

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: P331951-940

Luminaire Tested: **S123DIP-S560D1195U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331951-940
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: S123DIP-S560D1195U940-4F0-1E-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: 5961.7 lumens
Efficiency: N/A
Efficacy: 120.7 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

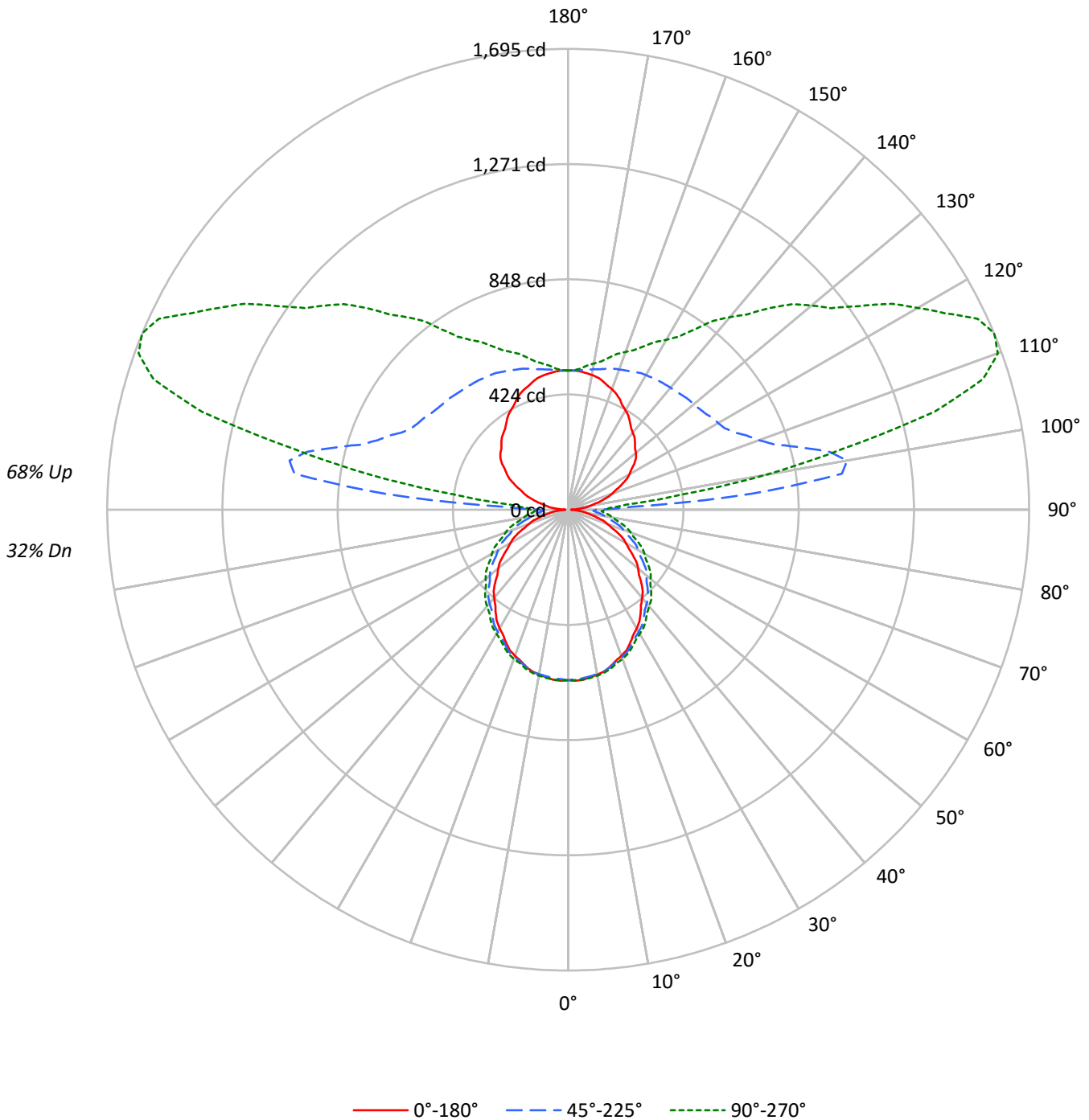
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	6750	6750	6750
5°	6771	6579	6584
10°	6710	6428	6396
15°	6624	6256	6191
20°	6501	6059	5966
25°	6348	5833	5729
30°	6191	5629	5489
35°	6016	5414	5298
40°	5848	5218	5093
45°	5664	5030	4929
50°	5480	4845	4748
55°	5278	4654	4586
60°	5080	4461	4419
65°	4879	4255	4221
70°	4575	4025	4016
75°	4191	3760	3810
80°	3748	3499	3575
85°	3332	3319	3435



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.4	1.0
10°-20°	169.5	2.8
20°-30°	253.4	4.3
30°-40°	302.7	5.1
40°-50°	316.7	5.3
50°-60°	297.2	5.0
60°-70°	248.2	4.2
70°-80°	177.6	3.0
80°-90°	109.8	1.8
90°-100°	351.3	5.9
100°-110°	855.3	14.3
110°-120°	826.0	13.9
120°-130°	651.5	10.9
130°-140°	507.3	8.5
140°-150°	374.2	6.3
150°-160°	259.6	4.4
160°-170°	152.5	2.6
170°-180°	49.6	0.8
0°-30°	482.3	8.1
0°-40°	785.0	13.2
0°-60°	1398.8	23.5
0°-90°	1934.5	32.4
90°-120°	2032.6	34.1
90°-150°	3565.5	59.8
90°-180°	4027.0	67.5
0°-180°	5961.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	627	627	627	627	627	
5°	628	626	622	627	627	59
15°	598	600	599	605	605	168
25°	540	546	548	557	557	249
35°	464	475	484	494	497	290
45°	380	396	413	426	432	293
55°	290	312	337	354	361	259
65°	200	227	257	277	284	198
75°	109	141	175	197	206	116
85°	33	68	104	126	134	35
90°	11	55	103	128	137	8
95°	43	149	682	267	216	44
105°	126	200	884	1526	1394	133
115°	216	277	673	1449	1661	214
125°	297	352	616	1113	1305	264
135°	347	414	595	907	1049	268
145°	395	452	579	733	809	248
155°	449	484	560	637	664	206
165°	490	504	537	569	579	138
175°	511	511	515	522	521	48
180°	512	512	512	512	512	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	629.8	629.5	629.1	628.7	628.3	627.7	626.7	625.7	624.7	623.8	624.7
5°	627.8	627.4	627.1	626.9	626.5	625.9	625.0	624.1	623.2	622.2	623.5
7.5°	621.6	621.6	621.7	621.8	621.9	621.4	620.5	619.6	618.8	617.9	619.4
