

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: P331445-830

Luminaire Tested: **SA2XXDIP-C1005D725U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331445-830  
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: SA2XXDIP-C1005D725U830-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

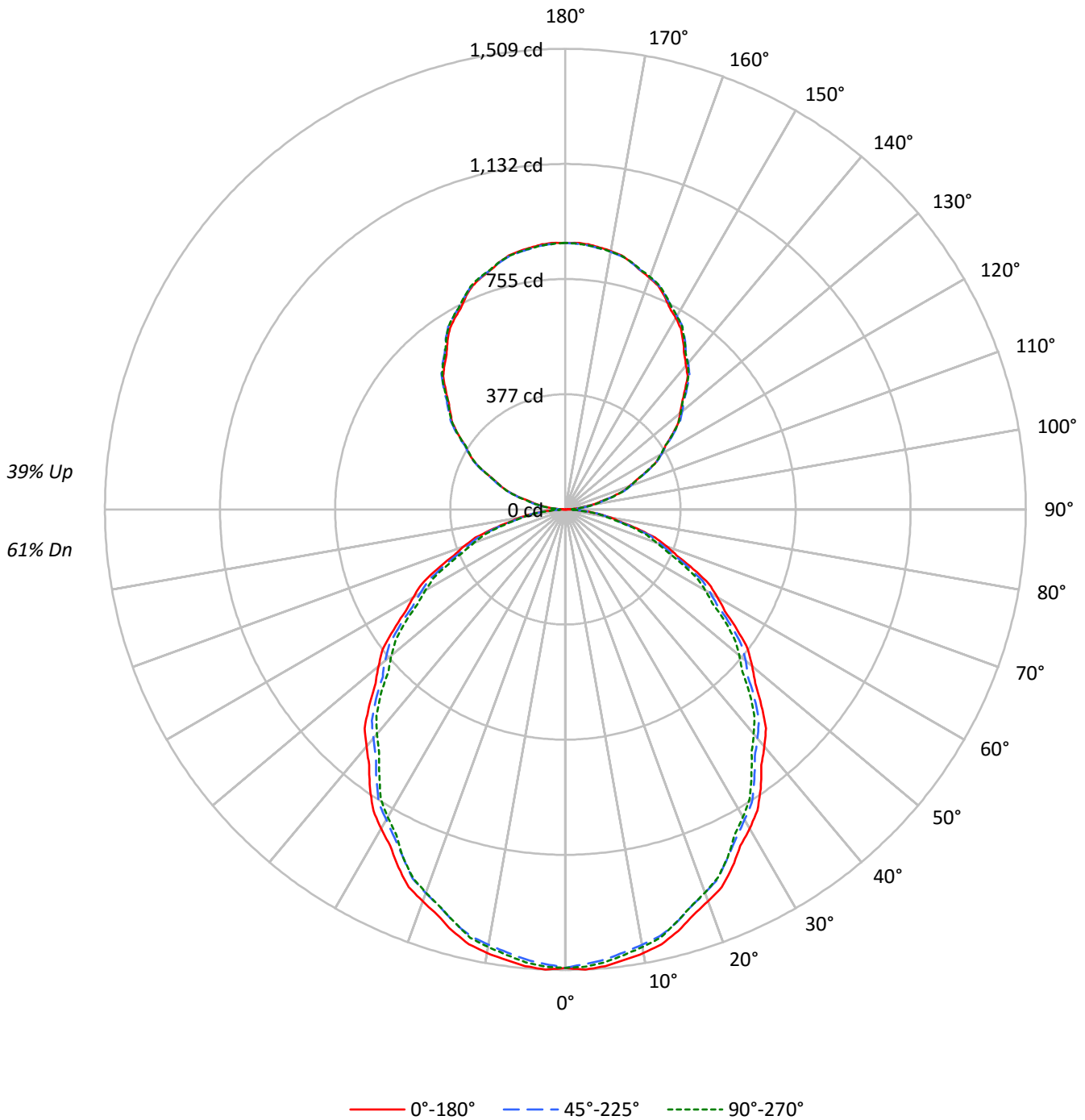
Lumens per Lamp: N/A  
Luminaire Lumens: 6266.6 lumens  
Efficiency: N/A  
Efficacy: 103.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66	61
1	100	96	92	88	94	90	86	83	79	76	74	68	66	64	59	57	56	51
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	49	47	43
3	83	74	66	60	78	69	63	57	61	56	51	53	49	46	46	43	40	36
4	76	65	57	51	71	61	54	49	54	48	44	47	43	39	41	37	35	31
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33	38	34	30	33	30	27	24
7	60	47	39	33	56	45	37	32	40	34	29	35	30	26	31	27	24	21
8	56	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21	19
9	52	39	32	27	48	37	30	25	33	27	23	29	25	21	26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21	27	23	19	24	20	17	16

