

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: P331542-830

Luminaire Tested: **S122DIW-S675D970U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331542-830  
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-S675D970U830-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

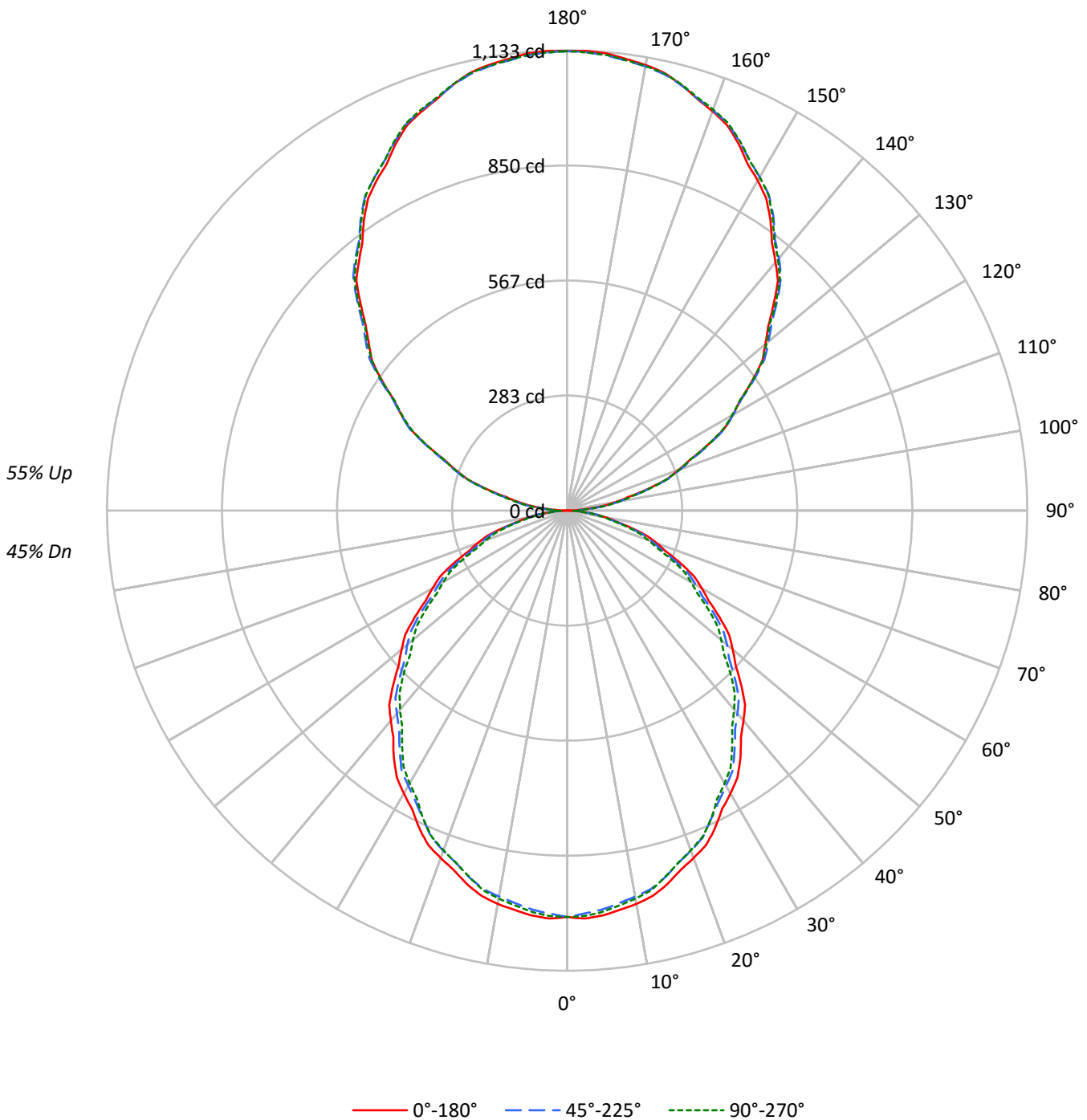
Lumens per Lamp: N/A  
Luminaire Lumens: 5713.6 lumens  
Efficiency: N/A  
Efficacy: 108.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 52.6  
Input Voltage (V): 120  
Input Current (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: P331542-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-F1

