

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: P332876

Luminaire Tested: **S124RDIP-S350D590U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332876
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S350D590U835-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3541.6 lumens
Efficiency: N/A
Efficacy: 138.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

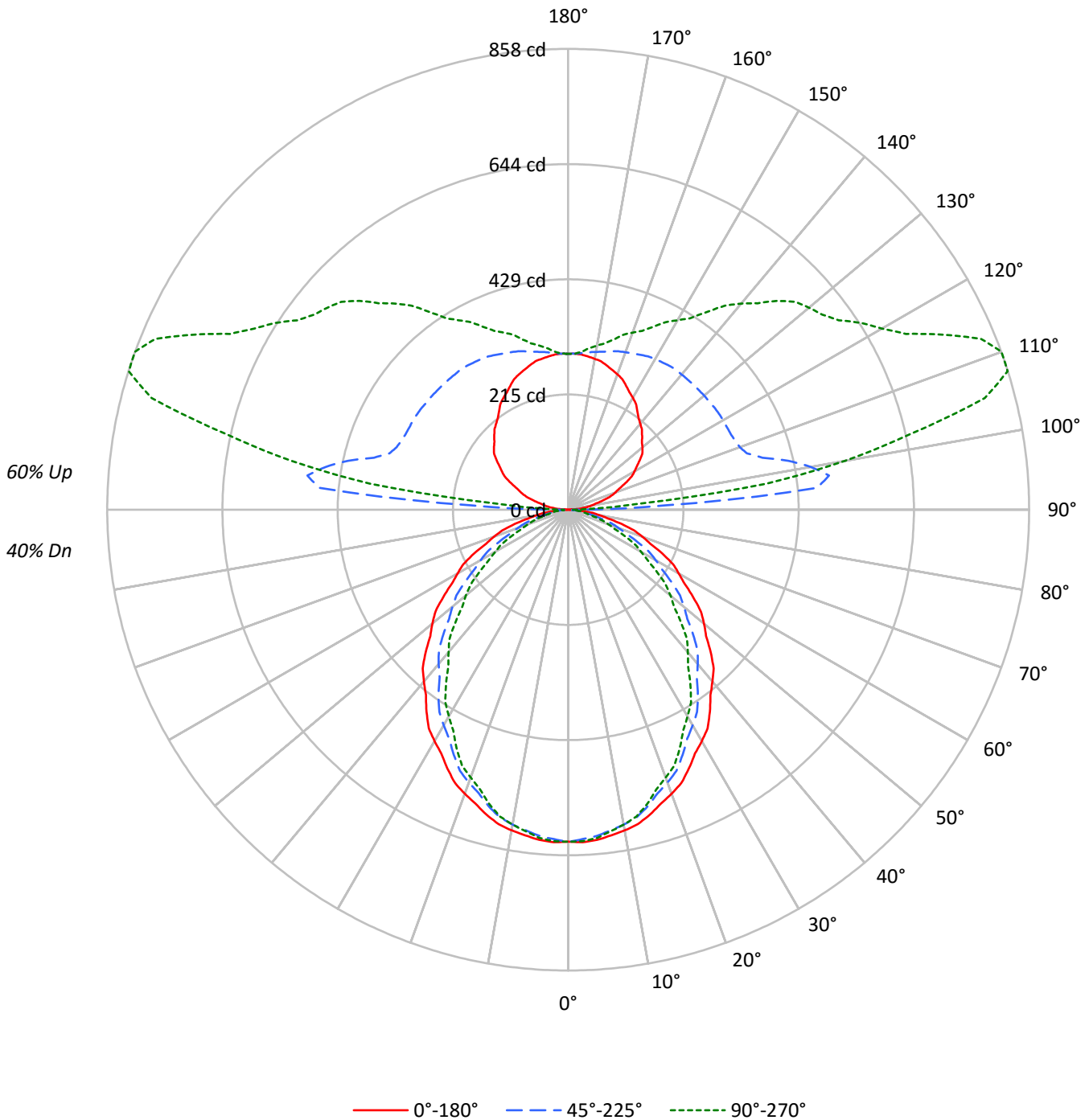
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	50	30	10	0														
RCR																																						
0	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40																				
1	96	92	88	85	87	84	80	78	69	66	64	55	53	52	42	41	40	34																				
2	87	80	74	69	79	73	68	64	60	57	54	48	46	44	37	36	34	29																				
3	80	71	64	58	72	65	59	54	53	49	45	43	40	37	33	31	29	25																				
4	73	63	55	49	66	57	51	46	48	43	39	38	35	32	30	27	25	22																				
5	67	56	48	42	61	51	44	39	43	37	33	34	31	28	27	24	22	19																				
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	22	20	17																				
7	57	45	37	32	52	42	35	30	35	30	26	28	24	22	22	20	18	15																				
8	53	41	33	28	48	38	31	26	32	27	23	26	22	19	21	18	16	13																				
9	49	37	30	25	45	35	28	24	29	24	20	24	20	17	19	16	14	12																				
10	46	34	27	23	42	32	25	21	27	22	18	22	18	16	18	15	13	11																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4991	4991	4991
5°	5002	4941	4971
10°	4970	4882	4882
15°	4914	4779	4743
20°	4835	4643	4558
25°	4735	4486	4372
30°	4638	4320	4139
35°	4529	4147	3905
40°	4400	3951	3652
45°	4280	3756	3394
50°	4143	3532	3121
55°	3997	3298	2825
60°	3836	3042	2522
65°	3689	2722	2223
70°	3474	2367	1888
75°	3203	1965	1535
80°	2794	1497	1409
85°	2371	1362	1269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.1	1.6
10°-20°	161.9	4.6
20°-30°	233.8	6.6
30°-40°	265.1	7.5
40°-50°	255.9	7.2
50°-60°	212.8	6.0
60°-70°	147.0	4.1
70°-80°	74.5	2.1
80°-90°	20.7	0.6
90°-100°	209.7	5.9
100°-110°	436.5	12.3
110°-120°	391.0	11.0
120°-130°	328.9	9.3
130°-140°	274.2	7.7
140°-150°	209.5	5.9
150°-160°	147.2	4.2
160°-170°	86.6	2.4
170°-180°	28.2	0.8
0°-30°	453.8	12.8
0°-40°	718.9	20.3
0°-60°	1187.7	33.5
0°-90°	1429.8	40.4
90°-120°	1037.2	29.3
90°-150°	1849.7	52.2
90°-180°	2112.0	59.6
0°-180°	3541.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	618	618	618	618	618	
