

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: P332531-830

Luminaire Tested: **S124DIP-S350D1205U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332531-830
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-S350D1205U830-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5415.6 lumens
Efficiency: N/A
Efficacy: 128.3 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

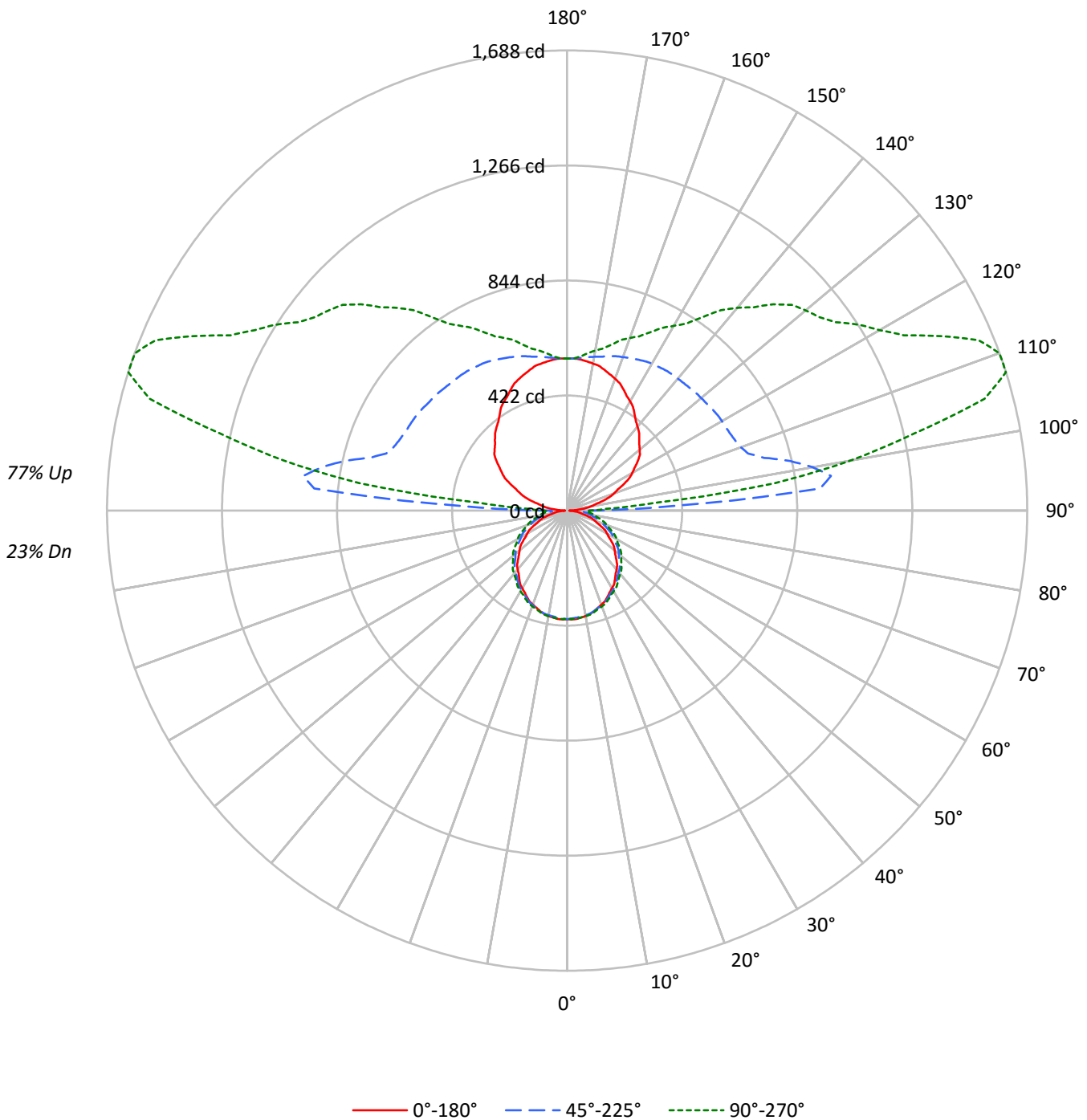
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	68	68	68	49	49	49	32	32	32	23
1	91	87	83	80	81	77	74	71	59	57	55	42	41	40	27	26	26	19
2	83	76	70	64	73	67	62	58	51	48	45	37	35	33	24	22	21	15
3	75	66	59	53	67	59	53	48	45	41	38	32	30	27	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	18	17	15	11
5	63	52	44	38	56	46	39	34	35	31	27	26	22	20	16	15	13	9
6	58	46	38	33	51	41	34	30	32	27	23	23	20	17	15	13	11	8
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	13	12	10	7
8	49	37	30	25	44	33	27	22	26	21	18	19	16	13	12	10	9	6
9	46	34	27	22	40	30	24	20	24	19	16	17	14	12	11	9	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	10	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3216	3216	3216
5°	3227	3143	3152
10°	3207	3092	3090
15°	3177	3032	3016
20°	3134	2967	2944
25°	3086	2893	2865
30°	3032	2819	2784
35°	2972	2744	2713
40°	2925	2674	2639
45°	2853	2607	2575
50°	2794	2532	2508
55°	2732	2460	2429
60°	2635	2369	2357
65°	2529	2272	2269
70°	2400	2161	2166
75°	2220	2037	2074
80°	2021	1919	1981
85°	1773	1815	1928



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	0.7
10°-20°	108.1	2.0
20°-30°	163.4	3.0
30°-40°	197.8	3.7
40°-50°	209.1	3.9
50°-60°	196.8	3.6
60°-70°	163.2	3.0
70°-80°	114.7	2.1
80°-90°	67.9	1.3
90°-100°	441.1	8.1
100°-110°	866.5	16.0
110°-120°	769.7	14.2
120°-130°	642.2	11.9
130°-140°	531.1	9.8
140°-150°	403.1	7.4
150°-160°	282.7	5.2
160°-170°	166.3	3.1
170°-180°	54.1	1.0
0°-30°	309.3	5.7
0°-40°	507.0	9.4
0°-60°	912.9	16.9
0°-90°	1258.7	23.2
90°-120°	2077.4	38.4
90°-150°	3653.8	67.5
90°-180°	4157.0	76.8
0°-180°	5415.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	399	397	394	398	398	38
15°	382	383	381	385	385	108
25°	350	352	354	358	359	161
35°	306	311	316	322	324	192
45°	255	264	272	279	282	197
55°	200	210	223	231	234	178
65°	138	153	168	178	182	137
75°	77	93	112	124	128	82
85°	24	42	62	75	80	25
90°	8	34	64	78	84	7
95°	42	135	931	492	322	45
