

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: P332531-840

Luminaire Tested: **S124DIP-S350D1205U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332531-840
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-S350D1205U840-4F0-1E-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: 5802.4 lumens
Efficiency: N/A
Efficacy: 137.5 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

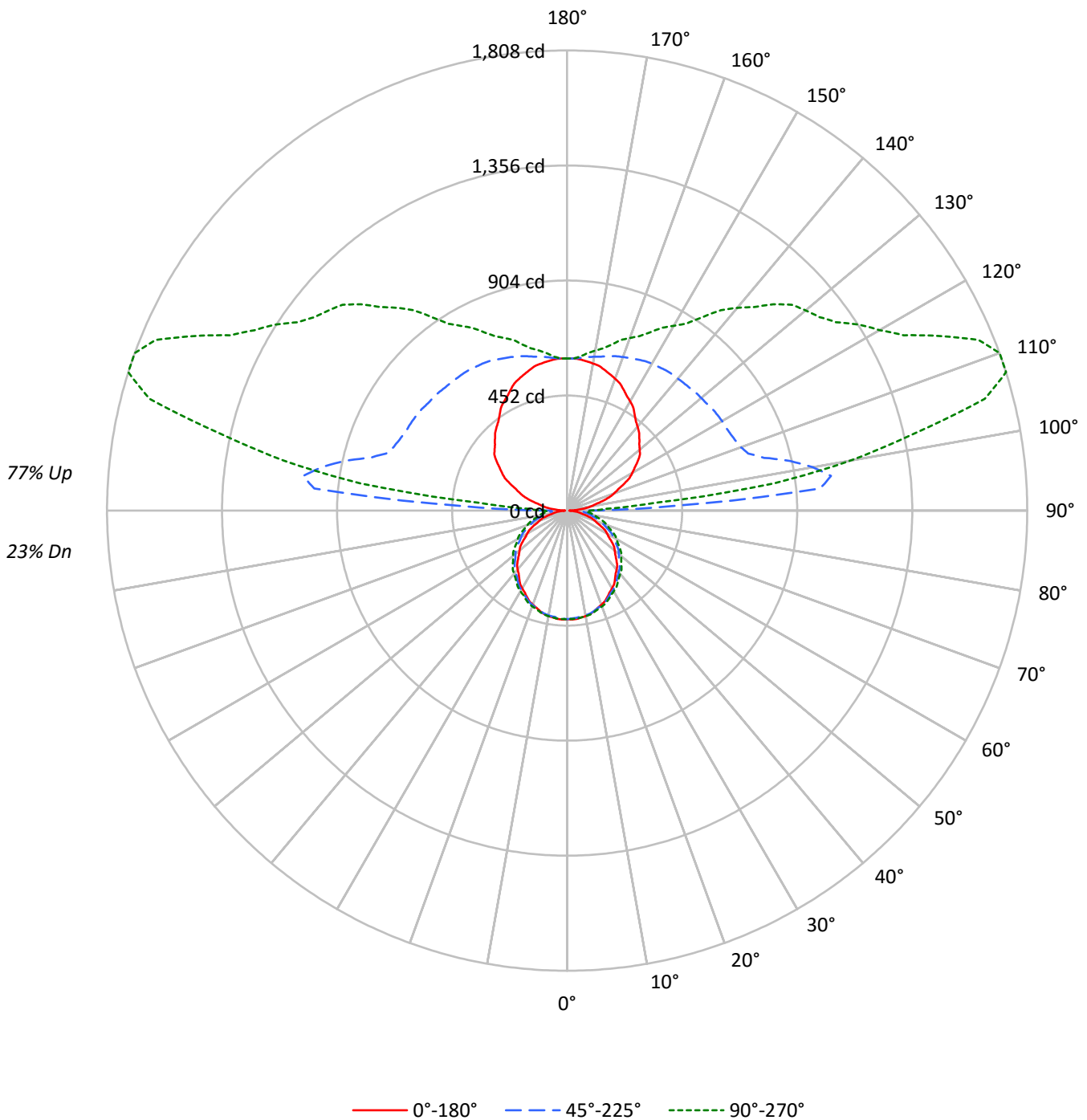
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3446	3446	3446
5°	3457	3367	3378
10°	3435	3313	3310
15°	3404	3249	3231
20°	3358	3179	3155
25°	3306	3100	3070
30°	3249	3021	2983
35°	3185	2941	2907
40°	3134	2865	2828
45°	3058	2793	2759
50°	2994	2713	2687
55°	2928	2636	2603
60°	2824	2538	2526
65°	2708	2435	2431
70°	2572	2315	2320
75°	2379	2183	2220
80°	2166	2057	2123
85°	1893	1946	2065



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	0.7
10°-20°	115.8	2.0
20°-30°	175.1	3.0
30°-40°	211.9	3.7
40°-50°	224.0	3.9
50°-60°	210.8	3.6
60°-70°	174.9	3.0
70°-80°	122.9	2.1
80°-90°	72.7	1.3
90°-100°	472.7	8.1
100°-110°	928.4	16.0
110°-120°	824.7	14.2
120°-130°	688.1	11.9
130°-140°	569.0	9.8
140°-150°	431.9	7.4
150°-160°	302.9	5.2
160°-170°	178.2	3.1
170°-180°	58.0	1.0
0°-30°	331.4	5.7
0°-40°	543.2	9.4
0°-60°	978.1	16.9
0°-90°	1348.6	23.2
90°-120°	2225.8	38.4
90°-150°	3914.8	67.5
90°-180°	4454.0	76.8
0°-180°	5802.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	427	426	422	426	426	41
15°	410	410	409	413	412	115
25°	375	378	379	384	385	173
35°	328	334	338	345	347	205
45°	273	282	292	299	302	211
55°	214	224	238	248	251	191
65°	148	164	180	191	196	147
75°	82	100	120	133	138	87
85°	25	46	67	81	86	27
90°	9	36	68	84	90	7
95°	45	144	998	528	345	48
105°	142	213	801	1701	1698	151
115°	245	311	709	1352	1622	243
125°	339	402	696	1145	1290	302
135°	401	478	681	1008	1146	310
145°	462	528	674	843	928	290
155°	524	566	655	742	773	242
165°	572	589	628	665	675	161
175°	596	597	602	610	608	57
180°	597	597	597	597	597	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	428.4	428.1	427.9	427.6	427.4	426.9	426.3	425.6	424.9	424.1	424.7
5°	427.4	427.0	426.7	426.4	426.1	425.6	424.7	424.0	423.3	422.5	423.4
7.5°	423.7	423.5	423.3	423.1	422.9	422.5	421.9	421.3	420.7	420.1	421.0
