

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

Luminaire Tested: **SA4XXRDIP-C350D1035U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332886
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-C350D1035U835-4F0-1E-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

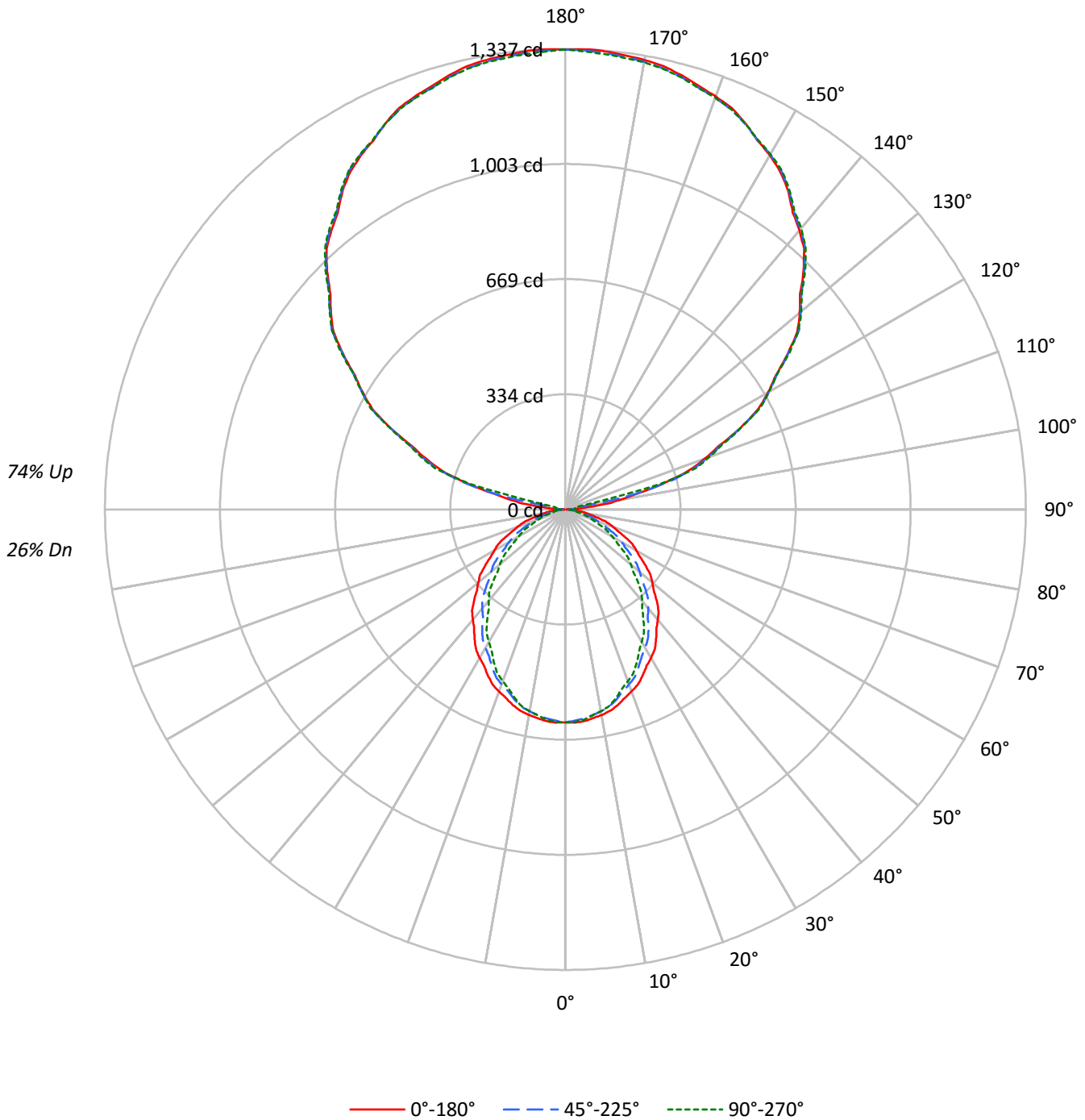
Lumens per Lamp: N/A
Luminaire Lumens: 5560.7 lumens
Efficiency: N/A
Efficacy: 149.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): 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	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°	4991	4991	4991
5°	5002	4941	4971
10°	4970	4882	4882
15°	4914	4779	4743
20°	4835	4643	4558
25°	4735	4486	4372
30°	4638	4320	4139
35°	4529	4147	3905
40°	4400	3951	3652
45°	4280	3756	3394
50°	4143	3532	3121
55°	3997	3298	2825
60°	3836	3042	2522
65°	3689	2722	2223
70°	3474	2367	1888
75°	3203	1965	1535
80°	2794	1497	1409
85°	2371	1362	1269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.1	1.0
10°-20°	161.9	2.9
20°-30°	233.8	4.2
30°-40°	265.1	4.8
40°-50°	255.9	4.6
50°-60°	212.8	3.8
60°-70°	147.0	2.6
70°-80°	74.5	1.3
80°-90°	23.0	0.4
90°-100°	45.7	0.8
100°-110°	291.1	5.2
110°-120°	556.8	10.0
120°-130°	706.8	12.7
130°-140°	756.2	13.6
140°-150°	707.2	12.7
150°-160°	570.3	10.3
160°-170°	367.8	6.6
170°-180°	126.8	2.3
0°-30°	453.8	8.2
0°-40°	718.9	12.9
0°-60°	1187.7	21.4
0°-90°	1432.1	25.8
90°-120°	893.5	16.1
90°-150°	3063.7	55.1
90°-180°	4129.0	74.3
0°-180°	5560.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	618	618	618	618	618	
5°	617	615	610	614	613	59
15°	588	583	572	571	568	166
25°	532	522	504	496	491	245
35°	460	444	421	405	396	287
45°	375	357	329	307	297	289
55°	284	264	234	211	201	254
65°	193	172	142	123	116	191
75°	103	85	63	53	49	108
85°	26	16	15	14	14	29
90°	3	14	22	28	30	4
95°	55	23	22	28	29	71
105°	300	306	312	318	284	314
115°	561	564	563	565	565	552
125°	789	792	791	794	795	704
135°	978	978	981	983	985	753
145°	1128	1131	1131	1132	1134	705
155°	1237	1238	1235	1238	1236	570
165°	1305	1300	1300	1307	1299	369
175°	1335	1329	1330	1338	1327	127
180°	1335	1335	1335	1335	1335	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	619.7	619.3	619.0	618.7	618.3	617.7	616.8	615.9	614.9	614.0	614.9
5°	617.2	616.8	616.4	616.0	615.5	614.7	613.4	612.2	610.9	609.7	610.7
