

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: P331925-935

Luminaire Tested: **S123DIP-S560D585U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331925-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D585U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4013.5 lumens
Efficiency: N/A
Efficacy: 122.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

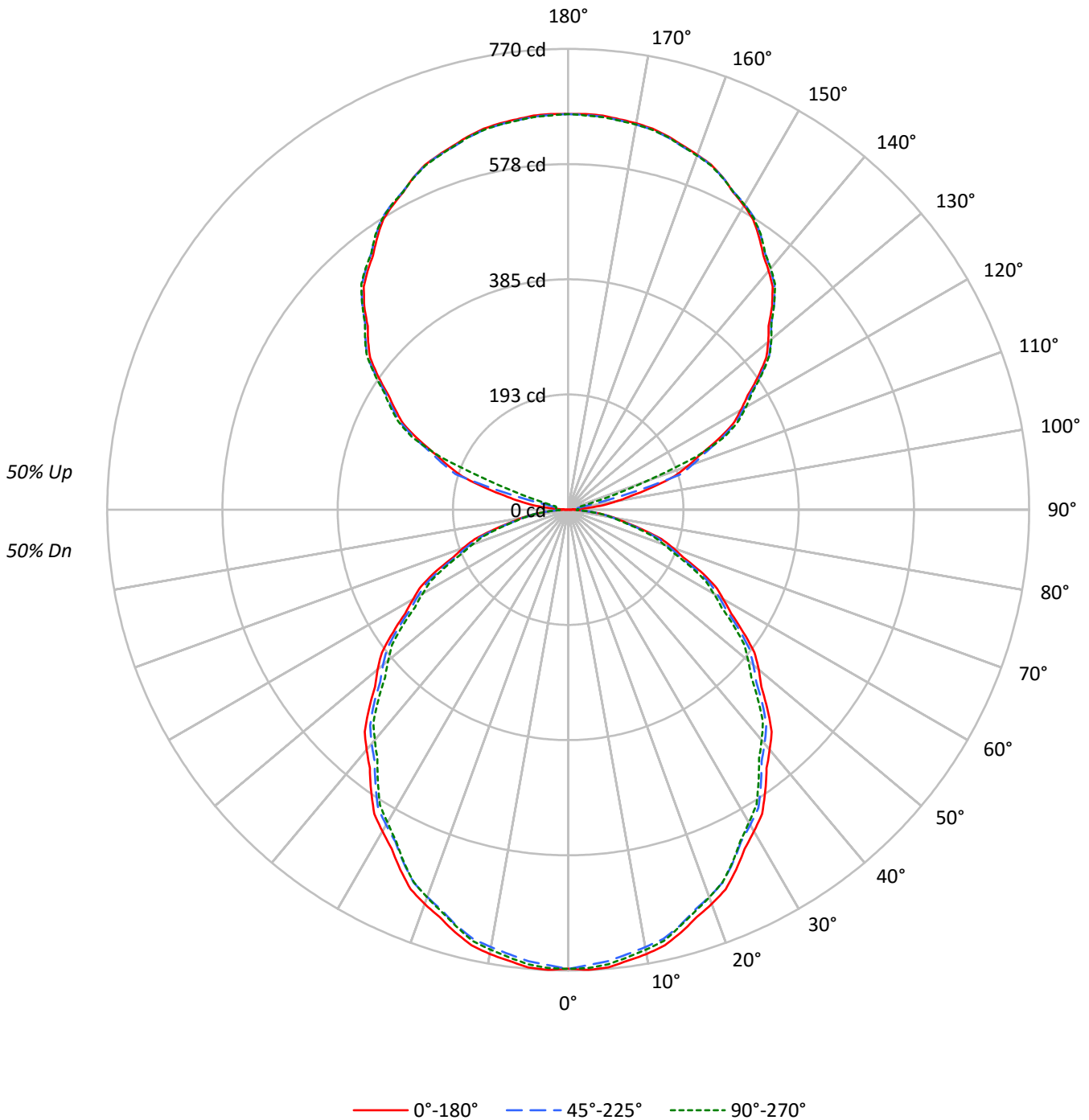
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50				
1	98	93	89	86	90	86	83	80	73	70	68	61	59	57	49	48	47	42				
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	40	35				
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	36	34	30				
4	74	63	55	49	68	59	52	46	50	45	40	42	38	35	34	31	29	25				
5	68	56	48	42	62	52	45	40	45	39	35	38	33	30	31	28	25	22				
6	63	51	42	37	58	47	40	34	40	35	30	34	30	26	28	25	22	19				
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	26	22	20	17				
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15				
9	50	38	30	25	46	35	29	24	30	25	21	26	22	19	22	18	16	14				
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8257	8257	8257
5°	8295	8182	8238
10°	8240	8110	8160
15°	8143	8018	8033
20°	8031	7887	7895
25°	7880	7732	7715
30°	7713	7558	7501
35°	7540	7376	7281
40°	7359	7173	7062
45°	7159	6987	6817
50°	6958	6759	6571
55°	6696	6523	6324
60°	6433	6247	6047
65°	6199	5947	5761
70°	5854	5605	5353
75°	5348	5157	4937
80°	4823	4624	4581
85°	4236	4076	3915



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	1.8
10°-20°	204.0	5.1
20°-30°	301.4	7.5
30°-40°	352.0	8.8
40°-50°	353.9	8.8
50°-60°	310.9	7.7
60°-70°	231.6	5.8
70°-80°	132.0	3.3
80°-90°	39.7	1.0
90°-100°	24.0	0.6
100°-110°	114.5	2.9
110°-120°	275.1	6.9
120°-130°	350.3	8.7
130°-140°	374.3	9.3
140°-150°	350.0	8.7
150°-160°	282.3	7.0
160°-170°	182.2	4.5
170°-180°	62.8	1.6
0°-30°	577.6	14.4
0°-40°	929.7	23.2
0°-60°	1594.5	39.7
0°-90°	1997.8	49.8
90°-120°	413.7	10.3
90°-150°	1488.3	37.1
90°-180°	2016.0	50.2
0°-180°	4013.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	767	767	767	767	767	
5°	768	764	757	763	762	73
15°	731	728	720	724	721	206
25°	664	659	651	651	650	305
35°	574	570	561	557	554	359
45°	470	467	459	451	448	363
55°	357	356	348	340	337	319
65°	243	240	234	228	226	240
75°	129	126	124	121	119	138
85°	34	33	33	32	32	38
90°	0	5	12	14	15	3