10°	616.2	616.4	616.7	617.1	617.3	617.2	616.4	615.6	614.8	614.1	615.6
12.5°	609.6	610.0	610.5	610.8	611.3	611.3	610.7	610.2	609.7	609.1	610.6
15°	597.7	598.2	598.6	599.1	599.5	599.7	599.5	599.3	599.2	599.1	600.6
17.5°	582.6	583.5	584.5	585.4	586.3	586.7	586.7	586.6	586.6	586.5	587.8
20°	571.8	572.7	573.5	574.4	575.3	576.0	576.3	576.6	576.8	577.2	578.5
22.5°	560.3	561.2	562.0	563.0	563.9	564.5	565.0	565.4	565.9	566.2	568.0
25°	539.7	541.2	542.7	544.2	545.7	546.7	547.2	547.6	548.0	548.5	550.5
27.5°	518.9	520.6	522.4	524.1	525.8	527.1	528.1	529.1	530.0	531.0	532.7
30°	504.1	506.0	508.0	510.1	512.0	513.6	514.8	516.0	517.2	518.4	520.3
32.5°	487.7	489.9	492.1	494.4	496.6	498.5	500.1	501.6	503.2	504.8	506.8
35°	464.5	466.9	469.3	471.8	474.2	476.4	478.4	480.4	482.3	484.3	486.6
37.5°	439.9	442.6	445.3	448.1	450.8	453.4	455.8	458.3	460.7	463.2	465.7
40°	423.5	426.2	429.0	431.7	434.4	437.3	440.3	443.4	446.4	449.4	452.0
42.5°	405.5	408.8	412.1	415.4	418.8	422.0	425.3	428.4	431.6	434.7	437.6
45°	379.8	383.4	387.1	390.7	394.3	398.1	401.9	405.6	409.5	413.2	416.2
47.5°	352.8	357.0	361.1	365.2	369.3	373.6	378.0	382.3	386.6	391.0	394.2
50°	335.4	339.7	343.8	348.1	352.4	356.9	361.6	366.3	371.0	375.7	379.2
52.5°	316.8	321.3	325.8	330.3	334.7	339.7	344.8	350.0	355.2	360.4	364.0
55°	289.6	294.6	299.6	304.6	309.7	314.9	320.4	325.8	331.3	336.7	340.8
57.5°	263.1	268.3	273.6	278.7	284.0	289.6	295.6	301.6	307.6	313.5	317.6
60°	244.5	250.0	255.5	260.9	266.4	272.2	278.5	284.7	290.9	297.1	301.4
62.5°	227.0	232.6	238.3	243.8	249.4	255.5	262.1	268.7	275.3	281.9	286.1
65°	200.1	206.1	212.0	217.9	223.8	230.2	236.8	243.4	250.1	256.8	261.4
67.5°	172.8	179.1	185.4	191.6	198.0	204.5	211.3	218.1	224.9	231.7	236.7
70°	153.7	160.2	166.7	173.3	179.8	186.7	193.9	201.3	208.6	215.9	220.7
72.5°	136.2	142.8	149.3	155.8	162.3	169.3	176.8	184.4	191.9	199.5	204.5
75°	108.6	115.7	122.9	130.0	137.1	144.5	152.1	159.7	167.3	174.9	179.9
77.5°	84.5	91.8	99.0	106.1	113.3	120.7	128.4	136.1	143.7	151.4	156.7
80°	67.6	75.1	82.5	90.0	97.4	105.0	112.9	120.8	128.8	136.6	141.8
82.5°	52.9	60.5	67.9	75.5	83.1	90.9	98.9	106.9	114.9	123.0	128.1
85°	33.4	41.0	48.7	56.3	63.8	71.6	79.7	87.7	95.8	103.8	109.0
87.5°	18.5	26.6	34.5	42.7	50.6	58.8	67.1	75.4	83.8	92.2	97.2
