

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: P331534-830

Luminaire Tested: **S122DIW-S675D710U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331534-830  
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-S675D710U830-4F0-1E-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**

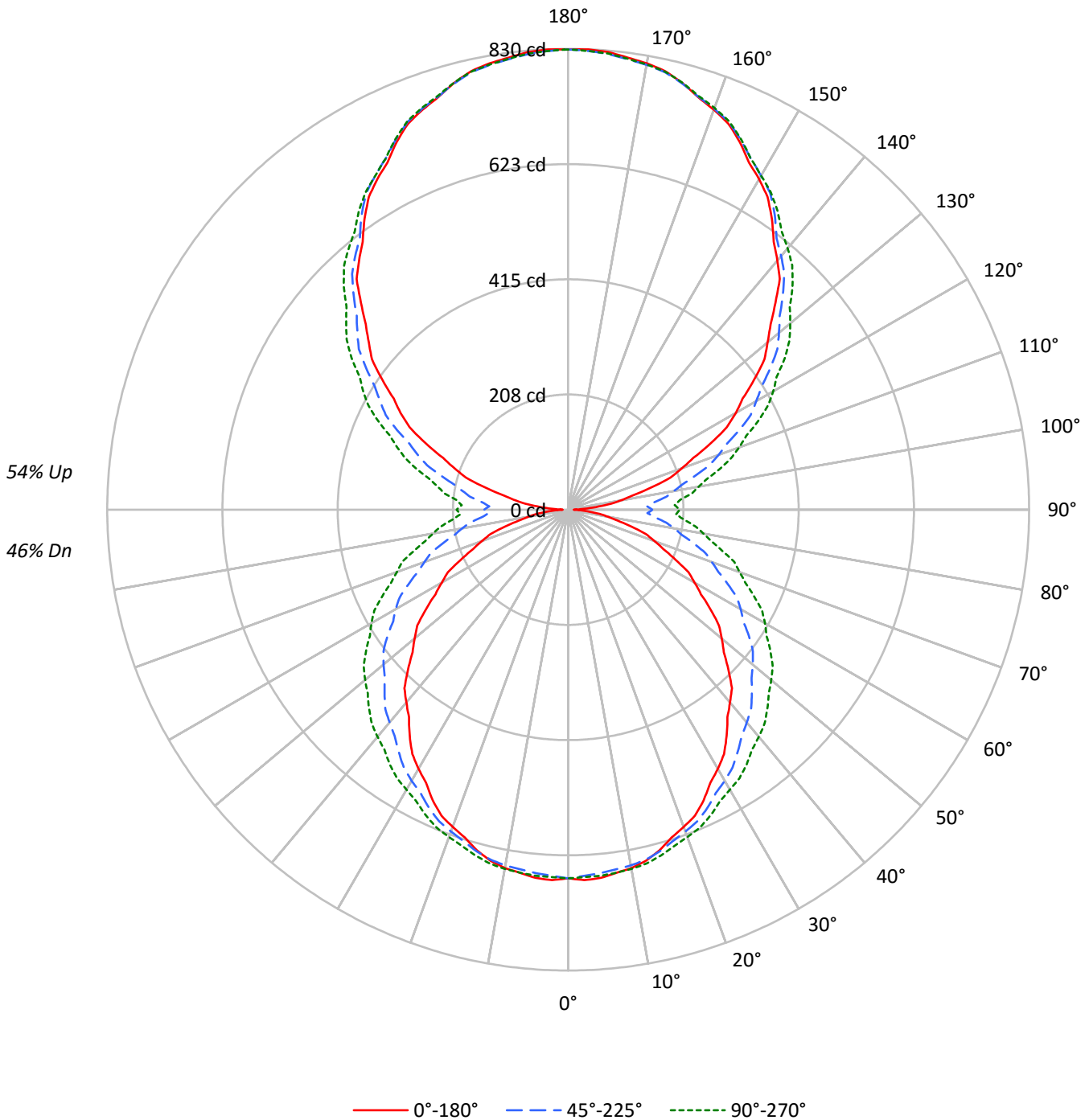
Lumens per Lamp: N/A  
Luminaire Lumens: 4853.7 lumens  
Efficiency: N/A  
Efficacy: 107.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 45  
Input Voltage (V): 120  
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: P331534-830

