

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: P331704-840

Luminaire Tested: **S122RDIP-S675D1080U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331704-840
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: S122RDIP-S675D1080U840-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6593.4 lumens
Efficiency: N/A
Efficacy: 115.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

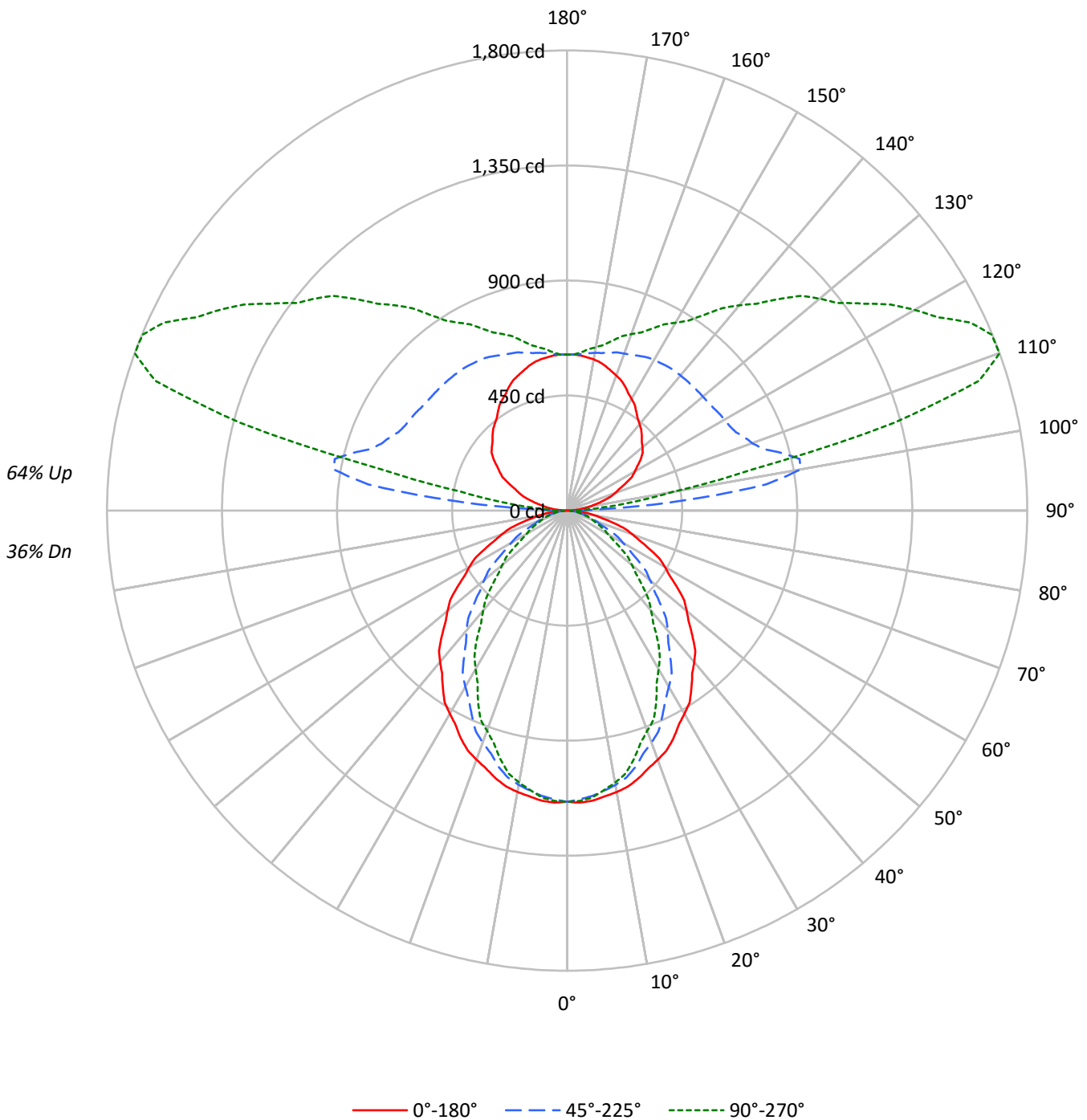
Input Watts (W): 56.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: S122RDIP-S675D1080U840-4F0-1E-UDD-F4

