

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: P331869-940

Luminaire Tested: **S123DIP-S340D365U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331869-940
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-S340D365U940-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2394.4 lumens
Efficiency: N/A
Efficacy: 117.9 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: General Diffuse

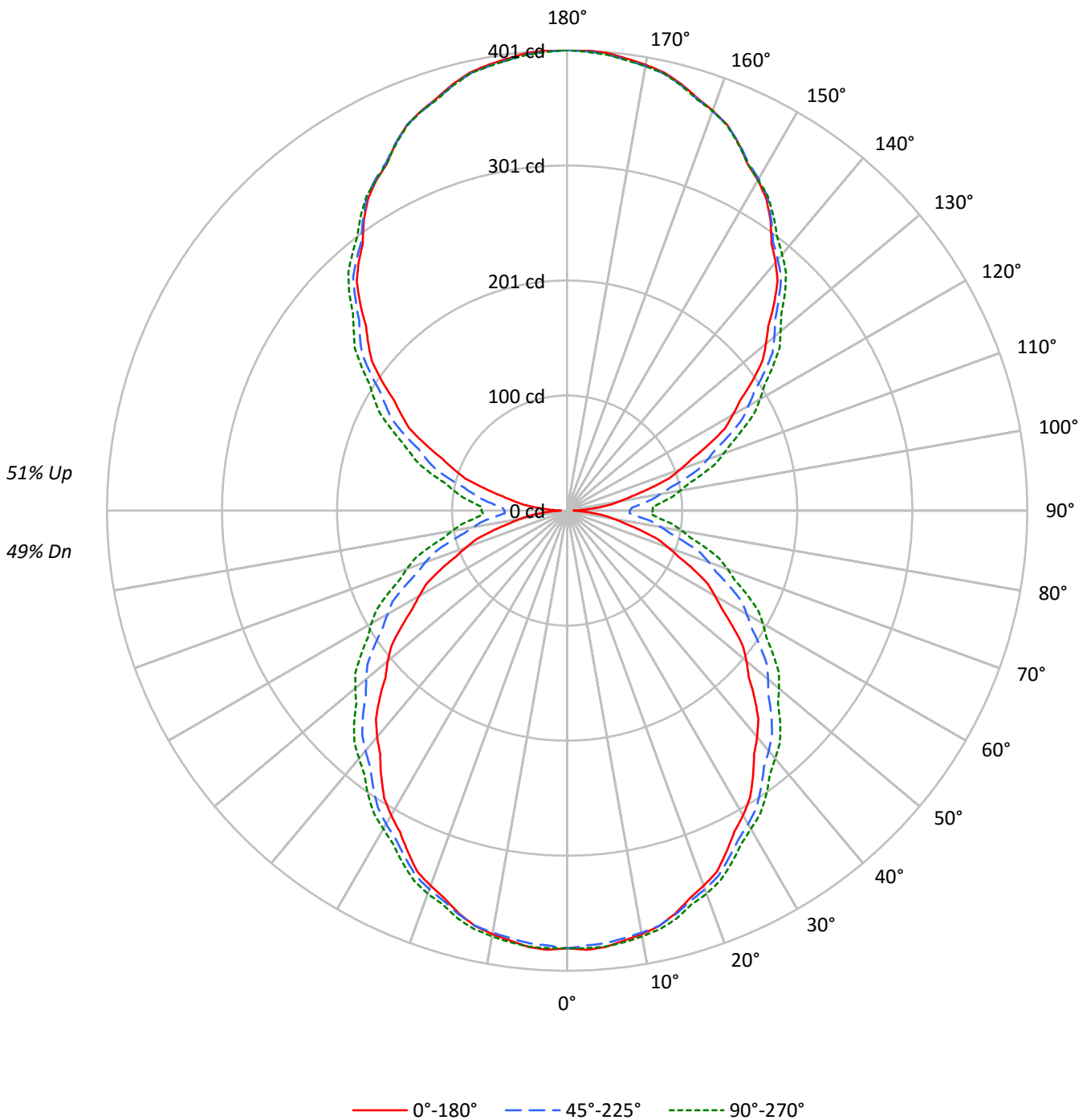
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55	49
1	97	92	87	84	89	85	81	77	71	68	66	59	57	55	47	46	45	39
2	87	80	73	67	80	73	68	63	62	57	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	35	31	28	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18	15
8	52	40	32	27	48	37	30	25	32	26	22	26	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	19	15	13	11

