

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: P331534-935

Luminaire Tested: **S122DIW-S675D710U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331534-935  
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-S675D710U935-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 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: 4433.8 lumens  
Efficiency: N/A  
Efficacy: 98.5 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

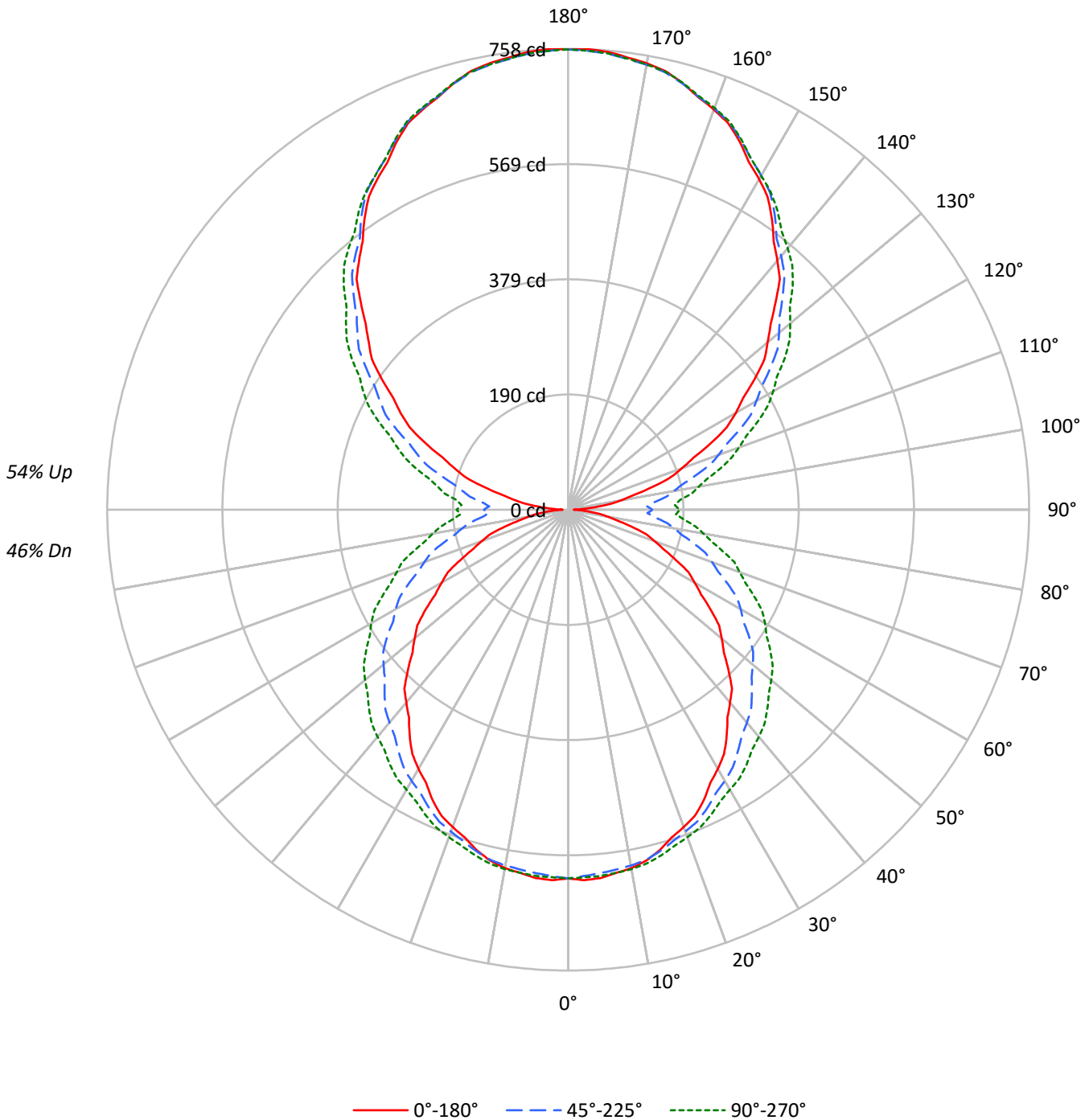
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331534-935

