

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: P332512-940

Luminaire Tested: **SA4XXDIP-C350D810U940-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332512-940  
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: SA4XXDIP-C350D810U940-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

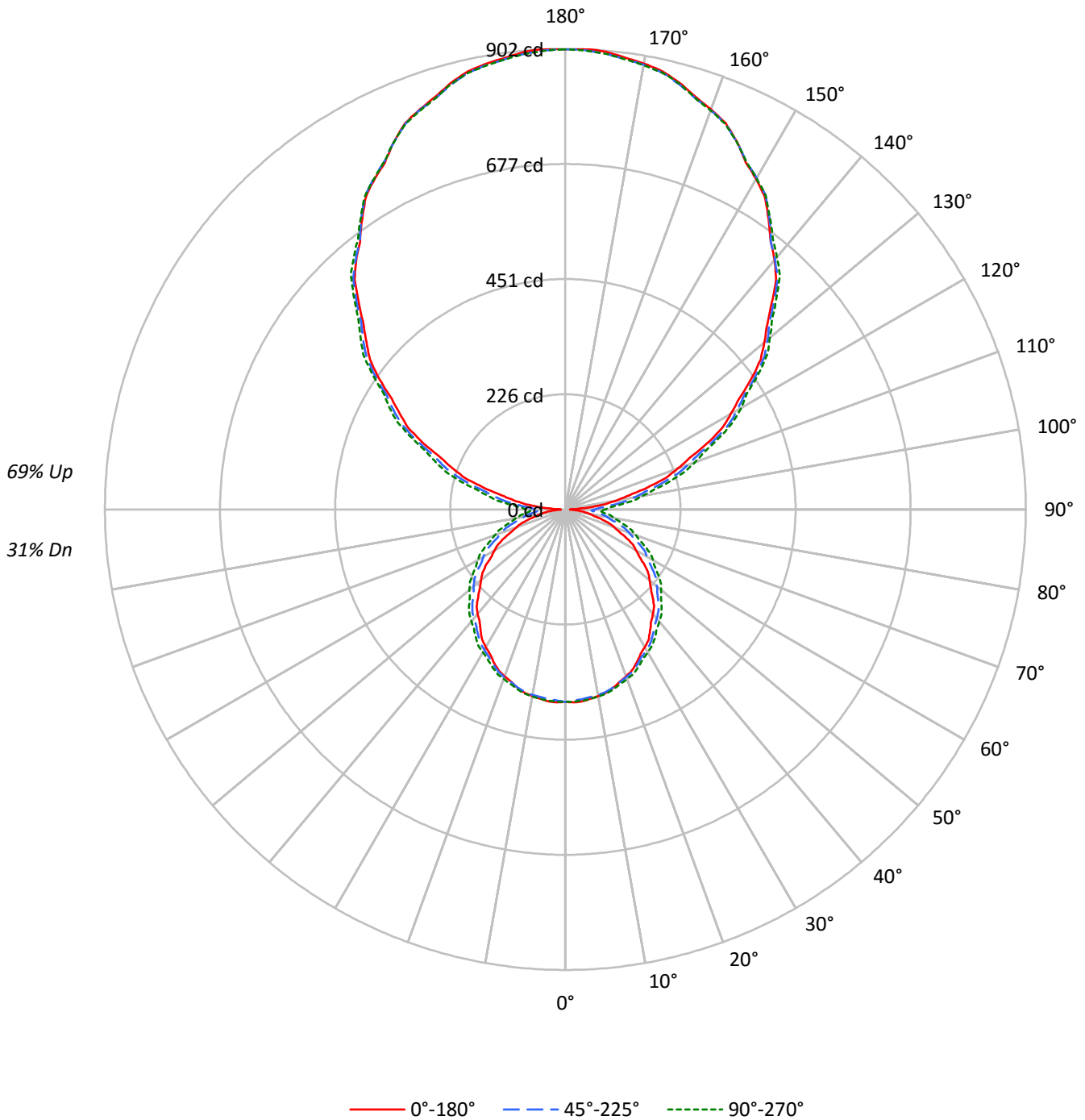
Lumens per Lamp: N/A  
Luminaire Lumens: 3788.4 lumens  
Efficiency: N/A  
Efficacy: 121.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 31.2  
Input Voltage (V): 120  
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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	31				31
1	93	88	84	81	83	80	76	73	63	61	58	48	46	45	33	33	32	25				25
2	84	77	71	65	75	69	64	59	55	51	48	41	39	37	29	27	26	21				21
3	77	67	60	54	69	61	54	49	48	43	40	36	33	31	25	24	22	17				17
4	70	59	51	45	63	53	47	41	42	38	34	32	29	26	23	20	19	14				14
5	64	53	45	39	57	47	40	35	38	33	29	29	25	22	20	18	16	12				12
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	18	16	14	11				11
7	54	42	34	29	49	38	31	26	31	25	22	23	20	17	17	14	12	10				10
8	50	38	31	25	45	35	28	23	28	23	19	21	18	15	15	13	11	8				8
9	47	35	27	22	42	31	25	21	25	20	17	20	16	13	14	12	10	8				8
10	44	32	25	20	39	29	23	18	23	18	15	18	14	12	13	11	9	7				7

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

	0°	45°	90°
0°	3043	3043	3043
5°	3053	2974	2982
10°	3033	2925	2923
15°	3006	2869	2854
20°	2965	2807	2785
25°	2919	2737	2710
30°	2869	2668	2634
35°	2812	2597	2566
40°	2768	2530	2497
45°	2700	2466	2436
50°	2643	2396	2373
55°	2585	2328	2298
60°	2493	2242	2231
65°	2392	2149	2146
70°	2271	2045	2049
75°	2101	1926	1961
80°	1913	1816	1875
85°	1676	1717	1825



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.7	0.9
10°-20°	102.3	2.7
20°-30°	154.6	4.1
30°-40°	187.1	4.9
40°-50°	197.8	5.2
50°-60°	186.2	4.9
60°-70°	154.4	4.1
70°-80°	108.5	2.9
80°-90°	64.0	1.7
90°-100°	95.9	2.5
100°-110°	203.1	5.4
110°-120°	317.0	8.4
120°-130°	404.4	10.7
130°-140°	447.1	11.8
140°-150°	435.9	11.5
150°-160°	365.9	9.7
160°-170°	243.4	6.4
170°-180°	85.2	2.2
0°-30°	292.6	7.7
0°-40°	479.7	12.7
0°-60°	863.6	22.8
0°-90°	1190.6	31.4
90°-120°	616.0	16.3
90°-150°	1903.3	50.2
90°-180°	2598.0	68.6
0°-180°	3788.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	377	377	377	377	377	
5°	377	376	373	376	376	36
15°	362	362	361	364	364	102
25°	331	333	335	339	340	152