7.5°	611.6	611.2	610.8	610.3	609.9	608.8	607.2	605.5	603.9	602.3	602.9
10°	606.3	605.8	605.3	604.8	604.2	603.0	601.1	599.2	597.3	595.5	595.9
12.5°	599.5	598.9	598.3	597.7	597.1	595.7	593.4	591.2	589.0	586.7	587.0
15°	587.9	586.9	586.0	585.0	584.1	582.3	579.7	577.0	574.4	571.8	571.6
17.5°	573.8	572.4	571.0	569.7	568.3	566.0	562.9	559.7	556.6	553.4	552.8
20°	562.8	561.4	560.1	558.7	557.3	554.9	551.3	547.7	544.1	540.5	539.7
22.5°	550.7	549.1	547.6	546.1	544.5	541.8	538.0	534.2	530.4	526.5	525.3
25°	531.6	529.7	527.8	525.9	524.0	520.9	516.6	512.3	507.9	503.6	501.8
27.5°	511.5	509.1	506.7	504.4	502.0	498.5	493.9	489.3	484.7	480.1	477.8
30°	497.5	494.8	492.2	489.6	487.0	483.2	478.2	473.3	468.3	463.4	460.8
32.5°	482.7	479.7	476.8	473.8	470.8	466.8	461.7	456.6	451.5	446.4	443.3
35°	459.6	456.2	452.9	449.5	446.1	441.8	436.6	431.3	426.1	420.8	417.2
37.5°	434.9	431.4	428.0	424.5	421.0	416.4	410.5	404.7	398.9	393.1	389.1
40°	417.5	414.0	410.5	407.1	403.6	398.9	392.9	386.9	380.9	374.9	370.5
42.5°	400.8	397.2	393.5	389.9	386.3	381.3	375.1	368.8	362.6	356.3	351.8
45°	374.9	371.0	367.1	363.2	359.3	354.2	347.9	341.6	335.3	329.0	323.8
47.5°	348.1	344.1	340.1	336.0	332.0	326.7	320.2	313.6	307.0	300.5	295.1
50°	329.9	325.8	321.7	317.6	313.5	308.1	301.4	294.6	287.9	281.2	275.9
52.5°	311.4	307.3	303.3	299.3	295.3	289.8	282.9	276.0	269.1	262.2	256.9
55°	284.0	279.8	275.6	271.4	267.2	261.6	254.8	248.0	241.1	234.3	228.8
57.5°	256.9	252.5	248.2	243.8	239.4	233.9	227.1	220.4	213.7	206.9	201.4
60°	237.6	233.4	229.2	225.0	220.8	215.3	208.6	201.8	195.1	188.4	182.9
62.5°	220.2	215.8	211.4	207.1	202.7	197.1	190.2	183.3	176.4	169.5	164.4
65°	193.1	188.6	184.1	179.6	175.0	169.4	162.7	155.9	149.2	142.5	138.0
67.5°	165.0	160.7	156.3	152.0	147.7	142.4	136.1	129.9	123.6	117.4	113.5
70°	147.2	142.8	138.4	134.0	129.5	124.3	118.3	112.3	106.3	100.3	96.9
72.5°	128.3	124.3	120.3	116.3	112.3	107.5	101.8	96.1	90.5	84.8	81.9
75°	102.7	98.8	94.9	91.0	87.1	82.7	77.8	72.8	67.9	63.0	60.5
77.5°	76.8	73.5	70.2	66.9	63.6	59.9	55.9	51.9	47.9	43.9	42.5
80°	60.1	57.1	54.0	51.0	47.9	44.8	41.7	38.5	35.3	32.2	31.9
82.5°	45.7	42.9	40.1	37.3	34.5	32.2	30.4	28.6	26.8	25.0	24.8
85°	25.6	23.5	21.4	19.2	17.1	15.9	15.6	15.3	15.0	14.7	14.5
87.5°	9.3	9.1	8.9	8.8	8.6	8.6	8.9	9.2	9.4	9.7	9.9
