

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: P332263-940

Luminaire Tested: **S123RDIP-S340D1025U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332263-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S340D1025U940-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4468.8 lumens
Efficiency: N/A
Efficacy: 119.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

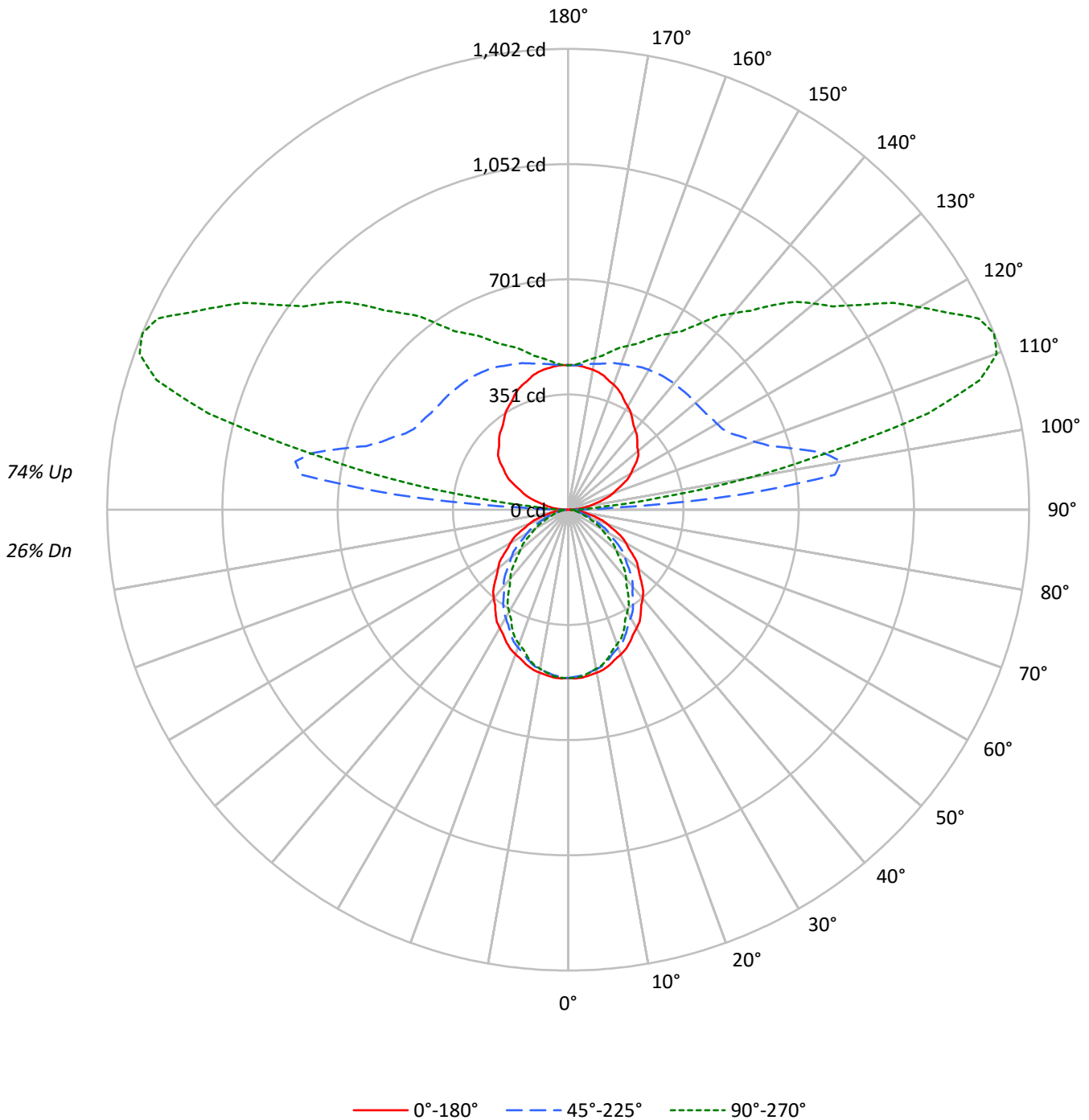
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	88	85	81	82	79	76	73	61	59	58	45	44	43	30	30	29	22
2	84	77	72	67	75	69	64	60	54	51	48	40	38	36	27	26	25	19
3	77	68	61	56	68	61	55	50	48	44	40	35	33	31	24	22	21	16
4	70	60	53	47	63	54	48	43	42	38	34	32	29	26	21	20	18	14
5	65	54	46	40	57	48	42	37	38	33	30	28	25	23	19	17	16	12
6	59	48	40	35	53	43	37	32	34	29	26	26	22	20	18	16	14	11
7	55	43	36	30	49	39	32	28	31	26	23	23	20	18	16	14	13	10
8	51	39	32	27	45	35	29	24	28	23	20	21	18	16	15	13	11	9
9	47	36	28	24	42	32	26	22	26	21	18	19	16	14	14	12	10	8
10	44	32	26	21	39	29	23	19	23	19	16	18	15	13	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5514	5514	5514
5°	5535	5459	5491
10°	5503	5391	5372
15°	5446	5264	5209
20°	5363	5108	4987
25°	5280	4930	4772
30°	5169	4724	4467
35°	5056	4520	4188
40°	4950	4279	3842
45°	4813	4042	3529
50°	4662	3771	3178
55°	4506	3462	2852
60°	4366	3130	2495
65°	4182	2774	2137
70°	3950	2326	1725
75°	3614	1834	1626
80°	3217	1624	1494
85°	2717	1433	1334



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.1	1.1
10°-20°	133.9	3.0
20°-30°	192.7	4.3
30°-40°	217.1	4.9
40°-50°	207.7	4.6
50°-60°	170.1	3.8
60°-70°	114.8	2.6
70°-80°	57.7	1.3
80°-90°	18.7	0.4
90°-100°	244.7	5.5
100°-110°	692.9	15.5
110°-120°	681.6	15.3
120°-130°	543.7	12.2
130°-140°	428.7	9.6
140°-150°	319.9	7.2
150°-160°	223.0	5.0
160°-170°	131.0	2.9
170°-180°	42.6	1.0
0°-30°	374.7	8.4
0°-40°	591.8	13.2
0°-60°	969.6	21.7
0°-90°	1160.7	26.0
90°-120°	1619.2	36.2
90°-150°	2911.5	65.2
90°-180°	3308.0	74.0
0°-180°	4468.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	512	512	512	512	512	
5°	512	510	505	509	508	49
15°	489	484	472	470	467	138
25°	445	434	415	407	402	204
35°	385	369	344	327	319	241
45°	316	297	266	243	232	244
55°	240	219	184	161	152	215
65°	164	141	109	89	84	162
75°	87	67	44	40	39	93
85°	22	13	12	11	11	25
90°	2	11	22	25	26	3
95°	30	98	528	154	103	33