35°	290	295	299	304	306	181
45°	241	249	257	264	267	187
55°	189	198	211	219	222	168
65°	131	144	159	169	173	130
75°	73	88	106	117	122	77
85°	22	40	59	71	76	24
90°	9	33	57	73	78	7
95°	47	68	90	103	107	51
105°	166	176	194	206	212	177
115°	306	311	322	331	333	302
125°	444	445	454	460	462	396
135°	572	576	579	584	585	442
145°	694	696	697	699	699	434
155°	795	795	794	796	794	366
165°	865	863	862	865	863	244
175°	900	897	896	900	896	85
180°	901	901	901	901	901	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	378.3	378.0	377.8	377.6	377.4	376.9	376.4	375.8	375.1	374.5	375.1
5°	377.4	377.0	376.7	376.5	376.2	375.8	375.1	374.4	373.8	373.1	373.9
7.5°	374.2	374.0	373.8	373.6	373.4	373.1	372.6	372.0	371.5	371.0	371.8
10°	371.4	371.3	371.2	371.1	371.0	370.8	370.3	369.8	369.3	368.9	369.7
12.5°	367.7	367.7	367.7	367.7	367.7	367.5	367.1	366.8	366.5	366.2	366.9
15°	361.7	361.9	361.9	362.0	362.1	362.0	361.7	361.4	361.1	360.9	361.7
17.5°	353.6	353.8	354.1	354.4	354.6	354.8	354.7	354.6	354.6	354.5	355.4
20°	347.8	348.0	348.4	348.7	348.9	349.1	349.2	349.3	349.4	349.5	350.4
22.5°	341.3	341.7	342.1	342.4	342.8	343.0	343.2	343.4	343.6	343.8	344.6
25°	330.9	331.4	332.1	332.6	333.1	333.6	333.9	334.1	334.4	334.7	335.7
27.5°	319.2	320.1	320.9	321.7	322.5	323.2	323.6	324.0	324.5	324.9	325.8
30°	311.5	312.3	313.0	313.7	314.5	315.2	315.8	316.5	317.2	317.8	318.9
32.5°	303.1	304.0	304.9	305.8	306.7	307.5	308.2	308.9	309.7	310.4	311.6
35°	289.5	290.7	291.8	292.9	294.1	295.1	296.0	296.9	297.9	298.8	300.1
37.5°	276.0	277.2	278.6	279.8	281.2	282.3	283.6	284.7	285.9	287.0	288.4
40°	267.2	268.4	269.7	270.8	272.1	273.3	274.6	276.0	277.2	278.6	280.0
42.5°	257.1	258.4	259.8	261.2	262.5	263.9	265.6	267.1	268.6	270.1	271.7
45°	241.4	243.2	245.0	246.7	248.5	250.3	252.1	253.9	255.7	257.4	259.0
47.5°	226.5	228.4	230.2	232.0	233.8	235.8	237.8	240.0	242.0	244.1	245.7
50°	215.7	217.8	219.8	221.9	223.9	226.0	228.1	230.2	232.2	234.3	236.1
52.5°	204.9	207.0	209.0	211.1	213.1	215.3	217.7	220.1	222.4	224.8	226.7
55°	189.1	191.1	193.1	195.0	197.0	199.4	202.2	205.0	207.8	210.6	212.5
57.5°	171.5	173.9	176.3	178.8	181.2	183.8	186.6	189.4	192.2	195.0	197.2
60°	160.0	162.4	164.9	167.3	169.7	172.5	175.6	178.7	181.7	184.9	187.0
62.5°	148.8	151.5	154.2	156.9	159.4	162.4	165.4	168.5	171.7	174.8	176.9
65°	130.8	133.8	136.9	139.8	142.9	146.0	149.1	152.3	155.5	158.7	161.0
