

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: P331427

Luminaire Tested: **SA2XXDIP-C1005D330U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331427  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C1005D330U835-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

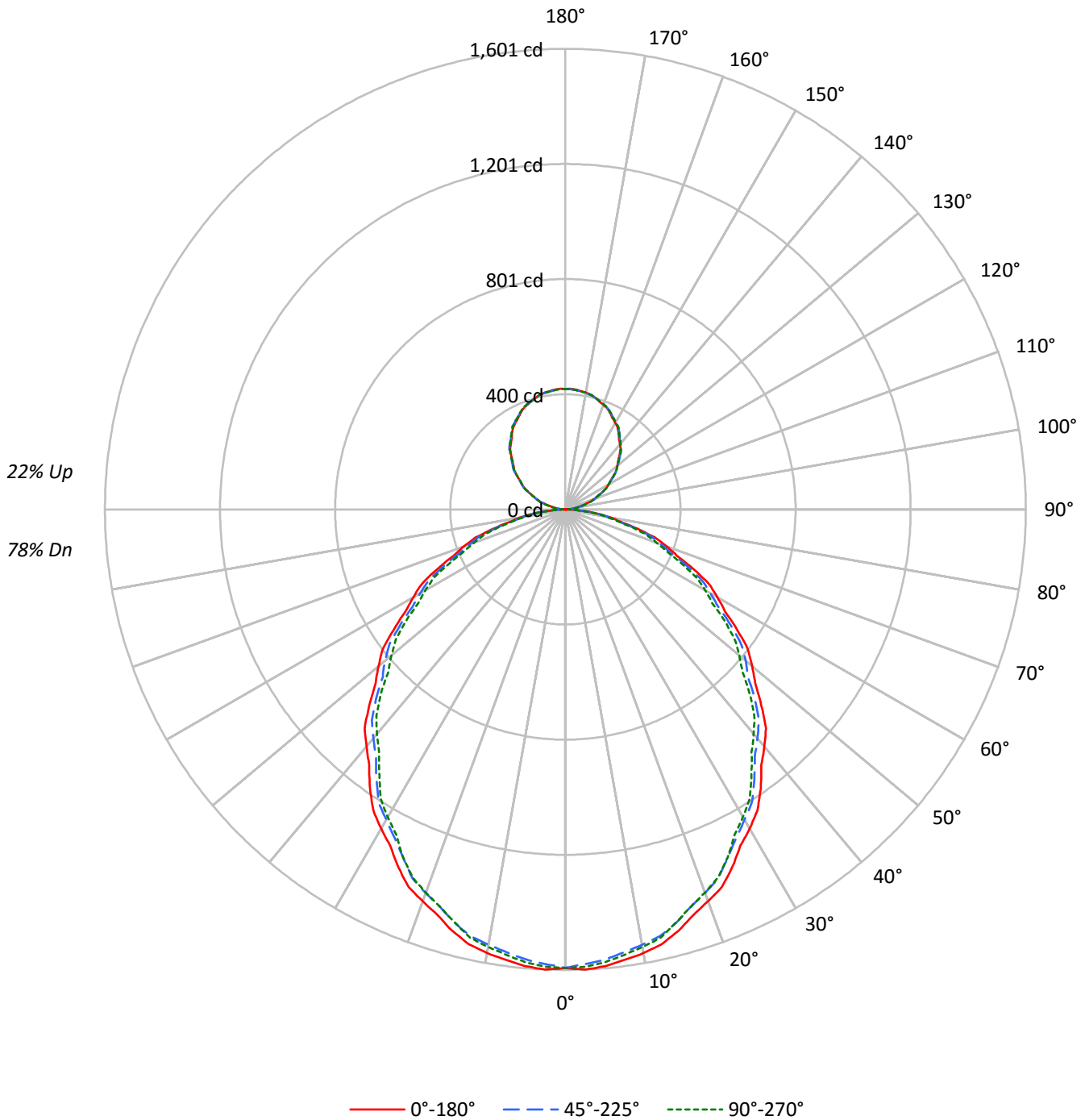
Lumens per Lamp: N/A  
Luminaire Lumens: 5227.3 lumens  
Efficiency: N/A  
Efficacy: 105.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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	114	114	114	114	108	108	108	108	99	99	99	90	90	90	81	81	81	78
1	104	99	95	92	99	95	91	88	87	84	81	79	77	75	72	70	69	65
2	95	87	80	75	90	83	77	72	76	71	67	69	66	63	63	61	58	55
3	86	76	69	63	82	73	66	61	67	61	57	61	57	53	56	53	49	46
4	79	68	60	53	75	65	57	52	60	53	49	55	50	46	50	46	43	40
5	73	61	52	46	69	58	50	45	54	47	42	49	44	40	45	41	37	35
6	67	55	46	40	64	52	45	39	48	42	37	45	39	35	41	37	33	30
7	62	49	41	35	59	48	40	34	44	37	33	41	35	31	38	33	29	27
8	58	45	37	31	55	43	36	31	40	34	29	37	32	28	35	30	26	24
9	54	41	33	28	52	40	33	28	37	31	26	34	29	25	32	27	24	22
10	51	38	31	25	48	37	30	25	34	28	24	32	27	23	30	25	22	20

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

	0°	45°	90°
0°	25733	25733	25733
5°	25832	25459	25608
10°	25678	25201	25327
15°	25361	24874	24849
20°	24911	24383	24357
25°	24464	23779	23779
30°	23886	23228	23029
35°	23349	22565	22231
40°	22675	21901	21479
45°	22012	21240	20717
50°	21288	20557	19826
55°	20535	19758	19023
60°	19695	18807	18112
65°	18793	17857	17039
70°	17651	16711	15918
75°	16064	15390	15009
80°	14254	13826	13110
85°	11634	11078	9930



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.9	2.9
10°-20°	421.7	8.1
20°-30°	619.8	11.9
30°-40°	720.0	13.8
40°-50°	719.2	13.8
50°-60°	627.2	12.0
60°-70°	463.8	8.9
70°-80°	262.7	5.0
80°-90°	72.3	1.4
90°-100°	26.5	0.5
100°-110°	82.4	1.6
110°-120°	140.8	2.7
120°-130°	185.2	3.5
130°-140°	207.9	4.0
140°-150°	203.8	3.9
150°-160°	171.0	3.3
160°-170°	113.4	2.2
170°-180°	39.6	0.8
0°-30°	1191.4	22.8
