

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: P331275-927

Luminaire Tested: **SA2XXDIP-C290D925U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331275-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C290D925U927-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3816.8 lumens  
Efficiency: N/A  
Efficacy: 102.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

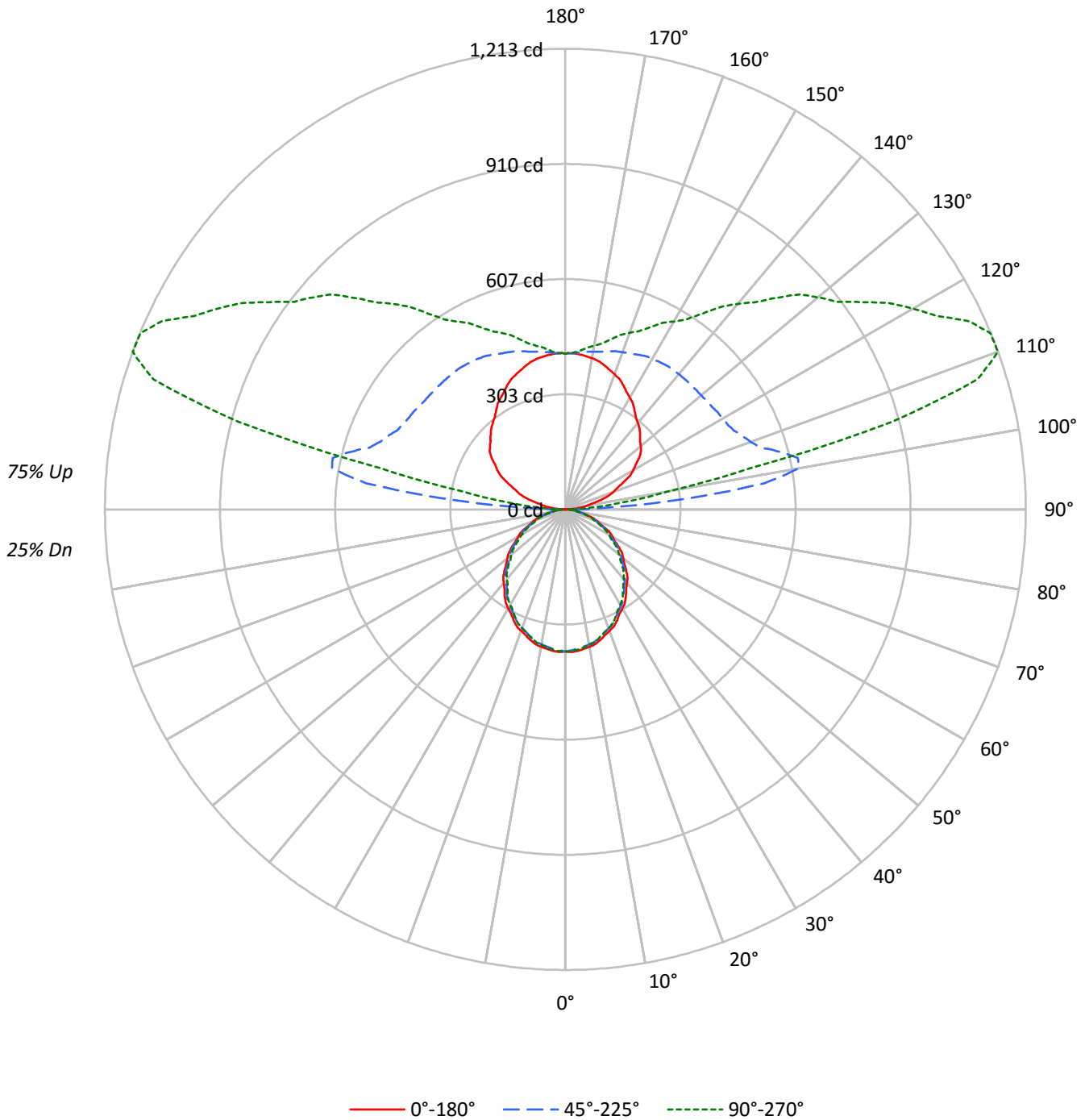
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	101	101	101	101	90	90	90	90	69	69	69	51	51	51	33	33	33	25				
1	92	88	84	81	82	78	75	73	61	59	57	44	43	42	29	29	28	21				
2	84	77	71	66	74	69	64	59	53	50	47	39	37	35	26	25	23	18				
3	76	67	60	55	68	60	54	50	47	43	39	34	32	29	23	21	20	15				
4	70	60	52	46	62	53	47	42	41	37	33	31	28	25	20	19	17	13				
5	64	53	45	39	57	47	41	36	37	32	29	27	24	22	18	16	15	11				
6	59	47	39	34	52	42	36	31	33	28	25	25	21	19	17	15	13	10				
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9				
8	50	38	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8				
9	47	35	28	23	41	31	25	21	25	20	17	19	15	13	13	11	9	7				
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8	6				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6042	6042	6042
5°	6065	5977	6015
10°	6030	5917	5946
15°	5954	5840	5835
20°	5849	5727	5720
25°	5744	5585	5585
30°	5610	5455	5407
35°	5483	5298	5219
40°	5324	5143	5044
45°	5167	4987	4864
50°	4999	4828	4657
55°	4822	4642	4467
60°	4624	4414	4253
65°	4413	4195	4000
70°	4145	3923	3734
75°	3768	3612	3525
80°	3347	3245	3078
85°	2723	2594	2334



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.2	0.9
10°-20°	99.0	2.6
20°-30°	145.6	3.8
30°-40°	169.1	4.4
40°-50°	168.9	4.4
50°-60°	147.3	3.9
60°-70°	108.9	2.9
70°-80°	61.7	1.6
80°-90°	20.3	0.5
90°-100°	164.4	4.3
100°-110°	557.8	14.6
110°-120°	592.6	15.5
120°-130°	487.8	12.8
130°-140°	391.8	10.3
140°-150°	296.0	7.8
150°-160°	208.1	5.5
160°-170°	122.5	3.2
170°-180°	39.9	1.0
0°-30°	279.8	7.3
0°-40°	448.8	11.8
0°-60°	765.0	20.0
0°-90°	955.9	25.0
90°-120°	1314.8	34.4
90°-150°	2490.5	65.3
90°-180°	2861.0	75.0
0°-180°	3816.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	374	374	374	374	374	
5°	374	373	369	372	371	35
15°	356	354	349	351	349	100
25°	322	319	314	314	314	148
35°	278	274	269	267	265	174
45°	226	224	218	215	213	175
55°	171	169	165	161	159	153