CATALOG NUMBER: S122DIW-S675D710U830-4F0-1E-UDD-D1

### Luminous Intensity Polar Plot





TEST NUMBER: P331534-830

CATALOG NUMBER: S122DIW-S675D710U830-4F0-1E-UDD-D1

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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°	10719	10719	10719
5°	10771	10318	10278
10°	10704	10013	9900
15°	10557	9691	9503
20°	10370	9345	9120
25°	10186	9011	8772
30°	9928	8668	8421
35°	9665	8338	8176
40°	9388	8055	7929
45°	9124	7803	7719
50°	8843	7574	7511
55°	8548	7331	7300
60°	8188	7076	7078
65°	7811	6777	6812
70°	7390	6457	6525
75°	6853	6143	6262
80°	6004	5822	5995
85°	5192	5544	5785



TEST NUMBER: P331534-830

CATALOG NUMBER: S122DIW-S675D710U830-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.9	1.3
10°-20°	180.4	3.7
20°-30°	273.4	5.6
30°-40°	333.0	6.9
40°-50°	358.2	7.4
50°-60°	347.9	7.2
60°-70°	303.7	6.3
70°-80°	233.8	4.8
80°-90°	160.2	3.3
90°-100°	160.6	3.3
100°-110°	242.1	5.0
110°-120°	331.0	6.8
120°-130°	395.8	8.2
130°-140°	423.7	8.7
140°-150°	405.6	8.4
150°-160°	338.4	7.0
160°-170°	224.5	4.6
170°-180°	78.5	1.6
0°-30°	516.7	10.6
0°-40°	849.6	17.5
0°-60°	1555.7	32.1
0°-90°	2253.5	46.4
90°-120°	733.7	15.1
90°-150°	1958.8	40.4
90°-180°	2600.0	53.6
0°-180°	4853.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	664	664	664	664	664	
5°	666	663	657	663	662	63
15°	635	637	637	645	645	179
25°	577	584	593	604	607	265
35°	498	514	532	552	560	311
45°	408	434	468	496	507	315
55°	313	348	397	431	444	279
65°	214	261	318	356	370	212
75°	118	173	234	274	288	125
85°	35	94	156	195	210	37
90°	10	75	152	187	201	8
95°	44	97	155	190	202	48
105°	155	186	237	270	282	164
115°	284	300	340	367	377	280
125°	409	417	444	467	476	366
135°	528	535	546	565	572	408
145°	639	644	648	655	657	399
155°	731	733	735	738	736	336
165°	795	795	795	799	796	224
175°	827	825	824	828	825	79
180°	829	829	829	829	829	



