

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: P332299-927

Luminaire Tested: **S123RDIP-S560D1195U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332299-927
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-S560D1195U927-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5114.6 lumens
Efficiency: N/A
Efficacy: 103.5 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

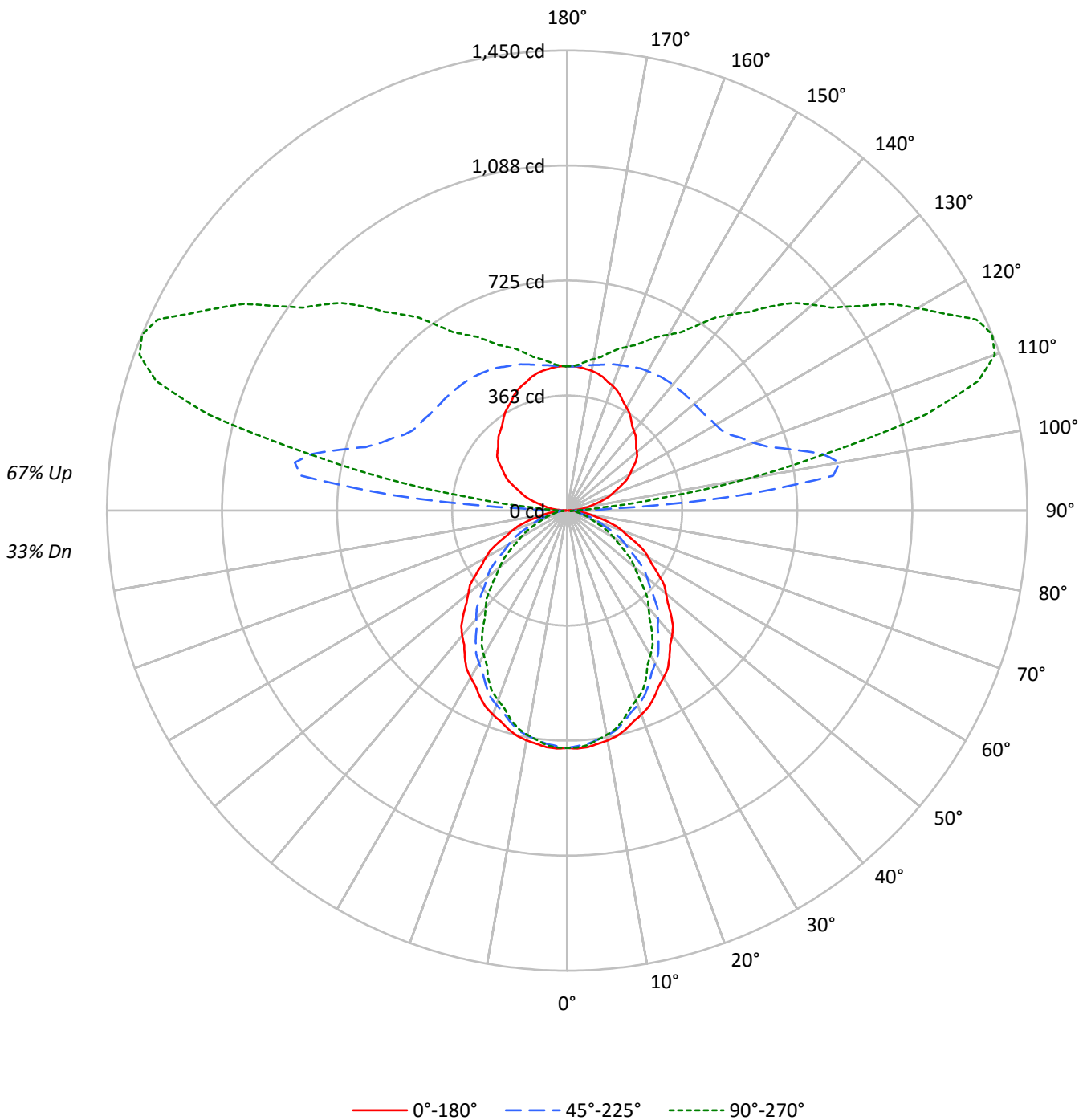
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	50	30	10	50	30	10	0														
RCR																																						
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	33																				
1	94	90	86	83	85	81	78	75	65	63	61	50	49	47	36	35	35	28																				
2	86	79	73	68	77	71	66	62	57	54	51	44	42	40	32	31	29	24																				
3	78	69	62	57	70	63	57	52	51	46	43	39	36	34	29	27	25	21																				
4	72	61	54	48	65	56	49	44	45	40	37	35	32	29	26	24	22	18																				
5	66	55	47	41	59	50	43	38	40	35	32	31	28	25	23	21	19	16																				
6	61	49	41	36	55	45	38	33	36	31	28	28	25	22	21	19	17	14																				
7	56	44	37	31	50	40	34	29	33	28	24	26	22	20	19	17	15	12																				
8	52	40	33	28	47	37	30	25	30	25	21	24	20	18	18	15	14	11																				
9	48	37	29	24	44	33	27	23	27	23	19	22	18	16	16	14	12	10																				
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	15	13	11	9																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8054	8054	8054
5°	8084	7973	8018
10°	8039	7873	7847
15°	7952	7689	7608
20°	7834	7458	7285
25°	7712	7201	6969
30°	7549	6901	6524
35°	7384	6603	6116
40°	7231	6250	5611
45°	7030	5903	5154
50°	6807	5508	4644
55°	6583	5056	4168
60°	6374	4573	3645
65°	6105	4050	3123
70°	5766	3402	2521
75°	5273	2674	2371
80°	4705	2374	2182
85°	3977	2100	1951



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.3	1.4
10°-20°	195.5	3.8
20°-30°	281.5	5.5
30°-40°	317.1	6.2
40°-50°	303.3	5.9
50°-60°	248.4	4.9
60°-70°	167.6	3.3
70°-80°	84.3	1.6
80°-90°	25.8	0.5
90°-100°	253.0	4.9
100°-110°	716.5	14.0
110°-120°	704.8	13.8
120°-130°	562.2	11.0
130°-140°	443.3	8.7
140°-150°	330.8	6.5
150°-160°	230.6	4.5
160°-170°	135.5	2.6
170°-180°	44.1	0.9
0°-30°	547.2	10.7
0°-40°	864.3	16.9
0°-60°	1416.1	27.7
0°-90°	1693.8	33.1
90°-120°	1674.3	32.7
90°-150°	3010.6	58.9
90°-180°	3421.0	66.9
0°-180°	5114.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	748	745	738	743	742	71