90°	11.0	20.4	30.0	40.5	50.0	59.7	70.5	81.4	92.2	103.1	107.2
92.5°	21.2	34.1	49.5	64.3	79.7	102.2	137.0	189.1	240.5	232.1	198.0
95°	42.7	51.8	69.1	92.6	125.5	172.5	268.0	429.9	607.3	682.0	570.7
97.5°	66.8	73.1	87.4	108.1	140.0	189.9	281.2	462.3	752.6	1014.9	1085.8
100°	82.8	88.7	100.9	120.2	149.9	196.3	275.7	436.0	715.5	1040.5	1249.0
102.5°	99.7	105.9	116.7	134.7	161.5	204.2	276.2	413.1	662.6	983.4	1253.9
105°	125.6	132.4	142.2	158.4	181.6	218.8	281.3	394.6	596.9	884.2	1185.8
107.5°	152.6	158.8	167.9	183.2	204.7	239.2	294.5	389.4	553.5	796.1	1070.1
110°	171.9	177.8	185.7	199.8	220.2	253.6	306.3	391.1	536.0	746.2	997.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	190.2	195.6	203.0	216.6	236.5	268.7	317.8	396.5	524.7	711.4	933.8
115°	215.8	221.8	229.8	242.0	261.4	293.0	337.9	406.5	517.6	673.3	856.2
117.5°	242.0	247.9	254.1	264.8	285.6	314.7	358.7	420.3	515.1	648.7	807.3
120°	259.7	263.5	269.5	280.6	301.0	329.8	372.1	431.1	515.8	636.9	781.2
122.5°	275.4	278.9	284.5	296.0	315.3	345.4	386.7	441.2	519.1	628.3	759.3
125°	297.3	299.3	305.6	317.0	336.7	366.8	407.5	457.5	524.1	616.5	730.6
127.5°	314.5	317.4	325.0	336.4	358.0	387.8	426.4	471.1	530.7	608.7	704.7
130°	325.3	328.2	337.4	349.7	371.3	400.7	437.9	480.4	535.2	603.5	690.3
132.5°	333.1	337.0	347.1	361.9	383.7	412.1	447.8	488.7	538.1	599.9	676.6
135°	347.4	351.4	362.7	378.0	399.7	428.4	462.2	499.0	542.2	594.6	658.4
137.5°	361.0	365.2	376.2	392.7	414.1	440.4	472.3	506.8	544.6	589.1	642.6
140°	369.5	374.7	385.0	401.6	422.3	448.4	478.9	510.5	546.2	586.0	632.8
142.5°	379.4	383.7	394.8	409.6	430.2	454.4	483.7	514.1	546.9	582.2	623.8
145°	395.4	398.3	407.5	422.9	440.4	464.1	491.1	519.1	548.0	579.2	613.5
147.5°	410.9	412.8	421.9	435.3	452.4	472.6	497.3	522.4	548.0	575.2	604.0
150°	421.7	422.7	431.0	444.4	459.0	477.6	501.4	523.2	548.0	571.9	597.8
152.5°	432.5	432.7	441.0	452.7	465.6	483.4	503.9	524.9	545.5	567.8	591.2
155°	448.6	448.6	454.9	465.2	476.5	491.1	508.7	525.3	542.9	560.5	581.2
157.5°	461.5	462.3	467.3	476.4	486.1	497.3	511.4	526.3	539.4	554.1	570.0
160°	471.4	471.4	475.5	483.8	491.1	501.4	513.9	526.3	537.7	549.1	562.6
162.5°	478.8	478.8	482.1	488.8	495.3	503.9	514.7	525.5	534.4	544.1	555.1
165°	490.1	489.0	491.1	496.2	500.4	507.7	515.9	523.2	529.4	536.6	544.9