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

	0°	45°	90°
0°	24254	24254	24254
5°	24347	23995	24136
10°	24202	23753	23871
15°	23903	23445	23422
20°	23479	22983	22957
25°	23058	22413	22413
30°	22514	21893	21705
35°	22007	21268	20954
40°	21372	20643	20244
45°	20747	20021	19527
50°	20065	19376	18686
55°	19356	18624	17931
60°	18564	17725	17073
65°	17712	16829	16061
70°	16636	15753	15002
75°	15140	14504	14148
80°	13436	13036	12357
85°	10967	10448	9355



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.3	2.3
10°-20°	397.5	6.3
20°-30°	584.2	9.3
30°-40°	678.6	10.8
40°-50°	677.9	10.8
50°-60°	591.2	9.4
60°-70°	437.1	7.0
70°-80°	247.6	4.0
80°-90°	70.1	1.1
90°-100°	55.3	0.9
100°-110°	171.8	2.7
110°-120°	293.7	4.7
120°-130°	386.2	6.2
130°-140°	433.5	6.9
140°-150°	425.0	6.8
150°-160°	356.5	5.7
160°-170°	236.5	3.8
170°-180°	82.6	1.3
0°-30°	1123.0	17.9
0°-40°	1801.6	28.7
0°-60°	3070.7	49.0
0°-90°	3825.4	61.0
90°-120°	520.8	8.3
90°-150°	1765.5	28.2
90°-180°	2441.0	39.0
0°-180°	6266.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1502	1502	1502	1502	1502	
5°	1502	1496	1480	1491	1489	142
15°	1430	1421	1403	1408	1401	402
25°	1294	1282	1258	1261	1258	595
35°	1116	1102	1079	1070	1063	697
45°	909	898	877	862	855	701
55°	688	678	662	645	637	615
65°	464	455	440	428	420	458
75°	243	240	232	225	227	259
85°	59	58	56	52	50	68
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°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2
2.5°	1509.2	1507.9	1506.7	1505.3	1504.0	1502.0	1499.2	1496.4	1493.6	1490.7	1493.3
5°	1502.2	1501.0	1499.7	1498.4	1497.1	1494.7	1491.2	1487.6	1484.1	1480.5	1483.2
7.5°	1488.9	1487.0	1485.0	1483.0	1481.0	1478.2	1474.6	1471.0	1467.4	1463.9	1466.4
10°	1476.2	1474.0	1471.8	1469.5	1467.3	1464.2	1460.4	1456.5	1452.6	1448.8	1451.4
12.5°	1459.0	1456.9	1454.9	1452.9	1451.0	1448.0	1444.2	1440.3	1436.5	1432.7	1434.5
15°	1430.0	1428.1	1426.2	1424.3	1422.3	1419.3	1415.1	1410.9	1406.7	1402.6	1403.9
17.5°	1393.1	1391.1	1389.2	1387.2	1385.3	1382.2	1378.0	1373.8	1369.5	1365.4	1366.8
20°	1366.5	1364.5	1362.6	1360.7	1358.8	1355.6	1351.0	1346.6	1342.1	1337.6	1338.5
22.5°	1339.9	1337.2	1334.5	1331.8	1329.1	1325.7	1321.4	1317.2	1313.0	1308.7	1308.9
25°	1294.3	1291.7	1289.1	1286.6	1284.0	1280.0	1274.5	1269.0	1263.6	1258.1	1258.8
27.5°	1242.3	1239.9	1237.7	1235.3	1233.0	1229.7	1225.4	1221.1	1216.8	1212.5	1211.5
30°	1207.6	1205.0	1202.4	1199.9	1197.3	1193.6	1188.8	1184.0	1179.2	1174.3	1173.4
32.5°	1170.6	1168.6	1166.5	1164.4	1162.3	1158.9	1153.8	1148.7	1143.6	1138.5	1136.8
35°	1116.5	1113.3	1110.1	1106.9	1103.7	1099.6	1094.4	1089.3	1084.2	1079.0	1077.1
37.5°	1055.6	1052.8	1050.0	1047.2	1044.3	1040.4	1035.2	1030.1	1024.9	1019.8	1017.4
40°	1014.0	1011.4	1008.9	1006.4	1003.7	999.9	994.8	989.7	984.5	979.4	976.5
42.5°	973.6	971.0	968.5	965.9	963.3	959.4	954.3	949.1	944.1	938.9	935.8
45°	908.6	906.3	904.1	901.8	899.6	896.1	891.3	886.5	881.7	876.8	873.3
47.5°	843.9	841.8	839.6	837.5	835.4	831.8	826.8	821.8	816.8	811.8	808.0
50°	798.8	797.2	795.6	794.0	792.4	789.3	784.9	780.3	775.8	771.4	766.9
52.5°	754.9	752.8	750.6	748.6	746.4	743.2	739.0	734.7	730.6	726.3	722.6
55°	687.6	685.6	683.7	681.8	679.9	676.9	673.2	669.3	665.4	661.6	657.7
