

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: P331751-840

Luminaire Tested: **SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331751-840  
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: SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6136.6 lumens  
Efficiency: N/A  
Efficacy: 101.1 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

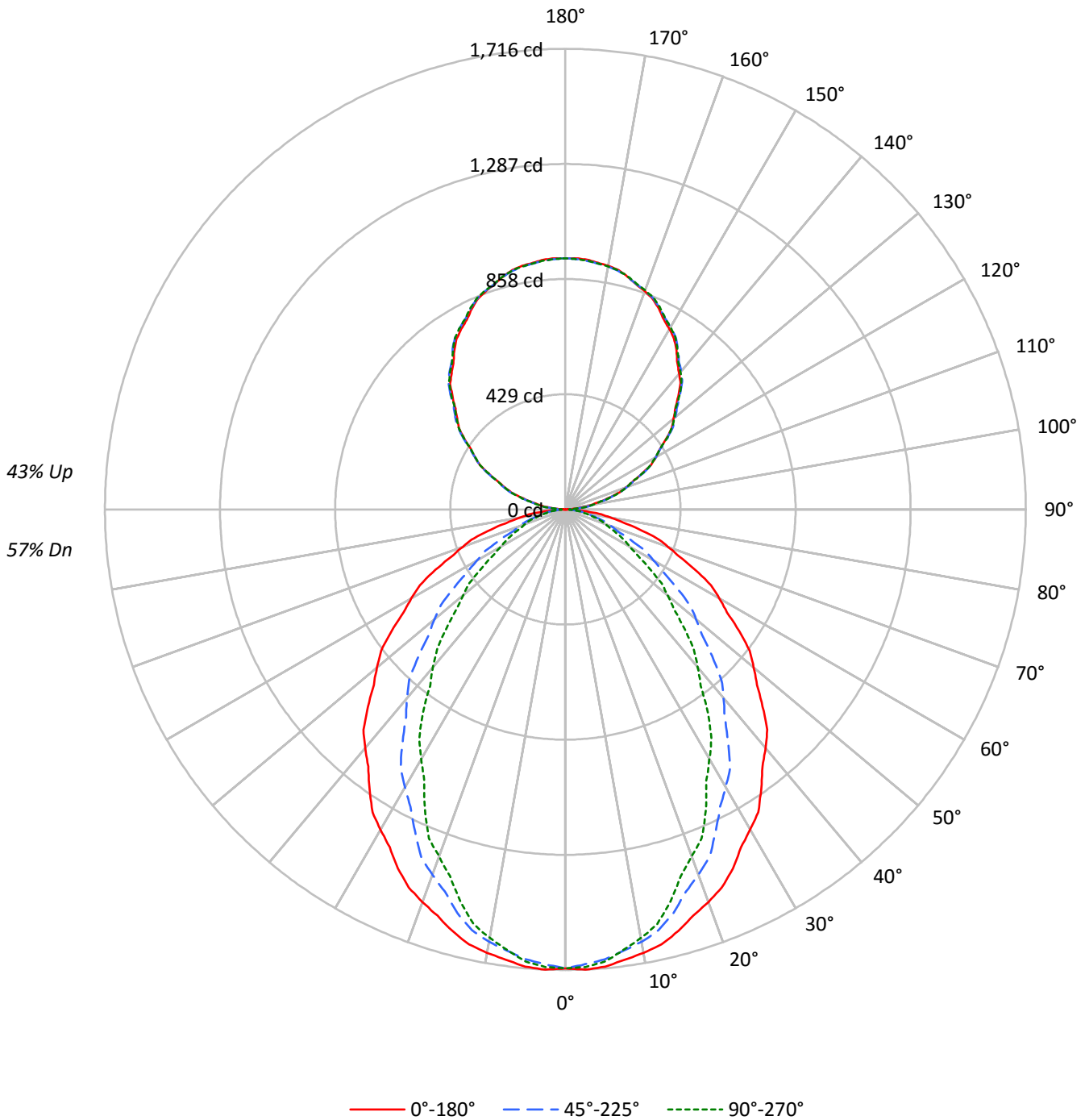
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331751-840

