

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: P331728-830

Luminaire Tested: **SA2XXRDIP-C865D925U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331728-830
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: SA2XXRDIP-C865D925U830-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

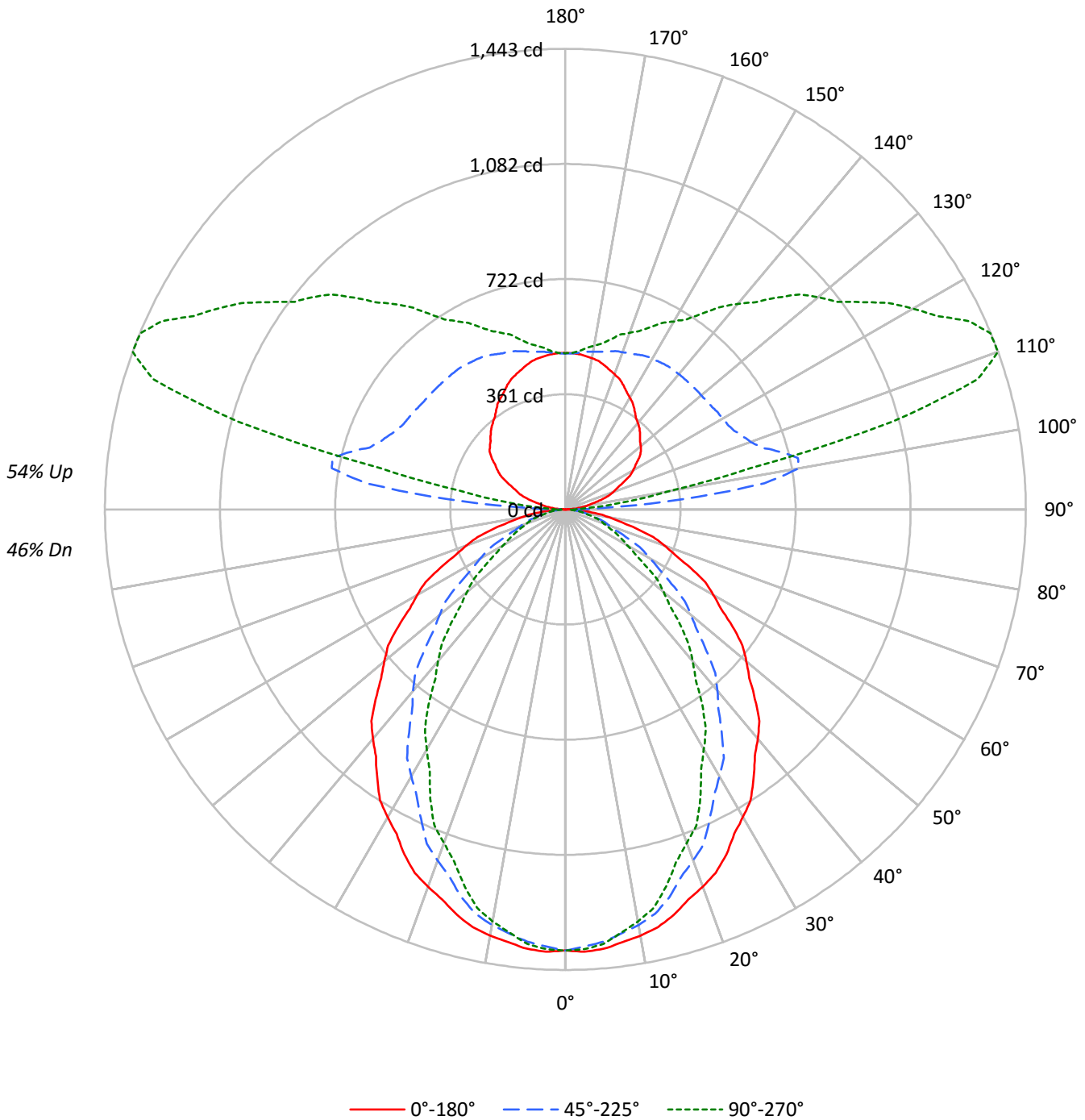
Lumens per Lamp: N/A
Luminaire Lumens: 6250.7 lumens
Efficiency: N/A
Efficacy: 103.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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



