

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: P331391-830

Luminaire Tested: **SA2XXDIP-C865D530U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331391-830  
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-C865D530U830-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

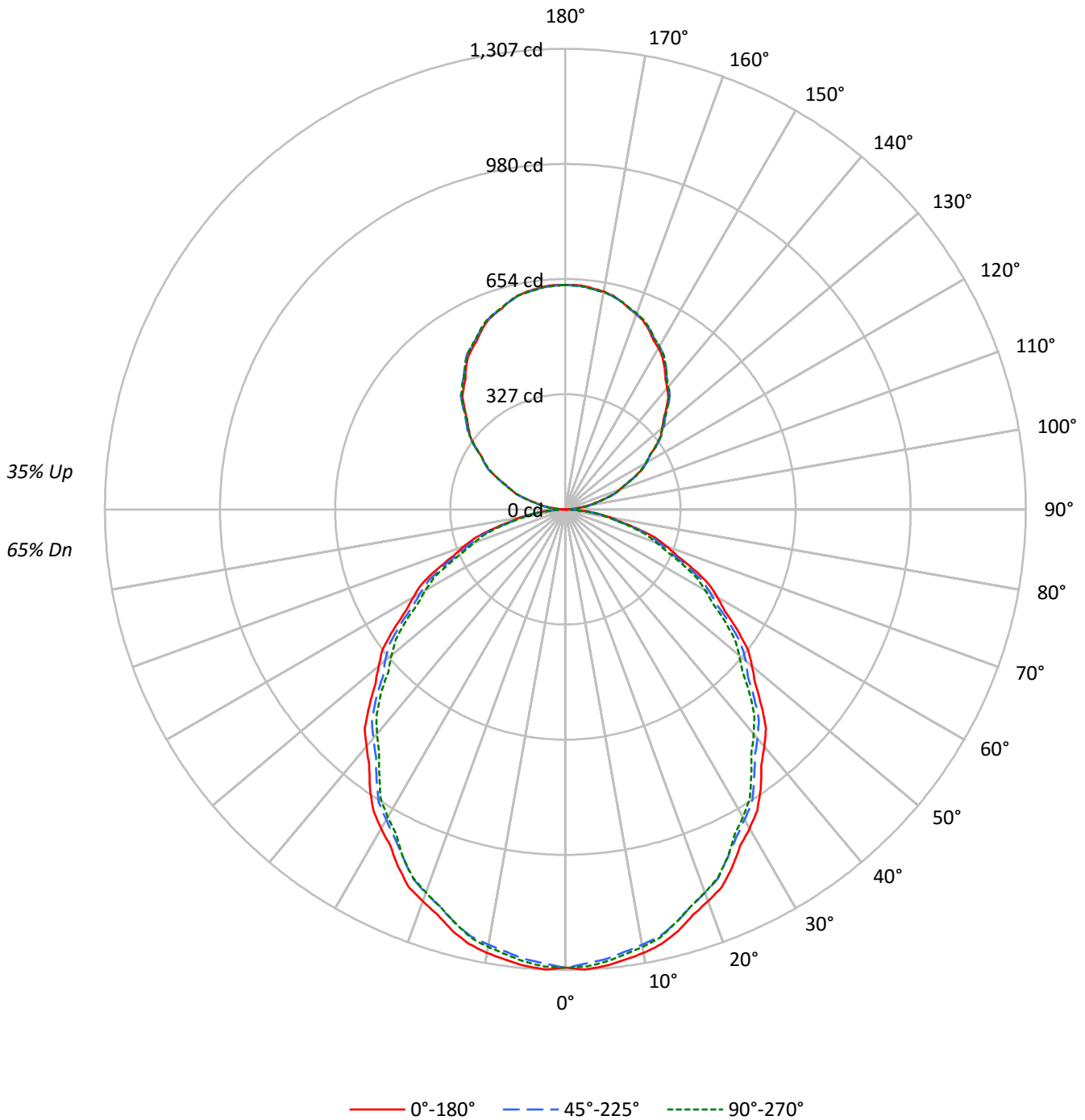
Lumens per Lamp: N/A  
Luminaire Lumens: 5092.7 lumens  
Efficiency: N/A  
Efficacy: 104.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 48.8  
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	80	80	80	70	70	70	65
1	101	97	93	89	95	91	88	84	80	78	75	71	69	67	62	60	59	55
2	92	84	78	73	86	80	74	69	71	66	62	62	59	56	54	52	50	46
3	84	74	67	61	79	70	63	58	62	57	53	55	51	47	48	45	42	39
4	77	66	58	51	72	62	55	49	55	50	45	49	44	41	43	40	37	33
5	71	59	50	44	66	56	48	42	50	44	39	44	39	35	39	35	32	29
6	65	53	44	39	61	50	42	37	45	39	34	40	35	31	35	31	28	25
7	60	48	40	34	57	45	38	33	41	35	30	36	31	27	32	28	25	23
8	56	43	36	30	53	41	34	29	37	31	27	33	28	25	30	26	22	20
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	27	23	20	18
10	49	37	29	24	46	35	28	23	32	26	22	28	24	20	25	21	18	17

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

	0°	45°	90°
0°	21001	21001	21001
5°	21081	20778	20900
10°	20956	20566	20669
15°	20697	20301	20277
20°	20330	19900	19878
25°	19963	19408	19408
30°	19494	18957	18793
35°	19056	18413	18143
40°	18506	17873	17530
45°	17961	17335	16908
50°	17372	16777	16179
55°	16757	16124	15527
60°	16075	15345	14783
65°	15339	14571	13903
70°	14408	13638	12987
75°	13107	12558	12246
80°	11632	11278	10702
85°	9503	9040	8096



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.3	2.4
10°-20°	344.2	6.8
20°-30°	505.9	9.9
30°-40°	587.6	11.5
40°-50°	587.0	11.5
50°-60°	511.9	10.1
60°-70°	378.5	7.4
70°-80°	214.4	4.2
80°-90°	60.2	1.2
90°-100°	40.4	0.8
100°-110°	125.3	2.5
110°-120°	214.3	4.2
120°-130°	281.8	5.5
130°-140°	316.2	6.2
140°-150°	310.1	6.1
150°-160°	260.1	5.1
160°-170°	172.5	3.4
170°-180°	60.3	1.2
0°-30°	972.3	19.1
0°-40°	1559.9	30.6