TEST NUMBER: P331534-830

CATALOG NUMBER: S122DIW-S675D710U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9
2.5°	667.8	667.2	666.8	666.2	665.7	664.9	663.6	662.4	661.3	660.1	660.9
5°	665.8	665.2	664.6	663.9	663.3	662.3	661.0	659.8	658.5	657.1	658.5
7.5°	659.9	659.4	659.0	658.6	658.2	657.4	656.5	655.4	654.5	653.6	655.1
10°	655.3	654.8	654.4	653.9	653.6	653.0	652.3	651.8	651.1	650.4	652.1
12.5°	647.5	647.6	647.7	647.8	647.9	647.7	647.2	646.8	646.3	645.8	647.5
15°	635.1	635.5	635.9	636.3	636.8	637.0	637.0	637.0	637.0	637.0	638.9
17.5°	618.9	619.8	620.7	621.6	622.5	623.3	624.0	624.6	625.3	626.0	628.0
20°	608.1	609.2	610.2	611.3	612.4	613.3	614.2	615.1	616.0	616.8	619.2
22.5°	596.5	597.8	599.1	600.3	601.5	602.8	604.0	605.1	606.3	607.6	609.9
25°	577.3	578.8	580.3	581.8	583.3	585.0	586.9	588.9	590.8	592.7	595.3
27.5°	554.2	556.7	559.1	561.6	564.0	566.4	568.6	570.9	573.2	575.4	578.6
30°	538.9	541.6	544.4	547.1	550.0	552.7	555.5	558.3	561.1	563.8	567.2
32.5°	521.9	525.0	528.1	531.2	534.4	537.6	540.9	544.1	547.4	550.7	554.7
35°	497.5	501.1	504.7	508.3	512.0	515.9	519.9	524.0	528.0	532.1	536.8
37.5°	470.9	475.1	479.3	483.4	487.7	492.4	497.7	502.9	508.1	513.4	518.7
40°	453.2	457.9	462.6	467.3	472.0	477.2	483.1	488.8	494.6	500.3	505.9
42.5°	436.3	440.9	445.6	450.3	455.1	460.7	467.4	474.0	480.6	487.3	493.3
45°	407.9	413.8	419.5	425.3	431.0	437.7	445.2	452.7	460.1	467.6	474.3
47.5°	380.0	386.3	392.7	398.9	405.2	412.7	421.5	430.3	439.0	447.8	454.8
50°	360.8	367.5	374.1	380.7	387.3	395.5	405.1	414.7	424.3	433.9	441.2
52.5°	342.3	349.3	356.3	363.3	370.2	378.8	388.9	399.1	409.2	419.3	426.8
55°	312.7	320.4	328.1	335.8	343.5	352.9	364.0	375.1	386.3	397.4	405.1
57.5°	283.4	292.2	300.9	309.5	318.2	328.2	339.5	350.8	362.2	373.5	381.8
60°	262.7	271.8	281.1	290.3	299.4	310.2	322.3	334.5	346.7	358.9	367.0
62.5°	244.2	253.7	263.3	272.8	282.4	293.2	305.4	317.5	329.8	342.0	350.6
65°	213.6	224.0	234.6	245.1	255.5	267.0	279.7	292.3	304.9	317.5	326.3
67.5°	185.5	196.4	207.5	218.4	229.3	241.2	254.1	267.0	279.9	292.8	301.7
70°	165.5	176.6	187.8	198.9	210.0	222.2	235.4	248.6	261.9	275.2	284.4
72.5°	147.0	158.4	169.9	181.4	192.8	205.3	218.8	232.1	245.6	259.0	268.1
75°	118.4	130.4	142.3	154.3	166.3	179.1	192.7	206.4	220.1	233.8	243.0
77.5°	90.7	103.2	115.7	128.2	140.7	154.0	167.9	181.8	195.7	209.5	218.8
80°	72.2	85.2	98.2	111.3	124.3	137.8	151.7	165.6	179.5	193.4	202.4
82.5°	56.7	69.7	82.5	95.4	108.3	121.7	135.8	149.9	163.9	178.0	187.0
85°	34.7	47.9	61.2	74.4	87.7	101.1	114.8	128.5	142.2	155.9	164.9
87.5°	19.0	32.1	45.2	58.3	71.4	85.2	99.5	114.0	128.3	142.7	151.4
90°	10.4	24.6	38.8	53.2	67.4	83.0	100.2	117.3	134.4	151.5	159.8
92.5°	21.3	34.2	47.1	60.0	73.0	86.4	100.4	114.3	128.4	142.3	150.8
95°	44.1	55.7	67.3	78.9	90.5	102.8	116.0	129.1	142.2	155.4	163.5
97.5°	73.1	83.5	93.8	104.1	114.4	126.0	138.9	151.8	164.8	177.7	185.6
100°	95.6	104.7	113.9	123.0	132.1	143.0	155.4	167.9	180.3	192.7	200.7
102.5°	118.3	126.5	134.7	143.0	151.2	161.4	173.6	185.9	198.0	210.3	218.2
105°	155.1	161.8	168.5	175.2	181.8	190.9	202.4	213.8	225.2	236.6	244.4
107.5°	193.3	199.0	204.6	210.3	215.9	224.0	234.7	245.3	256.0	266.6	273.9
110°	217.2	222.3	227.6	232.8	238.0	245.8	256.4	266.8	277.3	287.8	294.6