105°	132	199	748	1587	1585	141
115°	228	290	662	1262	1514	227
125°	316	375	650	1068	1204	281
135°	374	446	636	941	1070	289
145°	431	493	629	787	866	270
155°	490	528	611	692	722	226
165°	533	550	586	620	630	151
175°	556	558	562	570	567	53
180°	558	558	558	558	558	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	399.8	399.5	399.4	399.1	398.9	398.4	397.8	397.2	396.5	395.9	396.4
5°	398.9	398.5	398.2	397.9	397.7	397.2	396.4	395.8	395.1	394.4	395.2
7.5°	395.5	395.3	395.1	394.9	394.7	394.4	393.8	393.2	392.7	392.1	392.9
10°	392.6	392.5	392.4	392.3	392.2	391.9	391.4	390.9	390.4	389.9	390.8
12.5°	388.7	388.6	388.6	388.6	388.6	388.4	388.0	387.8	387.4	387.1	387.9
15°	382.3	382.5	382.6	382.7	382.8	382.7	382.3	382.0	381.7	381.4	382.3
17.5°	373.7	374.0	374.3	374.6	374.8	375.0	374.9	374.8	374.8	374.8	375.7
20°	367.6	367.9	368.3	368.5	368.8	369.0	369.1	369.2	369.3	369.4	370.4
22.5°	360.8	361.2	361.6	361.9	362.3	362.6	362.8	363.0	363.2	363.4	364.3
25°	349.8	350.3	351.0	351.6	352.1	352.6	352.9	353.2	353.5	353.8	354.9
27.5°	337.4	338.4	339.2	340.1	340.9	341.6	342.0	342.5	343.0	343.5	344.4
30°	329.2	330.1	330.8	331.6	332.4	333.2	333.8	334.5	335.3	335.9	337.1
32.5°	320.4	321.3	322.3	323.2	324.1	325.0	325.7	326.5	327.3	328.1	329.3
35°	306.0	307.3	308.4	309.6	310.9	311.9	312.9	313.9	314.9	315.8	317.3
37.5°	291.7	293.0	294.5	295.8	297.2	298.4	299.7	301.0	302.2	303.4	304.8
40°	282.4	283.7	285.0	286.3	287.6	288.9	290.3	291.7	293.0	294.5	296.0
42.5°	271.7	273.1	274.6	276.1	277.5	279.0	280.7	282.3	283.9	285.5	287.2
45°	255.1	257.0	258.9	260.8	262.7	264.6	266.5	268.3	270.2	272.1	273.8
47.5°	239.4	241.4	243.3	245.2	247.1	249.2	251.4	253.6	255.8	258.0	259.7
50°	228.0	230.2	232.3	234.5	236.7	238.8	241.1	243.3	245.4	247.6	249.6
52.5°	216.6	218.8	220.9	223.1	225.3	227.6	230.1	232.6	235.1	237.6	239.6
55°	199.9	202.0	204.1	206.1	208.2	210.8	213.7	216.7	219.6	222.6	224.6
57.5°	181.3	183.8	186.3	189.0	191.5	194.3	197.3	200.2	203.1	206.1	208.5
60°	169.1	171.6	174.3	176.8	179.4	182.3	185.6	188.9	192.1	195.4	197.7
62.5°	157.3	160.1	163.0	165.8	168.5	171.6	174.8	178.1	181.4	184.7	187.0
65°	138.3	141.5	144.7	147.8	151.0	154.3	157.6	161.0	164.4	167.8	170.2
67.5°	120.0	123.4	126.8	130.2	133.5	137.0	140.6	144.2	147.8	151.4	153.9
70°	107.5	110.8	114.2	117.6	121.0	124.6	128.4	132.1	135.9	139.7	142.3
72.5°	95.4	98.9	102.3	105.8	109.1	112.9	116.9	120.9	124.9	128.9	131.5