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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	36
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	38	37	31
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	34	33	32	26
3	79	70	63	58	71	64	58	53	52	48	44	41	38	36	31	29	27	23
4	73	62	55	49	65	57	50	45	46	42	38	37	33	31	28	25	24	20
5	67	56	48	42	60	51	44	39	42	37	33	33	29	27	25	23	21	17
6	61	50	42	37	56	46	39	34	37	32	29	30	26	24	23	20	19	15
7	57	45	37	32	51	41	35	30	34	29	25	27	24	21	21	18	17	14
8	53	41	33	28	48	38	31	26	31	26	23	25	21	19	19	17	15	12
9	49	37	30	25	44	34	28	24	28	24	20	23	19	17	18	15	14	11
10	46	34	27	23	42	31	25	21	26	21	18	21	18	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18392	18392	18392
5°	18462	18162	18263
10°	18321	17864	17713
15°	18111	17336	16836
20°	17819	16579	15747
25°	17521	15720	14694
30°	17107	14838	13340
35°	16703	13878	12151
40°	16297	12886	10777
45°	15819	11768	9533
50°	15330	10643	8312
55°	14829	9433	7139
60°	14247	8157	5926
65°	13589	6854	5398
70°	12798	5646	4961
75°	11834	5147	4629
80°	10451	4603	4212
85°	8207	3631	3631



TEST NUMBER: P331704-840

CATALOG NUMBER: S122RDIP-S675D1080U840-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.6	1.6
10°-20°	292.8	4.4
20°-30°	411.1	6.2
30°-40°	448.3	6.8
40°-50°	412.2	6.3
50°-60°	323.8	4.9
60°-70°	211.1	3.2
70°-80°	108.8	1.7
80°-90°	33.7	0.5
90°-100°	243.9	3.7
100°-110°	827.7	12.6
110°-120°	879.3	13.3
120°-130°	723.9	11.0
130°-140°	581.3	8.8
140°-150°	439.3	6.7
150°-160°	308.7	4.7
160°-170°	181.7	2.8
170°-180°	59.1	0.9
0°-30°	810.5	12.3
0°-40°	1258.9	19.1
0°-60°	1994.8	30.3
0°-90°	2348.5	35.6
90°-120°	1951.0	29.6
90°-150°	3695.4	56.0
90°-180°	4245.0	64.4
0°-180°	6593.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1139	1139	1139	1139	1139	
5°	1139	1134	1121	1129	1127	108
15°	1084	1071	1037	1018	1007	305
25°	984	949	882	842	825	452
35°	847	793	704	642	616	530
45°	693	622	515	445	418	535
55°	527	445	335	276	254	471
65°	356	272	179	146	141	352
75°	190	120	82	76	74	201
85°	44	24	20	20	20	52
90°	1	16	40	38	39	4
95°	41	101	460	174	134	44
105°	143	216	869	1554	1322	152
115°	252	319	727	1501	1740	250
125°	352	416	699	1216	1411	312
135°	413	493	691	1022	1170	319
145°	472	542	687	854	934	296
155°	536	579	668	755	785	247
165°	584	602	639	678	689	165
175°	609	609	615	622	621	58
180°	610	610	610	610	610	