TEST NUMBER: P331728-830
CATALOG NUMBER: SA2XXRDIP-C865D925U830-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P331728-830

CATALOG NUMBER: SA2XXRDIP-C865D925U830-4F0-1E-UDD-F4

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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46				46
1	97	93	89	86	89	86	82	80	71	69	67	59	57	56	47	46	45				39	
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	42	40	38				34	
3	81	72	65	60	74	67	61	56	56	52	48	46	43	40	37	35	33				29	
4	75	64	57	51	68	59	53	48	50	45	41	42	38	35	34	31	29				25	
5	69	57	50	44	63	53	46	41	45	40	36	37	34	31	30	28	25				22	
6	63	52	44	38	58	48	41	36	41	35	31	34	30	27	28	25	23				20	
7	59	47	39	34	54	43	37	32	37	32	28	31	27	24	25	23	20				18	
8	54	42	35	30	50	40	33	28	34	29	25	28	24	22	23	21	18				16	
9	51	39	32	27	47	36	30	25	31	26	22	26	22	19	22	19	17				14	
10	47	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15				13	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22315	22315	22315
5°	22400	22034	22156
10°	22228	21674	21489
15°	21972	21031	20425
20°	21618	20113	19105
25°	21257	19073	17826
30°	20752	18000	16183
35°	20262	16837	14741
40°	19770	15633	13076
45°	19192	14280	11565
50°	18600	12913	10083
55°	17990	11443	8659
60°	17286	9894	7188
65°	16485	8313	6548
70°	15526	6850	6019
75°	14361	6245	5614
80°	12673	5579	5114
85°	9967	4409	4409



TEST NUMBER: P331728-830

CATALOG NUMBER: SA2XXRDIP-C865D925U830-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	2.1
10°-20°	355.2	5.7
20°-30°	498.8	8.0
30°-40°	543.9	8.7
40°-50°	500.1	8.0
50°-60°	392.8	6.3
60°-70°	256.1	4.1
70°-80°	132.0	2.1
80°-90°	38.7	0.6
90°-100°	195.6	3.1
100°-110°	663.7	10.6
110°-120°	705.1	11.3
120°-130°	580.4	9.3
130°-140°	466.1	7.5
140°-150°	352.2	5.6
150°-160°	247.5	4.0
160°-170°	145.7	2.3
170°-180°	47.4	0.8
0°-30°	983.3	15.7
0°-40°	1527.2	24.4
0°-60°	2420.1	38.7
0°-90°	2846.9	45.5
90°-120°	1564.4	25.0
90°-150°	2963.2	47.4
90°-180°	3404.0	54.5
0°-180°	6250.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1382	1382	1382	1382	1382	
5°	1382	1375	1360	1370	1367	131
15°	1314	1299	1258	1235	1222	370
25°	1193	1151	1071	1021	1001	548
35°	1028	962	854	778	748	643
45°	840	754	625	540	506	649
55°	639	539	406	334	308	571
65°	432	330	218	177	171	428
75°	230	145	100	92	90	244
85°	54	29	24	24	24	63
90°	1	13	32	31	31	4
95°	33	81	369	139	107	35
105°	115	173	697	1246	1060	122
115°	202	255	583	1204	1395	200
125°	282	334	561	975	1132	251
135°	331	395	554	819	938	256
145°	378	435	551	684	749	237
155°	430	464	535	605	629	198
165°	468	483	513	544	552	132
175°	488	489	493	499	498	46
180°	489	489	489	489	489	



