

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: P331374

Luminaire Tested: **S122DIP-S675D1080U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331374  
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-S675D1080U835-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6910.0 lumens  
Efficiency: N/A  
Efficacy: 121.4 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: Semi-Indirect

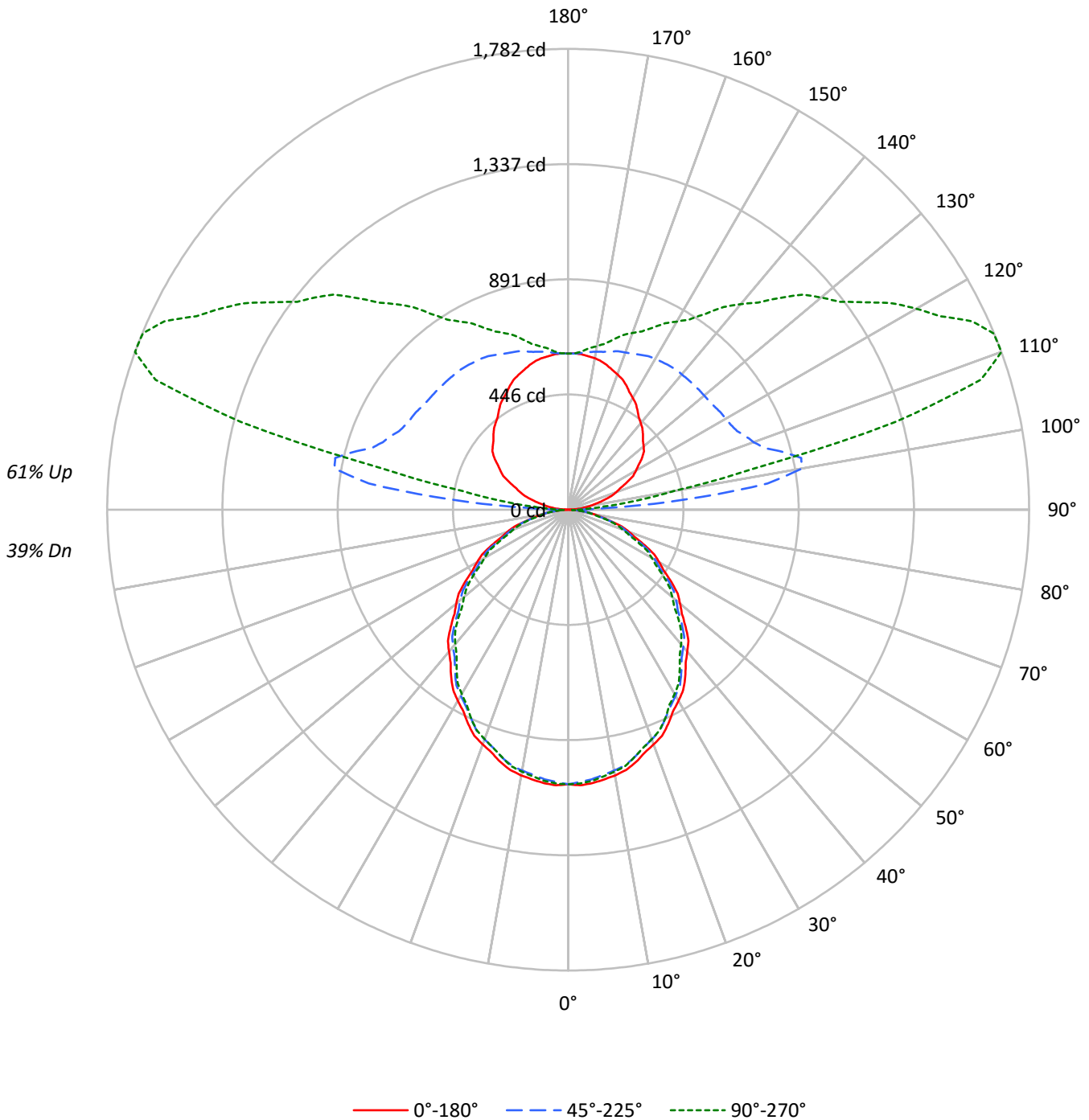
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**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	105	105	105	105	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	91	87	84	87	83	80	77	68	65	63	54	52	51	41	40	39	33
2	87	80	73	68	79	72	67	63	59	56	52	47	45	42	36	34	33	28
3	79	70	63	57	72	64	58	53	52	48	44	42	38	36	32	30	28	23
4	72	62	54	48	66	56	50	44	46	41	37	37	34	31	28	26	24	20
5	66	55	47	41	60	50	43	38	41	36	32	33	29	27	26	23	21	17
6	61	49	41	36	55	45	38	33	37	32	28	30	26	23	23	21	18	15
7	56	44	37	31	51	41	34	29	34	29	25	27	23	20	21	18	16	14
8	52	40	33	27	47	37	30	26	31	26	22	25	21	18	19	17	15	12
9	49	37	29	24	44	34	27	23	28	23	20	23	19	16	18	15	13	11
10	45	34	26	22	41	31	25	20	26	21	18	21	17	15	17	14	12	10

