

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: P331751-830

Luminaire Tested: **SA2XXRDIP-C1005D725U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331751-830  
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-C1005D725U830-4F0-1E-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**

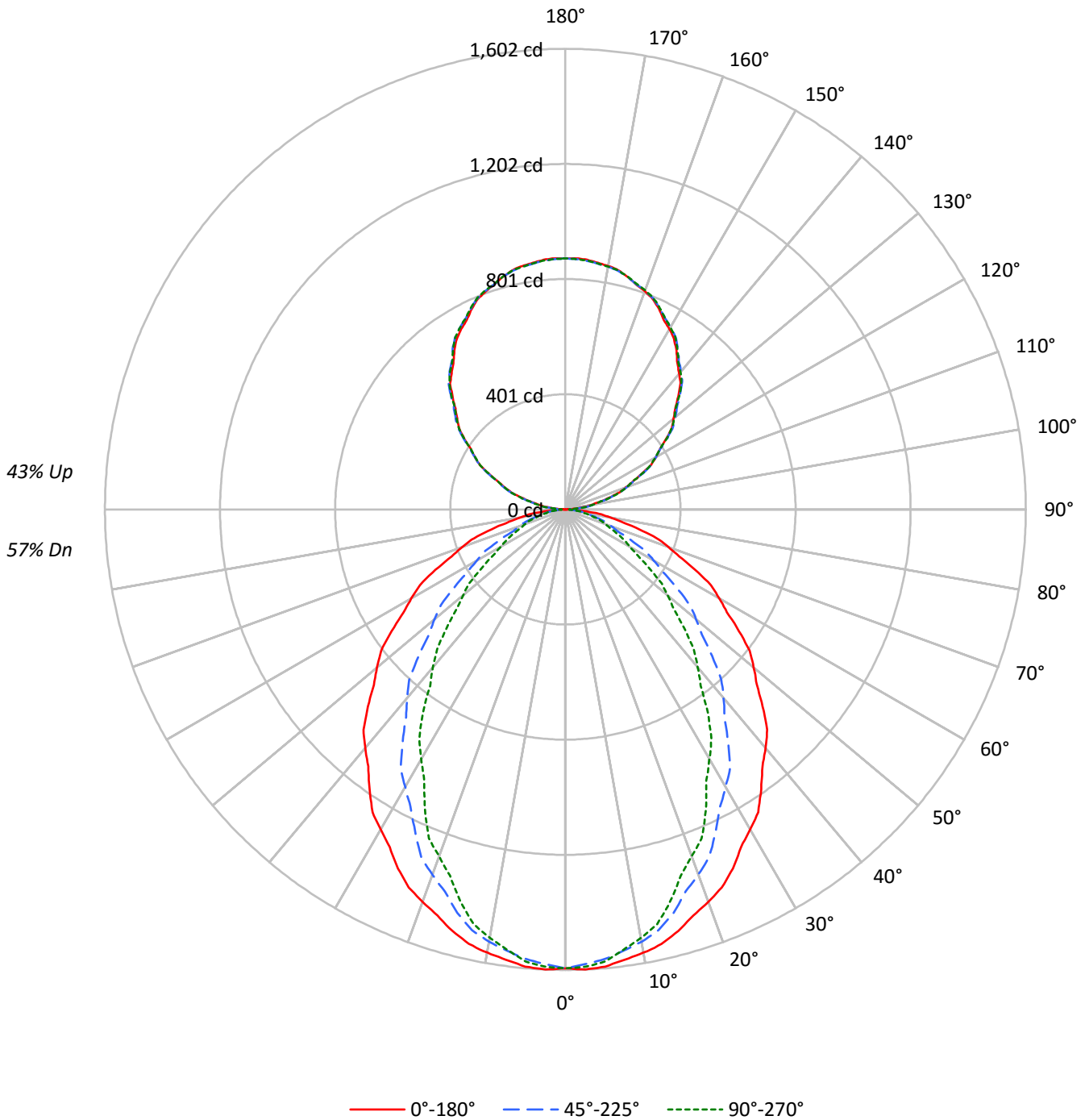
Lumens per Lamp: N/A  
Luminaire Lumens: 5727.5 lumens  
Efficiency: N/A  
Efficacy: 94.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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

