

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: P331565-927

Luminaire Tested: **S122DIW-S865D710U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331565-927  
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-S865D710U927-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 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: 5029.2 lumens  
Efficiency: N/A  
Efficacy: 93.8 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

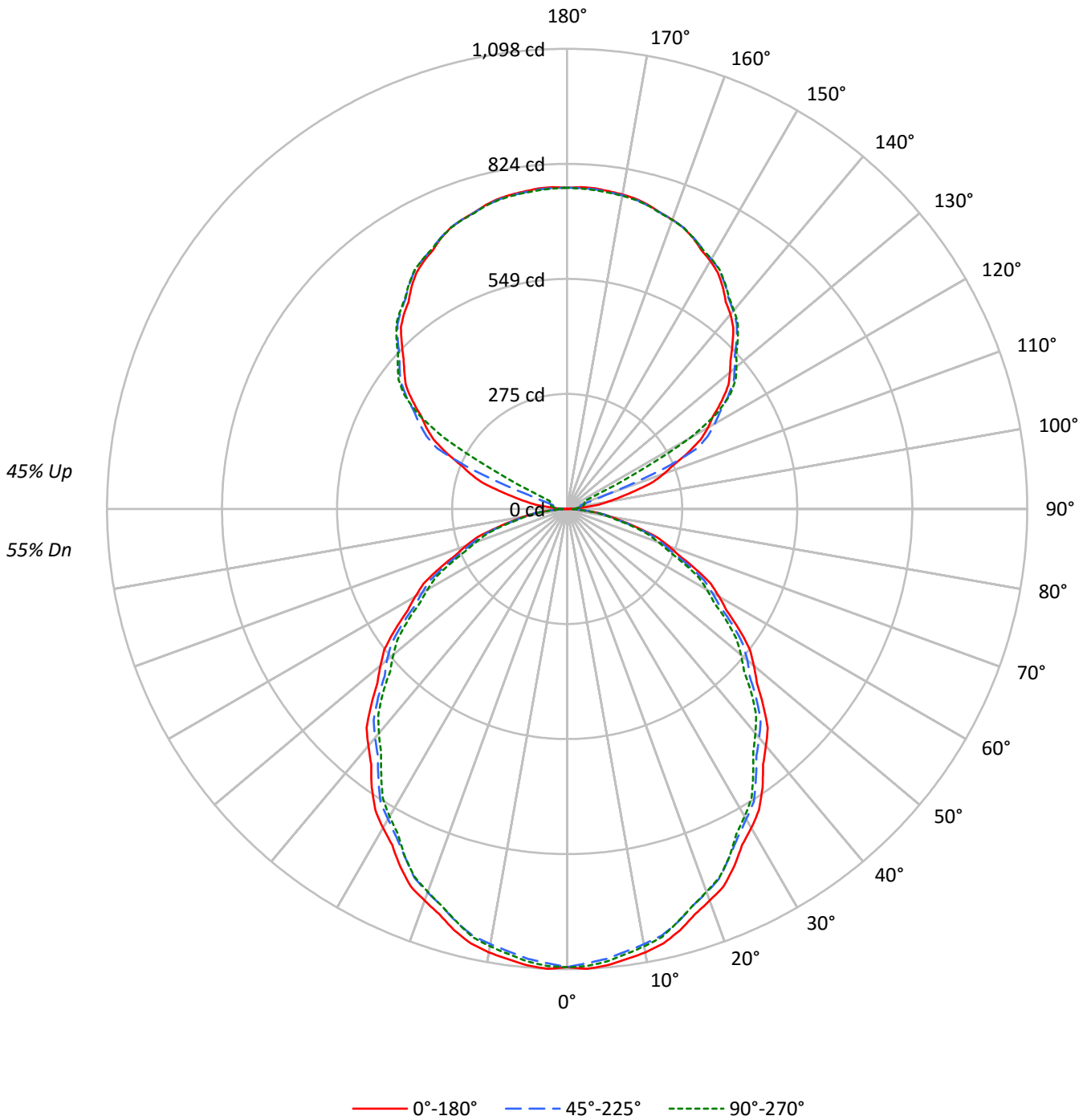
Input Watts (W): 53.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331565-927

