

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: P331329-935

Luminaire Tested: **S122DIP-S485D1080U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331329-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S485D1080U935-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5325.3 lumens  
Efficiency: N/A  
Efficacy: 107.8 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

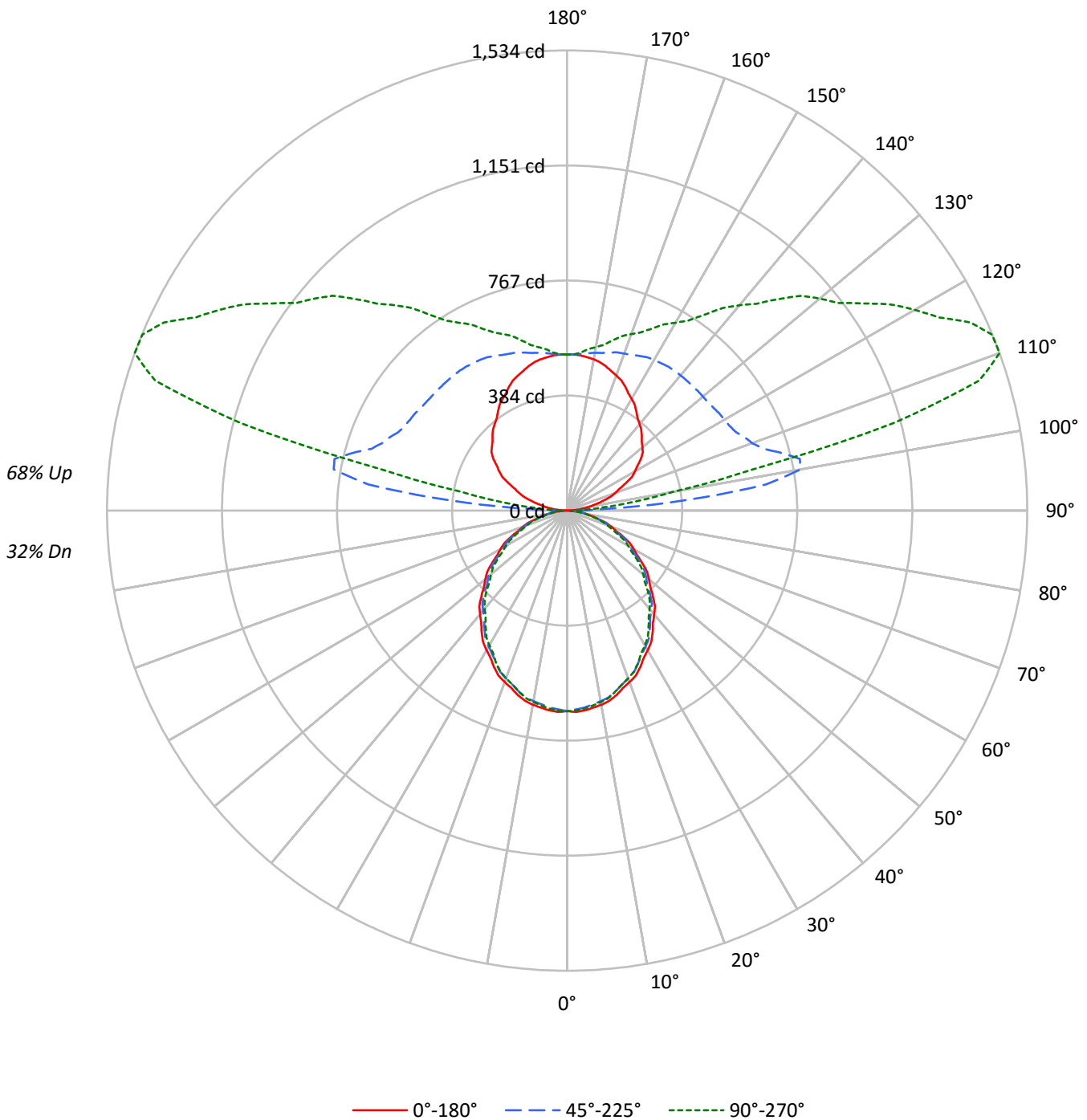
Input Watts (W): 49.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	73	73	73	56	56	56	40	40	40	32
1	94	90	86	82	84	81	78	75	64	62	60	49	48	46	35	34	33	27
2	85	78	72	67	77	70	65	61	56	53	50	43	41	39	31	29	28	23
3	78	69	62	56	70	62	56	51	50	45	42	38	35	33	27	25	24	19
4	71	61	53	47	64	55	48	43	44	39	35	34	31	28	24	22	21	16
5	65	54	46	40	58	49	42	37	39	34	30	30	27	24	22	20	18	14
6	60	48	40	35	54	44	37	32	35	30	26	27	24	21	20	18	16	13
7	55	43	36	30	50	39	33	28	32	27	23	25	21	19	18	16	14	11
8	51	39	32	27	46	36	29	25	29	24	20	23	19	16	17	14	12	10
9	48	36	29	24	43	33	26	22	26	22	18	21	17	15	15	13	11	9
10	44	33	26	21	40	30	24	19	24	20	16	19	16	13	14	12	10	8

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

	0°	45°	90°
0°	10797	10797	10797
5°	10838	10682	10746
10°	10775	10575	10627
15°	10641	10437	10425
20°	10452	10232	10220
25°	10265	9978	9978
30°	10023	9747	9661
35°	9798	9469	9329
40°	9514	9190	9012
45°	9236	8912	8690
50°	8932	8626	8317
55°	8617	8290	7983
60°	8263	7892	7598
65°	7885	7492	7148
70°	7407	7010	6680
75°	6744	6457	6301
80°	5979	5793	5504
85°	4872	4650	4168



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.9	1.2
10°-20°	176.9	3.3
20°-30°	260.1	4.9
30°-40°	302.1	5.7
40°-50°	301.8	5.7
50°-60°	263.2	4.9
60°-70°	194.6	3.7
70°-80°	110.2	2.1
80°-90°	34.3	0.6
90°-100°	208.0	3.9
100°-110°	705.7	13.3
110°-120°	749.7	14.1
120°-130°	617.2	11.6
130°-140°	495.6	9.3
140°-150°	374.5	7.0
150°-160°	263.2	4.9
160°-170°	154.9	2.9
170°-180°	50.4	0.9
0°-30°	499.9	9.4
0°-40°	802.0	15.1
0°-60°	1366.9	25.7
0°-90°	1706.1	32.0
90°-120°	1663.4	31.2
90°-150°	3150.7	59.2
90°-180°	3619.0	68.0
0°-180°	5325.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	669	669	669	669	669	
5°	669	666	659	664	663	63
15°	637	632	624	627	624	179
25°	576	571	560	561	560	265
35°	497	490	480	476	473	310
45°	404	400	390	384	381	312
55°	306	302	294	287	284	274