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	1.5
10°-20°	103.1	4.3
20°-30°	154.2	6.4
30°-40°	184.1	7.7
40°-50°	192.6	8.0
50°-60°	180.7	7.5
60°-70°	151.0	6.3
70°-80°	108.0	4.5
80°-90°	65.6	2.7
90°-100°	66.6	2.8
100°-110°	107.9	4.5
110°-120°	152.9	6.4
120°-130°	186.3	7.8
130°-140°	201.8	8.4
140°-150°	194.4	8.1
150°-160°	162.8	6.8
160°-170°	108.3	4.5
170°-180°	37.9	1.6
0°-30°	293.4	12.3
0°-40°	477.5	19.9
0°-60°	850.9	35.5
0°-90°	1175.5	49.1
90°-120°	327.3	13.7
90°-150°	909.9	38.0
90°-180°	1219.0	50.9
0°-180°	2394.4	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	29	54	69	75	5
95°	23	42	64	78	83	24
105°	74	85	106	117	122	79
115°	136	142	156	166	170	135
125°	197	199	210	217	219	176
135°	255	257	261	267	268	197
145°	309	309	310	313	314	193
155°	353	353	354	355	353	163
165°	385	384	384	386	384	108
175°	400	399	399	401	399	38
180°	401	401	401	401	401	



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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	15.9	20.6	25.3	30.1	34.9	39.8	44.7	49.6	54.5	57.6
90°	5.7	11.0	16.1	21.4	26.6	32.0	37.6	43.2	48.9	54.5	58.0
92.5°	12.7	17.2	21.8	26.4	30.9	35.8	40.9	46.1	51.3	56.4	59.7
95°	23.2	27.3	31.4	35.4	39.5	44.1	49.2	54.3	59.4	64.5	67.6
97.5°	37.1	40.8	44.3	48.0	51.5	55.7	60.5	65.2	69.9	74.6	77.7
100°	46.6	49.9	53.3	56.7	60.1	64.1	68.7	73.3	77.8	82.5	85.3
102.5°	57.6	60.5	63.4	66.3	69.3	73.0	77.7	82.3	86.9	91.6	94.3
105°	74.2	76.6	78.9	81.3	83.6	87.1	91.8	96.3	100.9	105.5	108.1
107.5°	93.2	95.1	97.1	99.1	101.0	104.0	108.0	112.0	116.1	120.1	122.8
110°	104.9	106.7	108.5	110.3	112.1	114.9	118.8	122.6	126.4	130.3	133.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	117.5	119.0	120.4	121.9	123.3	125.8	129.4	133.0	136.5	140.1	142.8
115°	136.0	137.3	138.7	140.0	141.2	143.6	146.7	149.9	153.1	156.2	158.5
117.5°	155.0	155.8	156.6	157.4	158.3	160.2	163.1	166.0	169.0	171.9	174.1
120°	166.5	167.4	168.3	169.2	170.0	171.7	174.5	177.2	179.9	182.5	184.6
122.5°	178.8	179.4	179.9	180.5	181.0	182.6	185.4	188.1	190.8	193.5	195.4
125°	197.2	197.4	197.7	197.9	198.0	199.5	202.0	204.6	207.1	209.6	211.2
127.5°	214.6	215.0	215.3	215.7	216.1	217.3	219.4	221.4	223.5	225.5	226.9
130°	226.2	226.7	227.2	227.7	228.1	229.2	230.8	232.5	234.1	235.7	237.2
132.5°	237.6	238.1	238.6	239.2	239.7	240.6	241.9	243.3	244.6	245.9	247.3
135°	255.1	255.5	255.8	256.1	256.5	257.1	258.1	259.0	259.9	260.8	262.3
137.5°	271.4	271.7	272.0	272.2	272.5	273.0	273.8	274.6	275.4	276.1	277.2
140°	282.5	282.8	283.1	283.5	283.8	284.2	284.5	284.9	285.3	285.6	286.9
142.5°	292.7	293.1	293.4	293.6	293.9	294.1	294.3	294.4	294.6	294.9	296.0
145°	308.9	309.0	309.0	309.1	309.1	309.2	309.4	309.7	309.9	310.0	310.8
147.5°	322.6	322.9	323.2	323.4	323.6	323.9	324.0	324.2	324.4	324.7	324.9
150°	332.4	332.6	332.7	332.9	333.1	333.1	333.3	333.4	333.6	333.7	333.7
152.5°	340.5	340.7	340.9	341.1	341.3	341.4	341.5	341.6	341.7	341.8	341.9
155°	353.3	353.3	353.3	353.3	353.3	353.3	353.4	353.4	353.5	353.6	353.8
157.5°	364.1	364.0	363.9	363.8	363.7	363.7	363.8	363.8	363.9	364.0	364.3
160°	370.9	370.8	370.6	370.5	370.3	370.2	370.2	370.2	370.2	370.2	370.6
162.5°	376.9	376.7	376.6	376.4	376.1	376.1	376.1	376.2	376.3	376.3	376.7
165°	384.8	384.6	384.3	384.1	383.9	383.8	383.8	383.8	383.8	383.8	384.2
167.5°	391.0	390.7	390.5	390.1	389.9	389.8	389.9	389.9	389.9	390.0	390.4
170°	394.5	394.2	394.0	393.7	393.4	393.2	393.2	393.2	393.2	393.2	393.8
172.5°	397.3	397.0	396.7	396.5	396.2	396.0	396.0	396.0	396.0	396.0	396.5
175°	400.2	399.9	399.7	399.4	399.1	399.0	399.0	399.0	399.0	399.0	399.4
177.5°	401.4	401.2	400.9	400.7	400.5	400.4	400.4	400.4	400.4	400.4	400.7
180°	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2