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CATALOG NUMBER: S122RDIP-S675D1080U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1
2.5°	1143.3	1142.4	1141.5	1140.5	1139.6	1138.1	1136.1	1134.1	1132.2	1130.1	1132.0
5°	1139.1	1138.0	1136.9	1135.7	1134.6	1132.6	1129.5	1126.6	1123.6	1120.6	1122.7
7.5°	1127.4	1126.0	1124.6	1123.2	1121.8	1119.2	1115.8	1112.4	1108.8	1105.4	1105.9
10°	1117.5	1115.9	1114.3	1112.7	1111.1	1108.0	1103.4	1098.8	1094.3	1089.6	1089.0
12.5°	1105.1	1103.2	1101.2	1099.2	1097.2	1093.4	1087.5	1081.7	1075.7	1069.9	1068.6
15°	1083.5	1081.0	1078.4	1075.9	1073.4	1068.2	1060.5	1052.7	1044.9	1037.1	1032.8
17.5°	1056.9	1053.1	1049.2	1045.3	1041.5	1034.6	1024.6	1014.6	1004.6	994.6	989.5
20°	1037.1	1032.5	1027.9	1023.4	1018.8	1010.8	999.3	987.8	976.4	964.9	959.2
22.5°	1015.6	1010.6	1005.4	1000.3	995.1	986.1	973.2	960.3	947.4	934.4	927.1
25°	983.5	976.1	968.9	961.5	954.2	942.9	927.9	912.7	897.6	882.4	873.0
27.5°	944.7	936.8	928.8	920.8	912.8	900.3	883.3	866.3	849.2	832.1	821.2
30°	917.6	908.8	900.1	891.4	882.7	869.2	850.8	832.5	814.2	795.9	784.2
32.5°	891.1	880.9	870.8	860.6	850.4	836.0	817.3	798.6	779.9	761.2	747.9
35°	847.4	835.8	824.0	812.3	800.7	784.8	764.6	744.5	724.3	704.1	689.6
37.5°	803.8	790.8	778.0	765.2	752.3	735.2	713.8	692.3	670.8	649.2	633.4
40°	773.2	759.4	745.7	732.0	718.2	700.2	678.0	655.8	633.6	611.4	595.1
42.5°	741.8	727.4	712.9	698.4	684.0	665.2	642.3	619.4	596.3	573.4	556.5
45°	692.8	677.4	662.1	646.7	631.4	611.7	587.6	563.6	539.5	515.4	499.2
47.5°	644.9	628.6	612.4	596.1	579.9	559.4	534.5	509.7	484.8	460.0	443.8
50°	610.3	594.0	577.7	561.5	545.2	524.5	499.3	474.1	448.9	423.7	407.9
52.5°	576.5	559.5	542.5	525.5	508.5	487.7	463.0	438.4	413.7	389.1	373.9
55°	526.8	509.0	491.1	473.2	455.3	434.0	409.3	384.6	359.8	335.1	321.3
57.5°	475.8	457.6	439.2	420.9	402.5	381.5	357.7	334.0	310.1	286.4	273.8
60°	441.2	422.9	404.6	386.3	367.9	347.0	323.4	299.7	276.2	252.6	240.9
62.5°	407.4	389.1	370.7	352.4	334.1	313.7	291.2	268.7	246.2	223.7	212.6
65°	355.7	337.1	318.5	300.0	281.4	261.9	241.3	220.7	200.0	179.4	171.6
67.5°	305.8	287.3	268.9	250.5	232.1	213.6	195.0	176.5	157.9	139.4	135.8
70°	271.1	253.3	235.4	217.5	199.7	182.8	167.0	151.2	135.4	119.6	117.2
72.5°	238.1	221.0	203.9	186.7	169.6	154.7	142.0	129.3	116.6	103.9	102.0
75°	189.7	173.7	157.6	141.6	125.5	113.6	105.8	98.1	90.3	82.5	80.9
77.5°	142.1	127.9	113.9	99.9	85.8	76.9	73.1	69.4	65.6	61.9	60.9
80°	112.4	100.7	89.0	77.4	65.6	58.7	56.4	54.0	51.8	49.5	48.6
82.5°	85.1	76.0	67.0	57.8	48.7	43.3	41.8	40.2	38.7	37.2	36.6
85°	44.3	39.5	34.7	29.9	25.0	22.3	21.6	21.0	20.3	19.6	19.6
87.5°	13.4	12.6	12.1	11.1	10.1	10.1	11.3	12.9	14.3	14.5	14.1
90°	1.2	4.6	9.4	11.7	14.0	17.6	23.4	31.7	38.7	39.9	38.7
92.5°	14.3	20.6	29.1	34.2	42.2	53.2	79.8	117.0	150.4	152.5	128.9
95°	41.1	45.7	57.5	68.1	86.8	114.9	169.0	270.9	407.1	459.9	402.4
97.5°	66.9	73.2	85.6	101.6	123.2	155.1	222.9	365.1	591.3	785.1	823.5
100°	90.3	93.8	104.4	123.2	146.6	179.5	241.7	384.8	638.1	926.8	1095.7
102.5°	111.9	114.5	125.0	143.8	168.2	201.1	258.5	385.8	620.4	931.5	1197.1
105°	143.1	147.8	156.0	173.6	199.4	232.3	287.4	391.8	585.4	869.3	1181.3
107.5°	176.9	180.7	188.6	204.8	230.5	263.5	317.0	408.0	568.0	802.6	1078.3
110°	199.4	204.1	211.2	226.4	251.1	285.1	336.7	421.1	564.3	770.7	1013.6



