

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: P331462

Luminaire Tested: **SA2XXDIP-C1005D1080U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331462
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C1005D1080U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

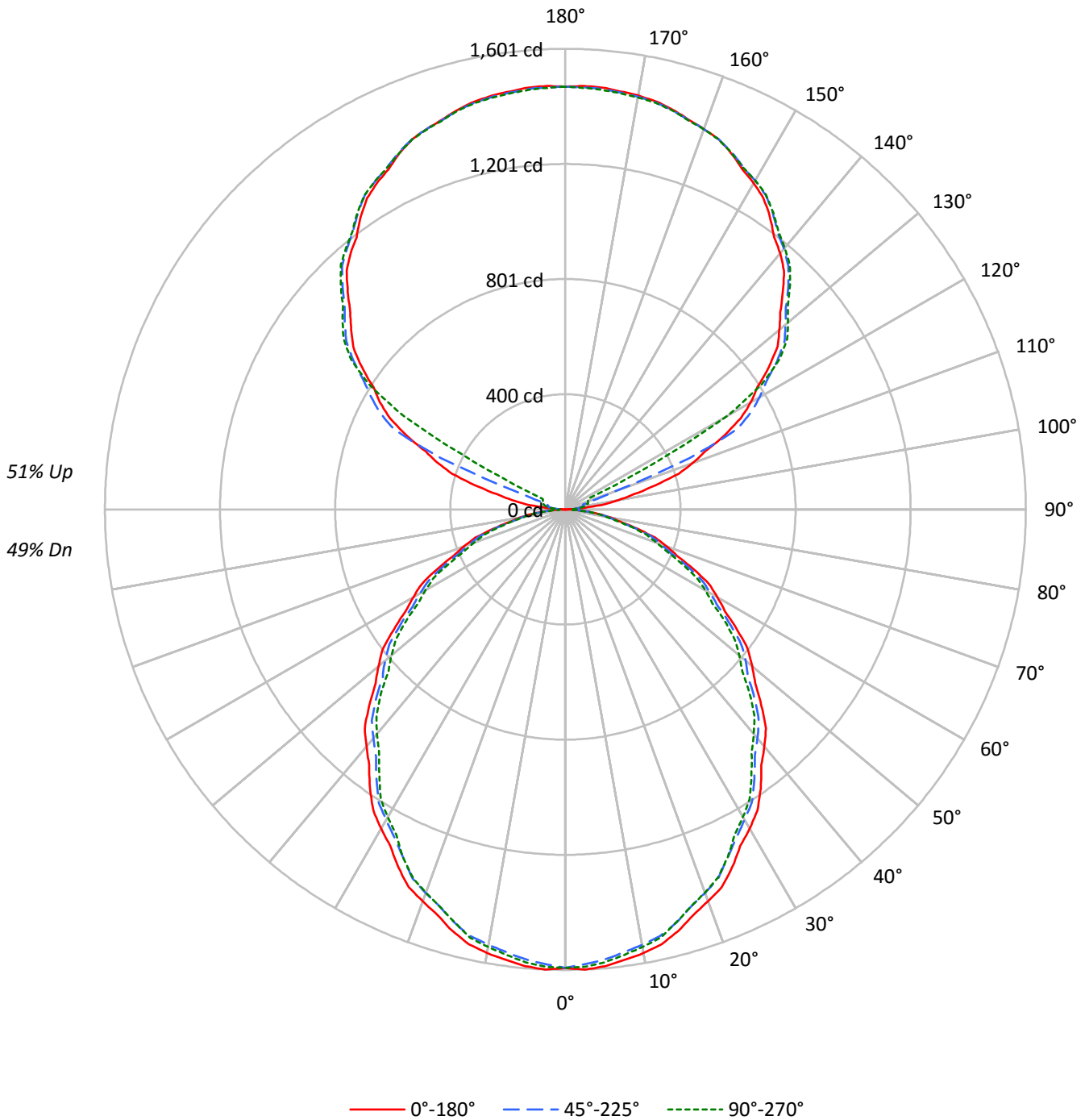
Lumens per Lamp: N/A
Luminaire Lumens: 8363.9 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49				
1	97	93	89	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41				
2	89	81	75	70	81	75	70	65	63	59	56	53	50	47	43	41	39	34				
3	81	71	64	58	74	66	60	55	56	51	47	46	43	40	38	35	33	29				
4	74	63	55	49	68	59	52	46	50	44	40	41	37	34	34	31	29	25				
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25	22				
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	28	24	22	19				
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	19	17				
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	17	15				
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16	14				
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12				

