

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

Luminaire Tested: **SA2XXDIP-C865D530U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331391
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-C865D530U835-4F0-1E-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

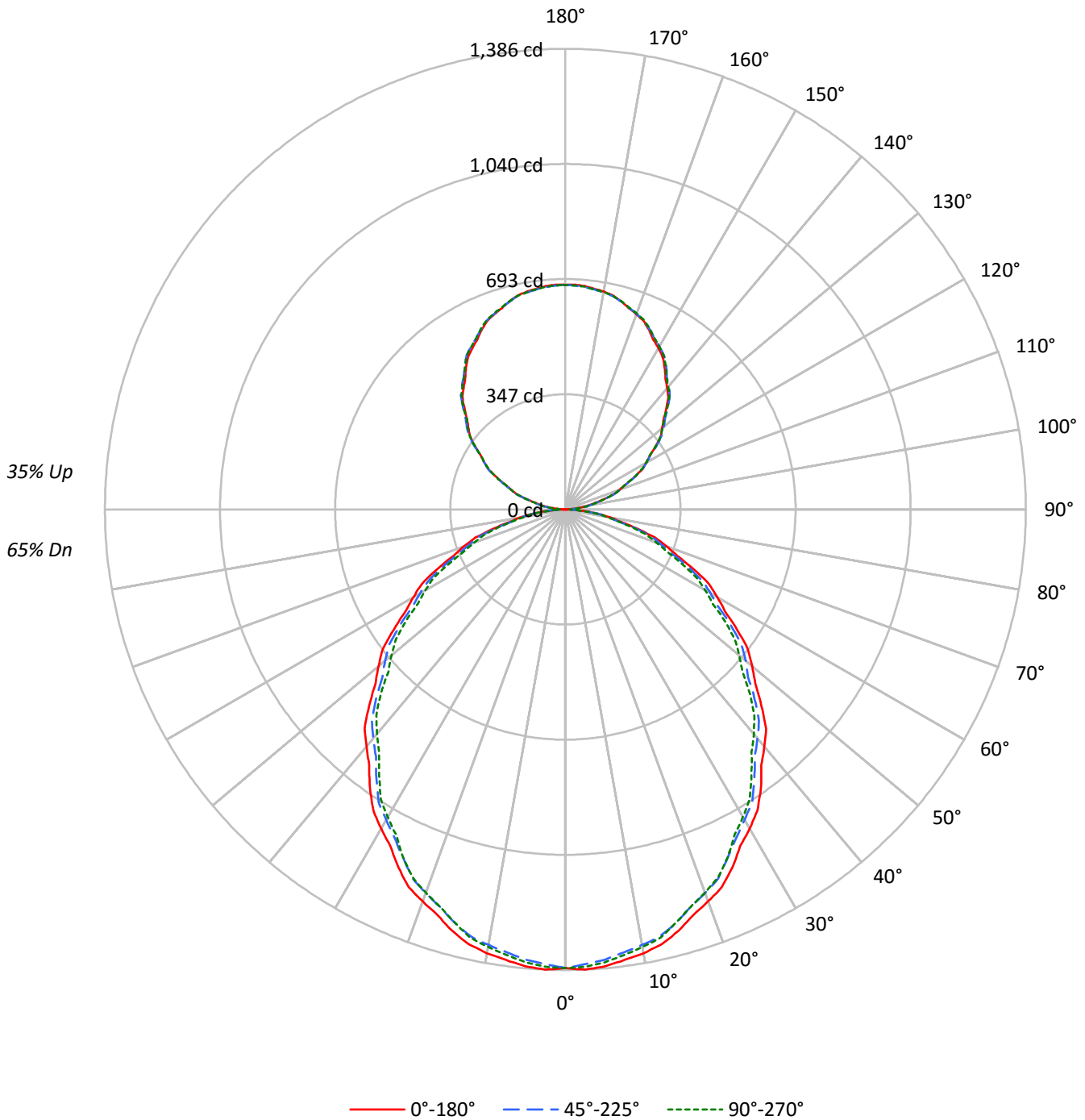
Lumens per Lamp: N/A
Luminaire Lumens: 5403.1 lumens
Efficiency: N/A
Efficacy: 110.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