67.5°	113.5	116.7	119.9	123.1	126.3	129.6	133.0	136.4	139.8	143.2	145.6
70°	101.7	104.9	108.1	111.3	114.5	117.9	121.5	125.0	128.6	132.2	134.6
72.5°	90.2	93.5	96.8	100.0	103.3	106.8	110.6	114.4	118.2	122.0	124.4
75°	72.6	76.1	79.5	83.0	86.5	90.2	94.2	98.1	102.0	105.9	108.6
77.5°	56.2	59.8	63.5	67.1	70.8	74.7	78.8	83.0	87.1	91.2	93.9
80°	46.0	49.8	53.5	57.2	61.0	64.9	69.1	73.2	77.3	81.5	84.3
82.5°	35.8	39.8	43.7	47.6	51.5	55.5	59.7	63.8	67.9	72.1	74.9
85°	22.4	26.3	30.2	34.2	38.2	42.2	46.5	50.6	54.8	59.1	61.9
87.5°	12.9	17.1	21.2	25.4	29.6	33.9	38.2	42.5	46.9	51.3	54.2
90°	8.8	14.3	19.8	25.2	30.7	36.0	41.3	46.5	51.8	57.2	60.8
92.5°	21.3	26.7	32.0	37.4	42.6	47.8	52.7	57.6	62.5	67.3	70.5
95°	47.3	51.8	56.3	60.8	65.3	70.0	74.9	79.8	84.8	89.7	92.7
97.5°	78.0	81.9	85.6	89.3	93.2	97.6	102.6	107.7	112.8	117.9	120.9
100°	102.3	105.3	108.3	111.4	114.5	118.5	123.6	128.7	133.7	138.8	141.6
102.5°	127.9	130.3	132.7	135.1	137.4	141.1	145.9	150.8	155.6	160.5	163.4
105°	166.2	168.3	170.3	172.3	174.3	177.5	181.5	185.6	189.7	193.8	196.6
107.5°	207.2	209.0	210.7	212.4	214.2	216.7	220.1	223.5	226.9	230.2	233.0
110°	234.8	236.5	238.1	239.7	241.3	243.7	246.8	249.9	253.1	256.2	258.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	263.5	264.7	265.9	267.2	268.4	270.5	273.3	276.2	279.0	281.9	283.8
115°	306.5	307.3	308.2	309.0	309.9	311.7	314.3	317.0	319.7	322.4	324.3
117.5°	347.4	348.0	348.7	349.3	349.9	351.5	354.1	356.7	359.3	361.9	363.3
120°	374.3	375.3	376.2	377.1	378.0	379.6	381.8	384.1	386.3	388.6	389.7
122.5°	402.8	403.1	403.4	403.8	404.0	405.4	407.7	410.1	412.4	414.7	416.2
125°	444.3	444.3	444.2	444.1	444.0	445.1	447.2	449.4	451.7	453.8	455.3
127.5°	482.3	482.7	483.1	483.5	483.8	484.8	486.3	487.9	489.5	491.0	492.4
130°	508.8	509.2	509.5	509.9	510.2	511.2	512.7	514.2	515.7	517.2	518.6
132.5°	536.1	536.4	536.6	536.8	537.1	537.8	538.9	539.9	541.0	542.1	543.3
135°	571.8	572.7	573.6	574.6	575.5	576.3	576.9	577.7	578.3	578.9	580.1
137.5°	611.1	611.4	611.8	612.2	612.4	613.0	613.5	614.0	614.7	615.2	616.2
140°	637.3	637.6	637.8	637.9	638.2	638.4	638.5	638.6	638.6	638.7	639.8
142.5°	660.9	661.3	661.6	661.8	662.1	662.2	662.0	661.8	661.6	661.5	662.5
145°	694.1	694.6	695.1	695.6	696.2	696.5	696.7	696.8	697.0	697.1	697.5
147.5°	727.0	727.6	728.3	728.9	729.6	729.9	729.7	729.6	729.4	729.3	729.3
150°	747.1	747.6	748.1	748.6	749.1	749.4	749.4	749.4	749.4	749.4	749.4