TEST NUMBER: P331704-840

CATALOG NUMBER: S122RDIP-S675D1080U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	220.0	224.8	232.8	247.0	270.7	305.7	355.5	435.3	565.2	750.1	968.6
115°	252.3	258.1	265.1	279.2	302.7	334.4	384.8	456.4	570.2	727.3	912.7
117.5°	285.6	290.2	297.3	309.7	332.2	365.1	411.7	478.9	578.6	716.3	877.5
120°	306.2	310.8	317.9	328.5	351.9	384.8	430.5	493.9	584.2	709.7	858.7
122.5°	325.9	329.6	336.7	348.2	371.6	405.5	448.4	507.1	590.8	706.0	842.7
125°	351.9	355.5	362.5	376.6	400.0	432.9	475.1	528.0	600.7	699.2	820.0
127.5°	372.5	377.3	387.2	402.6	425.2	458.9	500.0	547.3	610.8	695.2	798.9
130°	384.8	389.5	401.2	417.7	441.1	473.9	515.0	559.6	618.2	693.3	784.9
132.5°	396.1	401.7	414.3	431.7	456.2	489.0	528.2	571.8	625.7	692.4	773.6
135°	412.9	417.7	431.7	449.3	476.3	509.2	546.6	587.7	634.7	690.9	757.8
137.5°	428.9	434.5	448.6	467.4	494.1	524.6	561.7	600.0	642.7	690.7	746.8
140°	441.1	445.8	459.9	478.7	504.4	534.9	570.2	606.5	646.4	689.8	740.2
142.5°	453.3	457.1	470.2	489.0	513.8	542.5	576.7	612.2	649.2	689.8	733.7
145°	471.6	476.3	488.1	505.6	529.1	554.9	586.5	619.5	652.3	687.4	725.0
147.5°	491.3	494.8	506.0	522.3	541.8	564.7	594.5	623.4	653.2	683.3	716.1
150°	504.4	508.0	517.4	532.6	550.2	571.3	598.3	625.3	652.3	680.4	708.5
152.5°	517.6	519.3	528.6	542.0	558.7	577.8	602.1	626.2	650.4	675.7	702.0
155°	536.1	537.2	544.3	557.2	570.2	587.7	607.6	627.6	647.5	667.5	689.8
157.5°	551.6	552.8	558.5	569.7	580.0	594.8	611.7	627.6	642.2	659.0	678.3
160°	561.9	563.1	567.7	577.1	586.5	599.5	613.6	627.6	639.3	653.5	669.8
162.5°	572.3	571.6	576.2	583.7	592.2	602.3	614.5	626.7	636.5	648.7	662.4
165°	584.2	583.1	585.4	592.4	598.3	605.3	615.9	624.1	631.2	639.3	649.9
167.5°	594.1	592.7	594.8	599.3	603.5	607.9	615.6	622.5	625.7	631.2	637.7
170°	600.7	598.3	599.5	603.0	605.3	608.8	614.7	620.6	622.9	626.4	631.2
172.5°	604.4	603.0	602.3	605.8	607.2	609.8	613.8	617.7	619.1	620.9	624.6
175°	608.8	607.6	606.5	608.8	608.8	610.1	612.4	614.7	613.6	614.7	615.9
177.5°	611.0	609.0	608.1	610.1	610.1	610.1	611.0	612.9	611.0	610.1	611.0
180°	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1