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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°	60.8	64.0	67.2	69.3	70.3	71.2	72.1	73.1
90°	61.3	64.7	68.2	70.4	71.5	72.6	73.7	74.7
92.5°	63.0	66.3	69.6	71.6	72.3	73.1	73.8	74.6
95°	70.7	73.9	77.0	79.1	80.0	80.9	81.9	82.8
97.5°	80.8	83.8	86.9	88.9	89.8	90.7	91.6	92.5
100°	88.3	91.1	94.0	96.0	97.0	98.1	99.2	100.2
102.5°	97.2	100.0	102.8	104.7	105.6	106.5	107.4	108.3
105°	110.7	113.2	115.8	117.6	118.6	119.6	120.6	121.5
107.5°	125.5	128.1	130.9	132.6	133.3	134.0	134.7	135.5
110°	135.6	138.3	141.0	142.7	143.2	143.8	144.5	145.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	145.4	148.1	150.8	152.5	153.3	154.1	154.9	155.6
115°	160.9	163.1	165.4	166.9	167.6	168.3	168.9	169.6
117.5°	176.3	178.4	180.7	182.0	182.5	183.0	183.5	184.0
120°	186.7	188.8	190.8	192.1	192.6	193.1	193.6	194.1
122.5°	197.2	199.1	201.0	202.2	202.6	203.0	203.5	203.9
125°	212.9	214.6	216.2	217.2	217.7	218.0	218.4	218.7
127.5°	228.4	229.8	231.3	232.1	232.5	232.7	233.1	233.4
130°	238.6	240.1	241.7	242.4	242.5	242.5	242.5	242.6
132.5°	248.6	249.9	251.3	252.1	252.4	252.5	252.8	253.1
135°	263.6	265.0	266.4	267.2	267.6	267.9	268.2	268.5
137.5°	278.4	279.6	280.7	281.4	281.6	281.8	282.0	282.2
140°	288.2	289.5	290.9	291.5	291.5	291.4	291.4	291.4
142.5°	297.2	298.4	299.5	300.1	300.2	300.3	300.4	300.5
145°	311.4	312.1	312.7	313.2	313.3	313.3	313.4	313.5
147.5°	325.1	325.3	325.6	325.6	325.5	325.4	325.3	325.2
150°	333.7	333.7	333.7	333.6	333.3	333.1	332.9	332.7
152.5°	342.0	342.1	342.2	342.1	341.8	341.4	341.2	340.8
155°	354.1	354.4	354.7	354.5	354.1	353.6	353.1	352.6
157.5°	364.5	364.9	365.2	365.1	364.7	364.4	363.9	363.6
160°	371.0	371.3	371.7	371.7	371.4	371.1	370.9	370.6
162.5°	377.0	377.4	377.7	377.6	377.2	376.7	376.3	375.9
165°	384.7	385.0	385.5	385.5	385.0	384.5	384.0	383.5
167.5°	390.8	391.3	391.7	391.7	391.3	390.8	390.4	390.0
170°	394.2	394.8	395.2	395.2	394.8	394.2	393.8	393.2
172.5°	396.9	397.3	397.8	397.8	397.3	396.8	396.3	395.8
175°	399.8	400.2	400.6	400.6	400.1	399.6	399.1	398.6
177.5°	401.1	401.4	401.7	401.7	401.4	400.9	400.6	400.1
180°	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2

(END OF REPORT)