

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: P331732-930

Luminaire Tested: **SA2XXRDIP-C865D1080U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331732-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C865D1080U930-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

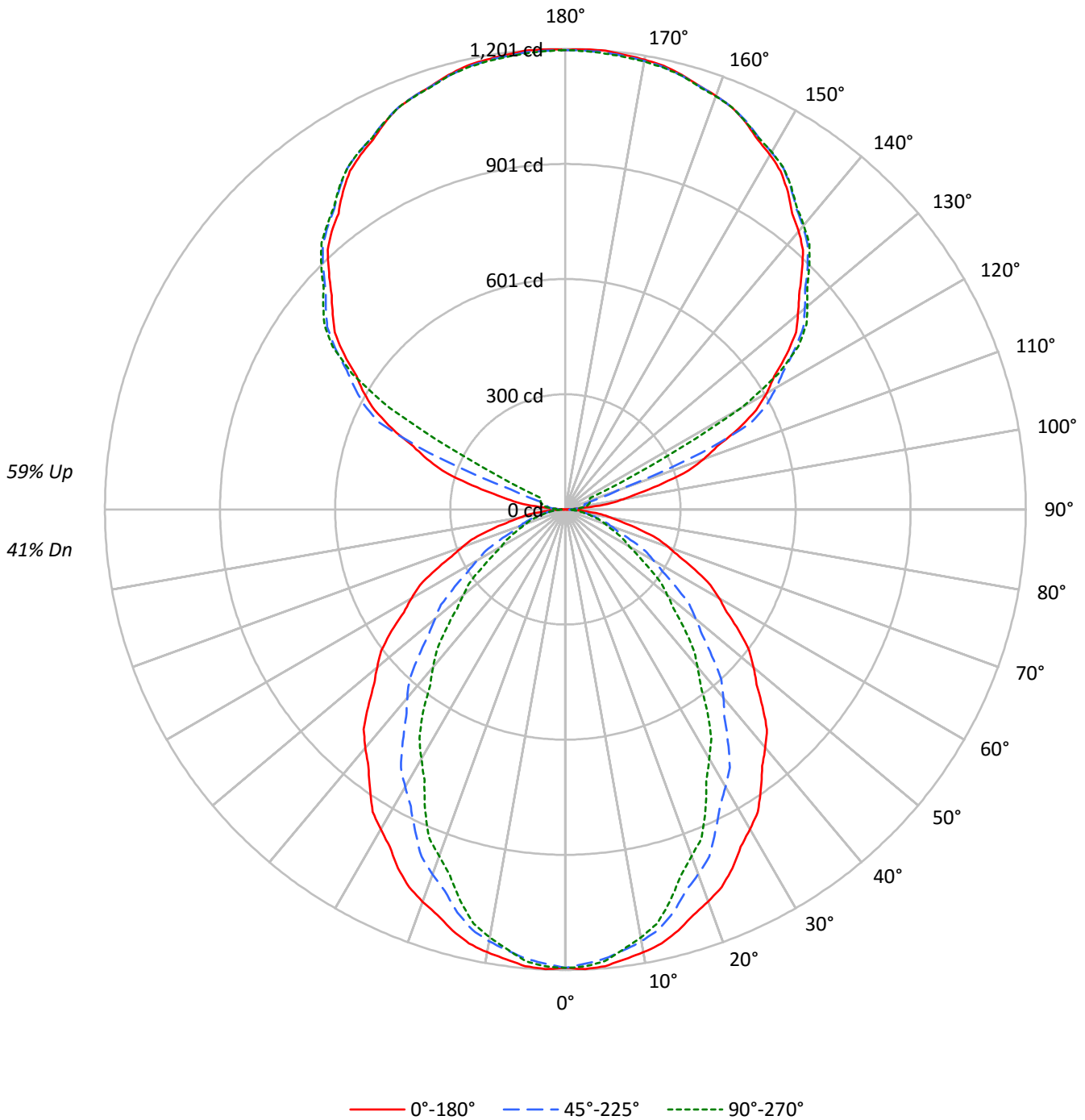
Lumens per Lamp: N/A  
Luminaire Lumens: 5971.8 lumens  
Efficiency: N/A  
Efficacy: 91.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41				
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	35				
2	88	81	75	70	80	74	69	65	61	58	55	49	47	45	38	37	35	30				
3	80	71	64	59	73	65	59	55	54	50	46	44	41	38	34	32	31	26				
4	74	63	56	50	67	58	52	47	48	44	40	39	36	33	31	29	27	23				
5	68	57	49	43	62	52	45	40	44	38	34	36	32	29	28	26	23	20				
6	63	51	43	37	57	47	40	35	39	34	30	32	28	25	26	23	21	18				
7	58	46	38	33	53	42	36	31	36	31	27	29	26	23	23	21	19	16				
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	22	19	17	14				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13				
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	19	16	14	12				

