

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: P331756

Luminaire Tested: **SA2XXRDIP-C1005D925U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331756
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: SA2XXRDIP-C1005D925U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

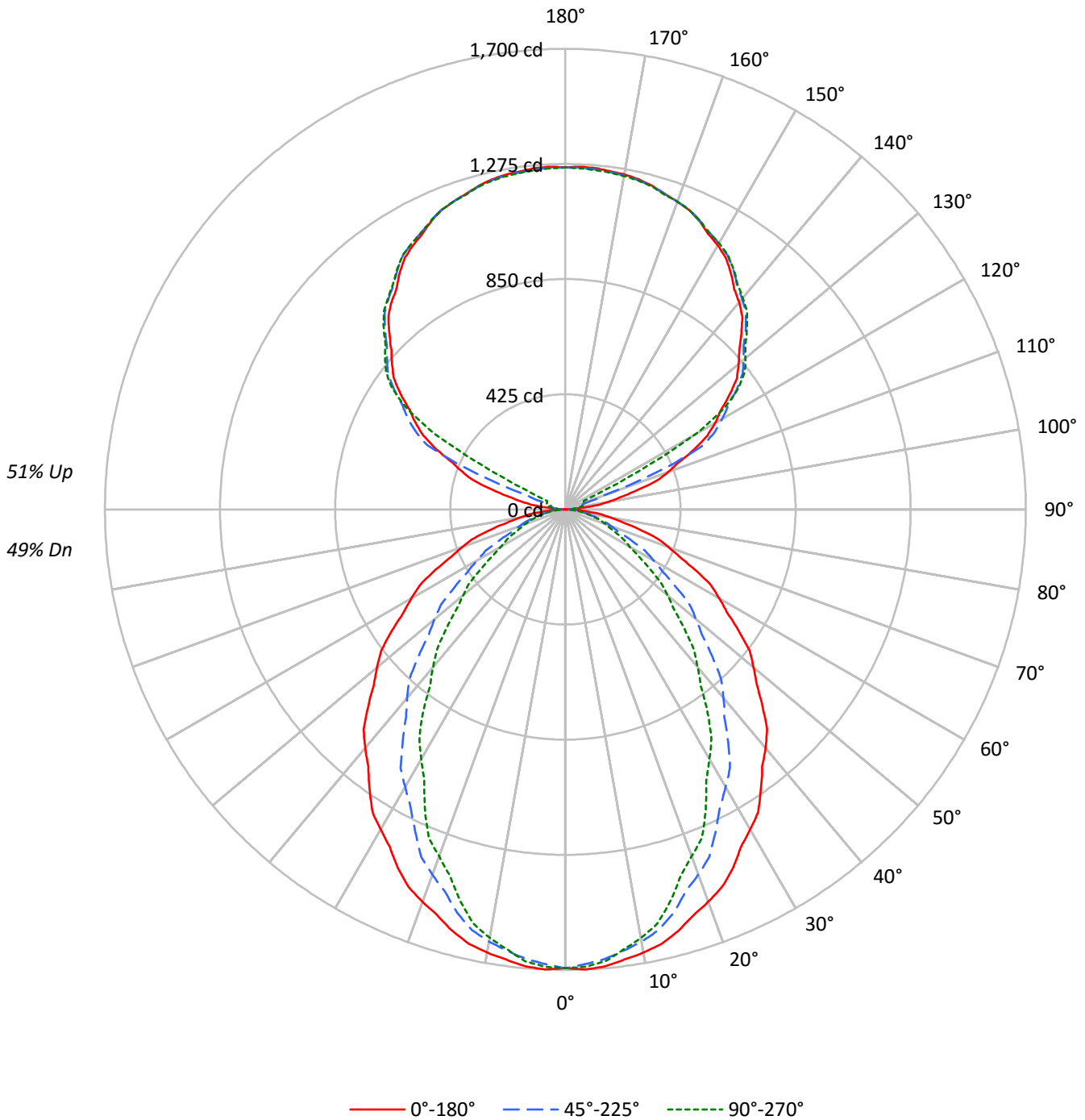
Lumens per Lamp: N/A
Luminaire Lumens: 7184.9 lumens
Efficiency: N/A
Efficacy: 107.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 66.8
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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	98	94	90	87	90	87	83	80	73	71	69	61	59	58	49	48	47	42
2	90	82	77	72	82	76	71	67	65	61	58	54	51	49	44	42	40	36
3	82	73	66	60	75	67	61	56	57	53	49	48	45	42	39	37	35	31
4	75	65	57	51	69	60	53	48	51	46	42	43	39	36	35	33	30	27
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27	24
6	64	52	44	39	59	49	42	36	42	36	32	35	31	28	29	26	24	21
7	59	47	39	34	54	44	37	32	38	32	29	32	28	25	27	24	21	19
8	55	43	35	30	51	40	33	29	35	29	25	30	25	22	25	22	19	17
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18	15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	27341	27341	27341
5°	27446	27000	27149
10°	27237	26558	26332
15°	26924	25770	25028
20°	26490	24646	23409
25°	26045	23370	21841
30°	25430	22057	19829
35°	24829	20631	18065
40°	24226	19155	16021
45°	23516	17497	14173
50°	22790	15822	12356
55°	22044	14021	10612
60°	21180	12126	8809
65°	20199	10189	8023
70°	19029	8393	7378
75°	17592	7648	6881
80°	15528	6843	6267
85°	12208	5391	5391



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.5	2.2
10°-20°	435.2	6.1
20°-30°	611.2	8.5
30°-40°	666.5	9.3
40°-50°	612.8	8.5
50°-60°	481.3	6.7
60°-70°	313.8	4.4
70°-80°	161.8	2.3
80°-90°	45.1	0.6
90°-100°	42.1	0.6
100°-110°	154.4	2.1
110°-120°	412.7	5.7
120°-130°	681.3	9.5
130°-140°	724.5	10.1
140°-150°	673.4	9.4
150°-160°	541.4	7.5
160°-170°	348.9	4.9
170°-180°	120.1	1.7
0°-30°	1204.9	16.8
0°-40°	1871.4	26.0
0°-60°	2965.4	41.3
0°-90°	3486.1	48.5
90°-120°	609.2	8.5
90°-150°	2688.4	37.4
90°-180°	3699.0	51.5