10°	420.6	420.5	420.4	420.3	420.2	419.9	419.4	418.8	418.3	417.8	418.7
12.5°	416.5	416.4	416.4	416.4	416.4	416.2	415.8	415.5	415.1	414.8	415.6
15°	409.6	409.8	409.9	410.0	410.1	410.0	409.6	409.3	409.0	408.7	409.6
17.5°	400.4	400.7	401.0	401.3	401.6	401.8	401.7	401.6	401.6	401.5	402.5
20°	393.8	394.2	394.6	394.9	395.2	395.4	395.5	395.6	395.7	395.8	396.9
22.5°	386.6	387.0	387.4	387.8	388.2	388.5	388.7	388.9	389.1	389.3	390.3
25°	374.8	375.4	376.1	376.7	377.3	377.8	378.1	378.4	378.7	379.1	380.2
27.5°	361.5	362.5	363.5	364.4	365.3	366.0	366.5	367.0	367.5	368.0	369.0
30°	352.7	353.7	354.5	355.3	356.2	357.0	357.7	358.4	359.2	359.9	361.1
32.5°	343.3	344.3	345.3	346.3	347.3	348.2	349.0	349.8	350.7	351.5	352.8
35°	327.9	329.2	330.4	331.7	333.1	334.2	335.3	336.3	337.4	338.4	339.9
37.5°	312.6	314.0	315.5	316.9	318.4	319.7	321.1	322.4	323.8	325.1	326.6
40°	302.6	304.0	305.4	306.7	308.1	309.5	311.0	312.6	314.0	315.5	317.1
42.5°	291.1	292.7	294.2	295.8	297.3	298.9	300.7	302.5	304.2	305.9	307.7
45°	273.4	275.4	277.4	279.4	281.4	283.5	285.5	287.5	289.5	291.5	293.4
47.5°	256.5	258.6	260.6	262.8	264.8	267.0	269.3	271.8	274.1	276.4	278.2
50°	244.3	246.6	248.9	251.3	253.6	255.9	258.3	260.6	263.0	265.3	267.4
52.5°	232.1	234.4	236.7	239.0	241.4	243.9	246.5	249.2	251.9	254.6	256.7
55°	214.2	216.4	218.6	220.9	223.1	225.8	228.9	232.2	235.3	238.5	240.7
57.5°	194.2	196.9	199.7	202.5	205.2	208.1	211.4	214.5	217.6	220.9	223.4
60°	181.2	183.9	186.7	189.5	192.2	195.3	198.8	202.4	205.8	209.3	211.8
62.5°	168.5	171.6	174.6	177.6	180.6	183.9	187.3	190.9	194.4	197.9	200.4
65°	148.1	151.6	155.0	158.3	161.8	165.3	168.8	172.5	176.1	179.8	182.4
67.5°	128.6	132.2	135.8	139.5	143.0	146.7	150.7	154.5	158.3	162.2	164.9
70°	115.2	118.8	122.4	126.0	129.7	133.5	137.5	141.6	145.6	149.7	152.5
72.5°	102.2	105.9	109.6	113.3	116.9	121.0	125.2	129.6	133.8	138.1	140.9
75°	82.2	86.1	90.1	94.0	98.0	102.1	106.6	111.1	115.5	120.0	123.0
77.5°	63.6	67.8	71.9	76.0	80.2	84.6	89.3	94.0	98.7	103.3	106.3
80°	52.1	56.4	60.6	64.8	69.1	73.5	78.3	82.9	87.6	92.3	95.4
82.5°	40.6	45.0	49.5	53.9	58.3	62.8	67.6	72.2	76.9	81.6	84.8
85°	25.3	29.8	34.2	38.7	43.2	47.8	52.6	57.4	62.1	67.0	70.1
87.5°	14.3	19.2	24.2	28.8	33.3	37.9	43.9	48.6	53.7	58.8	61.7
