

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: P332724-830

Luminaire Tested: **S124DIW-S350D770U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332724-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D770U830-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3870.3 lumens
Efficiency: N/A
Efficacy: 127.3 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

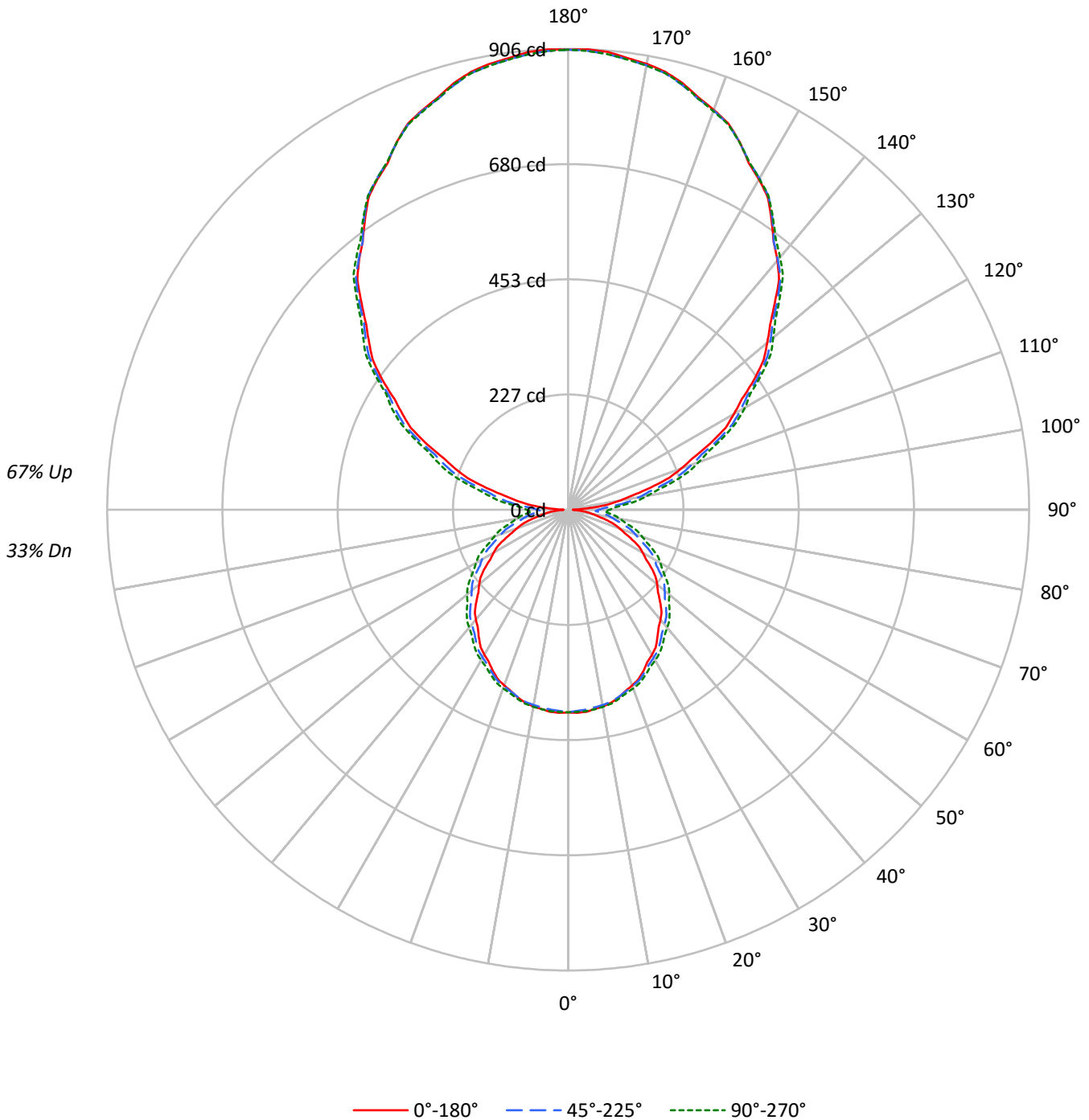
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	93	89	85	81	84	80	76	73	63	61	59	48	47	45	34	33	32	26
2	85	77	71	66	76	69	64	60	55	51	48	42	39	37	30	28	27	21
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	26	24	22	18
4	70	59	52	45	63	54	47	42	43	38	34	33	29	26	23	21	19	15
5	64	53	45	39	57	48	41	35	38	33	29	29	26	23	21	18	17	13
6	59	47	39	33	53	43	36	31	34	29	25	26	23	20	19	16	14	11
7	54	42	34	29	49	38	31	27	31	26	22	24	20	17	17	15	13	10
8	50	38	31	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	32	25	21	26	21	17	20	16	14	14	12	10	8
10	44	32	25	20	39	29	23	18	23	19	15	18	15	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3216	3216	3216
5°	3227	3143	3152
10°	3207	3092	3090
15°	3177	3032	3016
20°	3134	2967	2944
25°	3086	2893	2865
30°	3032	2819	2784
35°	2972	2744	2713
40°	2925	2674	2639
45°	2853	2607	2575
50°	2794	2532	2508
55°	2732	2460	2429
60°	2635	2369	2357
65°	2529	2272	2269
70°	2400	2161	2166
75°	2220	2037	2074
80°	2021	1919	1981
85°	1773	1815	1928



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	1.0
10°-20°	108.1	2.8
20°-30°	163.4	4.2
30°-40°	197.8	5.1
40°-50°	209.1	5.4
50°-60°	196.8	5.1
60°-70°	163.2	4.2
70°-80°	114.7	3.0
80°-90°	67.5	1.7
90°-100°	98.1	2.5
100°-110°	205.2	5.3
110°-120°	319.1	8.2
120°-130°	406.3	10.5
130°-140°	448.9	11.6
140°-150°	437.4	11.3
150°-160°	367.1	9.5
160°-170°	244.3	6.3
170°-180°	85.5	2.2
0°-30°	309.3	8.0
0°-40°	507.0	13.1
0°-60°	912.9	23.6
0°-90°	1258.3	32.5
90°-120°	622.5	16.1
90°-150°	1915.1	49.5
90°-180°	2612.0	67.5
0°-180°	3870.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	399	397	394	398	398	38
15°	382	383	381	385	385	108
25°	350	352	354	358	359	161
35°	306	311	316	322	324	192
45°	255	264	272	279	282	197
55°	200	210	223	231	234	178
65°	138	153	168	178	182	137
75°	77	93	112	124	128	82
85°	24	42	62	75	80	25
90°	9	35	60	76	82	7
95°	48	69	92	106	110	51
105°	167	177	196	209	215	177