5°	617	615	610	614	613	59
15°	588	583	572	571	568	166
25°	532	522	504	496	491	245
35°	460	444	421	405	396	287
45°	375	357	329	307	297	289
55°	284	264	234	211	201	254
65°	193	172	142	123	116	191
75°	103	85	63	53	49	108
85°	26	16	15	14	14	29
90°	1	5	10	11	12	2
95°	19	59	465	230	139	21
105°	67	97	374	806	803	71
115°	118	148	334	641	771	117
125°	164	194	332	546	615	146
135°	194	232	329	484	550	150
145°	224	257	327	408	449	141
155°	255	275	318	360	376	118
165°	278	286	305	323	328	78
175°	290	290	293	297	296	27
180°	290	290	290	290	290	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	619.7	619.3	619.0	618.7	618.3	617.7	616.8	615.9	614.9	614.0	614.9
5°	617.2	616.8	616.4	616.0	615.5	614.7	613.4	612.2	610.9	609.7	610.7
7.5°	611.6	611.2	610.8	610.3	609.9	608.8	607.2	605.5	603.9	602.3	602.9
10°	606.3	605.8	605.3	604.8	604.2	603.0	601.1	599.2	597.3	595.5	595.9
12.5°	599.5	598.9	598.3	597.7	597.1	595.7	593.4	591.2	589.0	586.7	587.0
15°	587.9	586.9	586.0	585.0	584.1	582.3	579.7	577.0	574.4	571.8	571.6
17.5°	573.8	572.4	571.0	569.7	568.3	566.0	562.9	559.7	556.6	553.4	552.8
20°	562.8	561.4	560.1	558.7	557.3	554.9	551.3	547.7	544.1	540.5	539.7
22.5°	550.7	549.1	547.6	546.1	544.5	541.8	538.0	534.2	530.4	526.5	525.3
25°	531.6	529.7	527.8	525.9	524.0	520.9	516.6	512.3	507.9	503.6	501.8
27.5°	511.5	509.1	506.7	504.4	502.0	498.5	493.9	489.3	484.7	480.1	477.8
30°	497.5	494.8	492.2	489.6	487.0	483.2	478.2	473.3	468.3	463.4	460.8
32.5°	482.7	479.7	476.8	473.8	470.8	466.8	461.7	456.6	451.5	446.4	443.3
35°	459.6	456.2	452.9	449.5	446.1	441.8	436.6	431.3	426.1	420.8	417.2
37.5°	434.9	431.4	428.0	424.5	421.0	416.4	410.5	404.7	398.9	393.1	389.1
40°	417.5	414.0	410.5	407.1	403.6	398.9	392.9	386.9	380.9	374.9	370.5
42.5°	400.8	397.2	393.5	389.9	386.3	381.3	375.1	368.8	362.6	356.3	351.8
45°	374.9	371.0	367.1	363.2	359.3	354.2	347.9	341.6	335.3	329.0	323.8
47.5°	348.1	344.1	340.1	336.0	332.0	326.7	320.2	313.6	307.0	300.5	295.1
50°	329.9	325.8	321.7	317.6	313.5	308.1	301.4	294.6	287.9	281.2	275.9
52.5°	311.4	307.3	303.3	299.3	295.3	289.8	282.9	276.0	269.1	262.2	256.9
55°	284.0	279.8	275.6	271.4	267.2	261.6	254.8	248.0	241.1	234.3	228.8
57.5°	256.9	252.5	248.2	243.8	239.4	233.9	227.1	220.4	213.7	206.9	201.4
60°	237.6	233.4	229.2	225.0	220.8	215.3	208.6	201.8	195.1	188.4	182.9
62.5°	220.2	215.8	211.4	207.1	202.7	197.1	190.2	183.3	176.4	169.5	164.4