TEST NUMBER: P331704-840

CATALOG NUMBER: S122RDIP-S675D1080U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1
2.5°	1133.8	1135.6	1137.4	1138.1	1137.8	1137.4	1137.1	1136.7
5°	1124.7	1126.8	1128.8	1129.5	1128.8	1128.1	1127.5	1126.8
7.5°	1106.5	1107.1	1107.7	1107.4	1106.2	1105.1	1103.9	1102.7
10°	1088.3	1087.6	1086.9	1085.9	1084.5	1083.2	1081.8	1080.4
12.5°	1067.4	1066.2	1064.9	1063.2	1060.9	1058.6	1056.3	1054.0
15°	1028.4	1024.0	1019.7	1016.3	1014.1	1011.8	1009.5	1007.2
17.5°	984.3	979.1	973.9	969.4	965.4	961.5	957.6	953.6
20°	953.5	947.8	942.0	936.6	931.6	926.6	921.5	916.5
22.5°	919.7	912.3	904.9	899.4	895.5	891.8	888.1	884.3
25°	863.6	854.2	844.9	838.5	835.1	831.6	828.2	824.8
27.5°	810.2	799.3	788.4	780.1	774.7	769.2	763.8	758.3
30°	772.5	760.8	749.1	740.2	734.0	727.8	721.6	715.5
32.5°	734.6	721.2	707.9	698.3	692.5	686.7	680.9	675.1
35°	675.3	660.9	646.4	636.6	631.6	626.5	621.6	616.5
37.5°	617.4	601.6	585.7	574.8	569.1	563.3	557.5	551.8
40°	578.8	562.5	546.2	535.1	529.2	523.2	517.3	511.3
42.5°	539.8	522.9	506.1	494.8	489.1	483.3	477.6	471.7
45°	482.9	466.7	450.4	439.5	434.0	428.5	423.0	417.5
47.5°	427.7	411.5	395.3	384.8	379.7	374.8	369.7	364.8
50°	392.1	376.3	360.5	350.1	345.4	340.5	335.8	330.9
52.5°	358.6	343.3	328.0	318.2	313.8	309.3	304.9	300.4
55°	307.6	293.8	280.0	271.0	266.7	262.3	257.9	253.6
57.5°	261.2	248.6	236.0	227.8	224.2	220.6	216.8	213.2
60°	229.2	217.5	205.8	198.1	194.5	190.9	187.1	183.5
62.5°	201.5	190.3	179.2	172.5	170.3	168.1	165.9	163.7
65°	163.8	156.0	148.2	144.0	143.3	142.6	141.9	141.3
67.5°	132.2	128.7	125.1	122.9	122.2	121.5	120.8	120.0
70°	115.0	112.7	110.4	108.9	107.9	106.9	106.0	105.1
72.5°	100.1	98.2	96.2	95.0	94.4	93.9	93.3	92.8
75°	79.3	77.7	76.0	75.1	74.9	74.7	74.4	74.2
77.5°	60.0	59.1	58.2	57.6	57.2	56.9	56.5	56.0
80°	47.7	46.8	45.8	45.3	45.3	45.3	45.3	45.3
82.5°	36.1	35.4	34.9	34.6	34.6	34.6	34.6	34.6
85°	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
87.5°	13.7	13.1	13.3	13.5	13.5	13.5	13.5	13.5
90°	37.6	35.2	37.6	38.7	38.7	38.7	38.7	38.7
92.5°	102.3	87.8	77.9	70.6	69.7	65.9	66.9	65.0
95°	307.4	235.8	186.5	160.7	145.4	136.1	132.6	133.7
97.5°	717.2	586.8	459.9	375.2	319.1	290.2	273.1	263.3
100°	1071.1	925.6	764.9	622.9	525.5	475.1	441.1	420.0
102.5°	1302.9	1270.0	1152.5	1002.1	896.3	810.2	767.7	739.1
105°	1425.3	1557.9	1573.2	1534.5	1461.7	1389.0	1338.6	1322.1
107.5°	1337.2	1536.8	1658.8	1715.6	1724.7	1720.7	1710.6	1688.8
110°	1261.1	1471.1	1621.2	1717.5	1767.9	1790.2	1800.8	1799.6