CATALOG NUMBER: S122DIW-S865D710U927-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P331565-927

CATALOG NUMBER: S122DIW-S865D710U927-4F0-1E-UDD-F

**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	99	95	91	87	92	88	85	82	76	73	71	64	63	61	54	53	52	47
2	90	83	76	71	83	77	72	67	66	62	59	57	54	51	47	45	43	39
3	82	73	65	59	76	68	61	56	59	54	49	50	46	43	42	39	37	33
4	75	64	56	50	70	60	53	47	52	47	42	45	40	37	38	34	32	28
5	69	57	49	43	64	54	46	41	47	41	36	40	36	32	34	31	28	25
6	64	51	43	37	59	48	41	36	42	36	32	36	32	28	31	27	24	22
7	59	47	38	33	55	44	36	31	38	32	28	33	28	25	28	25	22	19
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	20	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	16
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14

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

	0°	45°	90°
0°	17651	17651	17651
5°	17718	17462	17566
10°	17613	17285	17372
15°	17396	17061	17043
20°	17086	16725	16706
25°	16778	16311	16311
30°	16384	15933	15795
35°	16015	15477	15248
40°	15553	15022	14733
45°	15098	14570	14209
50°	14601	14099	13599
55°	14083	13551	13050
60°	13511	12897	12426
65°	12894	12248	11687
70°	12109	11462	10914
75°	11017	10555	10293
80°	9772	9484	8991
85°	7984	7595	6817



TEST NUMBER: P331565-927

CATALOG NUMBER: S122DIW-S865D710U927-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.8	2.0
10°-20°	289.3	5.8
20°-30°	425.2	8.5
30°-40°	493.9	9.8
40°-50°	493.3	9.8
50°-60°	430.2	8.6
60°-70°	318.1	6.3
70°-80°	180.2	3.6
80°-90°	50.3	1.0
90°-100°	25.6	0.5
100°-110°	93.8	1.9
110°-120°	250.6	5.0
120°-130°	413.7	8.2
130°-140°	440.0	8.7
140°-150°	408.9	8.1
150°-160°	328.8	6.5
160°-170°	211.9	4.2
170°-180°	72.9	1.4
0°-30°	817.2	16.2
0°-40°	1311.1	26.1
0°-60°	2234.6	44.4
0°-90°	2783.2	55.3
90°-120°	369.9	7.4
90°-150°	1632.5	32.5
90°-180°	2246.0	44.7
0°-180°	5029.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1093	1093	1093	1093	1093	
5°	1093	1089	1077	1085	1084	104
15°	1041	1034	1021	1024	1020	293
25°	942	933	916	917	916	433
35°	812	802	785	779	774	507
45°	661	653	638	627	622	510
55°	500	494	481	469	464	447
65°	338	331	321	311	306	334
75°	177	174	169	163	165	189
85°	43	42	41	38	37	49
90°	1	6	11	14	15	4
95°	36	19	22	24	24	44
105°	169	176	34	40	42	180
115°	319	329	342	97	46	314
125°	451	458	469	472	474	402
135°	558	567	572	577	576	431
145°	647	647	656	660	657	405
155°	713	708	714	717	713	328
165°	751	748	749	753	749	212
175°	768	764	765	769	764	73
180°	766	766	766	766	766	



