

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: P331878-940

Luminaire Tested: **S123DIP-S340D585U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331878-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D585U940-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3077.6 lumens
Efficiency: N/A
Efficacy: 120.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

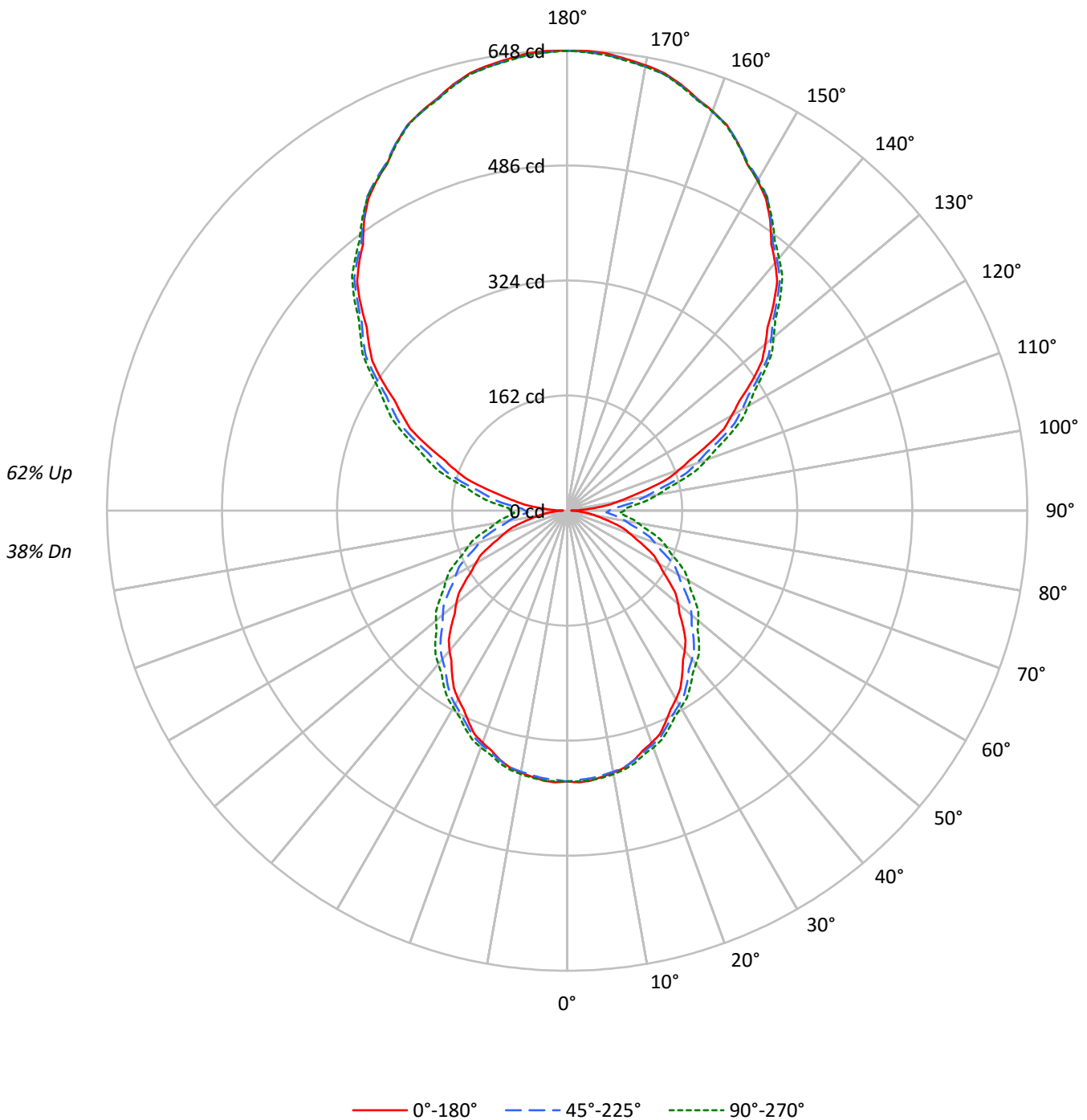
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	94	90	86	82	85	81	78	75	66	64	61	52	50	49	39	38	37	30
2	86	78	72	66	77	71	65	61	57	53	50	45	42	40	34	32	30	25
3	78	68	61	55	70	62	55	50	50	46	42	40	36	33	30	27	25	21
4	71	60	52	46	64	55	48	42	44	39	35	35	31	28	26	24	22	18
5	65	53	45	39	59	49	41	36	40	34	30	31	27	24	24	21	19	15
6	60	48	40	34	54	44	36	31	36	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	19	17	14	12
8	51	39	31	26	46	36	29	24	29	24	20	23	19	16	18	15	13	10
9	48	35	28	23	43	32	26	21	27	22	18	21	18	15	16	14	12	9
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4105	4105	4105
5°	4118	4002	4004
10°	4082	3910	3890
15°	4029	3805	3766
20°	3954	3686	3630
25°	3860	3549	3485
30°	3767	3425	3339
35°	3659	3294	3223
40°	3557	3175	3098
45°	3445	3060	2998
50°	3333	2947	2888
55°	3211	2831	2789
60°	3090	2713	2689
65°	2967	2588	2567
70°	2783	2448	2443
75°	2551	2287	2318
80°	2278	2128	2175
85°	2025	2018	2090



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.2	1.2
10°-20°	103.1	3.3
20°-30°	154.2	5.0
30°-40°	184.1	6.0
40°-50°	192.6	6.3
50°-60°	180.7	5.9
60°-70°	151.0	4.9
70°-80°	108.0	3.5
80°-90°	66.3	2.2
90°-100°	82.6	2.7
100°-110°	156.0	5.1
110°-120°	234.6	7.6
120°-130°	293.8	9.5
130°-140°	322.5	10.5
140°-150°	313.1	10.2
150°-160°	262.7	8.5
160°-170°	174.9	5.7
170°-180°	61.2	2.0
0°-30°	293.4	9.5
0°-40°	477.5	15.5
0°-60°	850.9	27.6
0°-90°	1176.2	38.2
90°-120°	473.1	15.4
90°-150°	1402.6	45.6
90°-180°	1901.0	61.8
0°-180°	3077.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	381	381	381	381	381	
5°	382	381	378	382	381	36
15°	364	365	364	368	368	102
25°	328	332	334	339	339	151
35°	282	289	295	301	302	177
45°	231	241	251	259	263	178
55°	176	190	205	216	219	158
65°	122	138	156	168	173	120
75°	66	86	106	120	125	71
85°	20	41	63	77	81	21
90°	6	31	59	75	80	6
95°	35	55	79	93	98	37
105°	118	129	151	162	168	126
115°	218	225	239	249	252	216
