

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: P331535-840

Luminaire Tested: **S122DIW-S675D710U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331535-840  
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-S675D710U840-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 710 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5593.3 lumens  
Efficiency: N/A  
Efficacy: 124.3 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: General Diffuse

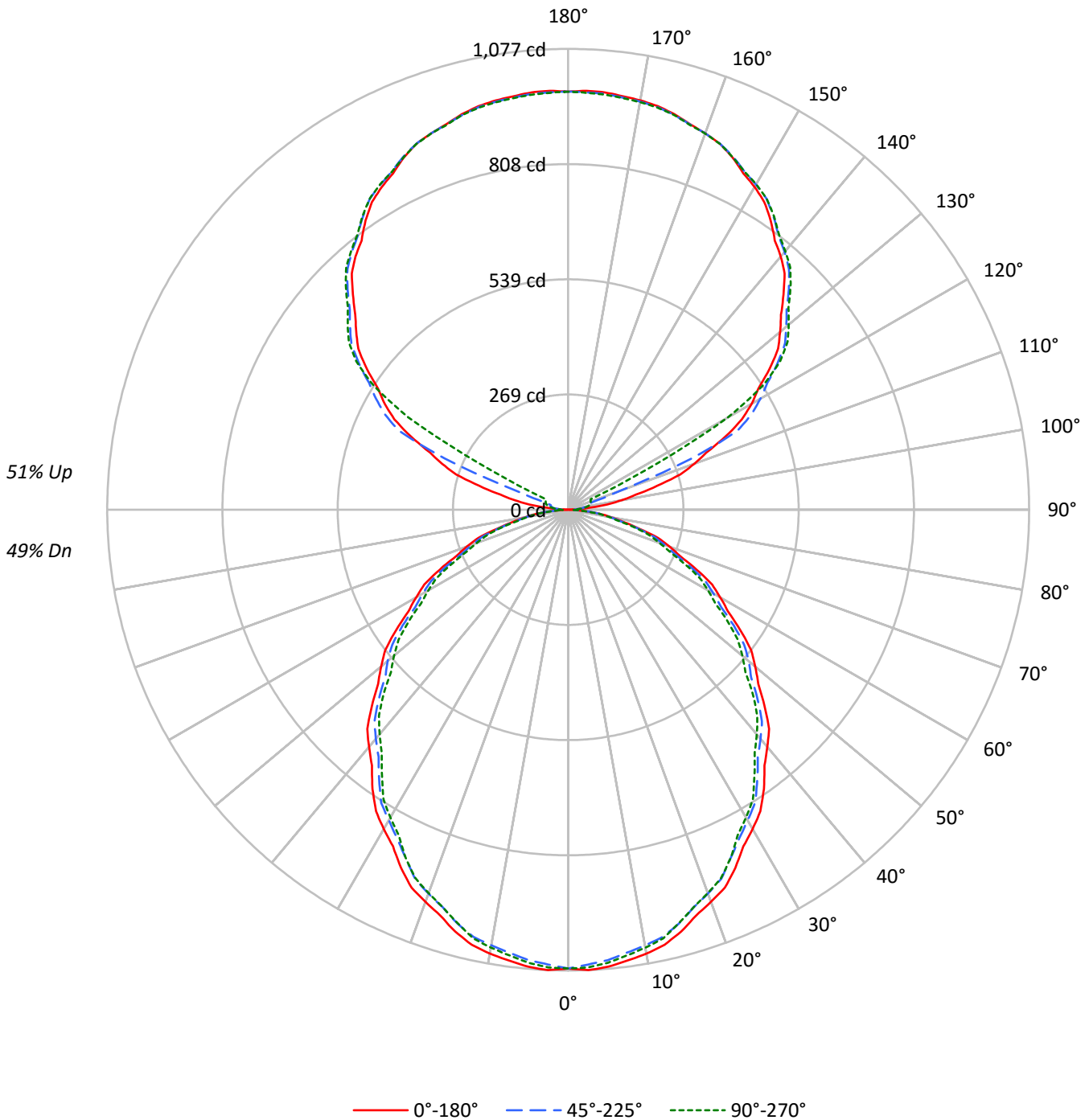
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55
1	98	93	89	86	90	86	83	80	72	70	68	60	58	57	49	47	46
2	89	81	75	70	82	75	70	65	63	60	56	53	50	47	43	41	39
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	35	33
4	74	63	55	49	68	59	52	46	50	44	40	42	38	34	34	31	29
5	68	56	48	42	62	52	45	40	45	39	35	37	33	30	31	27	25
6	63	51	42	37	58	47	40	35	40	34	30	34	29	26	28	25	22
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	20
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18
9	50	38	30	25	46	35	29	24	30	25	21	26	22	19	21	18	16
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14

