

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: P332522-830

Luminaire Tested: **S124DIP-S350D1035U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332522-830
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-S350D1035U830-4F0-1E-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: 4844.0 lumens
Efficiency: N/A
Efficacy: 129.9 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

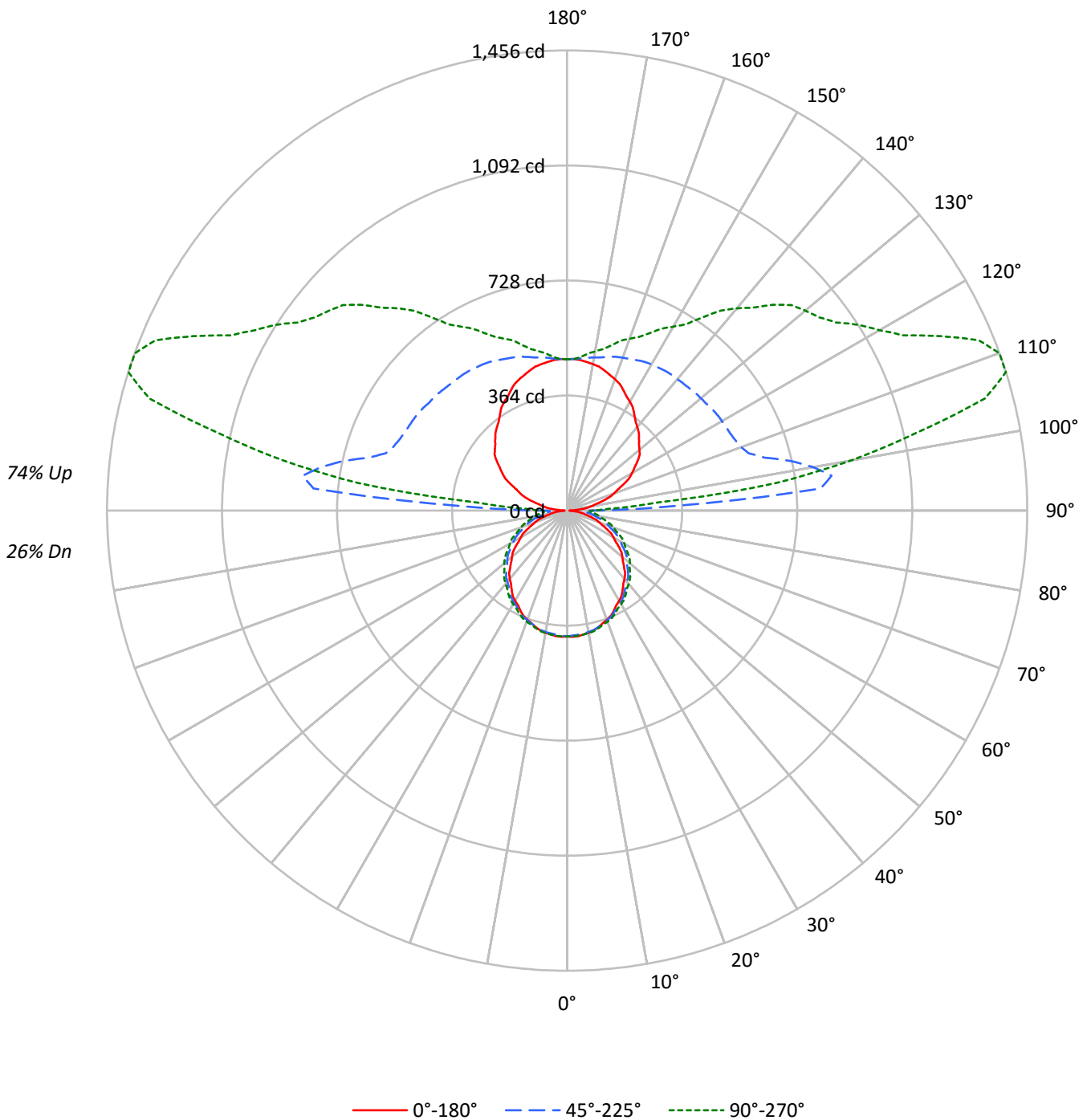
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	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	0.8
10°-20°	108.1	2.2
20°-30°	163.4	3.4
30°-40°	197.8	4.1
40°-50°	209.1	4.3
50°-60°	196.8	4.1
60°-70°	163.2	3.4
70°-80°	114.7	2.4
80°-90°	67.5	1.4
90°-100°	384.4	7.9
100°-110°	748.5	15.5
110°-120°	664.0	13.7
120°-130°	553.2	11.4
130°-140°	457.0	9.4
140°-150°	346.5	7.2
150°-160°	242.9	5.0
160°-170°	142.9	2.9
170°-180°	46.5	1.0
0°-30°	309.3	6.4
0°-40°	507.0	10.5
0°-60°	912.9	18.8
0°-90°	1258.2	26.0
90°-120°	1796.9	37.1
90°-150°	3153.6	65.1
90°-180°	3586.0	74.0
0°-180°	4844.0	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	33	61	75	80	6
95°	37	119	806	430	284	39
105°	114	173	647	1369	1368	122
115°	196	250	572	1088	1305	195
125°	272	323	560	921	1038	242
135°	322	383	547	810	921	249
145°	370	423	540	676	745	232
155°	421	454	525	595	620	194
165°	458	472	503	533	541	129
175°	478	479	483	489	487	45
180°	479	479	479	479	479	