### Luminous Intensity Polar Plot





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CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-F1

**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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45
1	97	92	88	85	88	85	81	78	70	68	66	57	56	54	45	44	43	38
2	88	81	74	69	80	74	69	64	62	58	55	50	48	45	40	38	36	31
3	80	71	64	58	73	65	59	54	54	50	46	44	41	38	35	33	31	27
4	73	63	55	49	67	58	51	45	48	43	39	40	36	33	32	29	27	23
5	67	56	48	42	61	51	44	39	43	38	34	36	32	28	28	26	23	20
6	62	50	42	36	57	46	39	34	39	33	29	32	28	25	26	23	20	17
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	24	20	18	15
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	16	14
9	49	37	30	25	45	35	28	23	29	24	20	25	20	18	20	17	15	13
10	46	34	27	22	42	32	25	21	27	22	18	23	19	16	18	16	13	11

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

	0°	45°	90°
0°	16157	16157	16157
5°	16219	15985	16078
10°	16123	15823	15901
15°	15921	15616	15600
20°	15639	15309	15292
25°	15358	14931	14931
30°	14997	14585	14458
35°	14661	14168	13957
40°	14235	13748	13487
45°	13819	13337	13006
50°	13366	12906	12446
55°	12892	12405	11944
60°	12368	11806	11370
65°	11801	11213	10697
70°	11084	10494	9994
75°	10081	9669	9426
80°	8945	8675	8229
85°	7317	6947	6224



TEST NUMBER: P331542-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.1	1.6
10°-20°	264.8	4.6
20°-30°	389.2	6.8
30°-40°	452.1	7.9
40°-50°	451.6	7.9
50°-60°	393.8	6.9
60°-70°	291.2	5.1
70°-80°	164.9	2.9
80°-90°	48.9	0.9
90°-100°	71.7	1.3
100°-110°	222.6	3.9
110°-120°	380.6	6.7
120°-130°	500.5	8.8
130°-140°	561.7	9.8
140°-150°	550.8	9.6
150°-160°	462.0	8.1
160°-170°	306.4	5.4
170°-180°	107.1	1.9
0°-30°	748.0	13.1
0°-40°	1200.1	21.0
0°-60°	2045.4	35.8
0°-90°	2550.4	44.6
90°-120°	674.9	11.8
90°-150°	2287.8	40.0
90°-180°	3163.0	55.4
0°-180°	5713.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1001	1001	1001	1001	1001	
5°	1001	996	986	993	992	95
15°	952	946	934	938	933	268
25°	862	854	838	840	838	396
35°	744	734	719	713	708	464
45°	605	598	584	574	570	467
55°	458	452	441	430	424	409
65°	309	303	294	285	280	305
75°	162	160	155	150	151	173
85°	40	38	38	35	34	45
90°	1	13	33	32	32	4
95°	50	59	61	61	59	57
105°	205	208	210	212	212	217
115°	382	387	386	385	382	378
125°	556	564	561	559	558	496
135°	719	729	731	730	728	555
145°	872	879	885	886	882	545
155°	998	1000	1003	1008	1005	459
165°	1085	1085	1084	1090	1086	306
175°	1129	1126	1124	1131	1126	107
180°	1131	1131	1131	1131	1131	