**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



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.9	1.9
10°-20°	307.2	5.1
20°-30°	431.5	7.2
30°-40°	470.5	7.9
40°-50°	432.6	7.2
50°-60°	339.7	5.7
60°-70°	221.5	3.7
70°-80°	114.2	1.9
80°-90°	32.6	0.5
90°-100°	40.0	0.7
100°-110°	146.5	2.5
110°-120°	391.7	6.6
120°-130°	646.5	10.8
130°-140°	687.6	11.5
140°-150°	639.1	10.7
150°-160°	513.8	8.6
160°-170°	331.1	5.5
170°-180°	114.0	1.9
0°-30°	850.6	14.2
0°-40°	1321.1	22.1
0°-60°	2093.4	35.1
0°-90°	2461.7	41.2
90°-120°	578.1	9.7
90°-150°	2551.3	42.7
90°-180°	3510.0	58.8
0°-180°	5971.8	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	10	17	22	23	5
95°	56	30	34	38	37	69
105°	264	275	53	62	66	282
115°	498	513	535	152	71	491
125°	705	716	732	738	741	628
135°	872	885	894	902	900	673
145°	1012	1011	1025	1031	1027	632
155°	1114	1107	1116	1121	1115	513
165°	1174	1169	1171	1176	1171	331
175°	1200	1195	1196	1201	1193	114
180°	1198	1198	1198	1198	1198	



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**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	12.9	11.8	10.7	9.5	9.1	9.5	9.8	10.1	10.4	10.4
90°	0.9	3.0	5.1	7.3	9.4	11.2	12.7	14.3	15.8	17.4	18.3
92.5°	17.5	17.3	17.1	17.0	16.7	17.0	17.8	18.6	19.3	20.1	20.6
95°	56.3	50.0	43.6	37.3	30.9	28.4	29.8	31.1	32.4	33.8	34.7
97.5°	111.8	93.9	76.0	58.0	40.2	32.8	35.9	39.0	42.2	45.2	46.0
100°	153.4	127.0	100.6	74.3	47.9	36.3	39.5	42.9	46.1	49.4	51.0
102.5°	199.2	193.6	188.0	182.4	176.8	160.4	133.0	105.6	78.2	50.8	52.8
105°	263.5	269.3	275.0	280.8	286.6	263.2	210.6	158.0	105.4	52.8	55.0
107.5°	336.8	341.4	346.1	350.7	355.5	326.3	263.2	200.2	137.1	74.0	71.8
110°	383.9	388.0	392.1	396.1	400.1	374.3	318.6	263.0	207.3	151.6	132.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	428.4	431.9	435.5	439.0	442.6	437.6	423.8	410.1	396.3	382.5	312.3
115°	498.4	501.7	504.9	508.2	511.4	515.5	520.3	525.1	529.9	534.8	445.6
117.5°	560.9	564.6	568.3	571.9	575.6	579.0	582.4	585.7	589.0	592.3	570.7
120°	606.7	609.6	612.5	615.4	618.2	621.4	624.9	628.4	631.9	635.3	637.6
122.5°	645.6	648.6	651.6	654.7	657.7	661.1	664.9	668.6	672.5	676.2	677.6
125°	704.7	707.1	709.6	712.2	714.6	717.7	721.4	725.0	728.7	732.4	733.7
127.5°	758.2	761.0	763.8	766.5	769.3	772.0	774.8	777.5	780.2	783.0	785.0
130°	792.1	795.2	798.3	801.4	804.5	807.1	809.2	811.3	813.4	815.5	817.7
132.5°	826.8	829.5	832.1	834.7	837.3	839.7	841.8	843.9	846.0	848.2	849.9
135°	871.9	875.0	878.1	881.2	884.2	886.6	888.4	890.1	891.9	893.6	895.5
137.5°	917.5	919.7	921.8	924.0	926.1	928.1	930.2	932.1	934.1	936.0	937.9
140°	947.3	948.8	950.4	951.9	953.5	955.3	957.4	959.5	961.6	963.8	965.5
142.5°	972.2	973.6	975.0	976.4	977.8	979.7	982.1	984.6	987.0	989.4	991.0
145°	1011.5	1011.2	1011.1	1010.9	1010.6	1012.2	1015.5	1018.7	1022.1	1025.3	1026.6
147.5°	1045.6	1044.9	1044.2	1043.4	1042.7	1043.9	1047.2	1050.4	1053.6	1056.9	1057.9
150°	1067.8	1066.4	1065.1	1063.7	1062.4	1063.2	1066.3	1069.4	1072.5	1075.5	1076.8
152.5°	1086.5	1085.0	1083.5	1082.0	1080.5	1081.2	1084.1	1087.0	1090.0	1092.9	1094.1
155°	1113.7	1112.0	1110.3	1108.5	1106.8	1107.1	1109.4	1111.7	1114.0	1116.3	1117.4
157.5°	1135.1	1133.6	1132.1	1130.7	1129.2	1129.3	1130.9	1132.5	1134.1	1135.7	1137.0
160°	1147.5	1146.4	1145.2	1144.0	1142.9	1142.9	1144.0	1145.2	1146.4	1147.5	1148.7
162.5°	1158.6	1157.5	1156.3	1155.1	1154.0	1153.9	1154.9	1155.9	1156.9	1157.9	1159.2
165°	1173.5	1172.3	1171.2	1170.0	1168.9	1168.6	1169.1	1169.8	1170.4	1170.9	1172.2
167.5°	1184.6	1183.5	1182.3	1181.1	1180.0	1179.7	1180.2	1180.7	1181.3	1181.9	1183.2
170°	1190.8	1189.7	1188.5	1187.4	1186.3	1185.9	1186.3	1186.6	1187.0	1187.4	1188.7
172.5°	1195.0	1193.8	1192.7	1191.6	1190.4	1190.0	1190.4	1190.7	1191.2	1191.6	1192.9
175°	1200.4	1199.1	1197.7	1196.4	1195.0	1194.5	1194.9	1195.3	1195.6	1196.0	1197.4
177.5°	1201.3	1200.2	1199.1	1198.0	1196.9	1196.5	1196.6	1196.8	1196.9	1197.1	1198.2
180°	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8