105°	103	153	716	1251	1132	110
115°	182	227	547	1200	1377	181
125°	254	300	511	926	1086	225
135°	297	355	504	762	880	230
145°	339	389	498	625	688	213
155°	385	416	482	547	570	177
165°	421	433	461	489	498	119
175°	439	439	442	449	448	42
180°	440	440	440	440	440	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3
2.5°	514.0	513.6	513.4	513.1	512.8	512.2	511.3	510.4	509.5	508.6	509.4
5°	512.3	511.8	511.4	511.0	510.4	509.7	508.5	507.5	506.3	505.2	506.0
7.5°	507.6	507.0	506.6	506.0	505.6	504.6	503.2	501.8	500.2	498.8	499.3
10°	503.5	502.9	502.3	501.7	501.0	499.8	498.2	496.5	494.8	493.2	493.3
12.5°	497.9	497.2	496.5	495.8	495.1	493.7	491.6	489.6	487.6	485.5	485.4
15°	488.7	487.6	486.6	485.5	484.6	482.8	480.2	477.6	475.0	472.4	472.0
17.5°	476.9	475.7	474.6	473.3	472.2	469.9	466.6	463.3	460.1	456.8	455.8
20°	468.2	466.8	465.3	463.9	462.4	459.9	456.4	452.8	449.3	445.9	444.6
22.5°	458.6	456.9	455.2	453.5	451.8	449.2	445.4	441.7	437.9	434.2	432.7
25°	444.6	442.3	440.0	437.7	435.3	432.0	427.8	423.6	419.3	415.1	413.1
27.5°	427.6	425.0	422.4	419.9	417.3	413.8	409.0	404.2	399.5	394.8	392.1
30°	415.9	413.1	410.4	407.6	404.8	400.8	395.7	390.5	385.3	380.1	377.0
32.5°	404.3	401.1	398.0	394.8	391.7	387.4	381.9	376.5	371.0	365.5	362.1
35°	384.8	381.4	378.1	374.8	371.5	366.9	361.2	355.4	349.7	344.0	340.1
37.5°	365.0	361.2	357.6	353.9	350.2	345.3	339.2	333.1	327.0	320.8	316.4
40°	352.3	348.3	344.2	340.2	336.1	330.7	324.2	317.6	311.1	304.5	299.8
42.5°	338.0	333.9	329.9	325.8	321.8	316.4	309.6	302.8	296.0	289.3	284.0
45°	316.2	312.0	307.9	303.7	299.5	293.9	286.9	279.7	272.6	265.5	260.2
47.5°	294.4	289.8	285.2	280.6	276.1	270.3	263.1	256.0	249.0	241.8	236.1
50°	278.4	274.0	269.7	265.4	261.0	255.1	247.6	240.1	232.6	225.2	219.5
52.5°	264.1	259.4	254.7	249.9	245.2	239.2	231.8	224.4	217.0	209.6	203.7
55°	240.1	235.6	231.1	226.6	222.0	215.9	208.0	200.2	192.3	184.5	179.1
57.5°	218.0	213.1	208.2	203.2	198.3	191.9	184.0	176.1	168.3	160.4	155.3
60°	202.8	197.7	192.6	187.5	182.4	176.1	168.4	160.8	153.1	145.4	140.4
62.5°	187.4	182.4	177.3	172.3	167.2	160.8	153.1	145.4	137.8	130.1	125.5
65°	164.2	159.1	154.0	148.9	143.8	137.7	130.5	123.2	116.1	108.9	104.3
67.5°	140.8	135.6	130.5	125.4	120.2	114.2	107.3	100.4	93.5	86.6	83.2
70°	125.5	120.5	115.5	110.5	105.6	99.8	93.4	86.9	80.4	73.9	70.7
