

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: P331400

Luminaire Tested: **SA2XXDIP-C865D725U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331400
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-C865D725U835-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

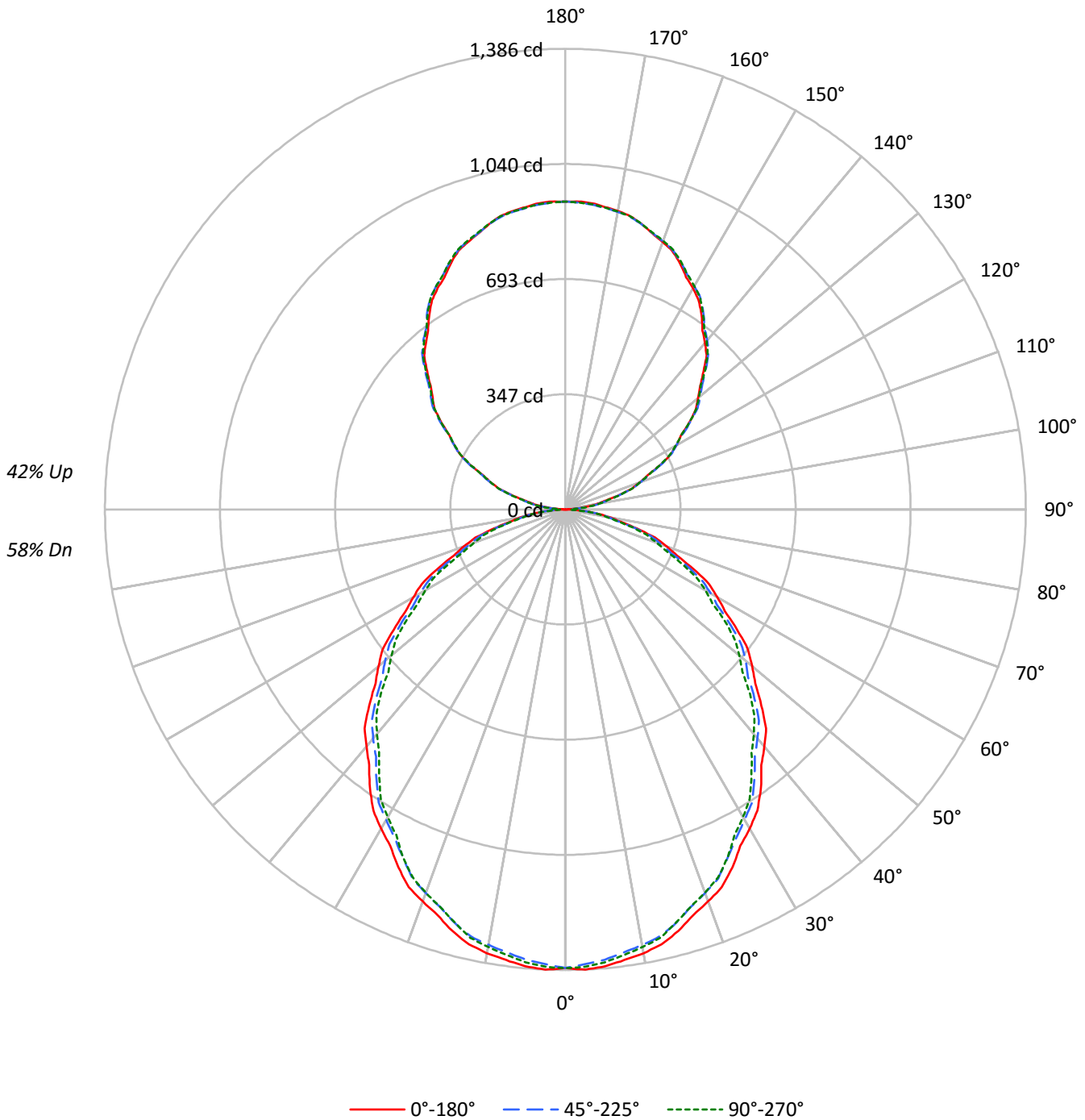
Lumens per Lamp: N/A
Luminaire Lumens: 6104.6 lumens
Efficiency: N/A
Efficacy: 112.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 54.4
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	109	109	109	109	101	101	101	101	88	88	88	75	75	75	63	63	63	58				
1	99	95	91	88	92	89	85	82	77	74	72	66	64	62	56	54	53	48				
2	91	83	77	72	84	78	72	67	67	63	60	58	55	52	49	47	45	41				
3	83	73	66	60	77	68	62	56	59	54	50	51	47	44	43	41	38	34				
4	76	65	57	51	70	61	53	48	53	47	43	46	41	38	39	36	33	30				
5	69	58	49	43	64	54	47	41	47	41	37	41	36	33	35	32	29	26				
6	64	52	44	38	59	49	41	36	43	37	32	37	32	29	32	28	25	23				
7	59	47	39	33	55	44	37	32	39	33	28	34	29	25	29	25	23	20				
8	55	43	35	29	51	40	33	28	35	30	25	31	26	23	27	23	20	18				
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	25	21	18	16				
10	48	36	28	24	45	34	27	23	30	24	21	26	22	19	23	19	17	15				