152.5°	765.7	766.0	766.3	766.7	767.0	767.3	767.4	767.6	767.7	767.9	768.2
155°	794.7	794.7	794.7	794.7	794.7	794.6	794.5	794.3	794.2	794.1	794.6
157.5°	819.3	818.9	818.7	818.4	818.1	818.0	818.0	818.0	817.9	817.9	818.3
160°	833.7	833.6	833.5	833.3	833.1	832.9	832.9	832.7	832.5	832.4	832.9
162.5°	847.1	846.8	846.3	846.0	845.5	845.3	845.1	845.0	844.8	844.6	845.5
165°	865.1	864.7	864.2	863.7	863.3	862.9	862.6	862.3	861.9	861.7	862.6
167.5°	879.0	878.2	877.6	877.0	876.4	876.0	876.0	876.1	876.1	876.1	877.1
170°	886.7	886.0	885.2	884.4	883.7	883.3	883.5	883.7	883.8	884.0	884.8
172.5°	892.3	891.7	891.0	890.4	889.7	889.4	889.5	889.5	889.5	889.6	890.6
175°	900.0	899.2	898.4	897.7	896.9	896.4	896.3	896.1	896.0	895.8	896.9
177.5°	902.5	901.9	901.3	900.6	900.0	899.7	899.7	899.7	899.7	899.7	900.5
180°	901.3	901.3	901.3	901.3	901.3	901.3	901.3	901.3	901.3	901.3	901.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	375.6	376.1	376.7	376.8	376.8	376.7	376.7	376.6
5°	374.6	375.3	376.1	376.5	376.4	376.2	376.1	376.0
7.5°	372.6	373.4	374.3	374.7	374.6	374.5	374.4	374.3
10°	370.6	371.4	372.3	372.6	372.6	372.5	372.4	372.3
12.5°	367.7	368.5	369.3	369.6	369.6	369.6	369.6	369.5
15°	362.6	363.4	364.3	364.6	364.5	364.4	364.4	364.3
17.5°	356.2	357.1	358.0	358.4	358.3	358.2	358.2	358.1
20°	351.3	352.3	353.2	353.7	353.7	353.7	353.7	353.7
22.5°	345.6	346.5	347.5	348.0	348.2	348.3	348.5	348.7
25°	336.8	337.8	338.9	339.4	339.5	339.6	339.7	339.7
27.5°	326.8	327.8	328.8	329.3	329.4	329.5	329.6	329.8
30°	319.9	320.9	321.9	322.5	322.7	323.0	323.2	323.3
32.5°	312.7	314.0	315.1	315.8	316.0	316.2	316.4	316.6
35°	301.5	302.7	304.1	304.9	305.1	305.4	305.8	306.0
37.5°	289.7	291.0	292.3	293.2	293.5	293.7	294.1	294.4
40°	281.4	282.8	284.2	285.1	285.4	285.9	286.2	286.6
42.5°	273.2	274.8	276.3	277.3	277.6	277.9	278.2	278.5
45°	260.6	262.3	263.9	264.8	265.4	265.8	266.3	266.7
47.5°	247.4	249.0	250.7	251.7	252.4	252.9	253.4	254.0
50°	238.0	239.9	241.7	243.0	243.5	244.1	244.7	245.2
52.5°	228.5	230.4	232.3	233.5	234.1	234.6	235.2	235.8
55°	214.4	216.2	218.1	219.4	219.9	220.4	221.1	221.6
57.5°	199.5	201.7	203.9	205.3	205.8	206.3	206.9	207.4
60°	189.2	191.4	193.5	194.9	195.7	196.4	197.2	198.0
62.5°	179.1	181.2	183.3	184.9	185.6	186.3	187.1	187.8
65°	163.4	165.8	168.1	169.6	170.4	171.1	171.9	172.6
67.5°	148.0	150.4	152.8	154.4	155.1	155.8	156.5	157.3
70°	137.1	139.7	142.2	143.8	144.5	145.2	145.8	146.4