CATALOG NUMBER: S122DIW-S675D710U935-4F0-1E-UDD-D1

### Luminous Intensity Polar Plot





TEST NUMBER: P331534-935

CATALOG NUMBER: S122DIW-S675D710U935-4F0-1E-UDD-D1

**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	98	98	98	98	81	81	81	66	66	66	53	53	53	46
1	96	91	86	82	87	83	79	76	69	66	64	56	54	52	44	43	42	36
2	86	78	72	66	79	72	66	61	60	55	52	49	45	43	38	36	34	29
3	79	68	61	54	72	63	56	50	52	47	43	43	39	36	33	31	28	24
4	72	60	52	46	65	55	48	42	46	41	36	38	33	30	30	27	24	20
5	66	53	45	39	60	49	42	36	41	35	31	34	29	26	27	23	21	17
6	60	48	39	33	55	44	37	31	37	31	27	30	26	22	24	21	18	15
7	56	43	35	29	51	40	32	27	33	28	23	27	23	20	22	19	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	17	20	17	14	12
9	48	35	28	23	44	33	26	21	28	22	18	23	19	16	18	15	13	11
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	12	10

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

	0°	45°	90°
0°	9792	9792	9792
5°	9839	9426	9390
10°	9778	9148	9044
15°	9643	8853	8681
20°	9473	8536	8331
25°	9305	8231	8014
30°	9067	7919	7694
35°	8828	7615	7468
40°	8576	7358	7243
45°	8334	7127	7051
50°	8078	6920	6861
55°	7810	6696	6668
60°	7480	6465	6465
65°	7135	6192	6222
70°	6751	5899	5960
75°	6257	5612	5720
80°	5488	5319	5476
85°	4743	5064	5286



TEST NUMBER: P331534-935

CATALOG NUMBER: S122DIW-S675D710U935-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.5	1.3
10°-20°	164.8	3.7
20°-30°	249.7	5.6
30°-40°	304.2	6.9
40°-50°	327.2	7.4
50°-60°	317.8	7.2
60°-70°	277.5	6.3
70°-80°	213.6	4.8
80°-90°	146.4	3.3
90°-100°	146.7	3.3
100°-110°	221.1	5.0
110°-120°	302.3	6.8
120°-130°	361.5	8.2
130°-140°	387.1	8.7
140°-150°	370.5	8.4
150°-160°	309.2	7.0
160°-170°	205.1	4.6
170°-180°	71.7	1.6
0°-30°	472.0	10.6
0°-40°	776.1	17.5
0°-60°	1421.1	32.1
0°-90°	2058.6	46.4
90°-120°	670.2	15.1
90°-150°	1789.3	40.4
90°-180°	2375.0	53.6
0°-180°	4433.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	608	605	600	605	605	58
15°	580	582	582	589	589	163
25°	527	534	541	552	555	242
35°	454	469	486	505	512	284
45°	373	397	427	453	463	288
55°	286	318	363	394	406	255
65°	195	239	290	325	338	194
75°	108	158	214	250	263	114
85°	32	86	142	178	192	34
90°	10	69	138	171	184	8
95°	40	88	142	174	185	44
105°	142	170	216	247	258	150
115°	259	274	311	336	344	256
125°	374	381	406	427	435	334
135°	482	489	499	516	522	372
145°	584	588	592	598	600	365
155°	668	670	672	674	673	307
165°	726	726	726	730	727	205
175°	756	754	753	757	753	72
180°	757	757	757	757	757	



