

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: P331869-830

Luminaire Tested: **S123DIP-S340D365U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331869-830
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-S340D365U830-4F0-1E-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: 2530.9 lumens
Efficiency: N/A
Efficacy: 124.7 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

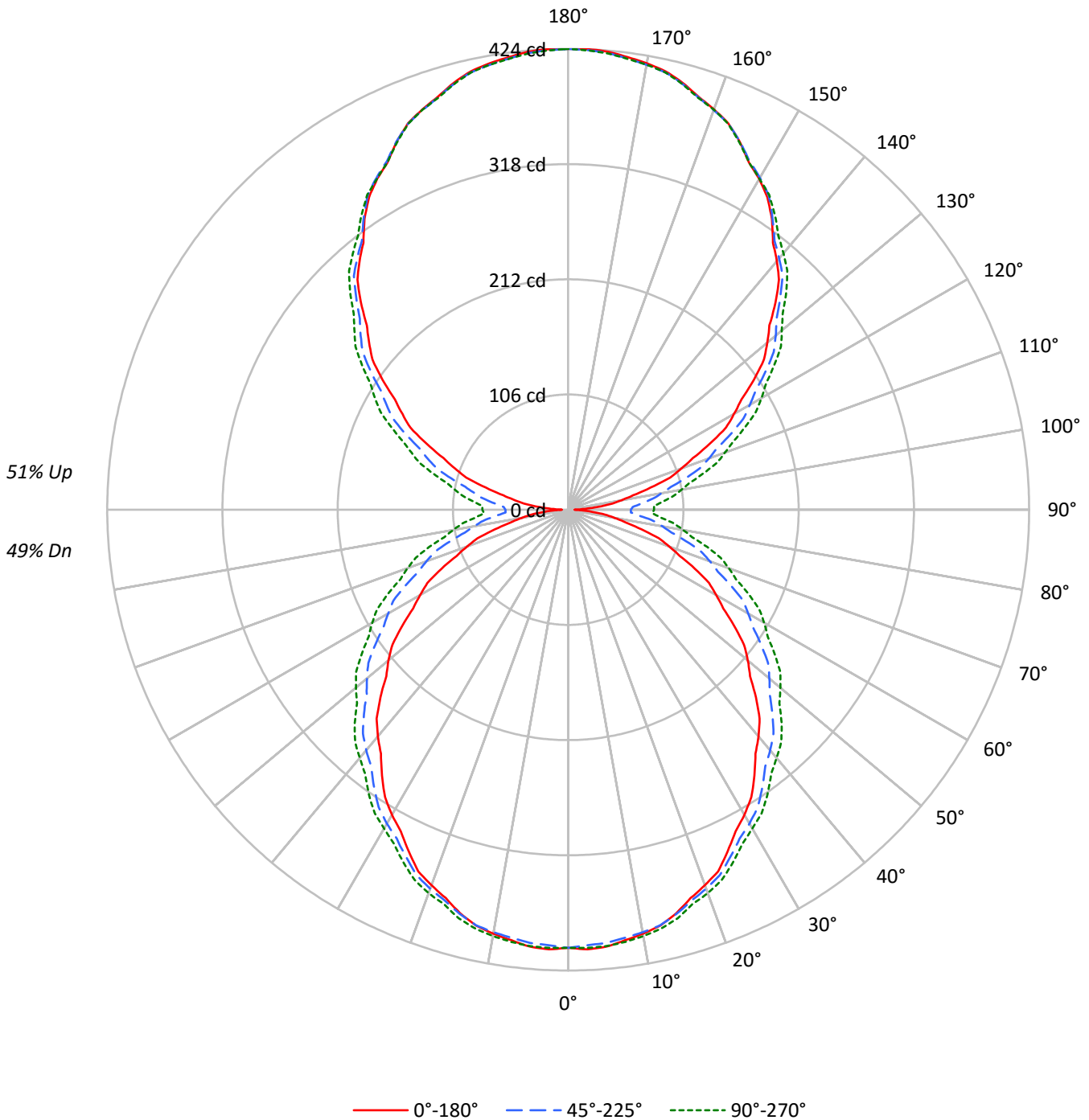
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	4339	4339	4339
5°	4353	4230	4232
10°	4315	4133	4112
15°	4259	4022	3980
20°	4179	3896	3836
25°	4080	3751	3684
30°	3980	3620	3529
35°	3867	3481	3406
40°	3760	3356	3274
45°	3641	3235	3169
50°	3525	3116	3054
55°	3393	2993	2948
60°	3266	2869	2842
65°	3138	2736	2714
70°	2941	2586	2582
75°	2693	2416	2450
80°	2412	2249	2299
85°	2145	2133	2211



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.2	1.5
10°-20°	108.9	4.3
20°-30°	163.0	6.4
30°-40°	194.6	7.7
40°-50°	203.6	8.0
50°-60°	191.1	7.5
60°-70°	159.6	6.3
70°-80°	114.2	4.5
80°-90°	69.3	2.7
90°-100°	70.3	2.8
100°-110°	114.1	4.5
110°-120°	161.6	6.4
120°-130°	196.9	7.8
130°-140°	213.3	8.4
140°-150°	205.5	8.1
150°-160°	172.0	6.8
160°-170°	114.5	4.5
170°-180°	40.1	1.6
0°-30°	310.1	12.3
0°-40°	504.7	19.9
0°-60°	899.4	35.5
0°-90°	1242.5	49.1
90°-120°	346.0	13.7
90°-150°	961.7	38.0
90°-180°	1288.0	50.9
0°-180°	2530.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	404	403	400	403	403	38
15°	384	386	385	389	389	108
25°	347	351	353	358	358	160
35°	299	306	311	318	320	187
45°	244	255	266	274	278	188
55°	186	201	216	228	232	167
65°	129	146	165	178	183	127
75°	70	91	112	126	132	75
85°	22	44	67	81	86	23
90°	6	31	58	73	79	5
95°	24	44	68	82	88	26
105°	78	90	112	123	128	84
115°	144	150	165	176	179	142
125°	208	210	222	229	231	186
135°	270	271	276	282	284	208
145°	326	327	328	331	331	204
155°	373	373	374	375	373	172
165°	407	406	406	408	405	115
175°	423	422	422	423	421	40
180°	424	424	424	424	424	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	404.9	404.7	404.4	404.3	404.0	403.6	402.9	402.3	401.7	401.1	401.7
5°	403.6	403.4	403.2	403.0	402.8	402.5	401.8	401.2	400.7	400.1	400.9
