

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: P331764-927

Luminaire Tested: **SA2XXRDIP-C1005D1080U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331764-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C1005D1080U927-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

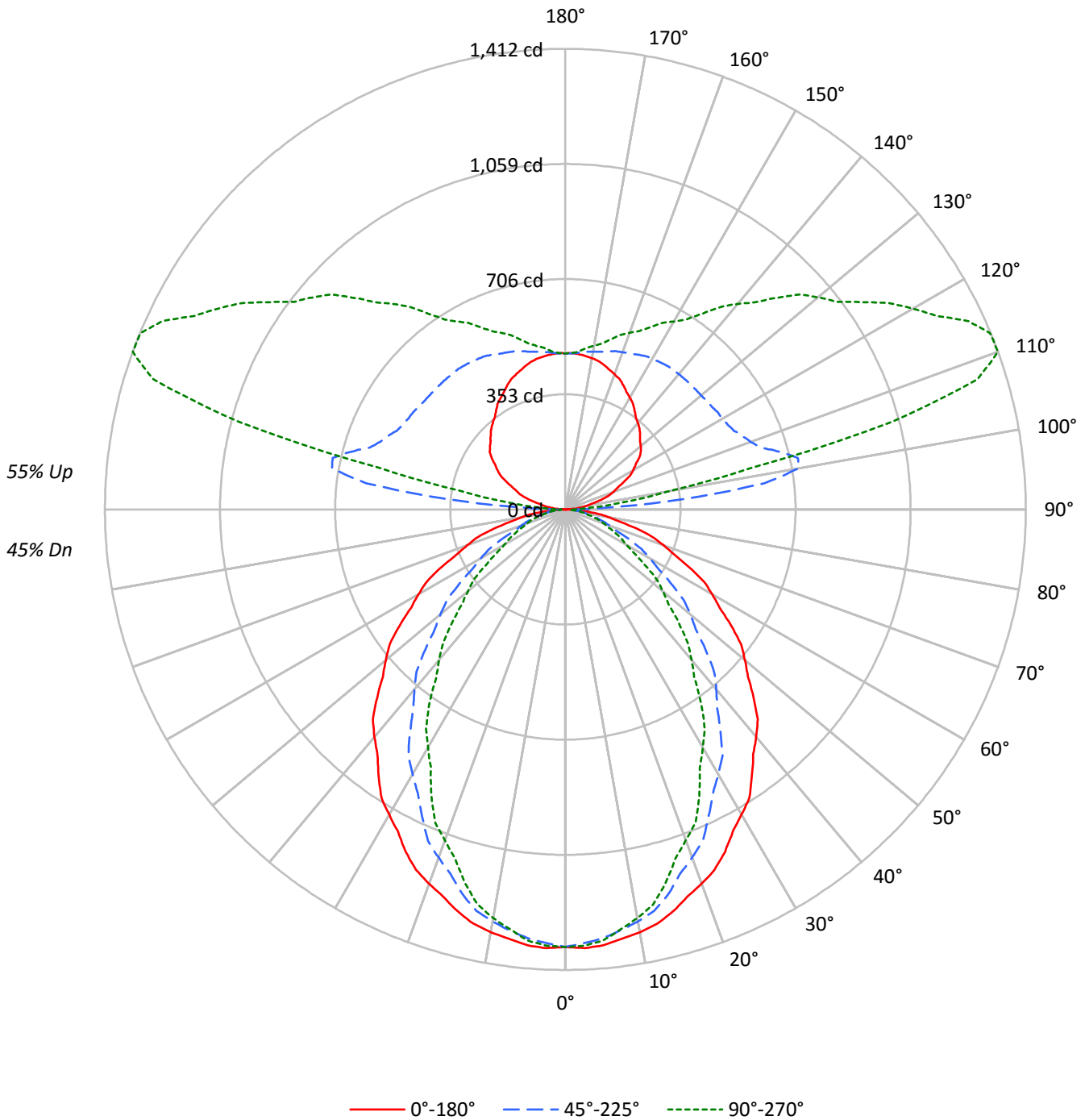
Lumens per Lamp: N/A  
Luminaire Lumens: 6093.4 lumens  
Efficiency: N/A  
Efficacy: 85.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 71.7  
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



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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			
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45	45	45
1	97	93	89	86	89	85	82	79	71	69	67	58	57	55	46	45	45	39	39	39
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	41	40	38	33	33	33
3	81	72	65	60	74	67	60	56	56	51	48	46	43	40	37	35	33	29	29	29
4	75	64	57	51	68	59	53	47	50	45	41	41	38	35	33	31	29	25	25	25
5	69	57	50	44	63	53	46	41	45	40	36	37	34	30	30	28	25	22	22	22
6	63	52	44	38	58	48	41	36	41	35	31	34	30	27	28	25	23	20	20	20
7	59	47	39	34	54	43	36	32	37	32	28	31	27	24	25	22	20	18	18	18
8	54	42	35	30	50	39	33	28	34	29	25	28	24	21	23	20	18	16	16	16
9	51	39	32	27	47	36	30	25	31	26	22	26	22	19	22	19	17	14	14	14
10	47	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13	13	13

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

	0°	45°	90°
0°	21660	21660	21660
5°	21742	21389	21507
10°	21577	21040	20859
15°	21329	20415	19826
20°	20984	19524	18545
25°	20633	18513	17302
30°	20144	17473	15709
35°	19669	16344	14310
40°	19191	15173	12690
45°	18630	13860	11227
50°	18053	12534	9789
55°	17464	11108	8408
60°	16779	9607	6978
65°	16000	8073	6357
70°	15073	6652	5844
75°	13936	6057	5452
80°	12301	5421	4965
85°	9670	4279	4279



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.6	2.1
10°-20°	344.8	5.7
20°-30°	484.2	7.9
30°-40°	528.0	8.7
40°-50°	485.4	8.0
50°-60°	381.3	6.3
60°-70°	248.6	4.1
70°-80°	128.2	2.1
80°-90°	37.6	0.6
90°-100°	191.3	3.1
100°-110°	649.3	10.7
