

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: P332875-940

Luminaire Tested: **SA4XXRDIP-C350D590U940-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332875-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXRDIP-C350D590U940-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3100.0 lumens  
Efficiency: N/A  
Efficacy: 121.1 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: General Diffuse

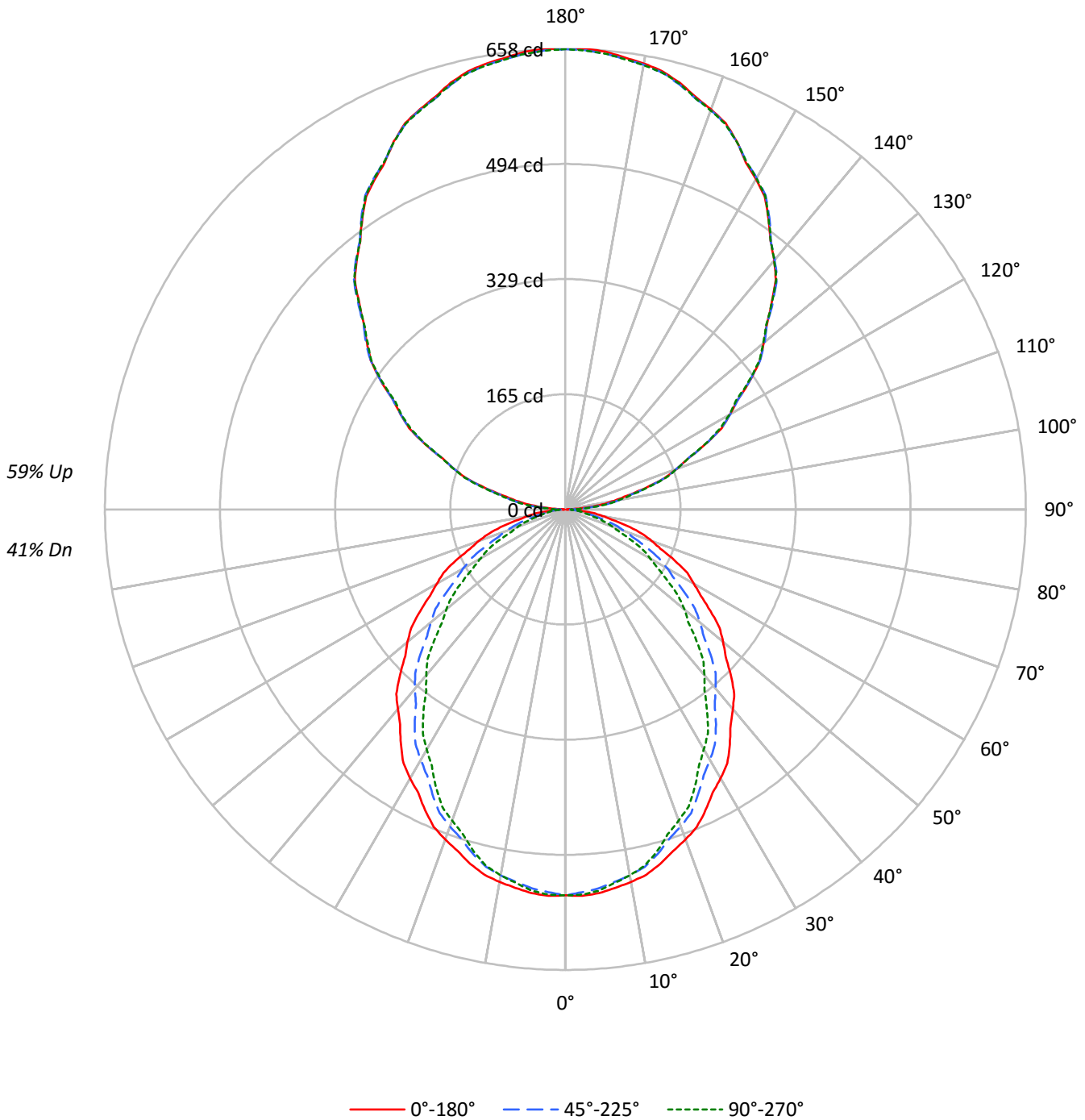
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	87	84	81	78	69	67	65	55	54	52	43	42	41	35				
2	88	80	74	69	80	74	68	64	61	57	54	49	46	44	38	36	35	30				
3	80	71	64	58	73	65	59	54	54	49	46	43	40	38	34	32	30	25				
4	73	63	55	49	67	58	51	46	48	43	39	39	35	32	30	28	26	22				
5	67	56	48	42	61	51	44	39	43	38	34	35	31	28	27	25	23	19				
6	62	50	42	37	56	46	39	34	39	33	29	31	28	25	25	22	20	17				
7	57	45	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15				
8	53	41	34	28	48	38	31	27	32	27	23	26	22	19	21	18	16	14				
9	49	38	30	25	45	35	28	24	29	24	21	24	20	18	19	17	14	12				
10	46	34	27	23	42	32	26	21	27	22	19	22	19	16	18	15	13	11				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4451	4451	4451
5°	4460	4406	4433
10°	4432	4353	4353
15°	4381	4262	4229
20°	4312	4141	4064
25°	4222	4000	3899
30°	4135	3852	3691
35°	4039	3698	3482
40°	3923	3523	3256
45°	3817	3350	3027
50°	3695	3149	2783
55°	3564	2940	2519
60°	3421	2713	2249
65°	3289	2428	1983
70°	3099	2110	1683
75°	2857	1753	1369
80°	2492	1334	1255
85°	2112	1213	1130



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.8	1.7
10°-20°	144.4	4.7
20°-30°	208.5	6.7
30°-40°	236.4	7.6
40°-50°	228.2	7.4
50°-60°	189.8	6.1
60°-70°	131.1	4.2
70°-80°	66.4	2.1
80°-90°	19.0	0.6
90°-100°	43.4	1.4
100°-110°	128.5	4.1
110°-120°	218.1	7.0
120°-130°	287.6	9.3
130°-140°	322.9	10.4
140°-150°	317.3	10.2
150°-160°	266.9	8.6
160°-170°	177.6	5.7
170°-180°	62.2	2.0
0°-30°	404.7	13.1
0°-40°	641.0	20.7
0°-60°	1059.1	34.2
0°-90°	1275.5	41.1
90°-120°	389.9	12.6
90°-150°	1317.8	42.5
90°-180°	1824.0	58.8
0°-180°	3100.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	551	551	551	551	551	
5°	550	548	544	548	547	52
15°	524	520	510	509	506	148
25°	474	466	449	442	438	218
35°	410	396	375	361	353	256
45°	334	318	293	273	265	258
55°	253	236	209	188	179	226
65°	172	154	127	110	104	170
