

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: P331951-935

Luminaire Tested: **S123DIP-S560D1195U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331951-935
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: S123DIP-S560D1195U935-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5756.4 lumens
Efficiency: N/A
Efficacy: 116.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

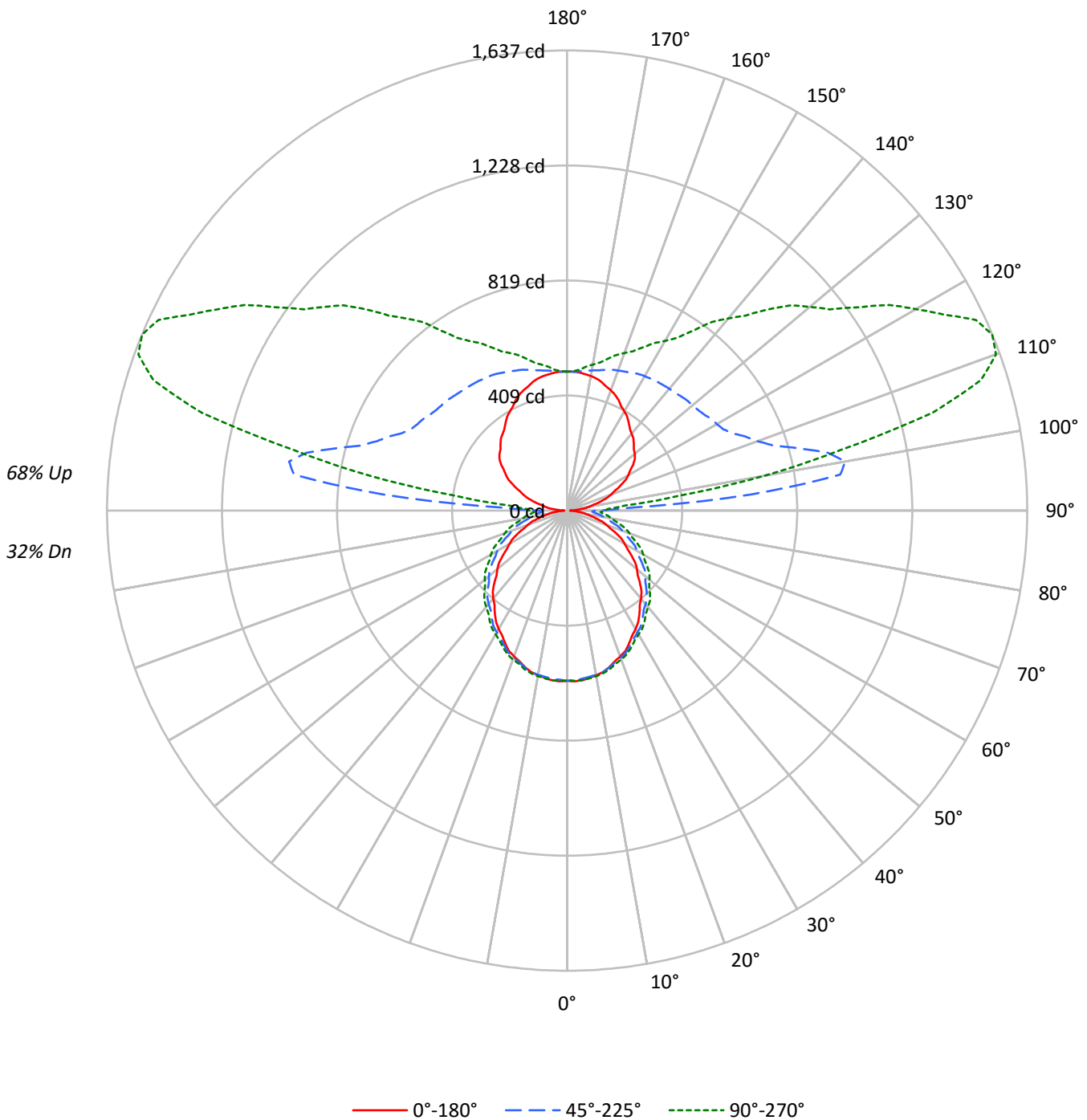
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	32
1	93	89	85	81	84	80	76	73	63	61	59	48	47	45	34	33	32	26
2	85	77	71	65	76	69	64	60	55	51	48	42	39	37	30	28	27	21
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	26	24	22	18
4	70	59	52	45	63	54	47	42	43	38	34	33	29	26	23	21	19	15
5	64	53	45	39	57	48	41	35	38	33	29	29	26	23	21	18	17	13
6	59	47	39	33	53	43	36	31	34	29	25	26	23	20	19	16	14	11
7	54	42	34	29	49	38	31	27	31	26	22	24	20	17	17	15	13	10
8	50	38	31	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	32	25	21	26	21	17	20	16	14	14	12	10	8
10	44	32	25	20	39	29	23	18	23	19	15	18	15	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.4	1.0
10°-20°	163.6	2.8
20°-30°	244.7	4.3
30°-40°	292.2	5.1
40°-50°	305.8	5.3
50°-60°	286.9	5.0
60°-70°	239.6	4.2
70°-80°	171.5	3.0
80°-90°	106.1	1.8
90°-100°	339.2	5.9
100°-110°	825.9	14.3
110°-120°	797.5	13.9
120°-130°	629.0	10.9
130°-140°	489.8	8.5
140°-150°	361.3	6.3
150°-160°	250.6	4.4
160°-170°	147.2	2.6
170°-180°	47.9	0.8
0°-30°	465.7	8.1
0°-40°	758.0	13.2
0°-60°	1350.7	23.5
0°-90°	1867.8	32.4
90°-120°	1962.6	34.1
90°-150°	3442.7	59.8
90°-180°	3889.0	67.6
0°-180°	5756.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	11	53	100	124	133	8
95°	41	144	658	258	208	42
105°	121	193	854	1474	1346	129
115°	208	268	650	1399	1604	206
125°	287	340	595	1075	1260	255
135°	335	400	574	876	1012	259
145°	382	437	559	708	781	239
155°	433	467	541	615	641	199
165°	473	487	518	550	559	133
175°	493	494	497	504	503	47
180°	494	494	494	494	494	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.9	25.7	33.3	41.2	48.9	56.7	64.8	72.8	80.9	89.0	93.8
90°	10.6	19.7	28.9	39.1	48.3	57.6	68.1	78.6	89.0	99.5	103.5
92.5°	20.5	32.9	47.8	62.1	77.0	98.7	132.2	182.6	232.2	224.1	191.2
95°	41.2	50.0	66.7	89.5	121.1	166.6	258.8	415.1	586.3	658.5	551.0
97.5°	64.5	70.6	84.4	104.4	135.2	183.4	271.5	446.3	726.7	979.9	1048.4