110°-120°	689.8	11.3
120°-130°	567.8	9.3
130°-140°	456.0	7.5
140°-150°	344.6	5.7
150°-160°	242.2	4.0
160°-170°	142.6	2.3
170°-180°	46.4	0.8
0°-30°	954.5	15.7
0°-40°	1482.5	24.3
0°-60°	2349.2	38.6
0°-90°	2763.5	45.4
90°-120°	1530.4	25.1
90°-150°	2898.8	47.6
90°-180°	3330.0	54.6
0°-180°	6093.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1342	1342	1342	1342	1342	
5°	1342	1335	1320	1330	1327	127
15°	1276	1261	1221	1199	1186	359
25°	1158	1117	1039	991	971	532
35°	998	934	829	755	726	624
45°	816	732	607	524	492	630
55°	620	524	395	324	299	554
65°	419	320	211	172	166	415
75°	223	141	97	89	87	236
85°	52	28	23	23	23	62
90°	1	12	31	30	30	4
95°	32	79	361	136	105	34
105°	112	169	682	1219	1037	119
115°	198	250	570	1177	1365	196
125°	276	327	548	954	1107	245
135°	324	386	542	802	918	250
145°	370	425	539	670	732	232
155°	421	454	524	592	616	193
165°	458	472	502	532	540	129
175°	478	478	482	488	487	45
180°	479	479	479	479	479	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5
2.5°	1346.4	1345.3	1344.2	1343.1	1342.0	1340.3	1337.9	1335.6	1333.2	1330.9	1333.0
5°	1341.5	1340.1	1338.8	1337.4	1336.1	1333.7	1330.2	1326.7	1323.2	1319.7	1322.1
7.5°	1327.7	1326.0	1324.4	1322.6	1321.0	1318.1	1314.0	1309.9	1305.8	1301.7	1302.4
10°	1316.1	1314.2	1312.2	1310.3	1308.4	1304.8	1299.4	1294.0	1288.6	1283.3	1282.5
12.5°	1301.5	1299.1	1296.8	1294.5	1292.2	1287.5	1280.6	1273.7	1266.9	1260.0	1258.5
15°	1276.0	1273.0	1270.0	1267.0	1264.1	1258.0	1248.9	1239.7	1230.5	1221.3	1216.2
17.5°	1244.6	1240.1	1235.6	1231.1	1226.5	1218.4	1206.6	1194.8	1183.0	1171.3	1165.2
20°	1221.3	1215.9	1210.5	1205.1	1199.8	1190.3	1176.8	1163.3	1149.9	1136.3	1129.6
22.5°	1196.0	1190.0	1184.0	1178.0	1171.9	1161.3	1146.1	1130.8	1115.6	1100.4	1091.7
25°	1158.2	1149.5	1140.9	1132.3	1123.6	1110.5	1092.7	1074.8	1057.0	1039.2	1028.2
27.5°	1112.5	1103.2	1093.8	1084.4	1075.0	1060.3	1040.2	1020.1	1000.1	980.0	967.1
30°	1080.5	1070.2	1060.0	1049.7	1039.5	1023.6	1002.0	980.4	958.9	937.2	923.4
32.5°	1049.4	1037.4	1025.5	1013.5	1001.5	984.5	962.5	940.5	918.5	896.4	880.7