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

	0°	45°	90°
0°	17142	17142	17142
5°	17208	16960	17058
10°	17105	16787	16870
15°	16893	16568	16552
20°	16593	16242	16225
25°	16295	15841	15841
30°	15910	15474	15340
35°	15554	15031	14808
40°	15104	14587	14309
45°	14661	14150	13798
50°	14179	13692	13205
55°	13678	13163	12673
60°	13120	12526	12064
65°	12520	11897	11351
70°	11759	11131	10603
75°	10699	10256	10000
80°	9493	9205	8731
85°	7762	7373	6614



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.8	1.4
10°-20°	280.9	4.1
20°-30°	412.9	6.0
30°-40°	479.6	6.9
40°-50°	479.1	6.9
50°-60°	417.8	6.0
60°-70°	308.9	4.5
70°-80°	175.0	2.5
80°-90°	52.5	0.8
90°-100°	241.5	3.5
100°-110°	819.6	11.9
110°-120°	870.7	12.6
120°-130°	716.8	10.4
130°-140°	575.6	8.3
140°-150°	435.0	6.3
150°-160°	305.7	4.4
160°-170°	180.0	2.6
170°-180°	58.6	0.8
0°-30°	793.6	11.5
0°-40°	1273.2	18.4
0°-60°	2170.1	31.4
0°-90°	2706.5	39.2
90°-120°	1931.9	28.0
90°-150°	3659.3	53.0
90°-180°	4204.0	60.8
0°-180°	6910.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1062	1062	1062	1062	1062	
5°	1062	1057	1046	1054	1052	101
15°	1011	1004	991	995	990	284
25°	915	906	889	891	889	421
35°	789	779	763	756	751	492
45°	642	635	620	609	604	495
55°	486	479	468	456	450	434
65°	328	321	311	302	297	324
75°	172	169	164	159	160	183
85°	42	41	40	37	36	48
90°	1	16	40	38	38	4
95°	41	100	455	172	132	43
105°	142	214	861	1539	1309	151
115°	250	315	720	1486	1723	248
125°	348	412	692	1204	1398	309
135°	409	488	684	1012	1158	316
145°	467	537	681	845	925	293
155°	531	573	661	748	777	244
165°	578	596	633	671	682	163
175°	603	604	609	616	614	57
180°	604	604	604	604	604	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7
2.5°	1066.6	1065.7	1064.8	1063.9	1063.0	1061.5	1059.5	1057.5	1055.5	1053.5	1055.3
5°	1061.7	1060.8	1059.9	1059.0	1058.1	1056.4	1053.9	1051.4	1048.9	1046.4	1048.2
7.5°	1052.3	1050.9	1049.5	1048.1	1046.7	1044.7	1042.2	1039.6	1037.1	1034.5	1036.3
10°	1043.3	1041.7	1040.1	1038.5	1037.0	1034.8	1032.1	1029.4	1026.6	1023.9	1025.7
12.5°	1031.1	1029.7	1028.2	1026.8	1025.4	1023.4	1020.6	1017.9	1015.2	1012.5	1013.8
15°	1010.6	1009.3	1007.9	1006.6	1005.2	1003.0	1000.1	997.1	994.2	991.2	992.2
17.5°	984.5	983.1	981.8	980.4	979.1	976.9	973.9	970.9	967.9	964.9	966.0
20°	965.7	964.4	963.0	961.6	960.3	958.0	954.8	951.7	948.5	945.3	946.0
22.5°	946.9	945.0	943.1	941.2	939.3	936.9	933.9	930.9	927.9	924.9	925.0
25°	914.7	912.9	911.1	909.2	907.4	904.6	900.7	896.9	893.0	889.2	889.6
27.5°	877.9	876.3	874.7	873.0	871.4	869.1	866.0	863.0	859.9	856.9	856.2
30°	853.4	851.6	849.8	848.0	846.2	843.6	840.2	836.8	833.4	830.0	829.3
32.5°	827.3	825.8	824.4	822.9	821.5	819.0	815.4	811.8	808.2	804.6	803.4
35°	789.1	786.9	784.6	782.3	780.0	777.1	773.5	769.8	766.2	762.6	761.2
37.5°	746.0	744.0	742.0	740.0	738.1	735.2	731.6	728.0	724.4	720.7	719.0
40°	716.6	714.8	713.0	711.2	709.4	706.7	703.0	699.4	695.8	692.1	690.1
42.5°	688.1	686.2	684.4	682.6	680.8	678.1	674.4	670.8	667.2	663.6	661.3
45°	642.1	640.5	638.9	637.4	635.8	633.3	629.9	626.5	623.1	619.7	617.2
47.5°	596.4	594.9	593.4	591.9	590.4	587.9	584.3	580.8	577.3	573.7	571.1
