

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: P331945-927

Luminaire Tested: **S123DIP-S560D1025U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331945-927
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: S123DIP-S560D1025U927-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4778.3 lumens
Efficiency: N/A
Efficacy: 107.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

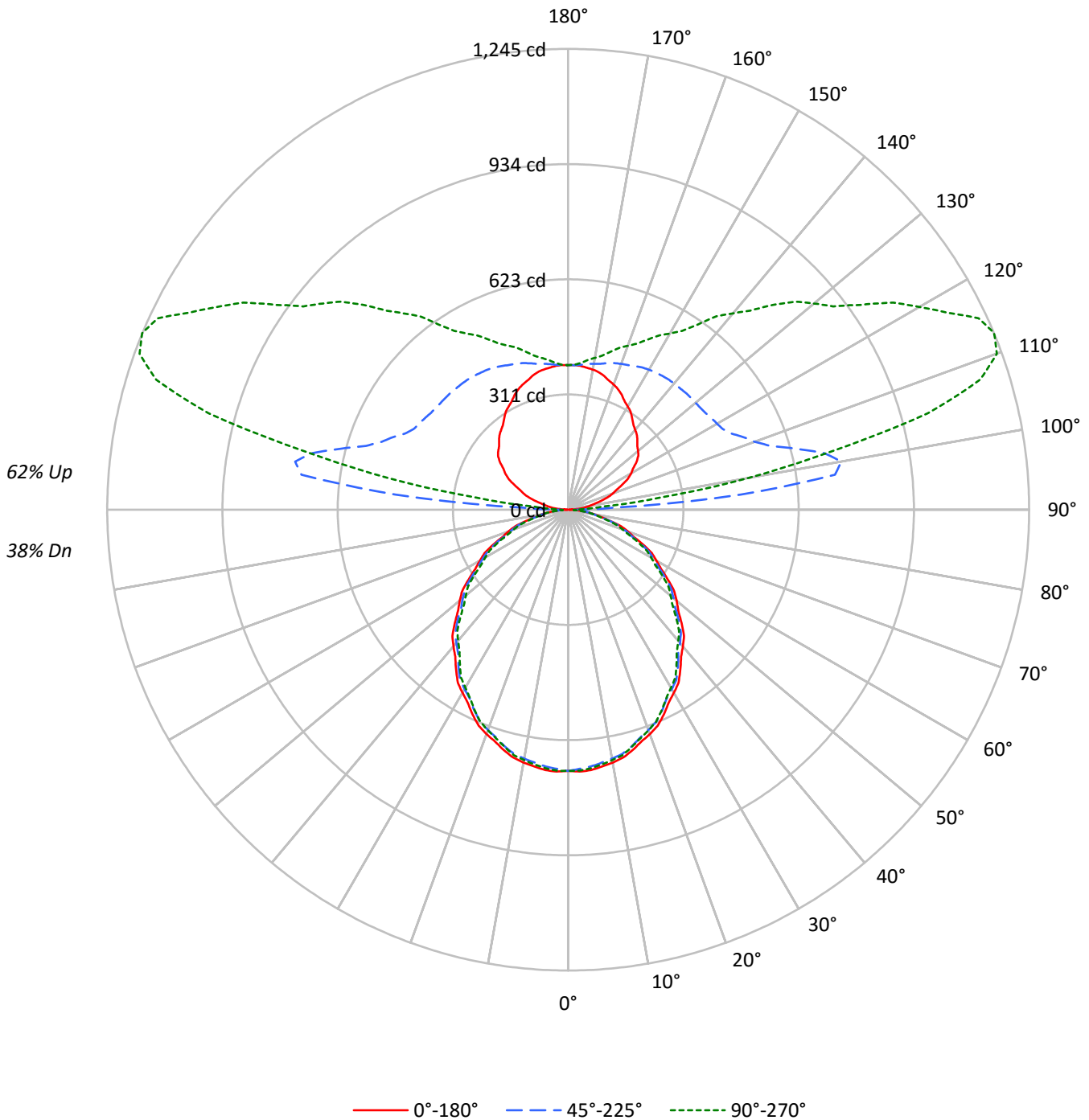
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	95	95	95	95	77	77	77	61	61	61	46	46	46	38
1	95	91	87	84	86	83	79	76	67	65	63	53	52	50	40	39	38	32
2	87	79	73	68	78	72	67	63	59	55	52	47	44	42	35	34	32	27
3	79	70	62	57	71	63	57	52	52	47	44	41	38	35	31	29	27	23
4	72	62	54	48	65	56	49	44	46	41	37	37	33	30	28	26	24	20
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	25	23	20	17
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	23	20	18	15
7	56	44	36	31	51	40	34	29	33	28	24	27	23	20	21	18	16	13
8	52	40	32	27	47	37	30	25	30	25	22	25	21	18	19	16	14	12
9	48	36	29	24	44	34	27	23	28	23	19	23	19	16	18	15	13	11
10	45	33	26	22	41	31	24	20	26	21	17	21	17	14	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7597	7597	7597
5°	7632	7527	7580
10°	7581	7462	7508
15°	7492	7377	7392
20°	7389	7257	7263
25°	7251	7114	7099
30°	7097	6954	6901
35°	6937	6786	6699
40°	6770	6600	6497
45°	6587	6428	6272
50°	6402	6219	6047
55°	6161	6001	5819
60°	5918	5748	5565
65°	5703	5471	5300
70°	5385	5155	4925
75°	4924	4745	4541
80°	4438	4252	4215
85°	3890	3742	3606



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	1.4
10°-20°	187.7	3.9
20°-30°	277.3	5.8
30°-40°	323.9	6.8
40°-50°	325.6	6.8
50°-60°	286.0	6.0
60°-70°	213.1	4.5
70°-80°	121.4	2.5
80°-90°	37.9	0.8
90°-100°	217.4	4.5
100°-110°	615.6	12.9
110°-120°	605.5	12.7
120°-130°	483.0	10.1
130°-140°	380.8	8.0
140°-150°	284.2	5.9
150°-160°	198.1	4.1
160°-170°	116.4	2.4
170°-180°	37.9	0.8
0°-30°	531.5	11.1
0°-40°	855.4	17.9
0°-60°	1467.0	30.7
0°-90°	1839.4	38.5
90°-120°	1438.5	30.1
90°-150°	2586.5	54.1
90°-180°	2939.0	61.5
0°-180°	4778.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	706	706	706	706	706	
5°	706	703	697	702	702	67
15°	672	670	662	666	663	189
25°	610	607	599	599	598	281
35°	528	524	516	513	510	330
45°	433	430	422	415	412	334
55°	328	327	320	313	310	294
65°	224	221	215	210	208	221
75°	118	116	114	111	109	127
85°	32	30	30	29	29	35