35°	997.9	984.2	970.4	956.6	942.9	924.2	900.4	876.7	852.9	829.2	812.2
37.5°	946.5	931.4	916.2	901.1	886.1	865.9	840.5	815.2	789.9	764.6	745.9
40°	910.5	894.4	878.1	862.0	845.8	824.6	798.4	772.3	746.1	719.9	700.8
42.5°	873.6	856.6	839.6	822.4	805.4	783.4	756.4	729.3	702.3	675.3	655.5
45°	815.9	797.7	779.7	761.6	743.5	720.3	692.0	663.7	635.3	607.0	587.9
47.5°	759.5	740.4	721.2	702.0	682.9	658.7	629.5	600.2	570.9	541.7	522.7
50°	718.7	699.6	680.4	661.2	642.1	617.7	588.0	558.3	528.6	499.0	480.4
52.5°	678.9	658.9	638.9	618.9	598.8	574.3	545.3	516.3	487.2	458.2	440.2
55°	620.4	599.4	578.3	557.2	536.2	511.1	482.0	452.8	423.7	394.6	378.3
57.5°	560.4	538.8	517.2	495.7	474.0	449.2	421.3	393.2	365.3	337.2	322.4
60°	519.6	498.0	476.4	454.9	433.2	408.6	380.8	353.0	325.2	297.5	283.7
62.5°	479.8	458.2	436.7	415.0	393.5	369.4	342.9	316.4	289.9	263.5	250.3
65°	418.8	397.0	375.2	353.3	331.4	308.4	284.1	259.8	235.5	211.3	202.1
67.5°	360.0	338.4	316.7	295.0	273.3	251.5	229.7	207.9	186.0	164.1	159.9
70°	319.3	298.3	277.2	256.2	235.1	215.3	196.7	178.1	159.5	140.9	138.2
72.5°	280.4	260.2	240.1	219.9	199.7	182.1	167.2	152.3	137.3	122.4	120.1
75°	223.4	204.5	185.6	166.8	147.8	133.8	124.6	115.5	106.3	97.1	95.2
77.5°	167.3	150.8	134.2	117.6	101.0	90.5	86.1	81.7	77.2	72.9	71.8
80°	132.3	118.6	104.8	91.0	77.3	69.1	66.4	63.7	61.0	58.3	57.2
82.5°	100.3	89.5	78.8	68.0	57.4	51.0	49.2	47.4	45.6	43.7	43.1
85°	52.2	46.5	40.9	35.2	29.5	26.3	25.5	24.7	23.8	23.1	23.1
87.5°	15.7	14.6	13.5	12.2	10.9	10.5	11.5	12.8	13.9	14.0	13.6
90°	1.0	3.6	7.4	9.2	11.0	13.8	18.4	24.9	30.3	31.3	30.3
92.5°	11.2	16.2	22.8	26.9	33.1	41.7	62.6	91.8	118.0	119.6	101.1
95°	32.2	35.9	45.1	53.4	68.1	90.2	132.5	212.5	319.3	360.8	315.7
97.5°	52.4	57.4	67.2	79.7	96.6	121.7	174.8	286.4	463.8	615.8	646.0
100°	70.8	73.6	81.9	96.6	115.0	140.8	189.6	301.8	500.6	727.0	859.5
102.5°	87.8	89.8	98.1	112.8	132.0	157.7	202.8	302.6	486.6	730.7	939.1
105°	112.3	116.0	122.4	136.2	156.5	182.2	225.5	307.4	459.2	681.9	926.7
107.5°	138.8	141.7	148.0	160.7	180.8	206.7	248.7	320.0	445.6	629.6	845.9