125°	318	320	330	337	338	283
135°	411	414	418	423	424	317
145°	498	499	500	503	503	311
155°	570	570	571	572	569	262
165°	621	620	620	622	619	175
175°	646	644	644	647	643	61
180°	648	648	648	648	648	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	383.1	382.9	382.6	382.5	382.2	381.8	381.2	380.6	380.0	379.4	380.0
5°	381.8	381.7	381.5	381.3	381.1	380.8	380.1	379.6	379.1	378.5	379.2
7.5°	378.1	378.2	378.2	378.2	378.3	378.0	377.5	376.9	376.4	375.9	376.7
10°	374.8	375.0	375.1	375.3	375.5	375.4	374.9	374.4	374.0	373.5	374.4
12.5°	370.8	371.0	371.3	371.6	371.8	371.8	371.5	371.1	370.9	370.5	371.4
15°	363.6	363.8	364.1	364.4	364.6	364.8	364.6	364.5	364.4	364.4	365.3
17.5°	354.5	355.0	355.5	356.1	356.6	356.9	356.9	356.8	356.8	356.8	357.6
20°	347.8	348.3	348.8	349.5	350.0	350.4	350.5	350.7	350.9	351.1	352.0
22.5°	340.8	341.3	341.9	342.4	343.0	343.4	343.7	343.9	344.2	344.5	345.5
25°	328.2	329.1	330.1	331.0	331.9	332.5	332.8	333.1	333.3	333.7	334.8
27.5°	315.6	316.6	317.7	318.8	319.9	320.7	321.2	321.8	322.4	323.0	324.0
30°	306.7	307.8	309.1	310.2	311.5	312.4	313.2	313.9	314.6	315.4	316.5
32.5°	296.7	298.0	299.3	300.7	302.0	303.2	304.2	305.1	306.1	307.0	308.3
35°	282.5	284.0	285.5	287.0	288.5	289.8	291.0	292.2	293.4	294.6	296.0
37.5°	267.6	269.2	270.9	272.6	274.2	275.8	277.2	278.7	280.3	281.7	283.3
40°	257.6	259.3	260.9	262.6	264.2	266.0	267.9	269.7	271.5	273.4	275.0
42.5°	246.6	248.7	250.7	252.7	254.8	256.7	258.7	260.6	262.5	264.4	266.2
45°	231.0	233.3	235.4	237.6	239.9	242.1	244.4	246.7	249.1	251.4	253.2
47.5°	214.6	217.1	219.6	222.2	224.7	227.3	229.9	232.6	235.1	237.8	239.8
50°	204.0	206.6	209.2	211.8	214.4	217.0	219.9	222.8	225.7	228.5	230.7
52.5°	192.7	195.5	198.1	200.9	203.7	206.6	209.7	212.9	216.1	219.2	221.4
55°	176.2	179.2	182.3	185.3	188.3	191.5	194.8	198.2	201.5	204.8	207.3
57.5°	160.1	163.2	166.4	169.6	172.7	176.2	179.8	183.4	187.1	190.7	193.2
60°	148.7	152.0	155.4	158.7	162.0	165.6	169.4	173.2	176.9	180.7	183.3
62.5°	138.1	141.5	144.9	148.3	151.7	155.4	159.4	163.5	167.5	171.5	174.0
65°	121.7	125.4	128.9	132.5	136.2	140.0	144.0	148.1	152.1	156.2	159.0
67.5°	105.1	109.0	112.8	116.5	120.4	124.4	128.5	132.7	136.8	141.0	143.9
70°	93.5	97.5	101.4	105.4	109.3	113.6	118.0	122.4	126.9	131.3	134.3
72.5°	82.8	86.9	90.8	94.8	98.7	103.0	107.5	112.2	116.7	121.4	124.4