TEST NUMBER: P331534-935

CATALOG NUMBER: S122DIW-S675D710U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5
2.5°	610.0	609.5	609.1	608.6	608.1	607.3	606.2	605.1	604.1	603.0	603.7
5°	608.2	607.6	607.1	606.5	605.9	605.0	603.8	602.7	601.5	600.3	601.5
7.5°	602.8	602.4	602.0	601.6	601.2	600.5	599.7	598.7	597.9	597.0	598.4
10°	598.6	598.1	597.8	597.4	597.0	596.5	595.9	595.4	594.8	594.2	595.7
12.5°	591.5	591.6	591.7	591.8	591.9	591.7	591.2	590.8	590.4	590.0	591.5
15°	580.1	580.5	580.9	581.3	581.7	581.9	581.9	581.9	581.9	581.9	583.6
17.5°	565.3	566.2	567.0	567.8	568.6	569.4	570.0	570.6	571.2	571.9	573.7
20°	555.5	556.5	557.4	558.4	559.4	560.3	561.0	561.9	562.7	563.4	565.6
22.5°	544.9	546.0	547.3	548.4	549.5	550.6	551.7	552.8	553.9	555.0	557.2
25°	527.4	528.7	530.1	531.5	532.9	534.4	536.1	538.0	539.7	541.4	543.8
27.5°	506.3	508.5	510.7	513.0	515.2	517.4	519.4	521.5	523.6	525.6	528.6
30°	492.2	494.7	497.3	499.8	502.4	504.9	507.5	510.0	512.6	515.1	518.1
32.5°	476.7	479.6	482.4	485.3	488.2	491.1	494.1	497.1	500.1	503.1	506.7
35°	454.4	457.7	461.1	464.3	467.7	471.2	474.9	478.6	482.3	486.0	490.3
37.5°	430.2	434.0	437.8	441.6	445.5	449.8	454.6	459.4	464.2	469.0	473.8
40°	414.0	418.3	422.6	426.9	431.2	435.9	441.3	446.5	451.8	457.0	462.1
42.5°	398.6	402.8	407.1	411.4	415.7	420.9	427.0	433.0	439.0	445.1	450.6
45°	372.6	378.0	383.2	388.5	393.7	399.8	406.7	413.5	420.3	427.1	433.3
47.5°	347.2	352.9	358.7	364.4	370.1	377.0	385.0	393.0	401.1	409.1	415.4
50°	329.6	335.7	341.7	347.8	353.8	361.3	370.1	378.8	387.6	396.4	403.0
52.5°	312.7	319.1	325.5	331.8	338.2	346.0	355.2	364.5	373.8	383.1	389.9
55°	285.7	292.7	299.7	306.8	313.7	322.4	332.5	342.7	352.8	363.0	370.1
57.5°	258.9	266.9	274.8	282.8	290.7	299.8	310.1	320.5	330.9	341.2	348.8
60°	240.0	248.3	256.8	265.2	273.5	283.4	294.5	305.6	316.7	327.9	335.3
62.5°	223.1	231.8	240.5	249.2	258.0	267.9	279.0	290.1	301.3	312.4	320.3
65°	195.1	204.7	214.3	223.9	233.4	243.9	255.5	267.0	278.5	290.1	298.1
67.5°	169.4	179.4	189.5	199.5	209.5	220.3	232.1	243.9	255.7	267.5	275.6
70°	151.2	161.4	171.5	181.7	191.8	202.9	215.1	227.1	239.3	251.4	259.8
72.5°	134.3	144.7	155.2	165.7	176.2	187.5	199.8	212.1	224.4	236.6	244.9
75°	108.1	119.1	130.0	140.9	151.9	163.6	176.1	188.6	201.0	213.6	222.0
77.5°	82.8	94.3	105.7	117.1	128.5	140.7	153.3	166.1	178.7	191.4	199.8
80°	66.0	77.8	89.7	101.7	113.6	125.9	138.6	151.3	163.9	176.7	184.9
82.5°	51.8	63.6	75.3	87.1	98.9	111.2	124.1	136.9	149.7	162.6	170.8
85°	31.7	43.7	55.9	67.9	80.1	92.4	104.9	117.4	129.9	142.4	150.6
87.5°	17.4	29.4	41.3	53.3	65.3	77.8	90.9	104.1	117.2	130.4	138.3
90°	9.5	22.5	35.5	48.6	61.6	75.9	91.5	107.1	122.8	138.4	145.9
92.5°	19.5	31.3	43.0	54.8	66.6	79.0	91.7	104.4	117.3	130.0	137.8
95°	40.3	50.9	61.5	72.1	82.7	93.9	106.0	118.0	129.9	142.0	149.4
97.5°	66.8	76.3	85.7	95.1	104.5	115.1	126.9	138.7	150.5	162.3	169.5
100°	87.3	95.7	104.0	112.4	120.7	130.6	142.0	153.3	164.7	176.1	183.3
102.5°	108.1	115.5	123.0	130.6	138.1	147.4	158.6	169.8	180.9	192.1	199.3
105°	141.7	147.8	153.9	160.1	166.1	174.4	184.9	195.3	205.7	216.1	223.3
107.5°	176.6	181.8	186.9	192.1	197.3	204.7	214.4	224.1	233.8	243.6	250.2
110°	198.4	203.1	207.9	212.7	217.4	224.5	234.2	243.7	253.3	262.9	269.1