TEST NUMBER: P331565-927

CATALOG NUMBER: S122DIW-S865D710U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2
2.5°	1098.3	1097.3	1096.4	1095.5	1094.6	1093.1	1091.0	1088.9	1086.9	1084.8	1086.7
5°	1093.2	1092.3	1091.4	1090.4	1089.5	1087.7	1085.2	1082.6	1080.1	1077.4	1079.3
7.5°	1083.5	1082.1	1080.7	1079.2	1077.8	1075.7	1073.1	1070.5	1067.9	1065.2	1067.1
10°	1074.3	1072.7	1071.0	1069.4	1067.8	1065.6	1062.7	1059.9	1057.2	1054.3	1056.2
12.5°	1061.7	1060.3	1058.8	1057.3	1055.9	1053.8	1051.0	1048.1	1045.4	1042.6	1043.9
15°	1040.7	1039.3	1037.8	1036.5	1035.1	1032.8	1029.8	1026.7	1023.7	1020.7	1021.6
17.5°	1013.8	1012.3	1011.0	1009.6	1008.1	1005.9	1002.8	999.7	996.6	993.6	994.7
20°	994.4	993.0	991.7	990.2	988.8	986.5	983.2	979.9	976.7	973.4	974.1
22.5°	975.1	973.1	971.1	969.2	967.3	964.7	961.6	958.5	955.5	952.4	952.5
25°	941.8	940.0	938.1	936.3	934.4	931.4	927.5	923.5	919.6	915.6	916.1
27.5°	904.0	902.4	900.6	899.0	897.3	894.8	891.8	888.6	885.5	882.3	881.7
30°	878.8	876.9	875.0	873.2	871.3	868.6	865.1	861.7	858.1	854.6	853.9
32.5°	851.9	850.4	848.9	847.4	845.9	843.3	839.6	835.9	832.3	828.5	827.3
35°	812.5	810.2	807.9	805.6	803.2	800.2	796.5	792.7	788.9	785.2	783.9
37.5°	768.2	766.1	764.1	762.0	760.0	757.1	753.4	749.6	745.8	742.1	740.4
40°	737.9	736.1	734.2	732.3	730.5	727.6	723.9	720.2	716.4	712.7	710.6
42.5°	708.5	706.6	704.7	702.9	701.0	698.2	694.5	690.8	687.0	683.3	681.0
45°	661.2	659.6	657.9	656.3	654.7	652.0	648.6	645.1	641.6	638.1	635.5
47.5°	614.1	612.6	611.0	609.5	607.9	605.3	601.7	598.0	594.4	590.7	588.0
50°	581.3	580.1	579.0	577.8	576.6	574.4	571.2	567.8	564.6	561.3	558.1
52.5°	549.4	547.8	546.3	544.7	543.2	540.9	537.8	534.7	531.6	528.5	525.9
55°	500.3	499.0	497.6	496.1	494.7	492.7	489.9	487.0	484.3	481.4	478.6
57.5°	451.1	450.0	448.9	447.8	446.7	444.6	441.5	438.4	435.3	432.2	429.5
60°	418.4	417.4	416.5	415.6	414.6	412.6	409.2	406.0	402.7	399.4	396.9
62.5°	386.4	384.9	383.4	381.9	380.4	378.4	375.9	373.4	370.8	368.4	366.0
65°	337.5	336.0	334.6	333.2	331.8	329.9	327.6	325.3	323.0	320.6	318.5
67.5°	287.6	286.5	285.3	284.2	283.1	281.5	279.4	277.3	275.2	273.1	271.5
70°	256.5	255.6	254.6	253.7	252.8	251.2	249.1	247.0	244.9	242.8	241.2
72.5°	224.5	223.6	222.7	221.7	220.8	219.7	218.3	217.0	215.6	214.2	212.6
75°	176.6	176.1	175.6	175.2	174.8	173.9	172.8	171.6	170.4	169.2	167.9
77.5°	133.7	132.9	132.1	131.3	130.6	129.9	129.4	129.0	128.5	128.0	127.3
80°	105.1	104.9	104.6	104.4	104.2	103.9	103.4	102.9	102.4	102.0	101.2
82.5°	78.2	78.2	78.1	78.0	78.0	77.9	77.6	77.3	77.0	76.8	75.8
85°	43.1	42.9	42.6	42.4	42.1	41.9	41.7	41.4	41.2	41.0	40.3
87.5°	15.2	15.1	15.1	15.0	14.8	14.7	14.5	14.3	14.2	14.0	13.5
90°	0.6	1.9	3.2	4.6	5.9	7.1	8.2	9.1	10.1	11.1	11.7
92.5°	11.2	11.1	10.9	10.9	10.7	10.9	11.4	11.9	12.4	12.8	13.2
95°	36.0	32.0	27.9	23.8	19.8	18.1	19.0	19.9	20.8	21.6	22.3
97.5°	71.5	60.0	48.6	37.2	25.7	21.0	23.0	25.0	26.9	28.9	29.5
100°	98.2	81.3	64.4	47.5	30.7	23.2	25.3	27.4	29.5	31.6	32.6
102.5°	127.5	123.9	120.3	116.7	113.1	102.6	85.1	67.6	50.0	32.5	33.7
105°	168.6	172.3	176.0	179.7	183.4	168.4	134.8	101.1	67.5	33.8	35.2
107.5°	215.5	218.5	221.5	224.4	227.4	208.7	168.4	128.1	87.7	47.4	45.9
110°	245.7	248.3	250.9	253.4	256.0	239.5	203.9	168.3	132.7	97.0	84.8