75°	92	76	56	47	44	97
85°	23	15	13	12	12	26
90°	2	7	11	14	15	3
95°	30	35	39	40	40	34
105°	118	119	121	123	124	126
115°	222	222	221	220	220	219
125°	323	323	322	321	320	288
135°	416	419	420	419	417	322
145°	506	508	508	508	507	317
155°	580	580	579	581	579	267
165°	631	630	629	631	630	178
175°	657	654	654	657	654	62
180°	658	658	658	658	658	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	552.6	552.2	552.0	551.7	551.3	550.8	550.0	549.2	548.3	547.5	548.3
5°	550.4	550.0	549.7	549.3	548.8	548.1	547.0	545.9	544.7	543.7	544.6
7.5°	545.4	545.0	544.7	544.2	543.9	542.9	541.4	539.9	538.5	537.1	537.6
10°	540.6	540.2	539.8	539.3	538.8	537.7	536.0	534.3	532.6	531.0	531.4
12.5°	534.6	534.0	533.5	533.0	532.4	531.2	529.1	527.2	525.2	523.2	523.4
15°	524.2	523.3	522.5	521.7	520.8	519.2	516.9	514.5	512.2	509.9	509.7
17.5°	511.7	510.4	509.2	508.0	506.8	504.7	501.9	499.1	496.3	493.5	492.9
20°	501.9	500.6	499.4	498.2	497.0	494.8	491.6	488.4	485.2	482.0	481.3
22.5°	491.1	489.6	488.3	487.0	485.5	483.1	479.7	476.4	473.0	469.5	468.4
25°	474.0	472.3	470.6	469.0	467.3	464.5	460.7	456.8	452.9	449.1	447.5
27.5°	456.1	454.0	451.8	449.8	447.6	444.5	440.4	436.3	432.2	428.1	426.1
30°	443.6	441.2	438.9	436.6	434.3	430.9	426.4	422.0	417.6	413.2	410.9
32.5°	430.4	427.8	425.2	422.5	419.8	416.3	411.7	407.2	402.6	398.1	395.3
35°	409.8	406.8	403.9	400.8	397.8	394.0	389.3	384.6	380.0	375.2	372.0
37.5°	387.8	384.7	381.7	378.5	375.4	371.3	366.0	360.9	355.7	350.5	347.0
40°	372.3	369.2	366.0	363.0	359.9	355.7	350.4	345.0	339.7	334.3	330.4
42.5°	357.4	354.2	350.9	347.7	344.5	340.0	334.5	328.9	323.3	317.7	313.7
45°	334.3	330.8	327.3	323.9	320.4	315.8	310.2	304.6	299.0	293.4	288.7
47.5°	310.4	306.8	303.3	299.6	296.0	291.3	285.5	279.6	273.8	268.0	263.1
50°	294.2	290.5	286.9	283.2	279.6	274.7	268.8	262.7	256.7	250.7	246.0
52.5°	277.7	274.0	270.5	266.9	263.3	258.4	252.3	246.1	240.0	233.8	229.1
55°	253.2	249.5	245.8	242.0	238.3	233.3	227.2	221.1	215.0	208.9	204.0
57.5°	229.1	225.2	221.3	217.4	213.5	208.6	202.5	196.5	190.6	184.5	179.6
60°	211.9	208.1	204.4	200.6	196.9	192.0	186.0	179.9	174.0	168.0	163.1
62.5°	196.4	192.4	188.5	184.7	180.7	175.8	169.6	163.5	157.3	151.1	146.6
65°	172.2	168.2	164.2	160.2	156.0	151.1	145.1	139.0	133.0	127.1	123.1
67.5°	147.1	143.3	139.4	135.5	131.7	127.0	121.4	115.8	110.2	104.7	101.2
