

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: P331728-930

Luminaire Tested: **SA2XXRDIP-C865D925U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331728-930
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-C865D925U930-4F0-1E-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

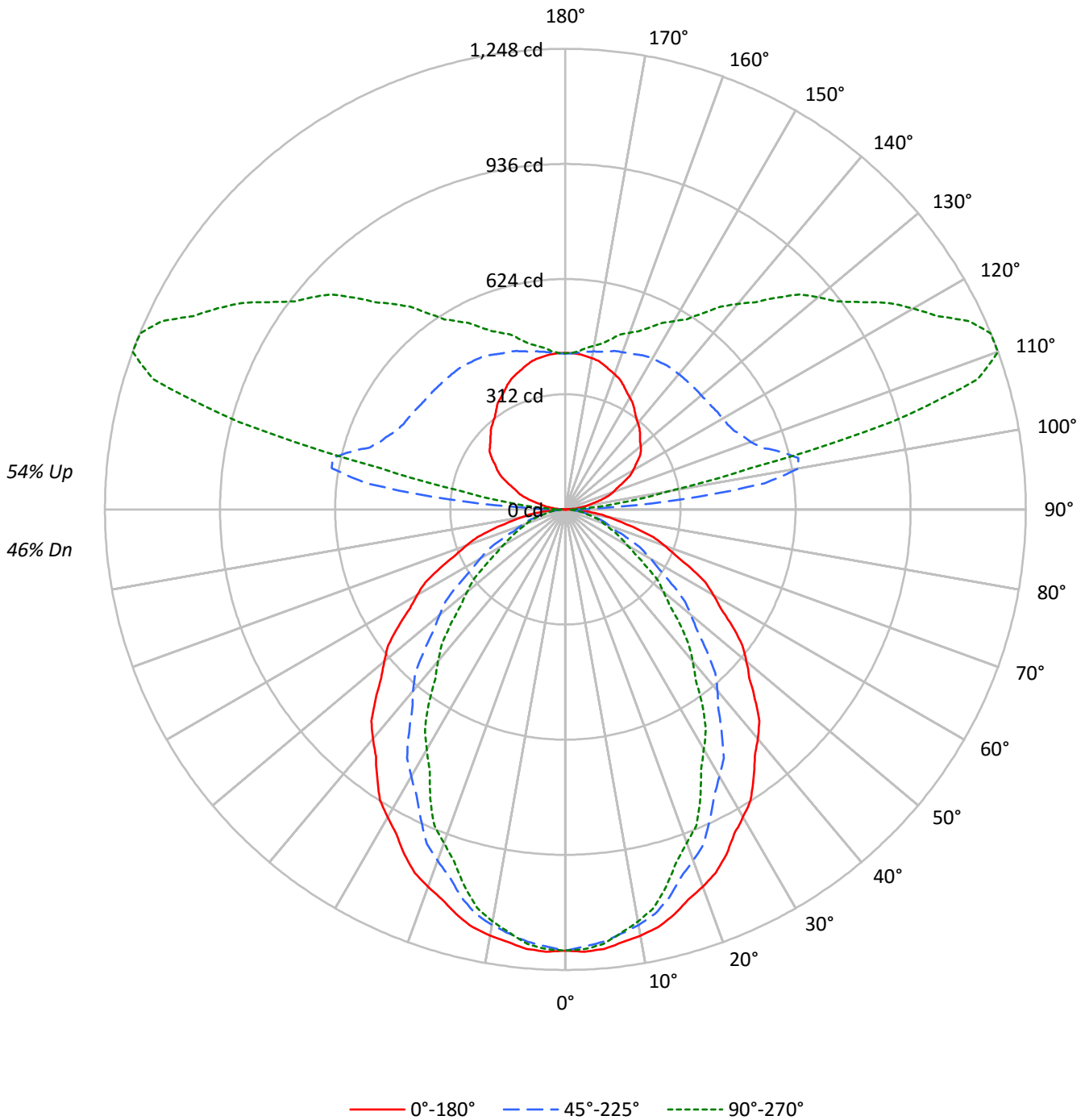
Lumens per Lamp: N/A
Luminaire Lumens: 5406.9 lumens
Efficiency: N/A
Efficacy: 89.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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: P331728-930
CATALOG NUMBER: SA2XXRDIP-C865D925U930-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P331728-930

