

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: P332287-930

Luminaire Tested: **S123RDIP-S560D805U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332287-930
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: S123RDIP-S560D805U930-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4111.1 lumens
Efficiency: N/A
Efficacy: 107.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

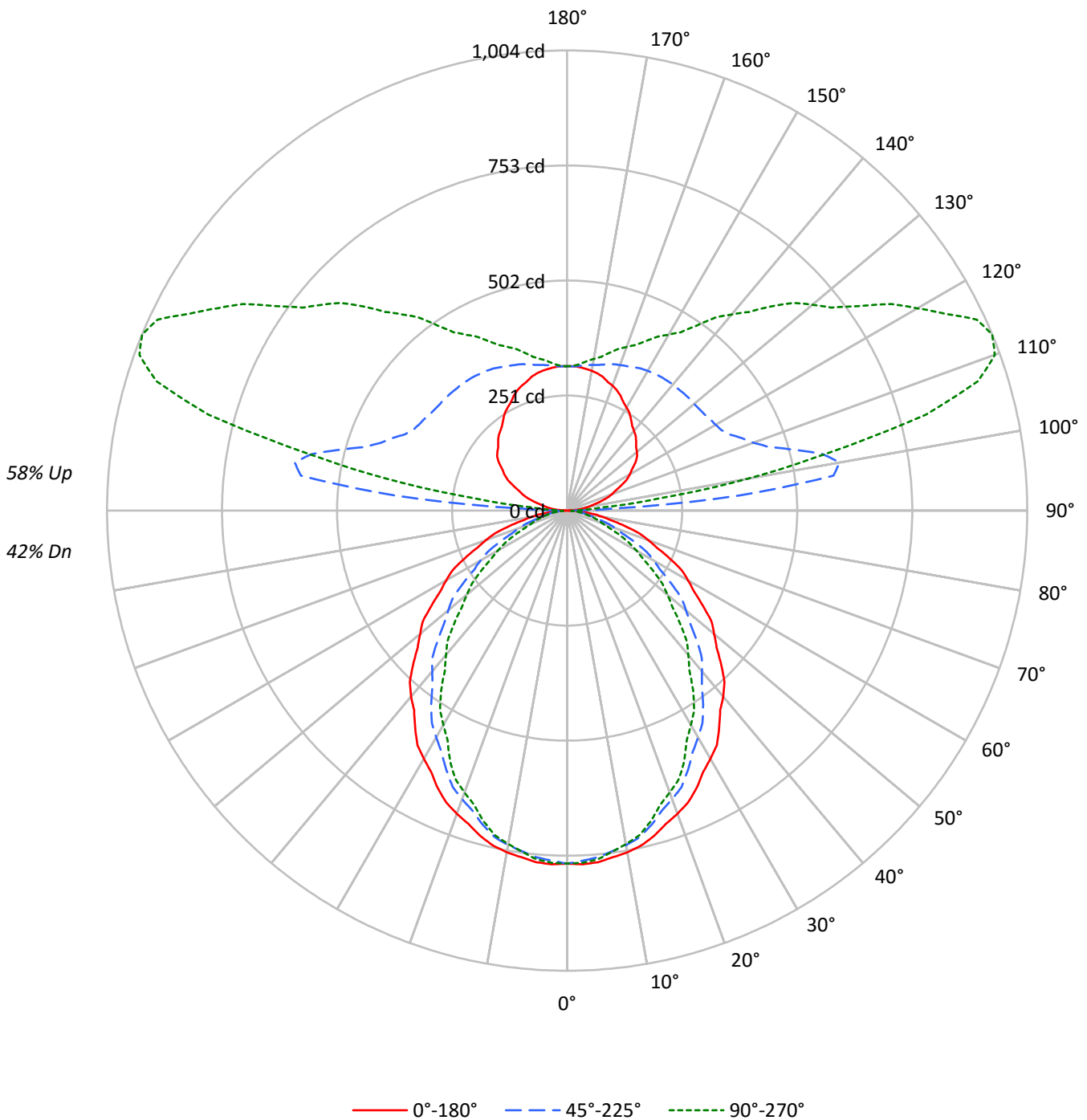
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	96	92	88	85	88	84	81	78	70	67	65	56	55	53	44	43	42	36
2	88	81	75	70	80	74	69	65	61	58	55	50	47	45	39	37	36	31
3	80	71	64	58	73	65	59	54	54	50	46	44	41	38	35	33	31	26
4	74	63	55	50	67	58	51	46	48	43	40	39	36	33	31	29	27	23
5	68	56	48	43	62	52	45	40	43	38	34	36	32	29	28	26	23	20
6	62	51	43	37	57	47	40	35	39	34	30	32	28	25	26	23	21	18
7	58	46	38	32	53	42	35	30	36	30	26	29	25	22	23	21	18	16
8	53	41	34	29	49	38	32	27	32	27	23	27	23	20	22	19	17	14
9	50	38	31	26	45	35	29	24	30	25	21	25	21	18	20	17	15	13
10	46	35	28	23	43	32	26	22	27	22	19	23	19	16	19	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8289	8289	8289
5°	8321	8206	8253
10°	8273	8103	8075
15°	8184	7913	7830
20°	8062	7676	7497
25°	7936	7410	7172
30°	7771	7102	6714
35°	7599	6795	6294
40°	7442	6433	5774
45°	7234	6075	5305
50°	7006	5668	4779
55°	6775	5204	4290
60°	6562	4706	3750
65°	6283	4167	3212
70°	5936	3500	2593
75°	5427	2753	2441
80°	4841	2442	2244
85°	4088	2149	2001



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	1.8
10°-20°	201.2	4.9
20°-30°	289.7	7.0
30°-40°	326.3	7.9
40°-50°	312.2	7.6
50°-60°	255.7	6.2
60°-70°	172.5	4.2
70°-80°	86.8	2.1
80°-90°	25.4	0.6
90°-100°	175.2	4.3
100°-110°	496.2	12.1
110°-120°	488.1	11.9
120°-130°	389.3	9.5
130°-140°	307.0	7.5
140°-150°	229.1	5.6
150°-160°	159.7	3.9
160°-170°	93.8	2.3
170°-180°	30.5	0.7
0°-30°	563.2	13.7
0°-40°	889.5	21.6
0°-60°	1457.4	35.5
0°-90°	1742.1	42.4
90°-120°	1159.6	28.2
90°-150°	2085.0	50.7
90°-180°	2369.0	57.6
0°-180°	4111.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	770	767	760	765	764	73
15°	734	727	710	707	703	207
25°	668	652	624	611	604	307
35°	578	555	517	491	479	362
45°	475	446	399	365	348	367
55°	361	329	277	242	229	324
65°	247	212	164	134	126	244
75°	130	100	66	60	59	139
85°	33	20	17	16	16	37
90°	1	8	16	18	18	3
95°	22	70	378	110	74	23