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

	0°	45°	90°
0°	25770	25770	25770
5°	25869	25449	25590
10°	25671	25032	24819
15°	25377	24289	23590
20°	24967	23230	22063
25°	24549	22026	20587
30°	23968	20789	18690
35°	23402	19446	17026
40°	22835	18054	15099
45°	22165	16493	13358
50°	21481	14913	11645
55°	20777	13216	10001
60°	19963	11428	8302
65°	19037	9605	7561
70°	17934	7912	6954
75°	16581	7211	6488
80°	14635	6453	5904
85°	11504	5076	5076



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.4	2.6
10°-20°	410.2	7.2
20°-30°	576.1	10.1
30°-40°	628.2	11.0
40°-50°	577.6	10.1
50°-60°	453.6	7.9
60°-70°	295.8	5.2
70°-80°	152.5	2.7
80°-90°	43.0	0.8
90°-100°	55.3	1.0
100°-110°	171.8	3.0
110°-120°	293.7	5.1
120°-130°	386.2	6.7
130°-140°	433.5	7.6
140°-150°	425.0	7.4
150°-160°	356.5	6.2
160°-170°	236.5	4.1
170°-180°	82.6	1.4
0°-30°	1135.7	19.8
0°-40°	1763.9	30.8
0°-60°	2795.1	48.8
0°-90°	3286.4	57.4
90°-120°	520.8	9.1
90°-150°	1765.5	30.8
90°-180°	2441.0	42.6
0°-180°	5727.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1596	1596	1596	1596	1596	
5°	1596	1588	1570	1582	1579	151
15°	1518	1500	1453	1426	1411	427
25°	1378	1329	1236	1179	1156	633
35°	1187	1111	987	899	864	743
45°	971	871	722	623	585	749
55°	738	623	470	386	355	659
65°	498	381	251	205	198	494
75°	266	168	116	106	104	281
85°	62	33	27	27	27	73
90°	1	10	26	24	25	5
95°	38	45	47	47	46	44
105°	158	161	162	163	164	167
115°	295	299	298	297	295	291
125°	429	435	433	431	430	383
135°	555	562	564	564	561	428
145°	673	678	683	683	681	421
155°	770	772	774	778	776	354
165°	838	837	837	842	838	236
175°	872	869	868	872	869	83
180°	873	873	873	873	873	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1
2.5°	1601.9	1600.6	1599.3	1598.1	1596.8	1594.7	1591.9	1589.1	1586.3	1583.5	1586.0
5°	1596.1	1594.5	1592.9	1591.3	1589.7	1586.9	1582.6	1578.5	1574.3	1570.2	1573.0
7.5°	1579.7	1577.7	1575.7	1573.7	1571.7	1568.3	1563.4	1558.5	1553.7	1548.8	1549.6
10°	1565.8	1563.6	1561.3	1559.1	1556.8	1552.5	1546.1	1539.6	1533.2	1526.8	1525.9
12.5°	1548.5	1545.7	1542.9	1540.2	1537.5	1531.9	1523.7	1515.5	1507.3	1499.1	1497.3
15°	1518.2	1514.6	1511.1	1507.5	1504.0	1496.8	1485.9	1475.0	1464.1	1453.1	1447.1
17.5°	1480.8	1475.5	1470.1	1464.7	1459.3	1449.6	1435.6	1421.6	1407.6	1393.6	1386.4
20°	1453.1	1446.7	1440.3	1433.9	1427.5	1416.3	1400.1	1384.1	1368.1	1352.0	1344.0
22.5°	1423.1	1415.9	1408.7	1401.6	1394.3	1381.7	1363.6	1345.5	1327.4	1309.3	1298.9
25°	1378.0	1367.7	1357.4	1347.2	1336.9	1321.3	1300.0	1278.8	1257.6	1236.4	1223.3
27.5°	1323.7	1312.6	1301.4	1290.2	1279.0	1261.5	1237.7	1213.7	1189.9	1166.0	1150.7
30°	1285.6	1273.4	1261.2	1249.0	1236.8	1217.9	1192.1	1166.5	1140.9	1115.1	1098.7
32.5°	1248.6	1234.4	1220.1	1205.9	1191.6	1171.4	1145.2	1119.0	1092.8	1066.6	1047.9
35°	1187.3	1171.0	1154.6	1138.2	1121.9	1099.6	1071.3	1043.1	1014.8	986.6	966.4
37.5°	1126.1	1108.1	1090.1	1072.1	1054.2	1030.2	1000.0	970.0	939.8	909.7	887.5
40°	1083.4	1064.1	1044.8	1025.6	1006.4	981.1	950.0	918.9	887.7	856.6	833.8
42.5°	1039.4	1019.2	998.9	978.5	958.3	932.1	899.9	867.7	835.6	803.4	779.9
45°	970.7	949.1	927.7	906.2	884.7	857.1	823.3	789.7	755.9	722.3	699.5