0°-40°	1911.4	36.6
0°-60°	3257.9	62.3
0°-90°	4056.6	77.6
90°-120°	249.8	4.8
90°-150°	846.7	16.2
90°-180°	1171.0	22.4
0°-180°	5227.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1594	1594	1594	1594	1594	
5°	1594	1587	1571	1582	1580	151
15°	1517	1507	1488	1493	1487	427
25°	1373	1360	1335	1338	1335	631
35°	1185	1169	1145	1136	1128	739
45°	964	953	930	914	907	744
55°	730	720	702	684	676	652
65°	492	482	467	454	446	486
75°	258	254	247	238	241	275
85°	63	61	60	55	54	72
90°	0	5	12	12	12	4
95°	18	22	23	23	22	21
105°	76	77	78	78	78	80
115°	141	143	143	142	141	140
125°	206	209	208	207	206	184
135°	266	270	271	270	269	205
145°	323	325	328	328	326	202
155°	369	370	371	373	372	170
165°	402	401	401	404	402	113
175°	418	417	416	418	416	40
180°	419	419	419	419	419	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8
2.5°	1601.2	1599.8	1598.5	1597.1	1595.7	1593.6	1590.6	1587.6	1584.6	1581.6	1584.3
5°	1593.8	1592.5	1591.1	1589.7	1588.4	1585.8	1582.1	1578.3	1574.6	1570.8	1573.6
7.5°	1579.7	1577.6	1575.5	1573.4	1571.3	1568.3	1564.5	1560.7	1556.9	1553.1	1555.8
10°	1566.2	1563.9	1561.5	1559.1	1556.7	1553.5	1549.4	1545.3	1541.2	1537.1	1539.9
12.5°	1547.9	1545.7	1543.6	1541.5	1539.4	1536.3	1532.2	1528.1	1524.1	1520.0	1521.9
15°	1517.2	1515.2	1513.1	1511.1	1509.0	1505.8	1501.4	1496.9	1492.5	1488.1	1489.5
17.5°	1478.0	1475.9	1473.9	1471.8	1469.8	1466.5	1462.0	1457.5	1453.0	1448.6	1450.1
20°	1449.8	1447.7	1445.7	1443.6	1441.6	1438.2	1433.4	1428.7	1423.9	1419.1	1420.1
22.5°	1421.6	1418.7	1415.9	1413.0	1410.1	1406.5	1402.0	1397.5	1393.0	1388.5	1388.7
25°	1373.2	1370.4	1367.7	1365.0	1362.3	1358.0	1352.2	1346.4	1340.6	1334.8	1335.5
27.5°	1318.0	1315.5	1313.1	1310.6	1308.2	1304.7	1300.1	1295.5	1291.0	1286.4	1285.4
30°	1281.2	1278.5	1275.7	1273.0	1270.3	1266.4	1261.3	1256.2	1251.1	1245.9	1244.9
32.5°	1242.0	1239.8	1237.6	1235.4	1233.2	1229.5	1224.1	1218.7	1213.3	1207.9	1206.1
35°	1184.6	1181.2	1177.8	1174.4	1171.0	1166.6	1161.1	1155.7	1150.3	1144.8	1142.8
37.5°	1120.0	1117.0	1114.0	1111.0	1108.0	1103.8	1098.3	1092.9	1087.4	1082.0	1079.4