0°-180°	7184.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1693	1693	1693	1693	1693	
5°	1693	1685	1666	1679	1675	160
15°	1611	1592	1542	1513	1497	454
25°	1462	1410	1312	1251	1226	672
35°	1260	1178	1047	954	916	788
45°	1030	924	766	661	621	795
55°	783	661	498	410	377	700
65°	529	404	267	217	210	524
75°	282	178	123	112	110	298
85°	66	35	29	29	29	78
90°	1	11	18	23	25	5
95°	59	31	36	40	39	73
105°	278	290	56	65	69	297
115°	525	541	564	160	75	517
125°	742	755	772	778	781	662
135°	919	933	942	950	949	709
145°	1066	1066	1080	1086	1082	666
155°	1174	1166	1176	1181	1174	541
165°	1237	1232	1234	1240	1234	349
175°	1265	1259	1260	1266	1258	120
180°	1262	1262	1262	1262	1262	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4
2.5°	1699.6	1698.2	1696.8	1695.5	1694.1	1691.9	1688.9	1686.0	1683.0	1680.0	1682.7
5°	1693.4	1691.7	1690.0	1688.3	1686.6	1683.6	1679.1	1674.7	1670.3	1665.9	1668.9
7.5°	1676.0	1673.9	1671.8	1669.6	1667.5	1663.9	1658.7	1653.5	1648.4	1643.2	1644.1
10°	1661.3	1658.9	1656.5	1654.1	1651.7	1647.1	1640.3	1633.5	1626.7	1619.9	1618.9
12.5°	1642.9	1639.9	1637.0	1634.1	1631.2	1625.3	1616.6	1607.9	1599.2	1590.5	1588.6
15°	1610.7	1606.9	1603.2	1599.4	1595.7	1588.0	1576.5	1564.9	1553.3	1541.7	1535.3
17.5°	1571.1	1565.4	1559.7	1554.0	1548.3	1538.0	1523.1	1508.3	1493.4	1478.6	1470.9
20°	1541.7	1534.9	1528.1	1521.3	1514.5	1502.6	1485.5	1468.5	1451.5	1434.4	1425.9
22.5°	1509.8	1502.2	1494.6	1487.0	1479.3	1465.9	1446.7	1427.5	1408.3	1389.1	1378.1
25°	1462.0	1451.1	1440.2	1429.3	1418.4	1401.8	1379.3	1356.8	1334.3	1311.8	1297.9
27.5°	1404.4	1392.6	1380.7	1368.9	1357.0	1338.4	1313.1	1287.7	1262.4	1237.1	1220.8
30°	1364.0	1351.0	1338.1	1325.1	1312.2	1292.1	1264.8	1237.6	1210.4	1183.1	1165.7
32.5°	1324.7	1309.6	1294.5	1279.4	1264.2	1242.8	1215.0	1187.2	1159.4	1131.6	1111.8
35°	1259.7	1242.4	1225.0	1207.6	1190.3	1166.6	1136.6	1106.7	1076.7	1046.7	1025.3
37.5°	1194.8	1175.7	1156.6	1137.5	1118.5	1093.0	1061.0	1029.1	997.1	965.2	941.6
40°	1149.4	1129.0	1108.5	1088.1	1067.7	1040.9	1007.9	974.9	941.8	908.8	884.6
