739.3
55°	657.5	669.7	682.0	690.3	694.7	699.2	703.6	708.0
57.5°	621.4	634.6	647.8	656.6	661.1	665.6	670.1	674.6
60°	597.5	610.5	623.4	632.3	637.0	641.8	646.6	651.3
62.5°	572.2	585.9	599.7	608.8	613.3	617.8	622.3	626.8
65°	533.7	547.6	561.6	570.8	575.2	579.6	584.1	588.5
67.5°	494.7	508.8	522.9	532.3	536.9	541.5	546.2	550.8
70°	467.6	482.2	496.9	506.2	510.3	514.4	518.5	522.6
72.5°	441.3	455.7	470.0	479.7	484.6	489.5	494.4	499.3
75°	401.7	416.3	431.0	440.5	444.9	449.4	453.8	458.2
77.5°	362.9	377.5	392.1	401.8	406.5	411.3	416.1	420.8
80°	336.6	351.0	365.3	374.8	379.6	384.3	389.1	393.9
82.5°	312.1	326.4	340.7	350.1	354.6	359.1	363.6	368.1
85°	276.9	291.2	305.5	315.0	319.8	324.6	329.3	334.1
87.5°	252.3	266.1	280.0	289.1	293.5	297.9	302.3	306.6
90°	254.9	268.1	281.4	290.2	294.5	298.7	303.0	307.2
92.5°	241.7	255.1	268.5	277.3	281.4	285.5	289.6	293.8
95°	249.6	262.6	275.5	283.8	287.6	291.4	295.1	298.9
97.5°	268.1	280.7	293.3	301.6	305.6	309.6	313.6	317.5
100°	280.9	293.5	306.1	314.2	317.7	321.3	324.9	328.5
102.5°	296.3	308.8	321.3	329.3	332.9	336.4	340.0	343.6
105°	319.5	331.8	344.0	352.0	355.8	359.5	363.3	367.0
107.5°	345.9	357.4	369.0	376.3	379.3	382.3	385.2	388.2
110°	364.4	375.3	386.2	393.3	396.6	399.8	403.1	406.3





TEST NUMBER: P331594

CATALOG NUMBER: S122DIW-S1005D710U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	383.0	393.5	404.0	410.9	414.3	417.7	421.1	424.5
115°	411.8	421.9	431.9	438.6	441.9	445.1	448.4	451.6
117.5°	439.2	448.9	458.6	464.9	467.9	470.9	473.8	476.8
120°	457.7	467.2	476.7	483.1	486.4	489.6	492.9	496.1
122.5°	477.5	486.3	495.2	501.1	503.9	506.7	509.6	512.4
125°	505.8	514.5	523.2	529.0	531.9	534.8	537.7	540.6
127.5°	533.2	541.0	548.9	554.0	556.5	559.0	561.4	563.9
130°	552.5	560.4	568.2	573.2	575.2	577.3	579.3	581.4
132.5°	571.1	578.3	585.5	590.2	592.4	594.6	596.8	599.0
135°	599.2	606.2	613.2	617.8	620.1	622.3	624.5	626.7
137.5°	626.0	632.2	638.3	642.2	643.9	645.5	647.2	648.8
140°	644.7	650.2	655.6	659.0	660.4	661.8	663.2	664.6
142.5°	662.9	667.4	671.9	674.7	675.8	676.9	678.0	679.1
145°	692.3	694.5	696.7	698.3	699.4	700.4	701.5	702.5
147.5°	719.1	719.8	720.4	720.8	721.0	721.2	721.4	721.6
150°	737.8	738.3	738.8	738.8	738.3	737.8	737.4	736.9
152.5°	757.1	757.7	758.4	758.4	757.7	757.1	756.5	755.9
155°	781.5	782.4	783.2	783.4	782.9	782.4	781.9	781.4
157.5°	804.1	805.2	806.3	806.5	805.7	804.9	804.1	803.3
160°	817.5	818.5	819.5	819.6	819.0	818.3	817.7	817.0
162.5°	829.6	830.8	831.9	832.0	831.2	830.5	829.7	828.9
165°	845.3	846.4	847.6	847.8	846.9	846.1	845.3	844.5
167.5°	858.2	859.3	860.5	860.6	859.8	858.9	858.1	857.2
170°	865.3	866.5	867.6	867.7	866.7	865.7	864.7	863.7
172.5°	870.7	871.8	873.0	873.0	872.1	871.1	870.1	869.1
175°	876.4	877.6	878.8	878.8	877.8	876.9	875.9	874.9
177.5°	879.1	879.9	880.7	880.7	879.9	879.1	878.3	877.5
180°	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3

(END OF REPORT)