0°-60°	2658.7	52.2
0°-90°	3311.8	65.0
90°-120°	380.0	7.5
90°-150°	1288.0	25.3
90°-180°	1781.0	35.0
0°-180°	5092.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1301	1301	1301	1301	1301	
5°	1301	1295	1282	1291	1290	123
15°	1238	1230	1214	1219	1213	348
25°	1121	1110	1089	1092	1089	515
35°	967	954	934	927	920	603
45°	787	777	759	746	740	607
55°	595	587	573	558	552	532
65°	402	394	381	370	364	397
75°	210	207	201	194	196	224
85°	51	50	49	45	44	59
90°	1	7	19	18	18	4
95°	28	33	34	34	33	32
105°	116	117	118	119	119	122
115°	215	218	217	217	215	213
125°	313	317	316	314	314	279
135°	405	410	412	411	410	312
145°	491	495	498	499	497	307
155°	562	563	565	567	566	258
165°	611	611	611	614	612	172
175°	636	634	633	637	634	60
180°	637	637	637	637	637	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7
2.5°	1306.7	1305.6	1304.5	1303.4	1302.3	1300.5	1298.1	1295.6	1293.2	1290.7	1293.0
5°	1300.7	1299.6	1298.5	1297.4	1296.3	1294.2	1291.2	1288.1	1285.1	1282.0	1284.2
7.5°	1289.2	1287.5	1285.8	1284.0	1282.3	1279.9	1276.8	1273.7	1270.5	1267.4	1269.7
10°	1278.2	1276.3	1274.3	1272.3	1270.5	1267.8	1264.4	1261.1	1257.8	1254.4	1256.7
12.5°	1263.2	1261.5	1259.8	1258.0	1256.3	1253.8	1250.5	1247.1	1243.8	1240.5	1242.0
15°	1238.2	1236.5	1234.8	1233.2	1231.5	1228.9	1225.3	1221.6	1218.0	1214.5	1215.5
17.5°	1206.2	1204.5	1202.9	1201.2	1199.5	1196.8	1193.2	1189.5	1185.8	1182.1	1183.5
20°	1183.2	1181.5	1179.9	1178.2	1176.5	1173.7	1169.8	1165.9	1162.1	1158.2	1159.0
22.5°	1160.2	1157.8	1155.5	1153.1	1150.8	1147.8	1144.2	1140.5	1136.8	1133.1	1133.3
25°	1120.6	1118.4	1116.2	1114.0	1111.7	1108.2	1103.5	1098.8	1094.1	1089.4	1090.0
27.5°	1075.6	1073.7	1071.6	1069.6	1067.6	1064.7	1061.0	1057.2	1053.6	1049.8	1049.0
30°	1045.6	1043.4	1041.1	1039.0	1036.7	1033.5	1029.4	1025.2	1021.0	1016.8	1016.0
32.5°	1013.6	1011.8	1010.0	1008.2	1006.4	1003.3	999.0	994.6	990.2	985.8	984.3
35°	966.8	964.0	961.2	958.5	955.6	952.1	947.6	943.2	938.7	934.2	932.6
37.5°	914.0	911.5	909.1	906.6	904.3	900.8	896.4	891.9	887.4	883.0	880.9
