

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: P332886-830

Luminaire Tested: **SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332886-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

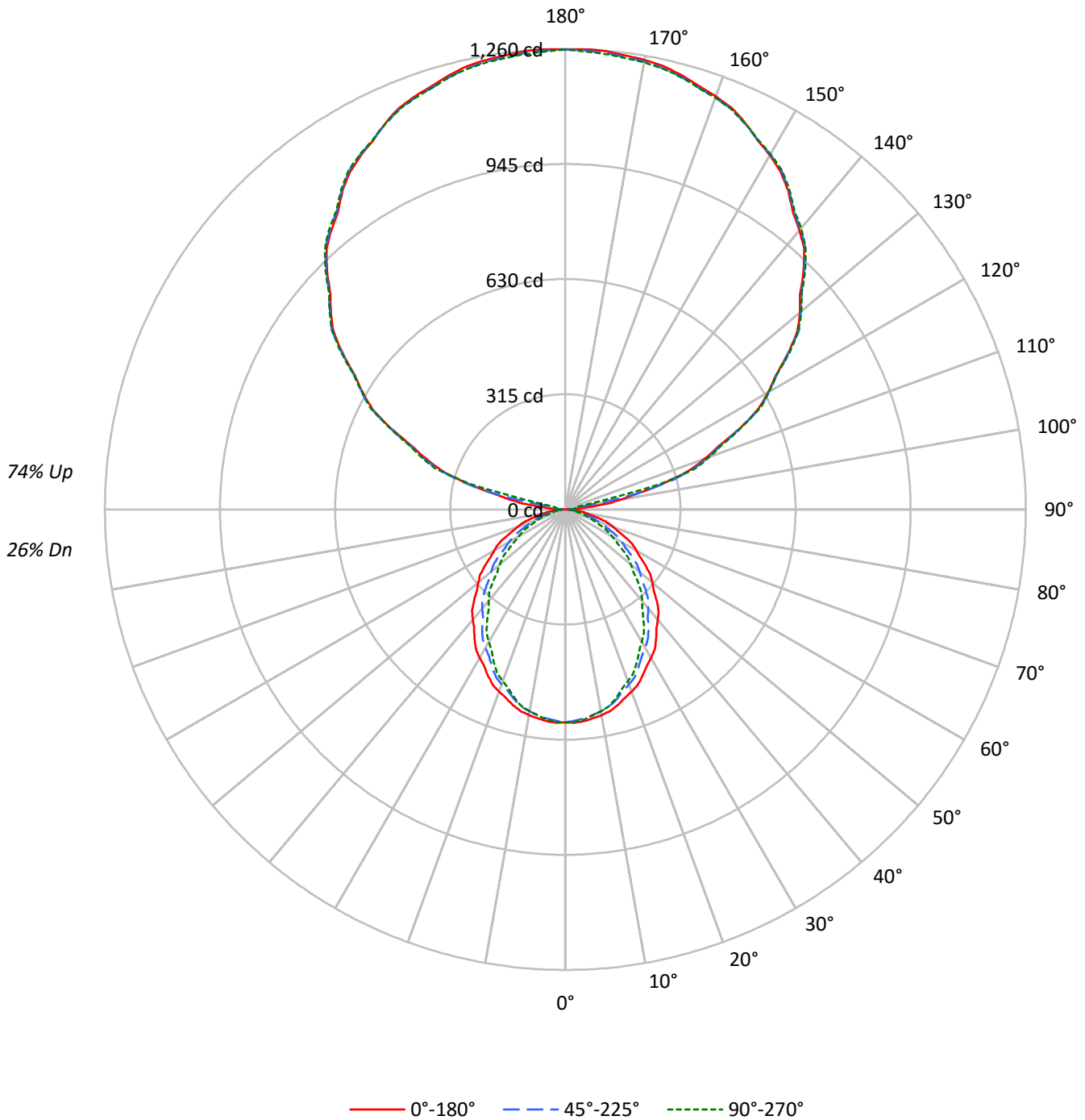
Lumens per Lamp: N/A
Luminaire Lumens: 5241.2 lumens
Efficiency: N/A
Efficacy: 140.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 37.3
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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	88	85	81	82	79	76	73	61	59	57	45	44	43	30	29	29	22
2	84	77	71	67	75	69	64	60	54	50	48	40	38	36	27	25	24	19
3	77	68	61	55	68	61	55	50	47	43	40	35	33	30	24	22	21	16
4	70	60	53	47	62	54	48	43	42	38	34	31	28	26	21	19	18	14
5	64	53	46	40	57	48	41	36	38	33	29	28	25	23	19	17	16	12
6	59	48	40	35	53	43	36	32	34	29	26	25	22	20	17	15	14	11
7	55	43	35	30	49	39	32	28	31	26	22	23	20	17	16	14	12	9
8	51	39	32	26	45	35	29	24	28	23	20	21	18	15	15	13	11	8
9	47	35	28	23	42	32	26	21	25	21	18	19	16	14	13	11	10	8
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	12	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4704	4704	4704
5°	4714	4657	4686
10°	4685	4601	4601
15°	4631	4504	4471
20°	4558	4376	4296
25°	4464	4228	4121
30°	4371	4072	3901
35°	4269	3909	3680
40°	4147	3724	3442
45°	4035	3540	3199
50°	3905	3328	2941
55°	3768	3108	2663
60°	3615	2868	2377
65°	3477	2565	2096
70°	3274	2231	1780
75°	3019	1853	1447
80°	2631	1409	1330
85°	2232	1288	1195



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.7	1.0
10°-20°	152.6	2.9
20°-30°	220.4	4.2
30°-40°	249.8	4.8
40°-50°	241.2	4.6
50°-60°	200.6	3.8
60°-70°	138.5	2.6
70°-80°	70.2	1.3
80°-90°	21.6	0.4
90°-100°	43.0	0.8
100°-110°	274.3	5.2
110°-120°	524.8	10.0
120°-130°	666.2	12.7
130°-140°	712.8	13.6
140°-150°	666.5	12.7
150°-160°	537.5	10.3
160°-170°	346.7	6.6
170°-180°	119.5	2.3
0°-30°	427.8	8.2
0°-40°	677.6	12.9
0°-60°	1119.4	21.4
0°-90°	1349.8	25.8
90°-120°	842.2	16.1
90°-150°	2887.7	55.1
90°-180°	3891.0	74.2
0°-180°	5241.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	583	583	583	583	583	
5°	582	580	575	579	578	55
15°	554	550	539	538	535	156
25°	501	492	475	467	463	231
35°	433	418	397	382	373	271
45°	353	336	310	289	280	272
55°	268	249	221	198	189	239
65°	182	162	134	116	110	180
75°	97	80	59	50	46	102
85°	24	16	14	13	13	27
90°	3	13	21	26	28	4
95°	52	22	21	26	27	67
105°	283	289	294	300	268	296