95°	30	11	15	18	19	37
105°	146	149	108	26	22	155
115°	274	278	282	287	289	271
125°	387	391	393	394	395	345
135°	482	485	487	488	487	371
145°	556	559	560	561	561	348
155°	612	612	612	614	611	282
165°	646	644	644	647	644	182
175°	661	659	659	662	658	63
180°	661	661	661	661	661	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	769.6	769.2	768.8	768.3	767.8	766.9	765.6	764.3	763.1	761.8	762.9
5°	767.7	767.0	766.2	765.5	764.7	763.6	762.0	760.3	758.8	757.2	758.6
7.5°	760.2	759.5	758.7	758.0	757.2	756.0	754.4	752.7	751.1	749.4	750.7
10°	753.9	753.1	752.4	751.7	751.0	749.6	747.7	745.8	743.9	742.0	743.3
12.5°	745.5	744.8	744.2	743.6	743.0	741.8	739.9	738.1	736.4	734.6	735.6
15°	730.7	730.2	729.6	729.0	728.4	727.2	725.3	723.4	721.4	719.5	720.7
17.5°	713.8	713.0	712.2	711.4	710.7	709.4	707.5	705.6	703.7	701.7	702.6
20°	701.1	700.3	699.3	698.4	697.6	696.2	694.3	692.4	690.4	688.5	689.1
22.5°	686.8	686.0	685.1	684.2	683.3	681.9	680.0	678.1	676.2	674.3	674.8
25°	663.5	662.6	661.8	660.9	660.0	658.6	656.7	654.8	652.9	651.0	651.1
27.5°	638.6	637.7	636.9	636.0	635.2	633.7	631.6	629.6	627.6	625.5	625.6
30°	620.6	619.9	619.1	618.5	617.7	616.3	614.2	612.2	610.2	608.1	608.1
32.5°	602.7	601.8	600.7	599.8	598.8	597.5	596.0	594.3	592.8	591.2	590.4
35°	573.8	572.9	572.0	571.2	570.3	568.9	567.0	565.1	563.2	561.3	560.4
37.5°	544.2	543.1	542.0	540.9	539.8	538.3	536.3	534.4	532.4	530.5	529.5
40°	523.7	522.8	521.9	521.1	520.1	518.7	516.6	514.6	512.6	510.5	509.3
42.5°	503.1	502.1	501.1	500.1	499.1	497.6	495.5	493.5	491.5	489.4	488.2
45°	470.3	469.7	469.1	468.5	467.9	466.7	464.8	462.9	461.0	459.0	457.3
47.5°	437.6	436.8	436.0	435.1	434.3	432.9	431.2	429.4	427.6	425.8	424.0
50°	415.5	414.7	414.1	413.3	412.6	411.3	409.3	407.4	405.5	403.6	402.0
52.5°	392.3	391.8	391.3	390.8	390.3	389.0	387.0	385.0	383.0	381.0	379.6
55°	356.8	356.6	356.5	356.4	356.2	355.2	353.3	351.4	349.5	347.6	345.9
57.5°	323.0	322.5	322.0	321.6	321.1	320.0	318.5	317.0	315.5	313.9	312.5
60°	298.8	298.6	298.5	298.3	298.2	297.2	295.5	293.7	292.0	290.2	288.9
62.5°	277.2	276.7	276.4	276.0	275.6	274.6	272.8	271.0	269.2	267.5	266.2
65°	243.4	242.6	241.9	241.2	240.5	239.4	237.9	236.4	235.0	233.5	232.3
67.5°	207.6	207.0	206.3	205.7	205.0	204.1	203.0	201.9	200.8	199.8	198.7
70°	186.0	185.1	184.3	183.4	182.4	181.6	180.7	179.9	178.9	178.1	177.0