7.5°	399.6	399.7	399.7	399.7	399.8	399.5	399.0	398.4	397.8	397.3	398.2
10°	396.2	396.3	396.5	396.7	396.9	396.8	396.2	395.8	395.3	394.8	395.8
12.5°	391.9	392.2	392.5	392.8	393.0	392.9	392.7	392.3	392.0	391.6	392.6
15°	384.3	384.6	384.8	385.1	385.4	385.6	385.4	385.3	385.2	385.1	386.2
17.5°	374.7	375.2	375.8	376.4	376.9	377.2	377.2	377.1	377.1	377.1	378.0
20°	367.6	368.2	368.7	369.4	369.9	370.3	370.5	370.7	370.9	371.1	372.0
22.5°	360.2	360.8	361.4	361.9	362.6	363.0	363.3	363.5	363.8	364.1	365.2
25°	346.9	347.9	348.9	349.9	350.8	351.5	351.8	352.0	352.3	352.7	353.9
27.5°	333.6	334.7	335.8	337.0	338.1	338.9	339.5	340.2	340.8	341.4	342.5
30°	324.1	325.4	326.7	327.9	329.2	330.2	331.0	331.8	332.5	333.4	334.5
32.5°	313.6	315.0	316.4	317.8	319.2	320.5	321.5	322.5	323.6	324.5	325.8
35°	298.6	300.2	301.8	303.3	304.9	306.3	307.6	308.9	310.1	311.4	312.8
37.5°	282.9	284.6	286.3	288.1	289.8	291.5	293.0	294.6	296.2	297.7	299.4
40°	272.3	274.1	275.8	277.6	279.3	281.2	283.1	285.1	287.0	289.0	290.7
42.5°	260.7	262.9	264.9	267.1	269.3	271.4	273.4	275.4	277.5	279.5	281.3
45°	244.2	246.6	248.8	251.2	253.5	255.9	258.4	260.8	263.3	265.7	267.6
47.5°	226.9	229.5	232.1	234.9	237.5	240.3	243.0	245.8	248.5	251.4	253.4
50°	215.7	218.4	221.1	223.9	226.6	229.4	232.4	235.5	238.6	241.6	243.8
52.5°	203.7	206.6	209.4	212.4	215.3	218.4	221.7	225.1	228.4	231.7	234.0
55°	186.2	189.5	192.7	195.9	199.1	202.5	205.9	209.5	213.0	216.5	219.1
57.5°	169.2	172.5	175.9	179.3	182.6	186.2	190.0	193.9	197.7	201.6	204.2
60°	157.2	160.7	164.3	167.8	171.3	175.0	179.1	183.0	187.0	191.1	193.8
62.5°	146.0	149.6	153.2	156.7	160.3	164.3	168.5	172.8	177.0	181.3	183.9
65°	128.7	132.5	136.3	140.1	143.9	148.0	152.2	156.6	160.8	165.1	168.1
67.5°	111.1	115.2	119.2	123.2	127.2	131.5	135.8	140.3	144.6	149.0	152.1
70°	98.8	103.0	107.2	111.4	115.6	120.1	124.7	129.4	134.1	138.7	141.9
72.5°	87.6	91.8	96.0	100.2	104.3	108.9	113.7	118.6	123.4	128.3	131.5
75°	69.8	74.5	79.0	83.6	88.2	92.9	97.8	102.6	107.5	112.4	115.6
77.5°	54.4	59.0	63.6	68.2	72.9	77.7	82.6	87.5	92.4	97.4	100.8
80°	43.5	48.3	53.1	57.9	62.6	67.6	72.6	77.7	82.8	87.8	91.1
82.5°	34.0	38.8	43.7	48.5	53.4	58.4	63.6	68.7	73.9	79.1	82.4
85°	21.5	26.4	31.3	36.2	41.0	46.1	51.3	56.4	61.5	66.7	70.0