115°	529	531	531	532	532	520
125°	743	747	745	748	749	663
135°	922	921	925	927	929	710
145°	1063	1066	1066	1067	1069	664
155°	1166	1166	1164	1167	1165	537
165°	1230	1225	1225	1232	1224	347
175°	1258	1253	1253	1261	1250	120
180°	1258	1258	1258	1258	1258	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	584.1	583.7	583.4	583.2	582.8	582.2	581.4	580.5	579.6	578.7	579.6
5°	581.7	581.4	581.0	580.6	580.1	579.4	578.2	577.0	575.8	574.7	575.6
7.5°	576.5	576.1	575.7	575.2	574.9	573.8	572.3	570.7	569.2	567.7	568.3
10°	571.5	571.0	570.5	570.0	569.5	568.4	566.6	564.8	563.0	561.3	561.7
12.5°	565.1	564.5	563.9	563.4	562.8	561.5	559.3	557.2	555.2	553.0	553.3
15°	554.1	553.2	552.3	551.4	550.5	548.8	546.4	543.8	541.4	538.9	538.8
17.5°	540.8	539.5	538.2	537.0	535.6	533.5	530.6	527.5	524.6	521.6	521.0
20°	530.5	529.1	527.9	526.6	525.3	523.0	519.6	516.2	512.8	509.4	508.7
22.5°	519.1	517.6	516.1	514.7	513.2	510.7	507.1	503.5	499.9	496.2	495.1
25°	501.1	499.3	497.5	495.7	493.9	491.0	486.9	482.9	478.7	474.7	473.0
27.5°	482.1	479.8	477.6	475.4	473.2	469.9	465.5	461.2	456.9	452.5	450.3
30°	468.9	466.4	463.9	461.5	459.0	455.4	450.7	446.1	441.4	436.8	434.3
32.5°	455.0	452.1	449.4	446.6	443.7	440.0	435.2	430.4	425.6	420.8	417.8
35°	433.2	430.0	426.9	423.7	420.5	416.4	411.5	406.5	401.6	396.6	393.2
37.5°	409.9	406.6	403.4	400.1	396.8	392.5	386.9	381.4	376.0	370.5	366.7
40°	393.5	390.2	386.9	383.7	380.4	376.0	370.3	364.7	359.0	353.4	349.2
42.5°	377.8	374.4	370.9	367.5	364.1	359.4	353.5	347.6	341.8	335.8	331.6
45°	353.4	349.7	346.0	342.3	338.7	333.8	327.9	322.0	316.0	310.1	305.2
47.5°	328.1	324.3	320.6	316.7	312.9	307.9	301.8	295.6	289.4	283.2	278.1
50°	310.9	307.1	303.2	299.4	295.5	290.4	284.1	277.7	271.4	265.0	260.0
52.5°	293.5	289.6	285.9	282.1	278.3	273.1	266.6	260.1	253.6	247.1	242.1
55°	267.7	263.7	259.8	255.8	251.8	246.6	240.2	233.8	227.2	220.8	215.7
57.5°	242.1	238.0	233.9	229.8	225.6	220.5	214.1	207.7	201.4	195.0	189.8
60°	223.9	220.0	216.0	212.1	208.1	202.9	196.6	190.2	183.9	177.6	172.4
62.5°	207.5	203.4	199.3	195.2	191.1	185.8	179.3	172.8	166.3	159.8	155.0
65°	182.0	177.8	173.5	169.3	164.9	159.7	153.4	146.9	140.6	134.3	130.1
67.5°	155.5	151.5	147.3	143.3	139.2	134.2	128.3	122.4	116.5	110.7	107.0
70°	138.7	134.6	130.4	126.3	122.1	117.2	111.5	105.8	100.2	94.5	91.3
72.5°	120.9	117.2	113.4	109.6	105.8	101.3	96.0	90.6	85.3	79.9	77.2