50°	564.5	563.4	562.3	561.1	560.0	557.8	554.7	551.5	548.3	545.1	542.0
52.5°	533.5	532.0	530.5	529.0	527.5	525.3	522.3	519.3	516.3	513.3	510.7
55°	485.9	484.6	483.2	481.8	480.5	478.4	475.7	473.0	470.3	467.6	464.8
57.5°	438.1	437.1	436.0	434.9	433.8	431.8	428.8	425.8	422.8	419.8	417.1
60°	406.3	405.4	404.5	403.6	402.7	400.6	397.5	394.3	391.1	387.9	385.4
62.5°	375.3	373.8	372.4	370.9	369.5	367.5	365.1	362.6	360.2	357.7	355.4
65°	327.7	326.3	325.0	323.6	322.2	320.4	318.2	315.9	313.6	311.4	309.3
67.5°	279.3	278.2	277.1	276.0	274.9	273.4	271.3	269.3	267.3	265.2	263.6
70°	249.1	248.2	247.3	246.4	245.5	244.0	241.9	239.9	237.9	235.8	234.2
72.5°	218.1	217.1	216.2	215.3	214.4	213.3	212.0	210.7	209.4	208.0	206.5
75°	171.5	171.0	170.6	170.1	169.7	168.9	167.8	166.6	165.5	164.4	163.0
77.5°	129.9	129.1	128.3	127.5	126.8	126.2	125.7	125.2	124.8	124.3	123.7
80°	102.1	101.9	101.6	101.4	101.2	100.8	100.4	99.9	99.5	99.0	98.3
82.5°	76.0	75.9	75.9	75.8	75.8	75.6	75.3	75.1	74.8	74.5	73.7
85°	41.9	41.6	41.4	41.2	40.9	40.7	40.5	40.3	40.0	39.8	39.1
87.5°	14.9	15.3	15.8	15.9	16.0	16.4	17.2	18.4	19.5	19.3	18.6
90°	1.2	4.6	9.3	11.6	13.9	17.4	23.2	31.4	38.3	39.5	38.3
92.5°	14.2	20.4	28.8	33.9	41.8	52.7	79.0	115.9	148.9	151.0	127.6
95°	40.7	45.3	56.9	67.4	86.0	113.8	167.3	268.3	403.1	455.4	398.5
97.5°	66.2	72.5	84.8	100.6	122.0	153.6	220.7	361.5	585.5	777.4	815.5
100°	89.4	92.9	103.4	122.0	145.2	177.7	239.3	381.0	631.9	917.7	1085.0
102.5°	110.8	113.4	123.8	142.4	166.6	199.1	256.0	382.0	614.3	922.4	1185.4
105°	141.7	146.4	154.5	171.9	197.5	230.0	284.6	388.0	579.7	860.8	1169.8
107.5°	175.2	178.9	186.8	202.8	228.2	260.9	313.9	404.0	562.5	794.8	1067.8
110°	197.5	202.1	209.1	224.2	248.6	282.3	333.4	417.0	558.8	763.2	1003.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	217.9	222.6	230.5	244.6	268.1	302.7	352.0	431.0	559.7	742.8	959.1
115°	249.8	255.6	262.5	276.5	299.7	331.1	381.0	451.9	564.6	720.2	903.8
117.5°	282.8	287.4	294.4	306.7	329.0	361.5	407.7	474.2	572.9	709.3	868.9
120°	303.2	307.8	314.8	325.3	348.5	381.0	426.3	489.1	578.5	702.8	850.3
122.5°	322.7	326.4	333.4	344.8	368.0	401.5	444.0	502.1	585.0	699.1	834.5
125°	348.5	352.0	359.0	372.9	396.1	428.7	470.5	522.8	594.8	692.4	812.0
127.5°	368.9	373.6	383.4	398.7	421.0	454.4	495.1	542.0	604.8	688.4	791.1
130°	381.0	385.7	397.3	413.6	436.8	469.3	510.0	554.1	612.2	686.5	777.2
132.5°	392.2	397.8	410.3	427.5	451.7	484.2	523.0	566.2	619.6	685.6	766.0
135°	408.9	413.6	427.5	444.9	471.6	504.2	541.3	582.0	628.5	684.2	750.4
137.5°	424.7	430.3	444.2	462.8	489.3	519.5	556.2	594.1	636.4	684.0	739.5
140°	436.8	441.4	455.4	474.0	499.5	529.7	564.6	600.6	640.1	683.1	733.0
142.5°	448.9	452.6	465.6	484.2	508.8	537.2	571.1	606.2	642.9	683.1	726.5
145°	467.0	471.6	483.3	500.7	523.9	549.5	580.8	613.4	645.9	680.7	717.9
147.5°	486.5	490.0	501.1	517.2	536.5	559.2	588.7	617.3	646.8	676.6	709.1
150°	499.5	503.0	512.3	527.4	544.8	565.7	592.5	619.2	645.9	673.8	701.6
152.5°	512.5	514.2	523.4	536.7	553.2	572.2	596.2	620.1	644.0	669.1	695.1
155°	530.9	532.0	539.0	551.8	564.6	582.0	601.7	621.5	641.2	661.0	683.1