TEST NUMBER: P331542-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7
2.5°	1005.3	1004.5	1003.6	1002.8	1001.9	1000.5	998.6	996.7	994.9	993.0	994.7
5°	1000.7	999.8	999.0	998.2	997.3	995.7	993.3	991.0	988.6	986.3	988.0
7.5°	991.8	990.5	989.2	987.9	986.6	984.7	982.3	979.9	977.5	975.1	976.8
10°	983.4	981.8	980.3	978.8	977.4	975.3	972.8	970.3	967.6	965.1	966.8
12.5°	971.9	970.5	969.1	967.8	966.5	964.6	962.0	959.4	956.9	954.3	955.5
15°	952.5	951.3	950.0	948.8	947.4	945.4	942.6	939.8	937.1	934.2	935.2
17.5°	927.9	926.6	925.4	924.1	922.8	920.8	917.9	915.1	912.3	909.5	910.5
20°	910.2	909.0	907.7	906.3	905.1	903.0	899.9	897.0	894.0	891.0	891.6
22.5°	892.5	890.7	888.9	887.1	885.3	883.1	880.2	877.4	874.6	871.8	871.9
25°	862.1	860.4	858.8	857.0	855.3	852.6	848.9	845.4	841.7	838.1	838.5
27.5°	827.5	826.0	824.4	822.8	821.3	819.2	816.2	813.4	810.5	807.7	807.0
30°	804.4	802.7	801.0	799.3	797.6	795.1	791.9	788.7	785.5	782.3	781.7
32.5°	779.8	778.4	777.0	775.6	774.3	771.9	768.5	765.2	761.8	758.4	757.2
35°	743.8	741.7	739.5	737.4	735.2	732.4	729.1	725.6	722.2	718.8	717.5
37.5°	703.1	701.3	699.4	697.5	695.7	693.0	689.6	686.2	682.8	679.3	677.7
40°	675.4	673.7	672.0	670.3	668.6	666.1	662.6	659.2	655.8	652.3	650.4
42.5°	648.6	646.8	645.1	643.4	641.7	639.1	635.7	632.3	628.9	625.5	623.3
45°	605.2	603.7	602.2	600.8	599.3	596.9	593.7	590.5	587.3	584.1	581.7
47.5°	562.1	560.7	559.3	557.9	556.5	554.1	550.7	547.4	544.1	540.7	538.3
50°	532.1	531.0	530.0	528.9	527.8	525.8	522.8	519.8	516.8	513.8	510.9
52.5°	502.8	501.4	500.0	498.6	497.2	495.1	492.3	489.5	486.6	483.8	481.4
55°	458.0	456.8	455.4	454.1	452.9	450.9	448.4	445.8	443.3	440.7	438.1
57.5°	412.9	412.0	410.9	409.9	408.9	407.0	404.2	401.3	398.5	395.7	393.1
60°	383.0	382.1	381.3	380.4	379.6	377.6	374.7	371.6	368.6	365.6	363.3
62.5°	353.7	352.3	351.0	349.6	348.3	346.4	344.1	341.8	339.5	337.1	335.0
65°	308.9	307.6	306.3	305.0	303.7	302.0	299.9	297.7	295.6	293.5	291.5
67.5°	263.3	262.2	261.2	260.1	259.1	257.7	255.7	253.8	251.9	250.0	248.5
70°	234.8	233.9	233.1	232.2	231.4	230.0	228.0	226.1	224.2	222.3	220.7
72.5°	205.6	204.6	203.8	202.9	202.1	201.0	199.8	198.6	197.4	196.0	194.6
75°	161.6	161.2	160.8	160.3	159.9	159.2	158.2	157.0	156.0	155.0	153.6
77.5°	122.4	121.7	120.9	120.2	119.5	118.9	118.5	118.0	117.6	117.2	116.6
80°	96.2	96.0	95.8	95.6	95.4	95.0	94.6	94.2	93.8	93.3	92.7
82.5°	71.6	71.5	71.5	71.4	71.4	71.3	71.0	70.8	70.5	70.2	69.5
85°	39.5	39.2	39.0	38.8	38.5	38.4	38.2	38.0	37.7	37.5	36.9
87.5°	14.0	14.2	14.4	14.5	14.7	15.1	15.6	16.3	16.9	17.4	16.9
90°	0.9	3.5	6.0	8.6	11.1	14.7	19.4	24.0	28.7	33.4	33.0
92.5°	17.0	18.9	20.7	22.6	24.5	25.9	27.1	28.2	29.2	30.3	30.4
95°	49.7	51.7	53.9	56.0	58.2	59.4	59.9	60.2	60.7	61.1	61.1
97.5°	90.7	92.6	94.4	96.3	98.1	99.5	100.3	101.1	101.9	102.7	102.7
100°	121.2	122.9	124.6	126.3	128.0	129.2	129.8	130.4	131.1	131.8	131.8
102.5°	153.4	154.7	156.0	157.4	158.7	159.9	160.6	161.5	162.2	163.1	163.2
105°	205.3	205.9	206.5	207.2	207.8	208.3	208.8	209.2	209.6	210.0	210.5
107.5°	257.6	258.5	259.4	260.3	261.3	261.7	261.7	261.7	261.7	261.7	261.9
110°	291.2	292.5	293.7	295.0	296.2	296.9	296.9	296.9	296.9	296.9	296.9