TEST NUMBER: P331565-927

CATALOG NUMBER: S122DIW-S865D710U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	274.1	276.4	278.7	280.9	283.2	280.0	271.2	262.4	253.6	244.8	199.9
115°	318.9	321.0	323.1	325.2	327.3	329.9	333.0	336.0	339.1	342.1	285.1
117.5°	358.9	361.2	363.6	365.9	368.3	370.5	372.6	374.8	376.8	379.0	365.2
120°	388.2	390.1	391.9	393.7	395.6	397.6	399.8	402.0	404.3	406.5	408.0
122.5°	413.0	415.0	416.9	418.9	420.8	423.0	425.4	427.9	430.2	432.7	433.6
125°	450.8	452.5	454.1	455.7	457.2	459.2	461.6	463.9	466.3	468.6	469.4
127.5°	485.1	486.9	488.7	490.4	492.3	494.0	495.7	497.5	499.2	501.0	502.2
130°	506.8	508.8	510.8	512.8	514.8	516.4	517.8	519.1	520.5	521.9	523.2
132.5°	529.1	530.8	532.4	534.1	535.8	537.3	538.6	540.0	541.4	542.7	543.8
135°	557.9	559.8	561.8	563.8	565.8	567.4	568.5	569.6	570.7	571.8	573.0
137.5°	587.1	588.4	589.9	591.2	592.6	593.9	595.2	596.4	597.7	599.0	600.2
140°	606.2	607.1	608.1	609.1	610.1	611.2	612.6	613.9	615.3	616.7	617.8
142.5°	622.1	623.0	623.9	624.8	625.7	626.9	628.4	630.0	631.5	633.1	634.1
145°	647.2	647.1	647.0	646.8	646.7	647.7	649.7	651.9	653.9	656.1	657.0
147.5°	669.0	668.6	668.1	667.7	667.2	668.0	670.0	672.1	674.1	676.2	676.9
150°	683.3	682.4	681.5	680.6	679.8	680.3	682.3	684.3	686.3	688.2	689.0
152.5°	695.2	694.3	693.3	692.3	691.3	691.8	693.7	695.5	697.4	699.3	700.1
155°	712.6	711.5	710.4	709.3	708.2	708.4	709.9	711.3	712.8	714.3	715.0
157.5°	726.3	725.3	724.4	723.4	722.5	722.5	723.6	724.6	725.6	726.7	727.5
160°	734.3	733.5	732.8	732.1	731.3	731.3	732.1	732.8	733.5	734.3	735.0
162.5°	741.3	740.6	739.9	739.1	738.4	738.3	738.9	739.7	740.3	740.9	741.7
165°	750.9	750.1	749.4	748.7	747.9	747.7	748.1	748.5	748.8	749.2	750.1
167.5°	758.0	757.2	756.5	755.7	755.0	754.9	755.2	755.5	755.9	756.2	757.1
170°	762.0	761.2	760.5	759.8	759.0	758.8	759.0	759.3	759.5	759.8	760.7
172.5°	764.6	763.9	763.2	762.4	761.7	761.4	761.7	761.9	762.2	762.4	763.3
175°	768.1	767.2	766.4	765.5	764.6	764.3	764.5	764.9	765.1	765.3	766.2
177.5°	768.7	767.9	767.2	766.6	765.9	765.6	765.6	765.8	765.9	766.0	766.7
180°	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4