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

	0°	45°	90°
0°	17312	17312	17312
5°	17378	17126	17227
10°	17274	16952	17038
15°	17060	16732	16715
20°	16756	16402	16385
25°	16456	15998	15998
30°	16067	15627	15491
35°	15707	15179	14954
40°	15253	14731	14450
45°	14805	14289	13935
50°	14320	13828	13335
55°	13813	13292	12797
60°	13249	12649	12184
65°	12642	12015	11461
70°	11877	11240	10707
75°	10805	10356	10100
80°	9586	9298	8815
85°	7836	7447	6688



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.8	1.8
10°-20°	283.7	5.1
20°-30°	417.0	7.5
30°-40°	484.3	8.7
40°-50°	483.8	8.7
50°-60°	421.9	7.5
60°-70°	312.0	5.6
70°-80°	176.7	3.2
80°-90°	49.9	0.9
90°-100°	32.6	0.6
100°-110°	119.5	2.1
110°-120°	319.5	5.7
120°-130°	527.3	9.4
130°-140°	560.8	10.0
140°-150°	521.3	9.3
150°-160°	419.1	7.5
160°-170°	270.1	4.8
170°-180°	93.0	1.7
0°-30°	801.5	14.3
0°-40°	1285.8	23.0
0°-60°	2191.5	39.2
0°-90°	2730.1	48.8
90°-120°	471.6	8.4
90°-150°	2081.0	37.2
90°-180°	2863.0	51.2
0°-180°	5593.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1072	1072	1072	1072	1072	
5°	1072	1068	1057	1064	1063	102
15°	1021	1014	1001	1005	1000	287
25°	924	915	898	900	898	425
35°	797	786	770	764	759	497
45°	648	641	626	615	610	500
55°	491	484	472	460	455	439
65°	331	324	314	305	300	327
75°	173	171	166	160	162	185
85°	42	41	40	37	36	48
90°	1	8	14	18	19	4
95°	46	24	28	31	30	56
105°	215	224	43	51	54	230
115°	406	419	436	124	58	400
125°	575	584	597	602	604	512
135°	711	722	729	736	735	549
145°	825	825	836	841	838	516
155°	908	903	911	914	909	418
165°	957	953	955	960	955	270
175°	979	974	976	980	974	93
180°	977	977	977	977	977	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2
2.5°	1077.1	1076.2	1075.3	1074.4	1073.5	1072.0	1070.0	1067.9	1065.9	1063.9	1065.7
5°	1072.2	1071.3	1070.4	1069.4	1068.5	1066.8	1064.3	1061.8	1059.2	1056.7	1058.5
7.5°	1062.7	1061.3	1059.9	1058.4	1057.0	1055.0	1052.5	1049.9	1047.3	1044.7	1046.5
10°	1053.6	1052.0	1050.4	1048.7	1047.2	1045.0	1042.3	1039.6	1036.7	1034.0	1035.8
12.5°	1041.3	1039.9	1038.3	1036.9	1035.5	1033.5	1030.7	1027.9	1025.2	1022.5	1023.8
15°	1020.6	1019.3	1017.8	1016.5	1015.1	1012.9	1010.0	1006.9	1004.0	1001.0	1002.0
17.5°	994.2	992.8	991.5	990.1	988.8	986.5	983.5	980.5	977.4	974.4	975.5
20°	975.2	973.9	972.5	971.1	969.8	967.5	964.2	961.1	957.9	954.6	955.3
22.5°	956.2	954.3	952.4	950.5	948.6	946.1	943.1	940.1	937.1	934.0	934.1
25°	923.7	921.9	920.1	918.2	916.4	913.5	909.6	905.7	901.8	898.0	898.4
27.5°	886.6	884.9	883.3	881.6	880.0	877.7	874.5	871.5	868.4	865.4	864.6
30°	861.8	860.0	858.2	856.4	854.5	851.9	848.5	845.1	841.6	838.2	837.5
32.5°	835.5	833.9	832.5	831.0	829.6	827.1	823.4	819.8	816.2	812.5	811.3
35°	796.9	794.7	792.3	790.0	787.7	784.8	781.1	777.4	773.8	770.1	768.7
37.5°	753.4	751.3	749.3	747.3	745.4	742.5	738.8	735.2	731.5	727.8	726.1
40°	723.7	721.9	720.0	718.2	716.4	713.7	709.9	706.3	702.7	698.9	696.9
42.5°	694.9	693.0	691.2	689.3	687.5	684.8	681.1	677.4	673.8	670.1	667.8
45°	648.4	646.8	645.2	643.7	642.1	639.5	636.1	632.7	629.2	625.8	623.3