90°	3.0	5.4	7.9	10.3	12.8	14.9	16.6	18.4	20.2	22.0	23.3
92.5°	12.6	12.7	12.8	13.0	13.1	14.1	15.8	17.6	19.4	21.2	22.5
95°	54.9	47.4	39.8	32.3	24.7	21.1	21.3	21.5	21.7	22.0	23.3
97.5°	116.6	121.3	126.0	130.7	135.4	125.4	100.6	75.9	51.1	26.4	26.5
100°	163.7	167.7	171.7	175.7	179.7	166.4	135.8	105.2	74.5	43.9	40.2
102.5°	216.4	219.4	222.3	225.2	228.1	227.6	223.6	219.6	215.6	211.6	170.9
105°	300.5	301.8	303.1	304.5	305.8	307.0	308.1	309.2	310.4	311.5	313.5
107.5°	378.5	379.2	379.9	380.5	381.2	382.3	383.8	385.3	386.8	388.3	389.3
110°	431.3	431.9	432.6	433.2	433.9	434.9	436.2	437.6	438.9	440.2	440.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	482.4	483.6	484.8	486.0	487.2	488.1	488.7	489.3	489.9	490.5	490.5
115°	561.0	561.7	562.4	563.0	563.7	563.9	563.7	563.5	563.2	563.0	563.5
117.5°	631.9	632.8	633.7	634.6	635.5	636.1	636.6	637.1	637.6	638.1	638.0
120°	679.8	680.7	681.6	682.5	683.4	683.7	683.5	683.3	683.0	682.8	683.3
122.5°	724.5	725.1	725.6	726.1	726.7	727.1	727.4	727.7	728.0	728.3	728.6
125°	788.6	789.5	790.4	791.3	792.2	792.4	792.0	791.5	791.1	790.6	791.3
127.5°	849.3	849.5	849.8	850.0	850.2	850.8	851.9	852.9	853.9	854.9	854.8
130°	888.5	888.7	888.9	889.1	889.3	889.8	890.5	891.1	891.8	892.5	892.7
132.5°	924.4	924.8	925.2	925.6	926.0	926.6	927.5	928.3	929.1	930.0	930.2
135°	978.3	978.1	977.9	977.6	977.4	977.7	978.6	979.5	980.4	981.3	981.7
137.5°	1026.0	1026.1	1026.2	1026.3	1026.4	1026.9	1027.9	1028.9	1029.8	1030.8	1031.3
140°	1057.2	1057.6	1058.1	1058.5	1058.9	1059.4	1059.8	1060.3	1060.7	1061.2	1061.8
142.5°	1085.1	1085.9	1086.7	1087.5	1088.3	1088.8	1089.1	1089.4	1089.6	1089.9	1090.4
145°	1128.0	1128.7	1129.4	1130.0	1130.7	1131.0	1131.0	1131.0	1131.0	1131.0	1131.3
147.5°	1162.2	1163.4	1164.7	1165.9	1167.2	1167.7	1167.4	1167.2	1167.0	1166.8	1167.0
150°	1186.9	1187.8	1188.7	1189.6	1190.5	1190.8	1190.6	1190.4	1190.2	1189.9	1189.9
152.5°	1207.7	1208.4	1209.1	1209.8	1210.5	1210.7	1210.3	1209.9	1209.5	1209.1	1209.5
155°	1236.9	1237.1	1237.3	1237.5	1237.7	1237.5	1236.9	1236.2	1235.5	1234.9	1235.7
157.5°	1261.4	1261.3	1261.1	1261.0	1260.9	1260.4	1259.7	1258.9	1258.2	1257.4	1258.6
160°	1275.8	1275.1	1274.5	1273.8	1273.1	1272.7	1272.5	1272.2	1272.0	1271.8	1273.1
162.5°	1288.6	1287.7	1286.9	1286.0	1285.2	1284.7	1284.4	1284.2	1284.0	1283.8	1285.1