TEST NUMBER: P331534-935

CATALOG NUMBER: S122DIW-S675D710U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	222.9	227.0	231.2	235.3	239.4	246.0	255.0	264.0	272.9	282.0	287.8
115°	259.1	262.1	265.1	268.1	271.0	276.8	285.3	293.9	302.4	310.8	316.6
117.5°	294.2	296.8	299.3	301.9	304.4	309.4	316.7	324.0	331.3	338.6	344.1
120°	318.2	320.2	322.1	324.0	325.9	330.2	336.9	343.5	350.3	357.0	362.4
122.5°	340.3	341.9	343.6	345.3	346.9	351.0	357.6	364.1	370.7	377.2	382.2
125°	373.6	374.9	376.2	377.5	378.8	382.3	388.1	393.9	399.8	405.5	410.4
127.5°	407.0	408.4	409.8	411.2	412.7	415.6	420.2	424.6	429.2	433.8	438.1
130°	427.9	429.6	431.2	432.8	434.5	437.2	441.1	444.9	448.7	452.5	456.9
132.5°	451.4	452.7	454.0	455.4	456.7	458.9	462.2	465.4	468.6	471.8	475.7
135°	482.0	483.5	485.1	486.6	488.2	490.1	492.3	494.6	496.8	499.0	503.0
137.5°	515.1	516.3	517.5	518.8	520.0	521.2	522.5	523.7	525.0	526.2	529.7
140°	535.0	536.1	537.2	538.2	539.3	540.4	541.5	542.6	543.7	544.8	547.9
142.5°	555.4	556.6	557.6	558.7	559.7	560.6	561.2	561.7	562.3	562.8	565.4
145°	583.9	585.0	585.9	586.9	588.0	588.8	589.7	590.6	591.4	592.3	593.6
147.5°	610.2	611.3	612.5	613.7	614.9	615.8	616.4	616.9	617.5	618.1	618.5
150°	628.0	628.9	629.7	630.6	631.5	632.1	632.7	633.3	633.9	634.5	634.9
152.5°	643.9	644.7	645.6	646.4	647.3	648.1	648.8	649.5	650.1	650.8	651.3
155°	667.6	668.0	668.5	668.9	669.3	669.8	670.2	670.6	671.1	671.5	672.2
157.5°	687.9	688.3	688.5	688.8	689.1	689.4	689.7	689.9	690.2	690.4	691.4
160°	700.3	700.5	700.8	701.1	701.4	701.6	701.7	701.9	702.0	702.1	703.0
162.5°	711.4	711.5	711.6	711.6	711.7	711.8	712.0	712.1	712.2	712.4	713.3
165°	726.4	726.3	726.2	726.0	725.9	725.8	725.8	725.8	725.8	725.8	726.8
167.5°	739.0	738.6	738.1	737.7	737.3	737.0	737.0	736.9	736.9	736.9	737.9
170°	745.6	745.2	744.8	744.3	743.9	743.6	743.5	743.3	743.2	743.0	744.1
172.5°	750.2	749.8	749.3	748.9	748.5	748.2	748.0	748.0	747.8	747.6	748.6
175°	755.8	755.4	755.0	754.6	754.1	753.8	753.5	753.2	752.9	752.6	753.6
177.5°	758.1	757.8	757.4	757.1	756.7	756.5	756.2	756.0	755.8	755.5	756.2
180°	757.1	757.1	757.1	757.1	757.1	757.1	757.1	757.1	757.1	757.1	757.1