TEST NUMBER: P331728-830

CATALOG NUMBER: SA2XXRDIP-C865D925U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1387.0	1385.9	1384.8	1383.7	1382.6	1380.8	1378.4	1375.9	1373.5	1371.0	1373.3
5°	1382.1	1380.6	1379.2	1377.8	1376.5	1373.9	1370.4	1366.8	1363.1	1359.5	1362.0
7.5°	1367.7	1366.0	1364.3	1362.6	1360.8	1357.9	1353.7	1349.4	1345.2	1341.0	1341.7
10°	1355.8	1353.8	1351.9	1349.9	1347.9	1344.3	1338.7	1333.1	1327.6	1322.0	1321.2
12.5°	1340.8	1338.3	1336.0	1333.6	1331.2	1326.4	1319.3	1312.2	1305.0	1298.0	1296.5
15°	1314.5	1311.5	1308.3	1305.3	1302.2	1296.0	1286.6	1277.1	1267.6	1258.2	1252.9
17.5°	1282.2	1277.5	1272.9	1268.2	1263.6	1255.2	1243.0	1230.9	1218.8	1206.6	1200.4
20°	1258.2	1252.6	1247.1	1241.5	1236.0	1226.2	1212.3	1198.4	1184.6	1170.6	1163.7
22.5°	1232.2	1226.0	1219.7	1213.5	1207.3	1196.4	1180.6	1165.0	1149.3	1133.6	1124.6
25°	1193.2	1184.3	1175.4	1166.5	1157.6	1144.0	1125.6	1107.3	1088.9	1070.6	1059.2
27.5°	1146.1	1136.4	1126.8	1117.1	1107.5	1092.3	1071.6	1050.9	1030.2	1009.6	996.3
30°	1113.1	1102.6	1092.0	1081.5	1070.9	1054.5	1032.3	1010.0	987.8	965.5	951.4
32.5°	1081.1	1068.7	1056.4	1044.1	1031.7	1014.3	991.6	968.8	946.2	923.5	907.4
35°	1028.0	1013.9	999.8	985.5	971.4	952.1	927.6	903.1	878.7	854.2	836.7
37.5°	975.1	959.5	944.0	928.3	912.8	891.9	865.9	839.8	813.8	787.7	768.4
40°	938.0	921.3	904.7	888.0	871.3	849.5	822.6	795.6	768.6	741.7	721.9
42.5°	900.0	882.4	864.9	847.3	829.7	807.0	779.2	751.3	723.5	695.6	675.2
45°	840.5	821.8	803.2	784.6	766.0	742.1	712.9	683.7	654.5	625.4	605.6
47.5°	782.4	762.7	743.0	723.2	703.5	678.5	648.5	618.3	588.1	558.1	538.5
50°	740.5	720.7	701.0	681.2	661.5	636.3	605.8	575.1	544.6	514.1	494.8
52.5°	699.4	678.7	658.2	637.5	616.9	591.6	561.8	531.8	501.9	472.0	453.5
55°	639.1	617.5	595.8	574.1	552.4	526.5	496.5	466.5	436.5	406.5	389.8
57.5°	577.3	555.1	532.8	510.6	488.4	462.9	433.9	405.1	376.3	347.4	332.2
60°	535.3	513.0	490.9	468.6	446.4	420.9	392.3	363.6	335.1	306.4	292.3
62.5°	494.3	472.0	449.8	427.5	405.3	380.6	353.3	326.0	298.7	271.4	257.9
65°	431.5	409.0	386.4	363.9	341.5	317.6	292.7	267.7	242.6	217.6	208.2
67.5°	371.0	348.6	326.3	303.9	281.5	259.1	236.7	214.1	191.6	169.1	164.8
70°	328.9	307.3	285.6	263.9	242.2	221.8	202.6	183.4	164.3	145.1	142.3
72.5°	288.9	268.2	247.3	226.6	205.8	187.7	172.3	156.8	141.5	126.1	123.8
75°	230.2	210.7	191.2	171.7	152.3	137.9	128.4	118.9	109.5	100.1	98.1
77.5°	172.4	155.2	138.2	121.1	104.1	93.3	88.7	84.2	79.6	75.0	73.9
80°	136.3	122.2	108.0	93.8	79.6	71.2	68.3	65.6	62.8	60.0	58.9
82.5°	103.3	92.3	81.2	70.1	59.1	52.6	50.7	48.8	46.9	45.1	44.4
85°	53.8	48.0	42.1	36.3	30.4	27.1	26.3	25.4	24.6	23.8	23.8
87.5°	16.2	15.0	13.9	12.5	11.1	10.8	11.8	13.1	14.2	14.4	13.9
90°	0.9	3.8	7.5	9.4	11.3	14.1	18.9	25.4	31.0	32.0	31.0
92.5°	11.5	16.6	23.4	27.4	33.8	42.7	64.0	93.9	120.6	122.2	103.3
95°	32.9	36.7	46.1	54.6	69.7	92.2	135.4	217.3	326.4	368.7	322.6
97.5°	53.6	58.7	68.7	81.4	98.8	124.3	178.7	292.8	474.1	629.5	660.3
100°	72.4	75.2	83.7	98.8	117.6	143.9	193.8	308.6	511.7	743.1	878.6
102.5°	89.7	91.8	100.3	115.4	134.9	161.3	207.4	309.3	497.5	746.9	959.9
105°	114.8	118.6	125.1	139.2	159.9	186.2	230.5	314.1	469.4	697.0	947.3
107.5°	141.9	144.9	151.3	164.3	184.7	211.3	254.2	327.2	455.4	643.7	864.7
110°	159.9	163.7	169.3	181.5	201.3	228.6	269.9	337.7	452.5	618.0	812.8