TEST NUMBER: P331565-927

CATALOG NUMBER: S122DIW-S865D710U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2
2.5°	1088.5	1090.4	1092.3	1093.1	1092.7	1092.3	1091.9	1091.5
5°	1081.2	1083.1	1085.0	1085.6	1085.2	1084.7	1084.3	1083.8
7.5°	1069.0	1070.9	1072.8	1073.4	1072.9	1072.4	1071.9	1071.3
10°	1058.0	1059.9	1061.8	1062.4	1061.7	1061.0	1060.3	1059.6
12.5°	1045.2	1046.5	1047.8	1048.2	1047.7	1047.2	1046.6	1046.2
15°	1022.5	1023.5	1024.5	1024.3	1023.2	1022.0	1020.8	1019.6
17.5°	995.7	996.8	997.9	997.8	996.7	995.6	994.5	993.4
20°	974.8	975.5	976.2	976.0	975.2	974.2	973.3	972.3
22.5°	952.7	952.8	952.9	952.8	952.1	951.6	951.0	950.5
25°	916.6	917.0	917.4	917.4	917.0	916.6	916.1	915.6
27.5°	881.0	880.3	879.6	878.7	877.5	876.4	875.3	874.2
30°	853.2	852.5	851.8	851.0	850.1	849.1	848.2	847.2
32.5°	826.0	824.7	823.5	822.4	821.5	820.5	819.6	818.6
35°	782.4	781.0	779.7	778.3	777.2	776.0	774.8	773.6
37.5°	738.7	737.0	735.2	733.8	732.7	731.6	730.5	729.3
40°	708.5	706.4	704.3	702.7	701.9	700.9	700.0	699.0
42.5°	678.7	676.4	674.1	672.3	671.0	669.7	668.4	667.1
45°	633.0	630.3	627.8	626.1	625.1	624.2	623.2	622.3
47.5°	585.3	582.7	580.0	577.9	576.6	575.2	573.9	572.5
50°	554.8	551.5	548.3	546.1	544.9	543.7	542.6	541.4
52.5°	523.1	520.4	517.7	515.6	514.0	512.5	511.0	509.4
55°	475.9	473.0	470.2	468.3	467.1	465.9	464.8	463.6
57.5°	426.7	424.0	421.2	419.4	418.5	417.6	416.8	415.8
60°	394.3	391.7	389.2	387.5	386.8	386.1	385.4	384.8
62.5°	363.5	361.2	358.8	357.2	356.2	355.4	354.5	353.6
65°	316.4	314.3	312.2	310.5	309.4	308.2	307.0	305.9
67.5°	269.8	268.2	266.6	265.3	264.4	263.4	262.4	261.5
70°	239.6	237.9	236.3	235.0	234.1	233.1	232.2	231.2
72.5°	211.0	209.3	207.7	206.5	205.7	205.0	204.2	203.5
75°	166.4	165.0	163.7	163.2	163.7	164.1	164.5	165.0
77.5°	126.7	126.0	125.2	124.5	123.9	123.3	122.6	121.9
80°	100.5	99.9	99.2	98.5	98.1	97.7	97.2	96.7
82.5°	74.9	74.1	73.2	72.7	72.6	72.5	72.4	72.3
85°	39.6	38.9	38.2	37.7	37.5	37.2	37.0	36.8
87.5°	13.2	12.7	12.3	12.0	11.8	11.6	11.6	11.4
90°	12.4	12.9	13.5	14.0	14.3	14.5	14.7	15.0
92.5°	13.5	13.9	14.2	14.4	14.5	14.7	14.8	15.0
95°	22.9	23.4	24.1	24.3	24.2	24.1	24.0	23.8
97.5°	29.9	30.4	30.9	31.2	31.4	31.5	31.7	31.8
100°	33.6	34.5	35.6	36.2	36.4	36.7	36.9	37.2
102.5°	35.1	36.4	37.6	38.4	38.8	39.1	39.5	39.8
105°	36.5	37.9	39.2	40.2	40.6	41.2	41.7	42.1
107.5°	44.6	43.3	41.8	41.4	41.9	42.4	42.9	43.3
110°	72.4	60.0	47.8	41.8	42.3	42.9	43.3	43.8





