

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: P331410

Luminaire Tested: **SA2XXDIP-C865D925U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

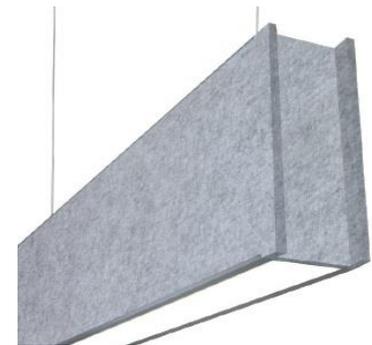
Test Information

Test Method: LM-79-08
Report Number: P331410
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D925U835-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

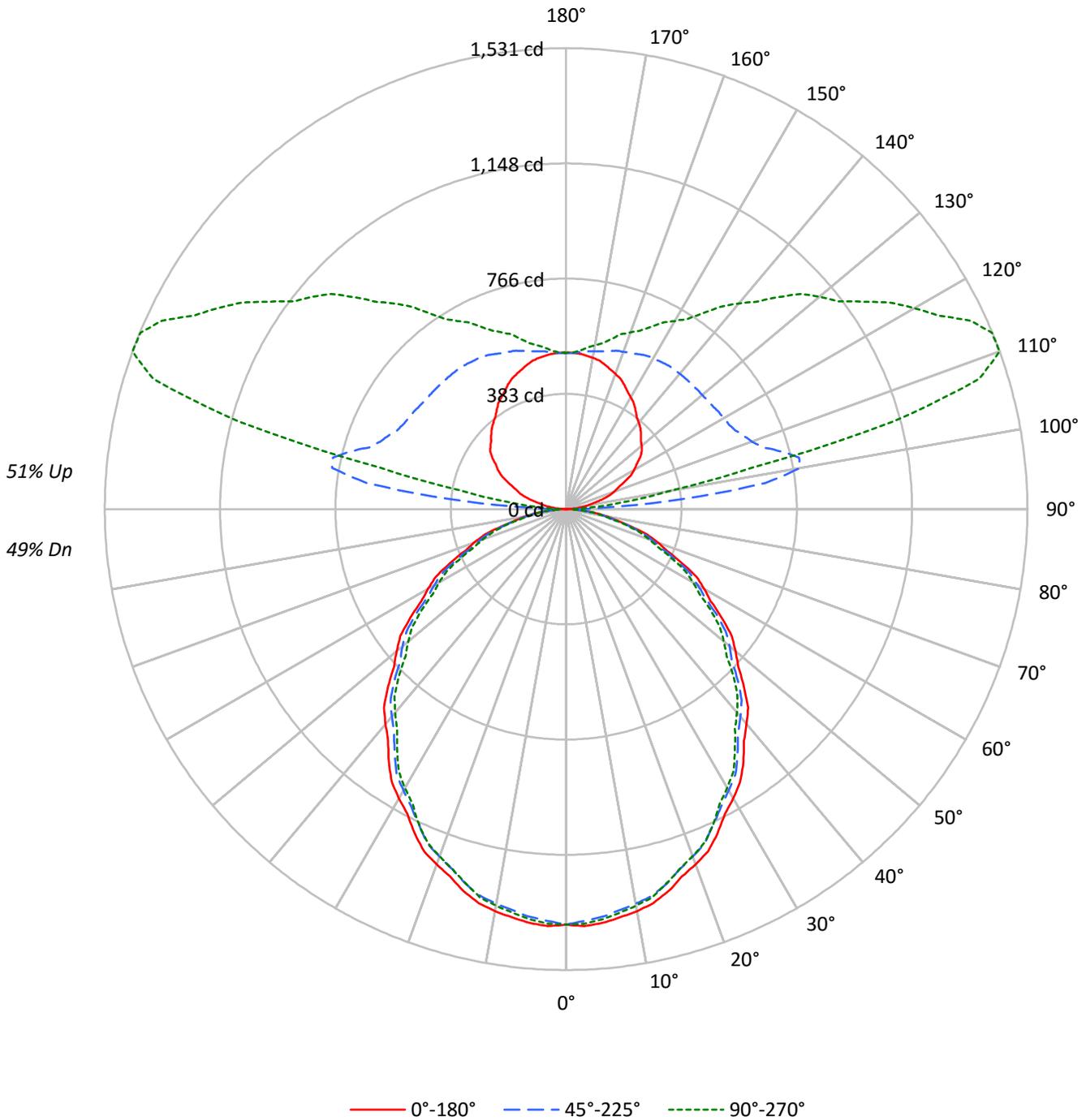
Lumens per Lamp: N/A
Luminaire Lumens: 7127.0 lumens
Efficiency: N/A
Efficacy: 117.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 60.5
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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	49	49	49	49			
1	98	93	89	86	90	86	83	80	73	70	68	60	59	57	49	48	47	42	42	42	42			
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39	35	35	35	35			
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	36	34	29	29	29	29			
4	74	63	55	49	68	59	52	46	50	45	40	42	38	35	34	31	29	25	25	25	25			
5	68	56	48	42	63	52	45	40	45	39	35	38	33	30	31	28	25	22	22	22	22			
6	63	51	43	37	58	47	40	35	40	35	30	34	30	26	28	25	22	19	19	19	19			
7	58	46	38	32	53	43	35	30	36	31	27	31	26	23	26	22	20	17	17	17	17			
8	54	42	34	28	50	39	32	27	33	28	24	28	24	21	23	20	18	15	15	15	15			
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	18	16	14	14	14	14			
10	47	35	28	23	43	32	26	22	28	23	19	24	20	17	20	17	15	13	13	13	13			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22281	22281	22281
5°	22366	22044	22174
10°	22233	21820	21930
15°	21959	21538	21514
20°	21569	21113	21089
25°	21180	20591	20591
30°	20681	20113	19939
35°	20217	19537	19249
40°	19633	18963	18598
45°	19057	18393	17938
50°	18432	17799	17166
55°	17779	17106	16473
60°	17053	16281	15684
65°	16275	15461	14751
70°	15286	14469	13780
75°	13905	13325	12994
80°	12338	11967	11353
85°	10078	9596	8596



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.8	1.8
10°-20°	365.1	5.1
20°-30°	536.7	7.5
30°-40°	623.4	8.7
40°-50°	622.7	8.7
50°-60°	543.1	7.6
60°-70°	401.6	5.6
70°-80°	227.4	3.2
80°-90°	65.8	0.9
90°-100°	207.5	2.9
100°-110°	704.2	9.9