47.5°	602.3	600.8	599.3	597.7	596.2	593.7	590.1	586.5	583.0	579.4	576.7
50°	570.1	569.0	567.8	566.6	565.5	563.3	560.2	556.9	553.7	550.5	547.3
52.5°	538.8	537.2	535.7	534.2	532.7	530.5	527.5	524.4	521.4	518.4	515.7
55°	490.7	489.4	488.0	486.6	485.2	483.1	480.4	477.7	474.9	472.2	469.4
57.5°	442.4	441.4	440.3	439.2	438.1	436.1	433.0	430.0	427.0	423.9	421.2
60°	410.3	409.4	408.5	407.6	406.7	404.6	401.4	398.2	395.0	391.7	389.2
62.5°	379.0	377.5	376.1	374.6	373.1	371.1	368.7	366.2	363.8	361.2	358.9
65°	330.9	329.5	328.2	326.8	325.4	323.6	321.3	319.0	316.7	314.5	312.4
67.5°	282.1	280.9	279.8	278.7	277.6	276.1	274.0	272.0	269.9	267.8	266.2
70°	251.6	250.6	249.7	248.8	247.9	246.4	244.3	242.3	240.2	238.1	236.5
72.5°	220.3	219.2	218.3	217.4	216.5	215.4	214.1	212.8	211.5	210.1	208.5
75°	173.2	172.7	172.3	171.8	171.4	170.6	169.5	168.2	167.1	166.0	164.6
77.5°	131.2	130.4	129.6	128.8	128.1	127.4	126.9	126.4	126.0	125.5	124.9
80°	103.1	102.9	102.6	102.4	102.2	101.8	101.4	100.9	100.5	100.0	99.3
82.5°	76.7	76.6	76.6	76.5	76.5	76.3	76.0	75.8	75.5	75.2	74.4
85°	42.3	42.0	41.8	41.6	41.3	41.1	40.9	40.7	40.4	40.2	39.5
87.5°	14.9	14.9	14.9	14.9	14.9	14.8	14.7	14.6	14.4	14.3	13.9
90°	0.7	2.4	4.1	5.9	7.6	9.1	10.4	11.6	12.9	14.1	14.9
92.5°	14.2	14.1	13.9	13.8	13.6	13.9	14.5	15.1	15.8	16.4	16.8
95°	45.9	40.8	35.5	30.4	25.2	23.1	24.2	25.3	26.5	27.6	28.4
97.5°	91.2	76.5	62.0	47.4	32.7	26.8	29.3	31.8	34.3	36.9	37.6
100°	125.1	103.6	82.1	60.6	39.1	29.6	32.3	34.9	37.7	40.3	41.5
102.5°	162.5	157.9	153.3	148.8	144.2	130.8	108.5	86.1	63.7	41.4	43.0
105°	214.9	219.6	224.4	229.0	233.8	214.7	171.8	128.9	86.0	43.1	44.8
107.5°	274.7	278.5	282.4	286.1	289.9	266.1	214.7	163.3	111.8	60.4	58.6
110°	313.2	316.5	319.8	323.1	326.4	305.3	259.9	214.5	169.2	123.7	108.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	349.4	352.3	355.3	358.1	361.0	356.9	345.7	334.5	323.3	312.0	254.8
115°	406.5	409.2	411.8	414.5	417.2	420.5	424.4	428.4	432.2	436.2	363.5
117.5°	457.6	460.5	463.5	466.5	469.5	472.3	475.0	477.8	480.4	483.1	465.5
120°	494.8	497.3	499.6	501.9	504.3	506.9	509.7	512.5	515.3	518.2	520.1
122.5°	526.5	529.1	531.5	534.0	536.4	539.3	542.3	545.4	548.5	551.6	552.7
125°	574.7	576.8	578.9	580.9	582.9	585.4	588.4	591.4	594.4	597.3	598.4
127.5°	618.4	620.7	623.0	625.2	627.5	629.8	632.0	634.2	636.4	638.6	640.3
130°	646.1	648.6	651.2	653.7	656.2	658.3	660.0	661.8	663.5	665.3	667.0
132.5°	674.5	676.6	678.7	680.9	683.0	684.9	686.6	688.3	690.1	691.9	693.3
135°	711.2	713.7	716.2	718.7	721.2	723.3	724.7	726.1	727.5	728.9	730.4
137.5°	748.4	750.1	751.9	753.7	755.4	757.1	758.7	760.3	761.9	763.6	765.1
140°	772.7	774.0	775.2	776.5	777.7	779.2	780.9	782.6	784.4	786.2	787.6
142.5°	793.0	794.2	795.4	796.5	797.6	799.1	801.1	803.1	805.1	807.1	808.4
145°	825.1	824.9	824.8	824.6	824.4	825.7	828.3	831.0	833.6	836.4	837.5
147.5°	852.8	852.3	851.7	851.1	850.5	851.5	854.1	856.8	859.4	862.0	862.9
150°	871.0	869.9	868.8	867.7	866.6	867.3	869.8	872.3	874.8	877.4	878.3
152.5°	886.3	885.0	883.8	882.5	881.3	881.9	884.3	886.7	889.1	891.5	892.4