40°	878.0	875.8	873.5	871.3	869.1	865.7	861.3	856.9	852.4	848.0	845.5
42.5°	843.0	840.7	838.5	836.3	834.1	830.8	826.3	821.9	817.4	812.9	810.2
45°	786.6	784.8	782.8	780.9	778.9	775.8	771.7	767.5	763.4	759.2	756.1
47.5°	730.7	728.9	727.0	725.2	723.3	720.2	715.9	711.5	707.2	702.9	699.6
50°	691.6	690.2	688.9	687.5	686.1	683.4	679.6	675.6	671.8	667.9	664.0
52.5°	653.7	651.8	650.0	648.1	646.3	643.6	639.9	636.2	632.5	628.9	625.7
55°	595.3	593.7	592.0	590.3	588.6	586.2	582.9	579.5	576.2	572.8	569.5
57.5°	536.8	535.5	534.1	532.8	531.5	529.0	525.3	521.6	517.9	514.3	511.0
60°	497.8	496.6	495.6	494.5	493.3	490.9	486.9	483.1	479.2	475.2	472.2
62.5°	459.8	458.0	456.2	454.4	452.6	450.3	447.2	444.2	441.2	438.3	435.5
65°	401.5	399.8	398.1	396.4	394.8	392.6	389.8	387.0	384.3	381.4	379.0
67.5°	342.2	340.8	339.5	338.2	336.9	335.0	332.4	329.9	327.4	324.9	323.0
70°	305.2	304.1	302.9	301.8	300.8	298.9	296.4	293.9	291.4	288.9	287.0
72.5°	267.1	266.1	264.9	263.8	262.7	261.4	259.8	258.2	256.5	254.9	253.0
75°	210.1	209.5	209.0	208.5	207.9	206.9	205.6	204.2	202.7	201.3	199.7
77.5°	159.1	158.2	157.2	156.3	155.3	154.6	154.0	153.4	152.9	152.3	151.5
80°	125.1	124.8	124.5	124.2	123.9	123.6	123.0	122.4	121.9	121.3	120.5
82.5°	93.0	93.0	92.9	92.8	92.8	92.7	92.3	92.0	91.6	91.3	90.2
85°	51.3	51.0	50.7	50.4	50.1	49.9	49.6	49.3	49.0	48.8	48.0
87.5°	18.1	18.0	17.8	17.6	17.5	17.4	17.5	17.6	17.7	17.8	17.1
90°	0.6	2.0	3.4	4.8	6.3	8.3	10.9	13.6	16.2	18.9	18.6
92.5°	9.6	10.7	11.7	12.7	13.8	14.6	15.3	15.8	16.5	17.1	17.2
95°	28.0	29.1	30.3	31.6	32.7	33.5	33.6	33.9	34.1	34.4	34.4
97.5°	51.1	52.1	53.2	54.2	55.2	56.0	56.5	56.9	57.4	57.9	57.9
100°	68.2	69.2	70.1	71.2	72.1	72.8	73.1	73.4	73.8	74.2	74.2
102.5°	86.3	87.1	87.8	88.6	89.4	90.0	90.5	90.9	91.3	91.8	91.9
105°	115.6	115.9	116.3	116.6	117.0	117.3	117.5	117.7	118.0	118.3	118.5
107.5°	145.1	145.5	146.1	146.6	147.1	147.4	147.4	147.4	147.4	147.4	147.5
110°	163.9	164.7	165.3	166.1	166.8	167.1	167.1	167.1	167.1	167.1	167.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	184.5	185.3	186.0	186.7	187.5	187.8	187.7	187.6	187.5	187.4	187.1