90°	2	10	20	22	23	4
95°	27	87	469	137	92	29
105°	92	136	636	1112	1006	97
115°	162	202	486	1066	1223	160
125°	225	266	454	822	965	200
135°	264	315	448	677	782	204
145°	301	345	442	556	611	189
155°	342	369	428	486	507	157
165°	374	385	410	434	442	105
175°	390	390	393	398	398	37
180°	391	391	391	391	391	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	708.1	707.7	707.3	706.9	706.5	705.6	704.4	703.2	702.1	700.9	702.0
5°	706.3	705.7	705.0	704.3	703.6	702.6	701.1	699.6	698.2	696.6	698.0
7.5°	699.4	698.8	698.1	697.4	696.7	695.6	694.1	692.5	691.0	689.5	690.7
10°	693.6	692.9	692.3	691.6	690.9	689.7	687.9	686.2	684.4	682.7	683.9
12.5°	685.9	685.2	684.7	684.1	683.6	682.5	680.8	679.1	677.6	675.9	676.8
15°	672.3	671.8	671.3	670.7	670.2	669.1	667.3	665.6	663.8	662.0	663.1
17.5°	656.7	656.0	655.3	654.6	653.9	652.7	650.9	649.2	647.5	645.6	646.4
20°	645.1	644.3	643.4	642.6	641.8	640.6	638.8	637.1	635.3	633.5	634.1
22.5°	631.9	631.1	630.3	629.5	628.7	627.4	625.7	623.9	622.2	620.4	620.8
25°	610.5	609.7	608.9	608.1	607.2	605.9	604.2	602.5	600.7	599.0	599.0
27.5°	587.6	586.8	586.0	585.2	584.4	583.0	581.1	579.3	577.4	575.5	575.6
30°	571.0	570.4	569.7	569.0	568.3	567.0	565.1	563.2	561.4	559.5	559.5
32.5°	554.5	553.7	552.7	551.8	551.0	549.8	548.3	546.8	545.4	544.0	543.2
35°	527.9	527.1	526.3	525.5	524.7	523.4	521.7	519.9	518.2	516.4	515.6
37.5°	500.7	499.7	498.7	497.6	496.6	495.3	493.5	491.7	489.9	488.1	487.2
40°	481.8	481.0	480.2	479.4	478.6	477.2	475.3	473.5	471.6	469.7	468.6
42.5°	462.9	462.0	461.1	460.1	459.2	457.8	455.9	454.1	452.2	450.3	449.2
45°	432.7	432.1	431.6	431.0	430.5	429.4	427.6	425.9	424.1	422.3	420.7
47.5°	402.7	401.9	401.2	400.4	399.6	398.3	396.7	395.1	393.4	391.7	390.1
50°	382.3	381.6	381.0	380.2	379.6	378.4	376.6	374.9	373.1	371.4	369.9
52.5°	360.9	360.4	360.0	359.6	359.1	357.9	356.1	354.3	352.4	350.5	349.3
55°	328.3	328.1	328.0	327.9	327.7	326.8	325.0	323.3	321.5	319.8	318.3
57.5°	297.2	296.8	296.3	295.9	295.4	294.5	293.0	291.7	290.3	288.8	287.6
60°	274.9	274.7	274.6	274.5	274.3	273.5	271.9	270.2	268.6	267.0	265.8
62.5°	255.0	254.6	254.3	254.0	253.6	252.6	251.0	249.4	247.7	246.1	244.9
65°	223.9	223.2	222.6	221.9	221.3	220.2	218.9	217.5	216.2	214.8	213.7
67.5°	191.0	190.4	189.8	189.3	188.6	187.8	186.8	185.8	184.7	183.8	182.8
70°	171.1	170.3	169.5	168.7	167.9	167.1	166.3	165.5	164.6	163.8	162.9