42.5°	1102.8	1081.3	1059.8	1038.2	1016.7	988.9	954.8	920.6	886.5	852.4	827.4
45°	1029.9	1007.0	984.2	961.4	938.6	909.3	873.5	837.8	802.0	766.3	742.1
47.5°	958.7	934.6	910.4	886.2	862.0	831.5	794.6	757.6	720.7	683.8	659.8
50°	907.3	883.1	858.9	834.7	810.5	779.7	742.3	704.8	667.3	629.9	606.4
52.5°	857.0	831.7	806.5	781.2	755.9	725.0	688.3	651.7	615.0	578.4	555.7
55°	783.1	756.6	730.0	703.4	676.9	645.2	608.4	571.6	534.9	498.1	477.6
57.5°	707.4	680.2	652.9	625.7	598.4	567.1	531.8	496.4	461.1	425.7	407.0
60°	655.9	628.7	601.4	574.2	546.9	515.8	480.7	445.6	410.5	375.5	358.1
62.5°	605.7	578.4	551.2	523.9	496.7	466.3	432.9	399.4	366.0	332.6	316.0
65°	528.7	501.1	473.6	446.0	418.4	389.3	358.6	328.0	297.3	266.7	255.1
67.5°	454.5	427.2	399.8	372.4	345.0	317.5	290.0	262.4	234.8	207.2	201.9
70°	403.1	376.5	349.9	323.4	296.8	271.8	248.3	224.8	201.3	177.8	174.4
72.5°	354.0	328.5	303.1	277.6	252.1	229.9	211.1	192.2	173.3	154.5	151.6
75°	282.0	258.1	234.3	210.5	186.6	168.9	157.3	145.8	134.2	122.6	120.2
77.5°	211.2	190.3	169.4	148.5	127.5	114.3	108.7	103.1	97.5	92.0	90.6
80°	167.0	149.7	132.3	114.9	97.6	87.2	83.8	80.4	77.0	73.6	72.2
82.5°	126.6	113.0	99.5	85.9	72.4	64.4	62.1	59.8	57.5	55.2	54.4
85°	65.9	58.7	51.6	44.4	37.3	33.2	32.2	31.2	30.1	29.1	29.1
87.5°	19.8	18.1	16.3	14.6	12.9	12.2	12.5	12.8	13.1	13.5	13.4
90°	0.9	3.1	5.4	7.6	9.8	11.8	13.4	15.0	16.6	18.3	19.3
92.5°	18.4	18.2	18.0	17.8	17.6	17.9	18.8	19.6	20.4	21.2	21.7
95°	59.4	52.7	46.0	39.3	32.6	29.9	31.4	32.8	34.2	35.6	36.6
97.5°	117.8	98.9	80.1	61.2	42.3	34.5	37.8	41.1	44.4	47.7	48.5
100°	161.7	133.8	106.0	78.2	50.4	38.3	41.7	45.2	48.6	52.1	53.7
102.5°	209.9	204.0	198.1	192.2	186.3	169.0	140.1	111.2	82.4	53.5	55.6
105°	277.6	283.7	289.8	295.9	302.0	277.3	221.9	166.5	111.1	55.7	57.9
107.5°	354.9	359.8	364.7	369.6	374.6	343.8	277.3	210.9	144.4	78.0	75.7
110°	404.6	408.9	413.1	417.4	421.6	394.4	335.8	277.1	218.5	159.8	139.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	451.3	455.1	458.9	462.7	466.4	461.1	446.6	432.1	417.6	403.1	329.1
115°	525.1	528.6	532.0	535.5	538.9	543.2	548.3	553.4	558.4	563.5	469.5
