

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: P331936-935

Luminaire Tested: **S123DIP-S560D805U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331936-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D805U935-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4500.4 lumens
Efficiency: N/A
Efficacy: 117.2 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

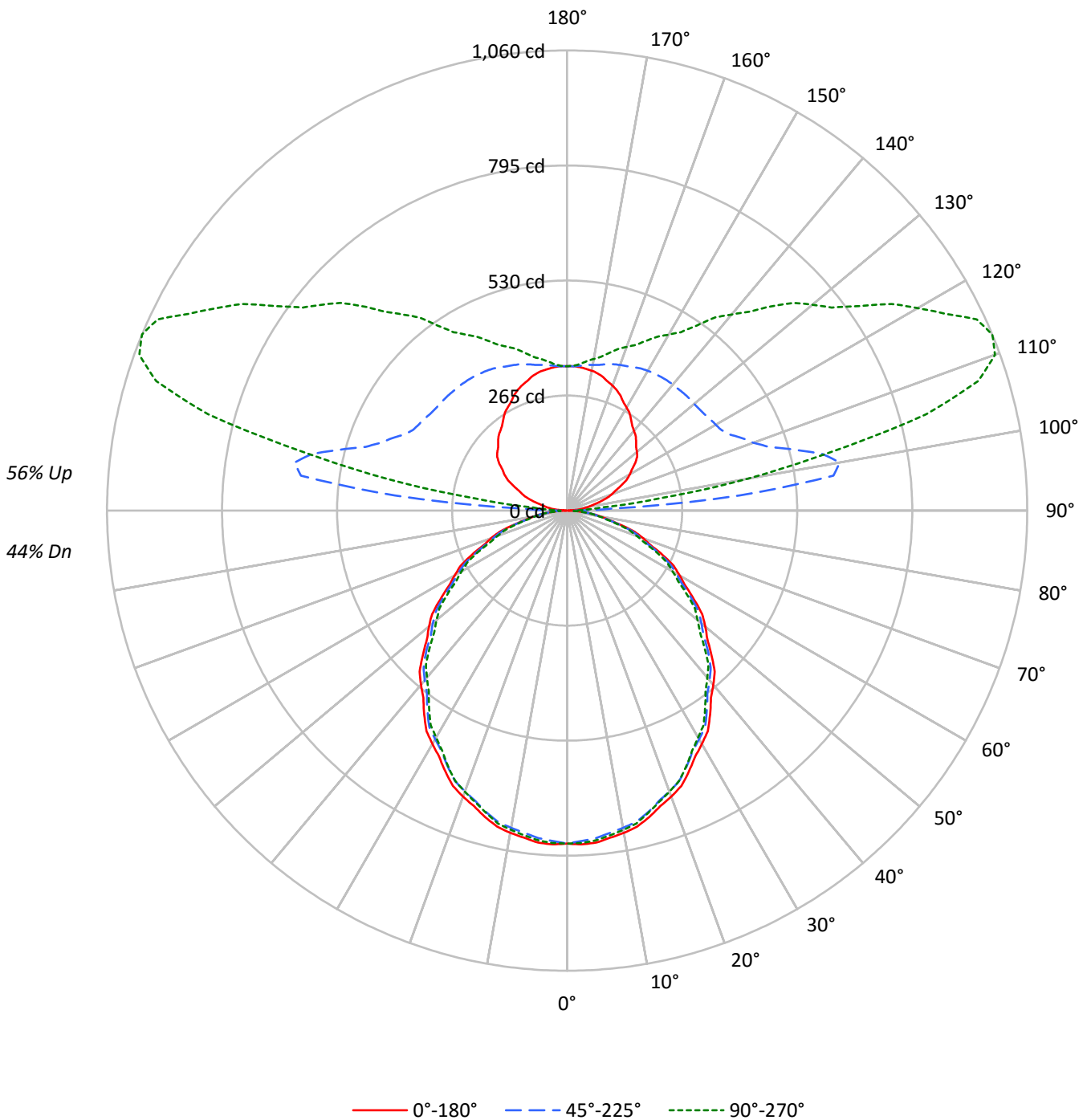
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	96	92	88	85	88	85	81	78	70	68	66	57	55	54	45	44	43	37
2	88	80	74	69	80	74	69	64	61	58	54	50	47	45	40	38	36	31
3	80	71	63	58	73	65	59	54	54	49	46	44	41	38	35	33	31	26
4	73	62	55	49	67	57	51	45	48	43	39	39	36	33	31	29	26	23
5	67	56	48	42	61	51	44	39	43	38	33	35	31	28	28	25	23	20
6	62	50	42	36	56	46	39	34	39	33	29	32	28	25	26	23	20	17
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	33	28	48	38	31	26	32	27	23	26	22	19	21	18	16	14
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	20	17	15	12
10	46	34	27	22	42	32	25	21	27	22	18	22	19	16	18	15	13	11

