

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: P331418

Luminaire Tested: **SA2XXDIP-C865D1080U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331418
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-C865D1080U835-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

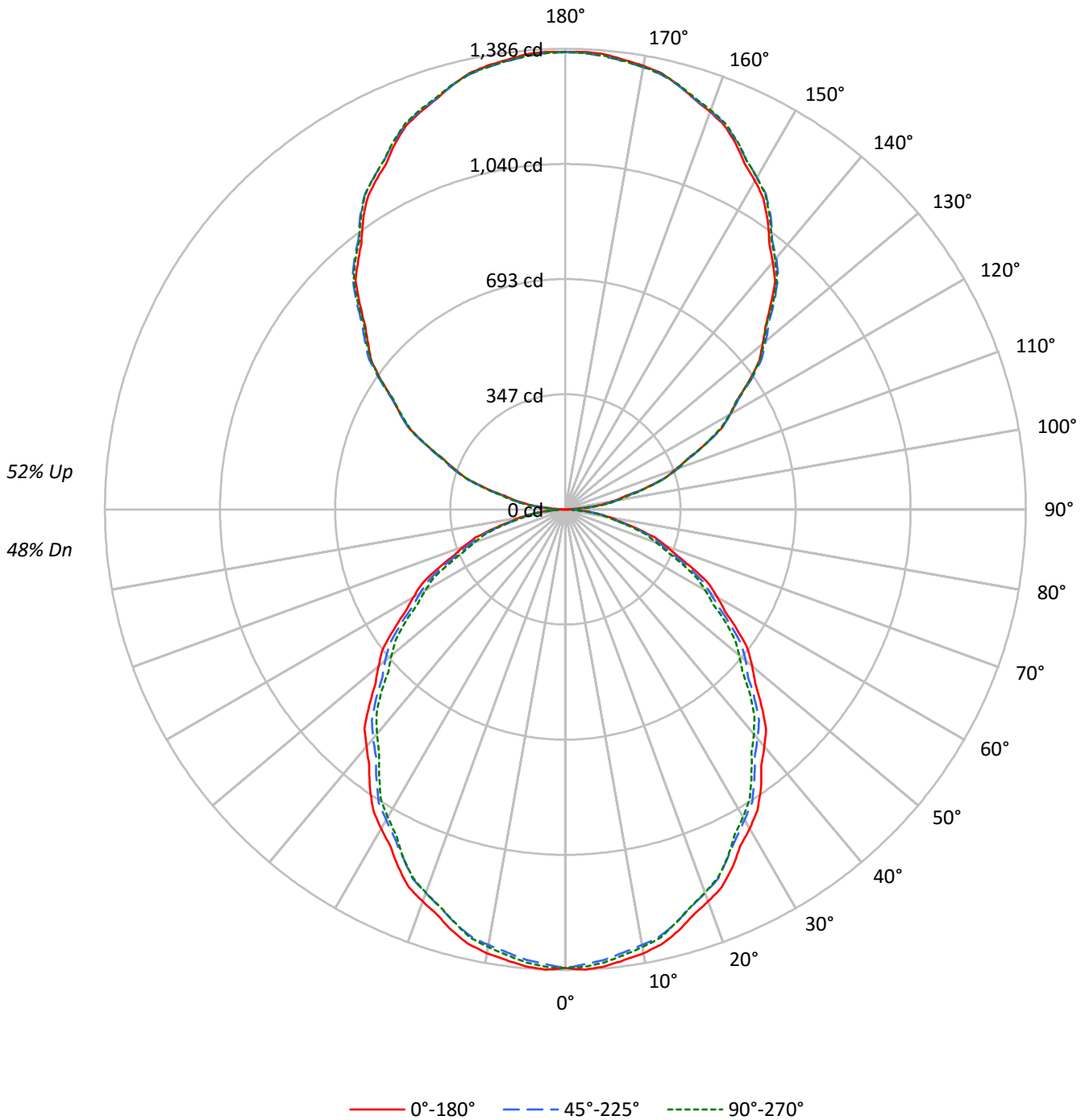
Lumens per Lamp: N/A
Luminaire Lumens: 7365.3 lumens
Efficiency: N/A
Efficacy: 112.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 65.4
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	0
RCR																		
0	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	48
1	97	93	89	86	89	86	82	79	72	70	67	59	58	56	48	47	46	40
2	89	81	75	70	81	75	70	65	63	59	56	52	49	47	42	40	38	34
3	81	71	64	58	74	66	59	54	56	51	47	46	43	40	37	35	33	29
4	74	63	55	49	68	58	51	46	49	44	40	41	37	34	33	30	28	24
5	68	56	48	42	62	52	45	40	44	39	34	37	33	29	30	27	25	21
6	62	50	42	37	57	47	40	34	40	34	30	33	29	26	27	24	22	19
7	58	46	38	32	53	42	35	30	36	30	26	30	26	23	25	22	19	17
8	54	41	34	28	49	38	31	27	33	27	23	28	23	20	23	20	17	15
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	21	18	16	13
10	47	35	27	23	43	32	26	21	28	23	19	24	19	17	20	16	14	12