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**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°	10.4	10.4	10.4	10.4	10.5	10.6	10.7	10.8
90°	19.2	20.2	21.2	21.9	22.3	22.7	23.0	23.4
92.5°	21.1	21.6	22.1	22.5	22.7	22.9	23.2	23.4
95°	35.7	36.7	37.7	38.1	37.8	37.7	37.4	37.3
97.5°	46.8	47.5	48.3	48.8	49.1	49.3	49.5	49.7
100°	52.5	54.1	55.6	56.5	56.9	57.3	57.7	58.0
102.5°	54.8	56.8	58.8	60.1	60.6	61.1	61.7	62.2
105°	57.1	59.2	61.3	62.8	63.6	64.3	65.1	65.9
107.5°	69.7	67.5	65.4	64.7	65.5	66.2	67.0	67.8
110°	113.2	93.9	74.6	65.4	66.1	66.9	67.7	68.5





TEST NUMBER: P331732-930

CATALOG NUMBER: SA2XXRDIP-C865D1080U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	242.1	171.8	101.5	66.7	67.3	67.9	68.6	69.1
115°	356.4	267.3	178.1	126.5	112.7	98.8	85.0	71.1
117.5°	549.2	527.6	506.1	472.5	426.9	381.3	335.7	290.2
120°	639.9	642.2	644.6	632.7	606.7	580.7	554.6	528.7
122.5°	679.0	680.4	681.8	679.9	674.9	669.8	664.8	659.7
125°	735.1	736.4	737.8	738.7	739.3	739.9	740.5	741.0
127.5°	786.9	788.9	790.8	791.9	792.0	792.1	792.2	792.3
130°	819.8	821.9	824.0	825.0	824.8	824.6	824.4	824.3
132.5°	851.7	853.6	855.4	856.2	856.0	855.8	855.7	855.4
135°	897.4	899.4	901.2	902.0	901.6	901.2	900.9	900.5
137.5°	939.8	941.7	943.5	944.2	943.5	942.9	942.2	941.6
140°	967.3	969.0	970.7	971.1	970.1	969.1	968.2	967.3
142.5°	992.5	994.2	995.7	996.1	995.1	994.1	993.2	992.2
145°	1028.0	1029.3	1030.7	1030.9	1030.0	1029.0	1028.0	1027.0
147.5°	1058.8	1059.9	1060.9	1060.9	1060.1	1059.3	1058.5	1057.7
150°	1077.9	1079.0	1080.2	1080.3	1079.3	1078.4	1077.4	1076.4
152.5°	1095.2	1096.4	1097.6	1097.5	1096.2	1094.9	1093.6	1092.4
155°	1118.6	1119.8	1121.0	1120.7	1119.2	1117.7	1116.1	1114.6
157.5°	1138.3	1139.6	1140.9	1140.8	1139.4	1137.8	1136.4	1134.8
160°	1149.8	1151.0	1152.1	1152.0	1150.7	1149.3	1148.0	1146.6
162.5°	1160.5	1161.8	1163.2	1162.9	1161.3	1159.7	1158.0	1156.3
165°	1173.6	1174.9	1176.3	1176.3	1174.9	1173.6	1172.2	1170.9
167.5°	1184.5	1185.9	1187.2	1187.0	1185.3	1183.6	1181.9	1180.1
170°	1190.1	1191.4	1192.8	1192.5	1190.8	1189.1	1187.4	1185.6
172.5°	1194.3	1195.6	1196.9	1196.8	1195.0	1193.3	1191.6	1189.8
175°	1198.7	1200.1	1201.4	1201.2	1199.2	1197.3	1195.4	1193.4
177.5°	1199.2	1200.3	1201.4	1201.3	1199.9	1198.5	1197.1	1195.7
180°	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8

(END OF REPORT)