CATALOG NUMBER: SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F1

### Luminous Intensity Polar Plot





TEST NUMBER: P331751-840

CATALOG NUMBER: SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F1

**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	50	30	10	50	30	10	0																			
RCR																																														
0	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57																												
1	100	96	92	89	93	89	86	83	77	75	73	67	65	63	56	55	54	49																												
2	91	84	78	73	85	79	74	69	69	65	61	59	56	54	50	48	46	42																												
3	84	75	67	62	78	70	64	59	61	56	52	53	49	46	45	42	40	36																												
4	77	66	59	53	72	62	55	50	55	49	45	47	43	40	41	38	35	32																												
5	71	60	52	46	66	56	49	44	49	44	39	43	38	35	37	34	31	28																												
6	66	54	46	40	61	51	43	38	45	39	35	39	34	31	34	30	28	25																												
7	61	49	41	35	57	46	39	34	41	35	31	36	31	28	31	27	25	22																												
8	57	44	37	31	53	42	35	30	37	32	28	33	28	25	29	25	22	20																												
9	53	41	33	28	49	38	32	27	34	29	25	30	26	23	26	23	20	18																												
10	49	37	30	26	46	35	29	25	32	26	23	28	24	21	25	21	19	17																												

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

	0°	45°	90°
0°	27611	27611	27611
5°	27716	27266	27417
10°	27506	26820	26591
15°	27189	26024	25275
20°	26751	24890	23639
25°	26302	23599	22057
30°	25682	22275	20025
35°	25074	20834	18242
40°	24464	19344	16179
45°	23749	17671	14312
50°	23016	15978	12479
55°	22261	14159	10716
60°	21390	12245	8896
65°	20397	10288	8103
70°	19218	8478	7449
75°	17767	7723	6949
80°	15676	6908	6332
85°	12338	5446	5446



TEST NUMBER: P331751-840

CATALOG NUMBER: SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.1	2.6
10°-20°	439.5	7.2
20°-30°	617.2	10.1
30°-40°	673.0	11.0
40°-50°	618.8	10.1
50°-60°	486.0	7.9
60°-70°	316.9	5.2
70°-80°	163.4	2.7
80°-90°	46.1	0.8
90°-100°	59.3	1.0
100°-110°	184.1	3.0
110°-120°	314.7	5.1
120°-130°	413.8	6.7
130°-140°	464.4	7.6
140°-150°	455.4	7.4
150°-160°	382.0	6.2
160°-170°	253.3	4.1
170°-180°	88.5	1.4
0°-30°	1216.8	19.8
0°-40°	1889.8	30.8
0°-60°	2994.7	48.8
0°-90°	3521.1	57.4
90°-120°	558.0	9.1
90°-150°	1891.7	30.8
90°-180°	2616.0	42.6
0°-180°	6136.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1710	1710	1710	1710	1710	
5°	1710	1702	1682	1695	1692	162
15°	1627	1608	1557	1528	1512	458
25°	1476	1424	1325	1264	1238	679
35°	1272	1190	1057	963	926	796
45°	1040	933	774	668	627	803
55°	791	668	503	414	381	706
65°	534	408	269	219	212	529
75°	285	180	124	114	111	301
85°	67	36	29	29	29	78
90°	1	11	28	26	27	5
95°	41	49	50	50	49	47
105°	170	172	174	175	175	179
115°	316	320	319	318	316	312
125°	459	466	464	462	461	410
135°	594	603	605	604	602	459
145°	721	727	732	732	729	451
155°	825	827	830	833	831	380
165°	898	897	897	902	898	253
175°	934	932	930	935	931	89
180°	935	935	935	935	935	