72.5°	150.3	149.6	149.1	148.5	147.9	147.1	146.2	145.3	144.3	143.5	142.6
75°	118.4	117.8	117.2	116.7	116.2	115.7	115.3	114.9	114.5	114.1	113.4
77.5°	90.1	89.8	89.4	89.2	88.9	88.5	88.0	87.5	87.0	86.5	86.1
80°	71.6	71.2	70.8	70.4	69.9	69.6	69.4	69.1	68.8	68.6	68.4
82.5°	53.6	53.6	53.5	53.4	53.3	53.2	53.2	53.2	53.1	53.1	52.8
85°	31.5	31.3	31.1	30.7	30.5	30.3	30.3	30.3	30.3	30.3	30.1
87.5°	12.9	12.9	12.9	13.1	13.1	13.2	13.5	13.9	14.3	14.7	14.3
90°	1.6	3.2	4.8	7.1	8.7	10.3	12.7	15.1	17.4	19.8	19.0
92.5°	9.8	14.6	21.2	27.3	34.0	45.7	66.4	100.4	133.8	121.6	91.7
95°	26.9	29.2	37.9	51.4	71.9	102.8	170.0	287.8	417.5	468.9	380.3
97.5°	45.9	46.7	53.5	65.1	85.4	118.7	183.0	315.8	532.0	726.7	777.4
100°	58.5	59.3	64.9	75.9	94.9	125.7	181.1	298.1	506.0	748.8	904.6
102.5°	71.8	73.2	78.1	88.6	105.7	134.0	183.6	282.9	468.1	707.7	910.9
105°	91.7	94.1	98.9	108.4	123.3	147.9	190.6	272.0	421.4	635.7	862.7
107.5°	112.9	115.3	119.9	129.2	143.3	166.0	203.5	271.2	391.7	572.2	778.2
110°	128.1	130.5	134.4	143.1	156.5	178.7	214.3	274.4	380.3	536.1	725.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.0	144.4	148.4	157.0	170.5	192.0	225.1	280.7	374.0	512.1	678.9
115°	162.1	165.2	170.0	177.9	191.4	212.7	242.7	291.0	371.6	486.3	623.1
117.5°	182.2	185.8	189.8	197.0	212.1	231.9	261.6	304.6	373.0	471.1	589.4
120°	196.1	198.4	202.4	210.3	225.4	245.1	273.6	314.7	375.6	464.1	571.7
122.5°	208.1	210.5	214.4	223.0	237.4	258.4	286.2	324.2	380.0	459.7	557.1
125°	225.4	227.0	231.7	240.3	255.4	276.8	304.4	339.2	386.7	453.9	538.5
127.5°	238.5	240.8	246.7	255.6	272.2	293.5	320.3	351.6	394.3	451.1	522.0
130°	246.7	249.1	256.2	265.7	282.3	303.6	329.7	359.8	399.3	449.2	513.2
132.5°	253.0	256.0	263.8	275.2	291.8	312.5	337.9	367.4	403.1	448.5	504.9
135°	264.1	267.3	276.0	287.8	304.4	325.7	350.3	377.2	408.8	447.6	494.2
137.5°	274.6	277.9	286.4	299.0	315.5	335.3	358.9	384.4	412.6	445.8	484.9
140°	281.5	285.4	293.3	306.0	321.9	341.6	364.6	388.2	415.1	445.2	479.2
142.5°	289.1	292.4	301.0	312.4	328.1	346.7	369.0	392.1	417.0	443.9	474.1
145°	301.3	303.6	310.8	322.7	336.0	354.3	374.8	396.2	418.3	442.0	467.3
147.5°	313.6	315.1	322.0	332.2	345.2	360.8	379.5	398.7	418.3	439.0	460.7
150°	321.9	322.7	328.9	339.2	350.3	364.6	382.7	399.3	418.3	436.5	456.2
152.5°	330.0	330.2	336.5	345.5	355.4	369.0	384.6	400.6	416.4	433.3	451.2