110°-120°	748.1	10.5
120°-130°	615.8	8.6
130°-140°	494.5	6.9
140°-150°	373.7	5.2
150°-160°	262.6	3.7
160°-170°	154.6	2.2
170°-180°	50.3	0.7
0°-30°	1031.6	14.5
0°-40°	1655.0	23.2
0°-60°	2820.8	39.6
0°-90°	3515.6	49.3
90°-120°	1659.8	23.3
90°-150°	3143.8	44.1
90°-180°	3611.0	50.7
0°-180°	7127.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1380	1380	1380	1380	1380	
5°	1380	1374	1360	1370	1368	131
15°	1314	1305	1288	1293	1287	370
25°	1189	1178	1156	1158	1156	547
35°	1026	1012	991	983	977	640
45°	835	825	806	791	786	644
55°	632	623	608	592	585	565
65°	426	418	405	393	386	421
75°	223	220	214	206	208	238
85°	54	53	52	48	46	62
90°	1	14	34	32	33	5
95°	35	86	391	148	114	37
105°	122	184	740	1322	1125	129
115°	215	271	619	1277	1480	213
125°	299	354	595	1034	1201	266
135°	351	419	588	869	995	271
145°	401	461	585	726	794	252
155°	456	492	568	642	668	210
165°	497	512	544	577	586	140
175°	518	518	523	530	528	49
180°	519	519	519	519	519	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0
2.5°	1386.4	1385.2	1384.0	1382.9	1381.7	1379.8	1377.2	1374.6	1372.0	1369.4	1371.8
5°	1380.0	1378.8	1377.7	1376.5	1375.3	1373.1	1369.9	1366.6	1363.4	1360.1	1362.5
7.5°	1367.8	1366.0	1364.2	1362.3	1360.5	1357.9	1354.6	1351.3	1348.0	1344.7	1347.1
10°	1356.1	1354.1	1352.0	1349.9	1347.9	1345.1	1341.5	1338.0	1334.5	1330.9	1333.3
12.5°	1340.2	1338.4	1336.6	1334.7	1332.9	1330.2	1326.7	1323.1	1319.6	1316.1	1317.7
15°	1313.7	1311.9	1310.1	1308.4	1306.6	1303.8	1300.0	1296.1	1292.3	1288.5	1289.6
17.5°	1279.7	1277.9	1276.2	1274.4	1272.6	1269.8	1265.9	1262.0	1258.1	1254.2	1255.6
20°	1255.3	1253.5	1251.8	1250.0	1248.2	1245.3	1241.1	1237.0	1232.9	1228.8	1229.6
22.5°	1230.9	1228.4	1225.9	1223.4	1221.0	1217.8	1213.9	1210.0	1206.1	1202.2	1202.4
25°	1188.9	1186.6	1184.2	1181.9	1179.5	1175.8	1170.8	1165.8	1160.8	1155.8	1156.4
27.5°	1141.2	1139.1	1136.9	1134.8	1132.7	1129.6	1125.7	1121.7	1117.8	1113.8	1113.0
30°	1109.3	1107.0	1104.6	1102.3	1099.9	1096.5	1092.1	1087.7	1083.2	1078.8	1077.9
32.5°	1075.4	1073.5	1071.6	1069.7	1067.8	1064.5	1059.9	1055.2	1050.6	1045.9	1044.3