75°	96.8	93.1	89.4	85.8	82.1	77.9	73.3	68.6	64.0	59.4	57.0
77.5°	72.4	69.3	66.2	63.1	59.9	56.5	52.7	48.9	45.1	41.4	40.1
80°	56.6	53.8	50.9	48.1	45.1	42.2	39.3	36.3	33.3	30.3	30.1
82.5°	43.1	40.4	37.8	35.2	32.5	30.3	28.7	27.0	25.3	23.6	23.4
85°	24.1	22.1	20.2	18.1	16.1	15.0	14.7	14.4	14.1	13.9	13.7
87.5°	8.8	8.6	8.4	8.3	8.1	8.1	8.4	8.7	8.9	9.1	9.3
90°	2.8	5.1	7.4	9.7	12.1	14.0	15.6	17.3	19.0	20.7	22.0
92.5°	11.9	12.0	12.1	12.3	12.3	13.3	14.9	16.6	18.3	20.0	21.2
95°	51.7	44.7	37.5	30.4	23.3	19.9	20.1	20.3	20.5	20.7	22.0
97.5°	109.9	114.3	118.8	123.2	127.6	118.2	94.8	71.5	48.2	24.9	25.0
100°	154.3	158.1	161.8	165.6	169.4	156.8	128.0	99.2	70.2	41.4	37.9
102.5°	204.0	206.8	209.5	212.3	215.0	214.5	210.8	207.0	203.2	199.4	161.1
105°	283.2	284.5	285.7	287.0	288.2	289.4	290.4	291.4	292.6	293.6	295.5
107.5°	356.8	357.4	358.1	358.6	359.3	360.3	361.7	363.2	364.6	366.0	366.9
110°	406.5	407.1	407.7	408.3	409.0	409.9	411.1	412.5	413.7	414.9	415.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	454.7	455.8	456.9	458.1	459.2	460.1	460.6	461.2	461.8	462.3	462.3
115°	528.8	529.4	530.1	530.7	531.3	531.5	531.3	531.1	530.8	530.7	531.1
117.5°	595.6	596.4	597.3	598.1	599.0	599.6	600.0	600.5	601.0	601.4	601.3
120°	640.7	641.6	642.4	643.3	644.1	644.4	644.2	644.0	643.8	643.6	644.0
122.5°	682.9	683.4	683.9	684.4	684.9	685.3	685.6	685.9	686.2	686.5	686.7
125°	743.3	744.1	745.0	745.8	746.7	746.9	746.5	746.0	745.6	745.2	745.8
127.5°	800.5	800.7	801.0	801.2	801.3	801.9	803.0	803.9	804.8	805.8	805.7
130°	837.4	837.6	837.8	838.0	838.2	838.7	839.3	839.9	840.6	841.2	841.4
132.5°	871.3	871.7	872.0	872.4	872.8	873.4	874.2	875.0	875.7	876.6	876.8
135°	922.1	921.9	921.7	921.4	921.2	921.5	922.4	923.2	924.1	924.9	925.3
137.5°	967.0	967.1	967.2	967.3	967.4	967.9	968.8	969.8	970.6	971.6	972.0
140°	996.5	996.8	997.3	997.7	998.1	998.5	998.9	999.4	999.8	1000.2	1000.8
142.5°	1022.8	1023.5	1024.3	1025.0	1025.8	1026.2	1026.5	1026.8	1027.0	1027.3	1027.7
145°	1063.2	1063.8	1064.5	1065.1	1065.7	1066.0	1066.0	1066.0	1066.0	1066.0	1066.3
147.5°	1095.4	1096.6	1097.8	1098.9	1100.1	1100.6	1100.3	1100.1	1099.9	1099.8	1099.9
150°	1118.7	1119.6	1120.4	1121.2	1122.1	1122.4	1122.2	1122.0	1121.8	1121.5	1121.5
152.5°	1138.3	1139.0	1139.6	1140.3	1140.9	1141.1	1140.8	1140.4	1140.0	1139.6	1140.0
155°	1165.8	1166.0	1166.2	1166.4	1166.6	1166.4	1165.8	1165.2	1164.5	1163.9	1164.7