CATALOG NUMBER: SA2XXRDIP-C865D925U930-4F0-1E-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	0
RCR																		
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	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°	19302	19302	19302
5°	19376	19060	19164
10°	19226	18748	18589
15°	19005	18191	17668
20°	18699	17399	16526
25°	18387	16498	15419
30°	17952	15571	13998
35°	17527	14564	12751
40°	17102	13523	11310
45°	16600	12353	10003
50°	16088	11170	8721
55°	15564	9897	7491
60°	14951	8561	6219
65°	14258	7194	5662
70°	13430	5925	5207
75°	12420	5402	4860
80°	10962	4826	4426
85°	8633	3798	3798



TEST NUMBER: P331728-930

CATALOG NUMBER: SA2XXRDIP-C865D925U930-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.9	2.1
10°-20°	307.2	5.7
20°-30°	431.5	8.0
30°-40°	470.5	8.7
40°-50°	432.6	8.0
50°-60°	339.7	6.3
60°-70°	221.5	4.1
70°-80°	114.2	2.1
80°-90°	33.4	0.6
90°-100°	169.2	3.1
100°-110°	574.1	10.6
110°-120°	609.9	11.3
120°-130°	502.1	9.3
130°-140°	403.2	7.5
140°-150°	304.7	5.6
150°-160°	214.1	4.0
160°-170°	126.0	2.3
170°-180°	41.0	0.8
0°-30°	850.6	15.7
0°-40°	1321.1	24.4
0°-60°	2093.4	38.7
0°-90°	2462.5	45.5
90°-120°	1353.2	25.0
90°-150°	2563.1	47.4
90°-180°	2944.0	54.4
0°-180°	5406.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	1196	1190	1176	1185	1182	113
15°	1137	1124	1088	1068	1057	320
25°	1032	995	926	883	866	474
35°	889	832	739	673	647	556
45°	727	652	541	467	438	561
55°	553	467	352	289	266	494
65°	373	285	188	153	148	370
75°	199	126	87	79	78	211
85°	47	25	20	20	20	55
90°	1	11	28	26	27	3
95°	28	70	319	120	93	30
105°	99	150	603	1078	917	106
115°	175	221	504	1041	1207	173
125°	244	289	485	843	979	217
135°	286	342	479	709	811	221
145°	327	376	477	592	648	205
155°	372	402	463	524	544	171
165°	405	417	443	470	478	114
175°	422	423	426	432	430	40
180°	423	423	423	423	423	