65°	116	113	110	107	105	114
75°	60	60	58	56	56	65
85°	15	14	14	13	13	17
90°	1	11	27	26	26	2
95°	28	68	310	117	90	29
105°	96	145	586	1047	891	102
115°	170	215	490	1012	1172	169
125°	237	281	471	819	951	211
135°	278	332	466	689	788	215
145°	318	365	463	575	629	199
155°	361	390	450	509	529	166
165°	394	406	431	457	464	111
175°	410	411	414	420	418	39
180°	411	411	411	411	411	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	376.0	375.7	375.3	375.0	374.7	374.2	373.5	372.8	372.1	371.4	372.0
5°	374.2	373.9	373.6	373.3	373.0	372.4	371.5	370.7	369.7	368.8	369.5
7.5°	371.0	370.4	369.9	369.5	369.0	368.3	367.4	366.5	365.6	364.7	365.4
10°	367.8	367.3	366.7	366.1	365.5	364.8	363.8	362.9	361.9	360.9	361.6
12.5°	363.5	363.0	362.5	361.9	361.5	360.8	359.8	358.9	357.9	357.0	357.4
15°	356.2	355.8	355.3	354.8	354.3	353.6	352.5	351.5	350.5	349.4	349.7
17.5°	347.1	346.6	346.1	345.6	345.2	344.4	343.3	342.2	341.2	340.2	340.5
20°	340.4	339.9	339.5	339.0	338.5	337.7	336.6	335.5	334.4	333.3	333.5
22.5°	333.8	333.1	332.5	331.8	331.1	330.3	329.2	328.1	327.1	326.1	326.1
25°	322.4	321.8	321.2	320.5	319.9	318.9	317.5	316.2	314.8	313.5	313.6
27.5°	309.5	309.0	308.3	307.8	307.2	306.3	305.3	304.2	303.2	302.1	301.8
30°	300.9	300.2	299.6	299.0	298.3	297.4	296.2	295.0	293.7	292.6	292.3
32.5°	291.6	291.1	290.7	290.1	289.6	288.7	287.4	286.2	284.9	283.7	283.2
35°	278.2	277.3	276.6	275.8	275.0	273.9	272.7	271.4	270.1	268.8	268.3
37.5°	263.0	262.3	261.6	260.9	260.2	259.2	257.9	256.7	255.3	254.1	253.5
40°	252.6	252.0	251.4	250.7	250.1	249.1	247.8	246.5	245.3	244.0	243.3
42.5°	242.6	241.9	241.3	240.7	240.0	239.0	237.7	236.5	235.2	233.9	233.1
45°	226.3	225.8	225.2	224.7	224.1	223.2	222.0	220.9	219.7	218.4	217.5
47.5°	210.2	209.7	209.2	208.7	208.1	207.2	206.0	204.8	203.5	202.2	201.3
50°	199.0	198.6	198.2	197.8	197.4	196.6	195.5	194.4	193.3	192.2	191.1
52.5°	188.1	187.5	187.0	186.5	185.9	185.1	184.1	183.1	182.0	180.9	180.0
55°	171.3	170.8	170.3	169.8	169.4	168.7	167.7	166.8	165.8	164.9	163.8
57.5°	154.5	154.1	153.7	153.3	152.9	152.2	151.1	150.1	149.0	148.0	147.0
60°	143.2	142.9	142.6	142.3	142.0	141.2	140.1	139.0	137.8	136.7	135.9
62.5°	132.3	131.7	131.3	130.8	130.2	129.5	128.7	127.9	127.0	126.1	125.2
65°	115.5	115.0	114.5	114.1	113.6	113.0	112.2	111.4	110.6	109.8	109.0
67.5°	98.5	98.1	97.7	97.3	97.0	96.4	95.6	94.9	94.2	93.5	92.9
