

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: P332522-935

Luminaire Tested: **S124DIP-S350D1035U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332522-935
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: S124DIP-S350D1035U935-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4425.0 lumens
Efficiency: N/A
Efficacy: 118.6 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

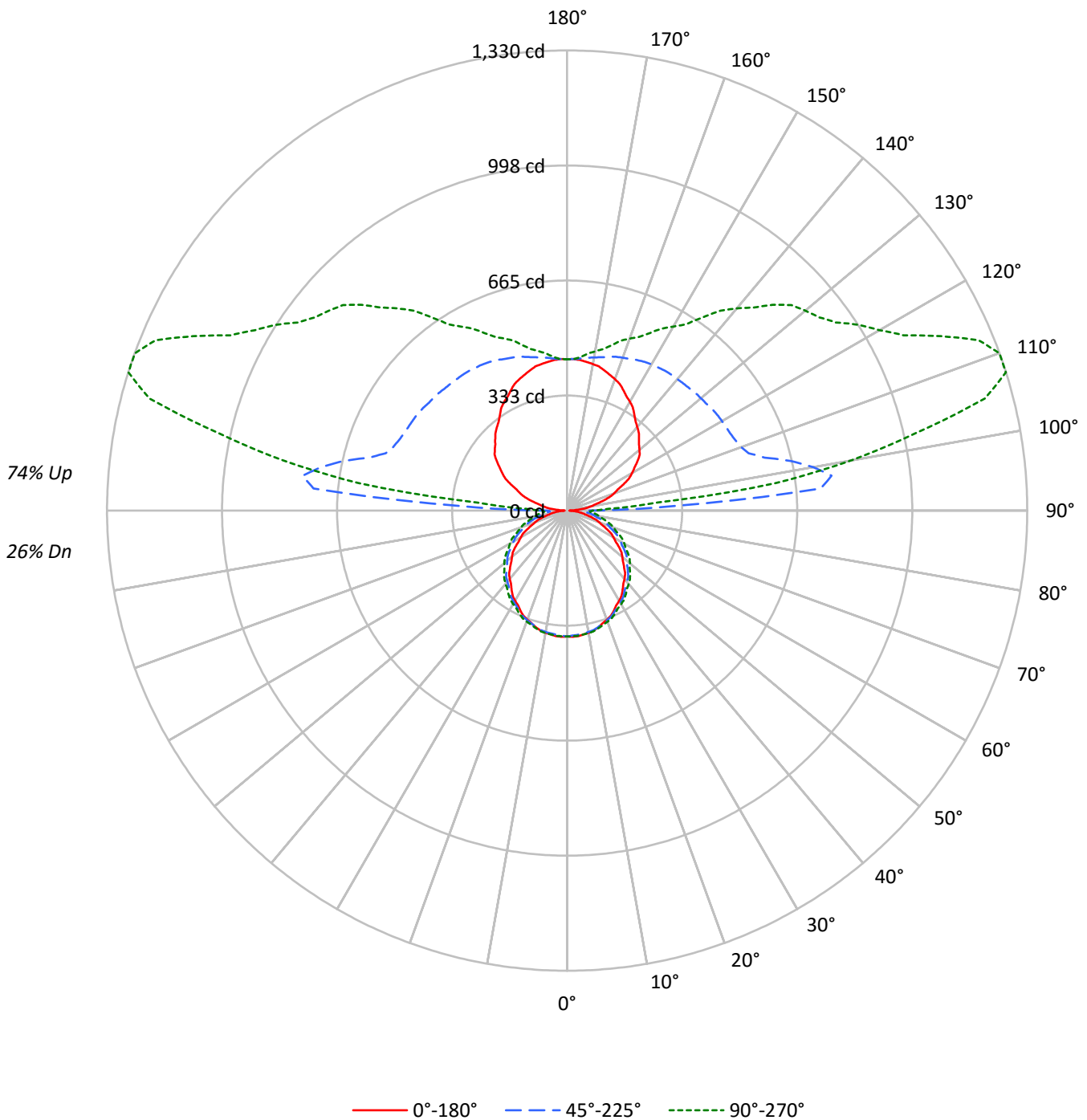
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	87	84	80	82	78	75	72	60	58	56	44	43	41	29	28	28	21
2	83	76	70	65	74	68	63	58	53	49	46	38	36	34	25	24	23	17
3	76	67	59	54	67	59	53	48	46	42	38	34	31	29	22	21	19	14
4	69	59	51	45	61	52	46	41	41	36	32	30	27	24	20	18	16	12
5	63	52	44	38	56	47	40	35	36	31	28	27	23	21	18	16	14	10
6	58	46	39	33	52	42	35	30	32	28	24	24	21	18	16	14	12	9
7	54	42	34	29	48	37	31	26	29	24	21	22	18	16	15	12	11	8
8	50	38	30	25	44	34	27	23	27	22	18	20	16	14	13	11	10	7
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	12	10	9	6
10	43	31	24	20	38	28	22	18	22	18	14	17	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2938	2938	2938
5°	2948	2871	2880
10°	2929	2825	2823
15°	2902	2770	2755
20°	2863	2710	2690
25°	2819	2643	2617
30°	2770	2576	2543
35°	2716	2507	2478
40°	2672	2442	2410
45°	2607	2382	2352
50°	2553	2313	2291
55°	2496	2248	2220
60°	2408	2164	2153
65°	2309	2076	2073
70°	2192	1973	1979
75°	2029	1861	1894
80°	1846	1754	1809
85°	1616	1659	1762



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	0.8
10°-20°	98.7	2.2
20°-30°	149.3	3.4
30°-40°	180.7	4.1
40°-50°	191.0	4.3
50°-60°	179.7	4.1
60°-70°	149.1	3.4
70°-80°	104.7	2.4
80°-90°	61.6	1.4
90°-100°	351.2	7.9
100°-110°	683.7	15.5
110°-120°	606.6	13.7
120°-130°	505.4	11.4
130°-140°	417.4	9.4
140°-150°	316.5	7.2
150°-160°	221.9	5.0
160°-170°	130.5	2.9
170°-180°	42.5	1.0
0°-30°	282.5	6.4
0°-40°	463.2	10.5
0°-60°	833.9	18.8
0°-90°	1149.4	26.0
90°-120°	1641.4	37.1
90°-150°	2880.8	65.1
90°-180°	3276.0	74.0
0°-180°	4425.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	364	363	360	363	363	35
15°	349	350	348	352	352	98
25°	320	322	323	327	328	147
35°	280	284	288	294	296	175
45°	233	241	249	255	258	180
55°	183	191	203	211	214	163
65°	126	139	153	163	167	125
75°	70	85	102	113	117	75
85°	22	39	57	69	73	23
90°	7	30	56	69	73	6
95°	34	108	736	393	260	36
105°	104	158	591	1251	1250	111
