

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

Luminaire Tested: **S124DIP-S350D1035U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332522
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-S350D1035U835-4F0-1E-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: 5139.3 lumens
Efficiency: N/A
Efficacy: 137.8 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

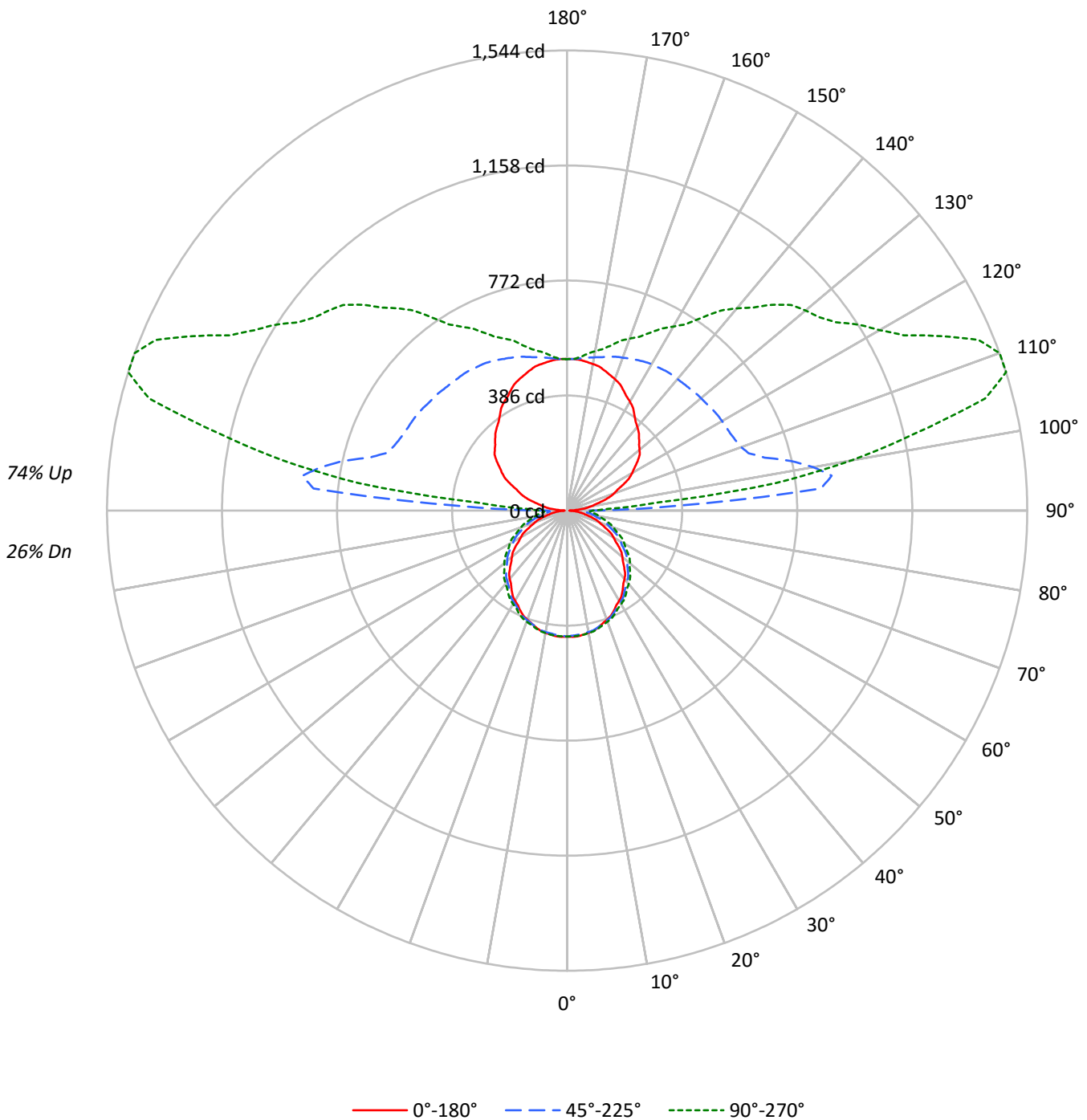
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3412	3412	3412
5°	3423	3335	3344
10°	3402	3281	3278
15°	3371	3217	3200
20°	3325	3147	3124
25°	3274	3070	3039
30°	3217	2992	2954
35°	3154	2912	2878
40°	3103	2836	2800
45°	3027	2766	2732
50°	2964	2686	2661
55°	2899	2610	2577
60°	2796	2513	2501
65°	2682	2410	2407
70°	2547	2292	2298
75°	2356	2161	2199
80°	2145	2037	2102
85°	1878	1926	2046



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.0	0.8
10°-20°	114.7	2.2
20°-30°	173.4	3.4
30°-40°	209.8	4.1
40°-50°	221.8	4.3
50°-60°	208.8	4.1
60°-70°	173.2	3.4
70°-80°	121.7	2.4
80°-90°	71.6	1.4
90°-100°	407.9	7.9
100°-110°	794.1	15.5
110°-120°	704.5	13.7
120°-130°	587.0	11.4
130°-140°	484.8	9.4
140°-150°	367.6	7.2
150°-160°	257.7	5.0
160°-170°	151.6	2.9
170°-180°	49.3	1.0
0°-30°	328.1	6.4
0°-40°	537.9	10.5
0°-60°	968.5	18.8
0°-90°	1334.9	26.0
90°-120°	1906.4	37.1
90°-150°	3345.8	65.1
90°-180°	3804.0	74.0
0°-180°	5139.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	423	422	418	422	422	40
15°	406	406	405	409	408	114
25°	371	374	375	380	381	171
35°	325	330	335	341	343	203
45°	271	280	289	296	299	209
55°	212	222	236	245	248	189
65°	147	162	178	189	194	145
75°	81	99	119	132	136	87
85°	25	45	66	80	85	27
90°	9	35	65	80	85	7
95°	39	126	855	456	302	42
105°	121	183	686	1453	1452	129
115°	208	266	606	1154	1385	207
125°	288	342	594	977	1101	257
135°	341	406	580	859	977	264
145°	393	449	573	718	790	247
155°	446	482	557	631	658	206
165°	486	501	534	566	574	137
175°	507	508	512	519	517	48
180°	508	508	508	508	508	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	424.2	423.9	423.7	423.4	423.2	422.7	422.1	421.4	420.7	420.0	420.6
5°	423.2	422.8	422.5	422.2	421.9	421.4	420.6	419.9	419.2	418.4	419.3
7.5°	419.6	419.4	419.2	419.0	418.8	418.4	417.8	417.2	416.6	416.0	416.9