87.5°	11.8	16.8	21.8	26.8	31.8	36.9	42.0	47.2	52.4	57.6	60.9
90°	6.0	11.6	17.1	22.6	28.1	33.8	39.8	45.7	51.7	57.6	61.3
92.5°	13.4	18.2	23.1	27.9	32.7	37.8	43.3	48.7	54.2	59.6	63.1
95°	24.5	28.8	33.2	37.4	41.8	46.7	52.0	57.4	62.8	68.1	71.4
97.5°	39.2	43.1	46.8	50.7	54.5	58.9	63.9	68.9	73.9	78.9	82.1
100°	49.3	52.8	56.4	59.9	63.5	67.8	72.6	77.5	82.3	87.2	90.2
102.5°	60.9	64.0	67.0	70.1	73.2	77.2	82.1	87.0	91.9	96.8	99.7
105°	78.4	81.0	83.4	86.0	88.4	92.1	97.0	101.8	106.7	111.5	114.2
107.5°	98.5	100.6	102.6	104.7	106.8	109.9	114.1	118.4	122.7	127.0	129.8
110°	110.8	112.8	114.7	116.6	118.5	121.5	125.5	129.6	133.7	137.7	140.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	124.2	125.7	127.2	128.8	130.4	133.0	136.8	140.5	144.3	148.1	150.9
115°	143.7	145.2	146.6	148.0	149.3	151.7	155.0	158.4	161.8	165.1	167.6
117.5°	163.8	164.7	165.5	166.4	167.3	169.3	172.4	175.5	178.6	181.7	184.0
120°	176.0	176.9	177.9	178.8	179.6	181.5	184.5	187.3	190.1	192.9	195.1
122.5°	189.0	189.6	190.2	190.8	191.3	193.0	196.0	198.8	201.7	204.5	206.5
125°	208.5	208.7	209.0	209.2	209.3	210.8	213.5	216.2	218.9	221.6	223.3
127.5°	226.9	227.2	227.6	228.0	228.4	229.7	231.9	234.0	236.2	238.4	239.9
130°	239.1	239.6	240.2	240.6	241.1	242.2	243.9	245.7	247.4	249.1	250.7
132.5°	251.1	251.7	252.2	252.8	253.4	254.3	255.7	257.1	258.5	260.0	261.4
135°	269.7	270.0	270.4	270.7	271.1	271.7	272.8	273.7	274.8	275.7	277.2
137.5°	286.9	287.2	287.5	287.8	288.0	288.6	289.5	290.2	291.1	291.8	293.0
140°	298.6	298.9	299.3	299.6	300.0	300.4	300.8	301.1	301.5	301.9	303.2
142.5°	309.4	309.8	310.1	310.4	310.7	310.9	311.0	311.2	311.4	311.7	312.9
145°	326.5	326.6	326.6	326.7	326.7	326.9	327.1	327.3	327.5	327.7	328.5
147.5°	341.0	341.3	341.6	341.9	342.0	342.3	342.5	342.7	342.9	343.2	343.4
150°	351.4	351.6	351.7	351.9	352.0	352.1	352.3	352.4	352.6	352.7	352.7
152.5°	360.0	360.1	360.3	360.5	360.8	360.9	361.0	361.1	361.2	361.3	361.4
155°	373.4	373.4	373.4	373.4	373.4	373.4	373.5	373.5	373.6	373.7	374.0
157.5°	384.8	384.7	384.7	384.6	384.5	384.5	384.6	384.6	384.7	384.7	385.0
160°	392.0	391.9	391.7	391.6	391.4	391.3	391.3	391.3	391.3	391.3	391.7
162.5°	398.4	398.2	398.0	397.8	397.6	397.6	397.6	397.7	397.8	397.8	398.1