65°	193.1	188.6	184.1	179.6	175.0	169.4	162.7	155.9	149.2	142.5	138.0
67.5°	165.0	160.7	156.3	152.0	147.7	142.4	136.1	129.9	123.6	117.4	113.5
70°	147.2	142.8	138.4	134.0	129.5	124.3	118.3	112.3	106.3	100.3	96.9
72.5°	128.3	124.3	120.3	116.3	112.3	107.5	101.8	96.1	90.5	84.8	81.9
75°	102.7	98.8	94.9	91.0	87.1	82.7	77.8	72.8	67.9	63.0	60.5
77.5°	76.8	73.5	70.2	66.9	63.6	59.9	55.9	51.9	47.9	43.9	42.5
80°	60.1	57.1	54.0	51.0	47.9	44.8	41.7	38.5	35.3	32.2	31.9
82.5°	45.7	42.9	40.1	37.3	34.5	32.2	30.4	28.6	26.8	25.0	24.8
85°	25.6	23.5	21.4	19.2	17.1	15.9	15.6	15.3	15.0	14.7	14.5
87.5°	8.8	8.4	8.0	7.5	6.9	6.6	7.2	7.1	7.2	7.4	7.2
90°	0.6	1.7	3.4	4.0	4.6	4.6	8.0	8.0	9.1	10.3	9.7
92.5°	6.5	9.5	14.8	21.8	30.1	42.0	71.0	115.2	158.4	180.9	150.7
95°	18.8	20.5	26.2	33.7	47.3	71.3	120.9	214.5	350.8	464.9	478.0
97.5°	33.8	33.8	38.7	45.5	57.3	77.4	115.6	192.8	328.4	489.7	600.6
100°	43.4	43.4	47.3	54.2	65.0	83.3	116.9	181.4	297.8	458.6	604.7
102.5°	52.5	53.4	56.9	63.3	73.7	91.0	121.5	178.2	277.2	419.9	570.4
105°	66.7	68.5	71.3	78.2	88.4	105.0	132.3	179.7	259.6	374.2	508.3
107.5°	82.5	83.6	86.5	93.8	103.6	119.9	145.0	188.1	256.4	348.7	458.1
110°	93.0	94.1	97.0	103.8	114.1	129.5	154.6	194.5	257.3	340.0	433.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	103.0	104.2	107.5	113.9	124.1	139.5	163.7	201.4	260.0	335.9	418.8
115°	117.5	119.2	123.2	128.9	139.8	155.2	178.0	212.2	265.3	333.7	405.6
117.5°	132.6	134.2	137.7	144.0	154.1	170.1	191.8	223.3	270.8	333.1	399.7
120°	142.6	143.8	147.7	154.0	163.7	179.7	201.4	231.0	275.0	333.1	396.5
122.5°	151.7	152.9	156.9	162.7	173.3	188.8	210.5	238.3	279.1	332.7	392.8
125°	163.7	166.0	169.4	175.7	186.5	202.5	223.0	249.3	285.2	332.0	386.8
127.5°	174.3	176.2	180.3	187.4	198.7	214.8	234.7	258.8	290.1	330.7	378.7
130°	180.3	182.5	187.1	195.7	206.5	223.0	242.4	264.7	293.8	330.3	373.6
132.5°	186.2	188.0	194.0	202.1	213.8	229.4	248.8	270.6	297.0	329.8	369.1
135°	194.5	196.8	202.5	212.2	224.2	239.0	257.8	278.4	301.8	329.1	362.2
137.5°	202.9	205.0	211.3	220.5	233.0	247.1	264.7	283.9	304.6	329.0	356.3
140°	208.8	210.5	216.8	226.5	238.4	252.1	269.3	287.5	306.9	328.6	353.1
142.5°	215.2	216.9	222.7	231.9	243.5	256.7	273.4	290.2	308.7	328.6	350.4
145°	224.2	225.9	231.6	239.6	250.4	263.0	277.8	293.2	309.8	327.4	345.7
147.5°	234.3	234.9	239.9	248.1	257.2	268.5	282.4	295.8	310.3	325.4	341.5
150°	240.7	241.3	245.9	252.7	261.3	272.1	284.7	297.2	310.3	324.0	338.3