75°	66.1	70.4	74.7	79.1	83.5	87.9	92.6	97.1	101.7	106.4	109.4
77.5°	51.5	55.8	60.2	64.6	68.9	73.5	78.1	82.8	87.4	92.1	95.3
80°	41.1	45.7	50.2	54.8	59.2	63.9	68.7	73.5	78.3	83.1	86.2
82.5°	32.2	36.7	41.4	45.9	50.6	55.3	60.2	65.0	69.9	74.8	77.9
85°	20.3	25.0	29.6	34.2	38.8	43.6	48.5	53.3	58.2	63.1	66.3
87.5°	11.1	16.0	20.8	25.6	30.4	35.4	40.4	45.4	50.4	55.4	58.6
90°	5.9	11.6	17.2	22.9	28.5	34.4	40.7	46.8	53.0	59.1	62.8
92.5°	17.4	22.2	27.1	31.9	36.7	41.9	47.4	52.9	58.3	63.8	67.2
95°	34.6	39.0	43.3	47.8	52.2	57.1	62.5	67.9	73.4	78.7	82.1
97.5°	57.3	61.2	65.1	68.9	72.8	77.1	82.1	87.1	92.0	97.0	100.3
100°	72.9	76.5	80.2	83.8	87.5	91.7	96.5	101.3	106.1	110.9	114.0
102.5°	90.9	94.0	97.0	100.0	103.2	107.2	112.1	117.0	121.9	126.8	129.7
105°	117.8	120.2	122.6	125.1	127.5	131.3	136.3	141.2	146.2	151.2	153.8
107.5°	148.6	150.6	152.7	154.6	156.7	159.8	164.0	168.1	172.3	176.5	179.3
110°	167.8	169.7	171.6	173.4	175.3	178.3	182.2	186.1	190.0	193.9	196.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	188.2	189.7	191.2	192.6	194.1	196.7	200.3	203.8	207.5	211.1	213.9
115°	218.2	219.7	221.1	222.6	224.0	226.3	229.4	232.5	235.6	238.7	241.0
117.5°	248.9	249.8	250.7	251.6	252.5	254.4	257.2	260.0	262.9	265.7	267.9
120°	267.7	268.9	269.9	271.1	272.2	274.0	276.5	279.0	281.5	284.0	286.0
122.5°	287.6	288.4	289.1	289.8	290.5	292.2	294.8	297.5	300.1	302.6	304.4
125°	317.6	318.0	318.3	318.6	319.0	320.4	322.8	325.3	327.7	330.2	331.6
127.5°	345.7	346.3	347.0	347.6	348.2	349.6	351.5	353.5	355.4	357.4	358.6
130°	364.4	365.2	366.0	366.8	367.7	368.8	370.3	371.8	373.4	374.9	376.1
132.5°	382.8	383.7	384.6	385.5	386.3	387.4	388.6	389.9	391.1	392.3	393.4
135°	411.3	411.9	412.5	413.0	413.7	414.4	415.3	416.2	417.1	417.9	419.2
137.5°	437.7	438.2	438.6	439.2	439.6	440.3	441.1	442.0	442.9	443.8	444.8
140°	455.7	456.2	456.7	457.4	457.9	458.3	458.8	459.1	459.5	459.9	461.2
142.5°	472.3	472.8	473.3	473.8	474.3	474.7	474.9	475.2	475.5	475.7	476.8
145°	498.4	498.5	498.6	498.7	498.9	499.1	499.4	499.8	500.2	500.5	501.1
147.5°	520.8	521.1	521.6	521.9	522.4	522.7	523.1	523.3	523.7	524.0	524.2
150°	536.6	536.8	537.1	537.3	537.5	537.7	538.0	538.1	538.4	538.6	538.6
152.5°	549.7	549.9	550.3	550.5	550.9	551.1	551.3	551.3	551.5	551.6	551.8
155°	570.2	570.2	570.2	570.2	570.2	570.2	570.3	570.4	570.6	570.7	571.1