TEST NUMBER: P331565-927

CATALOG NUMBER: S122DIW-S865D710U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	154.9	110.0	65.0	42.7	43.1	43.5	43.9	44.3
115°	228.1	171.0	113.9	81.0	72.1	63.2	54.3	45.5
117.5°	351.4	337.5	323.8	302.3	273.1	244.0	214.8	185.7
120°	409.5	410.9	412.4	404.8	388.2	371.5	354.9	338.3
122.5°	434.4	435.3	436.3	435.1	431.8	428.6	425.4	422.2
125°	470.3	471.2	472.1	472.7	473.0	473.4	473.8	474.1
127.5°	503.5	504.8	506.0	506.7	506.8	506.8	506.9	507.0
130°	524.6	525.9	527.3	527.9	527.8	527.7	527.5	527.4
132.5°	545.0	546.2	547.3	547.9	547.7	547.6	547.5	547.4
135°	574.3	575.4	576.7	577.2	576.9	576.7	576.5	576.2
137.5°	601.3	602.5	603.8	604.2	603.7	603.3	602.9	602.5
140°	618.9	620.0	621.2	621.4	620.8	620.1	619.5	618.9
142.5°	635.1	636.1	637.2	637.3	636.8	636.1	635.5	634.9
145°	657.7	658.6	659.5	659.7	659.0	658.4	657.7	657.2
147.5°	677.6	678.2	678.8	678.9	678.3	677.9	677.3	676.8
150°	689.7	690.5	691.2	691.3	690.6	690.0	689.4	688.8
152.5°	700.8	701.6	702.3	702.3	701.4	700.6	699.8	698.9
155°	715.7	716.5	717.2	717.1	716.1	715.2	714.2	713.2
157.5°	728.4	729.2	730.1	730.0	729.0	728.1	727.1	726.1
160°	735.7	736.5	737.2	737.1	736.3	735.4	734.6	733.7
162.5°	742.6	743.4	744.3	744.2	743.1	742.0	740.9	739.9
165°	751.0	751.8	752.7	752.7	751.8	751.0	750.1	749.2
167.5°	758.0	758.8	759.6	759.5	758.4	757.3	756.2	755.1
170°	761.5	762.3	763.2	763.1	762.0	760.9	759.8	758.7
172.5°	764.1	765.0	765.9	765.7	764.6	763.5	762.4	761.3
175°	767.1	767.9	768.7	768.6	767.3	766.1	764.9	763.7
177.5°	767.4	768.0	768.7	768.7	767.8	766.8	766.0	765.1
180°	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4

(END OF REPORT)