75°	76.7	80.4	84.1	87.8	91.4	95.3	99.5	103.7	107.8	112.0	114.8
77.5°	59.4	63.2	67.1	71.0	74.8	79.0	83.3	87.8	92.1	96.4	99.2
80°	48.6	52.6	56.6	60.5	64.5	68.6	73.0	77.4	81.7	86.1	89.1
82.5°	37.9	42.0	46.2	50.3	54.4	58.6	63.1	67.4	71.7	76.2	79.2
85°	23.7	27.8	32.0	36.1	40.3	44.6	49.1	53.5	58.0	62.5	65.4
87.5°	13.4	17.9	22.6	26.9	31.1	35.3	41.0	45.3	50.1	54.9	57.6
90°	8.2	14.4	21.7	26.7	31.8	35.9	46.8	51.0	57.4	63.9	65.7
92.5°	19.2	28.6	42.4	59.3	78.9	105.6	165.5	254.8	341.8	389.5	334.2
95°	41.9	48.5	62.7	80.2	109.8	159.5	258.8	442.5	708.3	931.4	959.3
97.5°	70.1	73.0	85.1	101.1	126.5	168.4	245.9	398.2	662.4	976.2	1191.8
100°	88.1	90.8	100.9	116.7	140.1	178.3	246.9	374.5	601.7	914.5	1197.5
102.5°	105.7	109.7	118.8	133.3	155.4	191.8	254.0	366.7	560.6	838.2	1129.9
105°	132.1	137.4	144.9	160.0	181.7	216.3	272.5	367.1	524.1	747.9	1007.8
107.5°	162.3	166.1	173.2	188.9	209.3	243.2	294.8	381.2	515.6	696.3	908.8
110°	182.1	185.7	192.6	207.1	228.2	260.1	311.8	392.0	515.9	678.2	859.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	201.0	204.4	212.0	225.6	246.5	278.3	328.0	403.6	519.5	668.5	830.0
115°	228.3	232.4	241.0	252.9	274.6	306.1	353.2	422.1	527.1	661.7	801.8
117.5°	257.1	260.7	268.1	280.6	300.7	333.1	377.7	441.0	535.4	657.9	787.7
120°	276.1	278.5	286.5	298.9	317.7	350.0	394.5	454.3	541.5	656.1	779.7
122.5°	293.6	295.8	303.5	314.8	335.2	366.4	410.8	466.8	547.8	653.5	770.9
125°	316.1	320.4	326.9	338.8	359.5	391.3	433.3	486.2	557.6	649.9	757.0
127.5°	336.4	339.8	347.6	361.3	382.9	414.6	454.7	502.8	565.0	644.8	738.6
130°	347.4	351.8	360.3	376.7	397.4	429.9	468.7	513.0	570.5	642.2	727.2
132.5°	358.8	362.2	373.5	389.0	411.4	442.1	480.5	523.7	575.5	639.9	716.9
135°	374.4	378.7	389.7	408.3	431.3	460.1	497.0	537.1	582.7	635.9	701.1
137.5°	390.4	394.5	406.3	424.0	447.8	475.0	509.2	546.3	586.4	633.7	687.5
140°	401.7	404.9	416.9	435.4	458.3	484.6	517.6	552.7	590.0	631.8	680.1
142.5°	413.7	416.9	428.1	445.8	467.9	493.2	525.2	557.5	593.0	631.0	674.0
145°	430.8	434.0	444.9	460.1	480.9	504.9	533.4	563.0	594.7	628.7	664.3
147.5°	450.3	451.4	460.9	476.5	493.8	515.4	542.2	568.0	595.8	624.7	655.7
150°	462.6	463.6	472.3	485.3	501.6	522.5	546.5	570.6	595.8	622.1	649.5
152.5°	473.6	473.9	482.6	494.8	509.5	528.6	550.1	572.4	594.1	617.7	642.4
155°	489.6	490.7	497.2	508.2	520.3	536.7	555.3	573.9	591.4	611.1	632.0