35°	1025.7	1022.8	1019.8	1016.9	1013.9	1010.1	1005.4	1000.7	995.9	991.2	989.5
37.5°	969.7	967.1	964.5	961.9	959.4	955.7	951.0	946.3	941.5	936.8	934.6
40°	931.5	929.2	926.8	924.4	922.1	918.5	913.8	909.1	904.4	899.7	897.0
42.5°	894.4	892.0	889.6	887.3	884.9	881.4	876.7	872.0	867.2	862.5	859.6
45°	834.6	832.6	830.5	828.5	826.4	823.1	818.7	814.3	809.9	805.5	802.2
47.5°	775.2	773.3	771.3	769.4	767.4	764.1	759.5	754.9	750.3	745.7	742.3
50°	733.8	732.3	730.9	729.4	727.9	725.1	721.0	716.8	712.7	708.6	704.5
52.5°	693.5	691.5	689.6	687.6	685.7	682.8	678.9	675.0	671.1	667.2	663.8
55°	631.6	629.9	628.1	626.3	624.5	621.9	618.4	614.8	611.3	607.7	604.2
57.5°	569.5	568.1	566.7	565.3	563.9	561.2	557.3	553.4	549.5	545.6	542.2
60°	528.1	526.9	525.8	524.6	523.4	520.8	516.6	512.5	508.4	504.2	501.0
62.5°	487.8	485.9	484.0	482.1	480.2	477.7	474.5	471.3	468.1	465.0	462.0
65°	426.0	424.2	422.4	420.6	418.9	416.5	413.6	410.6	407.7	404.7	402.1
67.5°	363.1	361.6	360.2	358.8	357.4	355.4	352.7	350.0	347.4	344.7	342.7
70°	323.8	322.6	321.4	320.2	319.1	317.1	314.5	311.8	309.2	306.5	304.5
72.5°	283.4	282.3	281.1	279.9	278.7	277.3	275.6	273.9	272.1	270.4	268.4
75°	222.9	222.3	221.7	221.2	220.6	219.5	218.1	216.6	215.1	213.6	211.9
77.5°	168.8	167.8	166.8	165.8	164.8	164.0	163.4	162.8	162.2	161.6	160.7
80°	132.7	132.4	132.1	131.8	131.5	131.1	130.5	129.9	129.3	128.7	127.8
82.5°	98.7	98.7	98.6	98.5	98.5	98.3	97.9	97.6	97.2	96.9	95.7
85°	54.4	54.1	53.8	53.5	53.2	52.9	52.6	52.3	52.0	51.8	50.9
87.5°	19.3	19.4	19.8	19.7	19.6	19.7	20.3	21.2	21.9	21.6	20.7
90°	1.0	4.0	8.0	10.0	12.0	15.0	20.0	26.9	32.9	33.9	32.9
92.5°	12.2	17.6	24.8	29.1	35.9	45.3	67.9	99.6	127.9	129.7	109.6
95°	34.9	38.9	48.9	57.9	73.9	97.8	143.7	230.5	346.3	391.2	342.3
97.5°	56.9	62.3	72.9	86.4	104.8	131.9	189.6	310.6	503.0	667.9	700.6
100°	76.8	79.8	88.8	104.8	124.8	152.7	205.6	327.4	542.9	788.4	932.2
102.5°	95.2	97.4	106.4	122.4	143.1	171.1	220.0	328.2	527.8	792.4	1018.4
105°	121.8	125.8	132.7	147.7	169.7	197.6	244.5	333.3	498.0	739.5	1005.0
107.5°	150.5	153.7	160.5	174.3	196.0	224.2	269.7	347.1	483.2	682.9	917.4