165°	1304.7	1303.6	1302.5	1301.4	1300.3	1299.7	1299.7	1299.7	1299.7	1299.7	1301.5
167.5°	1317.5	1316.4	1315.2	1314.1	1312.9	1312.3	1312.1	1312.0	1311.9	1311.7	1313.7
170°	1324.7	1323.4	1322.0	1320.7	1319.4	1318.8	1319.0	1319.3	1319.5	1319.7	1321.5
172.5°	1329.5	1328.2	1326.8	1325.5	1324.2	1323.6	1323.8	1324.1	1324.3	1324.5	1326.3
175°	1334.7	1333.4	1332.0	1330.7	1329.4	1328.8	1329.0	1329.3	1329.5	1329.7	1331.7
177.5°	1337.1	1335.8	1334.6	1333.4	1332.1	1331.7	1332.0	1332.4	1332.7	1333.1	1334.5
180°	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	615.9	616.8	617.7	618.1	618.0	618.0	617.9	617.8
5°	611.8	612.8	613.9	614.3	614.1	613.9	613.6	613.4
7.5°	603.6	604.3	605.0	605.1	604.8	604.5	604.1	603.8
10°	596.3	596.7	597.1	597.1	596.7	596.3	595.9	595.5
12.5°	587.2	587.5	587.8	587.6	587.0	586.4	585.8	585.2
15°	571.4	571.2	570.9	570.5	569.7	569.0	568.3	567.5
17.5°	552.2	551.7	551.1	550.2	549.1	548.0	546.9	545.8
20°	538.9	538.0	537.2	536.1	534.7	533.3	532.0	530.6
22.5°	524.0	522.7	521.5	520.3	519.2	518.1	517.0	515.8
25°	500.0	498.3	496.5	495.1	494.0	492.9	491.9	490.8
27.5°	475.6	473.4	471.2	469.4	467.8	466.3	464.8	463.3
30°	458.1	455.5	452.9	450.7	449.0	447.4	445.7	444.0
32.5°	440.3	437.2	434.2	431.8	430.2	428.6	427.0	425.4
35°	413.6	410.1	406.5	403.8	401.9	400.0	398.1	396.2
37.5°	385.1	381.1	377.1	374.1	372.2	370.3	368.4	366.5
40°	366.0	361.6	357.2	354.1	352.2	350.3	348.4	346.5
42.5°	347.3	342.8	338.3	335.1	333.1	331.1	329.1	327.2
45°	318.7	313.5	308.3	304.8	302.9	301.0	299.1	297.3
47.5°	289.8	284.4	279.1	275.4	273.3	271.2	269.1	267.1
50°	270.6	265.4	260.1	256.5	254.5	252.5	250.5	248.5
52.5°	251.5	246.2	240.9	237.1	235.1	233.0	230.9	228.8
55°	223.4	217.9	212.4	208.7	206.7	204.7	202.7	200.7
57.5°	195.8	190.3	184.7	181.2	179.7	178.2	176.6	175.1
60°	177.4	172.0	166.5	162.9	161.2	159.6	157.9	156.2
62.5°	159.4	154.3	149.3	146.1	144.7	143.4	142.0	140.7
65°	133.4	128.9	124.4	121.5	120.2	119.0	117.7	116.4
67.5°	109.6	105.7	101.8	99.2	97.8	96.4	95.0	93.6
70°	93.4	89.9	86.5	84.2	83.1	82.1	81.0	80.0
72.5°	78.9	75.9	73.0	71.0	70.0	69.1	68.1	67.1
75°	58.1	55.7	53.3	51.8	51.1	50.5	49.9	49.2
77.5°	41.1	39.7	38.3	37.5	37.3	37.1	36.9	36.7
80°	31.6	31.2	30.9	30.7	30.6	30.5	30.4	30.3
82.5°	24.5	24.3	24.1	23.9	23.8	23.7	23.6	23.5
85°	14.3	14.0	13.8	13.7	13.7	13.7	13.7	13.7