157.5°	587.6	587.5	587.4	587.3	587.1	587.1	587.2	587.3	587.4	587.5	587.9
160°	598.6	598.4	598.2	598.0	597.7	597.6	597.6	597.6	597.6	597.6	598.2
162.5°	608.4	608.1	607.8	607.4	607.2	607.1	607.2	607.3	607.3	607.4	608.0
165°	621.0	620.7	620.4	620.0	619.6	619.5	619.5	619.5	619.5	619.5	620.2
167.5°	631.1	630.6	630.2	629.7	629.3	629.1	629.2	629.3	629.4	629.5	630.2
170°	636.8	636.3	635.9	635.4	635.0	634.7	634.7	634.7	634.7	634.7	635.5
172.5°	641.2	640.8	640.3	639.9	639.4	639.3	639.3	639.3	639.3	639.3	640.0
175°	646.0	645.5	645.1	644.6	644.2	643.9	643.9	643.9	643.9	643.9	644.6
177.5°	647.9	647.6	647.2	646.8	646.4	646.2	646.2	646.2	646.2	646.2	646.8
180°	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	380.6	381.2	381.8	382.0	382.0	381.9	381.8	381.7
5°	380.0	380.8	381.5	381.8	381.7	381.6	381.5	381.4
7.5°	377.7	378.6	379.5	380.0	379.9	379.7	379.6	379.5
10°	375.4	376.3	377.2	377.6	377.4	377.2	377.0	376.8
12.5°	372.2	373.1	373.9	374.3	374.1	373.9	373.7	373.5
15°	366.2	367.1	368.1	368.5	368.4	368.3	368.2	368.1
17.5°	358.4	359.3	360.1	360.4	360.3	360.2	360.1	359.9
20°	352.8	353.6	354.5	354.9	355.0	355.1	355.2	355.3
22.5°	346.5	347.6	348.7	349.2	349.1	349.0	349.0	348.9
25°	336.0	337.2	338.4	339.0	339.0	339.0	339.0	339.0
27.5°	325.0	326.1	327.2	327.7	327.8	327.9	327.9	328.0
30°	317.5	318.7	319.8	320.3	320.3	320.3	320.3	320.3
32.5°	309.4	310.6	311.7	312.5	312.7	312.9	313.2	313.3
35°	297.4	298.7	300.1	301.0	301.4	301.8	302.1	302.5
37.5°	284.8	286.4	288.0	288.9	289.2	289.5	289.8	290.1
40°	276.5	278.1	279.6	280.6	281.0	281.4	281.8	282.1
42.5°	267.9	269.6	271.3	272.4	273.0	273.4	273.9	274.5
45°	254.9	256.6	258.4	259.7	260.4	261.1	261.9	262.6
47.5°	241.7	243.8	245.8	247.0	247.5	248.2	248.7	249.3
50°	232.7	234.9	237.0	238.4	239.1	239.7	240.3	241.0
52.5°	223.6	225.8	228.0	229.5	230.3	231.1	231.8	232.6
55°	209.8	212.3	214.8	216.4	217.1	217.9	218.6	219.4
57.5°	195.7	198.2	200.7	202.4	203.3	204.2	205.1	205.9
60°	185.9	188.5	191.1	192.9	193.9	194.9	195.9	197.0
62.5°	176.6	179.1	181.7	183.5	184.5	185.4	186.4	187.3
65°	161.8	164.5	167.3	169.2	170.0	171.0	171.9	172.8
67.5°	147.0	150.0	153.0	155.0	155.7	156.5	157.3	158.0
70°	137.2	140.2	143.1	145.1	146.0	146.9	147.8	148.7
72.5°	127.3	130.4	133.4	135.5	136.3	137.2	138.2	139.1
75°	112.4	115.5	118.6	120.6	121.7	122.9	123.9	125.1
