

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: P331446

Luminaire Tested: **SA2XXDIP-C1005D725U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331446
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: SA2XXDIP-C1005D725U835-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

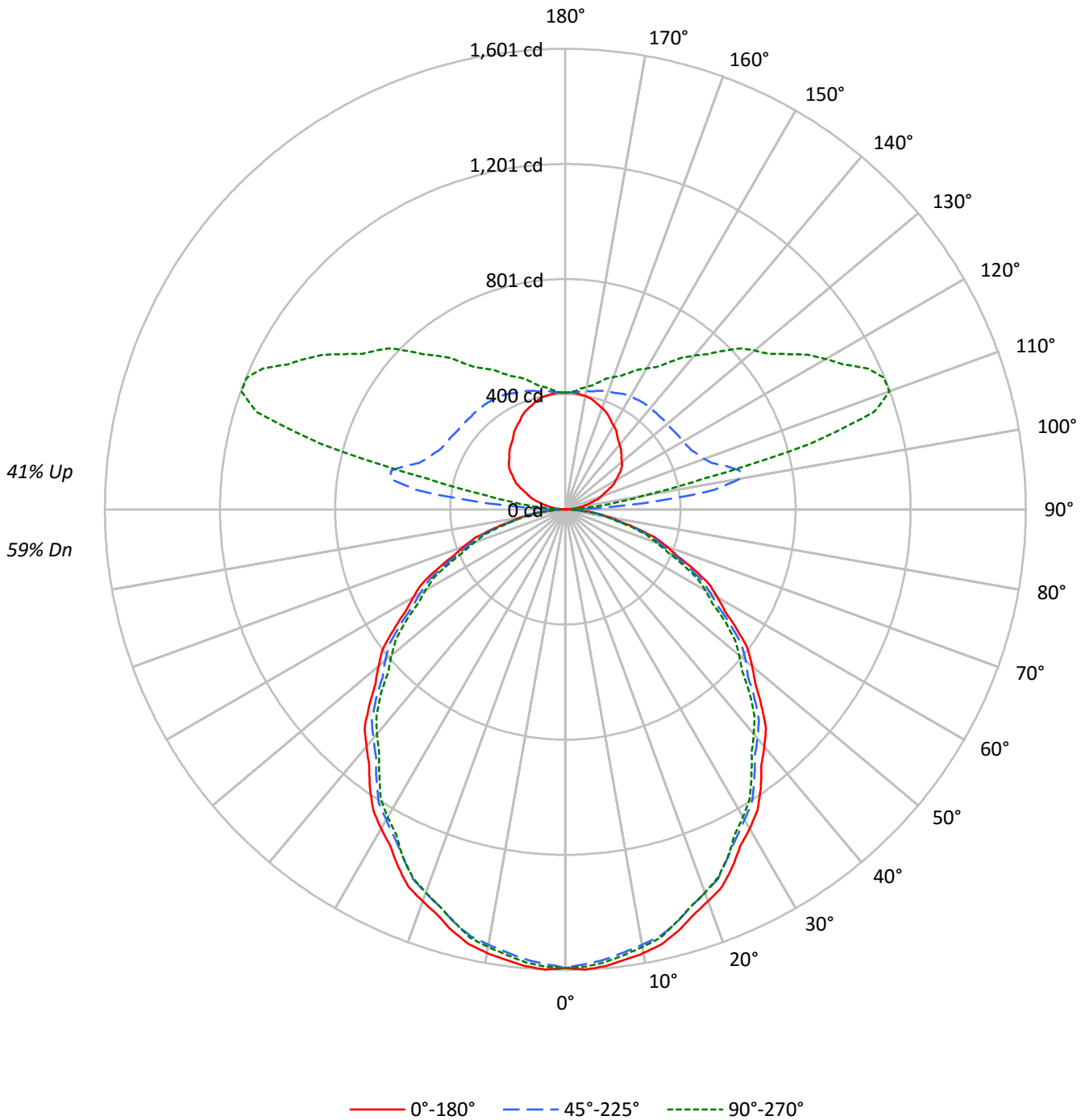
Lumens per Lamp: N/A
Luminaire Lumens: 6887.2 lumens
Efficiency: N/A
Efficacy: 113.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 60.7
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									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	50	30	10	50	30	10	50	30	10	0							
RCR																																					
0	109	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59																		
1	100	95	91	88	93	89	86	83	77	75	73	67	65	63	57	56	54	50																			
2	91	83	77	72	85	78	72	68	68	64	60	59	56	53	50	48	46	42																			
3	83	73	66	60	77	69	62	57	60	55	51	52	48	45	44	41	39	35																			
4	76	65	57	51	71	61	54	48	53	48	43	46	42	38	40	36	34	30																			
5	70	58	50	44	65	54	47	41	48	42	37	42	37	33	36	32	29	26																			
6	64	52	44	38	60	49	41	36	43	37	33	38	33	29	32	29	26	23																			
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	20																			
8	55	43	35	29	51	40	33	28	36	30	26	31	27	23	27	23	21	18																			
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	19	17																			
10	48	36	29	24	45	34	27	23	30	25	21	27	22	19	23	20	17	15																			