TEST NUMBER: P331728-930

CATALOG NUMBER: SA2XXRDIP-C865D925U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1199.8	1198.8	1197.8	1196.9	1196.0	1194.4	1192.3	1190.2	1188.1	1185.9	1187.9
5°	1195.5	1194.3	1193.0	1191.8	1190.7	1188.5	1185.4	1182.3	1179.1	1176.0	1178.1
7.5°	1183.1	1181.6	1180.1	1178.7	1177.1	1174.6	1170.9	1167.3	1163.6	1159.9	1160.6
10°	1172.7	1171.0	1169.4	1167.7	1166.0	1162.8	1158.0	1153.2	1148.3	1143.5	1142.8
12.5°	1159.8	1157.6	1155.6	1153.6	1151.4	1147.4	1141.2	1135.1	1128.9	1122.7	1121.4
15°	1137.0	1134.4	1131.7	1129.1	1126.4	1121.0	1112.9	1104.7	1096.5	1088.3	1083.8
17.5°	1109.1	1105.1	1101.1	1097.0	1093.0	1085.7	1075.2	1064.7	1054.3	1043.7	1038.4
20°	1088.3	1083.5	1078.7	1073.9	1069.1	1060.7	1048.6	1036.7	1024.7	1012.6	1006.6
22.5°	1065.8	1060.5	1055.1	1049.7	1044.3	1034.9	1021.2	1007.7	994.2	980.6	972.8
25°	1032.1	1024.4	1016.7	1009.0	1001.4	989.5	973.6	957.8	941.9	926.1	916.2
27.5°	991.4	983.0	974.7	966.3	958.0	944.9	926.9	909.1	891.1	873.3	861.8
30°	962.9	953.7	944.6	935.5	926.3	912.2	892.9	873.7	854.4	835.2	823.0
32.5°	935.1	924.5	913.8	903.1	892.4	877.3	857.7	838.0	818.5	798.8	784.9
35°	889.2	877.0	864.8	852.5	840.2	823.5	802.3	781.2	760.1	738.9	723.7
37.5°	843.4	830.0	816.5	803.0	789.5	771.5	749.0	726.4	703.9	681.3	664.6
40°	811.4	797.0	782.5	768.1	753.7	734.8	711.5	688.2	664.9	641.6	624.4
42.5°	778.5	763.3	748.1	733.0	717.7	698.1	674.0	649.9	625.8	601.7	584.1
45°	727.0	710.9	694.8	678.7	662.6	641.9	616.7	591.4	566.1	541.0	523.8
47.5°	676.8	659.7	642.7	625.6	608.5	586.9	560.9	534.8	508.7	482.7	465.8
50°	640.5	623.4	606.3	589.2	572.2	550.4	524.0	497.5	471.1	444.7	428.0
52.5°	605.0	587.1	569.3	551.5	533.6	511.8	485.9	460.0	434.1	408.3	392.2
55°	552.9	534.1	515.4	496.6	477.8	455.4	429.5	403.5	377.6	351.6	337.2
57.5°	499.4	480.1	460.9	441.6	422.5	400.4	375.4	350.4	325.5	300.5	287.3
60°	463.0	443.8	424.6	405.4	386.1	364.1	339.3	314.5	289.8	265.1	252.8
62.5°	427.5	408.3	389.1	369.8	350.6	329.2	305.6	282.0	258.4	234.7	223.1
65°	373.2	353.8	334.3	314.8	295.4	274.8	253.2	231.5	209.9	188.3	180.1
67.5°	320.9	301.6	282.3	262.9	243.5	224.1	204.7	185.2	165.8	146.3	142.5
70°	284.5	265.8	247.0	228.3	209.5	191.8	175.3	158.7	142.1	125.5	123.1
72.5°	249.9	232.0	213.9	196.0	178.0	162.3	149.0	135.7	122.4	109.1	107.0
75°	199.1	182.2	165.4	148.5	131.8	119.3	111.0	102.9	94.7	86.6	84.9
77.5°	149.1	134.3	119.5	104.8	90.0	80.7	76.7	72.8	68.9	64.9	63.9
80°	117.9	105.7	93.4	81.1	68.9	61.6	59.1	56.7	54.3	51.9	51.0
82.5°	89.4	79.8	70.2	60.7	51.1	45.5	43.9	42.2	40.6	39.0	38.4
85°	46.6	41.5	36.4	31.4	26.3	23.5	22.7	22.0	21.3	20.5	20.5
87.5°	14.0	13.0	12.1	10.8	9.6	9.4	10.2	11.3	12.3	12.5	12.1
90°	0.8	3.3	6.5	8.2	9.8	12.2	16.3	21.9	26.8	27.6	26.8
92.5°	9.9	14.3	20.2	23.7	29.3	36.9	55.4	81.2	104.3	105.7	89.4
95°	28.5	31.7	39.9	47.2	60.3	79.7	117.2	187.9	282.3	318.9	279.1
97.5°	46.4	50.8	59.4	70.4	85.4	107.5	154.6	253.2	410.1	544.5	571.2
100°	62.6	65.1	72.4	85.4	101.7	124.5	167.6	266.9	442.6	642.8	760.0
102.5°	77.6	79.4	86.7	99.8	116.7	139.5	179.4	267.6	430.3	646.0	830.3
105°	99.3	102.6	108.2	120.4	138.4	161.1	199.3	271.7	406.0	602.9	819.4
107.5°	122.7	125.3	130.9	142.1	159.8	182.8	219.9	283.0	394.0	556.8	748.0
110°	138.4	141.6	146.4	157.0	174.1	197.7	233.5	292.1	391.4	534.6	703.0



