

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: P331435-830

Luminaire Tested: **SA2XXDIP-C1005D530U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331435-830
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: SA2XXDIP-C1005D530U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5815.8 lumens
Efficiency: N/A
Efficacy: 105.5 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: Semi-Direct

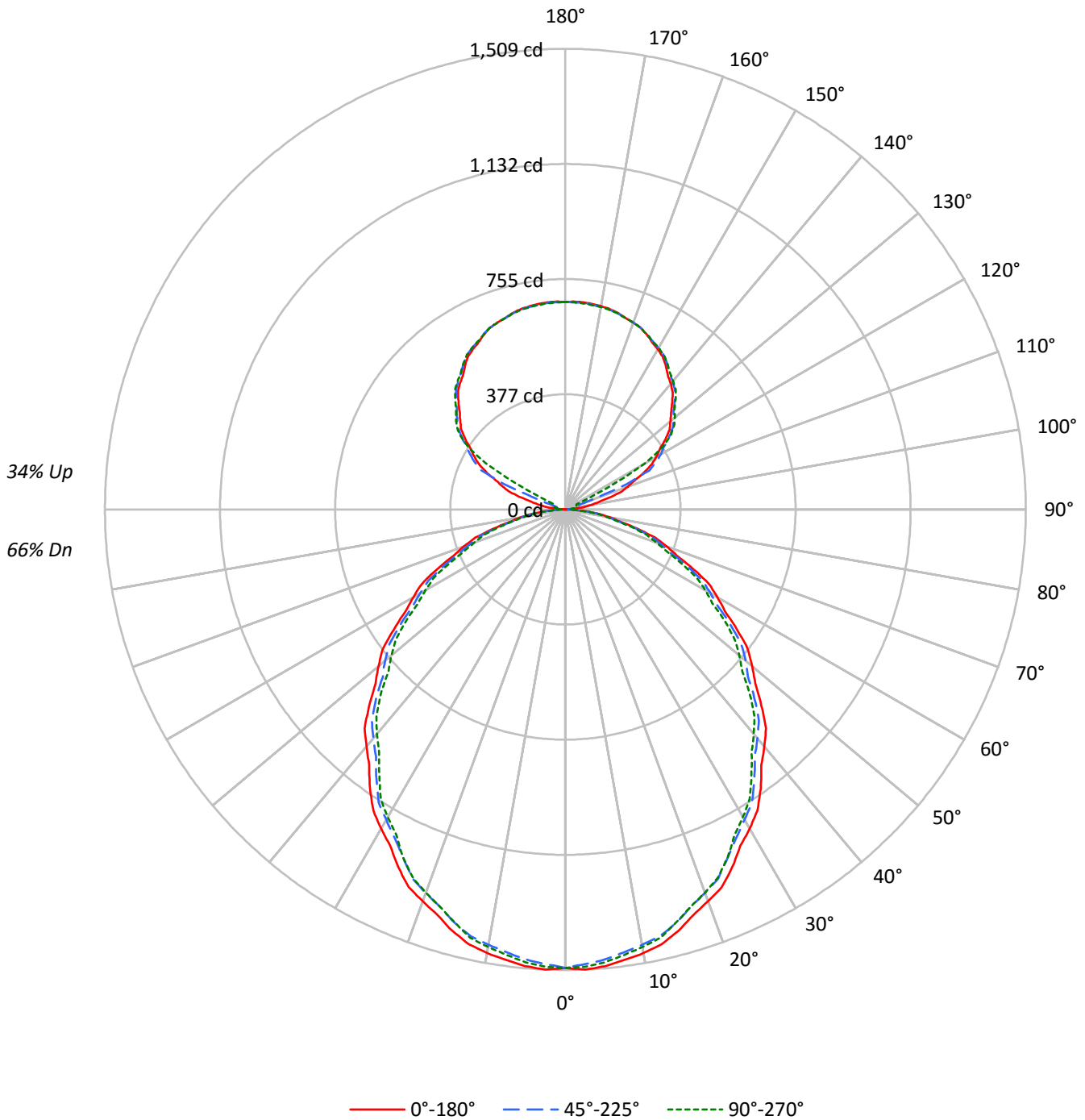
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66
1	101	97	93	89	95	91	88	85	81	78	76	71	69	67	62	61	60	55
2	92	85	78	73	87	80	74	70	71	67	63	63	59	56	55	52	50	46
3	84	74	67	61	79	70	64	58	63	57	53	55	51	48	49	46	43	39
4	77	66	58	52	72	62	55	49	56	50	45	49	45	41	44	40	37	34
5	71	59	51	44	66	56	48	43	50	44	39	44	39	36	39	35	32	29
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	32	28	26
7	61	48	40	34	57	45	38	33	41	35	30	37	32	28	33	28	25	23
8	56	44	36	30	53	41	34	29	37	31	27	34	28	25	30	26	23	20
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	28	24	20	18
10	49	37	29	24	46	35	28	24	32	26	22	29	24	20	26	22	19	17