117.5°	591.1	594.9	598.8	602.7	606.5	610.2	613.7	617.2	620.7	624.1	601.4
120°	639.3	642.3	645.4	648.4	651.5	654.8	658.5	662.1	665.8	669.4	671.9
122.5°	680.2	683.4	686.6	689.8	693.0	696.6	700.6	704.6	708.6	712.6	714.0
125°	742.5	745.1	747.8	750.4	753.1	756.3	760.2	764.0	767.9	771.7	773.2
127.5°	798.9	801.9	804.8	807.7	810.6	813.5	816.4	819.3	822.2	825.1	827.1
130°	834.8	838.0	841.2	844.5	847.7	850.5	852.7	854.9	857.2	859.4	861.6
132.5°	871.3	874.0	876.8	879.6	882.3	884.8	887.1	889.3	891.5	893.7	895.7
135°	918.8	922.0	925.3	928.5	931.8	934.3	936.1	938.0	939.8	941.6	943.6
137.5°	966.8	969.1	971.4	973.6	975.9	978.1	980.1	982.2	984.3	986.4	988.3
140°	998.2	999.9	1001.5	1003.1	1004.7	1006.7	1008.9	1011.1	1013.4	1015.6	1017.4
142.5°	1024.5	1026.0	1027.5	1028.9	1030.4	1032.4	1034.9	1037.5	1040.1	1042.6	1044.3
145°	1065.8	1065.6	1065.4	1065.2	1065.0	1066.6	1070.1	1073.5	1077.0	1080.4	1081.8
147.5°	1101.8	1101.0	1100.3	1099.5	1098.7	1100.0	1103.4	1106.9	1110.3	1113.7	1114.7
150°	1125.2	1123.8	1122.3	1120.9	1119.5	1120.4	1123.7	1126.9	1130.2	1133.4	1134.6
152.5°	1144.9	1143.3	1141.7	1140.2	1138.6	1139.3	1142.4	1145.5	1148.6	1151.7	1152.9
155°	1173.6	1171.8	1169.9	1168.1	1166.3	1166.6	1169.0	1171.5	1173.9	1176.3	1177.5
157.5°	1196.0	1194.5	1193.0	1191.4	1189.9	1190.0	1191.7	1193.4	1195.1	1196.8	1198.2
160°	1209.2	1208.0	1206.8	1205.5	1204.3	1204.3	1205.5	1206.8	1208.0	1209.2	1210.4
162.5°	1220.9	1219.7	1218.5	1217.2	1216.0	1215.9	1217.0	1218.0	1219.1	1220.2	1221.5
165°	1236.6	1235.4	1234.2	1232.9	1231.7	1231.4	1232.0	1232.6	1233.3	1233.9	1235.3
167.5°	1248.3	1247.1	1245.9	1244.6	1243.4	1243.1	1243.7	1244.2	1244.8	1245.4	1246.8
170°	1254.9	1253.6	1252.4	1251.2	1250.0	1249.6	1250.0	1250.4	1250.8	1251.2	1252.6
172.5°	1259.2	1258.0	1256.8	1255.6	1254.4	1254.0	1254.4	1254.8	1255.2	1255.6	1257.0
175°	1264.9	1263.5	1262.1	1260.6	1259.2	1258.7	1259.1	1259.5	1259.9	1260.3	1261.8
177.5°	1265.8	1264.7	1263.6	1262.4	1261.3	1260.8	1261.0	1261.1	1261.3	1261.4	1262.6
180°	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4