115°	308	312	325	333	336	303
125°	446	446	456	463	464	397
135°	574	578	581	587	588	444
145°	696	699	700	701	701	436
155°	798	797	797	799	797	367
165°	868	866	865	868	866	245
175°	903	900	899	903	899	86
180°	904	904	904	904	904	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	399.8	399.5	399.4	399.1	398.9	398.4	397.8	397.2	396.5	395.9	396.4
5°	398.9	398.5	398.2	397.9	397.7	397.2	396.4	395.8	395.1	394.4	395.2
7.5°	395.5	395.3	395.1	394.9	394.7	394.4	393.8	393.2	392.7	392.1	392.9
10°	392.6	392.5	392.4	392.3	392.2	391.9	391.4	390.9	390.4	389.9	390.8
12.5°	388.7	388.6	388.6	388.6	388.6	388.4	388.0	387.8	387.4	387.1	387.9
15°	382.3	382.5	382.6	382.7	382.8	382.7	382.3	382.0	381.7	381.4	382.3
17.5°	373.7	374.0	374.3	374.6	374.8	375.0	374.9	374.8	374.8	374.8	375.7
20°	367.6	367.9	368.3	368.5	368.8	369.0	369.1	369.2	369.3	369.4	370.4
22.5°	360.8	361.2	361.6	361.9	362.3	362.6	362.8	363.0	363.2	363.4	364.3
25°	349.8	350.3	351.0	351.6	352.1	352.6	352.9	353.2	353.5	353.8	354.9
27.5°	337.4	338.4	339.2	340.1	340.9	341.6	342.0	342.5	343.0	343.5	344.4
30°	329.2	330.1	330.8	331.6	332.4	333.2	333.8	334.5	335.3	335.9	337.1
32.5°	320.4	321.3	322.3	323.2	324.1	325.0	325.7	326.5	327.3	328.1	329.3
35°	306.0	307.3	308.4	309.6	310.9	311.9	312.9	313.9	314.9	315.8	317.3
37.5°	291.7	293.0	294.5	295.8	297.2	298.4	299.7	301.0	302.2	303.4	304.8
40°	282.4	283.7	285.0	286.3	287.6	288.9	290.3	291.7	293.0	294.5	296.0
42.5°	271.7	273.1	274.6	276.1	277.5	279.0	280.7	282.3	283.9	285.5	287.2
45°	255.1	257.0	258.9	260.8	262.7	264.6	266.5	268.3	270.2	272.1	273.8
47.5°	239.4	241.4	243.3	245.2	247.1	249.2	251.4	253.6	255.8	258.0	259.7
50°	228.0	230.2	232.3	234.5	236.7	238.8	241.1	243.3	245.4	247.6	249.6
52.5°	216.6	218.8	220.9	223.1	225.3	227.6	230.1	232.6	235.1	237.6	239.6
55°	199.9	202.0	204.1	206.1	208.2	210.8	213.7	216.7	219.6	222.6	224.6
57.5°	181.3	183.8	186.3	189.0	191.5	194.3	197.3	200.2	203.1	206.1	208.5
60°	169.1	171.6	174.3	176.8	179.4	182.3	185.6	188.9	192.1	195.4	197.7
62.5°	157.3	160.1	163.0	165.8	168.5	171.6	174.8	178.1	181.4	184.7	187.0
65°	138.3	141.5	144.7	147.8	151.0	154.3	157.6	161.0	164.4	167.8	170.2
67.5°	120.0	123.4	126.8	130.2	133.5	137.0	140.6	144.2	147.8	151.4	153.9
70°	107.5	110.8	114.2	117.6	121.0	124.6	128.4	132.1	135.9	139.7	142.3
72.5°	95.4	98.9	102.3	105.8	109.1	112.9	116.9	120.9	124.9	128.9	131.5