TEST NUMBER: P331534-935

CATALOG NUMBER: S122DIW-S675D710U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5
2.5°	604.5	605.3	606.1	606.3	606.0	605.7	605.4	605.1
5°	602.7	603.8	605.0	605.5	605.3	605.1	604.9	604.7
7.5°	599.8	601.2	602.6	603.2	603.0	602.8	602.6	602.4
10°	597.3	598.8	600.5	601.1	600.9	600.7	600.5	600.3
12.5°	593.1	594.6	596.2	596.8	596.7	596.5	596.3	596.1
15°	585.4	587.1	588.9	589.7	589.5	589.3	589.1	588.9
17.5°	575.5	577.4	579.2	580.1	580.1	580.1	580.1	580.1
20°	567.7	569.9	572.0	573.1	573.1	573.1	573.1	573.1
22.5°	559.3	561.5	563.5	564.8	565.1	565.4	565.8	566.0
25°	546.1	548.5	550.8	552.2	552.8	553.5	554.1	554.7
27.5°	531.6	534.5	537.5	539.2	539.6	540.0	540.4	540.9
30°	521.3	524.4	527.5	529.4	530.0	530.6	531.2	531.8
32.5°	510.3	513.9	517.5	519.8	520.9	521.9	523.0	524.0
35°	494.6	498.9	503.3	506.1	507.5	508.9	510.1	511.5
37.5°	478.5	483.3	488.1	491.2	492.7	494.0	495.5	497.0
40°	467.2	472.3	477.3	480.8	482.5	484.3	486.0	487.8
42.5°	456.2	461.8	467.3	471.0	472.7	474.5	476.2	477.9
45°	439.3	445.3	451.4	455.4	457.4	459.3	461.2	463.2
47.5°	421.7	428.1	434.4	438.6	440.7	442.9	445.1	447.2
50°	409.7	416.3	423.0	427.4	429.6	431.7	433.8	435.9
52.5°	396.7	403.5	410.3	414.8	417.1	419.4	421.7	424.0
55°	377.0	384.1	391.2	395.9	398.5	401.0	403.6	406.0
57.5°	356.4	363.9	371.5	376.6	379.2	381.8	384.4	386.9
60°	342.7	350.1	357.6	362.7	365.3	368.1	370.8	373.6
62.5°	328.1	336.0	344.0	349.2	351.7	354.3	356.9	359.5
65°	306.1	314.1	322.1	327.4	329.9	332.4	335.0	337.5
67.5°	283.7	291.8	299.9	305.3	307.9	310.6	313.2	315.9
70°	268.2	276.6	285.0	290.3	292.7	295.1	297.4	299.7
72.5°	253.1	261.3	269.6	275.1	277.9	280.8	283.5	286.4
75°	230.4	238.8	247.2	252.6	255.2	257.7	260.3	262.8
77.5°	208.2	216.5	224.9	230.4	233.2	235.9	238.6	241.3
80°	193.0	201.3	209.5	215.0	217.7	220.4	223.2	225.9
82.5°	179.0	187.2	195.4	200.8	203.4	206.0	208.5	211.1
85°	158.8	167.0	175.2	180.6	183.4	186.1	188.9	191.6
87.5°	146.2	154.0	162.0	167.2	169.7	172.3	174.8	177.3
90°	153.4	161.0	168.5	173.5	176.0	178.5	181.0	183.5
92.5°	145.4	153.2	160.8	165.9	168.2	170.7	173.1	175.4
95°	156.8	164.3	171.7	176.4	178.5	180.6	182.6	184.6
97.5°	176.8	183.9	191.1	196.0	198.2	200.4	202.8	205.0
100°	190.5	197.8	205.0	209.6	211.6	213.6	215.6	217.6
102.5°	206.5	213.6	220.8	225.4	227.5	229.5	231.4	233.4
105°	230.4	237.5	244.6	249.3	251.4	253.6	255.7	257.9
107.5°	256.9	263.6	270.3	274.4	275.9	277.3	278.9	280.3
110°	275.3	281.6	287.8	291.9	293.6	295.3	297.0	298.8