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	2.4
10°-20°	397.5	6.8
20°-30°	584.2	10.0
30°-40°	678.6	11.7
40°-50°	677.9	11.7
50°-60°	591.2	10.2
60°-70°	437.1	7.5
70°-80°	247.6	4.3
80°-90°	68.3	1.2
90°-100°	22.7	0.4
100°-110°	83.2	1.4
110°-120°	222.3	3.8
120°-130°	366.9	6.3
130°-140°	390.2	6.7
140°-150°	362.7	6.2
150°-160°	291.6	5.0
160°-170°	187.9	3.2
170°-180°	64.7	1.1
0°-30°	1123.0	19.3
0°-40°	1801.6	31.0
0°-60°	3070.7	52.8
0°-90°	3823.6	65.7
90°-120°	328.1	5.6
90°-150°	1447.9	24.9
90°-180°	1992.0	34.3
0°-180°	5815.8	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°	0	6	10	12	13	4
95°	32	17	19	22	21	39
105°	150	156	30	35	37	160
115°	283	291	304	86	40	278
125°	400	406	416	419	421	356
135°	495	502	507	512	511	382
145°	574	574	582	585	583	359
155°	632	628	634	636	632	291
165°	666	663	664	668	664	188
175°	681	678	679	682	677	65
180°	680	680	680	680	680	



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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	20.6	20.4	20.1	19.8	19.5	19.1	18.9	18.5	18.2	17.5
90°	0.5	1.7	2.9	4.1	5.3	6.3	7.3	8.1	9.0	9.8	10.4
92.5°	9.9	9.8	9.7	9.6	9.5	9.7	10.1	10.6	10.9	11.4	11.7
95°	32.0	28.4	24.8	21.1	17.5	16.1	16.9	17.6	18.4	19.2	19.7
97.5°	63.4	53.3	43.2	33.0	22.8	18.6	20.4	22.1	23.9	25.6	26.1
100°	87.1	72.1	57.1	42.1	27.1	20.6	22.4	24.3	26.2	28.0	28.9
102.5°	113.0	109.9	106.7	103.5	100.4	91.0	75.5	59.9	44.4	28.8	30.0
105°	149.5	152.8	156.1	159.4	162.7	149.4	119.5	89.7	59.9	30.0	31.2
107.5°	191.1	193.8	196.4	199.1	201.7	185.1	149.4	113.6	77.8	42.0	40.8
110°	217.9	220.2	222.5	224.8	227.1	212.4	180.9	149.3	117.6	86.1	75.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	243.1	245.2	247.1	249.2	251.2	248.4	240.5	232.7	224.9	217.2	177.2
115°	282.9	284.6	286.5	288.4	290.3	292.6	295.3	298.0	300.8	303.5	252.9
117.5°	318.4	320.5	322.5	324.6	326.7	328.7	330.5	332.4	334.3	336.1	324.0
120°	344.3	345.9	347.6	349.2	350.9	352.7	354.7	356.7	358.5	360.5	361.8
122.5°	366.4	368.1	369.9	371.6	373.2	375.2	377.3	379.5	381.6	383.8	384.6
125°	399.9	401.3	402.7	404.2	405.6	407.4	409.4	411.5	413.6	415.7	416.4
127.5°	430.3	431.9	433.5	435.0	436.6	438.2	439.7	441.3	442.8	444.4	445.4
130°	449.6	451.3	453.1	454.9	456.6	458.1	459.3	460.4	461.7	462.9	464.1
132.5°	469.3	470.7	472.2	473.7	475.2	476.5	477.8	479.0	480.1	481.4	482.4
135°	494.8	496.6	498.3	500.1	501.8	503.2	504.2	505.2	506.1	507.1	508.2
137.5°	520.8	521.9	523.1	524.3	525.6	526.8	527.9	529.0	530.1	531.2	532.3
140°	537.6	538.5	539.4	540.3	541.1	542.2	543.4	544.6	545.7	547.0	548.0
142.5°	551.8	552.6	553.4	554.1	555.0	556.0	557.4	558.7	560.2	561.6	562.4
145°	574.0	573.9	573.8	573.7	573.6	574.5	576.4	578.2	580.0	581.9	582.7
147.5°	593.4	593.0	592.6	592.2	591.7	592.5	594.3	596.2	597.9	599.8	600.4
150°	606.0	605.2	604.5	603.7	602.9	603.4	605.2	606.9	608.7	610.4	611.1
152.5°	616.6	615.8	614.9	614.1	613.2	613.6	615.3	617.0	618.6	620.3	620.9
155°	632.1	631.1	630.1	629.1	628.1	628.3	629.6	630.9	632.3	633.6	634.2
157.5°	644.1	643.4	642.5	641.7	640.8	640.9	641.8	642.7	643.7	644.6	645.3
160°	651.3	650.6	650.0	649.3	648.7	648.7	649.3	650.0	650.6	651.3	652.0
162.5°	657.5	656.9	656.2	655.5	655.0	654.9	655.4	656.0	656.6	657.1	657.9
165°	666.0	665.3	664.7	664.0	663.4	663.3	663.5	663.8	664.2	664.5	665.3
167.5°	672.3	671.7	671.0	670.3	669.7	669.5	669.8	670.1	670.4	670.7	671.5
170°	675.8	675.2	674.6	673.9	673.3	673.0	673.3	673.4	673.6	673.9	674.7
172.5°	678.3	677.6	676.9	676.3	675.6	675.3	675.6	675.8	676.0	676.3	677.0
175°	681.3	680.5	679.8	679.0	678.2	678.0	678.2	678.3	678.5	678.8	679.6
177.5°	681.7	681.2	680.5	680.0	679.3	679.0	679.1	679.2	679.3	679.4	680.0
180°	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8



