

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: P331709-930

Luminaire Tested: **SA2XXRDIP-C865D330U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331709-930
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: SA2XXRDIP-C865D330U930-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

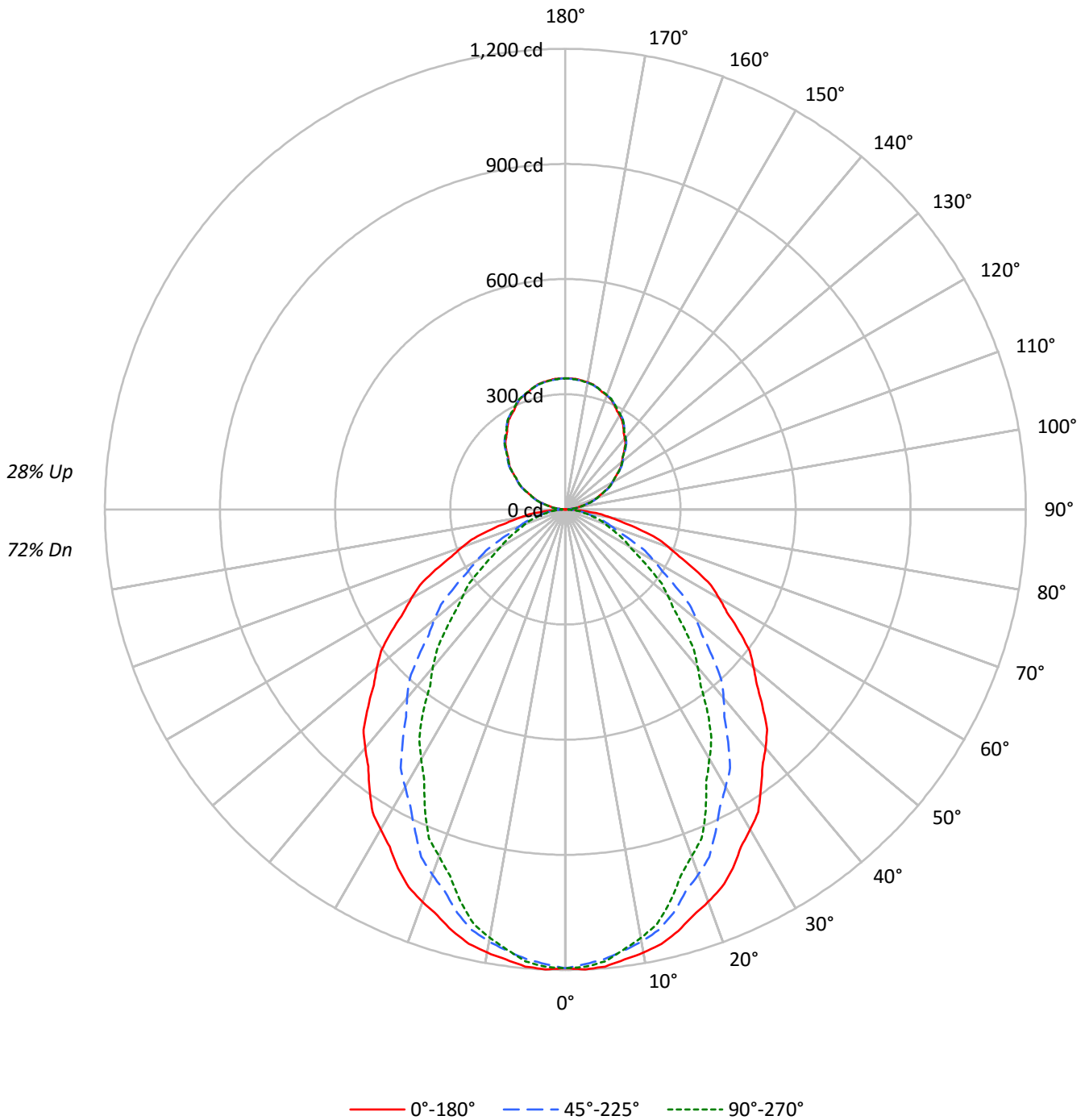
Lumens per Lamp: N/A
Luminaire Lumens: 3414.5 lumens
Efficiency: N/A
Efficacy: 78.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 43.5
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: P331709-930
CATALOG NUMBER: SA2XXRDIP-C865D330U930-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





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CATALOG NUMBER: SA2XXRDIP-C865D330U930-4F0-1E-UDD-F1

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	112	112	112	112	107	107	107	107	96	96	96	86	86	86	76	76	76	72
1	103	99	95	92	98	94	91	88	85	82	80	76	75	73	69	67	66	62
2	95	87	81	76	90	83	78	73	75	71	67	68	65	62	61	59	57	53
3	87	78	70	65	82	74	67	62	67	62	58	61	57	53	55	52	49	46
4	80	69	61	55	76	66	59	53	60	54	50	55	50	46	50	46	43	40
5	74	62	54	48	70	59	52	47	54	48	44	49	45	41	45	41	38	35
6	68	56	48	42	65	54	46	41	49	43	39	45	40	36	41	37	34	31
7	63	51	43	38	60	49	42	36	45	39	34	41	36	32	38	33	30	28
8	59	47	39	34	56	45	38	33	41	35	31	38	33	29	35	31	27	25
9	55	43	35	30	52	41	34	30	38	32	28	35	30	26	32	28	25	23
10	52	40	32	27	49	38	31	27	35	29	25	33	28	24	30	26	23	21