TEST NUMBER: P331728-930

CATALOG NUMBER: SA2XXRDIP-C865D925U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	152.6	155.9	161.4	171.4	187.8	212.1	246.5	301.9	392.0	520.2	671.8
115°	175.0	179.0	183.9	193.6	209.9	231.9	266.9	316.5	395.4	504.5	633.1
117.5°	198.0	201.3	206.2	214.8	230.4	253.2	285.6	332.2	401.3	496.8	608.6
120°	212.4	215.6	220.5	227.8	244.1	266.9	298.6	342.6	405.2	492.3	595.7
122.5°	226.1	228.6	233.5	241.5	257.8	281.2	311.0	351.6	409.8	489.7	584.6
125°	244.1	246.5	251.4	261.2	277.4	300.3	329.5	366.2	416.6	484.9	568.8
127.5°	258.4	261.7	268.5	279.2	294.9	318.3	346.8	379.7	423.6	482.2	554.2
130°	266.9	270.1	278.3	289.7	306.0	328.7	357.2	388.2	428.8	480.9	544.4
132.5°	274.7	278.6	287.4	299.5	316.3	339.2	366.3	396.6	434.0	480.2	536.5
135°	286.4	289.7	299.5	311.6	330.4	353.1	379.2	407.6	440.2	479.2	525.6
137.5°	297.5	301.4	311.1	324.2	342.8	363.9	389.6	416.1	445.7	479.1	518.0
140°	306.0	309.2	318.9	332.0	349.9	371.0	395.4	420.7	448.3	478.4	513.5
142.5°	314.4	317.0	326.1	339.2	356.4	376.3	400.0	424.6	450.3	478.4	508.9
145°	327.1	330.4	338.5	350.7	367.0	384.9	406.8	429.7	452.4	476.8	502.9
147.5°	340.8	343.2	351.0	362.2	375.8	391.8	412.4	432.4	453.1	473.9	496.7
150°	349.9	352.3	358.8	369.4	381.6	396.2	415.0	433.7	452.4	472.0	491.5
152.5°	359.0	360.1	366.6	375.9	387.5	400.8	417.6	434.3	451.1	468.7	486.9
155°	371.9	372.7	377.6	386.5	395.4	407.6	421.5	435.3	449.1	463.0	478.4
157.5°	382.6	383.4	387.3	395.1	402.3	412.5	424.3	435.3	445.4	457.1	470.5
160°	389.8	390.6	393.8	400.3	406.8	415.8	425.6	435.3	443.4	453.2	464.6
162.5°	396.9	396.4	399.7	404.9	410.7	417.8	426.2	434.6	441.5	450.0	459.4
165°	405.2	404.4	406.0	410.9	415.0	419.9	427.2	432.9	437.7	443.4	450.8
167.5°	412.1	411.1	412.5	415.6	418.6	421.7	427.1	431.8	434.0	437.7	442.3
170°	416.6	415.0	415.8	418.2	419.9	422.3	426.4	430.5	432.1	434.5	437.7
172.5°	419.2	418.2	417.8	420.2	421.2	423.0	425.7	428.5	429.5	430.6	433.3
175°	422.3	421.5	420.7	422.3	422.3	423.1	424.8	426.4	425.6	426.4	427.2
177.5°	423.8	422.5	421.8	423.1	423.1	423.1	423.8	425.1	423.8	423.1	423.8
180°	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1



TEST NUMBER: P331728-930

CATALOG NUMBER: SA2XXRDIP-C865D925U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1189.8	1191.7	1193.6	1194.4	1194.0	1193.6	1193.3	1192.9
5°	1180.3	1182.4	1184.6	1185.4	1184.6	1183.9	1183.2	1182.4
7.5°	1161.2	1161.8	1162.5	1162.1	1160.9	1159.7	1158.4	1157.2
10°	1142.1	1141.3	1140.6	1139.5	1138.1	1136.7	1135.2	1133.8
12.5°	1120.1	1118.8	1117.5	1115.7	1113.3	1110.9	1108.5	1106.1
15°	1079.2	1074.6	1070.1	1066.6	1064.2	1061.8	1059.4	1057.0
17.5°	1032.9	1027.4	1022.1	1017.2	1013.1	1009.0	1004.9	1000.7
20°	1000.6	994.6	988.6	982.9	977.6	972.3	967.0	961.8
22.5°	965.2	957.4	949.7	943.8	939.9	935.9	932.0	928.1
25°	906.4	896.5	886.6	879.9	876.3	872.7	869.1	865.5
27.5°	850.3	838.8	827.3	818.7	813.0	807.2	801.5	795.8
30°	810.7	798.4	786.1	776.7	770.3	763.8	757.3	750.8
32.5°	770.9	756.8	742.9	732.8	726.8	720.6	714.5	708.4
35°	708.6	693.5	678.3	668.1	662.8	657.5	652.2	646.9
37.5°	648.0	631.3	614.7	603.2	597.2	591.1	585.1	579.0
40°	607.4	590.4	573.2	561.6	555.4	549.1	542.8	536.6
42.5°	566.5	548.8	531.2	519.3	513.2	507.2	501.1	495.0
45°	506.8	489.8	472.6	461.2	455.4	449.7	443.9	438.1
47.5°	448.7	431.8	414.8	403.7	398.5	393.2	388.0	382.8
50°	411.5	394.8	378.3	367.5	362.4	357.3	352.3	347.2
52.5°	376.3	360.3	344.2	333.9	329.2	324.6	319.9	315.3
55°	322.8	308.3	293.9	284.4	279.8	275.2	270.7	266.1
57.5°	274.1	260.9	247.7	239.1	235.3	231.4	227.6	223.7
60°	240.5	228.3	216.0	208.0	204.1	200.2	196.4	192.6
62.5°	211.4	199.7	188.0	181.0	178.7	176.4	174.1	171.8
65°	171.9	163.7	155.6	151.1	150.3	149.7	149.0	148.2
67.5°	138.8	135.0	131.3	129.0	128.2	127.4	126.7	126.0
70°	120.7	118.3	115.9	114.2	113.2	112.3	111.3	110.3
72.5°	105.0	103.0	100.9	99.7	99.1	98.5	97.9	97.3
75°	83.2	81.5	79.8	78.8	78.6	78.4	78.1	77.9
77.5°	63.0	62.0	61.1	60.4	60.0	59.6	59.3	58.9
80°	50.0	49.1	48.1	47.6	47.6	47.6	47.6	47.6
82.5°	37.8	37.2	36.6	36.4	36.4	36.4	36.4	36.4
85°	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
87.5°	11.7	11.3	11.3	11.4	11.4	11.4	11.4	11.4
90°	26.0	24.4	26.0	26.8	26.8	26.8	26.8	26.8
92.5°	70.9	60.9	54.1	49.0	48.3	45.7	46.4	45.1
95°	213.2	163.5	129.4	111.5	100.9	94.4	92.0	92.8
97.5°	497.5	407.0	318.9	260.2	221.4	201.3	189.4	182.6
100°	742.9	642.0	530.5	432.1	364.5	329.5	306.0	291.3
102.5°	903.7	880.9	799.4	695.0	621.7	561.9	532.5	512.7
105°	988.6	1080.6	1091.2	1064.3	1013.8	963.4	928.4	917.0
107.5°	927.5	1065.9	1150.6	1189.9	1196.3	1193.5	1186.5	1171.4
110°	874.7	1020.3	1124.5	1191.2	1226.2	1241.7	1249.0	1248.2