72.5°	110.2	105.3	100.4	95.4	90.5	85.2	79.3	73.4	67.5	61.6	59.0
75°	86.9	82.4	77.9	73.6	69.1	64.4	59.3	54.2	49.1	44.1	43.2
77.5°	65.5	61.5	57.5	53.5	49.6	45.9	42.6	39.3	36.1	32.8	32.4
80°	51.9	48.2	44.4	40.6	36.8	34.0	32.0	30.1	28.1	26.2	25.9
82.5°	39.0	35.7	32.5	29.2	25.9	23.8	22.9	22.0	21.1	20.2	19.9
85°	22.0	20.0	17.9	16.0	13.9	12.8	12.5	12.2	11.9	11.6	11.4
87.5°	8.3	7.8	7.4	7.1	6.7	6.6	7.1	7.7	8.2	8.7	8.6
90°	1.8	3.6	5.4	8.0	9.8	11.6	14.3	16.9	19.6	22.3	21.4
92.5°	11.1	16.4	23.9	30.8	38.3	51.5	74.7	113.1	150.6	136.9	103.3
95°	30.2	32.9	42.7	57.9	81.0	115.7	191.4	324.0	469.9	527.8	428.1
97.5°	51.6	52.5	60.2	73.3	96.1	133.7	206.0	355.5	598.9	818.0	875.1
100°	65.9	66.8	73.0	85.4	106.8	141.5	203.8	335.6	569.6	842.9	1018.2
102.5°	80.8	82.4	87.9	99.7	119.0	150.8	206.7	318.4	526.9	796.7	1025.4
105°	103.3	105.9	111.3	122.0	138.8	166.5	214.5	306.2	474.4	715.6	971.1
107.5°	127.1	129.7	134.9	145.4	161.3	186.9	229.1	305.3	441.0	644.1	876.0
110°	144.2	146.9	151.3	161.1	176.2	201.2	241.2	308.9	428.1	603.5	816.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	159.9	162.6	167.0	176.7	191.9	216.2	253.3	316.0	421.0	576.4	764.2
115°	182.4	186.0	191.4	200.3	215.4	239.4	273.2	327.5	418.3	547.4	701.4
117.5°	205.1	209.2	213.7	221.8	238.7	261.0	294.4	342.9	419.9	530.3	663.4
120°	220.7	223.4	227.8	236.7	253.7	275.9	308.0	354.3	422.8	522.5	643.5
122.5°	234.3	236.9	241.4	251.0	267.2	290.9	322.2	365.0	427.8	517.5	627.1
125°	253.7	255.5	260.8	270.5	287.5	311.6	342.7	381.8	435.2	511.0	606.2
127.5°	268.5	271.1	277.7	287.7	306.4	330.4	360.5	395.7	443.8	507.7	587.6
130°	277.7	280.4	288.4	299.1	317.7	341.8	371.1	405.0	449.5	505.6	577.7
132.5°	284.8	288.2	296.9	309.8	328.4	351.8	380.4	413.6	453.8	504.9	568.4
135°	297.3	300.9	310.7	324.0	342.7	366.7	394.3	424.5	460.2	503.8	556.3
137.5°	309.1	312.8	322.4	336.6	355.2	377.4	403.9	432.7	464.4	501.9	545.8
140°	316.9	321.3	330.2	344.5	362.3	384.5	410.4	437.0	467.3	501.1	539.4
142.5°	325.4	329.1	338.8	351.6	369.3	390.2	415.4	441.3	469.4	499.7	533.7
145°	339.1	341.8	349.8	363.2	378.3	398.8	421.9	445.9	470.8	497.6	526.0
147.5°	353.0	354.6	362.5	374.0	388.6	406.1	427.2	448.8	470.8	494.2	518.5
150°	362.3	363.2	370.2	381.8	394.3	410.4	430.8	449.5	470.8	491.3	513.5
152.5°	371.5	371.7	378.8	389.0	400.0	415.4	432.9	450.9	468.7	487.8	507.9
155°	385.4	385.4	390.7	399.7	409.5	421.9	437.0	451.3	466.4	481.5	499.4