47.5°	903.6	880.9	858.1	835.3	812.5	783.7	748.9	714.1	679.3	644.5	621.9
50°	855.2	832.4	809.5	786.7	763.9	734.9	699.6	664.3	629.0	593.7	571.6
52.5°	807.8	783.9	760.2	736.3	712.5	683.3	648.8	614.3	579.7	545.2	523.8
55°	738.1	713.1	688.1	663.0	638.0	608.1	573.4	538.8	504.2	469.5	450.2
57.5°	666.8	641.1	615.4	589.7	564.0	534.5	501.2	467.9	434.6	401.2	383.6
60°	618.2	592.6	566.8	541.2	515.5	486.2	453.1	420.0	386.9	353.9	337.5
62.5°	570.9	545.2	519.5	493.8	468.2	439.5	408.0	376.5	345.0	313.5	297.8
65°	498.3	472.3	446.4	420.4	394.4	366.9	338.0	309.2	280.2	251.4	240.4
67.5°	428.4	402.7	376.8	351.0	325.2	299.3	273.3	247.3	221.3	195.3	190.3
70°	379.9	354.9	329.8	304.8	279.7	256.2	234.0	211.9	189.7	167.6	164.4
72.5°	333.7	309.6	285.7	261.6	237.6	216.7	199.0	181.2	163.3	145.6	142.9
75°	265.8	243.3	220.8	198.4	175.9	159.2	148.3	137.4	126.5	115.6	113.3
77.5°	199.1	179.4	159.7	140.0	120.2	107.7	102.5	97.2	91.9	86.7	85.4
80°	157.4	141.1	124.7	108.3	92.0	82.2	79.0	75.8	72.6	69.4	68.1
82.5°	119.3	106.5	93.8	81.0	68.2	60.7	58.5	56.4	54.2	52.0	51.3
85°	62.1	55.3	48.6	41.8	35.2	31.3	30.3	29.4	28.4	27.4	27.4
87.5°	18.7	17.0	15.3	13.7	12.0	11.5	12.3	13.0	13.7	14.4	14.0
90°	0.8	2.7	4.7	6.6	8.6	11.4	15.0	18.6	22.1	25.8	25.4
92.5°	13.1	14.5	16.0	17.4	18.9	20.0	20.8	21.7	22.6	23.5	23.5
95°	38.3	40.0	41.6	43.3	44.9	45.8	46.2	46.5	46.8	47.1	47.1
97.5°	70.0	71.4	72.9	74.3	75.8	76.8	77.4	78.0	78.6	79.3	79.3
100°	93.6	94.9	96.1	97.5	98.8	99.7	100.2	100.7	101.1	101.7	101.7
102.5°	118.3	119.3	120.5	121.5	122.5	123.4	123.9	124.6	125.2	125.8	125.9
105°	158.4	158.9	159.4	159.9	160.3	160.8	161.1	161.5	161.7	162.1	162.4
107.5°	198.8	199.5	200.2	201.0	201.6	202.0	202.0	202.0	202.0	202.0	202.2
110°	224.7	225.6	226.7	227.6	228.7	229.1	229.1	229.1	229.1	229.1	229.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	253.0	254.0	255.0	255.9	256.9	257.3	257.2	257.1	256.9	256.8	256.5
115°	294.7	295.7	296.6	297.7	298.6	299.0	298.6	298.3	297.9	297.7	297.5
117.5°	336.2	337.5	338.8	340.2	341.5	341.7	340.7	339.9	338.9	338.0	337.6
120°	363.9	365.2	366.6	367.9	369.2	369.2	367.9	366.6	365.2	363.9	363.9
122.5°	389.3	390.9	392.5	394.0	395.6	395.9	395.0	394.1	393.1	392.2	391.8
125°	428.8	430.3	431.7	433.2	434.7	435.2	434.7	434.1	433.7	433.2	432.7
127.5°	467.2	469.1	471.0	472.9	474.7	475.3	474.8	474.2	473.5	473.0	472.4
130°	491.4	493.5	495.7	497.8	499.9	500.8	500.5	500.1	499.8	499.5	499.2
132.5°	518.5	520.3	522.0	523.7	525.5	526.3	526.4	526.5	526.5	526.6	525.9
135°	554.8	556.6	558.4	560.2	561.9	563.0	563.4	563.6	564.0	564.3	564.2
137.5°	593.0	594.4	595.9	597.4	598.8	599.7	600.2	600.6	601.1	601.4	601.3
140°	616.0	617.4	618.9	620.3	621.8	622.9	623.8	624.6	625.4	626.2	626.2
142.5°	639.5	640.9	642.4	643.9	645.4	646.4	647.0	647.5	648.1	648.7	648.8
145°	673.4	674.5	675.7	676.8	678.0	679.0	680.0	681.0	681.9	683.0	683.2
147.5°	703.6	704.9	706.3	707.7	709.1	710.1	710.8	711.4	712.1	712.8	713.0
150°	724.2	725.2	726.1	727.2	728.1	729.0	729.6	730.3	730.9	731.6	732.1
152.5°	742.4	743.5	744.4	745.5	746.4	747.2	748.1	748.9	749.6	750.5	751.0
155°	769.9	770.3	770.9	771.4	771.8	772.3	772.8	773.4	773.8	774.3	775.1