TEST NUMBER: P331728-830

CATALOG NUMBER: SA2XXRDIP-C865D925U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	176.4	180.2	186.6	198.1	217.1	245.2	285.0	349.0	453.2	601.4	776.7
115°	202.3	207.0	212.6	223.9	242.7	268.1	308.6	365.9	457.1	583.2	731.9
117.5°	228.9	232.7	238.4	248.4	266.4	292.8	330.2	384.0	463.9	574.4	703.6
120°	245.5	249.3	255.0	263.3	282.2	308.6	345.3	396.1	468.4	569.1	688.6
122.5°	261.4	264.3	269.9	279.2	298.0	325.1	359.5	406.5	473.7	566.1	675.8
125°	282.2	285.0	290.7	302.0	320.7	347.1	381.0	423.3	481.6	560.6	657.5
127.5°	298.8	302.6	310.4	322.8	340.9	368.0	401.0	438.9	489.7	557.4	640.6
130°	308.6	312.3	321.7	334.9	353.7	380.0	412.9	448.7	495.8	555.9	629.3
132.5°	317.5	322.1	332.2	346.2	365.7	392.1	423.5	458.5	501.7	555.2	620.3
135°	331.1	334.9	346.2	360.2	381.9	408.2	438.4	471.3	508.9	554.0	607.7
137.5°	343.9	348.5	359.7	374.8	396.2	420.7	450.4	481.1	515.3	553.8	598.8
140°	353.7	357.5	368.7	383.8	404.5	429.0	457.1	486.4	518.3	553.1	593.6
142.5°	363.4	366.5	377.0	392.1	412.0	435.0	462.4	490.9	520.6	553.1	588.3
145°	378.1	381.9	391.3	405.5	424.2	445.0	470.3	496.7	523.0	551.2	581.4
147.5°	394.0	396.8	405.8	418.8	434.4	452.9	476.7	499.9	523.8	547.9	574.2
150°	404.5	407.3	414.8	427.1	441.2	458.1	479.8	501.3	523.0	545.6	568.2
152.5°	415.0	416.3	423.9	434.6	448.0	463.4	482.8	502.1	521.5	541.9	562.9
155°	429.9	430.8	436.5	446.9	457.1	471.3	487.3	503.2	519.2	535.3	553.1
157.5°	442.3	443.3	447.8	456.8	465.1	476.9	490.5	503.2	514.9	528.5	543.9
160°	450.6	451.6	455.2	462.8	470.3	480.7	492.0	503.2	512.6	524.0	537.2
162.5°	458.8	458.3	462.0	468.1	474.9	483.0	492.8	502.5	510.4	520.2	531.1
165°	468.4	467.5	469.4	475.0	479.8	485.4	493.9	500.5	506.1	512.6	521.1
167.5°	476.4	475.2	476.9	480.5	483.9	487.5	493.7	499.2	501.7	506.1	511.3
170°	481.6	479.8	480.7	483.5	485.4	488.2	492.9	497.7	499.5	502.3	506.1
172.5°	484.7	483.5	483.0	485.8	486.9	489.0	492.2	495.4	496.5	497.9	500.9
175°	488.2	487.3	486.4	488.2	488.2	489.2	491.1	492.9	492.0	492.9	493.9
177.5°	489.9	488.4	487.7	489.2	489.2	489.2	489.9	491.4	489.9	489.2	489.9
180°	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2