15°	714	706	690	687	683	201
25°	649	633	606	594	587	298
35°	562	539	502	477	465	352
45°	462	433	388	354	339	356
55°	351	320	269	236	222	314
65°	240	206	159	130	123	237
75°	127	97	64	58	57	135
85°	32	19	17	16	16	36
90°	2	11	23	26	27	4
95°	31	102	546	159	107	34
105°	107	158	740	1294	1171	113
115°	189	235	566	1241	1424	187
125°	262	310	528	957	1123	233
135°	307	367	521	788	910	237
145°	351	402	514	647	712	220
155°	398	430	498	566	590	183
165°	435	448	477	506	514	123
175°	454	454	457	464	463	43
180°	455	455	455	455	455	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	750.7	750.2	749.8	749.3	748.9	748.1	746.8	745.4	744.2	742.9	744.1
5°	748.2	747.6	746.9	746.2	745.5	744.4	742.8	741.2	739.5	737.9	739.1
7.5°	741.3	740.6	739.8	739.1	738.4	737.0	734.9	732.8	730.6	728.6	729.2
10°	735.5	734.5	733.6	732.6	731.7	730.0	727.6	725.2	722.7	720.3	720.4
12.5°	727.2	726.2	725.1	724.1	723.0	721.0	718.0	715.1	712.1	709.2	709.1
15°	713.6	712.2	710.7	709.2	707.7	705.0	701.3	697.5	693.7	690.0	689.3
17.5°	696.5	694.8	693.1	691.3	689.6	686.3	681.5	676.8	671.9	667.2	665.7
20°	683.9	681.8	679.6	677.4	675.3	671.6	666.5	661.4	656.2	651.1	649.4
22.5°	669.8	667.3	664.9	662.3	659.9	655.9	650.5	645.0	639.6	634.1	631.9
25°	649.3	645.9	642.5	639.2	635.8	631.1	624.8	618.6	612.4	606.3	603.4
27.5°	624.4	620.7	617.0	613.2	609.5	604.2	597.3	590.4	583.5	576.6	572.7
30°	607.4	603.4	599.4	595.3	591.3	585.4	577.9	570.4	562.8	555.2	550.6
32.5°	590.4	585.9	581.3	576.7	572.1	565.9	557.9	549.9	541.9	533.9	528.9
35°	561.9	557.1	552.2	547.4	542.5	535.9	527.5	519.2	510.8	502.5	496.6
37.5°	533.1	527.7	522.3	516.8	511.4	504.3	495.4	486.5	477.5	468.6	462.0
40°	514.6	508.7	502.7	496.8	490.8	483.1	473.6	464.0	454.4	444.8	437.8
42.5°	493.7	487.7	481.9	475.9	470.0	462.1	452.2	442.3	432.4	422.5	414.8
45°	461.8	455.7	449.6	443.6	437.5	429.3	418.9	408.5	398.2	387.8	380.1
47.5°	429.8	423.2	416.5	409.9	403.2	394.7	384.3	373.9	363.5	353.2	344.8
50°	406.5	400.2	393.9	387.5	381.2	372.6	361.6	350.8	339.8	328.9	320.5
52.5°	385.7	378.8	371.9	365.0	358.2	349.4	338.5	327.7	316.9	306.1	297.4
55°	350.8	344.1	337.5	330.9	324.3	315.3	303.8	292.4	280.9	269.4	261.6
57.5°	318.5	311.2	304.0	296.8	289.6	280.3	268.8	257.3	245.7	234.2	226.9
60°	296.1	288.8	281.3	273.9	266.5	257.1	246.0	234.8	223.6	212.4	205.1
62.5°	273.8	266.4	259.0	251.5	244.2	234.8	223.6	212.5	201.2	190.0	183.2
65°	239.7	232.3	224.9	217.5	210.0	201.1	190.5	180.1	169.5	159.0	152.4