90°	8.8	15.5	23.2	28.6	34.0	38.5	50.1	54.6	61.5	68.5	70.4
92.5°	20.6	30.6	45.4	63.5	84.5	113.1	177.3	273.0	366.2	417.3	358.1
95°	44.9	52.0	67.2	85.9	117.6	170.9	277.3	474.1	758.9	997.9	1027.8
97.5°	75.1	78.2	91.2	108.4	135.5	180.5	263.5	426.7	709.7	1045.9	1276.9
100°	94.4	97.3	108.2	125.0	150.1	191.1	264.5	401.2	644.7	979.8	1283.0
102.5°	113.2	117.5	127.2	142.8	166.5	205.5	272.2	392.9	600.7	898.1	1210.6
105°	141.6	147.2	155.2	171.5	194.7	231.8	292.0	393.3	561.6	801.3	1079.7
107.5°	173.9	177.9	185.6	202.4	224.3	260.5	315.9	408.4	552.4	746.0	973.7
110°	195.1	198.9	206.3	221.9	244.5	278.7	334.1	420.0	552.8	726.6	920.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	215.4	219.0	227.1	241.7	264.1	298.2	351.4	432.4	556.6	716.3	889.3
115°	244.6	249.0	258.2	270.9	294.2	328.0	378.4	452.2	564.7	708.9	859.1
117.5°	275.5	279.3	287.2	300.6	322.1	356.9	404.7	472.5	573.6	704.9	843.9
120°	295.8	298.4	307.0	320.2	340.4	375.0	422.6	486.8	580.2	703.0	835.4
122.5°	314.6	316.9	325.2	337.3	359.1	392.5	440.1	500.2	586.9	700.1	826.0
125°	338.7	343.3	350.2	363.0	385.2	419.3	464.2	520.9	597.4	696.3	811.0
127.5°	360.4	364.1	372.4	387.1	410.2	444.2	487.2	538.8	605.3	690.8	791.3
130°	372.2	376.9	386.1	403.6	425.8	460.6	502.2	549.7	611.3	688.0	779.1
132.5°	384.5	388.1	400.2	416.8	440.8	473.6	514.8	561.1	616.6	685.6	768.1
135°	401.1	405.8	417.6	437.5	462.1	493.0	532.5	575.4	624.3	681.4	751.1
137.5°	418.3	422.6	435.4	454.3	479.8	509.0	545.5	585.3	628.3	678.9	736.6
140°	430.4	433.8	446.7	466.5	491.0	519.2	554.5	592.2	632.2	676.9	728.7
142.5°	443.2	446.7	458.7	477.7	501.3	528.5	562.7	597.3	635.3	676.1	722.2
145°	461.6	465.0	476.7	493.0	515.2	541.0	571.5	603.2	637.2	673.6	711.8
147.5°	482.5	483.6	493.8	510.6	529.1	552.2	580.9	608.5	638.3	669.3	702.6
150°	495.6	496.8	506.0	520.0	537.5	559.8	585.5	611.4	638.3	666.5	695.9
152.5°	507.5	507.8	517.1	530.2	545.9	566.3	589.4	613.3	636.5	661.9	688.3
155°	524.5	525.7	532.7	544.5	557.4	575.0	594.9	614.9	633.7	654.8	677.1
157.5°	541.2	541.2	547.8	556.9	568.2	582.1	599.0	614.9	630.7	647.5	665.6
160°	551.5	551.5	556.2	564.4	573.8	586.7	600.8	614.9	627.8	641.9	657.1
162.5°	560.9	560.0	563.7	571.0	579.5	589.6	602.7	614.9	625.0	636.2	649.6
165°	571.5	571.5	573.8	579.7	585.5	592.6	603.2	612.6	619.6	627.8	637.2