TEST NUMBER: P331751-840

CATALOG NUMBER: SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1
2.5°	1716.4	1715.0	1713.5	1712.2	1710.8	1708.6	1705.6	1702.6	1699.6	1696.6	1699.3
5°	1710.1	1708.4	1706.7	1705.0	1703.2	1700.2	1695.7	1691.2	1686.8	1682.3	1685.4
7.5°	1692.5	1690.4	1688.3	1686.1	1683.9	1680.3	1675.1	1669.8	1664.7	1659.4	1660.3
10°	1677.7	1675.3	1672.8	1670.4	1668.0	1663.3	1656.5	1649.6	1642.7	1635.9	1634.9
12.5°	1659.1	1656.1	1653.1	1650.2	1647.3	1641.3	1632.5	1623.8	1615.0	1606.2	1604.3
15°	1626.6	1622.8	1619.0	1615.2	1611.4	1603.7	1592.1	1580.3	1568.6	1556.9	1550.4
17.5°	1586.6	1580.8	1575.1	1569.3	1563.6	1553.2	1538.1	1523.2	1508.1	1493.2	1485.4
20°	1556.9	1550.0	1543.2	1536.3	1529.4	1517.4	1500.2	1483.0	1465.8	1448.6	1440.0
22.5°	1524.7	1517.0	1509.3	1501.7	1493.9	1480.4	1461.0	1441.6	1422.2	1402.8	1391.7
25°	1476.4	1465.4	1454.4	1443.4	1432.4	1415.6	1392.9	1370.2	1347.5	1324.7	1310.7
27.5°	1418.3	1406.3	1394.3	1382.4	1370.4	1351.6	1326.1	1300.4	1274.9	1249.3	1232.8
30°	1377.5	1364.3	1351.3	1338.2	1325.1	1304.8	1277.3	1249.8	1222.3	1194.8	1177.2
32.5°	1337.8	1322.5	1307.3	1292.0	1276.7	1255.1	1227.0	1198.9	1170.8	1142.8	1122.8
35°	1272.1	1254.7	1237.1	1219.5	1202.0	1178.1	1147.8	1117.6	1087.3	1057.0	1035.4
37.5°	1206.6	1187.3	1168.0	1148.7	1129.5	1103.8	1071.5	1039.3	1006.9	974.7	950.9
40°	1160.7	1140.1	1119.4	1098.8	1078.2	1051.2	1017.8	984.5	951.1	917.8	893.3
42.5°	1113.7	1092.0	1070.3	1048.4	1026.7	998.7	964.2	929.7	895.2	860.8	835.6
45°	1040.1	1016.9	993.9	970.9	947.9	918.3	882.1	846.1	809.9	773.9	749.4
47.5°	968.2	943.8	919.4	894.9	870.5	839.7	802.4	765.1	727.8	690.5	666.3
50°	916.3	891.8	867.4	842.9	818.5	787.4	749.6	711.8	673.9	636.1	612.4
52.5°	865.5	839.9	814.5	788.9	763.4	732.2	695.1	658.1	621.1	584.1	561.2
55°	790.8	764.1	737.2	710.3	683.6	651.6	614.4	577.2	540.2	503.0	482.3
57.5°	714.4	686.9	659.3	631.9	604.3	572.7	537.0	501.3	465.6	429.9	411.0
60°	662.4	634.9	607.3	579.9	552.3	520.9	485.4	450.0	414.5	379.2	361.6
62.5°	611.7	584.1	556.6	529.1	501.6	470.9	437.2	403.3	369.6	335.9	319.1
65°	533.9	506.0	478.3	450.4	422.5	393.1	362.1	331.2	300.2	269.3	257.6
67.5°	459.0	431.4	403.7	376.1	348.4	320.6	292.9	265.0	237.1	209.2	203.9
70°	407.1	380.2	353.4	326.6	299.7	274.5	250.7	227.0	203.3	179.6	176.1
72.5°	357.5	331.7	306.1	280.3	254.6	232.2	213.2	194.1	175.0	156.0	153.1
75°	284.8	260.6	236.6	212.6	188.4	170.6	158.9	147.2	135.5	123.8	121.4
77.5°	213.3	192.2	171.1	150.0	128.8	115.4	109.8	104.1	98.5	92.9	91.5
80°	168.6	151.2	133.6	116.0	98.6	88.1	84.6	81.2	77.8	74.3	72.9
82.5°	127.8	114.1	100.5	86.7	73.1	65.0	62.7	60.4	58.1	55.7	54.9
85°	66.6	59.3	52.1	44.8	37.7	33.5	32.5	31.5	30.4	29.4	29.4
87.5°	20.0	18.2	16.4	14.6	12.8	12.3	13.1	13.9	14.6	15.5	15.0
90°	0.8	2.9	5.0	7.1	9.2	12.2	16.1	19.9	23.7	27.7	27.3
92.5°	14.0	15.6	17.2	18.7	20.2	21.4	22.3	23.2	24.2	25.1	25.1
95°	41.0	42.8	44.5	46.4	48.1	49.1	49.5	49.8	50.2	50.5	50.5
97.5°	75.0	76.5	78.1	79.6	81.2	82.3	82.9	83.6	84.2	84.9	84.9
100°	100.3	101.7	103.0	104.4	105.8	106.8	107.3	107.9	108.4	109.0	109.0
102.5°	126.7	127.8	129.1	130.2	131.3	132.2	132.8	133.5	134.1	134.8	134.9
105°	169.8	170.3	170.8	171.3	171.8	172.3	172.6	173.0	173.3	173.7	174.0
107.5°	213.0	213.8	214.5	215.3	216.0	216.4	216.4	216.4	216.4	216.4	216.6
110°	240.8	241.8	242.9	243.9	245.0	245.5	245.5	245.5	245.5	245.5	245.5