167.5°	498.6	497.3	498.3	502.3	505.2	509.7	515.8	521.6	524.4	529.2	535.2
170°	503.5	501.4	502.5	505.6	507.7	509.7	514.9	519.1	521.1	524.2	529.4
172.5°	506.8	505.6	505.8	508.1	509.3	510.6	514.9	518.3	518.6	520.0	523.6
175°	510.8	509.7	508.7	510.8	510.8	511.8	513.9	515.9	514.9	514.9	517.0
177.5°	512.6	511.8	511.0	511.8	511.8	511.8	512.6	514.2	512.6	511.8	512.6
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	625.7	626.7	627.7	628.1	627.9	627.9	627.8	627.6
5°	624.7	625.9	627.1	627.7	627.5	627.3	627.2	627.1
7.5°	620.9	622.4	624.0	624.6	624.5	624.3	624.1	623.9
10°	617.2	618.7	620.2	620.7	620.5	620.2	619.8	619.6
12.5°	612.0	613.3	614.7	615.3	615.0	614.7	614.4	614.1
15°	602.1	603.6	605.1	605.8	605.6	605.5	605.4	605.2
17.5°	589.2	590.6	591.9	592.5	592.3	592.1	591.9	591.7
20°	580.0	581.3	582.6	583.4	583.5	583.7	583.9	584.0
22.5°	569.7	571.5	573.2	574.0	573.9	573.8	573.7	573.6
25°	552.4	554.5	556.4	557.4	557.4	557.4	557.4	557.4
27.5°	534.4	536.1	537.8	538.8	538.9	539.0	539.1	539.2
30°	522.1	523.9	525.8	526.6	526.6	526.6	526.6	526.6
32.5°	508.6	510.6	512.6	513.7	514.1	514.4	514.8	515.1
35°	488.8	491.2	493.4	494.8	495.4	496.1	496.7	497.3
37.5°	468.2	470.8	473.4	475.0	475.5	475.9	476.4	476.9
40°	454.6	457.2	459.8	461.4	462.0	462.6	463.2	463.8
42.5°	440.3	443.2	446.0	447.8	448.7	449.5	450.4	451.2
45°	419.0	421.9	424.8	426.9	428.0	429.3	430.5	431.7
47.5°	397.5	400.7	403.9	406.1	407.0	408.0	408.9	409.8
50°	382.6	386.2	389.7	391.9	393.0	394.0	395.1	396.2
52.5°	367.7	371.2	374.9	377.3	378.6	379.9	381.2	382.5
55°	344.9	349.0	353.1	355.8	357.0	358.2	359.4	360.7
57.5°	321.8	325.9	330.0	332.8	334.2	335.6	337.1	338.5
60°	305.7	309.9	314.1	317.1	318.8	320.4	322.1	323.8
62.5°	290.3	294.6	298.8	301.8	303.3	304.8	306.4	307.9
65°	265.9	270.5	275.1	278.1	279.6	281.2	282.7	284.2
67.5°	241.7	246.6	251.6	254.8	256.0	257.3	258.6	259.8
70°	225.6	230.4	235.3	238.4	240.0	241.5	243.0	244.5
72.5°	209.4	214.4	219.4	222.7	224.2	225.7	227.2	228.7
75°	184.9	189.9	194.9	198.3	200.1	202.0	203.8	205.6
77.5°	161.9	167.2	172.5	175.8	177.3	178.6	180.0	181.5
80°	147.0	152.1	157.3	160.6	162.1	163.6	165.1	166.7
82.5°	133.3	138.4	143.6	147.0	148.5	150.0	151.5	153.0
85°	114.1	119.3	124.5	127.8	129.3	130.8	132.3	133.8