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	1.6
10°-20°	204.0	4.5
20°-30°	301.4	6.7
30°-40°	352.0	7.8
40°-50°	353.9	7.9
50°-60°	310.9	6.9
60°-70°	231.6	5.1
70°-80°	132.0	2.9
80°-90°	40.5	0.9
90°-100°	185.1	4.1
100°-110°	524.0	11.6
110°-120°	515.5	11.5
120°-130°	411.2	9.1
130°-140°	324.2	7.2
140°-150°	242.0	5.4
150°-160°	168.6	3.7
160°-170°	99.1	2.2
170°-180°	32.2	0.7
0°-30°	577.6	12.8
0°-40°	929.7	20.7
0°-60°	1594.5	35.4
0°-90°	1998.5	44.4
90°-120°	1224.6	27.2
90°-150°	2201.9	48.9
90°-180°	2502.0	55.6
0°-180°	4500.4	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°	1	8	17	19	20	3
95°	23	74	399	116	78	25
105°	78	115	541	946	856	83
115°	138	172	414	908	1041	137
125°	192	226	386	700	821	170
135°	225	268	381	576	666	174
145°	256	294	376	473	520	161
155°	291	314	364	414	431	134
165°	318	327	349	370	376	90
175°	332	332	335	339	339	32
180°	332	332	332	332	332	



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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°	13.9	13.9	13.9	13.9	13.8	13.9	14.1	14.4	14.7	15.0	14.7
90°	1.4	2.7	4.0	6.0	7.4	8.8	10.8	12.8	14.8	16.8	16.2
92.5°	8.4	12.4	18.1	23.3	28.9	38.9	56.6	85.5	113.9	103.5	78.1
95°	22.9	24.9	32.3	43.7	61.2	87.5	144.7	245.0	355.4	399.2	323.8
97.5°	39.0	39.7	45.5	55.4	72.7	101.1	155.8	268.9	452.9	618.6	661.9
100°	49.9	50.5	55.2	64.7	80.8	107.0	154.1	253.7	430.8	637.5	770.1
102.5°	61.1	62.3	66.5	75.4	90.0	114.0	156.3	240.8	398.5	602.4	775.5
105°	78.1	80.1	84.1	92.2	105.0	125.9	162.2	231.5	358.8	541.2	734.4
107.5°	96.1	98.2	102.0	109.9	122.0	141.4	173.2	230.9	333.5	487.1	662.5
110°	109.1	111.1	114.4	121.8	133.3	152.1	182.4	233.6	323.8	456.4	617.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	120.9	123.0	126.3	133.7	145.2	163.4	191.6	238.9	318.4	435.9	578.0
115°	138.0	140.7	144.7	151.4	162.9	181.1	206.6	247.7	316.4	414.0	530.5
117.5°	155.1	158.2	161.5	167.7	180.6	197.3	222.7	259.3	317.6	401.1	501.8
120°	166.9	168.9	172.3	179.1	191.8	208.7	232.9	267.9	319.8	395.1	486.7
122.5°	177.2	179.2	182.5	189.9	202.1	220.0	243.7	276.0	323.5	391.4	474.3
125°	191.8	193.2	197.3	204.7	217.4	235.6	259.2	288.8	329.2	386.4	458.4
127.5°	203.0	205.0	210.0	217.6	231.7	249.9	272.6	299.3	335.6	384.0	444.4
130°	210.0	212.1	218.1	226.2	240.3	258.5	280.7	306.3	339.9	382.4	436.9
132.5°	215.4	218.0	224.5	234.3	248.4	266.0	287.7	312.7	343.2	381.8	429.9
135°	224.8	227.6	235.0	245.0	259.2	277.3	298.2	321.1	348.0	381.0	420.7
137.5°	233.7	236.5	243.8	254.6	268.5	285.4	305.5	327.3	351.3	379.5	412.8
140°	239.6	243.0	249.8	260.5	274.0	290.8	310.3	330.5	353.4	379.0	407.9
142.5°	246.1	248.9	256.2	265.9	279.4	295.1	314.1	333.7	355.0	377.9	403.6
145°	256.5	258.5	264.6	274.7	286.1	301.6	319.1	337.3	356.1	376.3	397.9
147.5°	267.0	268.2	274.1	282.8	293.9	307.1	323.1	339.4	356.1	373.8	392.2
150°	274.0	274.7	280.0	288.8	298.2	310.3	325.8	339.9	356.1	371.6	388.4
152.5°	280.9	281.1	286.5	294.2	302.5	314.1	327.4	341.0	354.5	368.9	384.1
155°	291.4	291.4	295.5	302.2	309.6	319.1	330.5	341.3	352.8	364.2	377.6
157.5°	299.8	300.3	303.6	309.5	315.8	323.1	332.3	342.0	350.4	360.0	370.4
160°	306.3	306.3	309.0	314.4	319.1	325.8	333.9	342.0	349.4	356.8	365.5
162.5°	311.2	311.2	313.3	317.6	321.8	327.4	334.4	341.4	347.2	353.5	360.7
165°	318.4	317.7	319.1	322.4	325.1	329.8	335.2	339.9	344.0	348.7	354.0
167.5°	323.9	323.1	323.8	326.3	328.2	331.2	335.1	338.9	340.8	343.9	347.8
170°	327.2	325.8	326.5	328.5	329.8	331.2	334.6	337.3	338.6	340.6	344.0
172.5°	329.3	328.5	328.6	330.1	330.9	331.7	334.6	336.7	337.0	337.9	340.2
175°	331.8	331.2	330.5	331.8	331.8	332.5	333.9	335.2	334.6	334.6	335.9
177.5°	333.0	332.5	332.0	332.5	332.5	332.5	333.0	334.2	333.0	332.5	333.0
180°	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5