110°	156.5	160.1	165.6	177.6	196.9	223.6	264.1	330.3	442.7	604.6	795.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.6	176.3	182.6	193.8	212.4	239.8	278.8	341.4	443.4	588.4	759.8
115°	197.9	202.5	207.9	219.0	237.4	262.3	301.8	358.0	447.3	570.5	716.0
117.5°	224.0	227.7	233.2	243.0	260.6	286.4	323.0	375.7	453.8	561.9	688.3
120°	240.2	243.8	249.4	257.7	276.1	301.8	337.7	387.5	458.3	556.7	673.6
122.5°	255.6	258.6	264.1	273.1	291.5	318.1	351.7	397.8	463.4	553.8	661.1
125°	276.1	278.8	284.4	295.4	313.8	339.6	372.7	414.2	471.2	548.5	643.3
127.5°	292.2	296.0	303.7	315.8	333.5	360.0	392.2	429.4	479.1	545.3	626.7
130°	301.8	305.5	314.7	327.6	346.0	371.8	404.0	438.9	485.0	543.8	615.7
132.5°	310.7	315.1	325.0	338.7	357.8	383.6	414.3	448.5	490.8	543.1	606.8
135°	323.9	327.6	338.7	352.4	373.6	399.4	428.8	461.1	497.9	542.0	594.5
137.5°	336.4	340.9	351.9	366.6	387.6	411.5	440.6	470.6	504.1	541.9	585.8
140°	346.0	349.7	360.8	375.5	395.7	419.6	447.3	475.8	507.1	541.1	580.7
142.5°	355.6	358.5	368.8	383.6	403.1	425.6	452.4	480.2	509.3	541.1	575.5
145°	369.9	373.6	382.9	396.6	415.0	435.3	460.1	485.9	511.7	539.2	568.7
147.5°	385.4	388.2	397.0	409.7	425.0	443.0	466.4	489.0	512.4	536.0	561.7
150°	395.7	398.5	405.8	417.8	431.6	448.1	469.4	490.5	511.7	533.8	555.8
152.5°	406.0	407.3	414.6	425.2	438.2	453.3	472.3	491.2	510.2	530.0	550.6
155°	420.6	421.4	427.0	437.1	447.3	461.1	476.7	492.3	507.9	523.6	541.1
157.5°	432.7	433.6	438.1	446.9	455.0	466.6	479.8	492.3	503.7	517.0	532.1
160°	440.8	441.7	445.4	452.7	460.1	470.2	481.3	492.3	501.5	512.6	525.5
162.5°	448.9	448.4	452.0	457.9	464.5	472.5	482.0	491.6	499.3	508.9	519.6
165°	458.3	457.4	459.2	464.7	469.4	474.8	483.2	489.6	495.1	501.5	509.8
167.5°	466.0	464.9	466.6	470.1	473.4	476.9	482.9	488.3	490.8	495.1	500.3
170°	471.2	469.4	470.2	473.0	474.8	477.6	482.2	486.8	488.6	491.4	495.1
172.5°	474.1	473.0	472.5	475.2	476.3	478.3	481.5	484.6	485.7	487.0	490.0
175°	477.6	476.7	475.8	477.6	477.6	478.6	480.4	482.2	481.3	482.2	483.2
177.5°	479.3	477.8	477.1	478.6	478.6	478.6	479.3	480.8	479.3	478.6	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5