155°	342.4	342.4	347.1	355.1	363.8	374.8	388.2	400.9	414.3	427.8	443.6
157.5°	352.2	352.8	356.6	363.6	371.0	379.5	390.3	401.7	411.7	422.9	435.1
160°	359.8	359.8	363.0	369.2	374.8	382.7	392.2	401.7	410.4	419.1	429.4
162.5°	365.5	365.5	368.0	373.0	378.0	384.6	392.8	401.1	407.9	415.3	423.7
165°	374.0	373.2	374.8	378.7	381.9	387.5	393.8	399.3	404.1	409.6	415.9
167.5°	380.5	379.5	380.3	383.3	385.6	389.0	393.6	398.1	400.3	403.9	408.5
170°	384.3	382.7	383.5	385.9	387.5	389.0	393.0	396.2	397.8	400.1	404.1
172.5°	386.8	385.9	386.0	387.8	388.7	389.7	393.0	395.5	395.9	397.0	399.7
175°	389.8	389.0	388.2	389.8	389.8	390.6	392.2	393.8	393.0	393.0	394.6
177.5°	391.3	390.6	390.0	390.6	390.6	390.6	391.3	392.5	391.3	390.6	391.3
180°	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	703.1	704.1	705.2	705.7	705.6	705.4	705.4	705.3
5°	699.3	700.7	702.0	702.6	702.3	702.0	701.8	701.5
7.5°	691.9	693.1	694.3	694.8	694.7	694.5	694.3	694.2
10°	685.1	686.3	687.5	688.0	687.8	687.5	687.2	686.9
12.5°	677.6	678.6	679.5	679.8	679.6	679.5	679.3	679.1
15°	664.2	665.3	666.4	666.5	665.7	664.9	664.1	663.3
17.5°	647.2	647.9	648.7	648.9	648.6	648.3	648.0	647.7
20°	634.6	635.2	635.6	635.7	635.3	634.9	634.5	634.1
22.5°	621.3	621.7	622.2	622.1	621.6	621.1	620.6	620.0
25°	599.2	599.4	599.4	599.4	599.0	598.6	598.1	597.7
27.5°	575.8	575.8	575.9	575.8	575.2	574.7	574.2	573.7
30°	559.5	559.5	559.5	559.0	558.1	557.1	556.2	555.2
32.5°	542.5	541.7	540.9	540.3	539.8	539.3	538.8	538.3
35°	514.8	514.0	513.2	512.5	511.7	511.1	510.4	509.8
37.5°	486.2	485.2	484.3	483.5	483.2	482.7	482.3	481.8
40°	467.5	466.4	465.4	464.5	464.0	463.5	463.0	462.4
42.5°	448.1	447.0	445.9	445.1	444.6	444.1	443.5	443.0
45°	419.1	417.5	415.9	414.7	414.1	413.4	412.7	412.0
47.5°	388.6	387.0	385.4	384.3	383.7	383.1	382.5	381.9
50°	368.4	366.9	365.4	364.3	363.5	362.7	361.9	361.1
52.5°	348.0	346.7	345.5	344.4	343.6	342.8	342.0	341.2
55°	316.8	315.4	313.9	312.8	312.1	311.4	310.8	310.1
57.5°	286.2	284.9	283.6	282.5	281.7	281.0	280.2	279.4
60°	264.6	263.4	262.1	261.2	260.5	259.8	259.2	258.5
62.5°	243.7	242.5	241.3	240.4	240.0	239.6	239.1	238.6
65°	212.6	211.6	210.5	209.8	209.4	209.0	208.6	208.1
67.5°	181.9	180.9	180.0	179.2	178.6	178.1	177.5	177.0
70°	161.9	161.1	160.1	159.2	158.6	157.9	157.2	156.5
72.5°	141.8	140.9	140.1	139.5	139.2	138.8	138.5	138.1
75°	112.7	112.1	111.4	110.8	110.4	110.0	109.6	109.2