TEST NUMBER: P331534-830

CATALOG NUMBER: S122DIW-S675D710U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	244.0	248.5	253.1	257.6	262.1	269.3	279.2	289.0	298.8	308.7	315.1
115°	283.6	286.9	290.2	293.5	296.7	303.0	312.4	321.7	331.0	340.3	346.6
117.5°	322.1	324.9	327.6	330.5	333.2	338.7	346.7	354.7	362.7	370.7	376.7
120°	348.4	350.5	352.6	354.7	356.8	361.5	368.8	376.1	383.4	390.8	396.7
122.5°	372.5	374.3	376.2	378.0	379.8	384.3	391.4	398.6	405.8	412.9	418.4
125°	409.0	410.4	411.8	413.2	414.6	418.5	424.8	431.2	437.6	443.9	449.3
127.5°	445.5	447.0	448.7	450.2	451.8	455.0	460.0	464.9	469.9	474.9	479.6
130°	468.4	470.2	472.0	473.8	475.7	478.6	482.9	487.0	491.2	495.4	500.2
132.5°	494.2	495.6	497.0	498.5	499.9	502.4	506.0	509.4	512.9	516.5	520.8
135°	527.6	529.3	531.0	532.7	534.4	536.5	538.9	541.4	543.8	546.3	550.6
137.5°	563.8	565.2	566.6	567.9	569.3	570.6	571.9	573.3	574.7	576.0	579.9
140°	585.7	586.8	588.1	589.2	590.4	591.6	592.8	594.0	595.2	596.4	599.8
142.5°	608.0	609.3	610.4	611.6	612.7	613.7	614.3	614.9	615.6	616.1	619.0
145°	639.2	640.4	641.4	642.5	643.7	644.6	645.5	646.5	647.4	648.4	649.8
147.5°	668.0	669.2	670.5	671.8	673.2	674.1	674.8	675.3	676.0	676.7	677.1
150°	687.5	688.4	689.4	690.3	691.3	692.0	692.7	693.2	693.9	694.6	695.0
152.5°	704.8	705.8	706.7	707.7	708.6	709.5	710.2	711.0	711.7	712.5	713.0
155°	730.8	731.3	731.8	732.3	732.7	733.2	733.7	734.1	734.6	735.1	735.8
157.5°	753.1	753.5	753.8	754.0	754.4	754.7	755.0	755.3	755.5	755.8	756.9
160°	766.6	766.9	767.1	767.5	767.8	768.1	768.2	768.4	768.5	768.6	769.6
162.5°	778.8	778.9	779.0	779.0	779.1	779.2	779.4	779.6	779.7	779.9	780.9
165°	795.2	795.0	794.9	794.8	794.7	794.6	794.6	794.6	794.6	794.6	795.6
167.5°	809.0	808.5	808.0	807.6	807.1	806.8	806.8	806.7	806.7	806.7	807.8
170°	816.2	815.8	815.3	814.8	814.4	814.1	813.9	813.7	813.6	813.4	814.5
172.5°	821.2	820.8	820.3	819.8	819.4	819.1	818.9	818.8	818.6	818.4	819.5
175°	827.4	827.0	826.5	826.0	825.6	825.2	824.8	824.5	824.3	823.9	825.0
177.5°	829.9	829.5	829.2	828.8	828.4	828.1	827.8	827.6	827.4	827.1	827.8
180°	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8



TEST NUMBER: P331534-830

CATALOG NUMBER: S122DIW-S675D710U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9
2.5°	661.8	662.6	663.5	663.7	663.4	663.1	662.7	662.4
5°	659.8	661.0	662.3	662.9	662.6	662.4	662.2	661.9
7.5°	656.6	658.2	659.7	660.3	660.2	659.9	659.7	659.5
10°	653.8	655.5	657.3	658.0	657.8	657.6	657.4	657.1
12.5°	649.2	650.9	652.7	653.4	653.2	653.0	652.8	652.5
15°	640.8	642.7	644.7	645.5	645.4	645.1	644.9	644.7
17.5°	630.0	632.1	634.0	635.1	635.1	635.1	635.1	635.1
20°	621.5	623.9	626.1	627.4	627.4	627.4	627.4	627.4
22.5°	612.3	614.6	616.9	618.3	618.6	619.0	619.3	619.6
25°	597.9	600.4	602.9	604.5	605.2	605.9	606.5	607.2
27.5°	581.9	585.1	588.4	590.2	590.7	591.2	591.6	592.1
30°	570.7	574.1	577.5	579.6	580.2	580.9	581.5	582.1
32.5°	558.6	562.6	566.5	569.0	570.2	571.4	572.5	573.6
35°	541.5	546.2	550.9	554.0	555.5	557.0	558.5	560.0
37.5°	523.9	529.0	534.3	537.7	539.3	540.8	542.4	544.0
40°	511.4	517.0	522.5	526.3	528.2	530.2	532.1	534.0
42.5°	499.4	505.5	511.5	515.6	517.5	519.4	521.3	523.2
45°	480.9	487.5	494.2	498.5	500.7	502.8	504.9	507.1
47.5°	461.7	468.6	475.5	480.1	482.5	484.8	487.2	489.6
50°	448.5	455.7	463.1	467.9	470.2	472.6	474.9	477.2
52.5°	434.2	441.7	449.1	454.1	456.6	459.1	461.7	464.2
55°	412.7	420.5	428.2	433.4	436.2	438.9	441.8	444.5
57.5°	390.1	398.4	406.7	412.3	415.1	417.9	420.8	423.6
60°	375.1	383.2	391.4	397.0	399.9	402.9	406.0	409.0
62.5°	359.2	367.9	376.5	382.3	385.0	387.9	390.7	393.5
65°	335.1	343.8	352.6	358.4	361.2	363.9	366.7	369.5
67.5°	310.6	319.4	328.3	334.2	337.1	340.0	342.9	345.8
70°	293.6	302.7	312.0	317.8	320.4	323.0	325.6	328.1
72.5°	277.1	286.1	295.1	301.1	304.3	307.4	310.4	313.5
75°	252.2	261.4	270.6	276.5	279.4	282.1	284.9	287.7
77.5°	227.9	237.0	246.2	252.2	255.2	258.3	261.2	264.2
80°	211.3	220.4	229.3	235.4	238.3	241.3	244.3	247.3
82.5°	196.0	204.9	214.0	219.8	222.6	225.5	228.3	231.1
85°	173.8	182.9	191.8	197.7	200.8	203.8	206.8	209.7
87.5°	160.0	168.6	177.3	183.0	185.8	188.6	191.3	194.1
90°	168.0	176.3	184.5	189.9	192.7	195.4	198.1	200.9
92.5°	159.2	167.7	176.1	181.6	184.2	186.8	189.5	192.0
95°	171.6	179.8	187.9	193.1	195.4	197.7	199.9	202.1
97.5°	193.5	201.3	209.2	214.5	217.0	219.4	222.0	224.4
100°	208.6	216.5	224.4	229.4	231.7	233.8	236.0	238.2
102.5°	226.0	233.8	241.8	246.8	249.0	251.2	253.4	255.5
105°	252.2	260.0	267.8	272.9	275.2	277.6	279.9	282.3
107.5°	281.3	288.6	295.9	300.4	302.0	303.6	305.3	306.9
110°	301.4	308.3	315.1	319.5	321.4	323.3	325.2	327.1