10°	416.5	416.4	416.3	416.2	416.1	415.8	415.3	414.7	414.2	413.7	414.6
12.5°	412.4	412.3	412.3	412.3	412.3	412.1	411.7	411.4	411.0	410.7	411.5
15°	405.6	405.8	405.9	406.0	406.1	406.0	405.6	405.3	405.0	404.7	405.6
17.5°	396.5	396.8	397.1	397.4	397.7	397.9	397.8	397.7	397.7	397.6	398.6
20°	390.0	390.3	390.7	391.0	391.3	391.5	391.6	391.7	391.8	391.9	393.0
22.5°	382.8	383.2	383.6	384.0	384.4	384.7	384.9	385.1	385.3	385.5	386.5
25°	371.1	371.7	372.4	373.0	373.6	374.1	374.4	374.7	375.0	375.4	376.5
27.5°	358.0	359.0	359.9	360.8	361.7	362.4	362.9	363.4	363.9	364.4	365.4
30°	349.3	350.2	351.0	351.8	352.7	353.5	354.2	354.9	355.7	356.4	357.6
32.5°	339.9	340.9	341.9	342.9	343.9	344.8	345.6	346.4	347.3	348.1	349.4
35°	324.7	326.0	327.2	328.5	329.8	330.9	332.0	333.0	334.1	335.1	336.6
37.5°	309.5	310.9	312.4	313.8	315.3	316.6	318.0	319.3	320.6	321.9	323.4
40°	299.6	301.0	302.4	303.7	305.1	306.5	308.0	309.5	310.9	312.4	314.0
42.5°	288.3	289.8	291.3	292.9	294.4	296.0	297.8	299.5	301.2	302.9	304.7
45°	270.7	272.7	274.7	276.7	278.7	280.7	282.7	284.7	286.7	288.7	290.5
47.5°	254.0	256.1	258.1	260.2	262.2	264.4	266.7	269.1	271.4	273.7	275.5
50°	241.9	244.2	246.5	248.8	251.1	253.4	255.8	258.1	260.4	262.7	264.8
52.5°	229.8	232.1	234.4	236.7	239.0	241.5	244.1	246.8	249.4	252.1	254.2
55°	212.1	214.3	216.5	218.7	220.9	223.6	226.7	229.9	233.0	236.2	238.3
57.5°	192.3	195.0	197.7	200.5	203.2	206.1	209.3	212.4	215.5	218.7	221.2
60°	179.4	182.1	184.9	187.6	190.3	193.4	196.9	200.4	203.8	207.3	209.7
62.5°	166.9	169.9	172.9	175.9	178.8	182.1	185.5	189.0	192.5	196.0	198.4
65°	146.7	150.1	153.5	156.8	160.2	163.7	167.2	170.8	174.4	178.0	180.6
67.5°	127.3	130.9	134.5	138.1	141.6	145.3	149.2	153.0	156.8	160.6	163.3
70°	114.1	117.6	121.2	124.8	128.4	132.2	136.2	140.2	144.2	148.2	151.0
72.5°	101.2	104.9	108.5	112.2	115.8	119.8	124.0	128.3	132.5	136.8	139.5
75°	81.4	85.3	89.2	93.1	97.0	101.1	105.6	110.0	114.4	118.8	121.8
77.5°	63.0	67.1	71.2	75.3	79.4	83.8	88.4	93.1	97.7	102.3	105.3
80°	51.6	55.8	60.0	64.2	68.4	72.8	77.5	82.1	86.7	91.4	94.5
82.5°	40.2	44.6	49.0	53.4	57.7	62.2	66.9	71.5	76.1	80.8	84.0
85°	25.1	29.5	33.9	38.3	42.8	47.3	52.1	56.8	61.5	66.3	69.4
87.5°	14.2	18.9	23.8	28.3	32.8	37.2	43.0	47.6	52.6	57.6	60.5
