

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: P331750-840

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

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331750-840  
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-C1005D725U840-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

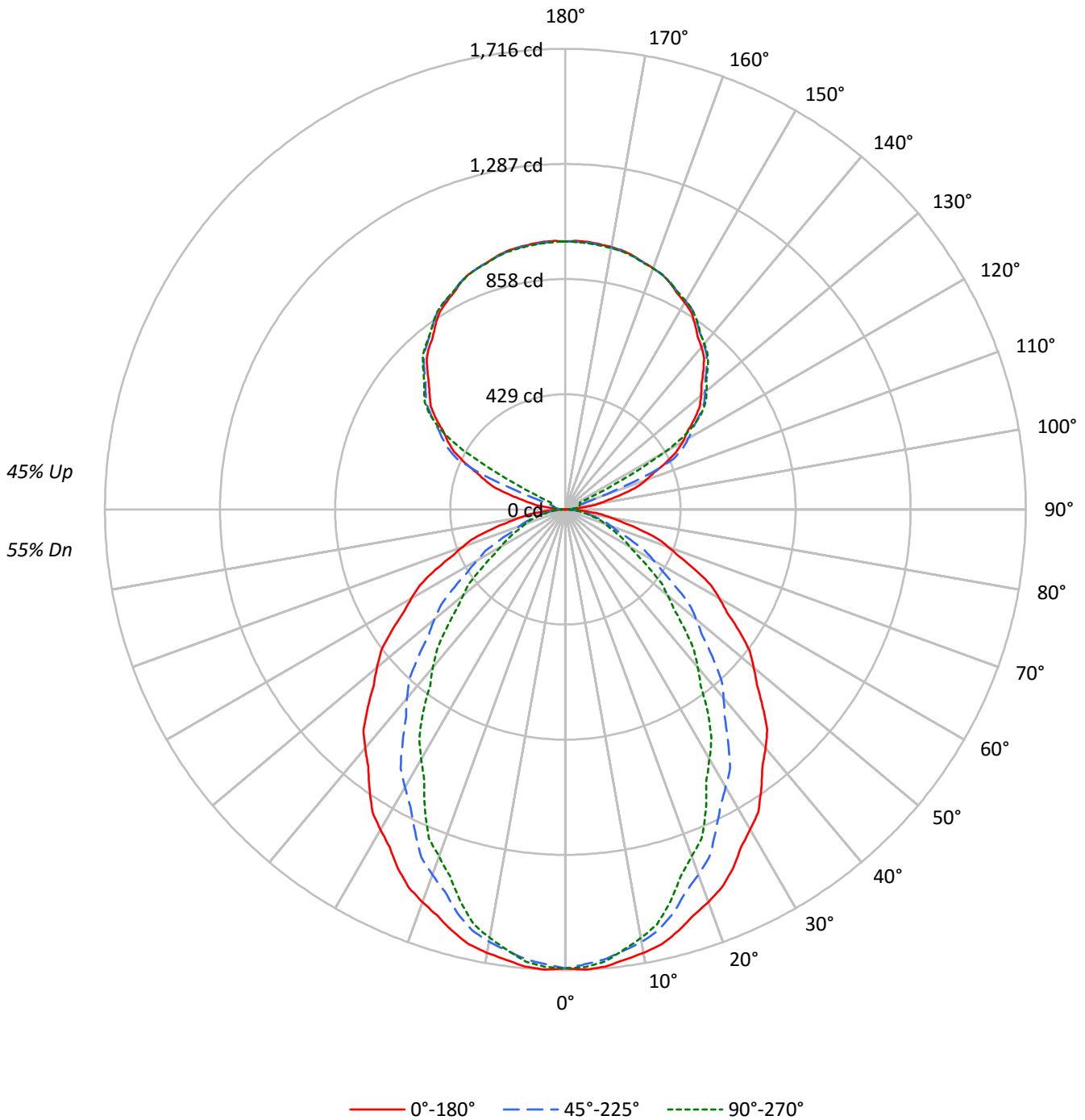
Lumens per Lamp: N/A  
Luminaire Lumens: 6445.5 lumens  
Efficiency: N/A  
Efficacy: 106.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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



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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	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60	55
1	99	95	91	88	92	89	85	82	76	74	72	65	63	62	54	53	52	47
2	91	84	78	73	84	78	73	69	67	63	60	57	55	52	48	46	45	40
3	83	74	67	61	77	69	63	58	60	55	51	51	48	45	43	41	39	35
4	76	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34	30
5	70	59	51	45	65	55	48	43	48	43	38	42	37	34	35	32	30	27
6	65	53	45	40	60	50	43	38	44	38	34	38	33	30	32	29	26	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	26	24	21
8	56	44	36	31	52	41	34	30	36	31	27	32	27	24	27	24	21	19
9	52	40	33	28	49	38	31	27	33	28	24	29	25	22	25	22	19	17
10	49	37	30	25	46	35	28	24	31	26	22	27	23	20	24	20	18	16