115°	180	229	522	994	1192	178
125°	248	295	512	841	948	221
135°	294	350	500	740	841	227
145°	338	387	493	618	680	212
155°	384	415	480	543	566	177
165°	419	432	460	487	494	118
175°	437	438	441	447	445	41
180°	438	438	438	438	438	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	365.2	365.0	364.8	364.5	364.4	363.9	363.4	362.8	362.2	361.6	362.1
5°	364.4	364.0	363.8	363.5	363.3	362.8	362.1	361.5	360.9	360.2	361.0
7.5°	361.3	361.1	360.9	360.8	360.6	360.2	359.7	359.2	358.7	358.2	359.0
10°	358.6	358.5	358.4	358.3	358.3	358.0	357.6	357.1	356.6	356.2	357.0
12.5°	355.1	355.0	355.0	355.0	355.0	354.8	354.5	354.2	353.9	353.6	354.3
15°	349.2	349.4	349.5	349.6	349.7	349.6	349.2	349.0	348.7	348.4	349.2
17.5°	341.4	341.6	341.9	342.2	342.4	342.6	342.5	342.4	342.4	342.3	343.2
20°	335.8	336.0	336.4	336.7	336.9	337.1	337.2	337.3	337.3	337.4	338.4
22.5°	329.6	329.9	330.3	330.6	331.0	331.2	331.4	331.6	331.7	331.9	332.8
25°	319.5	320.0	320.6	321.2	321.7	322.1	322.4	322.6	322.9	323.2	324.2
27.5°	308.2	309.1	309.9	310.6	311.4	312.0	312.5	312.9	313.3	313.7	314.6
30°	300.7	301.5	302.2	302.9	303.7	304.4	305.0	305.6	306.3	306.9	307.9
32.5°	292.7	293.5	294.4	295.2	296.1	296.9	297.6	298.3	299.0	299.7	300.8
35°	279.6	280.7	281.7	282.8	284.0	284.9	285.9	286.7	287.7	288.5	289.8
37.5°	266.5	267.7	269.0	270.2	271.5	272.6	273.8	274.9	276.0	277.2	278.4
40°	258.0	259.2	260.4	261.5	262.7	263.9	265.2	266.5	267.7	269.0	270.4
42.5°	248.2	249.5	250.8	252.2	253.5	254.9	256.4	257.9	259.3	260.8	262.3
45°	233.1	234.8	236.5	238.2	240.0	241.7	243.4	245.1	246.8	248.6	250.1
47.5°	218.7	220.5	222.2	224.0	225.8	227.6	229.6	231.7	233.7	235.7	237.2
50°	208.3	210.3	212.2	214.2	216.2	218.2	220.2	222.2	224.2	226.2	228.0
52.5°	197.9	199.8	201.8	203.8	205.8	207.9	210.2	212.5	214.7	217.1	218.9
55°	182.6	184.5	186.4	188.3	190.2	192.5	195.2	197.9	200.6	203.4	205.2
57.5°	165.6	167.9	170.2	172.6	175.0	177.5	180.2	182.9	185.5	188.3	190.5
60°	154.5	156.8	159.2	161.5	163.8	166.5	169.5	172.5	175.5	178.5	180.6
62.5°	143.7	146.3	148.9	151.4	153.9	156.8	159.7	162.7	165.7	168.8	170.8
65°	126.3	129.2	132.2	135.0	137.9	140.9	144.0	147.1	150.2	153.3	155.5
67.5°	109.6	112.7	115.8	118.9	121.9	125.1	128.5	131.7	135.0	138.3	140.6
70°	98.2	101.3	104.4	107.5	110.6	113.8	117.3	120.7	124.2	127.6	130.0
72.5°	87.1	90.3	93.4	96.6	99.7	103.1	106.8	110.5	114.1	117.8	120.1