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	5.0
20°-30°	536.7	7.3
30°-40°	623.4	8.5
40°-50°	622.7	8.5
50°-60°	543.1	7.4
60°-70°	401.6	5.5
70°-80°	227.4	3.1
80°-90°	66.7	0.9
90°-100°	87.2	1.2
100°-110°	270.9	3.7
110°-120°	463.1	6.3
120°-130°	608.9	8.3
130°-140°	683.5	9.3
140°-150°	670.1	9.1
150°-160°	562.1	7.6
160°-170°	372.8	5.1
170°-180°	130.3	1.8
0°-30°	1031.6	14.0
0°-40°	1655.0	22.5
0°-60°	2820.8	38.3
0°-90°	3516.5	47.7
90°-120°	821.2	11.1
90°-150°	2783.7	37.8
90°-180°	3849.0	52.3
0°-180°	7365.3	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	16	41	39	40	6
95°	60	72	74	74	72	69
105°	250	253	256	258	258	264
115°	465	471	469	468	465	459
125°	676	686	683	680	678	604
135°	875	887	890	888	885	675
145°	1062	1070	1077	1078	1073	663
155°	1214	1217	1221	1226	1223	558
165°	1321	1320	1320	1327	1322	372
175°	1374	1371	1368	1376	1370	130
180°	1376	1376	1376	1376	1376	



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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	19.5	19.6	19.8	19.9	20.3	21.0	21.7	22.3	23.0	22.2
90°	1.2	4.3	7.4	10.5	13.6	17.9	23.6	29.3	35.0	40.7	40.1
92.5°	20.7	22.9	25.2	27.5	29.8	31.6	32.9	34.3	35.6	36.9	37.0
95°	60.4	63.0	65.6	68.1	70.7	72.3	72.8	73.3	73.8	74.3	74.3
97.5°	110.4	112.6	114.9	117.2	119.4	121.1	122.0	123.0	124.0	125.0	125.0
100°	147.5	149.6	151.7	153.7	155.8	157.2	158.0	158.7	159.5	160.3	160.3
102.5°	186.6	188.2	189.9	191.5	193.2	194.5	195.5	196.4	197.4	198.4	198.6
105°	249.7	250.5	251.3	252.1	252.8	253.5	254.0	254.5	255.0	255.5	256.1
107.5°	313.4	314.5	315.7	316.8	317.9	318.5	318.5	318.5	318.5	318.5	318.7
110°	354.3	355.8	357.4	358.9	360.5	361.3	361.3	361.3	361.3	361.3	361.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	398.9	400.4	402.0	403.5	405.1	405.8	405.5	405.3	405.1	404.9	404.3
115°	464.6	466.2	467.7	469.3	470.8	471.3	470.8	470.3	469.8	469.3	469.0
117.5°	530.1	532.2	534.3	536.3	538.4	538.7	537.3	535.8	534.4	532.9	532.3
120°	573.8	575.9	578.0	580.0	582.1	582.1	580.0	578.0	575.9	573.8	573.8
122.5°	613.8	616.3	618.7	621.2	623.7	624.2	622.8	621.3	619.9	618.4	617.8
125°	676.0	678.4	680.7	683.0	685.3	686.1	685.3	684.6	683.8	683.0	682.2
127.5°	736.7	739.6	742.6	745.5	748.4	749.5	748.5	747.6	746.7	745.7	744.8
130°	774.8	778.1	781.5	784.8	788.2	789.6	789.1	788.6	788.1	787.6	787.0
132.5°	817.5	820.3	823.0	825.7	828.5	829.9	830.0	830.1	830.2	830.3	829.2
135°	874.7	877.5	880.4	883.2	886.0	887.7	888.2	888.7	889.3	889.8	889.5
137.5°	934.8	937.2	939.5	941.8	944.1	945.6	946.3	947.0	947.6	948.3	948.1
140°	971.1	973.4	975.7	978.1	980.4	982.2	983.5	984.8	986.1	987.3	987.3
142.5°	1008.3	1010.6	1012.9	1015.2	1017.5	1019.1	1020.0	1020.9	1021.8	1022.7	1022.9
145°	1061.7	1063.5	1065.3	1067.1	1068.9	1070.6	1072.1	1073.7	1075.2	1076.8	1077.0
147.5°	1109.3	1111.5	1113.6	1115.8	1118.0	1119.6	1120.6	1121.7	1122.7	1123.7	1124.3
150°	1141.8	1143.4	1144.9	1146.5	1148.0	1149.3	1150.4	1151.4	1152.4	1153.5	1154.2
152.5°	1170.6	1172.2	1173.7	1175.3	1176.8	1178.2	1179.5	1180.7	1182.0	1183.2	1184.2
155°	1213.9	1214.6	1215.4	1216.2	1217.0	1217.7	1218.5	1219.3	1220.1	1220.8	1222.1
157.5°	1250.8	1251.3	1251.8	1252.3	1252.9	1253.3	1253.8	1254.3	1254.7	1255.2	1257.0
160°	1273.1	1273.6	1274.1	1274.6	1275.2	1275.5	1275.8	1276.1	1276.3	1276.6	1278.1
162.5°	1293.5	1293.6	1293.7	1293.8	1294.0	1294.1	1294.4	1294.6	1294.9	1295.2	1296.9
165°	1320.7	1320.5	1320.2	1319.9	1319.7	1319.6	1319.6	1319.6	1319.6	1319.6	1321.4
167.5°	1343.5	1342.7	1341.9	1341.2	1340.4	1340.0	1339.9	1339.9	1339.8	1339.8	1341.6
170°	1355.6	1354.8	1354.0	1353.2	1352.5	1352.0	1351.7	1351.4	1351.2	1350.9	1352.7
172.5°	1363.9	1363.2	1362.4	1361.6	1360.8	1360.3	1360.1	1359.8	1359.5	1359.3	1361.1
175°	1374.2	1373.4	1372.6	1371.8	1371.1	1370.4	1369.9	1369.4	1368.9	1368.3	1370.2
177.5°	1378.3	1377.7	1377.1	1376.5	1375.9	1375.3	1374.9	1374.5	1374.1	1373.7	1374.9
180°	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5