157.5°	546.2	547.4	553.0	564.1	574.3	589.0	605.7	621.5	635.9	652.6	671.7
160°	556.4	557.6	562.2	571.5	580.8	593.6	607.6	621.5	633.1	647.1	663.3
162.5°	566.7	566.0	570.6	578.0	586.4	596.4	608.5	620.6	630.3	642.4	655.9
165°	578.5	577.4	579.7	586.6	592.5	599.4	609.9	618.0	625.0	633.1	643.6
167.5°	588.3	586.9	589.0	593.4	597.6	602.0	609.6	616.4	619.6	625.0	631.5
170°	594.8	592.5	593.6	597.1	599.4	602.9	608.7	614.5	616.8	620.3	625.0
172.5°	598.5	597.1	596.4	599.9	601.3	603.8	607.8	611.7	613.1	614.8	618.5
175°	602.9	601.7	600.6	602.9	602.9	604.1	606.4	608.7	607.6	608.7	609.9
177.5°	605.0	603.1	602.2	604.1	604.1	604.1	605.0	606.9	605.0	604.1	605.0
180°	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7
2.5°	1057.1	1059.0	1060.8	1061.5	1061.1	1060.8	1060.4	1060.1
5°	1050.0	1051.8	1053.6	1054.3	1053.9	1053.4	1053.0	1052.5
7.5°	1038.2	1040.0	1041.8	1042.4	1041.9	1041.5	1041.0	1040.5
10°	1027.5	1029.4	1031.2	1031.7	1031.1	1030.4	1029.7	1029.0
12.5°	1015.0	1016.3	1017.6	1017.9	1017.4	1017.0	1016.5	1016.0
15°	993.1	994.0	994.9	994.8	993.6	992.5	991.4	990.2
17.5°	967.0	968.0	969.1	969.1	968.0	966.9	965.8	964.7
20°	946.7	947.4	948.0	947.9	947.0	946.1	945.2	944.3
22.5°	925.2	925.3	925.4	925.2	924.7	924.1	923.6	923.1
25°	890.1	890.5	891.0	891.0	890.5	890.1	889.6	889.2
27.5°	855.5	854.9	854.2	853.3	852.2	851.1	850.0	848.9
30°	828.6	827.9	827.2	826.4	825.5	824.6	823.7	822.8
32.5°	802.2	801.0	799.7	798.7	797.8	796.9	795.9	795.0
35°	759.9	758.5	757.1	755.9	754.8	753.6	752.5	751.3
37.5°	717.4	715.7	714.0	712.6	711.5	710.4	709.4	708.3
40°	688.1	686.0	684.0	682.5	681.6	680.7	679.8	678.9
42.5°	659.1	656.9	654.7	652.9	651.6	650.4	649.1	647.8
45°	614.7	612.2	609.7	608.0	607.1	606.2	605.3	604.3
47.5°	568.5	565.8	563.2	561.2	559.9	558.6	557.3	556.0
50°	538.8	535.6	532.4	530.3	529.1	528.0	526.9	525.7
52.5°	508.0	505.4	502.8	500.7	499.2	497.7	496.2	494.7
55°	462.1	459.4	456.7	454.7	453.6	452.5	451.3	450.2
57.5°	414.4	411.7	409.1	407.3	406.4	405.6	404.7	403.8
60°	382.9	380.4	377.9	376.4	375.7	375.0	374.3	373.6
62.5°	353.1	350.8	348.5	346.9	346.0	345.1	344.3	343.4
65°	307.3	305.2	303.2	301.6	300.5	299.3	298.2	297.1
67.5°	262.0	260.5	258.9	257.6	256.7	255.8	254.9	254.0
70°	232.6	231.1	229.5	228.2	227.3	226.4	225.5	224.6
72.5°	204.9	203.3	201.7	200.5	199.8	199.1	198.4	197.6
75°	161.6	160.3	158.9	158.5	158.9	159.4	159.8	160.3
77.5°	123.0	122.3	121.6	121.0	120.3	119.7	119.1	118.4
80°	97.7	97.0	96.3	95.7	95.3	94.8	94.4	93.9
82.5°	72.8	71.9	71.1	70.6	70.5	70.4	70.3	70.2
85°	38.5	37.8	37.1	36.6	36.4	36.2	36.0	35.7
87.5°	17.8	16.8	16.7	16.6	16.4	16.2	16.0	15.8
90°	37.2	34.9	37.2	38.3	38.3	38.3	38.3	38.3
92.5°	101.3	86.9	77.1	69.9	69.0	65.3	66.2	64.4
95°	304.4	233.5	184.7	159.1	144.0	134.8	131.3	132.4
97.5°	710.2	581.1	455.4	371.5	316.0	287.4	270.4	260.7
100°	1060.6	916.6	757.4	616.8	520.4	470.5	436.8	415.9
102.5°	1290.2	1257.6	1141.2	992.3	887.5	802.3	760.2	731.9
105°	1411.4	1542.7	1557.8	1519.5	1447.4	1375.4	1325.5	1309.2
107.5°	1324.1	1521.8	1642.6	1698.8	1707.9	1703.9	1693.9	1672.3
110°	1248.8	1456.7	1605.4	1700.7	1750.6	1772.7	1783.2	1782.0