72.5°	126.9	129.4	131.8	133.4	134.1	134.8	135.6	136.3
75°	111.2	113.8	116.5	118.2	119.0	119.8	120.7	121.5
77.5°	96.6	99.2	101.9	103.7	104.6	105.5	106.4	107.3
80°	87.1	89.9	92.7	94.5	95.2	96.0	96.8	97.5
82.5°	77.8	80.7	83.6	85.4	86.2	87.0	87.9	88.7
85°	64.7	67.5	70.4	72.2	73.1	74.1	75.0	76.0
87.5°	57.1	60.0	62.9	64.8	65.7	66.5	67.4	68.3
90°	64.4	68.0	71.7	74.1	75.2	76.2	77.2	78.3
92.5°	73.7	77.0	80.2	82.2	83.2	84.1	85.1	86.0
95°	95.7	98.7	101.7	103.6	104.4	105.3	106.1	107.0
97.5°	123.9	127.0	129.9	131.9	132.7	133.5	134.3	135.1
100°	144.5	147.2	150.1	151.9	152.5	153.2	153.8	154.4
102.5°	166.2	169.2	172.0	173.9	174.8	175.7	176.5	177.4
105°	199.4	202.2	205.0	207.1	208.2	209.5	210.7	211.9
107.5°	235.7	238.4	241.2	242.9	243.5	244.2	244.8	245.5
110°	259.9	261.7	263.6	265.1	266.4	267.5	268.8	270.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	285.9	287.9	289.9	291.3	292.2	293.0	293.9	294.7
115°	326.2	328.1	330.0	331.3	331.7	332.3	332.7	333.2
117.5°	364.7	366.1	367.6	368.5	368.9	369.3	369.8	370.2
120°	390.7	391.9	393.0	394.0	395.1	396.2	397.3	398.3
122.5°	417.5	418.8	420.2	420.9	421.1	421.2	421.2	421.3
125°	456.7	458.3	459.7	460.6	460.8	461.0	461.3	461.5
127.5°	493.7	495.2	496.5	497.4	497.8	498.2	498.6	499.0
130°	520.0	521.3	522.7	523.3	523.3	523.3	523.2	523.2
132.5°	544.7	546.0	547.2	548.0	548.4	548.7	549.0	549.4
135°	581.3	582.5	583.7	584.3	584.4	584.5	584.6	584.7
137.5°	617.2	618.1	619.0	619.8	620.4	621.0	621.5	622.1
140°	640.9	641.9	643.0	643.6	644.0	644.3	644.6	644.9
142.5°	663.5	664.6	665.6	666.3	666.6	667.0	667.4	667.8
145°	697.9	698.4	698.7	698.9	698.8	698.7	698.7	698.6
147.5°	729.2	729.2	729.2	729.2	729.3	729.5	729.6	729.8
150°	749.4	749.4	749.4	749.3	749.2	749.0	748.9	748.7
152.5°	768.6	768.9	769.3	769.3	768.9	768.5	768.1	767.7
155°	795.2	795.9	796.5	796.5	795.9	795.2	794.6	794.1
157.5°	818.8	819.3	819.7	819.7	819.2	818.7	818.1	817.6
160°	833.3	833.7	834.2	834.1	833.3	832.5	831.8	831.0
162.5°	846.3	847.1	848.0	848.0	847.2	846.5	845.7	844.9
165°	863.5	864.4	865.4	865.5	864.9	864.2	863.6	863.1
167.5°	878.0	879.0	879.9	879.9	878.9	877.9	877.0	876.0
170°	885.8	886.7	887.7	887.6	886.5	885.5	884.3	883.2
172.5°	891.6	892.7	893.8	893.8	892.7	891.5	890.5	889.4
175°	898.0	899.0	900.2	900.2	899.0	898.0	896.9	895.8
177.5°	901.4	902.3	903.2	903.1	902.1	901.2	900.2	899.1
180°	901.3	901.3	901.3	901.3	901.3	901.3	901.3	901.3

(END OF REPORT)