70°	131.3	127.3	123.4	119.5	115.5	110.8	105.5	100.1	94.8	89.4	86.4
72.5°	114.4	110.8	107.3	103.7	100.1	95.9	90.8	85.7	80.7	75.6	73.0
75°	91.6	88.1	84.6	81.1	77.7	73.7	69.4	64.9	60.5	56.2	53.9
77.5°	68.5	65.5	62.6	59.7	56.7	53.4	49.8	46.3	42.7	39.1	37.9
80°	53.6	50.9	48.2	45.5	42.7	39.9	37.2	34.3	31.5	28.7	28.4
82.5°	40.8	38.3	35.8	33.3	30.8	28.7	27.1	25.5	23.9	22.3	22.1
85°	22.8	21.0	19.1	17.1	15.2	14.2	13.9	13.6	13.4	13.1	12.9
87.5°	8.1	7.8	7.4	7.0	6.7	6.5	6.7	6.8	6.9	7.0	7.0
90°	1.5	2.8	4.0	5.3	6.5	7.6	8.5	9.4	10.3	11.1	11.9
92.5°	10.9	12.3	13.7	15.2	16.6	17.6	18.3	18.9	19.5	20.2	20.5
95°	30.5	31.6	32.5	33.5	34.6	35.5	36.3	37.1	37.9	38.6	39.0
97.5°	53.3	54.1	54.9	55.7	56.5	57.4	58.3	59.3	60.2	61.2	61.5
100°	71.2	71.7	72.1	72.6	73.0	73.7	74.7	75.8	76.8	77.8	78.0
102.5°	89.9	90.1	90.2	90.4	90.6	91.2	92.1	93.0	94.0	94.9	95.2
105°	118.5	118.6	118.7	118.9	119.0	119.2	119.7	120.1	120.6	121.0	121.4
107.5°	148.5	148.6	148.7	148.9	149.1	149.2	149.2	149.3	149.4	149.5	149.7
110°	168.9	169.1	169.3	169.5	169.8	169.8	169.7	169.6	169.5	169.3	169.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	190.0	190.0	190.1	190.1	190.2	190.1	189.9	189.7	189.5	189.3	189.2
115°	221.8	221.8	221.8	221.8	221.8	221.6	221.4	221.1	221.0	220.7	220.6
117.5°	251.6	251.7	251.8	251.9	252.0	252.0	251.8	251.6	251.5	251.4	250.9
120°	271.6	272.1	272.5	273.0	273.4	273.5	273.1	272.8	272.4	272.1	271.5
122.5°	292.3	292.5	292.7	292.8	293.0	293.1	292.9	292.7	292.6	292.5	292.0
125°	323.0	323.0	323.0	323.0	323.0	322.9	322.8	322.7	322.5	322.4	322.2
127.5°	350.7	351.1	351.4	351.8	352.0	352.1	352.0	351.8	351.6	351.4	351.2
130°	370.2	370.6	371.0	371.3	371.6	371.8	371.8	371.8	371.8	371.8	371.6
132.5°	390.2	390.5	390.7	390.9	391.2	391.3	391.2	391.1	391.0	390.9	390.7
135°	416.5	417.2	417.9	418.6	419.3	419.5	419.5	419.5	419.5	419.5	419.4
137.5°	445.2	445.5	445.9	446.1	446.5	446.7	446.9	447.1	447.3	447.5	447.2
140°	464.3	464.6	464.8	465.0	465.2	465.4	465.4	465.4	465.4	465.4	465.2
142.5°	481.8	482.1	482.3	482.5	482.8	482.8	482.7	482.6	482.5	482.4	482.4
145°	506.0	506.5	506.9	507.4	507.8	508.1	508.3	508.4	508.5	508.5	508.5
147.5°	530.0	530.6	531.1	531.6	532.3	532.4	532.4	532.3	532.2	532.1	532.0
150°	544.7	545.2	545.6	546.1	546.5	546.7	546.7	546.7	546.7	546.7	546.7
152.5°	558.6	558.8	559.1	559.4	559.6	559.8	559.9	560.0	560.1	560.2	560.4