110°	169.7	173.7	179.6	192.6	213.6	242.5	286.4	358.3	480.1	655.7	862.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	187.2	191.2	198.0	210.2	230.3	260.1	302.4	370.3	480.8	638.1	824.0
115°	214.6	219.6	225.6	237.5	257.5	284.4	327.4	388.2	485.0	618.8	776.5
117.5°	242.9	246.9	252.9	263.5	282.6	310.6	350.3	407.4	492.2	609.4	746.5
120°	260.5	264.5	270.5	279.4	299.4	327.4	366.3	420.2	497.0	603.8	730.6
122.5°	277.3	280.4	286.4	296.2	316.2	344.9	381.4	431.3	502.6	600.6	717.0
125°	299.4	302.4	308.4	320.4	340.3	368.3	404.2	449.1	511.0	594.8	697.6
127.5°	317.0	321.0	329.3	342.5	361.7	390.4	425.4	465.7	519.6	591.4	679.7
130°	327.4	331.3	341.3	355.3	375.3	403.2	438.1	476.1	526.0	589.8	667.7
132.5°	336.9	341.7	352.5	367.3	388.0	416.0	449.3	486.4	532.3	589.0	658.1
135°	351.3	355.3	367.3	382.2	405.2	433.1	465.1	500.0	539.9	587.8	644.7
137.5°	364.9	369.7	381.6	397.6	420.4	446.3	477.9	510.4	546.7	587.6	635.3
140°	375.3	379.3	391.2	407.2	429.2	455.1	485.0	516.0	549.9	586.8	629.8
142.5°	385.6	388.8	400.0	416.0	437.1	461.5	490.6	520.8	552.3	586.8	624.2
145°	401.2	405.2	415.2	430.2	450.1	472.1	499.0	527.0	554.9	584.8	616.8
147.5°	418.0	421.0	430.5	444.3	460.9	480.5	505.8	530.4	555.7	581.3	609.2
150°	429.2	432.1	440.1	453.1	468.1	486.0	509.0	531.9	554.9	578.9	602.8
152.5°	440.3	441.7	449.7	461.1	475.3	491.6	512.2	532.7	553.3	574.9	597.2
155°	456.1	457.1	463.1	474.1	485.0	500.0	517.0	533.9	550.9	567.9	586.8
157.5°	469.3	470.3	475.1	484.6	493.4	506.0	520.4	533.9	546.3	560.7	577.1
160°	478.1	479.1	483.0	491.0	499.0	510.0	522.0	533.9	543.9	555.9	569.9
162.5°	486.8	486.2	490.2	496.6	503.8	512.4	522.8	533.1	541.5	551.9	563.5
165°	497.0	496.0	498.0	504.0	509.0	515.0	524.0	531.0	536.9	543.9	552.9
167.5°	505.4	504.2	506.0	509.8	513.4	517.2	523.8	529.6	532.3	536.9	542.5
170°	511.0	509.0	510.0	513.0	515.0	518.0	523.0	528.0	530.0	532.9	536.9
172.5°	514.2	513.0	512.4	515.4	516.6	518.8	522.2	525.6	526.8	528.2	531.4
175°	518.0	517.0	516.0	518.0	518.0	519.0	521.0	523.0	522.0	523.0	524.0
177.5°	519.8	518.2	517.4	519.0	519.0	519.0	519.8	521.4	519.8	519.0	519.8
180°	519.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0