165°	406.7	406.5	406.2	406.0	405.8	405.7	405.7	405.7	405.7	405.7	406.1
167.5°	413.3	413.0	412.7	412.4	412.1	412.0	412.1	412.1	412.2	412.3	412.6
170°	417.0	416.7	416.4	416.1	415.8	415.7	415.7	415.7	415.7	415.7	416.2
172.5°	420.0	419.6	419.3	419.1	418.8	418.6	418.6	418.6	418.6	418.6	419.1
175°	423.0	422.7	422.4	422.2	421.9	421.7	421.7	421.7	421.7	421.7	422.2
177.5°	424.2	424.0	423.8	423.6	423.3	423.2	423.2	423.2	423.2	423.2	423.6
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	402.3	402.9	403.6	403.8	403.8	403.7	403.6	403.5
5°	401.6	402.5	403.2	403.6	403.5	403.3	403.2	403.1
7.5°	399.3	400.2	401.1	401.6	401.5	401.3	401.2	401.1
10°	396.8	397.8	398.7	399.1	398.9	398.7	398.5	398.3
12.5°	393.4	394.4	395.2	395.6	395.4	395.2	395.0	394.8
15°	387.1	388.0	389.1	389.5	389.4	389.3	389.2	389.1
17.5°	378.8	379.8	380.6	381.0	380.8	380.7	380.6	380.4
20°	372.9	373.7	374.7	375.1	375.2	375.3	375.4	375.5
22.5°	366.3	367.4	368.5	369.1	369.0	368.9	368.9	368.8
25°	355.2	356.5	357.7	358.4	358.4	358.4	358.4	358.4
27.5°	343.6	344.7	345.8	346.4	346.5	346.6	346.6	346.7
30°	335.6	336.9	338.0	338.6	338.6	338.6	338.6	338.6
32.5°	327.1	328.3	329.5	330.3	330.5	330.7	331.0	331.2
35°	314.3	315.8	317.3	318.2	318.6	319.0	319.3	319.7
37.5°	301.0	302.7	304.4	305.4	305.7	306.0	306.3	306.6
40°	292.3	294.0	295.6	296.6	297.0	297.5	297.8	298.2
42.5°	283.1	284.9	286.7	287.9	288.5	289.0	289.5	290.1
45°	269.4	271.3	273.1	274.5	275.2	276.0	276.8	277.6
47.5°	255.5	257.7	259.8	261.1	261.6	262.3	262.9	263.5
50°	246.0	248.3	250.5	252.0	252.7	253.4	254.0	254.8
52.5°	236.4	238.7	241.0	242.6	243.5	244.3	245.1	245.9
55°	221.8	224.4	227.1	228.8	229.5	230.4	231.1	231.9
57.5°	206.9	209.5	212.2	214.0	214.9	215.8	216.8	217.6
60°	196.5	199.3	202.0	203.9	204.9	206.0	207.1	208.2
62.5°	186.6	189.4	192.1	194.0	195.0	196.0	197.0	198.0
65°	171.0	173.9	176.8	178.8	179.7	180.8	181.7	182.7
67.5°	155.3	158.5	161.7	163.8	164.6	165.4	166.3	167.0
70°	145.1	148.2	151.3	153.4	154.3	155.2	156.3	157.2
72.5°	134.6	137.8	141.0	143.2	144.1	145.1	146.1	147.0
75°	118.9	122.1	125.4	127.5	128.7	129.9	131.0	132.2
77.5°	104.2	107.5	110.9	113.0	114.0	114.9	115.7	116.7
80°	94.4	97.8	101.1	103.2	104.2	105.2	106.2	107.2
