

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: P331740-927

Luminaire Tested: **SA2XXRDIP-C1005D330U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331740-927  
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-C1005D330U927-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3773.3 lumens  
Efficiency: N/A  
Efficacy: 75.8 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-Direct

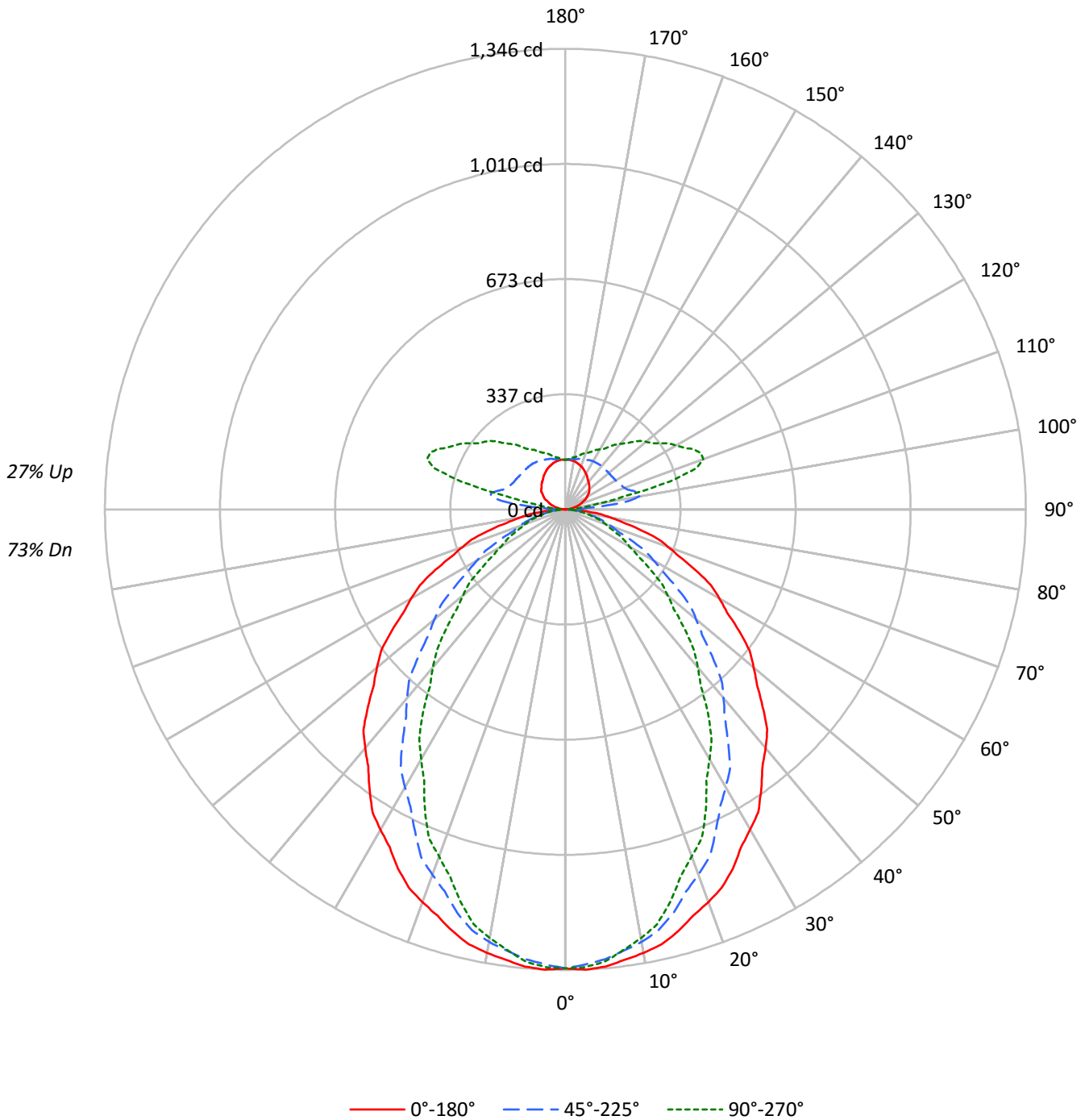
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	104	99	96	92	98	95	91	88	86	83	81	77	75	74	70	68	67	63
2	95	88	82	77	90	84	78	74	76	72	68	69	65	63	62	60	57	54
3	87	78	71	65	83	74	68	62	68	62	58	61	57	54	56	52	50	47
4	80	69	62	56	76	66	59	54	61	55	50	55	51	47	50	46	43	41
5	74	62	54	48	70	60	52	47	55	49	44	50	45	41	46	42	38	36
6	68	56	48	42	65	54	47	41	50	43	39	46	40	36	42	37	34	32
7	64	51	43	38	60	49	42	37	45	39	35	42	36	33	38	34	31	28
8	59	47	39	34	56	45	38	33	42	35	31	38	33	29	35	31	28	26
9	55	43	36	30	53	41	34	30	38	32	28	36	30	27	33	28	25	23
10	52	40	32	28	49	38	32	27	36	30	26	33	28	24	31	26	23	21