75°	70.1	73.4	76.8	80.2	83.5	87.0	90.9	94.7	98.5	102.3	104.9
77.5°	54.2	57.8	61.3	64.8	68.4	72.2	76.1	80.2	84.1	88.1	90.7
80°	44.4	48.0	51.7	55.3	58.9	62.7	66.7	70.7	74.6	78.7	81.4
82.5°	34.6	38.4	42.2	46.0	49.7	53.6	57.6	61.6	65.5	69.6	72.3
85°	21.6	25.4	29.2	33.0	36.9	40.7	44.9	48.9	53.0	57.1	59.8
87.5°	12.2	16.3	20.5	24.4	28.2	32.0	37.0	41.0	45.3	49.6	52.1
90°	7.4	12.7	18.9	23.4	27.9	31.7	40.7	44.6	50.2	55.8	57.6
92.5°	16.0	23.8	35.0	48.8	64.7	86.1	133.6	204.2	273.1	311.1	268.0
95°	33.7	39.3	50.8	65.0	88.6	128.0	206.6	351.2	560.3	736.0	758.2
97.5°	55.7	58.3	68.2	81.1	101.4	134.7	196.0	316.1	524.0	770.8	940.2
100°	69.8	72.2	80.5	93.2	111.9	142.3	196.6	297.2	476.1	722.0	944.5
102.5°	83.6	87.0	94.4	106.1	123.8	152.7	202.1	290.9	443.6	661.9	891.2
105°	104.3	108.7	114.8	126.8	144.1	171.7	216.3	290.9	414.7	590.7	795.0
107.5°	127.9	131.0	136.9	149.4	165.7	192.5	233.5	301.7	407.7	549.9	717.0
110°	143.4	146.4	151.9	163.5	180.2	205.7	246.7	310.0	407.7	535.5	677.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	158.2	161.0	167.1	177.9	194.5	219.7	259.2	319.0	410.4	527.7	654.7
115°	179.5	182.9	189.8	199.1	216.3	241.3	278.6	333.1	415.9	522.0	632.3
117.5°	202.2	205.0	210.9	220.8	236.6	262.3	297.6	347.8	422.1	518.7	620.8
120°	216.9	219.0	225.2	235.0	249.8	275.3	310.6	357.9	426.7	517.0	614.2
122.5°	230.7	232.5	238.5	247.4	263.4	288.0	323.2	367.6	431.4	514.7	607.2
125°	248.3	251.7	256.8	266.1	282.3	307.5	340.7	382.5	438.9	511.7	595.9
127.5°	264.2	266.9	273.0	283.7	300.7	325.7	357.4	395.4	444.4	507.3	581.2
130°	272.9	276.2	283.0	295.8	312.0	337.6	368.3	403.3	448.6	505.0	572.0
132.5°	281.8	284.5	293.3	305.4	323.0	347.1	377.5	411.5	452.4	503.0	563.7
135°	293.9	297.4	305.9	320.6	338.6	361.3	390.3	421.9	457.7	499.6	551.0
137.5°	306.4	309.6	319.0	332.9	351.5	372.9	399.7	428.9	460.5	497.6	540.0
140°	315.4	317.9	327.3	341.8	359.7	380.4	406.2	433.9	463.1	495.9	534.1
142.5°	324.7	327.3	336.0	349.9	367.3	387.2	412.2	437.6	465.4	495.2	529.2
145°	338.2	340.7	349.2	361.1	377.4	396.2	418.6	441.8	466.7	493.4	521.4
147.5°	353.5	354.3	361.8	374.0	387.5	404.5	425.5	445.7	467.6	490.3	514.6
150°	363.2	363.9	370.7	380.9	393.7	410.0	429.0	447.8	467.6	488.2	509.7
152.5°	371.8	371.9	378.8	388.4	399.8	414.8	431.7	449.2	466.2	484.7	504.2
155°	384.2	385.0	390.2	398.8	408.3	421.2	435.8	450.4	464.2	479.7	495.9