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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	17.8	22.4	26.7	30.9	35.1	40.5	44.9	49.6	54.3	57.0
90°	8.1	13.9	20.7	25.6	30.5	34.7	44.6	48.8	55.0	61.1	63.1
92.5°	17.5	26.0	38.4	53.4	70.8	94.3	146.3	223.6	299.0	340.5	293.4
95°	36.9	43.0	55.6	71.2	97.0	140.2	226.1	384.5	613.4	805.7	830.0
97.5°	61.0	63.8	74.6	88.8	111.0	147.5	214.6	346.0	573.6	843.8	1029.3
100°	76.4	79.0	88.1	102.1	122.5	155.8	215.2	325.4	521.2	790.4	1034.0
102.5°	91.5	95.2	103.3	116.1	135.5	167.1	221.2	318.5	485.6	724.6	975.6
105°	114.1	118.9	125.6	138.8	157.8	187.9	236.8	318.5	453.9	646.7	870.3
107.5°	140.0	143.5	149.9	163.5	181.3	210.8	255.6	330.3	446.3	602.0	784.9
110°	156.9	160.2	166.3	179.0	197.3	225.2	270.0	339.3	446.3	586.3	741.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	173.1	176.3	182.9	194.7	212.9	240.5	283.8	349.2	449.2	577.7	716.7
115°	196.5	200.2	207.7	218.0	236.8	264.2	305.0	364.7	455.3	571.5	692.2
117.5°	221.3	224.4	230.8	241.7	259.0	287.1	325.7	380.7	462.1	567.8	679.6
120°	237.4	239.7	246.6	257.2	273.4	301.4	340.1	391.8	467.1	566.0	672.4
122.5°	252.5	254.5	261.1	270.8	288.3	315.3	353.8	402.4	472.3	563.5	664.7
125°	271.8	275.5	281.1	291.3	309.1	336.6	373.0	418.8	480.5	560.2	652.3
127.5°	289.3	292.2	298.9	310.6	329.1	356.6	391.2	432.8	486.4	555.3	636.2
130°	298.7	302.4	309.8	323.8	341.6	369.6	403.2	441.5	491.1	552.8	626.1
132.5°	308.5	311.4	321.0	334.3	353.6	379.9	413.2	450.4	495.2	550.6	617.1
135°	321.8	325.6	334.9	350.9	370.7	395.5	427.3	461.8	501.1	547.0	603.1
137.5°	335.5	338.9	349.2	364.4	384.7	408.2	437.5	469.5	504.1	544.7	591.2
140°	345.3	348.0	358.3	374.2	393.8	416.4	444.7	474.9	507.0	542.9	584.7
142.5°	355.4	358.3	367.9	383.0	402.1	423.9	451.3	479.1	509.4	542.2	579.3
145°	370.2	373.0	382.3	395.3	413.1	433.8	458.3	483.6	511.0	540.1	570.8
147.5°	387.0	387.9	396.1	409.4	424.2	442.8	465.8	488.0	511.9	536.7	563.4
150°	397.6	398.4	405.8	417.0	431.0	448.8	469.6	490.2	511.9	534.4	558.0
152.5°	407.0	407.1	414.6	425.2	437.7	454.1	472.6	491.7	510.4	530.7	552.0
155°	420.6	421.5	427.2	436.6	447.0	461.1	477.0	493.0	508.1	525.1	542.9
157.5°	433.9	433.9	439.2	446.6	455.6	466.7	480.2	493.0	505.7	519.2	533.7
160°	442.2	442.2	446.0	452.6	460.1	470.5	481.7	493.0	503.4	514.7	527.0
162.5°	449.8	449.0	452.0	457.9	464.7	472.8	483.2	493.0	501.1	510.2	520.9
165°	458.3	458.3	460.1	464.9	469.6	475.1	483.6	491.2	496.8	503.4	511.0
167.5°	466.7	465.8	466.7	470.3	473.0	477.2	483.4	488.9	492.3	496.6	501.9
170°	470.5	469.6	470.5	473.3	475.1	478.0	482.7	487.4	489.3	492.1	495.9
172.5°	474.2	473.3	473.4	475.5	476.6	478.7	481.9	485.9	486.3	487.6	490.6
175°	478.0	477.0	477.0	478.0	478.9	478.9	480.8	483.6	482.7	482.7	484.6
177.5°	479.7	478.9	478.2	478.9	478.9	478.9	479.7	481.2	479.7	479.7	480.4
180°	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9