155°	908.5	907.1	905.6	904.2	902.8	903.0	904.9	906.8	908.7	910.6	911.5
157.5°	925.8	924.6	923.4	922.2	921.1	921.1	922.4	923.7	925.0	926.3	927.5
160°	936.0	935.0	934.1	933.2	932.2	932.2	933.2	934.1	935.0	936.0	937.0
162.5°	945.0	944.1	943.2	942.2	941.3	941.2	942.0	942.9	943.7	944.5	945.5
165°	957.3	956.2	955.3	954.4	953.4	953.2	953.7	954.1	954.6	955.1	956.2
167.5°	966.2	965.3	964.4	963.4	962.5	962.3	962.7	963.1	963.6	964.0	965.1
170°	971.4	970.4	969.5	968.6	967.6	967.2	967.6	968.0	968.3	968.6	969.7
172.5°	974.7	973.8	972.9	971.9	971.0	970.7	971.0	971.3	971.6	971.9	973.0
175°	979.2	978.1	976.9	975.8	974.7	974.3	974.6	975.0	975.3	975.6	976.7
177.5°	979.9	979.0	978.1	977.2	976.3	975.9	976.0	976.2	976.3	976.4	977.3
180°	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2
2.5°	1067.5	1069.4	1071.3	1072.0	1071.6	1071.3	1070.9	1070.6
5°	1060.4	1062.2	1064.0	1064.7	1064.3	1063.8	1063.4	1062.9
7.5°	1048.4	1050.3	1052.1	1052.7	1052.2	1051.8	1051.3	1050.8
10°	1037.6	1039.6	1041.4	1041.9	1041.3	1040.6	1039.9	1039.2
12.5°	1025.0	1026.3	1027.6	1027.9	1027.4	1027.0	1026.5	1026.0
15°	1002.9	1003.8	1004.7	1004.6	1003.4	1002.3	1001.2	1000.0
17.5°	976.5	977.5	978.7	978.7	977.5	976.4	975.3	974.2
20°	956.0	956.7	957.4	957.3	956.3	955.4	954.5	953.6
22.5°	934.3	934.4	934.5	934.3	933.8	933.2	932.7	932.2
25°	898.9	899.3	899.8	899.8	899.3	898.9	898.4	898.0
27.5°	863.9	863.3	862.6	861.7	860.6	859.5	858.4	857.3
30°	836.8	836.1	835.4	834.6	833.6	832.7	831.8	830.9
32.5°	810.1	808.9	807.6	806.6	805.7	804.8	803.8	802.8
35°	767.4	766.0	764.6	763.4	762.2	761.0	759.9	758.7
37.5°	724.5	722.8	721.0	719.6	718.5	717.4	716.4	715.3
40°	694.9	692.8	690.7	689.2	688.3	687.4	686.5	685.6
42.5°	665.6	663.4	661.2	659.3	658.0	656.8	655.5	654.2
45°	620.8	618.2	615.7	614.0	613.1	612.2	611.3	610.3
47.5°	574.1	571.4	568.8	566.7	565.4	564.1	562.8	561.5
50°	544.1	540.9	537.7	535.5	534.3	533.2	532.1	530.9
52.5°	513.0	510.4	507.8	505.6	504.1	502.6	501.1	499.6
55°	466.7	463.9	461.2	459.2	458.1	457.0	455.8	454.6
57.5°	418.5	415.8	413.1	411.3	410.4	409.6	408.7	407.8
60°	386.7	384.2	381.6	380.1	379.4	378.7	378.0	377.3
62.5°	356.6	354.3	351.9	350.3	349.4	348.5	347.7	346.8
65°	310.3	308.2	306.2	304.6	303.5	302.3	301.1	300.0
67.5°	264.6	263.1	261.5	260.1	259.2	258.3	257.4	256.5
70°	234.9	233.4	231.8	230.5	229.5	228.6	227.7	226.8
72.5°	206.9	205.3	203.7	202.5	201.8	201.1	200.4	199.5
75°	163.2	161.9	160.5	160.1	160.5	161.0	161.4	161.9
77.5°	124.2	123.5	122.8	122.2	121.5	120.9	120.3	119.6
80°	98.7	98.0	97.3	96.6	96.2	95.7	95.3	94.8
82.5°	73.5	72.6	71.8	71.3	71.2	71.1	71.0	70.9
85°	38.9	38.2	37.5	37.0	36.8	36.6	36.4	36.1
87.5°	13.6	13.2	12.8	12.5	12.4	12.3	12.2	12.0
90°	15.8	16.5	17.3	17.9	18.2	18.5	18.8	19.1
92.5°	17.3	17.7	18.1	18.4	18.5	18.7	18.9	19.1
95°	29.2	29.9	30.7	31.0	30.9	30.7	30.6	30.4
97.5°	38.2	38.8	39.4	39.8	40.0	40.2	40.4	40.6
100°	42.8	44.0	45.3	46.2	46.5	46.8	47.1	47.4
102.5°	44.7	46.4	48.0	49.0	49.5	49.9	50.3	50.8
105°	46.6	48.3	50.0	51.2	51.8	52.5	53.1	53.7
107.5°	56.9	55.1	53.3	52.8	53.4	54.0	54.6	55.2
110°	92.3	76.5	60.9	53.3	53.9	54.6	55.2	55.8