40°	1075.8	1073.1	1070.4	1067.7	1064.9	1060.9	1055.4	1050.0	1044.5	1039.1	1036.0
42.5°	1032.9	1030.2	1027.5	1024.8	1022.0	1017.9	1012.5	1007.0	1001.6	996.1	992.8
45°	964.0	961.6	959.2	956.8	954.4	950.7	945.6	940.5	935.4	930.2	926.5
47.5°	895.3	893.1	890.8	888.6	886.3	882.5	877.2	871.9	866.6	861.3	857.3
50°	847.5	845.8	844.1	842.4	840.7	837.4	832.7	827.9	823.1	818.4	813.6
52.5°	800.9	798.7	796.4	794.2	791.9	788.5	784.0	779.5	775.1	770.6	766.6
55°	729.5	727.4	725.4	723.4	721.3	718.2	714.2	710.1	706.0	701.9	697.8
57.5°	657.8	656.1	654.5	652.9	651.2	648.2	643.7	639.2	634.7	630.2	626.2
60°	609.9	608.6	607.2	605.9	604.5	601.4	596.7	591.9	587.1	582.4	578.6
62.5°	563.4	561.2	559.0	556.8	554.6	551.7	548.0	544.4	540.7	537.0	533.5
65°	491.9	489.9	487.9	485.8	483.8	481.0	477.6	474.2	470.8	467.4	464.4
67.5°	419.3	417.7	416.0	414.4	412.8	410.4	407.3	404.3	401.2	398.2	395.8
70°	373.9	372.6	371.2	369.9	368.5	366.3	363.2	360.1	357.1	354.0	351.6
72.5°	327.3	326.0	324.6	323.3	321.9	320.2	318.3	316.3	314.3	312.3	309.9
75°	257.5	256.8	256.1	255.4	254.7	253.5	251.8	250.1	248.4	246.7	244.7
77.5°	194.9	193.8	192.6	191.5	190.3	189.4	188.7	188.0	187.3	186.7	185.6
80°	153.3	152.9	152.6	152.2	151.9	151.4	150.7	150.0	149.3	148.7	147.6
82.5°	114.0	114.0	113.9	113.8	113.7	113.5	113.1	112.7	112.3	111.9	110.6
85°	62.8	62.5	62.2	61.8	61.5	61.1	60.8	60.4	60.1	59.8	58.7
87.5°	22.1	21.8	21.4	21.1	20.7	20.4	20.2	20.0	19.8	19.6	18.8
90°	0.4	1.3	2.2	3.2	4.1	5.5	7.2	8.9	10.6	12.4	12.2
92.5°	6.3	7.0	7.7	8.4	9.1	9.6	10.0	10.4	10.8	11.2	11.3
95°	18.4	19.2	19.9	20.7	21.5	22.0	22.1	22.3	22.5	22.6	22.6
97.5°	33.6	34.3	34.9	35.6	36.3	36.8	37.1	37.4	37.7	38.0	38.0
100°	44.9	45.5	46.1	46.8	47.4	47.8	48.0	48.3	48.5	48.8	48.8
102.5°	56.7	57.2	57.7	58.2	58.7	59.2	59.4	59.7	60.0	60.3	60.4
105°	76.0	76.2	76.4	76.7	76.9	77.1	77.3	77.4	77.6	77.7	77.9
107.5°	95.3	95.7	96.0	96.4	96.7	96.9	96.9	96.9	96.9	96.9	96.9
110°	107.8	108.2	108.7	109.2	109.6	109.9	109.9	109.9	109.9	109.9	109.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	121.3	121.8	122.3	122.7	123.2	123.4	123.3	123.3	123.2	123.2	123.0