157.5°	1188.9	1188.8	1188.6	1188.5	1188.5	1188.0	1187.3	1186.6	1185.9	1185.2	1186.3
160°	1202.5	1201.8	1201.3	1200.6	1200.0	1199.6	1199.4	1199.1	1198.9	1198.7	1200.0
162.5°	1214.6	1213.7	1213.0	1212.1	1211.4	1210.9	1210.6	1210.4	1210.2	1210.0	1211.3
165°	1229.7	1228.7	1227.7	1226.6	1225.6	1225.0	1225.0	1225.0	1225.0	1225.0	1226.7
167.5°	1241.8	1240.8	1239.6	1238.6	1237.5	1236.9	1236.7	1236.6	1236.5	1236.3	1238.2
170°	1248.6	1247.4	1246.0	1244.8	1243.6	1243.0	1243.2	1243.5	1243.7	1243.9	1245.6
172.5°	1253.1	1251.9	1250.6	1249.3	1248.1	1247.5	1247.7	1248.0	1248.2	1248.4	1250.1
175°	1258.0	1256.8	1255.5	1254.2	1253.0	1252.5	1252.6	1252.9	1253.1	1253.3	1255.2
177.5°	1260.3	1259.0	1257.9	1256.8	1255.6	1255.2	1255.5	1255.8	1256.1	1256.5	1257.8
180°	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	580.5	581.4	582.2	582.6	582.5	582.5	582.4	582.3
5°	576.6	577.6	578.6	579.0	578.8	578.6	578.3	578.2
7.5°	568.9	569.6	570.2	570.3	570.0	569.8	569.4	569.1
10°	562.0	562.4	562.8	562.8	562.4	562.0	561.7	561.3
12.5°	553.5	553.7	554.0	553.8	553.3	552.7	552.1	551.6
15°	538.6	538.4	538.1	537.7	537.0	536.3	535.6	534.9
17.5°	520.5	520.0	519.4	518.6	517.6	516.5	515.5	514.4
20°	507.9	507.1	506.3	505.3	504.0	502.7	501.4	500.1
22.5°	493.9	492.7	491.5	490.4	489.4	488.3	487.3	486.2
25°	471.3	469.7	468.0	466.7	465.6	464.6	463.6	462.6
27.5°	448.3	446.2	444.1	442.4	440.9	439.5	438.1	436.7
30°	431.8	429.3	426.9	424.8	423.2	421.7	420.1	418.5
32.5°	415.0	412.1	409.3	407.0	405.5	404.0	402.5	401.0
35°	389.8	386.5	383.1	380.6	378.8	377.0	375.2	373.4
37.5°	363.0	359.2	355.4	352.6	350.8	349.0	347.2	345.4
40°	345.0	340.8	336.7	333.8	332.0	330.2	328.4	326.6
42.5°	327.3	323.1	318.9	315.8	314.0	312.1	310.2	308.4
45°	300.4	295.5	290.6	287.3	285.5	283.7	281.9	280.2
47.5°	273.1	268.1	263.1	259.6	257.6	255.6	253.6	251.8
50°	255.1	250.2	245.2	241.8	239.9	238.0	236.1	234.2
52.5°	237.0	232.1	227.1	223.5	221.6	219.6	217.6	215.7
55°	210.6	205.4	200.2	196.7	194.8	192.9	191.1	189.2
57.5°	184.5	179.4	174.1	170.8	169.4	168.0	166.5	165.0
60°	167.2	162.1	156.9	153.5	151.9	150.4	148.8	147.2
62.5°	150.2	145.4	140.7	137.7	136.4	135.2	133.8	132.6
65°	125.7	121.5	117.3	114.5	113.3	112.2	110.9	109.7
67.5°	103.3	99.6	96.0	93.5	92.2	90.9	89.5	88.2
70°	88.0	84.7	81.5	79.4	78.3	77.4	76.3	75.4
72.5°	74.4	71.5	68.8	66.9	66.0	65.1	64.2	63.2
75°	54.8	52.5	50.2	48.8	48.2	47.6	47.0	46.4
77.5°	38.7	37.4	36.1	35.3	35.2	35.0	34.8	34.6