157.5°	396.5	397.2	401.4	409.3	417.6	427.2	439.3	452.2	463.4	476.0	489.7
160°	405.0	405.0	408.6	415.6	421.9	430.8	441.5	452.2	462.0	471.7	483.3
162.5°	411.4	411.4	414.3	419.9	425.4	432.9	442.2	451.5	459.1	467.4	476.9
165°	421.0	420.1	421.9	426.3	429.9	436.1	443.3	449.5	454.9	461.1	468.1
167.5°	428.3	427.2	428.1	431.5	434.0	437.9	443.1	448.1	450.6	454.7	459.9
170°	432.6	430.8	431.7	434.4	436.1	437.9	442.4	445.9	447.7	450.4	454.9
172.5°	435.4	434.4	434.5	436.5	437.6	438.6	442.4	445.2	445.6	446.8	449.9
175°	438.8	437.9	437.0	438.8	438.8	439.7	441.5	443.3	442.4	442.4	444.2
177.5°	440.4	439.7	439.0	439.7	439.7	439.7	440.4	441.8	440.4	439.7	440.4
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3
2.5°	510.2	511.0	511.9	512.2	512.1	511.9	511.8	511.7
5°	506.9	507.7	508.5	508.9	508.7	508.5	508.4	508.2
7.5°	499.8	500.2	500.7	500.8	500.4	500.2	499.8	499.5
10°	493.4	493.5	493.6	493.4	492.9	492.5	492.0	491.5
12.5°	485.4	485.4	485.4	485.0	484.5	483.9	483.4	482.9
15°	471.4	471.0	470.6	470.0	469.4	468.7	468.1	467.4
17.5°	454.9	453.9	452.9	451.9	450.9	450.0	449.1	448.1
20°	443.4	442.2	441.0	439.9	438.7	437.7	436.6	435.4
22.5°	431.2	429.7	428.2	427.0	425.9	424.9	423.8	422.8
25°	411.2	409.3	407.3	405.8	404.8	403.9	402.8	401.8
27.5°	389.4	386.7	384.1	381.9	380.3	378.8	377.3	375.7
30°	373.9	370.8	367.7	365.3	363.8	362.4	360.9	359.4
32.5°	358.6	355.3	351.8	349.3	347.8	346.3	344.6	343.1
35°	336.1	332.1	328.1	325.3	323.7	322.0	320.3	318.7
37.5°	311.8	307.3	302.8	299.5	297.5	295.4	293.4	291.3
40°	295.0	290.2	285.3	281.9	279.7	277.7	275.5	273.4
42.5°	278.7	273.6	268.3	264.7	262.8	260.9	259.0	257.1
45°	254.9	249.7	244.4	240.7	238.5	236.3	234.1	231.8
47.5°	230.3	224.6	218.9	215.1	213.1	211.2	209.1	207.1
50°	213.7	208.0	202.3	198.4	196.3	194.1	192.0	189.8
52.5°	197.7	191.7	185.8	181.9	179.9	178.1	176.2	174.2
55°	173.8	168.4	163.1	159.4	157.7	155.8	153.9	152.0
57.5°	150.3	145.2	140.2	136.8	135.3	133.7	132.2	130.5
60°	135.5	130.5	125.5	122.2	120.6	119.0	117.5	115.9
62.5°	120.7	116.1	111.4	108.2	106.6	105.0	103.3	101.7
65°	99.8	95.3	90.8	88.0	86.9	86.0	85.0	83.9
67.5°	79.8	76.4	73.0	70.8	69.7	68.7	67.6	66.5
70°	67.5	64.3	61.0	58.9	57.9	56.9	55.8	54.8
72.5°	56.4	53.8	51.1	49.6	49.1	48.7	48.3	47.9
75°	42.2	41.3	40.3	39.8	39.6	39.4	39.2	39.1
77.5°	31.8	31.3	30.9	30.5	30.3	30.1	30.0	29.8