82.5°	85.7	89.0	92.4	94.4	95.5	96.4	97.4	98.4
85°	73.4	76.7	80.0	82.2	83.1	84.2	85.1	86.1
87.5°	64.3	67.7	71.1	73.2	74.3	75.3	76.3	77.3
90°	64.8	68.4	72.1	74.5	75.6	76.7	77.9	79.0
92.5°	66.5	70.0	73.5	75.7	76.4	77.3	78.0	78.9
95°	74.7	78.1	81.4	83.6	84.5	85.5	86.5	87.5
97.5°	85.4	88.6	91.9	94.0	94.9	95.9	96.8	97.7
100°	93.3	96.3	99.3	101.5	102.5	103.7	104.8	105.9
102.5°	102.7	105.8	108.7	110.7	111.6	112.5	113.5	114.4
105°	117.0	119.7	122.4	124.3	125.4	126.4	127.4	128.5
107.5°	132.6	135.4	138.4	140.2	140.9	141.7	142.4	143.3
110°	143.4	146.2	149.0	150.8	151.4	152.0	152.7	153.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	153.7	156.6	159.4	161.2	162.0	162.9	163.7	164.5
115°	170.0	172.4	174.8	176.4	177.1	177.9	178.5	179.3
117.5°	186.3	188.6	191.0	192.4	192.9	193.4	194.0	194.5
120°	197.4	199.5	201.7	203.0	203.6	204.1	204.6	205.2
122.5°	208.5	210.5	212.4	213.7	214.1	214.6	215.1	215.6
125°	225.1	226.9	228.6	229.6	230.1	230.5	230.8	231.2
127.5°	241.4	242.9	244.5	245.3	245.7	246.0	246.4	246.7
130°	252.2	253.8	255.4	256.2	256.3	256.4	256.4	256.5
132.5°	262.8	264.2	265.6	266.5	266.7	266.9	267.2	267.5
135°	278.6	280.1	281.5	282.5	282.9	283.1	283.5	283.8
137.5°	294.3	295.5	296.7	297.5	297.7	297.8	298.0	298.3
140°	304.6	306.0	307.5	308.1	308.1	308.0	308.0	308.0
142.5°	314.1	315.4	316.6	317.3	317.4	317.4	317.5	317.6
145°	329.1	329.9	330.5	331.0	331.1	331.2	331.3	331.4
147.5°	343.7	343.8	344.1	344.1	344.0	343.9	343.8	343.7
150°	352.7	352.7	352.7	352.6	352.3	352.1	351.9	351.7
152.5°	361.5	361.7	361.7	361.7	361.3	360.9	360.6	360.2
155°	374.3	374.6	374.9	374.8	374.3	373.7	373.2	372.7
157.5°	385.3	385.7	386.0	385.9	385.5	385.1	384.7	384.3
160°	392.1	392.5	392.9	392.9	392.6	392.3	392.0	391.7
162.5°	398.5	398.9	399.3	399.2	398.7	398.2	397.8	397.3
165°	406.6	407.0	407.5	407.5	406.9	406.4	405.9	405.4
167.5°	413.1	413.6	414.1	414.1	413.6	413.1	412.6	412.3
170°	416.7	417.3	417.7	417.7	417.3	416.7	416.2	415.7
172.5°	419.5	420.0	420.5	420.5	419.9	419.4	418.9	418.4
175°	422.5	423.0	423.5	423.4	422.9	422.4	421.9	421.3
177.5°	424.0	424.2	424.6	424.6	424.2	423.8	423.4	422.9
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0

(END OF REPORT)