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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°	16.8	16.1	15.5	15.1	14.9	14.6	14.4	14.2
90°	10.9	11.5	12.1	12.4	12.6	12.8	13.1	13.3
92.5°	12.0	12.3	12.5	12.7	12.9	13.0	13.2	13.3
95°	20.3	20.8	21.4	21.6	21.5	21.4	21.3	21.1
97.5°	26.6	27.0	27.4	27.7	27.8	28.0	28.1	28.3
100°	29.8	30.6	31.6	32.0	32.3	32.5	32.7	33.0
102.5°	31.1	32.2	33.4	34.1	34.4	34.7	35.0	35.3
105°	32.4	33.6	34.8	35.6	36.1	36.5	36.9	37.4
107.5°	39.6	38.4	37.1	36.8	37.1	37.6	38.0	38.5
110°	64.2	53.3	42.3	37.1	37.5	38.0	38.5	38.8



TEST NUMBER: P331435-830

CATALOG NUMBER: SA2XXDIP-C1005D530U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	137.3	97.5	57.6	37.9	38.2	38.5	38.9	39.2
115°	202.3	151.7	101.0	71.8	63.9	56.1	48.2	40.3
117.5°	311.7	299.4	287.2	268.2	242.2	216.4	190.6	164.7
120°	363.2	364.5	365.8	359.1	344.3	329.6	314.8	300.0
122.5°	385.3	386.2	386.9	385.9	383.0	380.1	377.3	374.4
125°	417.2	417.9	418.7	419.2	419.6	419.9	420.3	420.6
127.5°	446.6	447.7	448.8	449.4	449.5	449.6	449.6	449.7
130°	465.2	466.5	467.7	468.3	468.1	468.0	467.9	467.8
132.5°	483.4	484.5	485.5	485.9	485.8	485.7	485.6	485.5
135°	509.3	510.4	511.5	512.0	511.7	511.5	511.3	511.0
137.5°	533.4	534.4	535.6	535.8	535.5	535.1	534.8	534.4
140°	548.9	549.9	550.9	551.1	550.5	550.1	549.5	548.9
142.5°	563.4	564.2	565.1	565.3	564.8	564.2	563.6	563.1
145°	583.4	584.2	584.9	585.0	584.6	584.0	583.4	582.9
147.5°	601.0	601.5	602.1	602.1	601.7	601.2	600.8	600.3
150°	611.7	612.4	613.0	613.1	612.6	612.0	611.4	611.0
152.5°	621.6	622.3	622.9	622.8	622.2	621.4	620.7	620.0
155°	634.9	635.6	636.2	636.0	635.2	634.3	633.5	632.5
157.5°	646.0	646.8	647.5	647.5	646.6	645.7	644.9	644.0
160°	652.5	653.2	653.8	653.8	653.1	652.3	651.5	650.7
162.5°	658.6	659.4	660.2	660.1	659.1	658.2	657.2	656.3
165°	666.1	666.8	667.6	667.6	666.8	666.1	665.3	664.5
167.5°	672.2	673.1	673.8	673.7	672.7	671.8	670.7	669.8
170°	675.4	676.2	676.9	676.8	675.8	674.9	673.9	672.9
172.5°	677.8	678.5	679.3	679.2	678.3	677.2	676.3	675.2
175°	680.3	681.1	681.8	681.7	680.6	679.5	678.4	677.3
177.5°	680.6	681.3	681.8	681.7	681.0	680.1	679.4	678.6
180°	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8

(END OF REPORT)