2.5°	1374.1	1376.5	1378.8	1379.8	1379.3	1378.8	1378.4	1377.9
5°	1364.8	1367.2	1369.6	1370.4	1369.9	1369.3	1368.7	1368.1
7.5°	1349.4	1351.8	1354.2	1355.0	1354.4	1353.7	1353.1	1352.4
10°	1335.6	1338.0	1340.4	1341.1	1340.2	1339.3	1338.4	1337.6
12.5°	1319.4	1321.0	1322.7	1323.2	1322.5	1321.9	1321.2	1320.6
15°	1290.8	1292.0	1293.2	1293.0	1291.6	1290.1	1288.6	1287.1
17.5°	1256.9	1258.3	1259.7	1259.6	1258.2	1256.8	1255.4	1254.0
20°	1230.5	1231.4	1232.3	1232.1	1231.0	1229.8	1228.6	1227.4
22.5°	1202.6	1202.7	1202.9	1202.7	1201.9	1201.2	1200.5	1199.8
25°	1157.0	1157.5	1158.1	1158.1	1157.5	1157.0	1156.4	1155.8
27.5°	1112.1	1111.2	1110.3	1109.2	1107.7	1106.3	1104.9	1103.5
30°	1077.0	1076.2	1075.3	1074.2	1073.1	1071.9	1070.7	1069.5
32.5°	1042.7	1041.1	1039.5	1038.1	1037.0	1035.8	1034.6	1033.4
35°	987.7	985.9	984.2	982.5	981.1	979.6	978.1	976.6
37.5°	932.5	930.3	928.1	926.3	924.9	923.5	922.1	920.6
40°	894.4	891.7	889.1	887.1	886.0	884.8	883.6	882.4
42.5°	856.7	853.8	851.0	848.7	847.0	845.4	843.7	842.1
45°	799.0	795.7	792.5	790.3	789.1	787.9	786.7	785.6
47.5°	738.9	735.5	732.1	729.5	727.8	726.1	724.4	722.7
50°	700.3	696.2	692.1	689.3	687.8	686.3	684.9	683.4
52.5°	660.3	656.9	653.5	650.8	648.9	646.9	645.0	643.0
55°	600.7	597.1	593.6	591.1	589.6	588.1	586.7	585.2
57.5°	538.7	535.2	531.7	529.4	528.3	527.2	526.1	524.9
60°	497.8	494.5	491.3	489.2	488.3	487.4	486.5	485.7
62.5°	458.9	455.9	452.9	450.9	449.7	448.6	447.5	446.4
65°	399.4	396.8	394.1	392.0	390.6	389.1	387.6	386.1
67.5°	340.6	338.5	336.5	334.9	333.7	332.5	331.3	330.1
70°	302.4	300.3	298.3	296.6	295.5	294.3	293.1	291.9
72.5°	266.3	264.2	262.2	260.7	259.7	258.8	257.8	256.9
75°	210.1	208.3	206.6	206.0	206.6	207.2	207.7	208.3
77.5°	159.9	159.0	158.1	157.2	156.4	155.6	154.8	153.9
80°	126.9	126.1	125.2	124.4	123.8	123.3	122.7	122.1
82.5°	94.6	93.5	92.4	91.8	91.6	91.5	91.4	91.3
85°	50.0	49.1	48.2	47.6	47.3	47.0	46.7	46.4
87.5°	19.8	18.7	18.4	18.1	17.9	17.7	17.4	17.2
90°	31.9	29.9	31.9	32.9	32.9	32.9	32.9	32.9
92.5°	87.0	74.7	66.3	60.1	59.3	56.1	56.9	55.3