75°	76.7	80.4	84.1	87.8	91.4	95.3	99.5	103.7	107.8	112.0	114.8
77.5°	59.4	63.2	67.1	71.0	74.8	79.0	83.3	87.8	92.1	96.4	99.2
80°	48.6	52.6	56.6	60.5	64.5	68.6	73.0	77.4	81.7	86.1	89.1
82.5°	37.9	42.0	46.2	50.3	54.4	58.6	63.1	67.4	71.7	76.2	79.2
85°	23.7	27.8	32.0	36.1	40.3	44.6	49.1	53.5	58.0	62.5	65.4
87.5°	13.7	18.0	22.4	26.8	31.2	35.6	40.2	44.9	49.4	54.0	57.1
90°	9.2	14.9	20.5	26.3	32.0	37.5	43.1	48.5	54.0	59.6	63.3
92.5°	21.8	27.2	32.8	38.4	43.8	49.2	54.3	59.5	64.6	69.7	73.0
95°	47.8	52.4	57.1	61.8	66.4	71.4	76.5	81.7	86.8	92.0	95.1
97.5°	78.6	82.5	86.4	90.4	94.3	99.0	104.2	109.5	114.8	120.2	123.3
100°	102.8	106.0	109.2	112.4	115.6	119.9	125.2	130.4	135.6	140.9	143.9
102.5°	128.6	131.1	133.6	136.1	138.6	142.4	147.5	152.5	157.6	162.7	165.7
105°	167.0	169.2	171.3	173.4	175.6	178.8	183.0	187.4	191.6	196.0	198.9
107.5°	208.2	210.0	211.8	213.7	215.5	218.1	221.7	225.3	228.8	232.3	235.3
110°	235.8	237.5	239.2	240.9	242.6	245.2	248.5	251.8	255.1	258.4	260.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	264.6	265.9	267.1	268.4	269.8	271.9	274.9	278.0	281.0	284.0	286.2
115°	307.6	308.6	309.4	310.4	311.2	313.1	315.9	318.9	321.7	324.6	326.6
117.5°	348.7	349.4	350.1	350.7	351.4	353.1	355.8	358.5	361.3	364.0	365.5
120°	375.8	376.7	377.6	378.5	379.5	381.2	383.5	386.0	388.3	390.8	392.0
122.5°	404.4	404.6	404.9	405.3	405.6	407.0	409.4	412.0	414.4	417.0	418.4
125°	446.0	445.9	445.8	445.7	445.6	446.7	449.0	451.4	453.6	456.0	457.6
127.5°	484.1	484.5	484.8	485.2	485.6	486.5	488.2	489.9	491.5	493.2	494.6
130°	510.6	511.0	511.3	511.7	512.1	513.0	514.6	516.2	517.8	519.4	520.8
132.5°	538.0	538.3	538.5	538.8	539.0	539.7	540.8	542.0	543.1	544.3	545.6
135°	573.8	574.8	575.7	576.6	577.6	578.3	579.1	579.8	580.4	581.2	582.4
137.5°	613.3	613.6	614.0	614.3	614.6	615.1	615.7	616.2	616.8	617.5	618.5
140°	639.6	639.8	640.0	640.2	640.5	640.6	640.6	640.7	640.8	640.9	642.2
142.5°	663.3	663.5	663.8	664.1	664.5	664.5	664.3	664.1	663.9	663.7	664.9
145°	696.4	697.0	697.6	698.0	698.6	698.9	699.1	699.3	699.4	699.6	700.0
147.5°	729.5	730.2	730.8	731.4	732.1	732.4	732.3	732.1	732.0	731.9	731.8
150°	749.7	750.2	750.7	751.2	751.8	752.1	752.1	752.1	752.1	752.1	752.1
152.5°	768.4	768.6	769.0	769.4	769.8	770.0	770.1	770.2	770.3	770.4	770.8