100°	80.0	85.7	97.4	116.1	144.7	189.5	266.2	421.0	690.9	1004.7	1206.0
102.5°	96.3	102.3	112.7	130.1	155.9	197.2	266.7	398.9	639.8	949.5	1210.7
105°	121.3	127.9	137.3	152.9	175.4	211.3	271.6	381.0	576.4	853.8	1145.0
107.5°	147.3	153.3	162.1	176.9	197.7	231.0	284.4	376.0	534.4	768.7	1033.3
110°	166.0	171.7	179.3	193.0	212.6	244.9	295.8	377.6	517.5	720.5	963.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	183.7	188.8	196.0	209.1	228.3	259.4	306.9	382.9	506.6	686.9	901.6
115°	208.4	214.1	221.9	233.7	252.4	282.9	326.2	392.5	499.8	650.1	826.7
117.5°	233.7	239.4	245.4	255.7	275.8	303.8	346.4	405.8	497.3	626.4	779.5
120°	250.7	254.4	260.2	271.0	290.7	318.5	359.3	416.2	498.0	614.9	754.3
122.5°	266.0	269.3	274.7	285.9	304.4	333.6	373.4	426.0	501.2	606.7	733.1
125°	287.1	289.0	295.1	306.1	325.1	354.2	393.5	441.8	506.0	595.3	705.4
127.5°	303.7	306.5	313.8	324.9	345.7	374.4	411.7	454.9	512.4	587.7	680.4
130°	314.1	316.9	325.8	337.7	358.5	386.9	422.8	463.8	516.8	582.7	666.5
132.5°	321.6	325.4	335.1	349.5	370.5	397.9	432.4	471.9	519.5	579.3	653.3
135°	335.4	339.3	350.2	365.0	385.9	413.6	446.3	481.8	523.5	574.1	635.8
137.5°	348.5	352.6	363.3	379.2	399.8	425.2	456.0	489.3	525.8	568.8	620.4
140°	356.8	361.8	371.8	387.8	407.8	433.0	462.4	492.9	527.4	565.8	611.1
142.5°	366.4	370.5	381.2	395.5	415.3	438.8	467.0	496.4	528.1	562.1	602.3
145°	381.8	384.6	393.5	408.4	425.2	448.2	474.2	501.2	529.2	559.2	592.4
147.5°	396.7	398.6	407.3	420.3	436.8	456.3	480.2	504.4	529.2	555.4	583.2
150°	407.2	408.1	416.1	429.1	443.2	461.2	484.1	505.1	529.2	552.2	577.2
152.5°	417.6	417.8	425.8	437.1	449.5	466.7	486.6	506.8	526.8	548.2	570.8
155°	433.2	433.2	439.2	449.2	460.1	474.2	491.2	507.2	524.2	541.2	561.2
157.5°	445.6	446.3	451.2	459.9	469.3	480.2	493.8	508.2	520.8	535.0	550.4
160°	455.1	455.1	459.2	467.2	474.2	484.1	496.2	508.2	519.2	530.2	543.2
162.5°	462.4	462.4	465.5	472.0	478.2	486.6	497.0	507.4	516.0	525.4	536.0
165°	473.2	472.2	474.2	479.1	483.2	490.2	498.2	505.1	511.2	518.1	526.2
167.5°	481.4	480.2	481.1	485.0	487.8	492.1	498.0	503.6	506.4	511.0	516.8
170°	486.2	484.1	485.2	488.2	490.2	492.1	497.1	501.2	503.2	506.2	511.2
172.5°	489.4	488.2	488.4	490.6	491.8	493.0	497.1	500.4	500.8	502.1	505.6
175°	493.2	492.1	491.2	493.2	493.2	494.2	496.2	498.2	497.1	497.1	499.2
177.5°	495.0	494.2	493.4	494.2	494.2	494.2	495.0	496.5	495.0	494.2	495.0