167.5°	582.1	580.9	582.1	586.5	589.8	595.2	602.9	609.8	614.0	619.4	625.9
170°	586.7	585.5	586.7	590.3	592.6	596.1	602.0	607.8	610.2	613.7	618.4
172.5°	591.4	590.3	590.5	593.1	594.5	597.0	601.1	606.0	606.4	608.0	611.9
175°	596.1	594.9	594.9	596.1	597.3	597.3	599.7	603.2	602.0	602.0	604.3
177.5°	598.2	597.3	596.3	597.3	597.3	597.3	598.2	600.1	598.2	598.2	599.2
180°	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	425.4	426.0	426.6	426.8	426.8	426.7	426.6	426.5
5°	424.2	425.1	426.0	426.4	426.3	426.1	426.0	425.9
7.5°	422.0	422.9	423.9	424.3	424.2	424.1	424.0	423.9
10°	419.7	420.6	421.6	422.0	421.9	421.8	421.7	421.6
12.5°	416.5	417.4	418.2	418.6	418.6	418.6	418.6	418.5
15°	410.6	411.5	412.5	412.9	412.8	412.7	412.6	412.5
17.5°	403.4	404.5	405.5	405.9	405.8	405.7	405.7	405.6
20°	397.9	399.0	400.0	400.6	400.6	400.6	400.6	400.6
22.5°	391.4	392.4	393.5	394.2	394.4	394.5	394.7	394.9
25°	381.4	382.5	383.7	384.4	384.5	384.6	384.7	384.8
27.5°	370.1	371.2	372.3	372.9	373.0	373.1	373.2	373.4
30°	362.2	363.5	364.6	365.3	365.5	365.8	366.0	366.2
32.5°	354.2	355.6	356.9	357.7	357.9	358.1	358.3	358.5
35°	341.4	342.8	344.4	345.3	345.6	345.9	346.3	346.6
37.5°	328.1	329.5	331.0	332.0	332.3	332.6	333.1	333.4
40°	318.7	320.2	321.8	322.9	323.3	323.8	324.2	324.6
42.5°	309.4	311.2	313.0	314.1	314.4	314.7	315.1	315.4
45°	295.2	297.0	298.8	299.9	300.5	301.0	301.5	302.1
47.5°	280.1	282.0	283.9	285.1	285.8	286.4	287.0	287.7
50°	269.5	271.7	273.8	275.2	275.8	276.4	277.1	277.7
52.5°	258.8	260.9	263.1	264.5	265.1	265.7	266.4	267.0
55°	242.8	244.9	247.0	248.4	249.0	249.6	250.3	251.0
57.5°	225.9	228.4	231.0	232.5	233.1	233.7	234.3	234.9
60°	214.3	216.7	219.1	220.8	221.7	222.5	223.4	224.2
62.5°	202.8	205.2	207.6	209.3	210.2	211.0	211.9	212.7
65°	185.0	187.7	190.4	192.1	193.0	193.8	194.7	195.5
67.5°	167.6	170.4	173.0	174.8	175.6	176.4	177.2	178.1
70°	155.3	158.2	161.1	162.9	163.6	164.4	165.1	165.8
72.5°	143.7	146.5	149.3	151.1	151.9	152.7	153.6	154.4
75°	125.9	128.9	131.9	133.8	134.8	135.7	136.7	137.6
77.5°	109.4	112.4	115.4	117.4	118.5	119.5	120.5	121.5
80°	98.7	101.8	105.0	107.0	107.9	108.8	109.6	110.4
82.5°	88.1	91.4	94.6	96.7	97.7	98.6	99.6	100.5
85°	73.3	76.4	79.7	81.8	82.8	83.9	84.9	86.0
87.5°	64.9	68.3	71.6	73.6	74.7	75.9	76.6	77.6