65°	206	202	196	190	187	204
75°	108	107	104	100	101	115
85°	26	26	25	23	22	30
90°	1	14	34	32	33	3
95°	35	86	392	148	114	37
105°	122	184	741	1325	1127	130
115°	215	272	620	1280	1483	213
125°	300	355	596	1037	1203	266
135°	352	420	589	871	997	272
145°	402	462	586	728	796	252
155°	457	494	569	644	669	210
165°	498	513	545	578	587	140
175°	519	520	524	531	529	49
180°	520	520	520	520	520	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7
2.5°	671.8	671.2	670.7	670.1	669.5	668.7	667.4	666.2	664.9	663.6	664.8
5°	668.7	668.1	667.6	667.0	666.5	665.4	663.8	662.3	660.6	659.1	660.2
7.5°	662.8	661.9	661.1	660.1	659.3	658.1	656.4	654.9	653.2	651.6	652.8
10°	657.2	656.2	655.1	654.2	653.2	651.8	650.1	648.4	646.7	645.0	646.1
12.5°	649.5	648.6	647.6	646.8	645.9	644.6	642.9	641.2	639.5	637.7	638.5
15°	636.6	635.8	634.9	634.0	633.2	631.8	629.9	628.1	626.2	624.4	624.9
17.5°	620.1	619.3	618.5	617.6	616.7	615.4	613.5	611.6	609.7	607.8	608.5
20°	608.3	607.4	606.6	605.7	604.9	603.5	601.4	599.4	597.4	595.5	595.9
22.5°	596.5	595.3	594.1	592.9	591.7	590.1	588.2	586.3	584.4	582.6	582.6
25°	576.2	575.0	573.9	572.7	571.6	569.8	567.4	564.9	562.5	560.1	560.3
27.5°	553.0	552.0	551.0	549.9	548.9	547.4	545.5	543.5	541.7	539.8	539.3
30°	537.6	536.4	535.3	534.2	533.0	531.3	529.2	527.1	525.0	522.8	522.4
32.5°	521.1	520.2	519.3	518.3	517.5	515.8	513.6	511.3	509.1	506.9	506.1
35°	497.1	495.6	494.2	492.8	491.4	489.5	487.2	484.9	482.6	480.4	479.5
37.5°	469.9	468.6	467.4	466.1	464.9	463.1	460.8	458.6	456.2	454.0	452.9
40°	451.4	450.2	449.1	448.0	446.9	445.1	442.8	440.6	438.2	436.0	434.7
42.5°	433.4	432.2	431.1	430.0	428.9	427.1	424.8	422.6	420.3	417.9	416.6
45°	404.5	403.5	402.4	401.5	400.5	398.9	396.7	394.6	392.4	390.3	388.7
47.5°	375.7	374.7	373.8	372.8	371.9	370.3	368.1	365.8	363.6	361.4	359.7
50°	355.6	354.9	354.1	353.4	352.8	351.4	349.4	347.4	345.3	343.4	341.4
52.5°	336.0	335.1	334.2	333.2	332.3	330.9	329.0	327.1	325.2	323.3	321.7
55°	306.1	305.2	304.4	303.5	302.6	301.4	299.6	297.9	296.2	294.5	292.8
57.5°	276.0	275.3	274.6	274.0	273.3	272.0	270.1	268.2	266.3	264.4	262.7
60°	255.9	255.4	254.8	254.2	253.7	252.4	250.4	248.3	246.3	244.4	242.8
62.5°	236.3	235.5	234.5	233.6	232.7	231.5	230.0	228.4	226.9	225.3	223.9
65°	206.4	205.5	204.7	203.8	203.0	201.8	200.4	199.0	197.5	196.1	194.8