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	1.8
10°-20°	421.7	5.0
20°-30°	619.8	7.4
30°-40°	720.0	8.6
40°-50°	719.2	8.6
50°-60°	627.2	7.5
60°-70°	463.8	5.5
70°-80°	262.7	3.1
80°-90°	74.3	0.9
90°-100°	49.0	0.6
100°-110°	179.7	2.1
110°-120°	480.4	5.7
120°-130°	793.0	9.5
130°-140°	843.3	10.1
140°-150°	783.8	9.4
150°-160°	630.2	7.5
160°-170°	406.1	4.9
170°-180°	139.8	1.7
0°-30°	1191.4	14.2
0°-40°	1911.4	22.9
0°-60°	3257.9	39.0
0°-90°	4058.6	48.5
90°-120°	709.1	8.5
90°-150°	3129.2	37.4
90°-180°	4305.0	51.5
0°-180°	8363.9	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°	1	13	21	26	29	6
95°	69	36	42	46	46	85
105°	323	337	65	76	81	345
115°	611	630	656	187	87	602
125°	864	878	898	906	909	770
135°	1069	1086	1096	1106	1104	826
145°	1241	1241	1258	1264	1260	776
155°	1366	1358	1369	1375	1367	629
165°	1439	1434	1436	1443	1436	406
175°	1472	1465	1467	1473	1464	140
180°	1469	1469	1469	1469	1469	



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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°	22.3	22.3	22.2	22.2	22.2	22.1	21.9	21.8	21.6	21.4	20.8
90°	1.1	3.7	6.3	8.9	11.5	13.7	15.6	17.5	19.4	21.3	22.4
92.5°	21.5	21.2	21.0	20.8	20.5	20.9	21.8	22.8	23.7	24.7	25.3
95°	69.1	61.3	53.5	45.7	37.9	34.8	36.5	38.2	39.8	41.5	42.6
97.5°	137.1	115.2	93.2	71.2	49.3	40.2	44.0	47.8	51.7	55.5	56.4
100°	188.2	155.8	123.4	91.1	58.7	44.5	48.5	52.6	56.6	60.6	62.5
102.5°	244.3	237.4	230.6	223.7	216.9	196.7	163.1	129.5	95.9	62.3	64.8
105°	323.2	330.3	337.3	344.4	351.5	322.8	258.3	193.8	129.3	64.8	67.4
107.5°	413.1	418.8	424.5	430.2	436.0	400.2	322.8	245.5	168.1	90.8	88.1
110°	470.9	475.9	480.9	485.8	490.8	459.1	390.8	322.6	254.3	186.0	162.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	525.4	529.8	534.1	538.5	542.9	536.7	519.8	503.0	486.1	469.2	383.1
115°	611.3	615.3	619.3	623.3	627.3	632.3	638.2	644.1	650.0	655.9	546.5
117.5°	688.0	692.5	697.0	701.5	706.0	710.2	714.3	718.4	722.4	726.5	700.0
120°	744.1	747.7	751.2	754.8	758.3	762.2	766.5	770.7	775.0	779.2	782.0
122.5°	791.8	795.5	799.2	803.0	806.7	810.9	815.5	820.1	824.8	829.4	831.1
125°	864.3	867.3	870.4	873.5	876.5	880.3	884.8	889.3	893.8	898.3	899.9
127.5°	930.0	933.4	936.8	940.2	943.6	946.9	950.3	953.6	957.0	960.4	962.8
130°	971.6	975.4	979.2	983.0	986.7	989.9	992.5	995.1	997.7	1000.3	1002.9
132.5°	1014.1	1017.4	1020.6	1023.8	1027.0	1029.9	1032.5	1035.1	1037.7	1040.3	1042.5
135°	1069.4	1073.2	1077.0	1080.8	1084.5	1087.5	1089.6	1091.7	1093.9	1096.0	1098.4
137.5°	1125.3	1128.0	1130.6	1133.3	1135.9	1138.4	1140.9	1143.3	1145.7	1148.1	1150.4
140°	1161.9	1163.8	1165.7	1167.6	1169.5	1171.7	1174.3	1176.9	1179.5	1182.1	1184.2
142.5°	1192.5	1194.2	1195.9	1197.6	1199.3	1201.7	1204.6	1207.6	1210.6	1213.6	1215.5
145°	1240.6	1240.3	1240.1	1239.9	1239.6	1241.5	1245.5	1249.5	1253.6	1257.6	1259.2
147.5°	1282.5	1281.6	1280.7	1279.8	1278.9	1280.4	1284.4	1288.3	1292.3	1296.3	1297.5
150°	1309.7	1308.0	1306.4	1304.7	1303.1	1304.1	1307.9	1311.7	1315.5	1319.2	1320.7
152.5°	1332.6	1330.8	1328.9	1327.1	1325.3	1326.1	1329.7	1333.3	1336.9	1340.5	1341.9
155°	1366.0	1363.9	1361.8	1359.6	1357.5	1357.9	1360.7	1363.5	1366.4	1369.2	1370.6
157.5°	1392.2	1390.4	1388.6	1386.8	1385.0	1385.1	1387.1	1389.0	1391.0	1393.0	1394.6
160°	1407.5	1406.1	1404.6	1403.2	1401.8	1401.8	1403.2	1404.6	1406.1	1407.5	1408.9
162.5°	1421.1	1419.7	1418.2	1416.8	1415.4	1415.3	1416.5	1417.8	1419.0	1420.2	1421.8
165°	1439.4	1437.9	1436.5	1435.1	1433.7	1433.3	1434.0	1434.8	1435.5	1436.2	1437.8
167.5°	1453.0	1451.6	1450.1	1448.7	1447.3	1446.9	1447.6	1448.2	1448.9	1449.6	1451.2
170°	1460.6	1459.2	1457.8	1456.4	1455.0	1454.5	1455.0	1455.4	1455.9	1456.4	1458.0
172.5°	1465.7	1464.3	1462.9	1461.5	1460.1	1459.6	1460.1	1460.5	1461.0	1461.5	1463.1
175°	1472.3	1470.7	1469.0	1467.4	1465.7	1465.1	1465.6	1466.1	1466.5	1467.0	1468.7
177.5°	1473.4	1472.1	1470.7	1469.4	1468.1	1467.5	1467.7	1467.9	1468.1	1468.3	1469.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1