TEST NUMBER: P331751-840

CATALOG NUMBER: SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	271.0	272.2	273.2	274.2	275.3	275.7	275.6	275.5	275.3	275.2	274.8
115°	315.8	316.8	317.8	318.9	319.9	320.3	319.9	319.6	319.2	318.9	318.7
117.5°	360.2	361.6	363.0	364.5	365.9	366.1	365.1	364.2	363.1	362.1	361.7
120°	389.9	391.3	392.7	394.2	395.6	395.6	394.2	392.7	391.3	389.9	389.9
122.5°	417.1	418.8	420.5	422.1	423.8	424.1	423.2	422.2	421.2	420.2	419.8
125°	459.4	461.0	462.5	464.1	465.7	466.3	465.7	465.1	464.6	464.1	463.6
127.5°	500.6	502.6	504.6	506.6	508.6	509.3	508.7	508.1	507.4	506.8	506.1
130°	526.5	528.8	531.1	533.3	535.6	536.5	536.2	535.8	535.5	535.2	534.8
132.5°	555.5	557.4	559.3	561.1	563.0	563.9	564.0	564.1	564.1	564.2	563.5
135°	594.4	596.3	598.2	600.2	602.1	603.2	603.6	603.9	604.3	604.6	604.5
137.5°	635.3	636.8	638.4	640.1	641.6	642.6	643.1	643.5	644.0	644.4	644.3
140°	659.9	661.5	663.1	664.6	666.2	667.4	668.3	669.2	670.0	671.0	671.0
142.5°	685.2	686.7	688.3	689.9	691.5	692.6	693.2	693.8	694.4	695.0	695.1
145°	721.4	722.7	724.0	725.2	726.4	727.5	728.6	729.6	730.6	731.7	732.0
147.5°	753.9	755.3	756.8	758.2	759.7	760.8	761.5	762.2	763.0	763.7	764.0
150°	776.0	777.0	778.0	779.1	780.1	781.0	781.7	782.4	783.2	783.9	784.4
152.5°	795.5	796.6	797.6	798.7	799.7	800.6	801.5	802.3	803.1	804.1	804.7
155°	824.9	825.4	826.0	826.5	827.0	827.5	828.0	828.6	829.1	829.6	830.5
157.5°	850.0	850.3	850.7	851.0	851.4	851.7	852.0	852.3	852.6	852.9	854.1
160°	865.2	865.5	865.9	866.2	866.6	866.8	867.0	867.2	867.4	867.5	868.6
162.5°	879.0	879.1	879.2	879.2	879.3	879.4	879.6	879.8	880.0	880.1	881.3
165°	897.5	897.4	897.2	897.0	896.8	896.7	896.7	896.7	896.7	896.7	898.0
167.5°	912.9	912.4	911.9	911.4	910.9	910.6	910.6	910.5	910.5	910.4	911.7
170°	921.2	920.7	920.1	919.6	919.1	918.7	918.6	918.4	918.2	918.0	919.3
172.5°	926.9	926.3	925.8	925.2	924.7	924.4	924.2	924.0	923.9	923.7	924.9
175°	933.8	933.3	932.7	932.2	931.7	931.3	930.9	930.6	930.2	929.9	931.1
177.5°	936.6	936.2	935.8	935.3	934.9	934.6	934.3	934.0	933.7	933.5	934.3
180°	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3