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	2.1
10°-20°	365.1	6.0
20°-30°	536.7	8.8
30°-40°	623.4	10.2
40°-50°	622.7	10.2
50°-60°	543.1	8.9
60°-70°	401.6	6.6
70°-80°	227.4	3.7
80°-90°	64.9	1.1
90°-100°	58.7	1.0
100°-110°	182.3	3.0
110°-120°	311.6	5.1
120°-130°	409.8	6.7
130°-140°	459.9	7.5
140°-150°	450.9	7.4
150°-160°	378.2	6.2
160°-170°	250.9	4.1
170°-180°	87.7	1.4
0°-30°	1031.6	16.9
0°-40°	1655.0	27.1
0°-60°	2820.8	46.2
0°-90°	3514.7	57.6
90°-120°	552.6	9.1
90°-150°	1873.2	30.7
90°-180°	2590.0	42.4
0°-180°	6104.6	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	11	27	26	27	5
95°	41	48	50	50	48	47
105°	168	170	172	173	174	177
115°	313	317	316	315	313	309
125°	455	461	460	457	456	406
135°	589	597	599	598	596	454
145°	714	720	725	725	722	446
155°	817	819	822	825	823	376
165°	889	888	888	893	890	251
175°	925	922	921	926	922	88
180°	926	926	926	926	926	



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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	19.2	19.2	19.1	19.0	19.2	19.5	19.7	20.0	20.3	19.6
90°	0.8	2.9	5.0	7.0	9.1	12.1	15.9	19.7	23.5	27.4	27.0
92.5°	13.9	15.4	17.0	18.5	20.0	21.2	22.1	23.0	24.0	24.9	24.9
95°	40.6	42.4	44.1	45.9	47.6	48.6	49.0	49.3	49.7	50.0	50.0
97.5°	74.3	75.8	77.3	78.8	80.4	81.5	82.1	82.8	83.4	84.1	84.1
100°	99.3	100.7	102.0	103.4	104.8	105.8	106.3	106.8	107.3	107.9	107.9
102.5°	125.5	126.6	127.8	128.9	130.0	130.9	131.5	132.2	132.8	133.5	133.6
105°	168.1	168.6	169.1	169.6	170.1	170.6	170.9	171.3	171.6	172.0	172.3
107.5°	210.9	211.7	212.4	213.2	213.9	214.3	214.3	214.3	214.3	214.3	214.5
110°	238.4	239.4	240.5	241.5	242.6	243.1	243.1	243.1	243.1	243.1	243.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	268.4	269.5	270.5	271.5	272.6	273.0	272.9	272.8	272.6	272.5	272.1
115°	312.7	313.7	314.7	315.8	316.8	317.2	316.8	316.5	316.1	315.8	315.6
117.5°	356.7	358.1	359.5	360.9	362.3	362.5	361.5	360.6	359.6	358.6	358.2
120°	386.1	387.5	388.9	390.3	391.7	391.7	390.3	388.9	387.5	386.1	386.1
122.5°	413.0	414.7	416.4	418.0	419.7	420.0	419.1	418.1	417.1	416.1	415.7
125°	454.9	456.5	458.0	459.6	461.2	461.7	461.2	460.6	460.1	459.6	459.1
127.5°	495.7	497.7	499.7	501.7	503.6	504.3	503.7	503.1	502.4	501.8	501.2
130°	521.4	523.6	525.9	528.1	530.4	531.3	531.0	530.6	530.3	530.0	529.6
132.5°	550.1	552.0	553.8	555.6	557.5	558.4	558.5	558.6	558.6	558.7	558.0
135°	588.6	590.5	592.4	594.3	596.2	597.3	597.7	598.0	598.4	598.7	598.6
137.5°	629.1	630.6	632.2	633.8	635.3	636.3	636.8	637.2	637.7	638.1	638.0
140°	653.5	655.0	656.6	658.1	659.7	660.9	661.8	662.7	663.5	664.4	664.4
142.5°	678.5	680.0	681.6	683.2	684.7	685.8	686.4	687.0	687.6	688.2	688.3
145°	714.4	715.6	716.9	718.1	719.3	720.4	721.5	722.5	723.5	724.6	724.8
147.5°	746.5	747.9	749.4	750.8	752.3	753.4	754.1	754.8	755.5	756.2	756.5
150°	768.4	769.4	770.4	771.5	772.5	773.4	774.1	774.8	775.5	776.2	776.7
152.5°	787.7	788.8	789.8	790.9	791.9	792.8	793.7	794.5	795.3	796.2	796.8
155°	816.8	817.3	817.9	818.4	818.9	819.4	819.9	820.5	821.0	821.5	822.4
157.5°	841.7	842.0	842.4	842.7	843.1	843.4	843.7	844.0	844.3	844.6	845.8
160°	856.7	857.0	857.4	857.7	858.1	858.3	858.5	858.7	858.9	859.0	860.1
162.5°	870.4	870.5	870.6	870.6	870.7	870.8	871.0	871.2	871.4	871.5	872.7
165°	888.7	888.6	888.4	888.2	888.0	887.9	887.9	887.9	887.9	887.9	889.2
167.5°	904.0	903.5	903.0	902.5	902.0	901.7	901.7	901.6	901.6	901.5	902.8
170°	912.2	911.7	911.1	910.6	910.1	909.7	909.6	909.4	909.2	909.0	910.3
172.5°	917.8	917.3	916.8	916.2	915.7	915.4	915.2	915.0	914.9	914.7	915.9
175°	924.7	924.2	923.6	923.1	922.6	922.2	921.8	921.5	921.1	920.8	922.0
177.5°	927.5	927.1	926.7	926.2	925.8	925.5	925.2	924.9	924.6	924.4	925.2
180°	926.2	926.2	926.2	926.2	926.2	926.2	926.2	926.2	926.2	926.2	926.2