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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°	14.7	14.7	14.8	15.0	14.8	15.0	15.2	15.0
90°	16.8	17.5	18.2	19.5	18.9	19.5	20.2	19.5
92.5°	56.7	44.9	39.7	36.2	35.0	33.0	33.7	32.5
95°	242.4	164.3	128.5	104.4	91.5	85.5	80.8	78.1
97.5°	604.1	483.9	397.0	316.5	266.8	236.5	218.3	212.6
100°	793.7	739.1	660.4	564.7	496.8	447.6	421.4	422.1
102.5°	856.6	854.9	809.0	748.4	695.5	656.6	634.6	619.1
105°	875.1	942.4	955.2	937.7	906.7	881.1	859.6	856.3
107.5°	822.1	931.3	990.3	1014.3	1014.9	1006.3	998.9	992.7
110°	771.5	895.3	980.1	1027.3	1046.0	1051.5	1050.1	1048.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	721.3	847.9	943.0	1003.5	1038.0	1054.7	1059.8	1060.1
115°	655.0	772.1	871.1	944.4	994.9	1024.5	1038.0	1041.4
117.5°	606.9	708.0	796.9	871.3	923.9	957.9	977.2	981.9
120°	581.6	672.4	753.3	821.2	874.4	912.1	928.2	932.3
122.5°	561.7	643.9	718.8	782.0	829.1	863.1	880.9	886.0
125°	535.1	608.6	673.1	727.0	770.1	799.7	816.5	821.2
127.5°	512.0	577.4	635.8	684.8	723.1	748.4	763.6	767.9
130°	497.5	558.0	612.6	658.3	694.1	718.2	732.4	737.8
132.5°	484.0	539.8	590.5	634.1	667.6	691.9	704.4	708.2
135°	465.8	513.6	557.3	595.7	628.7	648.9	661.0	665.7
137.5°	449.3	488.4	526.2	559.4	587.1	607.6	617.9	621.0
140°	439.5	473.9	506.2	535.1	560.8	579.5	590.4	589.7
142.5°	430.4	459.9	487.9	513.1	534.9	551.6	561.3	560.6
145°	419.4	441.6	463.1	482.7	499.5	513.6	519.0	520.3
147.5°	410.4	428.0	445.4	459.3	472.0	481.6	486.7	487.2
150°	403.9	419.4	433.5	446.3	456.4	463.8	467.9	467.9
152.5°	398.0	411.3	423.8	434.5	442.4	449.3	451.7	451.7
155°	389.1	399.8	409.9	418.0	424.0	429.5	430.8	431.4
157.5°	379.6	388.7	396.5	402.8	408.0	412.1	413.2	413.0
160°	374.3	381.7	388.4	393.1	397.9	401.8	401.8	401.2
162.5°	367.8	374.1	380.3	384.5	387.6	391.1	391.1	390.5
165°	359.5	363.5	368.2	371.6	374.3	376.9	376.3	376.3
167.5°	352.1	355.2	358.0	360.4	361.6	363.5	362.8	362.8
170°	347.3	349.4	352.1	353.4	354.0	355.4	354.7	354.7
172.5°	343.0	344.5	346.6	347.5	347.6	349.0	347.8	347.2
175°	337.3	337.9	339.2	339.2	339.2	339.9	339.2	338.6
177.5°	333.6	334.2	334.7	334.7	334.2	334.7	333.6	333.6
180°	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5

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