115°	141.3	141.8	142.3	142.7	143.2	143.4	143.2	143.0	142.9	142.7	142.7
117.5°	161.2	161.9	162.5	163.1	163.8	163.9	163.4	163.0	162.5	162.1	161.9
120°	174.5	175.2	175.8	176.4	177.0	177.0	176.4	175.8	175.2	174.5	174.5
122.5°	186.7	187.4	188.2	188.9	189.7	189.9	189.4	189.0	188.5	188.1	187.9
125°	205.6	206.3	207.0	207.7	208.4	208.7	208.4	208.2	208.0	207.7	207.5
127.5°	224.1	225.0	225.9	226.7	227.6	227.9	227.7	227.4	227.1	226.8	226.5
130°	235.7	236.7	237.7	238.7	239.7	240.2	240.0	239.9	239.7	239.5	239.4
132.5°	248.7	249.5	250.3	251.1	252.0	252.4	252.4	252.5	252.5	252.5	252.2
135°	266.0	266.9	267.8	268.6	269.5	270.0	270.2	270.3	270.5	270.6	270.5
137.5°	284.3	285.0	285.7	286.5	287.2	287.6	287.8	288.0	288.2	288.4	288.4
140°	295.4	296.1	296.8	297.5	298.2	298.7	299.1	299.5	299.9	300.3	300.3
142.5°	306.7	307.4	308.1	308.8	309.5	310.0	310.2	310.5	310.8	311.0	311.1
145°	322.9	323.5	324.0	324.6	325.1	325.6	326.1	326.6	327.0	327.5	327.6
147.5°	337.4	338.1	338.7	339.4	340.0	340.5	340.8	341.2	341.5	341.8	342.0
150°	347.3	347.8	348.2	348.7	349.2	349.6	349.9	350.2	350.5	350.8	351.1
152.5°	356.1	356.5	357.0	357.5	357.9	358.4	358.7	359.1	359.5	359.9	360.2
155°	369.2	369.4	369.7	369.9	370.1	370.4	370.6	370.8	371.1	371.3	371.7
157.5°	380.4	380.6	380.7	380.9	381.1	381.2	381.4	381.5	381.6	381.8	382.3
160°	387.2	387.4	387.5	387.7	387.8	388.0	388.0	388.1	388.2	388.3	388.7
162.5°	393.4	393.5	393.5	393.5	393.6	393.6	393.7	393.8	393.9	393.9	394.5
165°	401.7	401.6	401.5	401.5	401.4	401.3	401.3	401.3	401.3	401.3	401.9
167.5°	408.6	408.4	408.2	407.9	407.7	407.6	407.5	407.5	407.5	407.5	408.0
170°	412.3	412.1	411.8	411.6	411.4	411.2	411.1	411.0	411.0	410.9	411.4
172.5°	414.8	414.6	414.4	414.1	413.9	413.7	413.7	413.6	413.5	413.4	414.0
175°	418.0	417.7	417.5	417.2	417.0	416.8	416.7	416.5	416.3	416.2	416.7
177.5°	419.2	419.0	418.8	418.7	418.5	418.3	418.2	418.1	417.9	417.8	418.2
180°	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8