105°	74	109	512	896	811	79
115°	131	163	392	860	986	129
125°	182	214	366	663	778	161
135°	213	254	361	546	630	164
145°	243	278	356	448	493	152
155°	276	298	345	392	408	127
165°	302	310	330	350	356	85
175°	314	315	317	321	321	30
180°	315	315	315	315	315	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	772.6	772.1	771.7	771.2	770.8	769.9	768.6	767.2	765.9	764.6	765.8
5°	770.1	769.4	768.7	768.0	767.3	766.1	764.4	762.8	761.1	759.5	760.7
7.5°	763.0	762.2	761.4	760.7	759.9	758.5	756.4	754.2	752.0	749.8	750.5
10°	756.9	755.9	755.0	754.0	753.1	751.3	748.9	746.3	743.8	741.4	741.4
12.5°	748.4	747.4	746.2	745.2	744.1	742.1	739.0	736.0	732.9	729.9	729.8
15°	734.4	733.0	731.4	729.9	728.4	725.6	721.8	717.9	714.0	710.1	709.4
17.5°	716.8	715.1	713.3	711.5	709.7	706.4	701.4	696.5	691.5	686.6	685.2
20°	703.8	701.6	699.4	697.2	695.0	691.2	685.9	680.7	675.4	670.1	668.3
22.5°	689.3	686.8	684.3	681.7	679.1	675.1	669.4	663.8	658.3	652.6	650.4
25°	668.2	664.8	661.3	657.9	654.4	649.5	643.0	636.7	630.3	623.9	621.0
27.5°	642.6	638.8	635.0	631.1	627.3	621.8	614.7	607.6	600.5	593.5	589.4
30°	625.2	621.0	616.9	612.7	608.5	602.5	594.8	587.0	579.2	571.4	566.7
32.5°	607.6	603.0	598.3	593.5	588.8	582.4	574.1	565.9	557.7	549.4	544.3
35°	578.3	573.3	568.3	563.4	558.3	551.5	542.9	534.3	525.7	517.1	511.1
37.5°	548.6	543.1	537.5	531.9	526.4	519.0	509.8	500.7	491.5	482.2	475.5
40°	529.6	523.5	517.4	511.3	505.2	497.2	487.4	477.5	467.7	457.8	450.5
42.5°	508.1	502.0	495.9	489.8	483.7	475.6	465.4	455.2	445.0	434.8	426.9
45°	475.2	469.0	462.8	456.6	450.3	441.8	431.1	420.4	409.8	399.1	391.2
47.5°	442.4	435.5	428.7	421.8	415.0	406.3	395.5	384.8	374.1	363.5	354.9
50°	418.4	411.9	405.4	398.8	392.3	383.4	372.2	361.0	349.8	338.5	329.9
52.5°	397.0	389.9	382.8	375.7	368.7	359.5	348.4	337.3	326.1	315.0	306.1
55°	361.0	354.2	347.4	340.6	333.8	324.5	312.7	300.9	289.1	277.3	269.2
57.5°	327.8	320.3	312.9	305.5	298.1	288.5	276.6	264.8	252.9	241.1	233.5
60°	304.8	297.2	289.5	281.8	274.3	264.6	253.2	241.7	230.1	218.6	211.1
62.5°	281.8	274.2	266.5	258.9	251.3	241.7	230.2	218.7	207.1	195.6	188.6
65°	246.7	239.0	231.5	223.8	216.1	206.9	196.1	185.3	174.5	163.6	156.9
67.5°	211.6	203.9	196.2	188.4	180.8	171.7	161.3	150.9	140.6	130.1	125.1
70°	188.6	181.1	173.7	166.2	158.7	150.0	140.3	130.6	120.9	111.2	106.3