67.5°	175.9	175.2	174.5	173.8	173.1	172.2	170.9	169.6	168.3	167.0	166.1
70°	156.9	156.4	155.8	155.2	154.6	153.7	152.4	151.1	149.8	148.5	147.6
72.5°	137.3	136.8	136.2	135.6	135.1	134.4	133.5	132.7	131.9	131.0	130.0
75°	108.1	107.7	107.5	107.2	106.9	106.4	105.6	105.0	104.3	103.5	102.6
77.5°	81.8	81.3	80.8	80.3	79.8	79.5	79.2	78.9	78.6	78.4	77.9
80°	64.3	64.1	64.1	63.9	63.7	63.5	63.2	62.9	62.7	62.3	61.9
82.5°	47.9	47.8	47.8	47.8	47.7	47.6	47.4	47.3	47.1	46.9	46.4
85°	26.3	26.3	26.1	25.9	25.8	25.7	25.5	25.4	25.2	25.1	24.6
87.5°	9.5	9.8	10.4	10.6	10.8	11.1	11.9	13.1	14.0	14.0	13.4
90°	1.0	4.0	8.0	10.0	12.0	15.0	20.0	27.0	33.0	34.0	33.0
92.5°	12.2	17.6	24.8	29.2	36.0	45.4	68.0	99.8	128.2	130.0	109.9
95°	35.0	39.0	49.0	58.0	74.0	98.0	144.0	231.0	347.1	392.1	343.1
97.5°	57.0	62.4	73.0	86.6	105.0	132.2	190.0	311.3	504.1	669.3	702.1
100°	77.0	80.0	89.0	105.0	125.0	153.0	206.0	328.0	544.1	790.1	934.2
102.5°	95.4	97.6	106.6	122.6	143.4	171.4	220.4	328.9	528.9	794.2	1020.6
105°	122.0	126.1	133.0	148.0	170.0	198.0	245.0	334.1	499.1	741.1	1007.2
107.5°	150.8	154.0	160.8	174.6	196.5	224.6	270.3	347.8	484.3	684.3	919.4
110°	170.0	174.0	180.0	193.0	214.0	243.1	287.1	359.0	481.1	657.1	864.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	187.6	191.7	198.5	210.6	230.8	260.6	303.1	371.1	481.9	639.6	825.8
115°	215.1	220.1	226.0	238.1	258.0	285.1	328.0	389.1	486.1	620.1	778.2
117.5°	243.5	247.5	253.5	264.1	283.3	311.3	351.0	408.3	493.3	610.7	748.1
120°	261.1	265.0	271.0	280.1	300.1	328.0	367.0	421.1	498.1	605.1	732.1
122.5°	277.8	281.0	287.1	296.9	316.8	345.7	382.3	432.3	503.7	601.9	718.5
125°	300.1	303.1	309.1	321.1	341.0	369.1	405.1	450.1	512.1	596.2	699.1
127.5°	317.6	321.7	330.1	343.3	362.5	391.2	426.3	466.7	520.7	592.7	681.1
130°	328.0	332.1	342.1	356.1	376.1	404.1	439.1	477.1	527.1	591.1	669.2
132.5°	337.7	342.5	353.3	368.1	388.9	416.9	450.3	487.5	533.5	590.3	659.5
135°	352.1	356.1	368.1	383.1	406.0	434.1	466.1	501.1	541.1	589.1	646.1
137.5°	365.7	370.5	382.5	398.5	421.3	447.3	478.9	511.5	547.9	588.9	636.7
140°	376.1	380.0	392.1	408.1	430.1	456.1	486.1	517.1	551.1	588.1	631.1
142.5°	386.5	389.7	400.9	416.9	438.1	462.5	491.7	521.9	553.5	588.1	625.5
145°	402.1	406.0	416.1	431.1	451.1	473.1	500.1	528.1	556.1	586.1	618.1
147.5°	418.9	421.9	431.4	445.3	461.9	481.5	506.9	531.5	556.9	582.6	610.5