2.5°	1685.4	1688.1	1690.9	1691.9	1691.4	1690.9	1690.3	1689.8
5°	1672.0	1675.1	1678.1	1679.1	1678.1	1677.1	1676.1	1675.1
7.5°	1644.9	1645.8	1646.7	1646.3	1644.5	1642.7	1641.0	1639.2
10°	1617.8	1616.8	1615.8	1614.3	1612.2	1610.2	1608.1	1606.1
12.5°	1586.8	1584.9	1583.1	1580.5	1577.1	1573.7	1570.3	1566.9
15°	1528.8	1522.3	1515.8	1510.9	1507.5	1504.1	1500.7	1497.3
17.5°	1463.2	1455.5	1447.8	1441.0	1435.2	1429.3	1423.4	1417.6
20°	1417.4	1408.9	1400.4	1392.4	1384.9	1377.4	1369.9	1362.4
22.5°	1367.2	1356.2	1345.2	1336.9	1331.4	1325.8	1320.2	1314.6
25°	1283.9	1270.0	1256.0	1246.5	1241.3	1236.2	1231.1	1226.0
27.5°	1204.5	1188.2	1171.9	1159.7	1151.6	1143.5	1135.4	1127.3
30°	1148.4	1131.0	1113.6	1100.4	1091.2	1082.0	1072.8	1063.6
32.5°	1092.0	1072.2	1052.3	1038.1	1029.5	1020.8	1012.1	1003.5
35°	1003.8	982.4	960.9	946.4	938.9	931.4	923.9	916.5
37.5°	917.9	894.3	870.6	854.5	846.0	837.4	828.8	820.2
40°	860.4	836.2	812.1	795.6	786.7	777.8	769.0	760.1
42.5°	802.4	777.4	752.4	735.6	727.0	718.4	709.9	701.3
45°	717.9	693.7	669.5	653.4	645.2	637.0	628.8	620.7
47.5°	635.7	611.7	587.6	571.9	564.5	557.1	549.6	542.2
50°	582.9	559.4	535.9	520.5	513.4	506.2	499.1	491.9
52.5°	533.0	510.3	487.7	473.0	466.4	459.8	453.2	446.6
55°	457.2	436.8	416.3	402.9	396.4	389.9	383.5	377.0
57.5°	388.3	369.5	350.8	338.7	333.3	327.8	322.4	316.9
60°	340.7	323.4	306.0	294.6	289.1	283.7	278.2	272.8
62.5°	299.5	282.9	266.4	256.4	253.2	249.9	246.6	243.4
65°	243.5	231.9	220.3	214.0	213.0	212.0	211.0	210.0
67.5°	196.6	191.3	185.9	182.7	181.7	180.6	179.5	178.4
70°	171.0	167.6	164.2	161.8	160.4	159.0	157.7	156.3
72.5°	148.8	145.9	143.0	141.2	140.4	139.6	138.7	137.9
75°	117.8	115.5	113.1	111.7	111.4	111.0	110.7	110.3
77.5°	89.2	87.9	86.5	85.5	85.0	84.5	83.9	83.4
80°	70.8	69.5	68.1	67.4	67.4	67.4	67.4	67.4
82.5°	53.5	52.7	51.9	51.5	51.5	51.5	51.5	51.5
85°	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
87.5°	13.3	13.3	13.2	13.2	13.3	13.4	13.4	13.5
90°	20.3	21.3	22.3	23.0	23.4	23.8	24.3	24.7
92.5°	22.2	22.8	23.3	23.7	23.9	24.2	24.4	24.7
95°	37.6	38.7	39.7	40.1	39.9	39.7	39.5	39.3