72.5°	165.6	158.2	150.8	143.5	136.1	128.0	119.2	110.3	101.5	92.7	88.7
75°	130.5	123.8	117.2	110.6	103.9	96.7	89.1	81.4	73.9	66.2	64.8
77.5°	98.6	92.5	86.5	80.5	74.4	69.0	64.1	59.2	54.2	49.3	48.6
80°	78.1	72.4	66.7	61.0	55.3	51.0	48.1	45.2	42.2	39.4	38.9
82.5°	58.6	53.6	48.8	43.9	38.9	35.8	34.4	33.1	31.7	30.3	29.9
85°	33.1	30.1	27.0	24.0	20.9	19.2	18.8	18.3	17.9	17.4	17.2
87.5°	12.2	11.3	10.3	9.5	8.5	8.2	8.6	8.9	9.3	9.7	9.5
90°	1.3	2.5	3.8	5.7	7.0	8.3	10.2	12.1	14.0	15.9	15.3
92.5°	7.9	11.7	17.1	22.1	27.4	36.9	53.6	81.0	107.9	98.0	73.9
95°	21.7	23.6	30.6	41.4	58.0	82.8	137.1	232.0	336.6	378.0	306.6
97.5°	36.9	37.6	43.1	52.5	68.8	95.7	147.5	254.6	428.8	585.8	626.7
100°	47.2	47.8	52.3	61.2	76.5	101.3	145.9	240.3	408.0	603.6	729.2
102.5°	57.9	59.0	62.9	71.4	85.2	107.9	148.0	228.0	377.3	570.5	734.3
105°	73.9	75.8	79.7	87.3	99.5	119.2	153.6	219.2	339.7	512.5	695.5
107.5°	91.0	92.9	96.6	104.1	115.5	133.9	164.0	218.7	315.8	461.2	627.4
110°	103.3	105.2	108.4	115.4	126.2	144.1	172.8	221.2	306.6	432.2	584.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	114.5	116.4	119.6	126.6	137.5	154.7	181.4	226.2	301.5	412.8	547.3
115°	130.7	133.2	137.1	143.4	154.3	171.5	195.7	234.6	299.6	392.0	502.3
117.5°	146.8	149.8	153.0	158.8	171.0	186.9	210.8	245.6	300.8	379.8	475.2
120°	158.1	160.0	163.1	169.6	181.6	197.6	220.5	253.7	302.8	374.1	460.9
122.5°	167.8	169.7	172.8	179.8	191.4	208.3	230.7	261.3	306.3	370.6	449.1
125°	181.6	183.0	186.8	193.8	205.9	223.1	245.4	273.5	311.7	365.9	434.1
127.5°	192.2	194.1	198.9	206.0	219.4	236.6	258.1	283.4	317.8	363.6	420.9
130°	198.9	200.8	206.5	214.2	227.6	244.8	265.8	290.0	321.9	362.1	413.7
132.5°	204.0	206.4	212.6	221.8	235.2	251.9	272.4	296.1	325.0	361.5	407.1
135°	212.9	215.5	222.5	232.0	245.4	262.6	282.3	304.0	329.5	360.8	398.4
137.5°	221.3	224.0	230.9	241.1	254.3	270.3	289.3	309.9	332.6	359.4	390.9
140°	226.9	230.1	236.5	246.7	259.4	275.3	293.8	313.0	334.7	358.9	386.3
142.5°	233.0	235.7	242.6	251.8	264.6	279.4	297.4	316.0	336.1	357.8	382.2
145°	242.9	244.8	250.5	260.1	270.9	285.6	302.1	319.4	337.2	356.3	376.7
147.5°	252.8	254.0	259.6	267.8	278.3	290.8	306.0	321.4	337.2	353.9	371.4
150°	259.4	260.1	265.1	273.5	282.3	293.8	308.5	321.9	337.2	351.9	367.8
152.5°	266.0	266.2	271.3	278.6	286.4	297.4	310.1	322.9	335.7	349.3	363.7