72.5°	163.3	162.6	162.0	161.4	160.7	159.9	158.9	157.9	156.9	155.9	155.0
75°	128.6	128.0	127.4	126.8	126.3	125.8	125.3	124.8	124.4	124.0	123.3
77.5°	97.9	97.6	97.2	96.9	96.6	96.2	95.7	95.1	94.5	94.0	93.6
80°	77.8	77.4	77.0	76.5	76.0	75.7	75.4	75.1	74.8	74.6	74.4
82.5°	58.3	58.2	58.1	58.0	57.9	57.9	57.9	57.8	57.7	57.7	57.3
85°	34.3	34.0	33.8	33.4	33.1	33.0	33.0	33.0	33.0	33.0	32.7
87.5°	13.8	13.7	13.5	13.4	13.3	13.3	13.4	13.6	13.8	13.9	13.9
90°	0.5	1.5	2.7	3.8	4.8	6.1	7.5	9.0	10.3	11.8	12.2
92.5°	9.1	8.9	8.5	8.2	7.9	8.3	9.4	10.4	11.5	12.6	13.3
95°	30.0	25.5	21.0	16.5	12.1	10.4	11.6	12.8	14.0	15.2	16.0
97.5°	60.2	58.2	56.2	54.2	52.2	47.3	39.3	31.5	23.7	15.8	16.7
100°	83.0	85.2	87.4	89.5	91.7	84.3	67.2	50.3	33.2	16.2	17.0
102.5°	108.9	110.5	112.1	113.7	115.2	106.7	88.1	69.5	50.9	32.3	29.6
105°	146.4	147.6	148.8	149.9	151.1	146.8	137.0	127.2	117.4	107.5	88.3
107.5°	185.8	186.8	187.8	188.7	189.7	190.9	192.4	194.0	195.5	197.1	183.0
110°	212.2	213.0	213.9	214.7	215.6	216.7	217.8	219.0	220.2	221.4	217.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	237.3	238.1	238.8	239.6	240.4	241.4	242.6	243.8	245.0	246.2	246.3
115°	274.5	275.2	275.8	276.5	277.2	277.9	279.0	279.9	280.9	281.9	283.0
117.5°	310.6	311.3	312.2	313.0	313.7	314.4	315.0	315.5	316.0	316.4	317.4
120°	332.9	333.9	334.9	335.9	336.9	337.5	337.9	338.2	338.5	338.8	339.8
122.5°	355.8	356.5	357.3	358.2	359.0	359.6	360.0	360.4	360.8	361.3	361.9
125°	386.9	387.9	388.7	389.6	390.5	391.2	391.6	392.0	392.4	392.9	393.0
127.5°	417.2	418.1	419.0	419.8	420.7	421.4	421.9	422.5	423.0	423.5	423.9
130°	436.1	437.0	437.8	438.7	439.5	440.2	440.7	441.1	441.5	442.0	442.4
132.5°	454.2	455.0	455.9	456.8	457.6	458.2	458.6	458.9	459.3	459.7	460.1
135°	481.7	482.4	483.0	483.7	484.4	484.9	485.3	485.8	486.2	486.6	487.0
137.5°	505.3	506.2	507.0	507.8	508.6	509.2	509.4	509.6	509.9	510.1	510.7
140°	521.0	521.7	522.4	523.0	523.7	524.2	524.4	524.8	525.1	525.5	525.9
142.5°	535.5	536.2	536.9	537.5	538.2	538.6	539.0	539.3	539.7	540.0	540.4
145°	555.9	556.6	557.4	558.2	559.0	559.5	559.6	559.9	560.1	560.3	560.5
147.5°	575.1	575.6	576.1	576.5	577.0	577.4	577.6	577.8	578.1	578.3	578.5
150°	586.9	587.2	587.5	587.8	588.1	588.4	588.7	588.8	589.1	589.3	589.5
152.5°	597.4	597.6	597.7	597.9	598.1	598.2	598.3	598.5	598.6	598.7	599.1