TEST NUMBER: P331374

CATALOG NUMBER: S122DIP-S675D1080U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1180.0	1379.6	1538.5	1647.7	1717.2	1754.1	1773.9	1780.1
115°	1095.5	1274.4	1426.5	1546.2	1628.7	1682.1	1712.3	1722.8
117.5°	1031.8	1188.9	1326.9	1439.1	1523.2	1579.6	1611.5	1620.3
120°	1000.2	1144.2	1267.4	1373.1	1454.4	1509.0	1542.7	1554.3
122.5°	975.1	1107.1	1223.7	1319.2	1392.1	1445.8	1475.8	1485.5
125°	938.6	1058.3	1160.5	1247.6	1315.0	1359.2	1388.2	1397.5
127.5°	902.6	1010.9	1107.3	1187.7	1246.5	1287.8	1312.9	1320.4
130°	879.4	979.3	1071.1	1147.7	1204.7	1244.2	1267.4	1276.7
132.5°	857.1	949.6	1033.9	1105.9	1161.9	1201.4	1222.8	1231.1
135°	825.9	902.6	979.3	1044.3	1094.3	1132.6	1153.5	1158.2
137.5°	801.1	865.2	926.1	982.8	1028.3	1061.3	1079.7	1086.6
140°	785.3	841.1	894.5	945.6	982.8	1013.0	1030.4	1037.4
142.5°	772.3	819.7	865.7	908.4	943.7	971.2	986.7	988.1
145°	753.9	792.3	828.3	862.0	889.8	909.6	921.2	924.7
147.5°	739.8	770.0	798.1	822.7	845.7	861.5	869.4	871.5
150°	729.5	755.1	779.5	800.4	817.8	831.8	838.7	839.9
152.5°	719.3	743.0	763.7	781.8	795.5	807.6	812.7	812.9
155°	705.1	723.7	741.1	753.9	766.7	774.8	779.5	777.2
157.5°	688.6	704.2	718.8	728.8	737.9	744.6	746.7	746.7
160°	678.4	691.2	704.0	712.1	720.2	726.0	727.2	727.2
162.5°	668.2	679.1	690.0	696.3	704.4	708.4	709.5	708.6
165°	652.9	661.0	669.1	673.8	678.4	683.1	683.1	681.9
167.5°	638.2	644.5	650.1	654.3	656.3	658.9	658.7	657.3
170°	630.8	634.3	638.9	641.2	642.4	645.9	644.7	642.4
172.5°	622.4	625.0	628.7	630.1	631.3	632.9	631.7	630.3
175°	613.4	614.5	615.7	616.8	616.8	618.0	616.8	614.5
177.5°	606.9	606.9	607.8	607.8	607.8	607.8	606.9	605.0
180°	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1

(END OF REPORT)