155°	276.0	276.0	279.8	286.2	293.2	302.1	313.0	323.2	334.0	344.9	357.6
157.5°	283.9	284.4	287.5	293.1	299.1	306.0	314.6	323.8	331.8	340.9	350.7
160°	290.0	290.0	292.6	297.7	302.1	308.5	316.2	323.8	330.8	337.9	346.1
162.5°	294.6	294.6	296.7	300.8	304.7	310.1	316.7	323.3	328.8	334.8	341.5
165°	301.5	300.8	302.1	305.3	307.9	312.3	317.4	321.9	325.7	330.2	335.3
167.5°	306.7	306.0	306.6	309.0	310.8	313.6	317.3	320.9	322.7	325.6	329.3
170°	309.8	308.5	309.2	311.0	312.3	313.6	316.8	319.4	320.7	322.5	325.7
172.5°	311.9	311.0	311.2	312.6	313.3	314.1	316.8	318.9	319.1	320.0	322.1
175°	314.2	313.6	313.0	314.2	314.2	314.9	316.2	317.4	316.8	316.8	318.0
177.5°	315.4	314.9	314.4	314.9	314.9	314.9	315.4	316.4	315.4	314.9	315.4
180°	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	767.0	768.3	769.5	770.0	769.7	769.5	769.3	769.1
5°	761.9	763.2	764.4	764.9	764.7	764.3	764.1	763.8
7.5°	751.2	751.9	752.6	752.7	752.2	751.8	751.3	750.8
10°	741.6	741.8	741.8	741.6	740.9	740.2	739.6	738.8
12.5°	729.7	729.6	729.5	729.0	728.2	727.4	726.7	725.9
15°	708.7	708.0	707.4	706.5	705.5	704.6	703.6	702.6
17.5°	683.7	682.2	680.7	679.3	677.8	676.4	674.9	673.5
20°	666.5	664.7	662.9	661.2	659.5	657.9	656.2	654.5
22.5°	648.2	645.9	643.7	641.7	640.2	638.6	637.1	635.5
25°	618.1	615.1	612.3	610.0	608.5	607.0	605.4	603.9
27.5°	585.3	581.3	577.2	574.1	571.7	569.4	567.0	564.7
30°	562.0	557.3	552.6	549.1	546.9	544.7	542.4	540.2
32.5°	539.2	533.9	528.8	525.1	522.8	520.4	518.0	515.8
35°	505.2	499.2	493.3	489.0	486.5	484.0	481.5	479.0
37.5°	468.7	461.9	455.2	450.3	447.2	444.1	441.0	437.9
40°	443.4	436.1	428.9	423.7	420.5	417.4	414.2	410.9
42.5°	419.1	411.2	403.2	397.9	395.0	392.2	389.3	386.5
45°	383.3	375.4	367.5	361.8	358.5	355.1	351.8	348.5
47.5°	346.3	337.7	329.1	323.3	320.3	317.3	314.4	311.4
50°	321.3	312.7	304.1	298.2	295.0	291.8	288.6	285.4
52.5°	297.2	288.2	279.2	273.4	270.5	267.7	264.8	262.0
55°	261.2	253.2	245.1	239.7	236.9	234.2	231.4	228.6
57.5°	225.8	218.3	210.7	205.7	203.3	201.0	198.6	196.2
60°	203.6	196.1	188.6	183.7	181.3	179.0	176.6	174.2
62.5°	181.5	174.5	167.4	162.7	160.2	157.7	155.2	152.8
65°	150.0	143.2	136.4	132.2	130.8	129.2	127.7	126.1
67.5°	120.0	114.9	109.8	106.5	104.8	103.2	101.6	100.0
70°	101.4	96.6	91.7	88.5	87.0	85.5	84.0	82.4
72.5°	84.7	80.8	76.8	74.5	73.9	73.2	72.6	71.9
75°	63.4	62.0	60.7	59.8	59.5	59.3	58.9	58.7