57.5°	620.0	618.4	616.9	615.4	613.8	611.0	606.7	602.5	598.2	594.0	590.2
60°	574.9	573.6	572.3	571.1	569.8	566.8	562.4	557.9	553.4	548.9	545.4
62.5°	531.0	529.0	526.9	524.8	522.7	520.0	516.5	513.1	509.6	506.1	502.8
65°	463.6	461.8	459.9	457.9	456.0	453.4	450.2	447.0	443.7	440.5	437.7
67.5°	395.2	393.7	392.1	390.6	389.1	386.8	383.9	381.1	378.1	375.3	373.1
70°	352.4	351.2	349.9	348.6	347.3	345.3	342.3	339.4	336.6	333.7	331.4
72.5°	308.5	307.3	305.9	304.7	303.4	301.8	300.0	298.1	296.2	294.4	292.1
75°	242.7	242.0	241.4	240.7	240.1	238.9	237.3	235.7	234.1	232.5	230.6
77.5°	183.7	182.7	181.5	180.5	179.4	178.5	177.9	177.2	176.5	176.0	174.9
80°	144.5	144.1	143.8	143.5	143.2	142.7	142.0	141.4	140.7	140.2	139.1
82.5°	107.4	107.4	107.4	107.3	107.2	107.0	106.6	106.2	105.8	105.5	104.2
85°	59.2	58.9	58.6	58.2	58.0	57.6	57.3	56.9	56.6	56.4	55.3
87.5°	20.9	20.8	20.7	20.5	20.5	20.5	20.7	20.9	21.1	21.3	20.5
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°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2
2.5°	1495.8	1498.4	1501.0	1502.0	1501.5	1501.0	1500.4	1500.0
5°	1485.7	1488.3	1490.8	1491.9	1491.2	1490.5	1489.9	1489.2
7.5°	1469.0	1471.5	1474.1	1475.1	1474.3	1473.7	1472.9	1472.3
10°	1454.0	1456.5	1459.1	1459.9	1459.0	1457.9	1457.0	1456.0
12.5°	1436.2	1438.0	1439.8	1440.4	1439.6	1439.0	1438.2	1437.6
15°	1405.1	1406.5	1407.7	1407.6	1406.0	1404.4	1402.8	1401.2
17.5°	1368.3	1369.8	1371.2	1371.2	1369.6	1368.1	1366.6	1365.0
20°	1339.5	1340.5	1341.4	1341.2	1340.0	1338.7	1337.5	1336.1
22.5°	1309.1	1309.3	1309.5	1309.2	1308.4	1307.7	1306.8	1306.1
25°	1259.4	1260.1	1260.7	1260.7	1260.1	1259.4	1258.8	1258.1
27.5°	1210.6	1209.6	1208.6	1207.4	1205.9	1204.3	1202.8	1201.3
30°	1172.4	1171.5	1170.5	1169.4	1168.1	1166.8	1165.5	1164.2
32.5°	1135.1	1133.3	1131.6	1130.1	1128.8	1127.6	1126.2	1124.9
35°	1075.2	1073.3	1071.3	1069.6	1068.0	1066.4	1064.7	1063.1
37.5°	1015.0	1012.7	1010.3	1008.3	1006.8	1005.2	1003.7	1002.2
40°	973.6	970.7	967.8	965.7	964.4	963.2	961.9	960.5
42.5°	932.6	929.4	926.3	923.9	922.1	920.3	918.5	916.6
45°	869.8	866.2	862.7	860.3	858.9	857.7	856.4	855.2
47.5°	804.4	800.6	796.9	794.1	792.2	790.4	788.5	786.6
50°	762.3	757.9	753.4	750.4	748.8	747.2	745.6	743.9
52.5°	718.9	715.1	711.4	708.5	706.3	704.3	702.1	700.0
55°	653.8	650.0	646.2	643.5	641.9	640.3	638.7	637.0
57.5°	586.4	582.6	578.8	576.3	575.1	573.9	572.7	571.5
60°	541.9	538.3	534.8	532.5	531.6	530.7	529.6	528.7
62.5°	499.6	496.3	493.0	490.8	489.6	488.3	487.1	485.9
65°	434.8	431.9	429.0	426.8	425.2	423.6	422.0	420.4
67.5°	370.8	368.5	366.3	364.5	363.3	361.9	360.7	359.4
70°	329.1	327.0	324.7	322.9	321.6	320.4	319.1	317.8
72.5°	289.9	287.7	285.4	283.8	282.8	281.7	280.7	279.7
75°	228.8	226.8	224.9	224.2	224.9	225.5	226.1	226.8
77.5°	174.0	173.1	172.1	171.2	170.2	169.4	168.4	167.6
80°	138.2	137.2	136.3	135.4	134.8	134.2	133.6	132.9
82.5°	103.0	101.8	100.6	99.9	99.7	99.6	99.5	99.3
85°	54.4	53.4	52.5	51.8	51.6	51.2	50.9	50.5
87.5°	19.7	18.9	18.0	17.4	17.2	17.1	16.8	16.6
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: P331445-830

CATALOG NUMBER: SA2XXDIP-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)