155°	797.5	797.5	797.5	797.5	797.5	797.4	797.2	797.1	796.9	796.8	797.4
157.5°	822.1	821.8	821.5	821.2	821.0	820.9	820.8	820.8	820.8	820.7	821.1
160°	836.7	836.5	836.3	836.2	836.0	835.8	835.8	835.6	835.4	835.3	835.8
162.5°	850.1	849.7	849.2	848.9	848.5	848.2	848.0	847.9	847.7	847.5	848.4
165°	868.2	867.7	867.2	866.8	866.3	865.9	865.5	865.3	865.0	864.6	865.5
167.5°	881.9	881.4	880.7	880.1	879.4	879.0	879.1	879.1	879.1	879.2	880.1
170°	889.9	889.0	888.3	887.5	886.7	886.4	886.6	886.7	886.8	887.0	888.0
172.5°	895.4	894.8	894.1	893.4	892.8	892.5	892.5	892.6	892.6	892.6	893.7
175°	903.1	902.3	901.5	900.8	900.0	899.6	899.4	899.2	899.1	898.9	900.0
177.5°	905.6	905.0	904.4	903.8	903.1	902.9	902.9	902.9	902.9	902.9	903.7
180°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	397.0	397.6	398.1	398.3	398.3	398.2	398.1	398.0
5°	396.0	396.7	397.6	397.9	397.8	397.7	397.6	397.5
7.5°	393.9	394.7	395.7	396.1	396.0	395.9	395.8	395.7
10°	391.7	392.6	393.5	393.9	393.8	393.7	393.6	393.5
12.5°	388.7	389.6	390.3	390.7	390.7	390.7	390.7	390.6
15°	383.2	384.1	385.0	385.4	385.3	385.2	385.1	385.0
17.5°	376.5	377.5	378.4	378.8	378.7	378.6	378.6	378.5
20°	371.4	372.4	373.3	373.9	373.9	373.9	373.9	373.9
22.5°	365.3	366.3	367.3	367.9	368.1	368.2	368.3	368.5
25°	356.0	357.0	358.2	358.7	358.8	358.9	359.0	359.1
27.5°	345.4	346.5	347.5	348.1	348.2	348.3	348.4	348.6
30°	338.1	339.2	340.3	340.9	341.1	341.4	341.6	341.8
32.5°	330.5	331.9	333.1	333.8	334.0	334.2	334.4	334.6
35°	318.7	320.0	321.4	322.3	322.5	322.8	323.2	323.5
37.5°	306.2	307.6	309.0	309.9	310.2	310.5	310.9	311.1
40°	297.5	298.9	300.4	301.3	301.7	302.2	302.6	302.9
42.5°	288.8	290.5	292.1	293.1	293.4	293.7	294.1	294.4
45°	275.5	277.2	278.9	279.9	280.5	281.0	281.4	281.9
47.5°	261.5	263.2	264.9	266.1	266.7	267.3	267.9	268.5
50°	251.6	253.5	255.5	256.8	257.4	258.0	258.6	259.2
52.5°	241.6	243.6	245.5	246.9	247.4	248.0	248.6	249.2
55°	226.6	228.6	230.5	231.9	232.4	233.0	233.7	234.2
57.5°	210.8	213.2	215.6	217.0	217.5	218.1	218.7	219.2
60°	200.0	202.3	204.5	206.0	206.9	207.6	208.5	209.2
62.5°	189.3	191.5	193.8	195.4	196.1	196.9	197.7	198.5
65°	172.7	175.2	177.7	179.3	180.1	180.9	181.7	182.5
67.5°	156.5	159.0	161.5	163.2	163.9	164.7	165.4	166.3
70°	145.0	147.7	150.3	152.0	152.7	153.4	154.1	154.8
72.5°	134.1	136.8	139.3	141.0	141.8	142.5	143.4	144.1
75°	117.5	120.3	123.1	124.9	125.8	126.7	127.6	128.5