TEST NUMBER: P331542-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	327.8	329.1	330.4	331.7	332.9	333.5	333.3	333.1	333.0	332.8	332.2
115°	381.8	383.1	384.4	385.7	386.9	387.4	386.9	386.5	386.1	385.7	385.5
117.5°	435.7	437.4	439.1	440.8	442.5	442.7	441.6	440.4	439.2	438.0	437.5
120°	471.6	473.3	475.0	476.7	478.4	478.4	476.7	475.0	473.3	471.6	471.6
122.5°	504.4	506.5	508.5	510.6	512.6	513.0	511.8	510.7	509.4	508.2	507.7
125°	555.6	557.5	559.4	561.4	563.3	563.9	563.3	562.6	561.9	561.4	560.7
127.5°	605.5	607.8	610.3	612.7	615.1	616.0	615.2	614.4	613.7	612.9	612.1
130°	636.8	639.5	642.2	645.1	647.8	648.9	648.6	648.1	647.7	647.2	646.9
132.5°	671.8	674.1	676.4	678.6	680.9	682.0	682.1	682.2	682.3	682.4	681.5
135°	718.9	721.2	723.5	725.9	728.2	729.5	730.0	730.4	730.8	731.2	731.0
137.5°	768.3	770.2	772.1	774.0	775.9	777.2	777.7	778.3	778.8	779.4	779.2
140°	798.1	800.0	801.9	803.8	805.7	807.2	808.3	809.4	810.4	811.4	811.4
142.5°	828.7	830.6	832.5	834.3	836.3	837.6	838.3	839.1	839.8	840.5	840.7
145°	872.5	874.0	875.5	877.0	878.5	879.9	881.2	882.4	883.7	885.0	885.1
147.5°	911.7	913.5	915.3	917.0	918.8	920.1	921.0	921.8	922.7	923.5	924.0
150°	938.4	939.7	940.9	942.3	943.5	944.6	945.5	946.3	947.2	948.0	948.6
152.5°	962.1	963.4	964.7	965.9	967.2	968.4	969.4	970.3	971.4	972.4	973.2
155°	997.6	998.2	998.9	999.6	1000.1	1000.8	1001.5	1002.1	1002.7	1003.3	1004.4
157.5°	1027.9	1028.4	1028.8	1029.3	1029.6	1030.1	1030.5	1030.9	1031.2	1031.6	1033.0
160°	1046.3	1046.7	1047.2	1047.5	1048.0	1048.3	1048.6	1048.8	1049.0	1049.1	1050.5
162.5°	1063.1	1063.2	1063.3	1063.4	1063.5	1063.6	1063.8	1064.0	1064.2	1064.4	1065.9
165°	1085.4	1085.2	1085.1	1084.8	1084.6	1084.5	1084.5	1084.5	1084.5	1084.5	1086.0
167.5°	1104.2	1103.5	1102.9	1102.2	1101.6	1101.3	1101.3	1101.2	1101.2	1101.1	1102.6
170°	1114.1	1113.4	1112.9	1112.2	1111.5	1111.2	1110.9	1110.7	1110.5	1110.3	1111.7
172.5°	1121.0	1120.3	1119.6	1119.1	1118.4	1117.9	1117.8	1117.6	1117.4	1117.1	1118.6
175°	1129.4	1128.7	1128.1	1127.5	1126.8	1126.2	1125.9	1125.4	1125.0	1124.5	1126.1
177.5°	1132.8	1132.3	1131.8	1131.2	1130.8	1130.3	1130.0	1129.6	1129.4	1129.0	1130.0
180°	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2