155°	579.8	579.8	579.8	579.8	579.8	579.7	579.6	579.5	579.4	579.3	579.7
157.5°	597.7	597.4	597.3	597.1	596.9	596.7	596.7	596.7	596.7	596.6	597.0
160°	608.2	608.1	608.1	608.0	607.8	607.7	607.6	607.5	607.3	607.3	607.6
162.5°	618.0	617.8	617.4	617.2	616.9	616.6	616.5	616.4	616.4	616.2	616.8
165°	631.2	630.8	630.4	630.2	629.8	629.5	629.3	629.1	628.8	628.7	629.3
167.5°	641.2	640.8	640.2	639.8	639.4	639.1	639.1	639.2	639.2	639.2	639.9
170°	646.9	646.4	645.8	645.2	644.6	644.4	644.5	644.6	644.8	644.9	645.6
172.5°	650.9	650.5	650.1	649.6	649.1	648.9	648.9	648.9	648.9	649.0	649.7
175°	656.6	656.0	655.5	654.9	654.3	654.0	653.9	653.8	653.6	653.5	654.3
177.5°	658.4	658.0	657.5	657.1	656.6	656.4	656.4	656.4	656.4	656.4	657.0
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	549.2	550.0	550.8	551.2	551.1	551.1	551.0	550.9
5°	545.5	546.4	547.4	547.8	547.6	547.4	547.2	547.0
7.5°	538.2	538.9	539.5	539.6	539.3	539.0	538.7	538.4
10°	531.7	532.1	532.4	532.4	532.1	531.7	531.4	531.0
12.5°	523.6	523.9	524.1	524.0	523.4	522.9	522.4	521.8
15°	509.5	509.3	509.1	508.7	508.0	507.4	506.8	506.0
17.5°	492.4	492.0	491.4	490.6	489.6	488.7	487.7	486.7
20°	480.5	479.7	479.0	478.0	476.8	475.5	474.4	473.1
22.5°	467.3	466.1	465.0	464.0	463.0	462.0	461.0	459.9
25°	445.9	444.3	442.7	441.5	440.5	439.5	438.6	437.7
27.5°	424.1	422.1	420.2	418.6	417.1	415.8	414.5	413.1
30°	408.5	406.2	403.9	401.9	400.4	399.0	397.4	395.9
32.5°	392.6	389.9	387.2	385.0	383.6	382.2	380.8	379.3
35°	368.8	365.7	362.5	360.1	358.4	356.7	355.0	353.3
37.5°	343.4	339.8	336.3	333.6	331.9	330.2	328.5	326.8
40°	326.4	322.4	318.5	315.8	314.1	312.4	310.7	309.0
42.5°	309.7	305.7	301.7	298.8	297.0	295.2	293.5	291.8
45°	284.2	279.6	274.9	271.8	270.1	268.4	266.7	265.1
47.5°	258.4	253.6	248.9	245.6	243.7	241.8	240.0	238.2
50°	241.3	236.7	231.9	228.7	226.9	225.2	223.4	221.6
52.5°	224.3	219.5	214.8	211.4	209.6	207.8	205.9	204.0
55°	199.2	194.3	189.4	186.1	184.3	182.5	180.7	179.0
57.5°	174.6	169.7	164.7	161.6	160.2	158.9	157.5	156.1
60°	158.2	153.4	148.5	145.3	143.7	142.3	140.8	139.3
62.5°	142.1	137.6	133.1	130.3	129.0	127.9	126.6	125.5
65°	119.0	114.9	110.9	108.3	107.2	106.1	105.0	103.8
67.5°	97.7	94.3	90.8	88.5	87.2	86.0	84.7	83.5
70°	83.3	80.2	77.1	75.1	74.1	73.2	72.2	71.3
72.5°	70.4	67.7	65.1	63.3	62.4	61.6	60.7	59.8