70°	87.8	87.5	87.1	86.8	86.5	86.0	85.3	84.6	83.8	83.1	82.5
72.5°	76.8	76.5	76.2	75.9	75.6	75.2	74.7	74.3	73.8	73.4	72.8
75°	60.4	60.3	60.1	60.0	59.8	59.6	59.2	58.7	58.3	57.9	57.4
77.5°	45.8	45.5	45.2	45.0	44.7	44.4	44.3	44.1	44.0	43.8	43.6
80°	36.0	35.9	35.8	35.7	35.6	35.6	35.4	35.3	35.1	34.9	34.7
82.5°	26.8	26.8	26.8	26.7	26.7	26.6	26.5	26.5	26.4	26.3	26.0
85°	14.7	14.7	14.6	14.5	14.4	14.3	14.3	14.2	14.1	14.0	13.8
87.5°	5.3	5.7	6.2	6.4	6.6	6.9	7.6	8.6	9.3	9.4	9.0
90°	0.8	3.2	6.3	7.9	9.5	11.9	15.8	21.3	26.1	26.9	26.1
92.5°	9.7	13.9	19.6	23.1	28.4	35.9	53.8	78.9	101.3	102.7	86.8
95°	27.6	30.8	38.7	45.9	58.5	77.5	113.8	182.6	274.3	309.9	271.2
97.5°	45.1	49.4	57.8	68.4	83.0	104.5	150.2	246.1	398.5	529.1	555.0
100°	60.8	63.2	70.3	83.0	98.9	121.0	162.9	259.4	430.1	624.6	738.5
102.5°	75.4	77.2	84.3	97.0	113.4	135.5	174.3	260.0	418.1	627.7	806.8
105°	96.5	99.7	105.1	117.0	134.4	156.5	193.7	264.0	394.5	585.8	796.1
107.5°	119.2	121.8	127.1	138.1	155.3	177.6	213.7	275.0	382.8	541.0	726.7
110°	134.4	137.6	142.3	152.6	169.2	192.1	226.9	283.8	380.3	519.4	683.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	148.3	151.5	156.9	166.5	182.4	206.0	239.6	293.3	380.9	505.5	652.8
115°	170.0	174.0	178.7	188.1	204.0	225.3	259.4	307.5	384.2	490.2	615.1
117.5°	192.4	195.6	200.3	208.7	223.9	246.1	277.5	322.7	389.9	482.8	591.4
120°	206.4	209.5	214.3	221.3	237.2	259.4	290.2	332.9	393.7	478.3	578.8
122.5°	219.7	222.1	226.9	234.6	250.5	273.2	302.1	341.7	398.2	475.8	568.0
125°	237.2	239.6	244.3	253.8	269.6	291.8	320.2	355.8	404.8	471.2	552.6
127.5°	251.1	254.3	260.9	271.3	286.5	309.3	337.0	368.9	411.6	468.5	538.4
130°	259.4	262.4	270.4	281.5	297.3	319.4	347.1	377.2	416.7	467.2	528.9
132.5°	266.9	270.7	279.2	291.0	307.4	329.5	355.9	385.3	421.7	466.6	521.3
135°	278.3	281.5	291.0	302.8	321.0	343.1	368.4	396.1	427.7	465.6	510.7
137.5°	289.1	292.9	302.3	315.0	333.0	353.6	378.6	404.3	433.1	465.5	503.3
140°	297.3	300.5	309.9	322.6	340.0	360.5	384.2	408.8	435.6	464.9	498.9
142.5°	305.5	308.0	316.9	329.5	346.3	365.6	388.6	412.6	437.5	464.9	494.5
145°	317.8	321.0	328.9	340.8	356.6	374.0	395.3	417.5	439.6	463.3	488.6
147.5°	331.1	333.5	341.0	352.0	365.1	380.6	400.7	420.2	440.2	460.5	482.6
150°	340.0	342.3	348.6	358.9	370.8	385.0	403.2	421.4	439.6	458.6	477.5
152.5°	348.8	349.9	356.2	365.3	376.5	389.4	405.8	422.0	438.3	455.4	473.1