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: P331709-930

CATALOG NUMBER: SA2XXRDIP-C865D330U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.9	3.3
10°-20°	307.2	9.0
20°-30°	431.5	12.6
30°-40°	470.5	13.8
40°-50°	432.6	12.7
50°-60°	339.7	9.9
60°-70°	221.5	6.5
70°-80°	114.2	3.3
80°-90°	31.0	0.9
90°-100°	21.6	0.6
100°-110°	67.2	2.0
110°-120°	114.8	3.4
120°-130°	151.0	4.4
130°-140°	169.5	5.0
140°-150°	166.2	4.9
150°-160°	139.4	4.1
160°-170°	92.4	2.7
170°-180°	32.3	0.9
0°-30°	850.6	24.9
0°-40°	1321.1	38.7
0°-60°	2093.4	61.3
0°-90°	2460.1	72.0
90°-120°	203.6	6.0
90°-150°	690.3	20.2
90°-180°	954.0	27.9
0°-180°	3414.5	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°	0	4	10	10	10	3
95°	15	18	18	18	18	17
105°	62	63	63	64	64	65
115°	115	117	116	116	115	114
125°	168	170	169	168	168	150
135°	217	220	221	220	220	168
145°	263	265	267	267	266	164
155°	301	302	303	304	303	138
165°	328	327	327	329	328	92
175°	341	340	339	341	340	32
180°	341	341	341	341	341	



TEST NUMBER: P331709-930

CATALOG NUMBER: SA2XXRDIP-C865D330U930-4F0-1E-UDD-F1

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°	13.9	12.6	11.2	9.8	8.4	7.8	8.1	8.4	8.6	9.0	8.7
90°	0.3	1.1	1.8	2.6	3.3	4.5	5.9	7.3	8.6	10.1	9.9
92.5°	5.1	5.7	6.3	6.8	7.4	7.8	8.2	8.5	8.8	9.1	9.2
95°	15.0	15.7	16.2	16.9	17.5	17.9	18.0	18.2	18.3	18.4	18.4
97.5°	27.4	28.0	28.5	29.0	29.6	30.0	30.2	30.5	30.7	31.0	31.0
100°	36.6	37.1	37.6	38.2	38.6	39.0	39.1	39.4	39.5	39.8	39.8
102.5°	46.2	46.6	47.0	47.5	47.9	48.3	48.4	48.7	48.9	49.2	49.2
105°	62.0	62.1	62.3	62.5	62.7	62.9	63.0	63.1	63.3	63.3	63.5
107.5°	77.7	78.0	78.3	78.6	78.8	79.0	79.0	79.0	79.0	79.0	79.0
110°	87.9	88.2	88.6	89.0	89.4	89.6	89.6	89.6	89.6	89.6	89.6



TEST NUMBER: P331709-930

CATALOG NUMBER: SA2XXRDIP-C865D330U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	98.9	99.3	99.7	100.0	100.4	100.6	100.5	100.5	100.4	100.4	100.3
115°	115.2	115.6	116.0	116.3	116.8	116.9	116.8	116.6	116.5	116.3	116.3
117.5°	131.4	132.0	132.5	133.0	133.5	133.6	133.2	132.9	132.5	132.2	132.0
120°	142.3	142.8	143.3	143.8	144.3	144.3	143.8	143.3	142.8	142.3	142.3
122.5°	152.2	152.8	153.4	154.0	154.7	154.8	154.4	154.1	153.7	153.4	153.2
125°	167.6	168.2	168.8	169.3	169.9	170.2	169.9	169.7	169.6	169.3	169.2
127.5°	182.7	183.4	184.2	184.8	185.6	185.8	185.6	185.4	185.2	184.9	184.7
130°	192.2	193.0	193.8	194.6	195.4	195.8	195.7	195.6	195.4	195.3	195.2
132.5°	202.8	203.4	204.1	204.7	205.5	205.8	205.8	205.9	205.9	205.9	205.6
135°	216.9	217.6	218.3	219.0	219.7	220.1	220.3	220.4	220.5	220.6	220.5
137.5°	231.8	232.4	232.9	233.6	234.2	234.5	234.6	234.8	235.0	235.1	235.1
140°	240.8	241.4	242.0	242.6	243.1	243.5	243.9	244.2	244.5	244.8	244.8
142.5°	250.1	250.6	251.2	251.8	252.3	252.7	252.9	253.2	253.4	253.6	253.6
145°	263.3	263.7	264.2	264.6	265.1	265.5	265.9	266.3	266.6	267.0	267.1
147.5°	275.1	275.7	276.1	276.7	277.2	277.6	277.9	278.2	278.4	278.7	278.8
150°	283.2	283.6	283.9	284.3	284.7	285.0	285.3	285.5	285.8	286.0	286.3
152.5°	290.3	290.7	291.1	291.5	291.8	292.2	292.4	292.8	293.1	293.4	293.7
155°	301.0	301.2	301.4	301.6	301.7	302.0	302.1	302.3	302.6	302.7	303.0
157.5°	310.1	310.3	310.4	310.5	310.7	310.8	311.0	311.0	311.1	311.3	311.7
160°	315.7	315.8	315.9	316.1	316.2	316.3	316.3	316.4	316.5	316.6	316.9
162.5°	320.7	320.8	320.8	320.8	320.9	320.9	321.0	321.1	321.1	321.1	321.6
165°	327.5	327.4	327.3	327.3	327.3	327.2	327.2	327.2	327.2	327.2	327.7
167.5°	333.1	333.0	332.8	332.6	332.4	332.3	332.2	332.2	332.2	332.2	332.6
170°	336.1	336.0	335.7	335.6	335.4	335.3	335.2	335.1	335.1	335.0	335.4
172.5°	338.2	338.0	337.9	337.6	337.5	337.3	337.3	337.2	337.1	337.0	337.5
175°	340.8	340.6	340.4	340.1	340.0	339.8	339.7	339.6	339.4	339.3	339.7
177.5°	341.8	341.6	341.4	341.4	341.2	341.0	341.0	340.9	340.7	340.6	341.0
180°	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4



