

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: P331371-830

Luminaire Tested: **S122DIP-S675D1080U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331371-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S675D1080U830-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6500.0 lumens  
Efficiency: N/A  
Efficacy: 114.2 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: Semi-Indirect

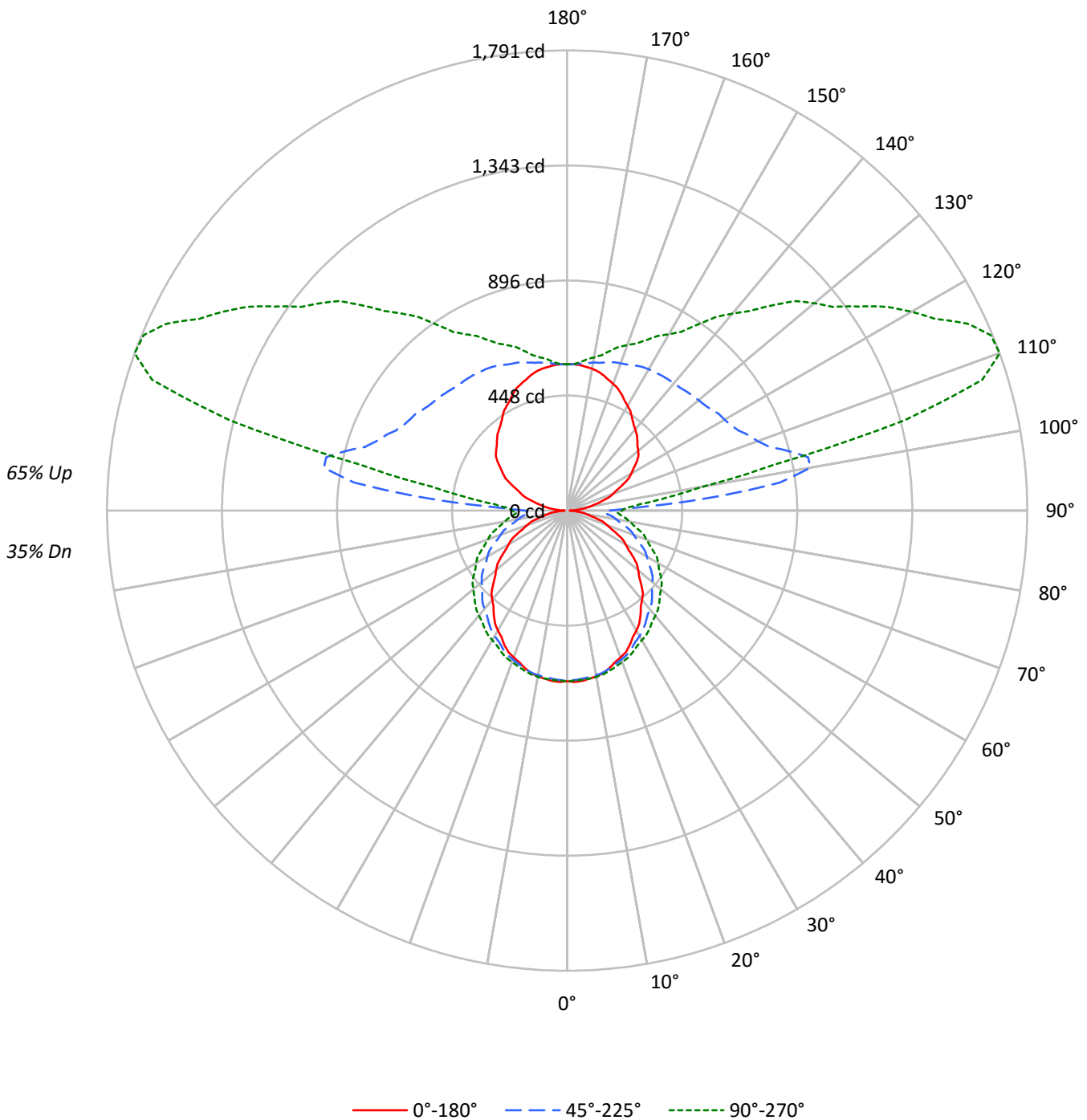
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331371-830

CATALOG NUMBER: S122DIP-S675D1080U830-4F0-1E-UDD-D4

### Luminous Intensity Polar Plot





TEST NUMBER: P331371-830

CATALOG NUMBER: S122DIP-S675D1080U830-4F0-1E-UDD-D4

**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	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	35
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	31	29	27	22
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	27	25	23	18
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	24	21	19	15
5	64	52	44	38	57	47	40	35	38	33	29	29	26	23	21	19	17	13
6	59	47	39	33	53	42	35	30	34	29	25	26	23	20	19	17	14	11
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	31	25	20	26	20	17	20	16	14	15	12	10	8
10	44	32	24	20	39	29	22	18	23	18	15	18	15	12	14	11	9	7