2.5°	1587.0	1589.7	1592.5	1593.6	1593.0	1592.5	1591.9	1591.4
5°	1576.3	1579.0	1581.7	1582.8	1582.1	1581.4	1580.7	1580.0
7.5°	1558.5	1561.2	1564.0	1565.0	1564.2	1563.5	1562.7	1562.0
10°	1542.6	1545.3	1548.0	1548.9	1547.9	1546.8	1545.8	1544.8
12.5°	1523.8	1525.7	1527.6	1528.2	1527.4	1526.7	1525.9	1525.2
15°	1490.8	1492.2	1493.5	1493.4	1491.7	1490.0	1488.3	1486.6
17.5°	1451.7	1453.3	1454.8	1454.8	1453.1	1451.5	1449.9	1448.2
20°	1421.2	1422.2	1423.2	1423.0	1421.7	1420.3	1419.0	1417.6
22.5°	1388.9	1389.1	1389.3	1389.0	1388.2	1387.4	1386.5	1385.7
25°	1336.2	1336.9	1337.6	1337.6	1336.9	1336.2	1335.5	1334.8
27.5°	1284.4	1283.3	1282.3	1281.0	1279.4	1277.7	1276.1	1274.5
30°	1243.9	1242.9	1241.9	1240.7	1239.3	1237.9	1236.6	1235.2
32.5°	1204.3	1202.4	1200.6	1199.0	1197.6	1196.3	1194.9	1193.5
35°	1140.7	1138.7	1136.6	1134.8	1133.1	1131.4	1129.6	1127.9
37.5°	1076.9	1074.4	1071.9	1069.8	1068.2	1066.5	1064.9	1063.3
40°	1032.9	1029.9	1026.8	1024.6	1023.2	1021.9	1020.5	1019.1
42.5°	989.5	986.1	982.8	980.2	978.3	976.4	974.5	972.5
45°	922.8	919.0	915.3	912.7	911.3	910.0	908.6	907.3
47.5°	853.4	849.4	845.5	842.5	840.5	838.6	836.6	834.6
50°	808.8	804.1	799.3	796.1	794.4	792.7	791.0	789.3
52.5°	762.7	758.7	754.8	751.7	749.4	747.2	744.9	742.7
55°	693.7	689.6	685.6	682.7	681.0	679.3	677.6	675.8
57.5°	622.1	618.1	614.1	611.4	610.2	608.9	607.6	606.3
60°	574.9	571.1	567.4	565.0	564.0	563.0	561.9	560.9
62.5°	530.1	526.6	523.1	520.7	519.4	518.1	516.8	515.5
65°	461.3	458.2	455.2	452.8	451.1	449.4	447.7	446.0
67.5°	393.4	391.0	388.6	386.7	385.4	384.0	382.7	381.3
70°	349.2	346.9	344.5	342.6	341.2	339.9	338.5	337.2
72.5°	307.6	305.2	302.8	301.1	300.0	298.9	297.8	296.7
75°	242.7	240.6	238.6	237.9	238.6	239.2	239.9	240.6
77.5°	184.6	183.6	182.6	181.6	180.6	179.7	178.7	177.8
80°	146.6	145.6	144.6	143.7	143.0	142.4	141.7	141.0
82.5°	109.3	108.0	106.7	106.0	105.8	105.7	105.6	105.4
85°	57.7	56.7	55.7	55.0	54.7	54.3	54.0	53.6
87.5°	17.9	17.1	16.2	15.7	15.4	15.2	14.9	14.7
90°	12.1	11.9	11.7	11.7	11.8	11.9	11.9	12.0