TEST NUMBER: P331728-830
 CATALOG NUMBER: SA2XXRDIP-C865D925U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1375.5	1377.7	1379.9	1380.8	1380.4	1379.9	1379.5	1379.0
5°	1364.5	1367.0	1369.5	1370.4	1369.5	1368.7	1367.8	1367.0
7.5°	1342.5	1343.1	1343.9	1343.5	1342.1	1340.7	1339.2	1337.8
10°	1320.3	1319.5	1318.6	1317.4	1315.7	1314.1	1312.4	1310.7
12.5°	1295.0	1293.5	1291.9	1289.9	1287.0	1284.3	1281.5	1278.7
15°	1247.6	1242.4	1237.1	1233.0	1230.3	1227.5	1224.7	1221.9
17.5°	1194.1	1187.8	1181.6	1176.0	1171.2	1166.5	1161.7	1156.9
20°	1156.8	1149.8	1142.8	1136.3	1130.2	1124.1	1117.9	1111.9
22.5°	1115.8	1106.8	1097.9	1091.1	1086.6	1081.9	1077.4	1072.9
25°	1047.8	1036.4	1025.0	1017.2	1013.0	1008.9	1004.8	1000.6
27.5°	983.0	969.7	956.4	946.5	939.9	933.2	926.6	920.0
30°	937.2	923.0	908.8	898.0	890.5	883.0	875.5	868.0
32.5°	891.2	875.0	858.8	847.2	840.2	833.1	826.0	819.0
35°	819.2	801.7	784.2	772.4	766.3	760.2	754.0	747.9
37.5°	749.1	729.8	710.6	697.4	690.4	683.3	676.4	669.4
40°	702.2	682.5	662.7	649.2	642.1	634.8	627.5	620.4
42.5°	654.9	634.4	614.1	600.3	593.3	586.4	579.3	572.3
45°	585.9	566.2	546.4	533.2	526.5	519.9	513.2	506.5
47.5°	518.8	499.2	479.6	466.7	460.7	454.6	448.6	442.5
50°	475.7	456.5	437.3	424.8	419.0	413.1	407.3	401.4
52.5°	435.0	416.5	397.9	386.1	380.6	375.2	369.9	364.5
55°	373.2	356.5	339.8	328.8	323.5	318.2	312.9	307.6
57.5°	316.9	301.6	286.3	276.4	272.0	267.5	263.1	258.6
60°	278.1	263.9	249.7	240.4	235.9	231.5	227.1	222.6
62.5°	244.4	230.9	217.4	209.2	206.6	204.0	201.2	198.6
65°	198.7	189.3	179.8	174.7	173.8	173.1	172.2	171.4
67.5°	160.4	156.1	151.7	149.1	148.3	147.3	146.5	145.6
70°	139.5	136.8	133.9	132.1	130.9	129.8	128.7	127.5
72.5°	121.4	119.0	116.7	115.3	114.5	113.9	113.2	112.5
75°	96.1	94.3	92.3	91.1	90.9	90.6	90.3	90.0
77.5°	72.9	71.7	70.6	69.8	69.4	68.9	68.5	68.1
80°	57.8	56.7	55.6	55.0	55.0	55.0	55.0	55.0
82.5°	43.7	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
87.5°	13.6	13.0	13.1	13.2	13.2	13.2	13.2	13.2
90°	30.1	28.2	30.1	31.0	31.0	31.0	31.0	31.0
92.5°	82.0	70.4	62.5	56.6	55.9	52.9	53.6	52.1
95°	246.5	189.1	149.6	128.8	116.7	109.1	106.3	107.3
97.5°	575.1	470.5	368.7	300.9	255.9	232.7	219.0	211.1
100°	858.8	742.2	613.3	499.5	421.4	381.0	353.7	336.8
102.5°	1044.7	1018.4	924.2	803.5	718.7	649.6	615.6	592.7
105°	1142.9	1249.2	1261.5	1230.4	1172.1	1113.8	1073.3	1060.2
107.5°	1072.2	1232.3	1330.1	1375.6	1383.0	1379.8	1371.7	1354.2
110°	1011.3	1179.6	1300.0	1377.1	1417.6	1435.5	1444.0	1443.0