90°	74.6	78.9	83.1	85.0	87.2	89.2	88.8	89.7
92.5°	281.4	227.4	195.0	173.5	160.5	155.0	151.9	152.7
95°	916.9	737.8	583.5	471.5	415.1	379.6	359.4	345.1
97.5°	1328.9	1264.0	1152.2	1031.5	948.1	878.4	844.0	820.6
100°	1457.2	1483.6	1429.0	1343.9	1242.5	1171.7	1137.3	1128.6
102.5°	1448.7	1567.8	1587.2	1552.9	1491.1	1440.1	1403.8	1397.1
105°	1351.1	1556.8	1675.7	1725.5	1728.7	1720.2	1704.6	1698.4
107.5°	1214.3	1433.0	1599.2	1705.6	1764.3	1791.8	1804.3	1808.2
110°	1131.7	1337.2	1509.7	1640.4	1724.6	1774.7	1796.8	1808.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1070.5	1252.3	1415.4	1546.1	1641.5	1702.0	1732.4	1750.4
115°	1008.1	1154.8	1294.4	1408.7	1502.1	1573.3	1611.5	1621.6
117.5°	975.9	1097.6	1207.8	1304.8	1384.7	1444.7	1483.6	1491.8
120°	960.7	1072.0	1168.0	1252.7	1320.5	1373.0	1404.3	1418.2
122.5°	947.6	1055.0	1142.6	1217.0	1274.3	1319.2	1345.8	1359.5
125°	925.6	1028.6	1111.6	1177.5	1225.1	1259.7	1282.6	1290.3
127.5°	899.1	997.5	1080.2	1142.8	1190.6	1221.6	1241.1	1248.9
130°	878.5	973.1	1054.8	1118.2	1167.0	1197.0	1216.4	1224.1
132.5°	857.1	945.9	1025.7	1089.1	1136.9	1170.6	1189.1	1196.8
135°	826.8	904.7	978.1	1037.8	1085.4	1118.9	1138.3	1146.0
137.5°	799.6	865.8	927.6	981.7	1026.1	1059.0	1075.0	1084.0
140°	784.1	840.6	894.8	945.0	986.6	1013.0	1030.0	1039.9
142.5°	769.8	819.6	866.2	909.7	946.4	970.9	985.8	992.9
145°	749.9	790.5	826.3	859.7	889.5	909.9	922.0	928.3
147.5°	733.6	765.4	793.6	819.6	841.5	859.0	868.3	870.7
150°	724.1	751.0	774.5	795.6	814.4	829.6	836.7	837.9
152.5°	713.7	736.9	758.5	775.9	791.8	804.3	808.5	809.7
155°	698.2	717.0	734.6	748.7	760.4	769.8	773.4	773.4
157.5°	681.6	697.3	712.1	723.4	732.3	739.3	741.4	741.4
160°	671.3	684.1	697.0	706.4	713.5	720.5	721.6	721.6
162.5°	660.9	672.0	682.1	690.4	695.6	702.7	703.9	702.9
165°	646.6	653.6	661.9	667.7	672.4	677.1	675.9	674.8
167.5°	632.8	638.1	644.7	648.2	650.6	653.6	653.4	652.5
170°	624.3	627.8	632.5	636.0	638.3	639.5	638.3	638.3
172.5°	616.7	619.4	622.2	624.7	626.1	627.3	626.1	624.3
175°	606.7	607.8	610.2	610.2	610.2	612.6	610.2	607.8
177.5°	600.1	601.1	601.1	602.0	601.1	602.0	600.1	598.2
180°	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3

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