**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: P331371-830

CATALOG NUMBER: S122DIP-S675D1080U830-4F0-1E-UDD-D4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.9	1.0
10°-20°	180.4	2.8
20°-30°	273.4	4.2
30°-40°	333.0	5.1
40°-50°	358.2	5.5
50°-60°	347.9	5.4
60°-70°	303.7	4.7
70°-80°	233.8	3.6
80°-90°	162.1	2.5
90°-100°	335.8	5.2
100°-110°	851.5	13.1
110°-120°	872.8	13.4
120°-130°	704.7	10.8
130°-140°	554.8	8.5
140°-150°	412.1	6.3
150°-160°	288.1	4.4
160°-170°	169.6	2.6
170°-180°	55.2	0.8
0°-30°	516.7	7.9
0°-40°	849.6	13.1
0°-60°	1555.7	23.9
0°-90°	2255.4	34.7
90°-120°	2060.1	31.7
90°-150°	3731.7	57.4
90°-180°	4245.0	65.3
0°-180°	6500.0	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°	11	81	164	200	213	9
95°	46	148	540	308	284	47
105°	138	235	894	1565	1361	147
115°	239	314	737	1487	1721	237
125°	330	392	685	1193	1385	294
135°	386	461	656	984	1130	299
145°	440	506	642	802	882	276
155°	500	540	623	705	732	230
165°	545	562	597	633	643	154
175°	568	569	574	581	579	54
180°	569	569	569	569	569	



TEST NUMBER: P331371-830

CATALOG NUMBER: S122DIP-S675D1080U830-4F0-1E-UDD-D4

**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	32.5	46.1	59.3	72.5	86.3	101.1	116.3	131.3	145.2	153.7
90°	10.7	26.4	43.2	57.8	72.4	88.7	107.8	129.2	149.5	164.2	171.7
92.5°	22.2	39.7	59.1	75.5	94.4	117.1	155.0	203.0	247.3	262.4	248.6
95°	46.0	60.4	81.4	101.3	128.9	166.6	229.8	337.9	477.8	539.9	494.4
97.5°	69.2	84.0	104.5	128.4	157.5	197.8	273.4	418.5	641.9	835.1	878.9
100°	91.0	102.3	120.0	145.4	175.2	215.8	285.9	431.4	679.9	961.2	1126.8
102.5°	110.5	120.1	137.1	161.9	191.9	232.0	297.3	427.5	658.2	960.2	1215.9
105°	138.4	149.0	162.9	185.5	215.7	255.1	317.6	426.2	618.0	894.1	1192.8
107.5°	169.8	178.2	190.6	210.7	239.5	278.1	338.7	434.4	594.4	824.0	1088.5
110°	190.0	198.7	209.5	228.0	255.2	294.4	353.1	442.3	586.4	789.6	1023.1



TEST NUMBER: P331371-830

CATALOG NUMBER: S122DIP-S675D1080U830-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	209.2	217.3	228.3	245.2	270.9	310.4	366.7	451.1	582.4	765.0	975.6
115°	239.2	247.0	256.0	271.5	295.8	331.3	388.0	464.4	580.2	736.6	916.0
117.5°	269.4	275.3	283.4	296.5	319.1	355.0	407.5	479.0	581.0	718.4	875.2
120°	288.7	293.9	301.3	312.1	334.8	370.1	421.4	489.1	581.9	707.7	852.7
122.5°	307.1	310.9	317.8	328.9	351.1	386.8	435.0	497.8	584.0	699.6	833.0
125°	330.4	333.7	340.3	353.4	375.3	409.3	455.6	511.7	586.4	685.3	803.8
127.5°	349.7	353.8	362.8	377.0	397.8	432.1	475.9	525.7	590.3	674.7	776.7
130°	361.1	365.2	376.0	391.1	412.7	445.5	488.3	534.4	593.7	668.3	758.8
132.5°	371.6	376.6	388.2	404.3	426.8	459.0	499.1	543.3	597.1	662.8	743.5
135°	386.3	390.8	403.9	420.3	445.5	477.2	514.4	554.9	600.8	655.5	722.4
137.5°	401.2	406.5	419.6	437.1	461.9	490.9	526.4	563.1	603.9	649.7	706.0
140°	412.6	416.8	429.7	447.0	470.9	499.5	532.8	567.1	604.8	645.7	696.3
142.5°	424.0	427.3	439.4	456.7	479.7	506.3	538.4	571.6	606.2	644.2	687.9
145°	440.2	444.5	455.5	471.9	493.8	517.9	547.4	578.2	608.8	641.6	678.0
147.5°	458.5	461.8	472.3	487.5	505.7	527.1	554.9	581.8	609.6	637.7	668.5
150°	470.8	474.1	482.9	497.1	513.5	533.2	558.5	583.6	608.8	635.1	661.3
152.5°	483.1	484.7	493.3	505.9	521.4	539.3	561.9	584.5	607.0	630.7	655.2
155°	500.4	501.4	508.0	520.1	532.2	548.6	567.1	585.8	604.4	623.0	643.9
157.5°	514.8	515.9	521.2	531.7	541.3	555.2	570.9	585.8	599.4	615.1	633.1
160°	524.4	525.6	529.9	538.7	547.4	559.5	572.7	585.8	596.7	609.9	625.2
162.5°	534.1	533.5	537.8	544.8	552.7	562.1	573.5	584.9	594.1	605.5	618.2
165°	545.3	544.2	546.4	552.9	558.5	565.0	574.9	582.5	589.1	596.7	606.6
167.5°	554.5	553.2	555.2	559.3	563.3	567.4	574.6	581.0	584.0	589.1	595.2
170°	560.6	558.5	559.5	562.8	565.0	568.3	573.7	579.2	581.4	584.7	589.1
172.5°	564.1	562.8	562.1	565.4	566.8	569.1	572.9	576.6	577.9	579.5	583.0
175°	568.3	567.1	566.1	568.3	568.3	569.4	571.6	573.7	572.7	573.7	574.9
177.5°	570.2	568.4	567.6	569.4	569.4	569.4	570.2	572.0	570.2	569.4	570.2
180°	569.4	569.4	569.4	569.4	569.4	569.4	569.4	569.4	569.4	569.4	569.4