2.5°	1335.1	1337.3	1339.5	1340.3	1339.9	1339.5	1339.0	1338.6
5°	1324.5	1327.0	1329.4	1330.2	1329.4	1328.6	1327.8	1327.0
7.5°	1303.1	1303.8	1304.5	1304.2	1302.7	1301.3	1300.0	1298.5
10°	1281.6	1280.8	1280.0	1278.8	1277.2	1275.6	1273.9	1272.3
12.5°	1257.0	1255.5	1254.1	1252.0	1249.4	1246.7	1244.0	1241.3
15°	1211.1	1205.9	1200.8	1196.9	1194.2	1191.5	1188.8	1186.1
17.5°	1159.1	1153.0	1146.9	1141.5	1136.9	1132.3	1127.6	1123.0
20°	1122.8	1116.1	1109.4	1103.0	1097.1	1091.2	1085.2	1079.3
22.5°	1083.1	1074.4	1065.6	1059.1	1054.7	1050.3	1045.8	1041.4
25°	1017.1	1006.1	995.0	987.5	983.3	979.3	975.3	971.2
27.5°	954.2	941.3	928.4	918.7	912.3	905.9	899.4	893.0
30°	909.7	896.0	882.2	871.7	864.4	857.1	849.9	842.6
32.5°	865.1	849.4	833.6	822.4	815.6	808.7	801.8	795.0
35°	795.2	778.2	761.2	749.7	743.8	737.8	731.9	726.0
37.5°	727.1	708.4	689.7	676.9	670.2	663.4	656.6	649.7
40°	681.6	662.4	643.3	630.3	623.2	616.2	609.2	602.1
42.5°	635.6	615.8	596.0	582.7	575.9	569.1	562.4	555.6
45°	568.7	549.5	530.4	517.6	511.1	504.6	498.1	491.7
47.5°	503.6	484.6	465.5	453.0	447.2	441.3	435.4	429.5
50°	461.8	443.1	424.5	412.3	406.7	401.0	395.4	389.7
52.5°	422.2	404.3	386.3	374.7	369.5	364.2	359.0	353.8
55°	362.2	346.0	329.8	319.2	314.0	308.9	303.8	298.7
57.5°	307.6	292.7	277.9	268.3	264.0	259.7	255.4	251.0
60°	269.9	256.2	242.4	233.4	229.0	224.7	220.4	216.1
62.5°	237.3	224.1	211.0	203.1	200.6	198.0	195.4	192.8
65°	192.9	183.7	174.5	169.5	168.7	167.9	167.2	166.4
67.5°	155.7	151.5	147.3	144.7	143.9	143.1	142.2	141.3
70°	135.5	132.8	130.1	128.2	127.1	126.0	124.9	123.8
72.5°	117.9	115.6	113.3	111.9	111.2	110.6	109.9	109.2
75°	93.3	91.5	89.6	88.5	88.2	87.9	87.7	87.4
77.5°	70.7	69.6	68.5	67.7	67.3	66.9	66.5	66.1
80°	56.1	55.1	53.9	53.4	53.4	53.4	53.4	53.4
82.5°	42.4	41.7	41.1	40.8	40.8	40.8	40.8	40.8
85°	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1
87.5°	13.2	12.7	12.8	12.8	12.8	12.8	12.8	12.8
90°	29.5	27.6	29.5	30.3	30.3	30.3	30.3	30.3
92.5°	80.2	68.8	61.1	55.4	54.7	51.7	52.4	51.0
95°	241.1	185.0	146.3	126.0	114.1	106.8	104.0	104.9