75°	51.8	49.7	47.5	46.2	45.6	45.0	44.5	43.9
77.5°	36.6	35.4	34.2	33.4	33.3	33.1	32.9	32.7
80°	28.2	27.8	27.6	27.4	27.3	27.2	27.1	27.0
82.5°	21.8	21.7	21.5	21.3	21.2	21.1	21.0	21.0
85°	12.8	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	7.0	7.1	7.2	7.3	7.4	7.6	7.7	7.8
90°	12.6	13.2	13.9	14.4	14.6	14.8	15.1	15.2
92.5°	21.0	21.4	21.8	22.0	22.2	22.3	22.5	22.6
95°	39.3	39.7	40.0	40.2	40.2	40.2	40.2	40.2
97.5°	62.0	62.3	62.8	63.0	63.0	63.0	63.0	63.0
100°	78.3	78.5	78.7	78.8	78.8	78.8	78.8	78.8
102.5°	95.5	95.9	96.1	96.4	96.5	96.6	96.7	96.8
105°	121.7	122.1	122.4	122.7	123.1	123.4	123.8	124.1
107.5°	150.1	150.3	150.7	150.9	150.8	150.8	150.8	150.8
110°	168.9	168.7	168.4	168.5	168.9	169.2	169.5	169.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	189.2	189.1	189.1	189.1	189.2	189.2	189.3	189.4
115°	220.5	220.4	220.3	220.2	220.1	219.9	219.8	219.7
117.5°	250.6	250.2	249.8	249.5	249.2	249.1	248.8	248.6
120°	271.0	270.4	269.8	269.7	269.9	270.1	270.4	270.5
122.5°	291.7	291.3	290.9	290.5	290.1	289.7	289.3	288.9
125°	322.0	321.7	321.6	321.3	321.1	320.8	320.7	320.4
127.5°	351.0	350.8	350.5	350.4	350.2	350.0	349.8	349.6
130°	371.3	371.1	370.9	370.5	370.1	369.6	369.2	368.7
132.5°	390.5	390.2	390.0	389.8	389.6	389.4	389.2	389.1
135°	419.1	418.9	418.7	418.4	418.0	417.7	417.4	417.1
137.5°	446.8	446.6	446.3	446.1	446.2	446.3	446.4	446.5
140°	465.1	465.0	464.9	464.8	464.7	464.6	464.5	464.3
142.5°	482.4	482.4	482.3	482.3	482.3	482.3	482.2	482.2
145°	508.4	508.3	508.1	507.9	507.6	507.2	506.8	506.6
147.5°	531.9	531.8	531.7	531.6	531.5	531.4	531.3	531.2
150°	546.7	546.7	546.7	546.7	546.5	546.4	546.4	546.3
152.5°	560.7	561.0	561.2	561.2	561.0	560.6	560.4	560.1
155°	580.1	580.6	581.1	581.1	580.6	580.1	579.7	579.3
157.5°	597.4	597.7	598.1	598.0	597.6	597.3	596.8	596.5
160°	608.0	608.2	608.6	608.5	608.0	607.3	606.8	606.3
162.5°	617.4	618.0	618.7	618.7	618.1	617.5	617.0	616.4
165°	630.0	630.6	631.3	631.4	631.0	630.5	630.1	629.6
167.5°	640.5	641.2	641.9	641.9	641.2	640.5	639.8	639.1
170°	646.2	646.9	647.6	647.6	646.8	646.0	645.2	644.4
172.5°	650.5	651.3	652.0	652.0	651.2	650.4	649.6	648.9
175°	655.1	655.9	656.7	656.7	655.9	655.1	654.3	653.5
177.5°	657.6	658.3	658.9	658.9	658.2	657.5	656.7	655.9
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6

(END OF REPORT)