80°	29.8	29.4	29.1	28.9	28.8	28.7	28.7	28.6
82.5°	23.1	22.9	22.7	22.5	22.4	22.3	22.2	22.1
85°	13.5	13.2	13.0	12.9	12.9	12.9	12.9	12.9
87.5°	9.5	9.6	9.8	10.0	10.2	10.3	10.5	10.7
90°	23.2	24.5	25.7	26.6	27.0	27.4	27.8	28.2
92.5°	22.4	23.8	25.0	25.6	25.7	25.8	25.9	26.0
95°	23.2	24.5	25.7	26.5	26.7	26.9	27.1	27.2
97.5°	25.1	25.3	25.4	25.5	25.7	25.9	26.1	26.4
100°	34.3	30.7	27.1	25.5	25.7	25.9	26.1	26.4
102.5°	122.8	84.5	46.1	27.0	27.0	27.1	27.1	27.1
105°	297.4	299.2	301.0	298.3	290.8	283.2	275.7	268.2
107.5°	367.9	368.8	369.7	370.5	371.4	372.1	373.0	373.7
110°	415.8	416.2	416.6	417.2	417.7	418.4	419.1	419.6



TEST NUMBER: P332886-830

CATALOG NUMBER: SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	462.2	462.1	462.0	462.4	463.2	464.0	464.8	465.5
115°	531.5	532.0	532.3	532.5	532.5	532.5	532.5	532.5
117.5°	601.2	601.2	601.1	601.1	601.0	600.9	600.8	600.7
120°	644.4	644.8	645.3	645.3	644.8	644.4	644.0	643.6
122.5°	687.0	687.2	687.5	687.4	687.0	686.5	686.2	685.7
125°	746.5	747.1	747.7	748.1	748.4	748.6	748.8	748.9
127.5°	805.6	805.4	805.3	805.1	805.0	804.8	804.6	804.5
130°	841.6	841.8	842.0	842.2	842.2	842.2	842.2	842.2
132.5°	876.9	877.2	877.4	877.4	877.2	877.0	876.9	876.8
135°	925.8	926.1	926.6	927.0	927.5	927.8	928.2	928.7
137.5°	972.5	973.0	973.5	973.6	973.5	973.4	973.2	973.1
140°	1001.5	1002.1	1002.7	1003.1	1003.3	1003.5	1003.7	1004.0
142.5°	1028.2	1028.7	1029.2	1029.4	1029.4	1029.4	1029.5	1029.5
145°	1066.5	1066.7	1066.9	1067.2	1067.6	1068.0	1068.5	1068.8
147.5°	1100.0	1100.2	1100.4	1100.6	1100.8	1101.0	1101.3	1101.5
150°	1121.5	1121.5	1121.5	1121.6	1121.9	1122.1	1122.3	1122.5
152.5°	1140.3	1140.7	1140.9	1141.0	1140.9	1140.9	1140.7	1140.6
155°	1165.5	1166.4	1167.2	1167.3	1166.8	1166.1	1165.5	1164.9
157.5°	1187.3	1188.5	1189.5	1189.5	1188.5	1187.3	1186.3	1185.2
160°	1201.3	1202.5	1203.7	1203.7	1202.5	1201.3	1200.0	1198.7
162.5°	1212.5	1213.8	1215.0	1214.9	1213.5	1212.1	1210.7	1209.3
165°	1228.4	1230.1	1231.7	1231.6	1229.7	1227.9	1226.0	1224.1
167.5°	1240.0	1241.9	1243.7	1243.6	1241.5	1239.4	1237.3	1235.2
170°	1247.3	1248.9	1250.6	1250.4	1248.3	1246.2	1244.1	1242.0
172.5°	1251.8	1253.4	1255.1	1254.8	1252.5	1250.3	1248.0	1245.8
175°	1257.1	1259.0	1260.8	1260.5	1258.0	1255.5	1253.0	1250.5
177.5°	1259.1	1260.5	1261.9	1261.5	1259.5	1257.5	1255.5	1253.5
180°	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0

(END OF REPORT)