TEST NUMBER: P331542-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7
2.5°	996.4	998.2	999.8	1000.5	1000.1	999.8	999.5	999.2
5°	989.7	991.4	993.1	993.7	993.3	992.9	992.5	992.0
7.5°	978.5	980.2	981.9	982.5	982.0	981.7	981.2	980.7
10°	968.5	970.3	971.9	972.4	971.9	971.2	970.5	969.9
12.5°	956.7	957.9	959.1	959.4	958.9	958.6	958.1	957.6
15°	936.0	936.9	937.7	937.6	936.5	935.5	934.4	933.3
17.5°	911.4	912.4	913.4	913.4	912.4	911.3	910.3	909.3
20°	892.3	893.0	893.5	893.4	892.6	891.7	890.9	890.0
22.5°	872.0	872.1	872.2	872.0	871.6	871.0	870.5	870.1
25°	839.0	839.3	839.8	839.8	839.3	839.0	838.5	838.1
27.5°	806.3	805.8	805.1	804.3	803.2	802.2	801.2	800.1
30°	781.0	780.3	779.7	778.9	778.1	777.2	776.4	775.5
32.5°	756.1	755.0	753.8	752.8	752.0	751.1	750.2	749.3
35°	716.2	714.9	713.6	712.5	711.4	710.3	709.3	708.1
37.5°	676.2	674.6	673.0	671.7	670.6	669.6	668.6	667.6
40°	648.6	646.6	644.7	643.3	642.4	641.6	640.7	639.9
42.5°	621.2	619.2	617.1	615.4	614.2	613.0	611.8	610.6
45°	579.4	577.0	574.7	573.1	572.2	571.4	570.5	569.6
47.5°	535.8	533.3	530.8	529.0	527.7	526.5	525.3	524.1
50°	507.8	504.8	501.8	499.8	498.7	497.7	496.6	495.5
52.5°	478.8	476.4	473.9	471.9	470.5	469.1	467.7	466.3
55°	435.5	433.0	430.5	428.6	427.5	426.5	425.4	424.3
57.5°	390.6	388.0	385.6	383.9	383.0	382.3	381.4	380.6
60°	360.9	358.5	356.2	354.8	354.1	353.5	352.8	352.1
62.5°	332.8	330.6	328.5	327.0	326.1	325.3	324.5	323.7
65°	289.6	287.7	285.8	284.3	283.2	282.1	281.1	280.0
67.5°	246.9	245.5	244.0	242.8	242.0	241.1	240.3	239.4
70°	219.2	217.8	216.3	215.1	214.2	213.4	212.5	211.7
72.5°	193.1	191.6	190.1	189.0	188.3	187.7	187.0	186.2
75°	152.3	151.1	149.8	149.4	149.8	150.2	150.6	151.1
77.5°	115.9	115.3	114.6	114.0	113.4	112.8	112.3	111.6
80°	92.1	91.4	90.8	90.2	89.8	89.4	89.0	88.5
82.5°	68.6	67.8	67.0	66.5	66.4	66.4	66.3	66.2
85°	36.3	35.6	35.0	34.5	34.3	34.1	33.9	33.6
87.5°	16.3	15.6	15.1	14.7	14.6	14.4	14.3	14.2
90°	32.5	32.1	31.7	31.6	31.9	32.0	32.2	32.4
92.5°	30.5	30.6	30.7	30.7	30.8	30.8	30.9	30.9
95°	61.1	61.1	61.1	60.9	60.4	60.0	59.6	59.2
97.5°	102.7	102.7	102.7	102.7	102.6	102.6	102.5	102.5
100°	131.8	131.8	131.8	131.7	131.4	131.2	131.0	130.8
102.5°	163.4	163.5	163.7	163.7	163.5	163.2	163.1	162.9
105°	210.8	211.3	211.7	212.0	212.0	212.0	212.0	212.0
107.5°	262.1	262.3	262.4	262.0	261.1	260.0	259.1	258.2
110°	296.9	296.9	296.9	296.6	296.0	295.3	294.6	294.1