152.5°	246.7	246.8	251.3	257.7	265.4	275.3	286.5	298.1	309.4	321.7	334.6
155°	255.0	255.6	259.0	264.7	271.0	279.5	289.2	298.9	308.0	318.3	329.1
157.5°	263.1	263.1	266.3	270.7	276.2	282.9	291.2	298.9	306.6	314.8	323.6
160°	268.1	268.1	270.4	274.4	278.9	285.2	292.1	298.9	305.2	312.0	319.5
162.5°	272.7	272.2	274.0	277.6	281.7	286.6	293.0	298.9	303.8	309.3	315.8
165°	277.8	277.8	278.9	281.8	284.7	288.1	293.2	297.8	301.2	305.2	309.8
167.5°	282.9	282.4	282.9	285.1	286.7	289.3	293.1	296.4	298.5	301.1	304.3
170°	285.2	284.7	285.2	286.9	288.1	289.8	292.6	295.5	296.6	298.3	300.6
172.5°	287.5	286.9	287.0	288.3	289.0	290.2	292.2	294.6	294.8	295.6	297.4
175°	289.8	289.2	289.2	289.8	290.4	290.4	291.5	293.2	292.6	292.6	293.8
177.5°	290.8	290.4	289.9	290.4	290.4	290.4	290.8	291.7	290.8	290.8	291.3
180°	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	615.9	616.8	617.7	618.1	618.0	618.0	617.9	617.8
5°	611.8	612.8	613.9	614.3	614.1	613.9	613.6	613.4
7.5°	603.6	604.3	605.0	605.1	604.8	604.5	604.1	603.8
10°	596.3	596.7	597.1	597.1	596.7	596.3	595.9	595.5
12.5°	587.2	587.5	587.8	587.6	587.0	586.4	585.8	585.2
15°	571.4	571.2	570.9	570.5	569.7	569.0	568.3	567.5
17.5°	552.2	551.7	551.1	550.2	549.1	548.0	546.9	545.8
20°	538.9	538.0	537.2	536.1	534.7	533.3	532.0	530.6
22.5°	524.0	522.7	521.5	520.3	519.2	518.1	517.0	515.8
25°	500.0	498.3	496.5	495.1	494.0	492.9	491.9	490.8
27.5°	475.6	473.4	471.2	469.4	467.8	466.3	464.8	463.3
30°	458.1	455.5	452.9	450.7	449.0	447.4	445.7	444.0
32.5°	440.3	437.2	434.2	431.8	430.2	428.6	427.0	425.4
35°	413.6	410.1	406.5	403.8	401.9	400.0	398.1	396.2
37.5°	385.1	381.1	377.1	374.1	372.2	370.3	368.4	366.5
40°	366.0	361.6	357.2	354.1	352.2	350.3	348.4	346.5
42.5°	347.3	342.8	338.3	335.1	333.1	331.1	329.1	327.2
45°	318.7	313.5	308.3	304.8	302.9	301.0	299.1	297.3
47.5°	289.8	284.4	279.1	275.4	273.3	271.2	269.1	267.1
50°	270.6	265.4	260.1	256.5	254.5	252.5	250.5	248.5
52.5°	251.5	246.2	240.9	237.1	235.1	233.0	230.9	228.8
55°	223.4	217.9	212.4	208.7	206.7	204.7	202.7	200.7
57.5°	195.8	190.3	184.7	181.2	179.7	178.2	176.6	175.1
60°	177.4	172.0	166.5	162.9	161.2	159.6	157.9	156.2
62.5°	159.4	154.3	149.3	146.1	144.7	143.4	142.0	140.7
65°	133.4	128.9	124.4	121.5	120.2	119.0	117.7	116.4
67.5°	109.6	105.7	101.8	99.2	97.8	96.4	95.0	93.6
70°	93.4	89.9	86.5	84.2	83.1	82.1	81.0	80.0