80°	25.6	25.3	25.1	24.9	24.6	24.4	24.3	24.1
82.5°	19.6	19.4	19.1	18.9	18.9	18.8	18.8	18.8
85°	11.2	11.1	10.9	10.8	10.8	10.8	10.8	10.8
87.5°	8.6	8.7	8.8	9.1	8.8	9.0	9.1	8.8
90°	22.3	23.2	24.1	25.8	24.9	25.8	26.7	25.8
92.5°	74.9	59.5	52.5	47.9	46.3	43.6	44.5	42.9
95°	320.4	217.2	170.0	137.9	121.1	113.1	106.8	103.3
97.5°	798.8	639.8	525.0	418.5	352.8	312.8	288.7	281.1
100°	1049.5	977.3	873.2	746.8	656.9	591.9	557.2	558.1
102.5°	1132.7	1130.4	1069.7	989.6	919.6	868.2	839.2	818.7
105°	1157.1	1246.2	1263.0	1239.9	1198.9	1165.1	1136.7	1132.2
107.5°	1087.0	1231.5	1309.5	1341.2	1341.9	1330.5	1320.9	1312.7
110°	1020.0	1183.8	1295.9	1358.3	1383.2	1390.4	1388.6	1386.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	953.8	1121.1	1246.8	1327.0	1372.5	1394.5	1401.3	1401.7
115°	866.0	1020.9	1151.7	1248.8	1315.5	1354.7	1372.5	1377.0
117.5°	802.5	936.2	1053.6	1152.1	1221.7	1266.6	1292.3	1298.2
120°	769.0	889.2	996.0	1085.9	1156.2	1206.0	1227.4	1232.8
122.5°	742.7	851.5	950.5	1033.9	1096.4	1141.3	1164.8	1171.5
125°	707.7	804.7	890.1	961.3	1018.2	1057.4	1079.7	1085.9
127.5°	677.0	763.5	840.6	905.4	956.1	989.6	1009.7	1015.4
130°	657.8	737.9	809.9	870.5	917.7	949.8	968.4	975.5
132.5°	640.0	713.6	780.8	838.5	882.8	914.8	931.4	936.4
135°	615.9	679.1	737.0	787.7	831.3	858.0	874.1	880.3
137.5°	594.1	645.9	695.7	739.7	776.3	803.4	816.9	821.0
140°	581.2	626.6	669.3	707.7	741.5	766.3	780.6	779.7
142.5°	569.1	608.1	645.2	678.4	707.3	729.3	742.2	741.3
145°	554.6	583.9	612.3	638.2	660.4	679.1	686.3	688.0
147.5°	542.6	565.9	588.9	607.3	624.1	636.8	643.5	644.3
150°	534.0	554.6	573.2	590.1	603.5	613.2	618.6	618.6
152.5°	526.2	543.9	560.4	574.4	585.0	594.1	597.3	597.3
155°	514.4	528.7	542.1	552.8	560.8	567.8	569.6	570.5
157.5°	502.0	513.9	524.2	532.6	539.6	544.9	546.4	546.2
160°	494.9	504.7	513.5	519.8	526.0	531.4	531.4	530.5
162.5°	486.3	494.7	502.9	508.5	512.6	517.1	517.1	516.2
165°	475.3	480.6	486.9	491.3	494.9	498.5	497.6	497.6
167.5°	465.7	469.8	473.3	476.5	478.1	480.6	479.7	479.7
170°	459.3	462.0	465.5	467.3	468.1	469.9	469.0	469.0
172.5°	453.6	455.6	458.4	459.5	459.7	461.5	459.9	459.1
175°	445.9	446.8	448.6	448.6	448.6	449.5	448.6	447.7
177.5°	441.1	441.8	442.6	442.6	441.8	442.6	441.1	441.1
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7

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