77.5°	85.6	85.2	84.7	84.4	84.4	84.4	84.4	84.4
80°	68.3	68.1	68.0	68.0	68.0	68.0	68.0	68.0
82.5°	52.5	52.3	52.0	51.9	51.8	51.7	51.6	51.5
85°	29.8	29.5	29.2	29.2	29.2	29.2	29.2	29.2
87.5°	14.4	14.5	14.5	14.8	14.7	14.8	15.0	14.8
90°	19.8	20.6	21.4	22.9	22.1	22.9	23.7	22.9
92.5°	66.5	52.8	46.7	42.5	41.1	38.7	39.5	38.1
95°	284.6	193.0	151.1	122.6	107.6	100.4	94.9	91.7
97.5°	709.6	568.4	466.4	371.8	313.5	277.9	256.5	249.7
100°	932.3	868.2	775.7	663.5	583.6	525.9	495.0	495.8
102.5°	1006.3	1004.2	950.3	879.2	817.0	771.3	745.5	727.3
105°	1027.9	1107.1	1122.0	1101.5	1065.1	1035.1	1009.8	1005.8
107.5°	965.7	1094.1	1163.3	1191.5	1192.2	1182.0	1173.5	1166.2
110°	906.2	1051.7	1151.3	1206.7	1228.8	1235.2	1233.6	1232.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	847.3	996.0	1107.6	1178.8	1219.3	1238.9	1244.9	1245.2
115°	769.4	907.0	1023.2	1109.4	1168.7	1203.5	1219.3	1223.3
117.5°	713.0	831.7	936.0	1023.5	1085.4	1125.2	1148.0	1153.3
120°	683.2	790.0	884.9	964.7	1027.1	1071.4	1090.4	1095.2
122.5°	659.8	756.5	844.4	918.5	974.1	1013.9	1034.7	1040.8
125°	628.7	714.9	790.8	854.0	904.6	939.4	959.2	964.7
127.5°	601.4	678.3	746.8	804.3	849.4	879.2	897.0	902.1
130°	584.4	655.5	719.5	773.3	815.2	843.8	860.3	866.6
132.5°	568.5	634.0	693.6	744.9	784.3	812.7	827.4	831.9
135°	547.2	603.3	654.7	699.8	738.6	762.2	776.5	782.0
137.5°	527.8	573.8	618.1	657.1	689.7	713.8	725.7	729.4
140°	516.3	556.7	594.6	628.7	658.7	680.8	693.5	692.7
142.5°	505.6	540.3	573.1	602.7	628.4	647.9	659.3	658.5
145°	492.7	518.7	544.0	567.0	586.7	603.3	609.7	611.2
147.5°	482.0	502.7	523.2	539.5	554.4	565.7	571.7	572.4
150°	474.4	492.7	509.2	524.3	536.1	544.8	549.5	549.5
152.5°	467.5	483.2	497.9	510.3	519.7	527.8	530.6	530.6
155°	457.0	469.7	481.6	491.1	498.2	504.5	506.0	506.8
157.5°	446.0	456.5	465.7	473.2	479.3	484.1	485.4	485.2
160°	439.7	448.4	456.2	461.8	467.3	472.1	472.1	471.3
162.5°	432.1	439.5	446.8	451.7	455.3	459.4	459.4	458.6
165°	422.2	427.0	432.5	436.5	439.7	442.8	442.0	442.0
167.5°	413.7	417.3	420.5	423.3	424.8	427.0	426.2	426.2
170°	408.1	410.4	413.5	415.1	415.9	417.5	416.7	416.7
172.5°	403.0	404.7	407.3	408.2	408.4	410.0	408.5	407.9
175°	396.2	397.0	398.5	398.5	398.5	399.3	398.5	397.8
177.5°	391.9	392.5	393.2	393.2	392.5	393.2	391.9	391.9
180°	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6

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