TEST NUMBER: P331534-830

CATALOG NUMBER: S122DIW-S675D710U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	321.6	328.1	334.5	338.7	340.8	342.8	344.8	346.9
115°	352.8	359.1	365.3	369.4	371.3	373.2	375.0	376.9
117.5°	382.7	388.6	394.5	398.4	400.1	401.8	403.5	405.3
120°	402.7	408.7	414.7	418.6	420.5	422.4	424.2	426.1
122.5°	423.9	429.3	434.7	438.3	440.0	441.7	443.3	445.0
125°	454.6	459.9	465.2	468.7	470.5	472.3	474.0	475.8
127.5°	484.3	489.1	493.8	496.8	498.2	499.6	501.0	502.4
130°	505.0	509.8	514.6	517.6	518.7	519.8	520.8	522.0
132.5°	525.1	529.3	533.6	536.3	537.5	538.8	540.0	541.2
135°	555.0	559.3	563.6	566.5	567.7	568.9	570.2	571.5
137.5°	583.6	587.4	591.3	593.5	594.4	595.2	596.1	596.9
140°	603.2	606.7	610.1	612.2	612.8	613.5	614.2	614.8
142.5°	621.9	624.7	627.6	629.2	629.8	630.3	630.7	631.2
145°	651.2	652.7	654.1	655.1	655.5	655.9	656.4	656.9
147.5°	677.6	678.2	678.6	678.9	678.8	678.7	678.6	678.5
150°	695.4	695.9	696.4	696.4	695.9	695.4	695.0	694.6
152.5°	713.6	714.2	714.8	714.8	714.2	713.6	713.0	712.5
155°	736.6	737.4	738.2	738.4	737.9	737.4	737.0	736.5
157.5°	757.9	758.9	760.0	760.2	759.4	758.7	757.9	757.1
160°	770.5	771.5	772.4	772.5	771.9	771.3	770.7	770.1
162.5°	781.9	783.1	784.1	784.2	783.4	782.8	782.0	781.3
165°	796.7	797.8	798.9	799.1	798.2	797.5	796.7	796.0
167.5°	808.9	809.9	811.1	811.2	810.4	809.5	808.8	807.9
170°	815.6	816.7	817.7	817.8	816.9	816.0	815.0	814.1
172.5°	820.7	821.7	822.8	822.8	822.0	821.0	820.1	819.2
175°	826.0	827.2	828.3	828.3	827.4	826.5	825.6	824.6
177.5°	828.6	829.3	830.1	830.1	829.3	828.6	827.8	827.1
180°	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8

(END OF REPORT)