157.5°	505.1	505.1	511.2	519.8	530.3	543.3	559.0	573.9	588.6	604.4	621.2
160°	514.7	514.7	519.2	526.8	535.6	547.6	560.7	573.9	586.0	599.1	613.3
162.5°	523.5	522.6	526.1	532.9	540.8	550.3	562.5	573.9	583.3	593.8	606.3
165°	533.4	533.4	535.6	541.0	546.5	553.1	563.0	571.7	578.2	586.0	594.7
167.5°	543.3	542.2	543.3	547.4	550.4	555.5	562.7	569.1	573.1	578.1	584.2
170°	547.6	546.5	547.6	550.9	553.1	556.4	561.8	567.3	569.5	572.8	577.2
172.5°	552.0	550.9	551.1	553.6	554.9	557.2	561.0	565.6	566.0	567.5	571.1
175°	556.4	555.3	555.3	556.4	557.5	557.5	559.7	563.0	561.8	561.8	564.0
177.5°	558.4	557.5	556.6	557.5	557.5	557.5	558.4	560.1	558.4	558.4	559.2
180°	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	397.0	397.6	398.1	398.3	398.3	398.2	398.1	398.0
5°	396.0	396.7	397.6	397.9	397.8	397.7	397.6	397.5
7.5°	393.9	394.7	395.7	396.1	396.0	395.9	395.8	395.7
10°	391.7	392.6	393.5	393.9	393.8	393.7	393.6	393.5
12.5°	388.7	389.6	390.3	390.7	390.7	390.7	390.7	390.6
15°	383.2	384.1	385.0	385.4	385.3	385.2	385.1	385.0
17.5°	376.5	377.5	378.4	378.8	378.7	378.6	378.6	378.5
20°	371.4	372.4	373.3	373.9	373.9	373.9	373.9	373.9
22.5°	365.3	366.3	367.3	367.9	368.1	368.2	368.3	368.5
25°	356.0	357.0	358.2	358.7	358.8	358.9	359.0	359.1
27.5°	345.4	346.5	347.5	348.1	348.2	348.3	348.4	348.6
30°	338.1	339.2	340.3	340.9	341.1	341.4	341.6	341.8
32.5°	330.5	331.9	333.1	333.8	334.0	334.2	334.4	334.6
35°	318.7	320.0	321.4	322.3	322.5	322.8	323.2	323.5
37.5°	306.2	307.6	309.0	309.9	310.2	310.5	310.9	311.1
40°	297.5	298.9	300.4	301.3	301.7	302.2	302.6	302.9
42.5°	288.8	290.5	292.1	293.1	293.4	293.7	294.1	294.4
45°	275.5	277.2	278.9	279.9	280.5	281.0	281.4	281.9
47.5°	261.5	263.2	264.9	266.1	266.7	267.3	267.9	268.5
50°	251.6	253.5	255.5	256.8	257.4	258.0	258.6	259.2
52.5°	241.6	243.6	245.5	246.9	247.4	248.0	248.6	249.2
55°	226.6	228.6	230.5	231.9	232.4	233.0	233.7	234.2
57.5°	210.8	213.2	215.6	217.0	217.5	218.1	218.7	219.2
60°	200.0	202.3	204.5	206.0	206.9	207.6	208.5	209.2
62.5°	189.3	191.5	193.8	195.4	196.1	196.9	197.7	198.5
65°	172.7	175.2	177.7	179.3	180.1	180.9	181.7	182.5
67.5°	156.5	159.0	161.5	163.2	163.9	164.7	165.4	166.3
70°	145.0	147.7	150.3	152.0	152.7	153.4	154.1	154.8
72.5°	134.1	136.8	139.3	141.0	141.8	142.5	143.4	144.1
75°	117.5	120.3	123.1	124.9	125.8	126.7	127.6	128.5
77.5°	102.1	104.9	107.7	109.6	110.6	111.5	112.4	113.4
80°	92.1	95.0	98.0	99.9	100.7	101.5	102.3	103.0