97.5°	49.3	50.1	50.9	51.4	51.7	51.9	52.2	52.4
100°	55.3	56.9	58.6	59.6	60.0	60.4	60.8	61.2
102.5°	57.7	59.9	62.0	63.3	63.9	64.4	65.0	65.6
105°	60.2	62.4	64.6	66.2	67.0	67.8	68.6	69.4
107.5°	73.4	71.2	68.9	68.2	69.0	69.8	70.6	71.4
110°	119.2	98.9	78.6	68.9	69.7	70.5	71.3	72.2



TEST NUMBER: P331756

CATALOG NUMBER: SA2XXRDIP-C1005D925U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	255.1	181.0	107.0	70.3	70.9	71.6	72.2	72.9
115°	375.6	281.6	187.6	133.3	118.7	104.1	89.5	74.9
117.5°	578.7	556.0	533.2	497.8	449.8	401.8	353.8	305.8
120°	674.3	676.8	679.2	666.7	639.3	611.9	584.5	557.1
122.5°	715.5	716.9	718.4	716.5	711.2	705.8	700.5	695.2
125°	774.6	776.0	777.4	778.4	779.0	779.6	780.3	780.9
127.5°	829.2	831.3	833.4	834.4	834.6	834.7	834.8	834.9
130°	863.9	866.1	868.3	869.4	869.2	868.9	868.7	868.5
132.5°	897.6	899.5	901.4	902.2	902.0	901.8	901.6	901.4
135°	945.7	947.7	949.7	950.5	950.1	949.7	949.3	948.9
137.5°	990.3	992.3	994.3	995.0	994.3	993.6	992.9	992.2
140°	1019.2	1021.1	1022.9	1023.3	1022.3	1021.3	1020.3	1019.2
142.5°	1045.9	1047.6	1049.3	1049.6	1048.6	1047.6	1046.6	1045.5
145°	1083.3	1084.7	1086.1	1086.3	1085.3	1084.3	1083.3	1082.3
147.5°	1115.8	1116.8	1117.9	1118.0	1117.1	1116.3	1115.4	1114.6
150°	1135.8	1137.1	1138.3	1138.4	1137.4	1136.3	1135.3	1134.3
152.5°	1154.1	1155.3	1156.5	1156.5	1155.1	1153.8	1152.5	1151.1
155°	1178.8	1180.0	1181.2	1181.0	1179.4	1177.7	1176.1	1174.5
157.5°	1199.5	1200.9	1202.3	1202.2	1200.6	1199.0	1197.4	1195.9
160°	1211.6	1212.9	1214.1	1214.0	1212.5	1211.1	1209.7	1208.3
162.5°	1222.9	1224.3	1225.7	1225.5	1223.8	1222.0	1220.3	1218.5
165°	1236.7	1238.1	1239.5	1239.5	1238.1	1236.7	1235.3	1233.9
167.5°	1248.2	1249.6	1251.1	1250.8	1249.0	1247.2	1245.4	1243.5
170°	1254.1	1255.5	1256.9	1256.7	1254.9	1253.0	1251.2	1249.4
172.5°	1258.4	1259.9	1261.3	1261.1	1259.2	1257.4	1255.6	1253.8
175°	1263.2	1264.6	1266.0	1265.7	1263.7	1261.7	1259.6	1257.6
177.5°	1263.7	1264.9	1266.0	1265.8	1264.4	1262.9	1261.4	1260.0
180°	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2

(END OF REPORT)