TEST NUMBER: P331542-830

CATALOG NUMBER: S122DIW-S675D970U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	331.8	331.3	330.7	330.3	329.8	329.3	328.9	328.4
115°	385.2	385.0	384.8	384.4	383.8	383.1	382.5	381.8
117.5°	437.0	436.5	435.9	435.4	434.8	434.1	433.5	432.8
120°	471.6	471.6	471.6	471.3	470.6	470.0	469.4	468.7
122.5°	507.3	506.7	506.2	505.8	505.3	504.8	504.4	503.9
125°	560.1	559.4	558.8	558.4	558.2	558.0	557.7	557.5
127.5°	611.3	610.6	609.8	609.1	608.4	607.8	607.1	606.4
130°	646.4	646.0	645.5	644.9	644.0	643.2	642.3	641.5
132.5°	680.5	679.6	678.6	677.9	677.2	676.5	675.8	675.1
135°	730.8	730.7	730.4	730.0	729.3	728.7	728.1	727.5
137.5°	779.0	778.9	778.7	778.2	777.3	776.5	775.6	774.8
140°	811.4	811.4	811.4	811.1	810.2	809.4	808.5	807.7
142.5°	840.8	841.0	841.1	840.8	840.0	839.1	838.3	837.4
145°	885.4	885.6	885.8	885.5	884.7	883.8	883.0	882.1
147.5°	924.4	924.9	925.4	925.2	924.4	923.6	922.8	922.0
150°	949.2	949.9	950.6	950.6	949.9	949.2	948.6	948.0
152.5°	974.0	974.9	975.6	975.6	974.9	974.0	973.2	972.4
155°	1005.5	1006.5	1007.6	1007.8	1007.2	1006.5	1005.9	1005.2
157.5°	1034.5	1035.9	1037.4	1037.6	1036.6	1035.6	1034.5	1033.5
160°	1051.7	1053.0	1054.2	1054.5	1053.7	1052.8	1052.0	1051.1
162.5°	1067.3	1068.7	1070.3	1070.4	1069.4	1068.4	1067.3	1066.4
165°	1087.5	1088.9	1090.4	1090.6	1089.6	1088.5	1087.5	1086.4
167.5°	1104.1	1105.6	1107.0	1107.2	1106.2	1105.0	1103.9	1102.9
170°	1113.2	1114.7	1116.3	1116.3	1115.0	1113.8	1112.5	1111.3
172.5°	1120.1	1121.6	1123.0	1123.2	1121.9	1120.7	1119.4	1118.1
175°	1127.6	1129.1	1130.5	1130.7	1129.4	1128.1	1126.8	1125.6
177.5°	1131.1	1132.0	1133.0	1133.0	1132.0	1131.1	1130.0	1129.0
180°	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2

(END OF REPORT)