150°	430.1	433.1	441.1	454.1	469.1	487.1	510.1	533.1	556.1	580.1	604.1
152.5°	441.3	442.7	450.6	462.1	476.3	492.7	513.3	533.9	554.5	576.1	598.5
155°	457.1	458.1	464.1	475.1	486.1	501.1	518.1	535.1	552.1	569.1	588.1
157.5°	470.3	471.3	476.1	485.7	494.5	507.1	521.5	535.1	547.5	561.9	578.3
160°	479.1	480.1	484.1	492.1	500.1	511.1	523.1	535.1	545.1	557.2	571.1
162.5°	487.9	487.3	491.3	497.7	504.9	513.5	523.9	534.3	542.7	553.1	564.7
165°	498.1	497.1	499.1	505.1	510.1	516.1	525.1	532.1	538.1	545.1	554.1
167.5°	506.5	505.3	507.1	510.9	514.5	518.3	524.9	530.7	533.5	538.1	543.7
170°	512.1	510.1	511.1	514.1	516.1	519.1	524.1	529.1	531.1	534.1	538.1
172.5°	515.3	514.1	513.5	516.5	517.7	519.9	523.3	526.7	527.9	529.3	532.5
175°	519.1	518.1	517.1	519.1	519.1	520.1	522.1	524.1	523.1	524.1	525.1
177.5°	520.9	519.3	518.5	520.1	520.1	520.1	520.9	522.5	520.9	520.1	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7
2.5°	665.9	667.0	668.1	668.7	668.4	668.1	668.0	667.7
5°	661.4	662.5	663.7	664.1	663.8	663.5	663.2	663.0
7.5°	653.9	655.0	656.3	656.6	656.3	656.0	655.7	655.4
10°	647.2	648.4	649.5	649.9	649.5	649.0	648.6	648.2
12.5°	639.4	640.2	640.9	641.2	640.8	640.6	640.2	639.9
15°	625.5	626.1	626.6	626.5	625.9	625.2	624.5	623.7
17.5°	609.1	609.8	610.4	610.4	609.7	609.1	608.4	607.7
20°	596.3	596.8	597.2	597.1	596.5	595.9	595.4	594.8
22.5°	582.7	582.8	582.9	582.8	582.5	582.1	581.8	581.4
25°	560.7	560.9	561.2	561.2	560.9	560.7	560.3	560.1
27.5°	538.9	538.5	538.0	537.5	536.8	536.1	535.5	534.8
30°	521.9	521.5	521.1	520.6	520.0	519.4	518.8	518.2
32.5°	505.3	504.5	503.8	503.1	502.5	502.0	501.4	500.8
35°	478.6	477.8	476.9	476.1	475.4	474.7	474.0	473.3
37.5°	451.9	450.8	449.8	448.8	448.2	447.5	446.8	446.2
40°	433.4	432.1	430.8	429.9	429.3	428.8	428.2	427.6
42.5°	415.2	413.8	412.3	411.3	410.4	409.7	408.9	408.0
45°	387.2	385.6	384.0	383.0	382.4	381.9	381.3	380.6
47.5°	358.1	356.4	354.7	353.5	352.7	351.9	351.0	350.2
50°	339.4	337.3	335.4	334.0	333.3	332.6	331.8	331.1
52.5°	320.0	318.3	316.7	315.4	314.4	313.5	312.5	311.6
55°	291.1	289.4	287.7	286.5	285.7	285.0	284.3	283.6
57.5°	261.1	259.3	257.7	256.6	256.0	255.5	254.9	254.3
60°	241.2	239.6	238.1	237.0	236.6	236.2	235.7	235.3
62.5°	222.4	220.9	219.5	218.5	217.9	217.4	216.9	216.3