95°	261.5	200.6	158.7	136.7	123.8	115.8	112.8	113.8
97.5°	610.2	499.2	391.2	319.2	271.5	246.9	232.3	224.0
100°	911.2	787.4	650.7	530.0	447.1	404.2	375.3	357.3
102.5°	1108.4	1080.5	980.5	852.5	762.5	689.2	653.1	628.8
105°	1212.6	1325.4	1338.4	1305.4	1243.5	1181.7	1138.7	1124.8
107.5°	1137.6	1307.4	1411.2	1459.5	1467.3	1463.9	1455.3	1436.8
110°	1072.9	1251.5	1379.3	1461.1	1504.0	1523.0	1532.0	1531.0



TEST NUMBER: P331410

CATALOG NUMBER: SA2XXDIP-C865D925U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1013.8	1185.3	1321.8	1415.6	1475.3	1507.0	1524.0	1529.4
115°	941.1	1094.8	1225.6	1328.4	1399.2	1445.1	1471.1	1480.1
117.5°	886.4	1021.4	1139.9	1236.4	1308.6	1357.1	1384.5	1392.0
120°	859.3	983.1	1088.8	1179.7	1249.5	1296.4	1325.4	1335.4
122.5°	837.7	951.1	1051.3	1133.4	1196.0	1242.1	1267.9	1276.3
125°	806.4	909.2	997.0	1071.9	1129.8	1167.7	1192.6	1200.6
127.5°	775.5	868.5	951.3	1020.4	1070.9	1106.4	1128.0	1134.4
130°	755.5	841.3	920.2	986.1	1035.0	1068.9	1088.8	1096.8
132.5°	736.3	815.8	888.2	950.1	998.2	1032.2	1050.5	1057.7
135°	709.6	775.5	841.3	897.2	940.1	973.1	991.0	995.0
137.5°	688.2	743.3	795.6	844.3	883.5	911.8	927.6	933.6
140°	674.7	722.6	768.5	812.4	844.3	870.3	885.3	891.2
142.5°	663.5	704.2	743.7	780.5	810.8	834.4	847.7	848.9
145°	647.7	680.7	711.6	740.5	764.5	781.5	791.4	794.4
147.5°	635.5	661.5	685.6	706.8	726.6	740.1	746.9	748.7
150°	626.8	648.7	669.7	687.6	702.6	714.6	720.6	721.6
152.5°	618.0	638.3	656.1	671.7	683.4	693.8	698.2	698.4
155°	605.8	621.8	636.7	647.7	658.7	665.7	669.7	667.7
157.5°	591.6	605.0	617.6	626.2	633.9	639.7	641.5	641.5
160°	582.8	593.8	604.8	611.8	618.8	623.8	624.8	624.8
162.5°	574.1	583.4	592.8	598.2	605.2	608.6	609.6	608.8
165°	560.9	567.9	574.9	578.9	582.8	586.8	586.8	585.8
167.5°	548.3	553.7	558.5	562.1	563.9	566.1	565.9	564.7
170°	541.9	544.9	548.9	550.9	551.9	554.9	553.9	551.9
172.5°	534.7	536.9	540.1	541.3	542.3	543.7	542.7	541.5
175°	527.0	528.0	529.0	530.0	530.0	531.0	530.0	528.0
177.5°	521.4	521.4	522.2	522.2	522.2	522.2	521.4	519.8
180°	519.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0

(END OF REPORT)