155°	612.3	612.2	611.9	611.7	611.5	611.5	611.6	611.7	611.7	611.9	612.4
157.5°	624.0	624.0	623.9	623.9	623.9	623.8	623.7	623.6	623.5	623.4	624.1
160°	631.0	630.9	630.9	630.7	630.6	630.5	630.3	630.3	630.2	630.1	630.7
162.5°	637.7	637.4	637.1	636.9	636.5	636.4	636.3	636.2	636.0	635.9	636.7
165°	645.8	645.4	645.1	644.8	644.5	644.2	644.1	644.0	643.9	643.8	644.7
167.5°	652.0	651.6	651.2	650.7	650.3	650.1	650.1	650.1	650.1	650.1	651.0
170°	655.6	655.1	654.7	654.3	653.8	653.6	653.6	653.6	653.6	653.6	654.5
172.5°	658.0	657.5	656.9	656.3	655.8	655.7	655.7	655.8	655.9	656.0	656.9
175°	661.0	660.5	659.9	659.4	658.8	658.6	658.7	658.8	658.9	659.0	659.8
177.5°	661.8	661.3	660.9	660.5	660.0	659.9	660.0	660.0	660.1	660.2	660.9
180°	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	764.1	765.3	766.5	767.0	766.9	766.7	766.6	766.5
5°	760.1	761.6	763.0	763.6	763.3	763.0	762.8	762.4
7.5°	752.0	753.3	754.7	755.2	755.0	754.8	754.7	754.5
10°	744.6	746.0	747.3	747.8	747.5	747.2	746.9	746.6
12.5°	736.5	737.5	738.5	738.8	738.7	738.5	738.3	738.1
15°	721.9	723.1	724.3	724.4	723.5	722.6	721.8	720.9
17.5°	703.4	704.2	705.1	705.2	705.0	704.6	704.3	704.0
20°	689.7	690.3	690.9	691.0	690.5	690.1	689.7	689.2
22.5°	675.3	675.7	676.2	676.1	675.6	675.0	674.5	673.9
25°	651.3	651.4	651.5	651.4	651.0	650.6	650.1	649.6
27.5°	625.8	625.9	625.9	625.8	625.2	624.7	624.1	623.5
30°	608.1	608.1	608.1	607.6	606.6	605.5	604.5	603.5
32.5°	589.6	588.8	587.9	587.2	586.7	586.2	585.6	585.0
35°	559.5	558.6	557.8	557.0	556.2	555.5	554.7	554.1
37.5°	528.4	527.4	526.3	525.6	525.1	524.6	524.2	523.7
40°	508.2	507.0	505.8	504.9	504.3	503.8	503.2	502.6
42.5°	487.1	485.9	484.7	483.8	483.2	482.7	482.1	481.5
45°	455.6	453.7	452.0	450.7	450.0	449.3	448.6	447.8
47.5°	422.3	420.6	418.9	417.7	417.1	416.4	415.8	415.1
50°	400.5	398.8	397.2	396.0	395.0	394.2	393.3	392.4
52.5°	378.2	376.9	375.5	374.3	373.4	372.6	371.7	370.8
55°	344.3	342.8	341.1	339.9	339.2	338.5	337.8	337.0
57.5°	311.1	309.6	308.2	307.0	306.2	305.4	304.5	303.7
60°	287.6	286.3	284.9	283.9	283.2	282.4	281.7	280.9
62.5°	264.8	263.6	262.3	261.3	260.8	260.4	259.8	259.3
65°	231.1	230.0	228.8	228.0	227.6	227.1	226.7	226.2
67.5°	197.7	196.7	195.6	194.8	194.2	193.6	193.0	192.3
70°	176.0	175.0	174.0	173.1	172.4	171.6	170.9	170.1
72.5°	154.1	153.2	152.3	151.6	151.3	150.8	150.5	150.1