115°	215.0	215.7	216.4	217.2	217.8	218.1	217.8	217.6	217.4	217.2	217.1
117.5°	245.3	246.3	247.2	248.2	249.1	249.3	248.6	247.9	247.2	246.6	246.3
120°	265.5	266.5	267.4	268.3	269.4	269.4	268.3	267.4	266.5	265.5	265.5
122.5°	284.0	285.1	286.3	287.5	288.6	288.8	288.1	287.5	286.8	286.2	285.9
125°	312.8	313.9	315.0	316.0	317.1	317.4	317.1	316.8	316.4	316.0	315.7
127.5°	340.8	342.2	343.6	345.0	346.3	346.8	346.4	345.9	345.5	345.1	344.6
130°	358.5	360.1	361.6	363.2	364.7	365.3	365.1	364.9	364.7	364.4	364.2
132.5°	378.2	379.6	380.8	382.1	383.3	384.0	384.1	384.1	384.2	384.2	383.7
135°	404.7	406.0	407.4	408.7	410.0	410.8	410.9	411.2	411.5	411.7	411.6
137.5°	432.5	433.7	434.7	435.8	436.9	437.5	437.9	438.2	438.5	438.8	438.7
140°	449.3	450.4	451.5	452.5	453.6	454.5	455.1	455.6	456.3	456.9	456.9
142.5°	466.6	467.6	468.7	469.8	470.8	471.6	472.0	472.4	472.8	473.2	473.3
145°	491.3	492.1	492.9	493.8	494.6	495.4	496.1	496.8	497.6	498.2	498.3
147.5°	513.3	514.3	515.3	516.3	517.3	518.0	518.5	519.0	519.4	520.0	520.2
150°	528.4	529.0	529.8	530.5	531.2	531.8	532.3	532.7	533.2	533.8	534.0
152.5°	541.7	542.4	543.1	543.8	544.5	545.2	545.7	546.3	546.9	547.5	547.9
155°	561.7	562.0	562.4	562.7	563.1	563.5	563.8	564.2	564.5	564.9	565.5
157.5°	578.7	579.0	579.2	579.5	579.8	579.9	580.1	580.4	580.6	580.8	581.6
160°	589.1	589.3	589.6	589.7	590.0	590.2	590.3	590.4	590.6	590.7	591.4
162.5°	598.5	598.6	598.6	598.7	598.7	598.8	598.9	599.1	599.2	599.3	600.1
165°	611.1	611.0	610.9	610.8	610.7	610.6	610.6	610.6	610.6	610.6	611.4
167.5°	621.6	621.3	620.9	620.6	620.2	620.0	620.0	620.0	619.9	619.9	620.8
170°	627.3	626.9	626.5	626.1	625.8	625.6	625.5	625.3	625.2	625.1	625.9
172.5°	631.1	630.7	630.4	630.0	629.7	629.4	629.3	629.2	629.1	629.0	629.8
175°	635.8	635.5	635.1	634.8	634.4	634.1	633.9	633.7	633.4	633.1	634.0
177.5°	637.8	637.4	637.2	636.9	636.6	636.4	636.2	636.0	635.8	635.7	636.2
180°	636.9	636.9	636.9	636.9	636.9	636.9	636.9	636.9	636.9	636.9	636.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7