155°	361.3	362.1	366.9	375.6	384.2	396.1	409.6	422.9	436.4	449.9	464.9
157.5°	371.8	372.6	376.4	383.9	390.9	400.8	412.3	422.9	432.8	444.2	457.2
160°	378.7	379.5	382.6	389.0	395.3	404.0	413.5	422.9	430.9	440.4	451.5
162.5°	385.6	385.2	388.3	393.4	399.1	405.9	414.2	422.3	429.0	437.2	446.4
165°	393.7	392.9	394.5	399.3	403.2	408.0	415.1	420.6	425.3	430.9	438.0
167.5°	400.4	399.4	400.8	403.9	406.7	409.7	414.9	419.5	421.7	425.3	429.8
170°	404.8	403.2	404.0	406.4	408.0	410.4	414.3	418.3	419.9	422.2	425.3
172.5°	407.3	406.4	405.9	408.3	409.2	411.0	413.7	416.4	417.3	418.4	421.0
175°	410.4	409.6	408.8	410.4	410.4	411.1	412.7	414.3	413.5	414.3	415.1
177.5°	411.8	410.5	409.9	411.1	411.1	411.1	411.8	413.0	411.8	411.1	411.8
180°	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	372.6	373.3	373.9	374.2	374.1	373.9	373.8	373.7
5°	370.2	370.8	371.5	371.7	371.5	371.4	371.2	371.1
7.5°	366.0	366.6	367.3	367.5	367.3	367.1	366.9	366.8
10°	362.3	362.9	363.5	363.7	363.5	363.2	363.0	362.7
12.5°	357.8	358.2	358.7	358.9	358.7	358.5	358.3	358.1
15°	350.1	350.4	350.7	350.7	350.3	349.9	349.5	349.1
17.5°	340.9	341.3	341.6	341.6	341.2	340.9	340.5	340.1
20°	333.7	334.0	334.2	334.1	333.8	333.5	333.2	332.9
22.5°	326.1	326.2	326.2	326.1	326.0	325.7	325.6	325.4
25°	313.8	313.9	314.1	314.1	313.9	313.8	313.6	313.5
27.5°	301.6	301.3	301.1	300.8	300.4	300.0	299.7	299.3
30°	292.1	291.8	291.6	291.4	291.0	290.7	290.4	290.0
32.5°	282.8	282.3	281.9	281.5	281.2	280.9	280.6	280.3
35°	267.8	267.4	266.9	266.5	266.1	265.7	265.3	264.8
37.5°	252.9	252.3	251.7	251.2	250.8	250.4	250.1	249.7
40°	242.6	241.9	241.1	240.6	240.3	240.0	239.6	239.3
42.5°	232.3	231.6	230.8	230.1	229.7	229.3	228.9	228.4
45°	216.7	215.8	214.9	214.3	214.0	213.7	213.3	213.0
47.5°	200.4	199.5	198.5	197.8	197.4	196.9	196.5	196.0
50°	190.0	188.8	187.7	187.0	186.6	186.2	185.8	185.4
52.5°	179.1	178.2	177.2	176.5	175.9	175.5	174.9	174.4
55°	162.9	161.9	161.0	160.3	159.9	159.5	159.1	158.7
57.5°	146.1	145.1	144.2	143.5	143.3	143.0	142.7	142.4
60°	135.0	134.1	133.2	132.7	132.5	132.2	132.0	131.7
62.5°	124.5	123.7	122.9	122.3	122.0	121.7	121.4	121.0
65°	108.3	107.6	106.9	106.3	105.9	105.5	105.1	104.7
67.5°	92.4	91.8	91.3	90.8	90.5	90.2	89.8	89.5
70°	82.0	81.4	80.9	80.5	80.2	79.8	79.5	79.1
72.5°	72.2	71.7	71.1	70.7	70.4	70.2	69.9	69.6
75°	57.0	56.5	56.0	55.8	56.0	56.2	56.3	56.5