75°	122.5	121.8	121.1	120.5	120.0	119.6	119.2	118.7
77.5°	93.1	92.6	92.0	91.8	91.8	91.8	91.8	91.8
80°	74.2	74.0	74.0	73.9	73.9	73.9	73.9	73.9
82.5°	57.1	56.8	56.6	56.4	56.3	56.1	56.1	56.0
85°	32.4	32.1	31.8	31.7	31.7	31.7	31.7	31.7
87.5°	13.9	13.9	13.9	13.9	13.9	13.9	13.9	14.0
90°	12.7	13.1	13.5	13.9	14.1	14.3	14.6	14.7
92.5°	13.9	14.6	15.3	15.8	15.9	16.0	16.2	16.3
95°	16.8	17.5	18.3	18.7	18.7	18.7	18.7	18.7
97.5°	17.6	18.4	19.3	19.8	19.9	20.0	20.1	20.2
100°	17.9	18.9	19.7	20.1	20.3	20.4	20.5	20.7
102.5°	26.9	24.2	21.5	20.2	20.4	20.7	20.8	21.0
105°	68.9	49.6	30.3	20.8	20.9	21.2	21.4	21.6
107.5°	168.8	154.6	140.4	126.1	111.5	96.9	82.4	67.8
110°	214.3	210.7	207.1	197.4	181.8	166.3	150.7	135.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	246.3	246.4	246.5	244.9	241.6	238.2	235.0	231.7
115°	284.0	285.2	286.3	287.0	287.4	287.9	288.3	288.8
117.5°	318.2	319.1	319.9	320.5	320.6	320.6	320.7	320.8
120°	340.6	341.5	342.3	342.8	342.8	342.8	342.8	342.8
122.5°	362.5	363.1	363.7	364.0	364.1	364.2	364.3	364.4
125°	393.3	393.5	393.7	394.0	394.2	394.4	394.6	394.9
127.5°	424.2	424.6	424.9	425.0	424.7	424.6	424.3	424.1
130°	442.8	443.2	443.7	443.8	443.6	443.4	443.2	443.0
132.5°	460.5	461.0	461.4	461.5	461.2	460.8	460.5	460.2
135°	487.3	487.7	487.9	487.9	487.7	487.3	487.0	486.6
137.5°	511.2	511.7	512.2	512.4	512.1	512.0	511.7	511.5
140°	526.3	526.8	527.2	527.3	527.1	526.8	526.7	526.4
142.5°	540.7	541.1	541.4	541.4	541.1	540.8	540.4	540.2
145°	560.8	560.9	561.2	561.3	561.3	561.3	561.3	561.3
147.5°	578.8	578.9	579.2	579.0	578.5	578.0	577.6	577.0
150°	589.7	590.0	590.1	590.1	589.8	589.4	589.1	588.8
152.5°	599.5	599.9	600.3	600.2	599.8	599.3	598.7	598.2
155°	612.9	613.5	614.1	614.0	613.4	612.7	612.1	611.4
157.5°	624.7	625.3	626.0	625.9	625.0	624.2	623.4	622.5
160°	631.4	632.0	632.7	632.6	631.9	631.1	630.3	629.6
162.5°	637.4	638.2	638.9	638.9	638.3	637.6	636.9	636.3
165°	645.6	646.4	647.3	647.4	646.6	645.8	645.1	644.3
167.5°	651.9	652.7	653.6	653.6	652.7	651.9	651.0	650.1
170°	655.4	656.3	657.1	657.1	656.3	655.4	654.5	653.6
172.5°	657.7	658.6	659.4	659.4	658.5	657.5	656.5	655.6
175°	660.6	661.3	662.1	662.0	661.2	660.3	659.4	658.5
177.5°	661.6	662.3	663.0	662.9	662.0	661.2	660.3	659.4
180°	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0

(END OF REPORT)