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	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°	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	2.4
10°-20°	365.1	6.8
20°-30°	536.7	9.9
30°-40°	623.4	11.5
40°-50°	622.7	11.5
50°-60°	543.1	10.1
60°-70°	401.6	7.4
70°-80°	227.4	4.2
80°-90°	63.9	1.2
90°-100°	42.8	0.8
100°-110°	133.0	2.5
110°-120°	227.3	4.2
120°-130°	298.9	5.5
130°-140°	335.5	6.2
140°-150°	329.0	6.1
150°-160°	275.9	5.1
160°-170°	183.0	3.4
170°-180°	64.0	1.2
0°-30°	1031.6	19.1
0°-40°	1655.0	30.6
0°-60°	2820.8	52.2
0°-90°	3513.7	65.0
90°-120°	403.1	7.5
90°-150°	1366.6	25.3
90°-180°	1889.0	35.0
0°-180°	5403.1	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	8	20	19	19	4
95°	30	35	36	36	35	34
105°	123	124	126	127	127	129
115°	228	231	230	230	228	226
125°	332	337	335	334	333	296
135°	429	435	437	436	434	332
145°	521	525	529	529	527	325
155°	596	598	599	602	600	274
165°	648	648	648	651	649	183
175°	675	673	672	675	672	64
180°	676	676	676	676	676	



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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°	19.2	19.1	18.9	18.7	18.6	18.5	18.6	18.7	18.8	18.9	18.1
90°	0.6	2.1	3.6	5.1	6.7	8.8	11.6	14.4	17.2	20.0	19.7
92.5°	10.2	11.3	12.4	13.5	14.6	15.5	16.2	16.8	17.5	18.1	18.2
95°	29.7	30.9	32.2	33.5	34.7	35.5	35.7	36.0	36.2	36.5	36.5
97.5°	54.2	55.3	56.4	57.5	58.6	59.4	59.9	60.4	60.9	61.4	61.4
100°	72.4	73.4	74.4	75.5	76.5	77.2	77.6	77.9	78.3	78.7	78.7
102.5°	91.6	92.4	93.2	94.0	94.8	95.5	96.0	96.4	96.9	97.4	97.5
105°	122.6	123.0	123.4	123.7	124.1	124.4	124.7	124.9	125.2	125.5	125.7
107.5°	153.9	154.4	155.0	155.5	156.1	156.4	156.4	156.4	156.4	156.4	156.5
110°	173.9	174.7	175.4	176.2	177.0	177.3	177.3	177.3	177.3	177.3	177.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	195.8	196.6	197.3	198.1	198.9	199.2	199.1	199.0	198.9	198.8	198.5
115°	228.1	228.9	229.6	230.4	231.1	231.4	231.1	230.9	230.6	230.4	230.3
117.5°	260.3	261.3	262.3	263.3	264.3	264.5	263.8	263.0	262.3	261.6	261.3
120°	281.7	282.7	283.7	284.7	285.8	285.8	284.7	283.7	282.7	281.7	281.7
122.5°	301.3	302.5	303.8	305.0	306.2	306.4	305.7	305.0	304.3	303.6	303.3
125°	331.9	333.0	334.2	335.3	336.4	336.8	336.4	336.1	335.7	335.3	334.9
127.5°	361.6	363.1	364.5	366.0	367.4	367.9	367.5	367.0	366.6	366.1	365.6
130°	380.4	382.0	383.6	385.3	386.9	387.6	387.4	387.1	386.9	386.6	386.4
132.5°	401.3	402.7	404.0	405.4	406.7	407.4	407.5	407.5	407.6	407.6	407.1
135°	429.4	430.8	432.2	433.6	435.0	435.8	436.0	436.3	436.6	436.8	436.7
137.5°	458.9	460.1	461.2	462.4	463.5	464.2	464.6	464.9	465.2	465.5	465.4
140°	476.7	477.9	479.0	480.1	481.3	482.2	482.8	483.4	484.1	484.7	484.7
142.5°	495.0	496.1	497.3	498.4	499.5	500.3	500.8	501.2	501.6	502.0	502.1
145°	521.2	522.1	523.0	523.9	524.8	525.6	526.3	527.1	527.9	528.6	528.7
147.5°	544.6	545.6	546.7	547.8	548.8	549.6	550.1	550.6	551.1	551.7	551.9
150°	560.6	561.3	562.1	562.8	563.6	564.2	564.7	565.2	565.7	566.3	566.6
152.5°	574.7	575.5	576.2	577.0	577.7	578.4	579.0	579.6	580.2	580.9	581.3
155°	595.9	596.3	596.7	597.0	597.4	597.8	598.2	598.6	598.9	599.3	600.0
157.5°	614.0	614.3	614.5	614.8	615.1	615.3	615.5	615.8	616.0	616.2	617.1
160°	625.0	625.2	625.5	625.7	626.0	626.2	626.3	626.4	626.6	626.7	627.5
162.5°	635.0	635.1	635.1	635.2	635.2	635.3	635.4	635.6	635.7	635.8	636.7
165°	648.4	648.2	648.1	648.0	647.9	647.8	647.8	647.8	647.8	647.8	648.7
167.5°	659.5	659.2	658.8	658.4	658.0	657.8	657.8	657.8	657.7	657.7	658.6
170°	665.5	665.1	664.7	664.3	664.0	663.7	663.6	663.4	663.3	663.2	664.1
172.5°	669.6	669.2	668.8	668.4	668.1	667.8	667.7	667.6	667.4	667.3	668.2
175°	674.6	674.2	673.8	673.5	673.1	672.8	672.5	672.3	672.0	671.7	672.6
177.5°	676.7	676.3	676.0	675.7	675.4	675.2	675.0	674.8	674.6	674.4	675.0
180°	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7