157.5°	396.4	396.4	401.2	407.9	416.2	426.4	438.7	450.4	461.9	474.3	487.5
160°	404.0	404.0	407.4	413.5	420.3	429.8	440.1	450.4	459.9	470.2	481.4
162.5°	410.9	410.2	412.9	418.3	424.5	431.9	441.4	450.4	457.8	466.1	475.9
165°	418.6	418.6	420.3	424.6	429.0	434.0	441.8	448.7	453.8	459.9	466.7
167.5°	426.4	425.5	426.4	429.6	432.0	435.9	441.6	446.6	449.7	453.7	458.5
170°	429.8	429.0	429.8	432.4	434.0	436.6	440.9	445.2	446.9	449.5	453.0
172.5°	433.2	432.4	432.5	434.4	435.4	437.3	440.2	443.8	444.2	445.4	448.2
175°	436.6	435.8	435.8	436.6	437.5	437.5	439.2	441.8	440.9	440.9	442.6
177.5°	438.2	437.5	436.8	437.5	437.5	437.5	438.2	439.5	438.2	438.2	438.9
180°	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	362.7	363.2	363.7	363.9	363.9	363.8	363.7	363.6
5°	361.7	362.4	363.2	363.5	363.4	363.3	363.2	363.1
7.5°	359.8	360.6	361.4	361.8	361.7	361.6	361.5	361.4
10°	357.8	358.6	359.5	359.8	359.7	359.6	359.6	359.5
12.5°	355.1	355.9	356.5	356.9	356.9	356.9	356.9	356.8
15°	350.1	350.9	351.7	352.1	352.0	351.9	351.8	351.7
17.5°	344.0	344.8	345.7	346.0	345.9	345.9	345.9	345.8
20°	339.2	340.2	341.0	341.6	341.6	341.6	341.6	341.6
22.5°	333.7	334.6	335.5	336.0	336.2	336.3	336.5	336.7
25°	325.2	326.1	327.2	327.7	327.8	327.9	328.0	328.0
27.5°	315.6	316.5	317.5	318.0	318.1	318.1	318.2	318.4
30°	308.8	309.9	310.8	311.4	311.6	311.9	312.0	312.2
32.5°	302.0	303.2	304.3	305.0	305.1	305.3	305.5	305.7
35°	291.1	292.3	293.6	294.4	294.6	294.9	295.2	295.5
37.5°	279.7	280.9	282.2	283.1	283.4	283.6	284.0	284.2
40°	271.7	273.0	274.4	275.3	275.6	276.0	276.4	276.7
42.5°	263.8	265.4	266.8	267.8	268.0	268.3	268.6	268.9
45°	251.7	253.2	254.8	255.7	256.2	256.7	257.1	257.5
47.5°	238.8	240.4	242.0	243.1	243.7	244.2	244.7	245.3
50°	229.8	231.6	233.4	234.6	235.1	235.7	236.3	236.8
52.5°	220.7	222.5	224.3	225.5	226.0	226.5	227.1	227.6
55°	207.0	208.8	210.6	211.8	212.3	212.8	213.4	214.0
57.5°	192.6	194.8	196.9	198.2	198.7	199.2	199.8	200.3
60°	182.7	184.8	186.8	188.2	189.0	189.7	190.5	191.1
62.5°	172.9	175.0	177.0	178.5	179.2	179.9	180.6	181.3
65°	157.7	160.1	162.3	163.8	164.5	165.2	166.0	166.7
67.5°	142.9	145.3	147.5	149.0	149.7	150.4	151.1	151.9
70°	132.4	134.9	137.3	138.9	139.5	140.2	140.8	141.4
72.5°	122.5	124.9	127.3	128.8	129.5	130.2	131.0	131.6
75°	107.4	109.9	112.4	114.1	114.9	115.7	116.6	117.4
77.5°	93.2	95.8	98.4	100.1	101.0	101.9	102.7	103.6