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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°	60.0	63.2	66.2	68.1	69.2	70.2	70.9	71.7
90°	66.8	70.7	74.5	76.3	78.0	79.8	79.6	80.4
92.5°	232.4	189.5	163.9	146.8	136.6	132.2	129.9	130.6
95°	741.4	598.2	474.9	385.3	340.2	311.9	295.8	284.5
97.5°	1071.4	1019.8	930.4	833.9	767.1	711.3	684.0	665.2
100°	1174.0	1195.5	1152.1	1084.2	1003.0	946.3	918.8	911.9
102.5°	1166.9	1262.8	1278.7	1251.4	1201.9	1161.1	1132.2	1126.9
105°	1088.3	1253.5	1349.2	1389.4	1392.0	1385.3	1372.9	1368.1
107.5°	978.2	1153.9	1287.5	1373.0	1420.2	1442.4	1452.6	1455.7
110°	911.6	1076.8	1215.4	1320.5	1388.1	1428.4	1446.1	1455.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	862.3	1008.4	1139.5	1244.5	1321.2	1369.8	1394.3	1408.8
115°	812.0	929.9	1042.2	1133.9	1209.0	1266.1	1296.9	1305.1
117.5°	785.7	883.5	972.2	1050.2	1114.5	1162.6	1193.9	1200.5
120°	773.3	862.7	940.0	1008.1	1062.6	1104.8	1130.0	1141.2
122.5°	762.4	848.9	919.4	979.2	1025.3	1061.4	1082.8	1093.9
125°	744.5	827.4	894.2	947.2	985.4	1013.2	1031.7	1038.0
127.5°	722.8	802.0	868.6	918.9	957.3	982.3	998.1	1004.4
130°	706.1	782.1	847.9	899.0	938.1	962.2	977.9	984.1
132.5°	688.6	760.2	824.3	875.3	913.8	940.9	955.8	962.1
135°	663.9	726.7	785.7	833.9	872.0	899.0	914.6	920.9
137.5°	641.9	695.1	744.9	788.4	824.1	850.6	863.5	870.7
140°	629.2	674.7	718.3	758.7	792.2	813.4	827.1	835.1
142.5°	617.6	657.7	695.1	730.2	759.8	779.4	791.5	797.2
145°	601.5	634.1	662.9	689.8	713.7	730.1	739.9	745.0
147.5°	588.2	613.8	636.4	657.3	675.0	689.0	696.4	698.4
150°	580.6	602.2	621.0	638.0	653.0	665.2	670.9	671.8
152.5°	572.3	590.9	608.2	622.2	635.0	644.9	648.3	649.2
155°	559.9	575.0	589.0	600.3	609.7	617.3	620.1	620.1
157.5°	546.5	559.1	571.0	580.0	587.1	592.8	594.5	594.5
160°	538.2	548.6	558.9	566.5	572.1	577.8	578.7	578.7
162.5°	529.9	538.8	546.9	553.6	557.8	563.5	564.4	563.6
165°	518.5	524.1	530.7	535.4	539.1	542.9	542.0	541.0
167.5°	507.4	511.7	517.0	519.8	521.7	524.1	524.0	523.2
170°	500.6	503.4	507.2	510.0	511.9	512.8	511.9	511.9
172.5°	494.6	496.6	498.9	501.0	502.1	503.0	502.1	500.6
175°	486.4	487.4	489.3	489.3	489.3	491.2	489.3	487.4
177.5°	481.2	481.9	481.9	482.7	481.9	482.7	481.2	479.7
180°	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9

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