87.5°	102.5	107.9	113.2	117.0	118.3	120.0	121.8	123.1
90°	113.4	119.6	125.8	131.2	131.7	134.3	136.8	137.3
92.5°	170.1	157.1	154.1	151.9	151.5	149.7	152.2	151.7
95°	450.0	334.6	284.4	250.1	231.9	224.2	218.5	215.8
97.5°	1001.5	821.0	691.9	571.0	496.1	450.9	424.5	417.1
100°	1289.7	1210.2	1093.4	949.2	846.1	772.0	733.1	735.7
102.5°	1383.1	1384.7	1318.4	1228.1	1148.1	1089.8	1057.5	1035.2
105°	1406.6	1514.4	1538.4	1514.2	1467.9	1429.9	1398.1	1394.4
107.5°	1319.8	1492.1	1586.9	1626.5	1628.7	1616.8	1606.9	1598.7
110°	1238.9	1433.5	1568.0	1643.1	1673.3	1682.8	1681.9	1681.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1158.3	1356.9	1507.0	1602.9	1657.2	1684.3	1693.4	1695.2
115°	1051.5	1235.5	1391.4	1506.7	1585.6	1632.5	1654.4	1660.8
117.5°	972.8	1131.9	1272.3	1389.3	1471.5	1524.9	1555.9	1564.1
120°	930.8	1074.2	1201.9	1308.9	1391.8	1450.9	1476.8	1484.1
122.5°	897.2	1027.2	1145.7	1245.1	1318.9	1372.2	1400.6	1409.5
125°	851.9	968.0	1070.7	1155.7	1223.0	1269.7	1296.6	1304.9
127.5°	811.8	915.5	1008.2	1085.7	1145.8	1185.7	1210.1	1217.8
130°	786.4	882.5	969.4	1041.7	1097.5	1135.8	1158.4	1167.6
132.5°	762.8	851.3	932.2	1001.2	1053.8	1092.2	1112.4	1119.3
135°	730.6	806.9	877.0	937.7	989.3	1021.1	1040.5	1048.6
137.5°	701.2	763.8	824.3	877.0	920.5	952.7	969.2	974.7
140°	683.9	739.0	790.9	837.0	877.2	906.9	924.3	924.0
142.5°	667.1	714.4	759.6	799.8	834.1	860.5	876.2	875.9
145°	647.9	683.3	717.6	748.6	775.1	797.5	806.4	809.0
147.5°	632.3	659.8	686.9	708.7	728.9	744.2	752.6	753.9
150°	621.6	645.4	667.2	687.1	702.8	714.6	721.1	721.4
152.5°	612.5	633.0	652.3	668.7	681.0	691.6	695.4	695.4
155°	598.8	615.4	631.0	643.4	652.7	661.0	663.1	664.1
157.5°	584.3	598.2	610.2	619.9	628.0	634.3	635.9	635.7
160°	576.0	587.5	597.8	605.0	612.3	618.5	618.5	617.5
162.5°	566.1	575.9	585.3	591.7	596.6	601.9	601.9	600.9
165°	553.2	559.5	566.7	571.9	576.0	580.1	579.2	579.2
167.5°	542.1	546.8	551.0	554.7	556.5	559.5	558.4	558.4
170°	534.6	537.7	541.8	543.9	544.9	547.1	546.0	546.0
172.5°	528.0	530.2	533.6	534.8	535.0	537.1	535.2	534.4
175°	519.1	520.0	522.2	522.2	522.2	523.2	522.2	521.1
177.5°	513.4	514.2	515.1	515.1	514.2	515.1	513.4	513.4
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8

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