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	2.2
10°-20°	421.7	6.1
20°-30°	619.8	9.0
30°-40°	720.0	10.5
40°-50°	719.2	10.4
50°-60°	627.2	9.1
60°-70°	463.8	6.7
70°-80°	262.7	3.8
80°-90°	74.3	1.1
90°-100°	162.5	2.4
100°-110°	551.5	8.0
110°-120°	585.9	8.5
120°-130°	482.3	7.0
130°-140°	387.3	5.6
140°-150°	292.7	4.2
150°-160°	205.7	3.0
160°-170°	121.1	1.8
170°-180°	39.4	0.6
0°-30°	1191.4	17.3
0°-40°	1911.4	27.8
0°-60°	3257.9	47.3
0°-90°	4058.6	58.9
90°-120°	1300.0	18.9
90°-150°	2462.4	35.8
90°-180°	2829.0	41.1
0°-180°	6887.2	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	11	27	25	26	5
95°	27	67	306	116	89	29
105°	95	144	579	1035	881	101
115°	168	212	485	1000	1159	167
125°	234	278	466	810	940	208
135°	275	328	460	681	779	213
145°	314	361	458	569	622	197
155°	357	386	445	503	523	164
165°	389	401	426	452	459	110
175°	406	406	410	415	414	39
180°	406	406	406	406	406	



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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°	22.2	22.1	22.2	22.0	21.8	21.7	21.9	22.5	22.9	22.5	21.5
90°	0.8	3.1	6.3	7.8	9.4	11.7	15.6	21.1	25.8	26.6	25.8
92.5°	9.5	13.8	19.4	22.8	28.1	35.5	53.2	78.0	100.2	101.6	85.8
95°	27.4	30.5	38.3	45.3	57.8	76.6	112.6	180.6	271.3	306.4	268.1
97.5°	44.6	48.8	57.1	67.7	82.1	103.3	148.5	243.3	394.0	523.1	548.8
100°	60.2	62.5	69.6	82.1	97.7	119.6	161.0	256.4	425.2	617.5	730.1
102.5°	74.6	76.3	83.3	95.8	112.1	134.0	172.3	257.0	413.4	620.7	797.6
105°	95.4	98.5	104.0	115.7	132.9	154.8	191.5	261.1	390.1	579.2	787.2
107.5°	117.9	120.4	125.7	136.5	153.5	175.6	211.2	271.9	378.5	534.8	718.5
110°	132.9	136.0	140.7	150.9	167.3	190.0	224.3	280.6	376.0	513.6	675.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	146.6	149.8	155.1	164.6	180.4	203.7	236.9	290.0	376.6	499.8	645.4
115°	168.1	172.0	176.7	186.0	201.7	222.8	256.4	304.1	379.9	484.7	608.2
117.5°	190.3	193.4	198.1	206.4	221.4	243.3	274.4	319.1	385.5	477.3	584.7
120°	204.0	207.2	211.8	218.9	234.5	256.4	286.9	329.1	389.3	472.9	572.2
122.5°	217.2	219.7	224.3	232.0	247.6	270.2	298.8	337.9	393.7	470.4	561.6
125°	234.5	236.9	241.5	250.9	266.6	288.4	316.6	351.8	400.2	465.9	546.4
127.5°	248.3	251.4	258.0	268.3	283.3	305.8	333.2	364.7	407.0	463.2	532.3
130°	256.4	259.5	267.3	278.3	293.9	315.8	343.2	372.9	412.0	462.0	523.0
132.5°	263.9	267.7	276.1	287.7	303.9	325.8	351.9	381.0	417.0	461.4	515.5
135°	275.2	278.3	287.7	299.4	317.4	339.3	364.3	391.6	422.9	460.4	505.0
137.5°	285.8	289.5	298.9	311.4	329.3	349.6	374.3	399.8	428.2	460.3	497.6
140°	293.9	297.0	306.4	318.9	336.1	356.5	379.9	404.1	430.7	459.6	493.3
142.5°	302.0	304.6	313.3	325.8	342.4	361.5	384.3	407.9	432.6	459.6	488.9
145°	314.2	317.4	325.2	336.9	352.5	369.7	390.9	412.7	434.6	458.1	483.1
147.5°	327.4	329.7	337.2	348.0	361.0	376.3	396.2	415.4	435.3	455.3	477.2
150°	336.1	338.5	344.7	354.9	366.6	380.7	398.7	416.6	434.6	453.4	472.1
152.5°	344.9	346.0	352.2	361.1	372.2	385.1	401.2	417.3	433.4	450.3	467.8
155°	357.2	358.0	362.7	371.3	379.9	391.6	404.9	418.2	431.5	444.8	459.6
157.5°	367.6	368.3	372.1	379.6	386.5	396.3	407.6	418.2	427.9	439.2	452.0
160°	374.4	375.2	378.3	384.6	390.9	399.4	408.8	418.2	426.0	435.4	446.4
162.5°	381.3	380.8	384.0	389.0	394.6	401.3	409.5	417.6	424.2	432.3	441.3
165°	389.3	388.5	390.1	394.8	398.7	403.4	410.4	415.9	420.6	426.0	433.1
167.5°	395.9	394.9	396.3	399.3	402.1	405.1	410.2	414.8	417.0	420.6	424.9
170°	400.2	398.7	399.4	401.8	403.4	405.7	409.6	413.5	415.1	417.4	420.6
172.5°	402.7	401.8	401.3	403.7	404.6	406.3	409.0	411.6	412.6	413.7	416.2
175°	405.7	404.9	404.1	405.7	405.7	406.5	408.0	409.6	408.8	409.6	410.4
177.5°	407.1	405.9	405.2	406.5	406.5	406.5	407.1	408.4	407.1	406.5	407.1
180°	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5