TEST NUMBER: P331709-930

CATALOG NUMBER: SA2XXRDIP-C865D330U930-4F0-1E-UDD-F1

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°	8.5	8.3	8.1	8.0	8.0	8.0	8.0	8.0
90°	9.9	9.7	9.5	9.5	9.6	9.7	9.7	9.8
92.5°	9.2	9.2	9.3	9.3	9.3	9.3	9.3	9.3
95°	18.4	18.4	18.4	18.3	18.3	18.1	18.0	17.9
97.5°	31.0	31.0	31.0	31.0	31.0	31.0	31.0	30.9
100°	39.8	39.8	39.8	39.7	39.6	39.6	39.5	39.5
102.5°	49.3	49.3	49.4	49.4	49.3	49.2	49.2	49.2
105°	63.6	63.8	63.9	63.9	63.9	63.9	63.9	63.9
107.5°	79.1	79.2	79.2	79.1	78.8	78.5	78.2	77.9
110°	89.6	89.6	89.6	89.5	89.3	89.1	88.9	88.7



TEST NUMBER: P331709-930

CATALOG NUMBER: SA2XXRDIP-C865D330U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	100.1	100.0	99.8	99.6	99.5	99.4	99.2	99.1
115°	116.3	116.2	116.1	116.0	115.8	115.6	115.4	115.2
117.5°	131.8	131.7	131.5	131.3	131.2	131.0	130.8	130.6
120°	142.3	142.3	142.3	142.2	142.0	141.8	141.6	141.5
122.5°	153.0	152.9	152.7	152.6	152.5	152.3	152.1	152.1
125°	169.0	168.8	168.6	168.4	168.4	168.4	168.3	168.2
127.5°	184.5	184.3	184.0	183.8	183.6	183.4	183.2	183.0
130°	195.0	194.9	194.8	194.6	194.4	194.0	193.8	193.6
132.5°	205.3	205.0	204.8	204.6	204.3	204.2	203.9	203.7
135°	220.5	220.5	220.4	220.3	220.0	219.9	219.7	219.5
137.5°	235.1	235.0	235.0	234.8	234.6	234.3	234.1	233.7
140°	244.8	244.8	244.8	244.7	244.4	244.2	243.9	243.7
142.5°	253.7	253.7	253.8	253.7	253.5	253.2	252.9	252.7
145°	267.2	267.2	267.3	267.2	266.9	266.7	266.4	266.1
147.5°	278.9	279.1	279.2	279.2	278.9	278.7	278.4	278.2
150°	286.4	286.6	286.8	286.8	286.6	286.4	286.3	286.0
152.5°	293.9	294.2	294.4	294.4	294.2	293.9	293.7	293.4
155°	303.4	303.7	304.0	304.1	303.9	303.7	303.5	303.3
157.5°	312.1	312.6	313.0	313.1	312.7	312.4	312.2	311.9
160°	317.3	317.7	318.1	318.1	317.9	317.6	317.4	317.2
162.5°	322.0	322.5	322.9	322.9	322.7	322.4	322.0	321.7
165°	328.1	328.6	329.0	329.1	328.7	328.4	328.1	327.8
167.5°	333.1	333.5	334.0	334.1	333.8	333.4	333.0	332.7
170°	335.9	336.3	336.8	336.8	336.5	336.1	335.7	335.3
172.5°	337.9	338.4	338.8	338.9	338.5	338.1	337.8	337.4
175°	340.2	340.6	341.1	341.1	340.8	340.4	340.0	339.6
177.5°	341.3	341.5	341.9	341.9	341.5	341.3	341.0	340.6
180°	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4

(END OF REPORT)