92.5°	11.3	11.3	11.4	11.4	11.4	11.4	11.4	11.4
95°	22.6	22.6	22.6	22.5	22.4	22.2	22.1	21.9
97.5°	38.0	38.0	38.0	38.0	38.0	38.0	38.0	37.9
100°	48.8	48.8	48.8	48.7	48.6	48.6	48.5	48.4
102.5°	60.5	60.5	60.6	60.6	60.5	60.4	60.4	60.3
105°	78.0	78.2	78.4	78.4	78.4	78.4	78.4	78.4
107.5°	97.0	97.1	97.1	97.0	96.6	96.3	95.9	95.5
110°	109.9	109.9	109.9	109.8	109.5	109.3	109.1	108.8





TEST NUMBER: P331427

CATALOG NUMBER: SA2XXDIP-C1005D330U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	122.8	122.6	122.4	122.2	122.1	121.9	121.7	121.5
115°	142.6	142.5	142.4	142.3	142.0	141.8	141.6	141.3
117.5°	161.7	161.5	161.3	161.1	160.9	160.7	160.4	160.2
120°	174.5	174.5	174.5	174.4	174.2	173.9	173.7	173.5
122.5°	187.7	187.5	187.3	187.2	187.0	186.8	186.6	186.5
125°	207.3	207.0	206.8	206.6	206.6	206.5	206.4	206.3
127.5°	226.3	226.0	225.7	225.4	225.2	224.9	224.7	224.4
130°	239.2	239.1	238.9	238.7	238.4	238.0	237.7	237.4
132.5°	251.8	251.5	251.2	250.9	250.6	250.4	250.1	249.9
135°	270.5	270.4	270.3	270.2	269.9	269.7	269.5	269.2
137.5°	288.3	288.2	288.2	288.0	287.7	287.4	287.1	286.7
140°	300.3	300.3	300.3	300.1	299.8	299.5	299.2	298.9
142.5°	311.2	311.2	311.3	311.2	310.9	310.5	310.2	309.9
145°	327.7	327.7	327.8	327.7	327.4	327.1	326.8	326.4
147.5°	342.1	342.3	342.5	342.4	342.1	341.8	341.5	341.2
150°	351.3	351.5	351.8	351.8	351.5	351.3	351.1	350.8
152.5°	360.5	360.8	361.1	361.1	360.8	360.5	360.2	359.9
155°	372.1	372.5	372.9	373.0	372.7	372.5	372.3	372.0
157.5°	382.8	383.4	383.9	384.0	383.6	383.2	382.9	382.5
160°	389.2	389.7	390.2	390.2	389.9	389.6	389.3	389.0
162.5°	395.0	395.5	396.1	396.1	395.8	395.4	395.0	394.6
165°	402.4	403.0	403.5	403.6	403.2	402.8	402.4	402.1
167.5°	408.6	409.1	409.7	409.8	409.4	408.9	408.5	408.1
170°	412.0	412.5	413.1	413.1	412.7	412.2	411.7	411.2
172.5°	414.5	415.1	415.6	415.7	415.2	414.7	414.3	413.8
175°	417.3	417.8	418.4	418.4	418.0	417.5	417.0	416.5
177.5°	418.6	418.9	419.3	419.3	418.9	418.6	418.2	417.8
180°	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7

(END OF REPORT)