90°	8.6	14.8	22.0	27.2	32.4	36.8	47.3	51.8	58.3	64.8	66.9
92.5°	18.6	27.6	40.7	56.7	75.1	100.0	155.2	237.2	317.2	361.3	311.3
95°	39.1	45.6	59.0	75.5	102.9	148.7	239.9	407.9	650.8	854.8	880.6
97.5°	64.7	67.7	79.2	94.2	117.8	156.5	227.7	367.1	608.6	895.2	1092.0
100°	81.1	83.8	93.5	108.3	130.0	165.3	228.3	345.2	553.0	838.6	1097.0
102.5°	97.1	101.0	109.6	123.2	143.8	177.3	234.7	337.9	515.2	768.8	1035.1
105°	121.1	126.2	133.3	147.3	167.4	199.4	251.2	337.9	481.6	686.1	923.4
107.5°	148.5	152.2	159.0	173.5	192.4	223.6	271.2	350.4	473.5	638.7	832.7
110°	166.5	170.0	176.4	189.9	209.3	238.9	286.5	360.0	473.5	622.0	787.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	183.7	187.0	194.1	206.6	225.9	255.2	301.1	370.5	476.6	612.9	760.4
115°	208.5	212.4	220.4	231.3	251.2	280.3	323.6	386.9	483.1	606.3	734.4
117.5°	234.8	238.1	244.9	256.4	274.8	304.6	345.6	403.9	490.3	602.4	721.0
120°	251.9	254.3	261.6	272.9	290.1	319.8	360.8	415.7	495.6	600.5	713.4
122.5°	267.9	270.0	277.0	287.3	305.9	334.5	375.4	426.9	501.1	597.8	705.2
125°	288.4	292.3	298.2	309.1	327.9	357.1	395.7	444.3	509.8	594.3	692.1
127.5°	306.9	310.0	317.1	329.5	349.2	378.3	415.1	459.2	516.1	589.2	675.0
130°	316.9	320.8	328.7	343.5	362.4	392.1	427.8	468.4	521.0	586.5	664.3
132.5°	327.3	330.4	340.6	354.7	375.2	403.1	438.4	477.9	525.4	584.2	654.7
135°	341.4	345.4	355.3	372.3	393.3	419.6	453.3	490.0	531.6	580.3	639.9
137.5°	355.9	359.6	370.5	386.6	408.2	433.1	464.2	498.1	534.8	577.9	627.2
140°	366.3	369.2	380.1	397.0	417.8	441.8	471.8	503.9	537.9	576.0	620.3
142.5°	377.1	380.1	390.3	406.4	426.6	449.7	478.8	508.3	540.5	575.2	614.6
145°	392.8	395.7	405.6	419.4	438.3	460.2	486.2	513.1	542.1	573.0	605.6
147.5°	410.6	411.5	420.2	434.4	450.1	469.8	494.2	517.7	543.1	569.4	597.7
150°	421.8	422.7	430.5	442.4	457.3	476.2	498.2	520.1	543.1	567.0	592.0
152.5°	431.8	431.9	439.9	451.1	464.4	481.8	501.4	521.7	541.5	563.0	585.6
155°	446.2	447.2	453.2	463.2	474.2	489.2	506.1	523.1	539.1	557.1	576.0
157.5°	460.4	460.4	466.0	473.8	483.4	495.2	509.5	523.1	536.5	550.9	566.2
160°	469.2	469.2	473.2	480.2	488.2	499.2	511.1	523.1	534.1	546.1	559.1
162.5°	477.2	476.4	479.6	485.8	493.0	501.6	512.7	523.1	531.7	541.3	552.7
165°	486.2	486.2	488.2	493.2	498.2	504.1	513.1	521.1	527.1	534.1	542.1