TEST NUMBER: P331535-840

CATALOG NUMBER: S122DIW-S675D710U840-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	197.4	140.2	82.8	54.4	54.9	55.4	55.9	56.5
115°	290.7	217.9	145.2	103.2	91.9	80.6	69.3	58.0
117.5°	448.0	430.3	412.7	385.4	348.2	311.0	273.9	236.7
120°	522.0	523.8	525.7	516.0	494.8	473.6	452.4	431.2
122.5°	553.8	554.9	556.1	554.6	550.5	546.3	542.3	538.2
125°	599.6	600.7	601.8	602.6	603.0	603.5	604.0	604.4
127.5°	641.9	643.5	645.1	645.9	646.0	646.1	646.2	646.3
130°	668.7	670.4	672.2	673.0	672.8	672.7	672.5	672.4
132.5°	694.8	696.3	697.7	698.4	698.2	698.1	697.9	697.8
135°	732.1	733.6	735.2	735.8	735.5	735.2	734.9	734.6
137.5°	766.6	768.1	769.7	770.2	769.6	769.1	768.6	768.0
140°	789.0	790.4	791.8	792.1	791.3	790.5	789.7	789.0
142.5°	809.6	810.9	812.2	812.4	811.7	810.9	810.1	809.3
145°	838.5	839.6	840.7	840.9	840.1	839.3	838.5	837.8
147.5°	863.7	864.5	865.4	865.5	864.7	864.1	863.4	862.7
150°	879.2	880.2	881.1	881.2	880.4	879.6	878.8	878.1
152.5°	893.3	894.3	895.2	895.2	894.1	893.1	892.1	891.0
155°	912.4	913.4	914.3	914.1	912.9	911.7	910.4	909.2
157.5°	928.6	929.6	930.7	930.6	929.4	928.2	927.0	925.6
160°	937.9	938.9	939.8	939.7	938.6	937.5	936.4	935.3
162.5°	946.6	947.7	948.8	948.7	947.3	945.9	944.5	943.2
165°	957.4	958.4	959.5	959.5	958.4	957.4	956.2	955.1
167.5°	966.2	967.3	968.4	968.3	966.8	965.4	964.0	962.6
170°	970.8	971.8	972.9	972.8	971.4	970.0	968.6	967.1
172.5°	974.1	975.2	976.3	976.1	974.7	973.3	971.9	970.5
175°	977.9	978.9	980.0	979.8	978.2	976.6	975.0	973.5
177.5°	978.3	979.1	980.0	979.9	978.8	977.5	976.4	975.3
180°	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0

(END OF REPORT)