157.5°	793.3	793.6	794.0	794.3	794.7	794.9	795.2	795.5	795.8	796.1	797.2
160°	807.5	807.8	808.1	808.4	808.8	809.0	809.2	809.4	809.5	809.6	810.7
162.5°	820.4	820.5	820.6	820.6	820.7	820.8	821.0	821.1	821.3	821.4	822.6
165°	837.6	837.5	837.4	837.2	837.0	836.9	836.9	836.9	836.9	836.9	838.1
167.5°	852.1	851.6	851.1	850.6	850.2	849.9	849.9	849.8	849.8	849.7	850.9
170°	859.8	859.3	858.8	858.3	857.8	857.4	857.3	857.1	857.0	856.8	858.0
172.5°	865.1	864.6	864.1	863.6	863.1	862.8	862.6	862.4	862.3	862.1	863.3
175°	871.6	871.1	870.5	870.1	869.6	869.2	868.8	868.6	868.2	867.9	869.0
177.5°	874.2	873.8	873.5	873.0	872.6	872.3	872.0	871.8	871.5	871.3	872.0
180°	873.0	873.0	873.0	873.0	873.0	873.0	873.0	873.0	873.0	873.0	873.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1
2.5°	1588.6	1591.1	1593.7	1594.7	1594.2	1593.7	1593.2	1592.7
5°	1575.9	1578.9	1581.7	1582.6	1581.7	1580.7	1579.8	1578.9
7.5°	1550.4	1551.2	1552.1	1551.7	1550.0	1548.3	1546.7	1545.0
10°	1524.8	1523.9	1523.0	1521.5	1519.6	1517.7	1515.7	1513.8
12.5°	1495.6	1493.8	1492.1	1489.7	1486.5	1483.3	1480.1	1476.9
15°	1441.0	1434.8	1428.7	1424.1	1420.9	1417.7	1414.5	1411.3
17.5°	1379.1	1371.9	1364.6	1358.2	1352.7	1347.2	1341.6	1336.1
20°	1336.0	1327.9	1319.9	1312.4	1305.3	1298.3	1291.2	1284.1
22.5°	1288.6	1278.3	1267.9	1260.1	1254.9	1249.6	1244.3	1239.1
25°	1210.1	1197.0	1183.8	1174.9	1170.0	1165.2	1160.4	1155.6
27.5°	1135.3	1119.9	1104.6	1093.1	1085.4	1077.8	1070.2	1062.5
30°	1082.4	1066.0	1049.6	1037.2	1028.5	1019.8	1011.2	1002.5
32.5°	1029.3	1010.6	991.8	978.5	970.3	962.1	953.9	945.8
35°	946.1	926.0	905.7	892.0	885.0	877.9	870.8	863.8
37.5°	865.2	842.9	820.6	805.4	797.4	789.3	781.2	773.1
40°	811.0	788.2	765.4	749.9	741.5	733.1	724.8	716.4
42.5°	756.3	732.7	709.2	693.3	685.2	677.1	669.1	661.0
45°	676.7	653.8	631.0	615.9	608.1	600.4	592.7	585.0
47.5°	599.2	576.6	553.8	539.0	532.1	525.1	518.0	511.0
50°	549.4	527.3	505.1	490.6	483.9	477.1	470.4	463.6
52.5°	502.4	481.0	459.7	445.8	439.6	433.4	427.2	420.9
55°	430.9	411.7	392.4	379.8	373.6	367.5	361.5	355.3
57.5°	366.0	348.3	330.6	319.2	314.1	309.0	303.9	298.7
60°	321.1	304.8	288.4	277.7	272.5	267.4	262.2	257.1
62.5°	282.3	266.6	251.1	241.7	238.7	235.5	232.4	229.4
65°	229.5	218.6	207.6	201.7	200.8	199.8	198.9	197.9
67.5°	185.3	180.3	175.2	172.2	171.3	170.2	169.2	168.1
70°	161.2	158.0	154.8	152.5	151.2	149.9	148.6	147.3
72.5°	140.3	137.5	134.8	133.1	132.3	131.6	130.7	130.0
75°	111.0	108.9	106.6	105.3	105.0	104.6	104.3	104.0
77.5°	84.1	82.8	81.5	80.6	80.1	79.6	79.1	78.6
80°	66.7	65.5	64.2	63.5	63.5	63.5	63.5	63.5
82.5°	50.4	49.7	48.9	48.5	48.5	48.5	48.5	48.5
85°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
87.5°	13.8	13.5	13.1	13.0	13.0	13.0	13.1	13.1
90°	25.2	24.8	24.5	24.4	24.6	24.7	24.9	25.1
92.5°	23.6	23.7	23.7	23.8	23.8	23.8	23.8	23.8
95°	47.1	47.1	47.1	47.0	46.7	46.4	46.0	45.7
97.5°	79.3	79.3	79.3	79.3	79.3	79.2	79.2	79.1
100°	101.7	101.7	101.7	101.6	101.4	101.2	101.1	100.9
102.5°	126.1	126.2	126.4	126.3	126.2	126.0	125.8	125.6
105°	162.8	163.1	163.4	163.5	163.5	163.5	163.5	163.5
107.5°	202.3	202.4	202.6	202.3	201.5	200.8	200.0	199.3
110°	229.1	229.1	229.1	228.8	228.4	227.9	227.4	226.9