87.5°	10.1	10.2	10.4	10.6	10.8	10.9	11.1	11.3
90°	24.6	26.0	27.3	28.2	28.6	29.1	29.5	29.9
92.5°	23.8	25.2	26.5	27.2	27.3	27.4	27.5	27.6
95°	24.6	26.0	27.3	28.1	28.3	28.5	28.7	28.9
97.5°	26.6	26.8	26.9	27.1	27.3	27.5	27.7	28.0
100°	36.4	32.6	28.8	27.1	27.3	27.5	27.7	28.0
102.5°	130.3	89.6	48.9	28.6	28.6	28.7	28.7	28.8
105°	315.5	317.4	319.4	316.5	308.5	300.5	292.5	284.5
107.5°	390.3	391.3	392.2	393.1	394.0	394.8	395.7	396.5
110°	441.1	441.6	442.0	442.6	443.2	443.9	444.6	445.2



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CATALOG NUMBER: SA4XXRDIP-C350D1035U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	490.4	490.3	490.2	490.6	491.4	492.3	493.1	493.9
115°	563.9	564.4	564.8	565.0	565.0	565.0	565.0	565.0
117.5°	637.9	637.8	637.7	637.7	637.6	637.5	637.4	637.3
120°	683.7	684.1	684.6	684.6	684.1	683.7	683.3	682.8
122.5°	728.9	729.1	729.4	729.3	728.9	728.4	728.0	727.5
125°	792.0	792.6	793.3	793.7	794.0	794.2	794.4	794.6
127.5°	854.7	854.5	854.4	854.2	854.1	853.9	853.7	853.5
130°	892.9	893.1	893.3	893.5	893.5	893.5	893.5	893.5
132.5°	930.4	930.7	930.9	930.9	930.7	930.5	930.4	930.2
135°	982.2	982.6	983.1	983.5	984.0	984.4	984.8	985.3
137.5°	1031.8	1032.3	1032.8	1032.9	1032.8	1032.7	1032.5	1032.4
140°	1062.5	1063.2	1063.8	1064.3	1064.5	1064.7	1064.9	1065.2
142.5°	1090.9	1091.4	1091.9	1092.1	1092.2	1092.2	1092.3	1092.3
145°	1131.5	1131.7	1131.9	1132.3	1132.7	1133.1	1133.6	1134.0
147.5°	1167.1	1167.3	1167.5	1167.7	1167.9	1168.1	1168.4	1168.6
150°	1189.9	1189.9	1189.9	1190.0	1190.3	1190.5	1190.7	1190.9
152.5°	1209.8	1210.2	1210.5	1210.6	1210.5	1210.4	1210.2	1210.1
155°	1236.6	1237.5	1238.4	1238.5	1237.9	1237.2	1236.5	1235.9
157.5°	1259.7	1260.9	1262.0	1262.0	1260.9	1259.7	1258.6	1257.4
160°	1274.5	1275.8	1277.1	1277.1	1275.8	1274.5	1273.1	1271.8
162.5°	1286.4	1287.8	1289.1	1289.0	1287.5	1286.0	1284.5	1283.0
165°	1303.3	1305.1	1306.8	1306.7	1304.7	1302.7	1300.7	1298.7
167.5°	1315.6	1317.6	1319.5	1319.4	1317.2	1315.0	1312.7	1310.5
170°	1323.3	1325.0	1326.8	1326.6	1324.4	1322.2	1319.9	1317.7
172.5°	1328.1	1329.8	1331.6	1331.3	1328.9	1326.5	1324.1	1321.7
175°	1333.7	1335.7	1337.7	1337.3	1334.7	1332.0	1329.4	1326.7
177.5°	1335.9	1337.3	1338.8	1338.4	1336.3	1334.2	1332.0	1329.9
180°	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7

(END OF REPORT)