67.5°	205.6	198.1	190.6	183.1	175.6	166.8	156.7	146.6	136.6	126.4	121.5
70°	183.2	175.9	168.7	161.4	154.2	145.8	136.3	126.9	117.5	108.1	103.3
72.5°	160.9	153.8	146.6	139.4	132.2	124.4	115.8	107.2	98.6	90.1	86.2
75°	126.8	120.3	113.9	107.4	100.9	94.0	86.6	79.1	71.8	64.3	63.0
77.5°	95.8	89.9	84.1	78.2	72.3	67.0	62.3	57.5	52.7	47.9	47.2
80°	75.9	70.3	64.8	59.3	53.7	49.6	46.7	43.9	41.0	38.3	37.8
82.5°	57.0	52.1	47.4	42.6	37.8	34.8	33.4	32.2	30.8	29.5	29.1
85°	32.2	29.2	26.2	23.3	20.3	18.6	18.2	17.8	17.4	17.0	16.7
87.5°	12.0	11.2	10.4	9.7	9.0	8.7	9.3	9.8	10.4	10.9	10.6
90°	1.8	3.6	5.5	8.3	10.1	12.0	14.7	17.5	20.3	23.0	22.1
92.5°	11.4	17.0	24.6	31.8	39.6	53.2	77.3	116.9	155.7	141.6	106.8
95°	31.3	34.1	44.2	59.8	83.7	119.6	197.9	335.0	486.0	545.8	442.7
97.5°	53.4	54.3	62.2	75.8	99.4	138.2	213.0	367.6	619.2	845.8	904.9
100°	68.1	69.0	75.5	88.3	110.4	146.3	210.8	347.0	589.1	871.6	1053.0
102.5°	83.6	85.2	90.9	103.1	122.9	155.9	213.7	329.3	544.9	823.8	1060.3
105°	106.8	109.6	115.0	126.1	143.5	172.1	221.8	316.6	490.6	740.0	1004.2
107.5°	131.4	134.2	139.5	150.4	166.8	193.3	236.9	315.7	456.0	666.0	905.9
110°	149.1	151.9	156.5	166.6	182.2	208.0	249.5	319.4	442.7	624.0	844.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.3	168.1	172.7	182.8	198.4	223.5	262.0	326.8	435.4	596.0	790.3
115°	188.7	192.3	197.9	207.1	222.8	247.6	282.6	338.7	432.6	566.0	725.2
117.5°	212.1	216.3	220.9	229.3	246.8	269.9	304.4	354.5	434.3	548.3	686.0
120°	228.2	231.0	235.6	244.9	262.3	285.3	318.5	366.3	437.2	540.3	665.4
122.5°	242.2	245.0	249.6	259.5	276.3	300.8	333.2	377.4	442.4	535.1	648.5
125°	262.3	264.2	269.7	279.8	297.3	322.1	354.3	394.8	450.0	528.3	626.8
127.5°	277.6	280.4	287.2	297.5	316.8	341.7	372.7	409.2	458.9	525.0	607.7
130°	287.2	289.9	298.2	309.3	328.6	353.4	383.8	418.7	464.8	522.8	597.3
132.5°	294.5	298.0	307.0	320.3	339.6	363.8	393.4	427.6	469.2	522.0	587.8
135°	307.4	311.1	321.2	335.0	354.3	379.2	407.7	439.0	475.9	520.9	575.3
137.5°	319.6	323.4	333.4	348.1	367.3	390.2	417.6	447.5	480.3	518.9	564.4
140°	327.6	332.2	341.4	356.2	374.6	397.6	424.3	451.9	483.2	518.2	557.8
142.5°	336.5	340.4	350.3	363.5	382.0	403.5	429.4	456.3	485.4	516.7	551.8
145°	350.7	353.4	361.7	375.5	391.2	412.3	436.3	461.1	486.9	514.5	544.0
147.5°	365.0	366.7	374.8	386.7	401.9	419.9	441.8	464.1	486.9	511.0	536.2
150°	374.6	375.5	382.9	394.8	407.7	424.3	445.4	464.8	486.9	508.0	531.1