97.5°	562.6	460.3	360.8	294.3	250.3	227.7	214.2	206.5
100°	840.2	726.1	600.0	488.6	412.3	372.7	346.0	329.5
102.5°	1022.1	996.2	904.0	786.1	703.1	635.6	602.2	579.8
105°	1118.1	1222.1	1234.1	1203.7	1146.6	1089.6	1050.0	1037.1
107.5°	1048.9	1205.5	1301.2	1345.8	1353.0	1349.8	1341.9	1324.8
110°	989.3	1154.0	1271.8	1347.3	1386.8	1404.3	1412.6	1411.7





TEST NUMBER: P331764-927

CATALOG NUMBER: SA2XXRDIP-C1005D1080U927-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	934.8	1092.9	1218.8	1305.3	1360.3	1389.6	1405.3	1410.2
115°	867.8	1009.6	1130.0	1224.9	1290.2	1332.5	1356.5	1364.8
117.5°	817.4	941.8	1051.1	1140.0	1206.7	1251.3	1276.6	1283.6
120°	792.3	906.4	1004.0	1087.7	1152.1	1195.4	1222.1	1231.3
122.5°	772.5	877.0	969.4	1045.0	1102.8	1145.3	1169.1	1176.8
125°	743.5	838.4	919.3	988.3	1041.7	1076.7	1099.7	1107.1
127.5°	715.0	800.8	877.2	940.9	987.5	1020.2	1040.1	1046.0
130°	696.6	775.8	848.5	909.2	954.3	985.6	1004.0	1011.4
132.5°	679.0	752.3	819.0	876.1	920.4	951.7	968.7	975.3
135°	654.3	715.0	775.8	827.3	866.9	897.2	913.8	917.5
137.5°	634.6	685.4	733.6	778.6	814.6	840.7	855.3	860.8
140°	622.1	666.3	708.6	749.1	778.6	802.5	816.3	821.8
142.5°	611.8	649.4	685.8	719.6	747.6	769.4	781.6	782.8
145°	597.2	627.6	656.2	682.9	704.9	720.6	729.8	732.5
147.5°	586.1	610.0	632.2	651.7	669.9	682.5	688.7	690.4
150°	577.9	598.2	617.5	634.1	647.8	658.9	664.4	665.4
152.5°	569.8	588.6	605.0	619.3	630.2	639.8	643.8	644.0
155°	558.6	573.3	587.1	597.2	607.4	613.8	617.5	615.7
157.5°	545.5	557.9	569.4	577.3	584.6	589.9	591.5	591.5
160°	537.4	547.6	557.7	564.1	570.5	575.1	576.1	576.1
162.5°	529.3	538.0	546.6	551.6	558.0	561.2	562.1	561.3
165°	517.2	523.6	530.0	533.8	537.4	541.1	541.1	540.2
167.5°	505.6	510.6	515.0	518.3	519.9	522.0	521.8	520.7
170°	499.7	502.5	506.1	507.9	508.9	511.7	510.7	508.9
172.5°	493.1	495.1	498.0	499.2	500.1	501.4	500.4	499.3
175°	485.9	486.8	487.7	488.6	488.6	489.6	488.6	486.8
177.5°	480.8	480.8	481.5	481.5	481.5	481.5	480.8	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6

(END OF REPORT)