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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°	20.3	19.7	19.1	18.7	18.5	18.4	18.2	18.0
90°	23.6	24.8	26.0	26.8	27.3	27.8	28.2	28.7
92.5°	25.9	26.5	27.1	27.6	27.9	28.1	28.4	28.7
95°	43.8	45.0	46.2	46.7	46.4	46.2	45.9	45.7
97.5°	57.4	58.3	59.3	59.9	60.2	60.5	60.7	61.0
100°	64.4	66.3	68.2	69.3	69.8	70.3	70.8	71.2
102.5°	67.2	69.7	72.1	73.7	74.3	75.0	75.7	76.3
105°	70.0	72.6	75.2	77.0	78.0	78.9	79.8	80.8
107.5°	85.5	82.8	80.2	79.4	80.3	81.2	82.2	83.1
110°	138.8	115.2	91.5	80.2	81.1	82.1	83.0	84.0



TEST NUMBER: P331462

CATALOG NUMBER: SA2XXDIP-C1005D1080U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	296.9	210.7	124.5	81.8	82.6	83.3	84.1	84.8
115°	437.1	327.8	218.4	155.2	138.2	121.2	104.2	87.2
117.5°	673.6	647.1	620.7	579.5	523.6	467.7	411.8	355.9
120°	784.9	787.7	790.6	776.0	744.1	712.2	680.3	648.5
122.5°	832.8	834.5	836.2	833.9	827.8	821.6	815.4	809.2
125°	901.6	903.2	904.9	906.1	906.8	907.5	908.2	908.9
127.5°	965.2	967.6	970.0	971.3	971.4	971.6	971.7	971.8
130°	1005.5	1008.1	1010.7	1011.9	1011.7	1011.4	1011.2	1011.0
132.5°	1044.7	1047.0	1049.2	1050.2	1049.9	1049.7	1049.5	1049.2
135°	1100.7	1103.1	1105.4	1106.4	1105.9	1105.4	1105.0	1104.5
137.5°	1152.7	1155.0	1157.3	1158.1	1157.3	1156.5	1155.7	1154.9
140°	1186.4	1188.5	1190.6	1191.1	1189.9	1188.7	1187.5	1186.4
142.5°	1217.4	1219.4	1221.3	1221.7	1220.5	1219.3	1218.2	1217.0
145°	1260.9	1262.5	1264.2	1264.4	1263.3	1262.1	1260.9	1259.7
147.5°	1298.7	1300.0	1301.2	1301.3	1300.3	1299.3	1298.3	1297.3
150°	1322.1	1323.5	1324.9	1325.0	1323.8	1322.7	1321.5	1320.3
152.5°	1343.3	1344.8	1346.2	1346.1	1344.5	1343.0	1341.4	1339.9
155°	1372.0	1373.5	1374.9	1374.6	1372.7	1370.9	1369.0	1367.1
157.5°	1396.2	1397.8	1399.4	1399.3	1397.5	1395.6	1393.8	1391.9
160°	1410.3	1411.7	1413.1	1413.0	1411.4	1409.7	1408.1	1406.4
162.5°	1423.4	1425.0	1426.7	1426.4	1424.4	1422.4	1420.3	1418.3
165°	1439.5	1441.1	1442.8	1442.8	1441.1	1439.5	1437.8	1436.2
167.5°	1452.9	1454.5	1456.2	1455.9	1453.8	1451.7	1449.6	1447.4
170°	1459.7	1461.3	1463.0	1462.7	1460.6	1458.5	1456.4	1454.2
172.5°	1464.8	1466.4	1468.1	1467.9	1465.7	1463.6	1461.5	1459.3
175°	1470.3	1472.0	1473.6	1473.3	1470.9	1468.5	1466.2	1463.8
177.5°	1470.9	1472.2	1473.6	1473.4	1471.7	1470.0	1468.3	1466.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1

(END OF REPORT)