TEST NUMBER: P331751-840

CATALOG NUMBER: SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1
2.5°	1702.0	1704.8	1707.6	1708.6	1708.1	1707.6	1707.0	1706.5
5°	1688.5	1691.6	1694.7	1695.7	1694.7	1693.6	1692.6	1691.6
7.5°	1661.1	1662.0	1662.9	1662.5	1660.7	1658.9	1657.2	1655.4
10°	1633.8	1632.7	1631.7	1630.2	1628.1	1626.1	1624.0	1621.9
12.5°	1602.5	1600.5	1598.7	1596.1	1592.7	1589.2	1585.8	1582.4
15°	1543.9	1537.3	1530.8	1525.8	1522.4	1518.9	1515.5	1512.1
17.5°	1477.6	1469.9	1462.1	1455.2	1449.4	1443.4	1437.4	1431.6
20°	1431.4	1422.8	1414.2	1406.1	1398.6	1391.0	1383.4	1375.8
22.5°	1380.7	1369.6	1358.5	1350.1	1344.5	1338.9	1333.2	1327.6
25°	1296.6	1282.5	1268.4	1258.8	1253.5	1248.4	1243.2	1238.1
27.5°	1216.4	1199.9	1183.5	1171.1	1163.0	1154.8	1146.6	1138.4
30°	1159.7	1142.2	1124.6	1111.3	1102.0	1092.7	1083.4	1074.1
32.5°	1102.8	1082.8	1062.7	1048.3	1039.7	1030.9	1022.1	1013.4
35°	1013.7	992.1	970.4	955.7	948.2	940.6	933.0	925.5
37.5°	927.0	903.1	879.2	862.9	854.3	845.7	837.0	828.3
40°	868.9	844.4	820.1	803.4	794.5	785.5	776.6	767.6
42.5°	810.3	785.1	759.8	742.9	734.2	725.5	716.9	708.2
45°	725.0	700.5	676.1	659.8	651.6	643.3	635.0	626.8
47.5°	642.0	617.7	593.4	577.5	570.1	562.6	555.0	547.5
50°	588.7	564.9	541.2	525.6	518.5	511.2	504.0	496.8
52.5°	538.3	515.3	492.5	477.7	471.0	464.3	457.7	451.0
55°	461.7	441.1	420.4	406.9	400.3	393.7	387.3	380.7
57.5°	392.1	373.1	354.3	342.0	336.6	331.0	325.6	320.0
60°	344.1	326.6	309.0	297.5	292.0	286.5	280.9	275.5
62.5°	302.5	285.7	269.0	258.9	255.7	252.4	249.0	245.8
65°	245.9	234.2	222.5	216.1	215.1	214.1	213.1	212.1
67.5°	198.5	193.2	187.7	184.5	183.5	182.4	181.3	180.2
70°	172.7	169.3	165.8	163.4	162.0	160.6	159.3	157.8
72.5°	150.3	147.3	144.4	142.6	141.8	141.0	140.1	139.3
75°	119.0	116.6	114.2	112.8	112.5	112.1	111.8	111.4
77.5°	90.1	88.8	87.4	86.3	85.8	85.3	84.7	84.2
80°	71.5	70.2	68.8	68.1	68.1	68.1	68.1	68.1
82.5°	54.0	53.2	52.4	52.0	52.0	52.0	52.0	52.0
85°	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
87.5°	14.7	14.4	14.0	13.9	13.9	13.9	14.0	14.0
90°	27.0	26.6	26.3	26.2	26.4	26.5	26.7	26.9
92.5°	25.2	25.3	25.3	25.4	25.4	25.5	25.5	25.5
95°	50.5	50.5	50.5	50.4	50.0	49.7	49.3	49.0
97.5°	84.9	84.9	84.9	84.9	84.9	84.8	84.8	84.7
100°	109.0	109.0	109.0	108.9	108.7	108.5	108.4	108.2
102.5°	135.1	135.2	135.4	135.3	135.2	135.0	134.8	134.6
105°	174.4	174.7	175.1	175.2	175.2	175.2	175.2	175.2
107.5°	216.7	216.8	217.0	216.7	215.9	215.1	214.3	213.5
110°	245.5	245.5	245.5	245.2	244.7	244.2	243.7	243.1