TEST NUMBER: P331534-935

CATALOG NUMBER: S122DIW-S675D710U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	293.8	299.7	305.6	309.4	311.3	313.1	315.0	316.8
115°	322.3	328.0	333.7	337.4	339.1	340.9	342.6	344.3
117.5°	349.6	355.0	360.4	363.9	365.5	367.0	368.6	370.2
120°	367.9	373.3	378.8	382.4	384.1	385.8	387.5	389.3
122.5°	387.2	392.2	397.1	400.4	401.9	403.5	404.9	406.5
125°	415.3	420.1	425.0	428.2	429.8	431.4	433.0	434.6
127.5°	442.4	446.8	451.1	453.8	455.1	456.4	457.6	458.9
130°	461.3	465.7	470.1	472.9	473.8	474.8	475.8	476.8
132.5°	479.7	483.5	487.4	489.9	491.0	492.1	493.3	494.4
135°	507.0	510.9	514.9	517.5	518.6	519.7	520.9	522.0
137.5°	533.1	536.6	540.1	542.2	542.9	543.7	544.5	545.3
140°	551.0	554.2	557.3	559.2	559.8	560.4	561.0	561.6
142.5°	568.1	570.7	573.3	574.8	575.3	575.8	576.2	576.6
145°	594.9	596.2	597.5	598.4	598.8	599.2	599.6	600.0
147.5°	619.0	619.5	619.9	620.2	620.1	620.0	619.9	619.8
150°	635.2	635.7	636.1	636.1	635.7	635.2	634.9	634.5
152.5°	651.9	652.4	653.0	653.0	652.4	651.9	651.3	650.8
155°	672.9	673.6	674.3	674.5	674.1	673.6	673.2	672.8
157.5°	692.3	693.3	694.2	694.4	693.7	693.0	692.3	691.6
160°	703.9	704.7	705.6	705.7	705.2	704.6	704.0	703.4
162.5°	714.3	715.3	716.3	716.4	715.7	715.1	714.4	713.7
165°	727.8	728.8	729.8	730.0	729.2	728.5	727.8	727.1
167.5°	738.9	739.9	740.9	741.0	740.3	739.5	738.8	738.0
170°	745.0	746.1	747.0	747.1	746.2	745.4	744.5	743.6
172.5°	749.7	750.6	751.7	751.7	750.9	750.0	749.2	748.3
175°	754.6	755.6	756.6	756.6	755.8	755.0	754.1	753.3
177.5°	756.9	757.6	758.3	758.3	757.6	756.9	756.2	755.5
180°	757.1	757.1	757.1	757.1	757.1	757.1	757.1	757.1

(END OF REPORT)