**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



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.1	2.5
10°-20°	439.5	6.8
20°-30°	617.2	9.6
30°-40°	673.0	10.4
40°-50°	618.8	9.6
50°-60°	486.0	7.5
60°-70°	316.9	4.9
70°-80°	163.4	2.5
80°-90°	44.8	0.7
90°-100°	33.3	0.5
100°-110°	122.1	1.9
110°-120°	326.4	5.1
120°-130°	538.9	8.4
130°-140°	573.1	8.9
140°-150°	532.7	8.3
150°-160°	428.3	6.6
160°-170°	276.0	4.3
170°-180°	95.0	1.5
0°-30°	1216.8	18.9
0°-40°	1889.8	29.3
0°-60°	2994.7	46.5
0°-90°	3519.8	54.6
90°-120°	481.9	7.5
90°-150°	2126.5	33.0
90°-180°	2926.0	45.4
0°-180°	6445.5	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	9	14	18	20	5
95°	47	25	28	32	31	57
105°	220	229	44	52	55	235
115°	415	428	446	127	59	409
125°	587	597	610	615	618	523
135°	727	738	745	752	750	561
145°	843	843	854	859	856	527
155°	928	923	930	934	929	428
165°	978	974	976	980	976	276
175°	1000	996	997	1001	995	95
180°	998	998	998	998	998	



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**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	18.1	16.3	14.4	12.5	11.8	12.0	12.3	12.5	12.8	12.7
90°	0.7	2.5	4.2	6.1	7.8	9.3	10.6	11.9	13.1	14.4	15.2
92.5°	14.5	14.4	14.2	14.1	13.9	14.2	14.8	15.5	16.2	16.8	17.2
95°	47.0	41.7	36.4	31.1	25.8	23.6	24.8	26.0	27.1	28.2	29.0
97.5°	93.2	78.3	63.3	48.4	33.4	27.3	29.9	32.5	35.1	37.7	38.4
100°	127.8	105.8	83.9	61.9	39.9	30.3	33.0	35.7	38.5	41.2	42.4
102.5°	166.0	161.4	156.7	152.1	147.3	133.6	110.8	88.0	65.1	42.3	44.0
105°	219.6	224.4	229.2	234.1	238.8	219.3	175.5	131.7	87.9	44.0	45.8
107.5°	280.7	284.6	288.5	292.4	296.3	272.0	219.3	166.8	114.2	61.7	59.9
110°	320.0	323.4	326.8	330.1	333.5	311.9	265.6	219.2	172.8	126.4	110.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	357.0	360.0	362.9	366.0	368.9	364.7	353.3	341.7	330.3	318.8	260.3
115°	415.4	418.1	420.8	423.5	426.3	429.7	433.6	437.7	441.7	445.8	371.4
117.5°	467.6	470.6	473.6	476.7	479.7	482.6	485.4	488.2	490.9	493.7	475.7
120°	505.6	508.1	510.5	512.9	515.3	518.0	520.9	523.7	526.6	529.5	531.4
122.5°	538.1	540.6	543.1	545.6	548.2	551.0	554.2	557.3	560.5	563.6	564.7
125°	587.3	589.4	591.5	593.6	595.6	598.2	601.3	604.3	607.3	610.5	611.6
127.5°	632.0	634.3	636.6	638.8	641.2	643.5	645.8	648.0	650.4	652.6	654.3
130°	660.2	662.9	665.4	667.9	670.6	672.7	674.5	676.2	678.0	679.7	681.6
132.5°	689.1	691.4	693.6	695.7	697.9	699.8	701.7	703.4	705.2	706.9	708.4
135°	726.7	729.3	731.8	734.5	737.0	739.0	740.4	741.8	743.4	744.8	746.4
137.5°	764.8	766.5	768.3	770.1	771.9	773.7	775.3	776.9	778.5	780.2	781.7
140°	789.6	790.8	792.1	793.5	794.7	796.3	798.0	799.8	801.5	803.3	804.8
142.5°	810.4	811.5	812.7	813.9	815.0	816.6	818.6	820.6	822.6	824.7	826.0
145°	843.0	842.8	842.7	842.5	842.4	843.6	846.4	849.1	851.8	854.5	855.8
147.5°	871.5	870.9	870.3	869.7	869.1	870.1	872.8	875.5	878.2	880.9	881.7
150°	890.0	888.9	887.8	886.7	885.4	886.3	888.8	891.3	893.9	896.5	897.5
152.5°	905.5	904.3	903.1	901.8	900.6	901.2	903.6	906.1	908.5	910.9	911.9
155°	928.3	926.9	925.3	923.9	922.5	922.7	924.6	926.6	928.5	930.4	931.4
157.5°	946.0	944.8	943.6	942.4	941.2	941.2	942.6	943.9	945.2	946.6	947.8
160°	956.4	955.4	954.5	953.5	952.6	952.6	953.5	954.5	955.4	956.4	957.5
162.5°	965.7	964.7	963.8	962.8	961.8	961.8	962.6	963.4	964.3	965.1	966.2
165°	978.2	977.1	976.2	975.2	974.2	974.0	974.5	975.0	975.4	975.9	977.0
167.5°	987.3	986.4	985.4	984.5	983.5	983.2	983.7	984.1	984.6	985.0	986.1
170°	992.6	991.6	990.7	989.7	988.8	988.4	988.8	989.1	989.4	989.7	990.8
172.5°	996.0	995.0	994.1	993.1	992.2	991.9	992.2	992.5	992.8	993.1	994.3
175°	1000.5	999.4	998.3	997.1	996.0	995.6	995.9	996.2	996.5	996.9	998.0
177.5°	1001.3	1000.4	999.5	998.6	997.6	997.2	997.3	997.5	997.6	997.7	998.7
180°	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4