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	99.0	104.2	109.3	113.0	114.3	115.9	117.6	118.8
90°	109.5	115.5	121.5	126.7	127.2	129.7	132.1	132.6
92.5°	164.3	151.7	148.8	146.7	146.3	144.6	147.0	146.5
95°	434.5	323.0	274.6	241.5	223.9	216.5	210.9	208.4
97.5°	967.0	792.7	668.0	551.3	479.0	435.4	409.8	402.7
100°	1245.3	1168.5	1055.8	916.5	817.0	745.4	707.8	710.3
102.5°	1335.5	1337.0	1273.0	1185.8	1108.5	1052.2	1021.1	999.5
105°	1358.1	1462.2	1485.4	1462.1	1417.4	1380.7	1350.0	1346.3
107.5°	1274.4	1440.7	1532.2	1570.5	1572.6	1561.1	1551.5	1543.7
110°	1196.3	1384.1	1514.0	1586.5	1615.7	1624.9	1624.0	1623.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1118.4	1310.2	1455.1	1547.6	1600.2	1626.3	1635.1	1636.8
115°	1015.3	1192.9	1343.5	1454.8	1531.0	1576.2	1597.4	1603.6
117.5°	939.3	1093.0	1228.5	1341.4	1420.8	1472.4	1502.4	1510.3
120°	898.7	1037.2	1160.5	1263.8	1343.8	1400.9	1425.9	1433.0
122.5°	866.3	991.8	1106.2	1202.2	1273.5	1324.9	1352.4	1361.0
125°	822.5	934.6	1033.8	1115.9	1180.9	1226.0	1252.0	1260.0
127.5°	783.9	884.0	973.4	1048.3	1106.3	1144.9	1168.5	1175.9
130°	759.3	852.1	936.0	1005.8	1059.7	1096.7	1118.5	1127.4
132.5°	736.5	822.0	900.1	966.7	1017.5	1054.6	1074.1	1080.7
135°	705.4	779.1	846.8	905.4	955.2	985.9	1004.7	1012.4
137.5°	677.0	737.5	795.9	846.8	888.8	919.9	935.8	941.2
140°	660.3	713.5	763.7	808.1	847.0	875.6	892.4	892.2
142.5°	644.1	689.8	733.4	772.2	805.4	830.9	846.0	845.8
145°	625.6	659.8	692.9	722.8	748.4	770.0	778.6	781.2
147.5°	610.5	637.1	663.2	684.3	703.8	718.6	726.7	728.0
150°	600.2	623.2	644.2	663.4	678.6	690.0	696.3	696.5
152.5°	591.4	611.2	629.8	645.7	657.5	667.8	671.4	671.5
155°	578.2	594.2	609.2	621.2	630.3	638.3	640.2	641.2
157.5°	564.2	577.6	589.2	598.6	606.4	612.4	614.0	613.8
160°	556.2	567.2	577.2	584.2	591.2	597.2	597.2	596.2
162.5°	546.6	556.0	565.2	571.4	576.0	581.2	581.2	580.2
165°	534.2	540.2	547.2	552.2	556.2	560.2	559.2	559.2
167.5°	523.4	528.0	532.0	535.6	537.4	540.2	539.2	539.2
170°	516.2	519.2	523.1	525.2	526.2	528.2	527.2	527.2
172.5°	509.8	512.0	515.2	516.3	516.6	518.6	516.8	516.0
175°	501.2	502.1	504.2	504.2	504.2	505.1	504.2	503.2
177.5°	495.8	496.5	497.4	497.4	496.5	497.4	495.8	495.8
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2

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