77.5°	43.3	43.1	42.9	42.6	42.4	42.2	42.0	41.7
80°	34.5	34.2	34.0	33.7	33.6	33.4	33.3	33.1
82.5°	25.7	25.3	25.0	24.9	24.9	24.8	24.8	24.8
85°	13.5	13.3	13.1	12.9	12.8	12.8	12.7	12.6
87.5°	8.7	8.2	8.3	8.3	8.3	8.2	8.2	8.1
90°	25.3	23.7	25.3	26.1	26.1	26.1	26.1	26.1
92.5°	68.9	59.2	52.5	47.6	47.0	44.4	45.1	43.8
95°	207.2	158.9	125.7	108.3	98.1	91.7	89.4	90.2
97.5°	483.4	395.5	309.9	252.9	215.1	195.6	184.0	177.4
100°	721.8	623.8	515.5	419.9	354.2	320.2	297.3	283.0
102.5°	878.1	856.0	776.7	675.3	604.0	546.0	517.4	498.1
105°	960.6	1050.0	1060.3	1034.1	985.1	936.1	902.1	891.0
107.5°	901.2	1035.7	1117.9	1156.2	1162.4	1159.7	1152.9	1138.2
110°	849.9	991.4	1092.7	1157.5	1191.4	1206.5	1213.6	1212.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	803.1	939.0	1047.1	1121.4	1168.7	1193.8	1207.3	1211.6
115°	745.5	867.3	970.9	1052.3	1108.4	1144.8	1165.4	1172.5
117.5°	702.2	809.1	903.0	979.5	1036.6	1075.1	1096.8	1102.7
120°	680.7	778.8	862.5	934.5	989.8	1027.0	1050.0	1057.9
122.5°	663.6	753.4	832.8	897.9	947.5	984.0	1004.4	1011.1
125°	638.8	720.3	789.8	849.1	895.0	925.0	944.8	951.1
127.5°	614.3	688.0	753.6	808.3	848.3	876.5	893.6	898.7
130°	598.5	666.5	729.0	781.2	819.9	846.8	862.5	868.9
132.5°	583.3	646.3	703.6	752.7	790.8	817.7	832.2	837.9
135°	562.1	614.3	666.5	710.7	744.7	770.9	785.1	788.2
137.5°	545.2	588.8	630.3	668.8	699.9	722.3	734.8	739.6
140°	534.5	572.4	608.8	643.6	668.8	689.4	701.3	706.0
142.5°	525.6	557.9	589.1	618.3	642.3	661.0	671.5	672.5
145°	513.1	539.2	563.7	586.6	605.6	619.1	626.9	629.3
147.5°	503.4	524.0	543.1	559.9	575.6	586.3	591.7	593.1
150°	496.5	513.9	530.5	544.7	556.6	566.1	570.8	571.6
152.5°	489.6	505.6	519.8	532.1	541.4	549.6	553.1	553.3
155°	479.9	492.6	504.4	513.1	521.8	527.4	530.5	528.9
157.5°	468.7	479.3	489.3	496.1	502.2	506.8	508.2	508.2
160°	461.7	470.4	479.1	484.7	490.2	494.2	495.0	495.0
162.5°	454.8	462.2	469.6	473.9	479.4	482.1	482.9	482.3
165°	444.3	449.9	455.4	458.6	461.7	464.9	464.9	464.1
167.5°	434.4	438.6	442.4	445.3	446.7	448.5	448.3	447.3
170°	429.3	431.7	434.8	436.4	437.2	439.6	438.8	437.2
172.5°	423.6	425.3	427.9	428.8	429.6	430.7	429.9	429.0
175°	417.5	418.3	419.1	419.9	419.9	420.6	419.9	418.3
177.5°	413.0	413.0	413.7	413.7	413.7	413.7	413.0	411.8
180°	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1

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