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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°	17.3	16.6	15.8	15.3	15.1	14.9	14.7	14.5
90°	19.5	19.2	18.9	18.9	19.0	19.1	19.3	19.4
92.5°	18.2	18.3	18.3	18.4	18.4	18.4	18.5	18.5
95°	36.5	36.5	36.5	36.4	36.1	35.9	35.6	35.4
97.5°	61.4	61.4	61.4	61.3	61.3	61.3	61.3	61.2
100°	78.7	78.7	78.7	78.6	78.5	78.4	78.3	78.1
102.5°	97.6	97.7	97.8	97.8	97.7	97.5	97.4	97.3
105°	126.0	126.2	126.5	126.6	126.6	126.6	126.6	126.6
107.5°	156.6	156.7	156.8	156.5	155.9	155.4	154.8	154.2
110°	177.3	177.3	177.3	177.2	176.8	176.4	176.0	175.6



TEST NUMBER: P331391

CATALOG NUMBER: SA2XXDIP-C865D530U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	198.2	197.9	197.6	197.3	197.0	196.7	196.4	196.2
115°	230.1	230.0	229.9	229.6	229.2	228.9	228.5	228.1
117.5°	261.0	260.7	260.4	260.1	259.7	259.3	258.9	258.5
120°	281.7	281.7	281.7	281.5	281.1	280.8	280.4	280.0
122.5°	303.0	302.7	302.4	302.1	301.8	301.5	301.3	301.0
125°	334.5	334.2	333.8	333.5	333.4	333.3	333.1	333.0
127.5°	365.2	364.7	364.3	363.8	363.4	363.0	362.6	362.2
130°	386.1	385.9	385.6	385.2	384.7	384.2	383.7	383.2
132.5°	406.5	405.9	405.4	404.9	404.5	404.1	403.7	403.3
135°	436.6	436.4	436.3	436.0	435.7	435.3	434.9	434.5
137.5°	465.3	465.2	465.1	464.8	464.3	463.8	463.3	462.8
140°	484.7	484.7	484.7	484.5	483.9	483.4	482.9	482.4
142.5°	502.2	502.3	502.4	502.2	501.7	501.2	500.7	500.2
145°	528.9	529.0	529.1	528.9	528.4	527.9	527.4	526.9
147.5°	552.2	552.5	552.8	552.7	552.2	551.7	551.2	550.7
150°	567.0	567.4	567.8	567.8	567.4	567.0	566.6	566.3
152.5°	581.8	582.3	582.8	582.8	582.3	581.8	581.3	580.9
155°	600.6	601.2	601.9	602.0	601.6	601.2	600.8	600.5
157.5°	617.9	618.8	619.7	619.8	619.2	618.6	618.0	617.3
160°	628.2	629.0	629.7	629.9	629.4	628.9	628.3	627.8
162.5°	637.5	638.4	639.3	639.4	638.8	638.2	637.6	637.0
165°	649.6	650.5	651.3	651.5	650.8	650.2	649.6	648.9
167.5°	659.5	660.4	661.3	661.4	660.7	660.1	659.4	658.7
170°	665.0	665.9	666.7	666.8	666.0	665.3	664.5	663.8
172.5°	669.1	670.0	670.8	670.9	670.2	669.4	668.6	667.9
175°	673.5	674.4	675.3	675.4	674.6	673.8	673.1	672.3
177.5°	675.6	676.2	676.8	676.8	676.2	675.6	675.0	674.4
180°	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7

(END OF REPORT)