77.5°	102.1	104.9	107.7	109.6	110.6	111.5	112.4	113.4
80°	92.1	95.0	98.0	99.9	100.7	101.5	102.3	103.0
82.5°	82.2	85.3	88.3	90.3	91.1	92.0	92.9	93.8
85°	68.4	71.4	74.4	76.3	77.3	78.3	79.3	80.3
87.5°	60.1	63.2	66.3	68.2	69.2	70.1	71.1	72.0
90°	67.2	71.0	74.7	77.3	78.3	79.5	80.6	81.6
92.5°	76.4	79.8	83.1	85.3	86.3	87.3	88.2	89.3
95°	98.3	101.4	104.5	106.6	107.4	108.4	109.2	110.2
97.5°	126.5	129.6	132.8	134.8	135.6	136.5	137.3	138.2
100°	146.9	149.9	152.9	154.8	155.4	156.1	156.8	157.5
102.5°	168.7	171.7	174.7	176.7	177.7	178.5	179.5	180.3
105°	201.8	204.8	207.7	209.8	211.0	212.4	213.6	214.9
107.5°	238.1	241.0	243.8	245.6	246.4	247.0	247.7	248.4
110°	262.3	264.3	266.3	267.9	269.1	270.4	271.6	272.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	288.3	290.4	292.6	294.1	295.0	295.9	296.7	297.7
115°	328.7	330.6	332.7	333.9	334.5	335.1	335.5	336.1
117.5°	367.0	368.6	370.1	371.2	371.6	372.1	372.6	373.1
120°	393.1	394.4	395.6	396.7	397.8	399.0	400.0	401.1
122.5°	419.9	421.3	422.7	423.6	423.8	423.9	424.0	424.2
125°	459.1	460.7	462.3	463.3	463.5	463.8	464.1	464.4
127.5°	496.2	497.7	499.1	500.0	500.5	500.9	501.3	501.7
130°	522.4	523.8	525.3	526.0	526.0	525.9	525.9	525.9
132.5°	547.1	548.5	549.9	550.7	551.1	551.4	551.8	552.1
135°	583.7	584.9	586.3	586.9	587.1	587.2	587.3	587.5
137.5°	619.5	620.6	621.6	622.5	623.0	623.6	624.2	624.8
140°	643.3	644.4	645.5	646.2	646.6	647.0	647.2	647.6
142.5°	666.0	667.0	668.2	668.9	669.3	669.7	670.1	670.4
145°	700.4	700.9	701.3	701.4	701.4	701.3	701.3	701.3
147.5°	731.8	731.7	731.7	731.7	731.9	732.1	732.3	732.4
150°	752.1	752.1	752.1	752.0	751.8	751.6	751.5	751.3
152.5°	771.2	771.6	771.9	771.9	771.6	771.2	770.7	770.3
155°	798.1	798.6	799.3	799.3	798.6	798.1	797.4	796.8
157.5°	821.6	822.1	822.6	822.6	822.0	821.5	821.0	820.4
160°	836.2	836.7	837.2	837.0	836.2	835.4	834.6	833.9
162.5°	849.2	850.1	850.9	850.9	850.2	849.4	848.7	847.8
165°	866.5	867.4	868.4	868.6	867.9	867.2	866.7	866.0
167.5°	881.1	881.9	882.9	882.9	881.9	881.0	880.1	879.0
170°	888.9	889.9	890.8	890.7	889.6	888.5	887.4	886.4
172.5°	894.8	895.8	896.8	896.8	895.7	894.7	893.5	892.5
175°	901.1	902.2	903.2	903.2	902.2	901.1	900.0	898.9
177.5°	904.6	905.4	906.3	906.3	905.2	904.3	903.2	902.3
180°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5

(END OF REPORT)