TEST NUMBER: P331371-830

CATALOG NUMBER: S122DIP-S675D1080U830-4F0-1E-UDD-D4

**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°	162.2	170.5	179.6	185.7	188.4	191.1	193.9	196.6
90°	179.2	185.5	196.2	202.9	205.5	208.0	210.6	213.2
92.5°	232.3	227.2	226.3	225.0	226.7	225.7	229.2	230.0
95°	413.8	355.2	317.3	298.5	286.8	280.6	279.9	283.6
97.5°	787.7	673.8	563.3	489.4	439.6	415.2	401.7	395.0
100°	1111.7	983.8	841.8	714.4	625.8	581.2	551.8	534.4
102.5°	1322.3	1299.4	1197.4	1062.2	965.7	887.7	850.5	826.0
105°	1428.0	1559.2	1581.0	1549.7	1484.2	1418.7	1373.9	1361.0
107.5°	1337.2	1530.8	1651.8	1709.6	1720.5	1719.1	1712.0	1694.0
110°	1260.9	1463.8	1610.8	1705.2	1754.6	1777.7	1790.0	1791.2





TEST NUMBER: P331371-830

CATALOG NUMBER: S122DIP-S675D1080U830-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1190.8	1385.7	1542.4	1649.8	1717.7	1754.8	1775.8	1784.0
115°	1103.1	1278.1	1428.0	1545.1	1625.2	1677.9	1708.7	1721.0
117.5°	1035.0	1189.4	1325.8	1435.8	1517.3	1572.6	1604.9	1615.3
120°	999.9	1141.7	1263.8	1367.5	1446.5	1500.3	1534.5	1547.7
122.5°	971.3	1101.5	1217.3	1311.2	1382.0	1434.5	1464.8	1476.0
125°	929.0	1047.5	1149.6	1235.6	1301.0	1344.5	1373.9	1384.6
127.5°	887.1	994.5	1090.7	1170.1	1227.3	1268.2	1293.7	1302.6
130°	860.3	959.6	1051.2	1126.9	1182.2	1221.2	1244.8	1255.3
132.5°	834.3	926.4	1010.9	1082.1	1136.6	1175.5	1197.4	1206.9
135°	798.1	874.8	951.6	1016.0	1064.8	1102.6	1124.1	1130.1
137.5°	767.9	832.3	893.6	949.7	994.1	1026.7	1045.4	1053.5
140°	748.9	804.9	858.7	909.3	945.6	975.3	993.0	1000.9
142.5°	733.8	781.2	827.3	869.5	903.9	930.9	946.6	949.0
145°	713.1	750.5	785.8	818.8	846.1	865.7	877.8	882.1
147.5°	697.6	726.2	752.9	776.5	798.6	814.1	822.0	824.5
150°	687.6	711.7	734.7	754.4	770.8	784.0	790.5	791.6
152.5°	678.0	700.3	719.8	736.9	749.8	761.2	766.0	766.2
155°	664.6	682.1	698.5	710.6	722.6	730.3	734.7	732.5
157.5°	649.0	663.7	677.5	686.9	695.5	701.8	703.8	703.8
160°	639.4	651.5	663.5	671.2	678.8	684.3	685.4	685.4
162.5°	629.8	640.1	650.4	656.3	663.9	667.7	668.7	667.9
165°	615.4	623.0	630.7	635.1	639.4	643.9	643.9	642.7
167.5°	601.5	607.5	612.7	616.7	618.6	621.0	620.9	619.5
170°	594.6	597.9	602.2	604.4	605.5	608.8	607.7	605.5
172.5°	586.6	589.1	592.6	593.9	595.0	596.5	595.4	594.1
175°	578.2	579.2	580.3	581.4	581.4	582.5	581.4	579.2
177.5°	572.0	572.0	572.9	572.9	572.9	572.9	572.0	570.2
180°	569.4	569.4	569.4	569.4	569.4	569.4	569.4	569.4

(END OF REPORT)