TEST NUMBER: P331751-840

CATALOG NUMBER: SA2XXRDIP-C1005D725U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	274.3	273.9	273.5	273.1	272.7	272.3	272.0	271.6
115°	318.5	318.4	318.2	317.8	317.3	316.8	316.3	315.8
117.5°	361.3	360.9	360.4	360.0	359.5	358.9	358.4	357.9
120°	389.9	389.9	389.9	389.7	389.1	388.6	388.1	387.6
122.5°	419.4	419.0	418.6	418.2	417.8	417.4	417.0	416.7
125°	463.1	462.5	462.0	461.7	461.5	461.3	461.2	461.0
127.5°	505.5	504.8	504.2	503.6	503.1	502.5	502.0	501.4
130°	534.5	534.1	533.8	533.2	532.5	531.9	531.2	530.5
132.5°	562.7	561.9	561.2	560.5	559.9	559.4	558.8	558.3
135°	604.3	604.1	603.9	603.6	603.1	602.6	602.0	601.5
137.5°	644.2	644.0	643.9	643.5	642.8	642.1	641.4	640.7
140°	671.0	671.0	671.0	670.6	669.9	669.2	668.5	667.8
142.5°	695.2	695.4	695.5	695.2	694.5	693.8	693.2	692.5
145°	732.1	732.3	732.5	732.2	731.4	730.7	730.0	729.3
147.5°	764.4	764.8	765.2	765.1	764.4	763.7	763.1	762.3
150°	784.9	785.4	786.0	786.0	785.4	784.9	784.4	783.9
152.5°	805.4	806.1	806.7	806.7	806.1	805.4	804.7	804.1
155°	831.3	832.2	833.1	833.3	832.7	832.2	831.7	831.2
157.5°	855.4	856.6	857.8	857.9	857.1	856.3	855.4	854.5
160°	869.6	870.7	871.7	871.9	871.2	870.5	869.8	869.1
162.5°	882.5	883.7	884.9	885.0	884.2	883.4	882.5	881.7
165°	899.2	900.4	901.6	901.8	900.9	900.0	899.2	898.3
167.5°	912.9	914.1	915.3	915.5	914.6	913.7	912.8	911.9
170°	920.5	921.7	922.9	923.0	922.0	920.9	919.9	918.8
172.5°	926.1	927.4	928.6	928.7	927.7	926.6	925.5	924.5
175°	932.3	933.5	934.7	934.8	933.8	932.7	931.7	930.7
177.5°	935.1	936.0	936.9	936.9	936.0	935.1	934.3	933.5
180°	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3

(END OF REPORT)