2.5°	1295.1	1297.4	1299.6	1300.5	1300.0	1299.6	1299.2	1298.7
5°	1286.4	1288.6	1290.9	1291.7	1291.2	1290.6	1290.1	1289.5
7.5°	1271.9	1274.1	1276.4	1277.1	1276.6	1275.9	1275.4	1274.7
10°	1258.9	1261.1	1263.4	1264.0	1263.2	1262.3	1261.5	1260.7
12.5°	1243.6	1245.1	1246.7	1247.2	1246.5	1245.9	1245.3	1244.7
15°	1216.6	1217.8	1218.9	1218.7	1217.4	1216.0	1214.6	1213.1
17.5°	1184.7	1186.0	1187.3	1187.2	1185.9	1184.6	1183.3	1181.9
20°	1159.8	1160.6	1161.5	1161.3	1160.3	1159.1	1158.0	1156.9
22.5°	1133.5	1133.6	1133.8	1133.6	1132.8	1132.2	1131.5	1130.9
25°	1090.5	1091.0	1091.6	1091.6	1091.0	1090.5	1090.0	1089.4
27.5°	1048.2	1047.4	1046.5	1045.5	1044.1	1042.7	1041.4	1040.1
30°	1015.1	1014.4	1013.5	1012.5	1011.4	1010.3	1009.2	1008.0
32.5°	982.8	981.3	979.8	978.5	977.4	976.3	975.2	974.0
35°	930.9	929.3	927.7	926.0	924.7	923.3	921.9	920.5
37.5°	878.9	876.8	874.8	873.1	871.8	870.4	869.1	867.7
40°	843.0	840.5	838.0	836.1	835.1	834.0	832.8	831.7
42.5°	807.5	804.7	802.1	799.9	798.3	796.8	795.2	793.7
45°	753.1	750.0	747.0	744.9	743.8	742.6	741.5	740.5
47.5°	696.4	693.2	690.0	687.6	686.0	684.4	682.8	681.2
50°	660.1	656.2	652.3	649.7	648.3	646.9	645.5	644.1
52.5°	622.4	619.2	616.0	613.4	611.6	609.7	607.9	606.1
55°	566.2	562.8	559.5	557.1	555.7	554.3	553.0	551.6
57.5°	507.7	504.4	501.1	499.0	497.9	496.9	495.9	494.7
60°	469.2	466.1	463.1	461.1	460.2	459.4	458.5	457.8
62.5°	432.5	429.7	426.9	425.0	423.9	422.8	421.8	420.8
65°	376.5	374.0	371.5	369.5	368.2	366.7	365.3	363.9
67.5°	321.0	319.1	317.2	315.7	314.5	313.4	312.3	311.1
70°	285.0	283.0	281.2	279.6	278.5	277.4	276.3	275.1
72.5°	251.0	249.0	247.1	245.7	244.8	243.9	243.0	242.1
75°	198.0	196.3	194.7	194.2	194.7	195.3	195.8	196.3
77.5°	150.7	149.9	149.0	148.2	147.4	146.7	145.9	145.1
80°	119.6	118.9	118.0	117.3	116.7	116.2	115.6	115.1
82.5°	89.2	88.1	87.1	86.5	86.3	86.2	86.1	86.1
85°	47.1	46.3	45.4	44.9	44.6	44.3	44.0	43.7
87.5°	16.3	15.6	14.9	14.4	14.2	14.0	13.9	13.7
90°	18.4	18.1	17.8	17.8	17.9	18.0	18.2	18.3