167.5°	495.2	494.2	495.2	499.0	501.8	506.3	512.9	518.7	522.3	526.9	532.5
170°	499.2	498.2	499.2	502.2	504.1	507.1	512.1	517.1	519.1	522.1	526.1
172.5°	503.1	502.2	502.3	504.5	505.7	507.9	511.3	515.5	515.9	517.3	520.5
175°	507.1	506.1	506.1	507.1	508.1	508.1	510.1	513.1	512.1	512.1	514.1
177.5°	508.9	508.1	507.3	508.1	508.1	508.1	508.9	510.5	508.9	508.9	509.7
180°	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	421.2	421.8	422.4	422.6	422.6	422.5	422.4	422.3
5°	420.1	420.9	421.8	422.2	422.1	421.9	421.8	421.7
7.5°	417.9	418.8	419.8	420.2	420.1	420.0	419.9	419.8
10°	415.6	416.5	417.5	417.9	417.8	417.7	417.6	417.5
12.5°	412.4	413.3	414.1	414.5	414.5	414.5	414.5	414.4
15°	406.6	407.5	408.5	408.9	408.8	408.7	408.6	408.5
17.5°	399.5	400.5	401.5	401.9	401.8	401.7	401.7	401.6
20°	394.0	395.1	396.1	396.7	396.7	396.7	396.7	396.7
22.5°	387.6	388.6	389.7	390.3	390.5	390.6	390.8	391.0
25°	377.7	378.8	380.0	380.6	380.7	380.8	380.9	381.0
27.5°	366.5	367.6	368.7	369.3	369.4	369.5	369.6	369.8
30°	358.7	359.9	361.0	361.7	361.9	362.2	362.4	362.6
32.5°	350.7	352.1	353.4	354.2	354.4	354.6	354.8	355.0
35°	338.1	339.5	341.0	341.9	342.2	342.5	342.9	343.2
37.5°	324.9	326.3	327.8	328.8	329.1	329.4	329.8	330.1
40°	315.6	317.1	318.7	319.7	320.1	320.6	321.0	321.4
42.5°	306.4	308.2	309.9	311.0	311.3	311.6	312.0	312.3
45°	292.3	294.1	295.9	297.0	297.6	298.1	298.6	299.1
47.5°	277.4	279.2	281.1	282.3	283.0	283.6	284.2	284.9
50°	266.9	269.0	271.1	272.5	273.1	273.7	274.4	275.0
52.5°	256.3	258.4	260.5	261.9	262.5	263.1	263.8	264.4
55°	240.4	242.5	244.6	246.0	246.6	247.2	247.9	248.5
57.5°	223.7	226.2	228.7	230.2	230.8	231.4	232.0	232.6
60°	212.2	214.6	217.0	218.6	219.5	220.3	221.2	222.0
62.5°	200.8	203.2	205.6	207.3	208.1	208.9	209.8	210.6
65°	183.2	185.9	188.5	190.2	191.1	191.9	192.8	193.6
67.5°	166.0	168.7	171.3	173.1	173.9	174.7	175.5	176.4
70°	153.8	156.7	159.5	161.3	162.0	162.8	163.5	164.2
72.5°	142.3	145.1	147.8	149.6	150.4	151.2	152.1	152.9
75°	124.7	127.6	130.6	132.5	133.5	134.4	135.4	136.3
77.5°	108.3	111.3	114.3	116.3	117.3	118.3	119.3	120.3
80°	97.7	100.8	104.0	106.0	106.8	107.7	108.5	109.3
82.5°	87.2	90.5	93.7	95.8	96.7	97.6	98.6	99.5
85°	72.6	75.7	78.9	81.0	82.0	83.1	84.1	85.2