77.5°	98.5	101.7	105.0	106.9	107.8	108.7	109.5	110.4
80°	89.3	92.6	95.7	97.6	98.6	99.5	100.5	101.4
82.5°	81.1	84.2	87.4	89.3	90.3	91.2	92.1	93.1
85°	69.5	72.6	75.7	77.8	78.6	79.6	80.5	81.4
87.5°	61.8	65.1	68.3	70.4	71.3	72.3	73.3	74.3
90°	66.3	69.9	73.6	75.9	77.0	78.2	79.4	80.5
92.5°	70.7	74.1	77.5	79.6	80.3	81.1	81.8	82.5
95°	85.4	88.7	92.0	94.2	95.1	96.0	96.9	97.8
97.5°	103.6	106.8	110.1	112.2	113.1	114.0	114.9	115.7
100°	117.0	119.9	123.0	125.1	126.2	127.3	128.5	129.7
102.5°	132.7	135.6	138.6	140.5	141.4	142.2	143.1	144.0
105°	156.4	159.0	161.6	163.4	164.4	165.5	166.6	167.6
107.5°	182.2	184.9	187.8	189.6	190.2	190.9	191.6	192.3
110°	199.7	202.5	205.4	207.1	207.5	208.0	208.6	209.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	216.8	219.6	222.6	224.4	225.2	225.9	226.7	227.4
115°	243.3	245.7	248.0	249.5	250.1	250.7	251.4	252.0
117.5°	270.0	272.2	274.4	275.7	276.1	276.5	276.9	277.3
120°	288.0	290.0	292.0	293.2	293.6	294.1	294.5	294.9
122.5°	306.1	307.9	309.7	310.8	311.0	311.4	311.7	312.0
125°	333.1	334.7	336.1	337.0	337.2	337.3	337.5	337.7
127.5°	359.8	361.0	362.1	362.8	362.9	363.0	363.1	363.3
130°	377.5	378.7	380.0	380.6	380.3	380.1	379.9	379.6
132.5°	394.6	395.7	396.8	397.4	397.4	397.4	397.5	397.5
135°	420.4	421.6	422.8	423.6	423.8	424.0	424.3	424.5
137.5°	445.8	446.7	447.7	448.2	448.3	448.3	448.3	448.4
140°	462.4	463.8	465.0	465.5	465.2	464.8	464.5	464.1
142.5°	478.0	479.0	480.2	480.6	480.5	480.4	480.2	480.1
145°	501.8	502.4	503.0	503.3	503.2	503.1	503.0	502.9
147.5°	524.4	524.7	524.9	524.8	524.5	524.1	523.8	523.4
150°	538.6	538.6	538.6	538.4	537.9	537.4	536.9	536.5
152.5°	552.1	552.2	552.4	552.1	551.6	551.1	550.5	550.0
155°	571.6	572.0	572.5	572.3	571.5	570.7	570.0	569.2
157.5°	588.4	588.9	589.3	589.2	588.6	588.0	587.4	586.7
160°	598.8	599.3	599.9	599.9	599.5	599.1	598.6	598.2
162.5°	608.5	609.1	609.7	609.6	608.9	608.1	607.4	606.7
165°	620.9	621.5	622.2	622.1	621.3	620.5	619.8	619.0
167.5°	630.9	631.6	632.3	632.3	631.6	630.9	630.2	629.5
170°	636.3	637.1	637.9	637.9	637.1	636.3	635.5	634.7
172.5°	640.6	641.3	642.0	642.0	641.2	640.4	639.6	638.8
175°	645.2	646.0	646.7	646.6	645.8	645.0	644.2	643.4
177.5°	647.4	647.9	648.5	648.4	647.7	647.1	646.5	645.9
180°	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5

(END OF REPORT)