TEST NUMBER: P331751-830

CATALOG NUMBER: SA2XXRDIP-C1005D725U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	256.0	255.6	255.2	254.9	254.5	254.1	253.8	253.4
115°	297.3	297.2	297.0	296.6	296.1	295.7	295.2	294.7
117.5°	337.2	336.9	336.4	336.0	335.5	335.0	334.5	334.0
120°	363.9	363.9	363.9	363.7	363.2	362.7	362.2	361.7
122.5°	391.4	391.1	390.7	390.3	389.9	389.6	389.2	388.9
125°	432.3	431.7	431.2	430.9	430.7	430.6	430.5	430.3
127.5°	471.8	471.2	470.6	470.0	469.6	469.0	468.5	468.0
130°	498.9	498.5	498.2	497.7	497.0	496.4	495.8	495.1
132.5°	525.2	524.4	523.8	523.1	522.5	522.1	521.5	521.0
135°	564.0	563.8	563.6	563.4	562.9	562.4	561.8	561.4
137.5°	601.2	601.1	601.0	600.6	599.9	599.3	598.6	597.9
140°	626.2	626.2	626.2	625.8	625.3	624.6	624.0	623.3
142.5°	648.8	649.0	649.1	648.8	648.2	647.5	647.0	646.3
145°	683.2	683.4	683.6	683.3	682.7	682.0	681.4	680.7
147.5°	713.4	713.8	714.2	714.1	713.4	712.8	712.2	711.5
150°	732.5	733.0	733.6	733.6	733.0	732.5	732.1	731.6
152.5°	751.7	752.3	752.9	752.9	752.3	751.7	751.0	750.5
155°	775.9	776.7	777.6	777.8	777.2	776.7	776.3	775.8
157.5°	798.3	799.5	800.6	800.7	799.9	799.2	798.3	797.6
160°	811.6	812.7	813.6	813.8	813.1	812.5	811.8	811.2
162.5°	823.7	824.8	826.0	826.0	825.3	824.5	823.7	822.9
165°	839.2	840.4	841.5	841.7	840.8	840.0	839.2	838.4
167.5°	852.1	853.2	854.3	854.5	853.7	852.8	852.0	851.1
170°	859.1	860.3	861.4	861.5	860.5	859.5	858.6	857.5
172.5°	864.4	865.5	866.7	866.8	865.8	864.8	863.8	862.9
175°	870.2	871.3	872.4	872.5	871.6	870.5	869.6	868.6
177.5°	872.8	873.6	874.4	874.4	873.6	872.8	872.0	871.3
180°	873.0	873.0	873.0	873.0	873.0	873.0	873.0	873.0

(END OF REPORT)