92.5°	17.2	17.2	17.2	17.3	17.3	17.3	17.4	17.4
95°	34.4	34.4	34.4	34.3	34.0	33.8	33.6	33.4
97.5°	57.9	57.9	57.9	57.8	57.8	57.8	57.8	57.7
100°	74.2	74.2	74.2	74.1	74.0	73.9	73.8	73.6
102.5°	92.0	92.1	92.2	92.2	92.1	91.9	91.8	91.7
105°	118.8	118.9	119.2	119.3	119.3	119.3	119.3	119.3
107.5°	147.6	147.7	147.8	147.5	146.9	146.5	145.9	145.3
110°	167.1	167.1	167.1	167.0	166.6	166.3	165.9	165.5





TEST NUMBER: P331391-830

CATALOG NUMBER: SA2XXDIP-C865D530U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	186.8	186.5	186.2	186.0	185.7	185.4	185.1	184.9
115°	216.9	216.8	216.7	216.4	216.0	215.7	215.4	215.0
117.5°	246.0	245.7	245.4	245.2	244.8	244.4	244.0	243.6
120°	265.5	265.5	265.5	265.3	264.9	264.7	264.3	263.9
122.5°	285.6	285.3	285.0	284.7	284.5	284.2	284.0	283.7
125°	315.3	315.0	314.6	314.3	314.2	314.1	314.0	313.9
127.5°	344.2	343.7	343.4	342.9	342.5	342.1	341.8	341.4
130°	363.9	363.7	363.4	363.1	362.6	362.1	361.7	361.2
132.5°	383.1	382.6	382.1	381.6	381.3	380.9	380.5	380.1
135°	411.5	411.3	411.2	410.9	410.7	410.3	409.9	409.5
137.5°	438.6	438.5	438.4	438.1	437.6	437.2	436.7	436.2
140°	456.9	456.9	456.9	456.7	456.1	455.6	455.2	454.7
142.5°	473.3	473.4	473.5	473.3	472.9	472.4	471.9	471.5
145°	498.5	498.6	498.7	498.5	498.0	497.6	497.1	496.6
147.5°	520.5	520.8	521.0	520.9	520.5	520.0	519.5	519.1
150°	534.4	534.8	535.2	535.2	534.8	534.4	534.0	533.8
152.5°	548.4	548.8	549.3	549.3	548.8	548.4	547.9	547.5
155°	566.1	566.7	567.3	567.4	567.0	566.7	566.3	566.0
157.5°	582.4	583.2	584.1	584.2	583.6	583.1	582.5	581.8
160°	592.1	592.9	593.5	593.7	593.2	592.8	592.2	591.7
162.5°	600.9	601.7	602.6	602.7	602.1	601.5	601.0	600.4
165°	612.3	613.1	613.9	614.1	613.4	612.8	612.3	611.6
167.5°	621.6	622.5	623.3	623.4	622.7	622.2	621.5	620.9
170°	626.8	627.6	628.4	628.5	627.7	627.1	626.3	625.7
172.5°	630.7	631.5	632.3	632.4	631.7	630.9	630.2	629.5
175°	634.8	635.7	636.5	636.6	635.8	635.1	634.4	633.7
177.5°	636.8	637.3	637.9	637.9	637.3	636.8	636.2	635.7
180°	636.9	636.9	636.9	636.9	636.9	636.9	636.9	636.9

(END OF REPORT)