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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°	18.8	18.0	17.2	16.7	16.5	16.3	16.1	15.9
90°	26.7	26.3	26.0	25.9	26.1	26.2	26.4	26.6
92.5°	25.0	25.1	25.1	25.2	25.2	25.3	25.3	25.3
95°	50.0	50.0	50.0	49.9	49.5	49.2	48.8	48.5
97.5°	84.1	84.1	84.1	84.1	84.1	84.0	84.0	83.9
100°	107.9	107.9	107.9	107.8	107.6	107.4	107.3	107.1
102.5°	133.8	133.9	134.1	134.0	133.9	133.7	133.5	133.3
105°	172.7	173.0	173.4	173.5	173.5	173.5	173.5	173.5
107.5°	214.6	214.7	214.9	214.6	213.8	213.0	212.2	211.4
110°	243.1	243.1	243.1	242.8	242.3	241.8	241.3	240.7



TEST NUMBER: P331400

CATALOG NUMBER: SA2XXDIP-C865D725U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	271.6	271.2	270.8	270.4	270.0	269.6	269.3	268.9
115°	315.4	315.3	315.1	314.7	314.2	313.7	313.2	312.7
117.5°	357.8	357.4	356.9	356.5	356.0	355.4	354.9	354.4
120°	386.1	386.1	386.1	385.9	385.3	384.8	384.3	383.8
122.5°	415.3	414.9	414.5	414.1	413.7	413.3	412.9	412.6
125°	458.6	458.0	457.5	457.2	457.0	456.8	456.7	456.5
127.5°	500.6	499.9	499.3	498.7	498.2	497.6	497.1	496.5
130°	529.3	528.9	528.6	528.0	527.3	526.7	526.0	525.3
132.5°	557.2	556.4	555.7	555.0	554.4	553.9	553.3	552.8
135°	598.4	598.2	598.0	597.7	597.2	596.7	596.1	595.6
137.5°	637.9	637.7	637.6	637.2	636.5	635.8	635.1	634.4
140°	664.4	664.4	664.4	664.0	663.4	662.7	662.0	661.3
142.5°	688.4	688.6	688.7	688.4	687.7	687.0	686.4	685.7
145°	724.9	725.1	725.3	725.0	724.3	723.6	722.9	722.2
147.5°	756.9	757.3	757.7	757.6	756.9	756.2	755.6	754.9
150°	777.2	777.7	778.3	778.3	777.7	777.2	776.7	776.2
152.5°	797.5	798.2	798.8	798.8	798.2	797.5	796.8	796.2
155°	823.2	824.1	825.0	825.2	824.6	824.1	823.6	823.1
157.5°	847.0	848.2	849.4	849.5	848.7	847.9	847.0	846.2
160°	861.1	862.2	863.2	863.4	862.7	862.0	861.3	860.6
162.5°	873.9	875.1	876.3	876.4	875.6	874.8	873.9	873.1
165°	890.4	891.6	892.8	893.0	892.1	891.2	890.4	889.5
167.5°	904.0	905.2	906.4	906.6	905.7	904.8	903.9	903.0
170°	911.5	912.7	913.9	914.0	913.0	911.9	910.9	909.8
172.5°	917.1	918.3	919.5	919.6	918.6	917.5	916.5	915.5
175°	923.2	924.4	925.6	925.7	924.7	923.6	922.6	921.6
177.5°	926.0	926.9	927.7	927.7	926.9	926.0	925.2	924.4
180°	926.2	926.2	926.2	926.2	926.2	926.2	926.2	926.2

(END OF REPORT)