80°	84.1	86.8	89.5	91.3	92.0	92.7	93.4	94.1
82.5°	75.1	77.9	80.7	82.5	83.3	84.0	84.9	85.7
85°	62.5	65.2	67.9	69.7	70.6	71.5	72.4	73.4
87.5°	54.8	57.7	60.4	62.2	63.2	64.1	64.7	65.5
90°	61.0	64.6	68.0	69.7	71.3	72.9	72.8	73.4
92.5°	212.3	173.1	149.7	134.1	124.8	120.8	118.6	119.3
95°	677.3	546.5	433.8	352.0	310.7	284.9	270.2	259.8
97.5°	978.7	931.6	849.9	761.7	700.8	649.8	624.8	607.7
100°	1072.5	1092.1	1052.4	990.4	916.2	864.4	839.3	833.0
102.5°	1065.9	1153.6	1168.1	1143.1	1097.9	1060.7	1034.2	1029.4
105°	994.1	1145.0	1232.4	1269.2	1271.6	1265.5	1254.1	1249.7
107.5°	893.5	1054.0	1176.1	1254.2	1297.4	1317.6	1326.9	1329.7
110°	832.8	983.6	1110.3	1206.3	1268.0	1304.8	1321.0	1329.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	787.7	921.2	1040.9	1136.9	1206.9	1251.3	1273.7	1286.9
115°	741.8	849.5	952.0	1035.8	1104.4	1156.6	1184.7	1192.2
117.5°	717.7	807.1	888.1	959.3	1018.0	1062.0	1090.6	1096.7
120°	706.4	788.1	858.7	920.9	970.7	1009.2	1032.3	1042.5
122.5°	696.5	775.4	839.8	894.5	936.6	969.6	989.1	999.3
125°	680.1	755.8	816.8	865.2	900.2	925.6	942.5	948.2
127.5°	660.3	732.6	793.4	839.4	874.5	897.3	911.7	917.5
130°	645.0	714.5	774.6	821.2	857.0	879.0	893.3	899.0
132.5°	629.0	694.4	753.0	799.6	834.7	859.5	873.1	878.8
135°	606.5	663.8	717.7	761.7	796.6	821.2	835.5	841.2
137.5°	586.3	635.0	680.4	720.2	752.8	777.0	788.8	795.4
140°	574.8	616.3	656.2	693.1	723.7	743.0	755.5	762.8
142.5°	564.2	600.8	635.0	667.0	694.1	712.0	723.0	728.2
145°	549.5	579.3	605.5	630.1	651.9	666.9	675.9	680.5
147.5°	537.4	560.7	581.3	600.5	616.6	629.4	636.2	638.0
150°	530.4	550.1	567.3	582.8	596.5	607.7	612.9	613.7
152.5°	522.8	539.8	555.6	568.3	580.1	589.1	592.2	593.1
155°	511.4	525.2	538.0	548.4	557.0	563.9	566.5	566.5
157.5°	499.2	510.7	521.6	529.9	536.3	541.5	543.0	543.0
160°	491.6	501.1	510.6	517.5	522.6	527.8	528.7	528.7
162.5°	484.1	492.1	499.6	505.8	509.5	514.7	515.6	514.9
165°	473.6	478.8	484.7	489.0	492.5	495.9	495.1	494.2
167.5°	463.5	467.4	472.3	474.8	476.6	478.8	478.6	477.9
170°	457.3	459.9	463.3	465.9	467.6	468.5	467.6	467.6
172.5°	451.8	453.7	455.7	457.6	458.7	459.5	458.7	457.3
175°	444.4	445.2	446.9	446.9	446.9	448.7	446.9	445.2
177.5°	439.5	440.2	440.2	440.9	440.2	440.9	439.5	438.2
180°	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5

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