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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°	20.5	19.4	18.9	18.5	18.2	18.0	17.7	17.4
90°	25.0	23.5	25.0	25.8	25.8	25.8	25.8	25.8
92.5°	68.2	58.5	51.9	47.1	46.4	43.9	44.6	43.3
95°	204.8	157.1	124.3	107.1	96.9	90.7	88.3	89.1
97.5°	477.9	391.0	306.4	250.0	212.6	193.4	182.0	175.4
100°	713.7	616.8	509.7	415.1	350.2	316.6	293.9	279.8
102.5°	868.2	846.3	767.9	667.7	597.2	539.8	511.5	492.5
105°	949.8	1038.1	1048.3	1022.5	974.0	925.5	891.9	881.0
107.5°	891.0	1024.0	1105.3	1143.2	1149.3	1146.6	1139.9	1125.3
110°	840.3	980.3	1080.3	1144.4	1178.0	1192.9	1199.9	1199.1



TEST NUMBER: P331446

CATALOG NUMBER: SA2XXDIP-C1005D725U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	794.1	928.3	1035.3	1108.8	1155.5	1180.4	1193.7	1197.9
115°	737.1	857.5	959.9	1040.4	1095.9	1131.9	1152.2	1159.3
117.5°	694.3	800.0	892.9	968.4	1025.0	1063.0	1084.4	1090.3
120°	673.0	770.0	852.8	924.0	978.7	1015.4	1038.1	1045.9
122.5°	656.2	745.0	823.4	887.7	936.8	972.9	993.1	999.6
125°	631.6	712.1	780.9	839.5	884.9	914.6	934.1	940.4
127.5°	607.4	680.2	745.1	799.2	838.8	866.6	883.5	888.5
130°	591.7	659.0	720.7	772.3	810.6	837.2	852.8	859.1
132.5°	576.7	639.0	695.7	744.2	781.9	808.4	822.8	828.4
135°	555.8	607.4	659.0	702.7	736.4	762.2	776.2	779.4
137.5°	539.1	582.2	623.2	661.3	692.0	714.2	726.5	731.2
140°	528.4	566.0	601.9	636.3	661.3	681.6	693.4	698.1
142.5°	519.7	551.6	582.5	611.3	635.1	653.5	664.0	664.9
145°	507.3	533.1	557.4	580.0	598.8	612.1	619.9	622.2
147.5°	497.8	518.1	537.0	553.6	569.1	579.7	585.0	586.4
150°	490.9	508.1	524.5	538.6	550.3	559.7	564.4	565.2
152.5°	484.0	500.0	513.9	526.1	535.3	543.4	546.9	547.0
155°	474.5	487.0	498.7	507.3	515.9	521.4	524.5	523.0
157.5°	463.4	473.9	483.7	490.4	496.5	501.1	502.5	502.5
160°	456.5	465.1	473.7	479.2	484.7	488.6	489.3	489.3
162.5°	449.6	457.0	464.3	468.6	474.0	476.7	477.5	476.8
165°	439.3	444.8	450.3	453.4	456.5	459.6	459.6	458.9
167.5°	429.5	433.7	437.4	440.3	441.7	443.4	443.2	442.3
170°	424.5	426.8	429.9	431.5	432.3	434.6	433.8	432.3
172.5°	418.8	420.6	423.1	424.0	424.8	425.9	425.1	424.2
175°	412.7	413.5	414.3	415.1	415.1	415.9	415.1	413.5
177.5°	408.4	408.4	409.0	409.0	409.0	409.0	408.4	407.1
180°	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5

(END OF REPORT)