87.5°	63.7	67.0	70.2	72.2	73.4	74.5	75.2	76.1
90°	70.9	75.0	79.0	81.0	82.8	84.7	84.5	85.3
92.5°	246.6	201.0	173.9	155.8	144.9	140.3	137.8	138.6
95°	786.6	634.7	503.8	408.8	360.9	330.9	313.8	301.8
97.5°	1136.7	1082.0	987.1	884.7	813.9	754.7	725.7	705.8
100°	1245.6	1268.4	1222.3	1150.3	1064.1	1004.0	974.8	967.5
102.5°	1238.0	1339.8	1356.7	1327.7	1275.2	1231.9	1201.2	1195.6
105°	1154.6	1329.9	1431.4	1474.1	1476.9	1469.8	1456.6	1451.5
107.5°	1037.8	1224.2	1366.0	1456.7	1506.8	1530.3	1541.1	1544.4
110°	967.2	1142.4	1289.5	1401.0	1472.7	1515.5	1534.3	1544.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	914.9	1069.9	1209.0	1320.4	1401.7	1453.3	1479.3	1494.7
115°	861.5	986.6	1105.7	1203.0	1282.7	1343.3	1376.0	1384.7
117.5°	833.6	937.4	1031.5	1114.2	1182.4	1233.5	1266.7	1273.7
120°	820.4	915.3	997.3	1069.6	1127.4	1172.1	1198.9	1210.8
122.5°	808.9	900.6	975.4	1038.9	1087.8	1126.1	1148.8	1160.6
125°	789.9	877.8	948.7	1004.9	1045.5	1075.0	1094.6	1101.3
127.5°	766.9	850.9	921.5	974.9	1015.7	1042.2	1058.9	1065.6
130°	749.1	829.8	899.6	953.8	995.3	1020.9	1037.5	1044.1
132.5°	730.6	806.5	874.6	928.7	969.5	998.3	1014.1	1020.7
135°	704.4	771.0	833.6	884.7	925.2	953.8	970.4	977.0
137.5°	681.0	737.5	790.3	836.5	874.3	902.4	916.1	923.8
140°	667.6	715.8	762.1	805.0	840.5	863.0	877.5	886.0
142.5°	655.3	697.8	737.5	774.7	806.1	826.9	839.7	845.8
145°	638.2	672.8	703.3	731.8	757.2	774.6	785.0	790.4
147.5°	624.1	651.2	675.2	697.4	716.1	731.0	738.9	741.0
150°	616.0	638.9	658.9	676.9	692.8	705.8	711.8	712.8
152.5°	607.2	626.9	645.3	660.1	673.7	684.2	687.8	688.8
155°	594.0	610.0	624.9	636.9	646.9	654.9	657.9	657.9
157.5°	579.8	593.2	605.8	615.4	622.9	628.9	630.7	630.7
160°	571.0	582.0	593.0	601.0	607.0	613.0	614.0	614.0
162.5°	562.2	571.6	580.2	587.4	591.8	597.8	598.8	598.0
165°	550.1	556.1	563.0	568.0	572.0	576.0	575.0	574.0
167.5°	538.3	542.9	548.5	551.5	553.5	556.1	555.9	555.1
170°	531.1	534.1	538.1	541.1	543.1	544.1	543.1	543.1
172.5°	524.7	526.9	529.3	531.5	532.7	533.7	532.7	531.1
175°	516.1	517.1	519.1	519.1	519.1	521.1	519.1	517.1
177.5°	510.5	511.3	511.3	512.1	511.3	512.1	510.5	508.9
180°	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1

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