152.5°	384.2	384.4	391.7	402.2	413.6	429.4	447.7	466.3	484.7	504.4	525.2
155°	398.5	398.5	404.1	413.3	423.3	436.3	451.9	466.7	482.3	498.0	516.3
157.5°	410.0	410.7	415.1	423.2	431.8	441.8	454.3	467.5	479.2	492.3	506.4
160°	418.7	418.7	422.5	429.8	436.3	445.4	456.5	467.5	477.7	487.8	499.8
162.5°	425.4	425.4	428.3	434.3	440.0	447.7	457.2	466.8	474.8	483.4	493.1
165°	435.4	434.4	436.3	440.8	444.6	451.0	458.4	464.8	470.3	476.7	484.1
167.5°	442.9	441.8	442.7	446.2	448.8	452.8	458.2	463.3	465.9	470.2	475.5
170°	447.3	445.4	446.4	449.2	451.0	452.8	457.4	461.1	463.0	465.7	470.3
172.5°	450.3	449.2	449.3	451.4	452.5	453.6	457.4	460.4	460.7	462.0	465.2
175°	453.8	452.8	451.9	453.8	453.8	454.7	456.5	458.4	457.4	457.4	459.3
177.5°	455.4	454.7	453.9	454.7	454.7	454.7	455.4	456.9	455.4	454.7	455.4
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	745.3	746.5	747.7	748.1	747.9	747.7	747.5	747.3
5°	740.3	741.6	742.8	743.2	743.0	742.7	742.4	742.1
7.5°	729.9	730.6	731.3	731.3	730.9	730.5	730.0	729.5
10°	720.6	720.7	720.8	720.6	719.9	719.2	718.6	717.9
12.5°	709.0	708.9	708.8	708.4	707.6	706.8	706.1	705.3
15°	688.6	687.9	687.3	686.4	685.5	684.6	683.7	682.7
17.5°	664.3	662.9	661.4	660.0	658.6	657.2	655.8	654.4
20°	647.6	645.9	644.1	642.5	640.8	639.2	637.5	636.0
22.5°	629.8	627.6	625.4	623.5	622.0	620.5	619.0	617.5
25°	600.6	597.7	594.9	592.7	591.3	589.8	588.3	586.8
27.5°	568.7	564.8	560.9	557.8	555.5	553.3	551.0	548.7
30°	546.1	541.5	536.9	533.5	531.4	529.3	527.0	524.9
32.5°	523.9	518.8	513.8	510.2	507.9	505.6	503.4	501.1
35°	490.8	485.1	479.3	475.2	472.7	470.3	467.9	465.4
37.5°	455.4	448.9	442.3	437.5	434.5	431.5	428.5	425.5
40°	430.8	423.7	416.8	411.7	408.6	405.5	402.4	399.3
42.5°	407.2	399.5	391.8	386.6	383.8	381.0	378.3	375.5
45°	372.4	364.7	357.0	351.6	348.3	345.1	341.8	338.6
47.5°	336.4	328.1	319.7	314.1	311.2	308.3	305.5	302.5
50°	312.2	303.8	295.5	289.7	286.6	283.5	280.4	277.3
52.5°	288.8	280.0	271.3	265.6	262.8	260.1	257.3	254.5
55°	253.8	246.0	238.1	232.9	230.2	227.5	224.8	222.1
57.5°	219.4	212.1	204.7	199.9	197.6	195.3	193.0	190.7
60°	197.8	190.5	183.2	178.5	176.2	173.9	171.6	169.3
62.5°	176.3	169.5	162.6	158.0	155.7	153.2	150.8	148.5
65°	145.8	139.2	132.5	128.5	127.1	125.6	124.1	122.6
67.5°	116.6	111.6	106.7	103.5	101.9	100.3	98.7	97.1
70°	98.5	93.9	89.1	86.0	84.5	83.1	81.6	80.1
72.5°	82.3	78.5	74.6	72.4	71.8	71.1	70.5	69.9
75°	61.6	60.3	58.9	58.1	57.8	57.6	57.3	57.0