82.5°	82.2	85.3	88.3	90.3	91.1	92.0	92.9	93.8
85°	68.4	71.4	74.4	76.3	77.3	78.3	79.3	80.3
87.5°	60.6	63.7	66.8	68.7	69.7	70.9	71.5	72.4
90°	69.7	73.6	77.6	79.4	81.3	83.2	82.8	83.7
92.5°	262.7	212.3	182.0	161.9	149.8	144.7	141.8	142.5
95°	855.7	688.6	544.6	440.1	387.4	354.3	335.5	322.1
97.5°	1240.3	1179.8	1075.3	962.7	884.9	819.8	787.8	765.9
100°	1360.1	1384.7	1333.7	1254.3	1159.7	1093.6	1061.5	1053.4
102.5°	1352.1	1463.3	1481.4	1449.3	1391.7	1344.1	1310.2	1304.0
105°	1261.0	1453.0	1564.0	1610.4	1613.4	1605.5	1590.9	1585.2
107.5°	1133.3	1337.5	1492.6	1591.9	1646.7	1672.4	1684.0	1687.6
110°	1056.2	1248.0	1409.1	1531.1	1609.7	1656.4	1677.0	1687.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	999.1	1168.8	1321.1	1443.0	1532.1	1588.6	1616.9	1633.7
115°	940.9	1077.8	1208.2	1314.8	1401.9	1468.4	1504.1	1513.5
117.5°	910.9	1024.4	1127.3	1217.9	1292.4	1348.4	1384.7	1392.3
120°	896.6	1000.5	1090.1	1169.2	1232.5	1281.5	1310.7	1323.6
122.5°	884.4	984.7	1066.4	1135.9	1189.4	1231.2	1256.1	1268.9
125°	863.9	960.1	1037.5	1099.0	1143.4	1175.7	1197.1	1204.3
127.5°	839.1	931.0	1008.1	1066.6	1111.3	1140.2	1158.4	1165.6
130°	819.9	908.2	984.5	1043.7	1089.2	1117.2	1135.3	1142.5
132.5°	799.9	882.9	957.3	1016.5	1061.1	1092.6	1109.8	1117.0
135°	771.7	844.4	912.9	968.7	1013.0	1044.3	1062.4	1069.6
137.5°	746.3	808.0	865.7	916.2	957.7	988.4	1003.3	1011.7
140°	731.8	784.6	835.2	882.0	920.9	945.5	961.3	970.5
142.5°	718.5	765.0	808.4	849.0	883.4	906.2	920.1	926.7
145°	699.9	737.8	771.2	802.4	830.2	849.2	860.5	866.4
147.5°	684.7	714.4	740.6	765.0	785.4	801.7	810.4	812.7
150°	675.8	701.0	722.8	742.5	760.1	774.3	780.9	782.0
152.5°	666.1	687.8	707.9	724.2	739.0	750.6	754.6	755.7
155°	651.7	669.2	685.6	698.8	709.7	718.5	721.8	721.8
157.5°	636.1	650.8	664.6	675.1	683.4	690.0	692.0	692.0
160°	626.5	638.5	650.5	659.3	665.9	672.5	673.5	673.5
162.5°	616.8	627.2	636.6	644.4	649.2	655.8	657.0	656.0
165°	603.5	610.0	617.7	623.2	627.5	632.0	630.8	629.8
167.5°	590.6	595.6	601.7	605.0	607.2	610.0	609.8	609.0
170°	582.7	586.0	590.3	593.6	595.8	596.9	595.8	595.8
172.5°	575.6	578.1	580.7	583.1	584.4	585.5	584.4	582.7
175°	566.3	567.3	569.5	569.5	569.5	571.7	569.5	567.3
177.5°	560.1	561.0	561.0	561.8	561.0	561.8	560.1	558.4
180°	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5

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