**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	3.3
10°-20°	344.8	9.1
20°-30°	484.2	12.8
30°-40°	528.0	14.0
40°-50°	485.4	12.9
50°-60°	381.3	10.1
60°-70°	248.6	6.6
70°-80°	128.2	3.4
80°-90°	34.6	0.9
90°-100°	58.2	1.5
100°-110°	197.5	5.2
110°-120°	209.8	5.6
120°-130°	172.7	4.6
130°-140°	138.7	3.7
140°-150°	104.8	2.8
150°-160°	73.7	2.0
160°-170°	43.4	1.1
170°-180°	14.1	0.4
0°-30°	954.5	25.3
0°-40°	1482.5	39.3
0°-60°	2349.2	62.3
0°-90°	2760.5	73.2
90°-120°	465.5	12.3
90°-150°	881.7	23.4
90°-180°	1013.0	26.8
0°-180°	3773.3	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°	0	4	10	9	9	3
95°	10	24	110	41	32	10
105°	34	52	207	371	315	36
115°	60	76	174	358	415	60
125°	84	99	167	290	337	75
135°	98	118	165	244	279	76
145°	112	129	164	204	223	71
155°	128	138	159	180	187	59
165°	139	144	153	162	164	39
175°	145	145	147	148	148	14
180°	146	146	146	146	146	



TEST NUMBER: P331740-927

CATALOG NUMBER: SA2XXRDIP-C1005D330U927-4F0-1E-UDD-F4

**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°	15.6	14.0	12.5	10.9	9.3	8.6	8.9	9.3	9.6	9.7	9.4
90°	0.3	1.1	2.2	2.8	3.3	4.2	5.6	7.5	9.3	9.5	9.3
92.5°	3.4	4.9	7.0	8.2	10.1	12.7	19.0	28.0	35.9	36.4	30.7
95°	9.8	10.9	13.7	16.2	20.7	27.4	40.3	64.6	97.1	109.7	96.0
97.5°	15.9	17.4	20.4	24.2	29.4	37.0	53.2	87.1	141.1	187.3	196.5
100°	21.5	22.4	24.9	29.4	35.0	42.9	57.7	91.8	152.3	221.1	261.4
102.5°	26.7	27.3	29.9	34.3	40.2	48.0	61.7	92.1	148.0	222.2	285.6
105°	34.1	35.3	37.2	41.4	47.6	55.5	68.6	93.5	139.7	207.4	281.9
107.5°	42.2	43.1	45.0	48.9	55.0	62.9	75.7	97.4	135.5	191.5	257.3
110°	47.6	48.7	50.4	54.0	59.9	68.0	80.3	100.4	134.7	183.9	241.9



TEST NUMBER: P331740-927

CATALOG NUMBER: SA2XXRDIP-C1005D330U927-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	52.5	53.6	55.5	58.9	64.6	73.0	84.8	103.9	134.8	179.0	231.1
115°	60.2	61.6	63.3	66.6	72.2	79.8	91.8	108.8	136.0	173.6	217.8
117.5°	68.1	69.2	70.9	73.9	79.3	87.1	98.2	114.2	138.1	170.9	209.4
120°	73.0	74.1	75.9	78.3	84.0	91.8	102.7	117.9	139.4	169.4	204.9
122.5°	77.8	78.7	80.3	83.1	88.6	96.7	106.9	121.0	140.9	168.4	201.1
125°	84.0	84.8	86.5	89.8	95.5	103.3	113.4	126.0	143.3	166.8	195.7
127.5°	88.9	90.0	92.4	96.1	101.4	109.5	119.3	130.6	145.7	165.9	190.6
130°	91.8	92.9	95.7	99.7	105.3	113.0	122.9	133.5	147.5	165.4	187.3
132.5°	94.5	95.9	98.9	103.0	108.8	116.7	126.0	136.4	149.3	165.2	184.6
135°	98.5	99.7	103.0	107.2	113.7	121.4	130.5	140.2	151.5	164.9	180.8
137.5°	102.3	103.7	107.0	111.5	117.9	125.2	134.0	143.1	153.4	164.8	178.2
140°	105.3	106.4	109.7	114.2	120.3	127.6	136.0	144.7	154.2	164.6	176.6
142.5°	108.1	109.1	112.2	116.7	122.6	129.4	137.6	146.1	154.9	164.6	175.1
145°	112.5	113.7	116.5	120.6	126.3	132.4	140.0	147.8	155.6	164.0	173.0
147.5°	117.2	118.0	120.7	124.6	129.3	134.8	141.9	148.8	155.8	163.0	170.9
150°	120.3	121.2	123.4	127.1	131.3	136.3	142.8	149.2	155.6	162.3	169.1
152.5°	123.5	123.9	126.1	129.3	133.3	137.8	143.6	149.4	155.2	161.2	167.5
155°	127.9	128.2	129.8	132.9	136.0	140.2	145.0	149.7	154.5	159.2	164.6
157.5°	131.6	131.9	133.2	135.9	138.4	141.9	145.9	149.7	153.2	157.2	161.8
160°	134.0	134.4	135.5	137.7	140.0	143.1	146.4	149.7	152.6	155.9	159.8
162.5°	136.6	136.3	137.5	139.3	141.3	143.7	146.6	149.5	151.9	154.8	158.0
165°	139.4	139.1	139.7	141.3	142.8	144.4	146.9	148.9	150.6	152.6	155.0
167.5°	141.7	141.4	141.9	143.0	144.0	145.0	146.9	148.5	149.3	150.6	152.2
170°	143.3	142.8	143.1	143.9	144.4	145.3	146.6	148.1	148.6	149.5	150.6
172.5°	144.2	143.9	143.7	144.6	144.9	145.5	146.5	147.4	147.7	148.1	149.0
175°	145.3	145.0	144.7	145.3	145.3	145.5	146.1	146.6	146.4	146.6	146.9
177.5°	145.8	145.3	145.1	145.5	145.5	145.5	145.8	146.2	145.8	145.5	145.8
180°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5