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**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°	12.5	12.4	12.3	12.3	12.4	12.4	12.5	12.5
90°	16.1	16.9	17.7	18.2	18.6	18.9	19.2	19.5
92.5°	17.6	18.0	18.4	18.8	18.9	19.1	19.3	19.5
95°	29.8	30.6	31.4	31.7	31.5	31.4	31.2	31.1
97.5°	39.0	39.6	40.3	40.7	40.9	41.1	41.3	41.5
100°	43.7	45.0	46.4	47.2	47.5	47.8	48.1	48.4
102.5°	45.6	47.4	49.0	50.1	50.5	51.0	51.4	51.9
105°	47.6	49.4	51.1	52.3	53.0	53.6	54.2	54.9
107.5°	58.1	56.2	54.5	53.9	54.5	55.2	55.8	56.5
110°	94.3	78.3	62.2	54.5	55.1	55.7	56.5	57.1





TEST NUMBER: P331750-840

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	201.8	143.2	84.6	55.5	56.1	56.7	57.2	57.7
115°	297.1	222.8	148.5	105.4	93.9	82.3	70.8	59.3
117.5°	457.8	439.7	421.7	393.7	355.8	317.8	279.8	241.9
120°	533.4	535.3	537.2	527.4	505.6	484.0	462.3	440.7
122.5°	565.9	567.0	568.3	566.7	562.5	558.3	554.1	549.9
125°	612.7	613.8	614.9	615.7	616.2	616.7	617.1	617.6
127.5°	655.9	657.5	659.1	660.0	660.1	660.2	660.4	660.5
130°	683.3	685.1	686.8	687.6	687.5	687.3	687.1	687.0
132.5°	709.9	711.4	713.0	713.7	713.5	713.4	713.2	713.0
135°	748.0	749.6	751.2	751.8	751.5	751.2	750.8	750.5
137.5°	783.4	784.9	786.5	787.0	786.5	785.9	785.4	784.8
140°	806.2	807.6	809.1	809.4	808.6	807.8	807.0	806.2
142.5°	827.3	828.6	829.9	830.2	829.4	828.6	827.8	827.0
145°	856.9	858.0	859.1	859.2	858.5	857.7	856.9	856.1
147.5°	882.5	883.4	884.2	884.3	883.6	882.9	882.3	881.6
150°	898.4	899.4	900.3	900.4	899.6	898.8	898.0	897.2
152.5°	912.8	913.8	914.8	914.7	913.7	912.6	911.6	910.5
155°	932.4	933.3	934.3	934.1	932.8	931.6	930.3	929.0
157.5°	948.8	949.9	951.0	950.9	949.7	948.4	947.2	945.9
160°	958.4	959.4	960.3	960.2	959.1	958.0	956.8	955.7
162.5°	967.2	968.4	969.5	969.4	968.0	966.5	965.2	963.8
165°	978.2	979.4	980.5	980.5	979.4	978.2	977.0	975.9
167.5°	987.3	988.5	989.6	989.4	988.0	986.5	985.0	983.6
170°	991.9	993.0	994.2	994.0	992.6	991.1	989.7	988.3
172.5°	995.4	996.5	997.6	997.4	996.0	994.6	993.1	991.7
175°	999.2	1000.3	1001.4	1001.2	999.6	997.9	996.3	994.7
177.5°	999.6	1000.5	1001.4	1001.3	1000.1	999.0	997.7	996.6
180°	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4

(END OF REPORT)