TEST NUMBER: P331728-930

CATALOG NUMBER: SA2XXRDIP-C865D925U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	826.6	966.4	1077.7	1154.1	1202.8	1228.7	1242.5	1246.9
115°	767.3	892.6	999.2	1083.0	1140.8	1178.2	1199.4	1206.7
117.5°	722.7	832.7	929.4	1008.0	1066.9	1106.4	1128.8	1134.9
120°	700.6	801.5	887.7	961.8	1018.7	1057.0	1080.6	1088.8
122.5°	683.0	775.4	857.1	924.1	975.1	1012.7	1033.7	1040.6
125°	657.5	741.3	812.9	873.9	921.1	952.0	972.3	978.8
127.5°	632.3	708.1	775.6	831.9	873.1	902.0	919.7	924.9
130°	616.0	685.9	750.2	804.0	843.8	871.5	887.7	894.2
132.5°	600.3	665.1	724.1	774.6	813.8	841.6	856.5	862.3
135°	578.5	632.3	685.9	731.5	766.5	793.4	808.0	811.2
137.5°	561.1	606.0	648.7	688.4	720.3	743.4	756.3	761.2
140°	550.1	589.1	626.6	662.3	688.4	709.6	721.8	726.6
142.5°	541.0	574.1	606.3	636.3	661.0	680.3	691.1	692.1
145°	528.1	555.0	580.2	603.7	623.3	637.2	645.2	647.7
147.5°	518.1	539.3	559.0	576.3	592.4	603.4	608.9	610.4
150°	511.0	528.9	546.0	560.6	572.8	582.6	587.5	588.3
152.5°	503.9	520.4	534.9	547.6	557.2	565.7	569.2	569.4
155°	493.9	507.0	519.1	528.1	537.0	542.7	546.0	544.4
157.5°	482.3	493.3	503.5	510.5	516.8	521.5	523.0	523.0
160°	475.2	484.1	493.1	498.8	504.5	508.6	509.4	509.4
162.5°	468.1	475.6	483.3	487.7	493.4	496.2	497.0	496.4
165°	457.3	463.0	468.7	472.0	475.2	478.4	478.4	477.6
167.5°	447.0	451.4	455.3	458.3	459.7	461.5	461.4	460.4
170°	441.8	444.3	447.5	449.1	450.0	452.4	451.6	450.0
172.5°	435.9	437.7	440.3	441.3	442.1	443.3	442.5	441.5
175°	429.7	430.5	431.3	432.1	432.1	432.9	432.1	430.5
177.5°	425.1	425.1	425.7	425.7	425.7	425.7	425.1	423.8
180°	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1

(END OF REPORT)