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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°	21.4	20.6	19.7	19.3	19.1	18.9	18.7	18.5
90°	39.6	39.1	38.6	38.5	38.7	39.0	39.2	39.5
92.5°	37.1	37.2	37.4	37.4	37.5	37.5	37.6	37.6
95°	74.3	74.3	74.3	74.1	73.6	73.1	72.5	72.0
97.5°	125.0	125.0	125.0	125.0	124.9	124.9	124.8	124.8
100°	160.3	160.3	160.3	160.2	159.9	159.7	159.4	159.1
102.5°	198.8	199.0	199.2	199.2	198.9	198.7	198.4	198.2
105°	256.6	257.1	257.6	257.9	257.9	257.9	257.9	257.9
107.5°	318.9	319.1	319.3	318.8	317.7	316.5	315.3	314.1
110°	361.3	361.3	361.3	360.9	360.1	359.3	358.5	357.8



TEST NUMBER: P331418

CATALOG NUMBER: SA2XXDIP-C865D1080U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	403.7	403.1	402.5	401.9	401.3	400.7	400.2	399.6
115°	468.8	468.5	468.2	467.7	467.0	466.2	465.4	464.6
117.5°	531.7	531.1	530.5	529.8	529.0	528.2	527.4	526.7
120°	573.8	573.8	573.8	573.4	572.7	571.9	571.1	570.3
122.5°	617.2	616.6	615.9	615.4	614.8	614.2	613.7	613.1
125°	681.5	680.7	679.9	679.4	679.1	678.9	678.6	678.4
127.5°	743.9	742.9	742.0	741.1	740.3	739.5	738.7	737.8
130°	786.5	786.0	785.5	784.7	783.7	782.6	781.6	780.6
132.5°	828.0	826.9	825.8	824.8	824.0	823.1	822.3	821.5
135°	889.3	889.0	888.7	888.2	887.4	886.7	885.9	885.1
137.5°	947.9	947.7	947.5	946.9	945.8	944.8	943.8	942.7
140°	987.3	987.3	987.3	986.8	985.8	984.8	983.7	982.7
142.5°	1023.1	1023.3	1023.5	1023.1	1022.0	1021.0	1020.0	1018.9
145°	1077.3	1077.6	1077.8	1077.4	1076.4	1075.4	1074.3	1073.3
147.5°	1124.9	1125.4	1126.0	1125.8	1124.8	1123.8	1122.8	1121.9
150°	1155.0	1155.8	1156.6	1156.6	1155.8	1155.0	1154.2	1153.5
152.5°	1185.2	1186.1	1187.1	1187.1	1186.1	1185.2	1184.2	1183.2
155°	1223.4	1224.7	1226.0	1226.2	1225.5	1224.7	1223.9	1223.1
157.5°	1258.7	1260.5	1262.2	1262.5	1261.2	1260.0	1258.8	1257.5
160°	1279.7	1281.2	1282.8	1283.0	1282.0	1281.0	1279.9	1278.9
162.5°	1298.7	1300.4	1302.2	1302.4	1301.2	1300.0	1298.7	1297.5
165°	1323.2	1325.0	1326.8	1327.0	1325.8	1324.5	1323.2	1321.9
167.5°	1343.4	1345.2	1347.0	1347.2	1345.9	1344.5	1343.2	1341.9
170°	1354.5	1356.3	1358.1	1358.3	1356.7	1355.2	1353.6	1352.1
172.5°	1362.9	1364.7	1366.5	1366.6	1365.1	1363.5	1362.0	1360.4
175°	1372.0	1373.8	1375.6	1375.7	1374.2	1372.6	1371.1	1369.5
177.5°	1376.2	1377.4	1378.6	1378.6	1377.4	1376.2	1374.9	1373.7
180°	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5

(END OF REPORT)