77.5°	47.9	47.1	46.3	45.8	45.6	45.2	45.0	44.7
80°	38.5	38.1	37.7	37.3	37.1	36.8	36.5	36.2
82.5°	29.5	29.1	28.7	28.5	28.4	28.4	28.3	28.2
85°	17.0	16.6	16.4	16.2	16.2	16.2	16.2	16.2
87.5°	9.5	9.5	9.5	9.6	9.4	9.4	9.5	9.2
90°	15.9	16.6	17.2	18.5	17.9	18.5	19.2	18.5
92.5°	53.6	42.6	37.6	34.3	33.2	31.2	31.9	30.7
95°	229.5	155.6	121.7	98.8	86.7	81.0	76.5	73.9
97.5°	572.0	458.2	375.9	299.7	252.7	224.0	206.8	201.3
100°	751.5	699.9	625.3	534.8	470.4	423.9	399.0	399.7
102.5°	811.1	809.5	766.1	708.7	658.6	621.7	601.0	586.3
105°	828.7	892.3	904.5	887.9	858.6	834.4	814.0	810.8
107.5°	778.4	881.9	937.8	960.4	961.0	952.8	945.9	940.0
110°	730.5	847.7	928.1	972.7	990.5	995.6	994.3	993.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	683.1	802.9	892.9	950.2	982.9	998.7	1003.6	1003.8
115°	620.2	731.1	824.8	894.3	942.1	970.1	982.9	986.1
117.5°	574.7	670.4	754.6	825.1	874.9	907.0	925.4	929.8
120°	550.7	636.7	713.3	777.6	828.0	863.7	879.0	882.8
122.5°	531.9	609.8	680.6	740.5	785.1	817.3	834.1	838.9
125°	506.7	576.3	637.4	688.4	729.2	757.2	773.1	777.6
127.5°	484.9	546.7	602.0	648.4	684.7	708.7	723.1	727.2
130°	471.1	528.4	580.1	623.4	657.2	680.1	693.5	698.6
132.5°	458.3	511.1	559.1	600.5	632.2	655.2	667.0	670.6
135°	441.1	486.3	527.7	564.1	595.3	614.5	625.9	630.4
137.5°	425.4	462.5	498.2	529.7	556.0	575.4	585.1	588.0
140°	416.2	448.7	479.3	506.7	531.0	548.8	559.1	558.4
142.5°	407.6	435.5	462.0	485.8	506.5	522.3	531.5	530.8
145°	397.1	418.2	438.5	457.1	473.0	486.3	491.5	492.7
147.5°	388.6	405.3	421.8	434.9	446.9	456.0	460.9	461.4
150°	382.5	397.1	410.5	422.6	432.2	439.2	443.0	443.0
152.5°	376.8	389.5	401.3	411.4	418.9	425.4	427.7	427.7
155°	368.4	378.6	388.2	395.8	401.5	406.7	408.0	408.5
157.5°	359.5	368.0	375.4	381.4	386.4	390.2	391.3	391.1
160°	354.4	361.4	367.8	372.3	376.7	380.5	380.5	379.9
162.5°	348.3	354.2	360.1	364.1	367.0	370.3	370.3	369.7
165°	340.4	344.2	348.7	351.9	354.4	356.9	356.3	356.3
167.5°	333.5	336.4	339.0	341.3	342.4	344.2	343.6	343.6
170°	328.9	330.8	333.4	334.7	335.3	336.6	335.9	335.9
172.5°	324.8	326.2	328.2	329.1	329.1	330.4	329.3	328.8
175°	319.4	320.0	321.2	321.2	321.2	321.9	321.2	320.7
177.5°	315.9	316.4	316.9	316.9	316.4	316.9	315.9	315.9
180°	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9

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