TEST NUMBER: P331728-830

CATALOG NUMBER: SA2XXRDIP-C865D925U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	955.5	1117.2	1245.9	1334.3	1390.5	1420.4	1436.4	1441.5
115°	887.0	1031.9	1155.2	1252.1	1318.8	1362.1	1386.6	1395.1
117.5°	835.5	962.7	1074.4	1165.4	1233.4	1279.1	1305.0	1312.0
120°	809.9	926.6	1026.2	1111.9	1177.7	1221.9	1249.2	1258.7
122.5°	789.6	896.5	990.9	1068.3	1127.3	1170.7	1195.0	1203.0
125°	760.1	857.0	939.7	1010.3	1064.9	1100.6	1124.1	1131.6
127.5°	730.9	818.6	896.6	961.8	1009.4	1042.8	1063.2	1069.2
130°	712.1	793.0	867.3	929.4	975.5	1007.5	1026.2	1033.8
132.5°	694.0	768.9	837.2	895.5	940.8	972.9	990.1	996.9
135°	668.8	730.9	793.0	845.6	886.1	917.2	934.1	937.8
137.5°	648.7	700.6	749.9	795.8	832.7	859.4	874.3	880.0
140°	635.9	681.1	724.3	765.7	795.8	820.3	834.4	840.0
142.5°	625.4	663.7	701.0	735.7	764.2	786.5	799.0	800.1
145°	610.5	641.6	670.7	698.0	720.6	736.6	745.9	748.8
147.5°	599.0	623.5	646.2	666.2	684.9	697.6	704.0	705.7
150°	590.8	611.4	631.2	648.1	662.2	673.5	679.2	680.1
152.5°	582.5	601.6	618.4	633.1	644.1	653.9	658.1	658.3
155°	571.0	586.1	600.1	610.5	620.9	627.5	631.2	629.3
157.5°	557.6	570.2	582.1	590.2	597.5	602.9	604.6	604.6
160°	549.3	559.7	570.0	576.6	583.2	588.0	588.9	588.9
162.5°	541.1	549.9	558.7	563.8	570.4	573.6	574.6	573.8
165°	528.7	535.3	541.9	545.6	549.3	553.1	553.1	552.1
167.5°	516.8	521.9	526.4	529.8	531.5	533.6	533.4	532.3
170°	510.8	513.6	517.4	519.2	520.2	523.0	522.1	520.2
172.5°	504.0	506.1	509.1	510.2	511.1	512.5	511.5	510.4
175°	496.7	497.7	498.6	499.5	499.5	500.5	499.5	497.7
177.5°	491.4	491.4	492.2	492.2	492.2	492.2	491.4	489.9
180°	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2

(END OF REPORT)