77.5°	46.5	45.8	45.0	44.5	44.3	44.0	43.7	43.4
80°	37.4	37.0	36.6	36.3	36.0	35.7	35.5	35.2
82.5°	28.7	28.3	27.9	27.6	27.6	27.6	27.5	27.4
85°	16.5	16.2	15.9	15.8	15.8	15.8	15.8	15.8
87.5°	10.7	10.8	10.9	11.1	10.9	10.9	10.9	10.7
90°	23.0	23.9	24.9	26.7	25.7	26.7	27.6	26.7
92.5°	77.5	61.5	54.3	49.5	47.8	45.1	46.0	44.4
95°	331.4	224.6	175.8	142.7	125.2	116.9	110.4	106.8
97.5°	825.9	661.6	542.9	432.8	364.9	323.4	298.6	290.7
100°	1085.1	1010.6	902.9	772.2	679.2	612.0	576.2	577.1
102.5°	1171.3	1168.9	1106.1	1023.3	950.9	897.8	867.8	846.6
105°	1196.5	1288.6	1306.1	1282.1	1239.8	1204.8	1175.4	1170.8
107.5°	1123.9	1273.4	1354.1	1386.9	1387.6	1375.8	1365.9	1357.4
110°	1054.8	1224.2	1340.1	1404.5	1430.3	1437.7	1435.8	1434.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	986.3	1159.4	1289.3	1372.1	1419.3	1442.1	1449.1	1449.5
115°	895.6	1055.7	1191.0	1291.3	1360.3	1400.8	1419.3	1423.9
117.5°	829.8	968.0	1089.6	1191.4	1263.4	1309.7	1336.3	1342.5
120°	795.2	919.5	1029.9	1122.9	1195.6	1247.1	1269.2	1274.8
122.5°	767.9	880.4	982.8	1069.1	1133.8	1180.1	1204.4	1211.4
125°	731.7	832.0	920.4	994.0	1053.0	1093.4	1116.4	1122.9
127.5°	700.1	789.5	869.2	936.2	988.7	1023.3	1044.1	1050.0
130°	680.2	763.0	837.6	900.2	949.0	982.1	1001.4	1008.8
132.5°	661.8	738.0	807.4	867.0	912.8	945.9	963.1	968.3
135°	636.9	702.3	762.1	814.5	859.7	887.2	903.8	910.3
137.5°	614.3	667.8	719.4	764.9	802.8	830.8	844.7	849.0
140°	601.0	647.9	692.1	731.7	766.7	792.5	807.2	806.3
142.5°	588.5	628.8	667.1	701.6	731.3	754.2	767.4	766.5
145°	573.4	603.8	633.3	659.9	682.9	702.3	709.6	711.5
147.5°	561.1	585.2	609.0	627.9	645.4	658.5	665.4	666.1
150°	552.2	573.4	592.7	610.2	624.0	634.1	639.7	639.7
152.5°	544.2	562.4	579.5	594.1	604.9	614.3	617.6	617.6
155°	532.0	546.7	560.5	571.6	579.9	587.2	589.1	589.9
157.5°	519.1	531.5	542.1	550.7	557.9	563.5	564.9	564.7
160°	511.7	521.9	531.1	537.5	544.0	549.5	549.5	548.6
162.5°	502.9	511.6	520.0	525.7	530.0	534.7	534.7	533.9
165°	491.5	497.0	503.4	508.0	511.7	515.4	514.5	514.5
167.5°	481.6	485.8	489.5	492.8	494.4	497.0	496.1	496.1
170°	474.9	477.7	481.3	483.2	484.1	486.0	485.1	485.1
172.5°	469.1	471.0	474.0	475.1	475.3	477.1	475.5	474.8
175°	461.1	462.0	463.9	463.9	463.9	464.8	463.9	463.0
177.5°	456.1	456.9	457.6	457.6	456.9	457.6	456.1	456.1
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7

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