72.5°	78.9	75.9	73.0	71.0	70.0	69.1	68.1	67.1
75°	58.1	55.7	53.3	51.8	51.1	50.5	49.9	49.2
77.5°	41.1	39.7	38.3	37.5	37.3	37.1	36.9	36.7
80°	31.6	31.2	30.9	30.7	30.6	30.5	30.4	30.3
82.5°	24.5	24.3	24.1	23.9	23.8	23.7	23.6	23.5
85°	14.3	14.0	13.8	13.7	13.7	13.7	13.7	13.7
87.5°	7.2	7.2	7.2	7.2	7.4	7.6	7.6	7.7
90°	10.3	10.8	11.4	11.4	12.0	12.5	12.0	12.0
92.5°	112.0	84.3	67.1	55.7	48.9	45.9	43.9	43.9
95°	422.7	334.3	257.8	202.5	174.6	156.9	146.6	139.2
97.5°	624.5	591.7	535.9	476.3	435.4	401.0	383.9	372.0
100°	688.0	699.4	671.4	629.2	579.6	544.8	527.7	523.1
102.5°	684.8	741.4	749.5	731.9	701.4	676.2	658.2	654.5
105°	638.9	737.6	794.1	817.5	818.6	814.0	806.0	802.6
107.5°	573.8	678.8	758.4	809.2	837.4	850.4	856.1	857.6
110°	534.5	633.2	715.9	778.7	819.2	843.1	853.4	858.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	505.8	593.0	671.2	733.9	779.9	808.9	823.3	831.6
115°	476.9	547.1	613.8	668.6	713.6	747.9	766.1	770.7
117.5°	462.7	520.8	573.3	619.7	658.2	686.9	705.4	709.0
120°	456.4	509.4	555.0	595.5	628.1	653.2	668.0	674.3
122.5°	450.9	502.1	543.6	579.1	606.6	628.1	640.6	646.9
125°	441.5	490.6	529.9	561.3	584.1	600.7	611.5	614.9
127.5°	430.1	477.0	516.3	546.0	569.0	583.7	592.8	596.2
130°	421.0	466.1	504.8	535.1	558.5	572.7	581.9	585.3
132.5°	411.4	453.7	491.6	521.8	544.8	560.9	569.5	573.0
135°	398.2	435.3	470.0	498.6	521.4	537.4	546.5	549.9
137.5°	386.2	417.6	446.9	472.7	494.0	509.8	517.3	521.4
140°	379.3	406.2	431.8	455.8	475.8	488.3	496.3	500.9
142.5°	373.0	396.6	418.6	439.4	457.0	468.7	475.8	478.9
145°	363.9	383.3	400.5	416.4	430.7	440.4	446.1	448.9
147.5°	356.5	371.9	385.6	398.2	408.7	417.0	421.3	422.4
150°	352.0	365.1	376.5	386.8	395.9	403.3	406.7	407.3
152.5°	346.9	358.2	368.7	377.2	384.9	391.0	393.0	393.6
155°	339.4	348.5	357.1	363.9	369.7	374.2	375.9	375.9
157.5°	331.3	339.0	346.1	351.6	356.0	359.4	360.4	360.4
160°	326.3	332.6	338.8	343.4	346.8	350.3	350.8	350.8
162.5°	321.3	326.6	331.5	335.7	338.2	341.6	342.2	341.7
165°	314.3	317.7	321.7	324.6	326.9	329.1	328.6	328.0
167.5°	307.6	310.2	313.4	315.1	316.3	317.7	317.6	317.2
170°	303.5	305.2	307.5	309.2	310.3	310.9	310.3	310.3
172.5°	299.8	301.1	302.5	303.7	304.4	305.0	304.4	303.5
175°	294.9	295.5	296.6	296.6	296.6	297.8	296.6	295.5
177.5°	291.7	292.2	292.2	292.6	292.2	292.6	291.7	290.8
180°	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4

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