TEST NUMBER: P331704-840

CATALOG NUMBER: S122RDIP-S675D1080U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1191.6	1393.2	1553.7	1664.0	1734.1	1771.4	1791.4	1797.7
115°	1106.3	1287.0	1440.6	1561.5	1644.8	1698.7	1729.2	1739.8
117.5°	1042.0	1200.6	1340.0	1453.3	1538.2	1595.2	1627.4	1636.3
120°	1010.1	1155.5	1279.9	1386.6	1468.7	1523.9	1557.9	1569.6
122.5°	984.7	1118.0	1235.8	1332.2	1405.8	1460.1	1490.4	1500.2
125°	947.9	1068.7	1171.9	1259.9	1328.0	1372.6	1401.9	1411.3
127.5°	911.5	1020.9	1118.2	1199.4	1258.8	1300.5	1325.9	1333.4
130°	888.1	989.0	1081.7	1159.0	1216.6	1256.5	1279.9	1289.3
132.5°	865.6	959.0	1044.1	1116.8	1173.4	1213.3	1234.9	1243.2
135°	834.0	911.5	989.0	1054.6	1105.1	1143.8	1164.9	1169.6
137.5°	809.0	873.7	935.2	992.5	1038.4	1071.8	1090.4	1097.3
140°	793.0	849.4	903.3	954.9	992.5	1023.0	1040.6	1047.6
142.5°	779.9	827.8	874.2	917.4	953.0	980.8	996.4	997.8
145°	761.3	800.1	836.5	870.5	898.6	918.6	930.3	933.8
147.5°	747.1	777.6	806.0	830.8	854.0	870.0	878.0	880.1
150°	736.7	762.5	787.2	808.3	825.9	840.0	847.0	848.2
152.5°	726.4	750.3	771.2	789.5	803.3	815.6	820.7	820.9
155°	712.1	730.8	748.4	761.3	774.3	782.4	787.2	784.9
157.5°	695.4	711.1	725.9	736.0	745.2	751.9	754.1	754.1
160°	685.1	698.0	710.9	719.1	727.3	733.2	734.4	734.4
162.5°	674.8	685.8	696.8	703.2	711.3	715.4	716.5	715.6
165°	659.3	667.5	675.7	680.4	685.1	689.8	689.8	688.6
167.5°	644.5	650.9	656.5	660.8	662.8	665.4	665.2	663.8
170°	637.0	640.6	645.2	647.5	648.7	652.3	651.1	648.7
172.5°	628.5	631.2	634.9	636.3	637.5	639.1	637.9	636.5
175°	619.5	620.6	621.8	622.9	622.9	624.1	622.9	620.6
177.5°	612.9	612.9	613.8	613.8	613.8	613.8	612.9	611.0
180°	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1

(END OF REPORT)