TEST NUMBER: P331740-927

CATALOG NUMBER: SA2XXRDIP-C1005D330U927-4F0-1E-UDD-F4

**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°	9.1	8.8	8.7	8.6	8.6	8.6	8.6	8.6
90°	9.0	8.4	9.0	9.3	9.3	9.3	9.3	9.3
92.5°	24.4	20.9	18.6	16.9	16.6	15.8	15.9	15.5
95°	73.4	56.2	44.5	38.3	34.7	32.5	31.6	31.9
97.5°	171.1	140.0	109.7	89.5	76.1	69.2	65.2	62.8
100°	255.6	220.9	182.5	148.6	125.4	113.4	105.3	100.2
102.5°	310.9	303.0	275.0	239.1	213.8	193.3	183.2	176.3
105°	340.1	371.7	375.3	366.1	348.7	331.4	319.3	315.4
107.5°	319.0	366.7	395.8	409.3	411.5	410.6	408.1	403.0
110°	300.9	351.0	386.8	409.8	421.8	427.1	429.7	429.4





TEST NUMBER: P331740-927

CATALOG NUMBER: SA2XXRDIP-C1005D330U927-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	284.3	332.4	370.7	397.0	413.8	422.6	427.4	428.9
115°	264.0	307.0	343.7	372.6	392.4	405.3	412.6	415.1
117.5°	248.6	286.5	319.7	346.7	367.0	380.6	388.2	390.4
120°	241.0	275.7	305.4	330.8	350.5	363.6	371.7	374.5
122.5°	235.0	266.7	294.9	317.8	335.4	348.4	355.6	357.9
125°	226.2	255.0	279.6	300.6	316.9	327.5	334.5	336.8
127.5°	217.5	243.6	266.8	286.1	300.3	310.3	316.3	318.1
130°	211.9	236.0	258.1	276.6	290.3	299.8	305.4	307.6
132.5°	206.5	228.8	249.1	266.5	280.0	289.5	294.6	296.7
135°	199.0	217.5	236.0	251.6	263.6	272.9	278.0	279.1
137.5°	193.1	208.5	223.2	236.8	247.8	255.7	260.2	261.8
140°	189.2	202.6	215.6	227.8	236.8	244.1	248.3	249.9
142.5°	186.1	197.5	208.6	218.9	227.4	234.0	237.7	238.1
145°	181.6	190.9	199.6	207.7	214.4	219.2	222.0	222.8
147.5°	178.2	185.5	192.3	198.2	203.7	207.6	209.5	210.0
150°	175.8	182.0	187.8	192.8	197.0	200.4	202.1	202.4
152.5°	173.3	179.0	184.0	188.4	191.7	194.6	195.8	195.9
155°	169.9	174.4	178.6	181.6	184.7	186.7	187.8	187.3
157.5°	166.0	169.7	173.2	175.6	177.8	179.4	179.9	179.9
160°	163.4	166.5	169.6	171.6	173.6	174.9	175.2	175.2
162.5°	161.0	163.7	166.3	167.8	169.8	170.7	171.0	170.7
165°	157.3	159.2	161.2	162.3	163.4	164.6	164.6	164.3
167.5°	153.8	155.3	156.6	157.6	158.1	158.8	158.7	158.4
170°	152.0	152.8	153.9	154.5	154.8	155.6	155.3	154.8
172.5°	150.0	150.6	151.5	151.8	152.1	152.5	152.2	151.9
175°	147.8	148.1	148.4	148.6	148.6	148.9	148.6	148.1
177.5°	146.2	146.2	146.5	146.5	146.5	146.5	146.2	145.8
180°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5

(END OF REPORT)