65°	193.6	192.3	191.0	189.9	189.2	188.6	187.9	187.1
67.5°	165.1	164.0	163.1	162.3	161.7	161.1	160.6	160.0
70°	146.5	145.5	144.6	143.8	143.2	142.6	142.1	141.5
72.5°	129.1	128.0	127.1	126.3	125.9	125.4	124.9	124.5
75°	101.8	101.0	100.1	99.8	100.1	100.4	100.7	101.0
77.5°	77.5	77.1	76.6	76.2	75.8	75.4	75.0	74.6
80°	61.5	61.0	60.7	60.3	60.0	59.8	59.4	59.2
82.5°	45.9	45.3	44.8	44.4	44.4	44.3	44.3	44.3
85°	24.2	23.8	23.3	23.1	22.9	22.8	22.6	22.5
87.5°	12.9	12.1	12.2	12.2	12.1	12.0	11.9	11.7
90°	32.0	30.0	32.0	33.0	33.0	33.0	33.0	33.0
92.5°	87.2	74.8	66.4	60.2	59.4	56.2	57.0	55.4
95°	262.1	201.0	159.0	137.0	124.0	116.1	113.0	114.0
97.5°	611.5	500.3	392.1	319.9	272.1	247.5	232.8	224.5
100°	913.2	789.2	652.1	531.1	448.1	405.1	376.1	358.1
102.5°	1110.9	1082.8	982.6	854.4	764.1	690.8	654.5	630.2
105°	1215.2	1328.3	1341.3	1308.3	1246.2	1184.2	1141.3	1127.2
107.5°	1140.1	1310.3	1414.3	1462.7	1470.5	1467.1	1458.4	1439.9
110°	1075.2	1254.2	1382.2	1464.3	1507.3	1526.3	1535.3	1534.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1016.0	1187.8	1324.6	1418.7	1478.5	1510.3	1527.3	1532.7
115°	943.2	1097.3	1228.2	1331.3	1402.3	1448.3	1474.3	1483.3
117.5°	888.4	1023.6	1142.5	1239.1	1311.5	1360.0	1387.5	1395.1
120°	861.2	985.2	1091.2	1182.2	1252.2	1299.2	1328.3	1338.3
122.5°	839.6	953.2	1053.6	1135.8	1198.6	1244.8	1270.7	1279.0
125°	808.1	911.2	999.2	1074.2	1132.2	1170.3	1195.2	1203.2
127.5°	777.1	870.4	953.4	1022.6	1073.2	1108.8	1130.4	1136.9
130°	757.2	843.2	922.2	988.2	1037.2	1071.3	1091.2	1099.2
132.5°	738.0	817.6	890.2	952.2	1000.4	1034.4	1052.8	1060.0
135°	711.1	777.1	843.2	899.1	942.2	975.2	993.2	997.2
137.5°	689.7	744.9	797.4	846.2	885.4	913.8	929.6	935.6
140°	676.1	724.2	770.2	814.2	846.2	872.2	887.2	893.2
142.5°	665.0	705.8	745.4	782.1	812.5	836.2	849.5	850.8
145°	649.1	682.2	713.2	742.2	766.1	783.2	793.2	796.2
147.5°	637.0	663.0	687.2	708.3	728.1	741.8	748.6	750.4
150°	628.1	650.1	671.1	689.1	704.1	716.2	722.1	723.2
152.5°	619.3	639.7	657.5	673.1	684.9	695.3	699.7	699.9
155°	607.1	623.1	638.1	649.1	660.1	667.1	671.1	669.2
157.5°	592.9	606.3	618.9	627.5	635.3	641.1	642.9	642.9
160°	584.1	595.1	606.1	613.1	620.1	625.1	626.1	626.1
162.5°	575.3	584.7	594.1	599.5	606.5	609.9	610.9	610.1
165°	562.1	569.1	576.1	580.1	584.1	588.1	588.1	587.1
167.5°	549.5	554.9	559.7	563.4	565.1	567.3	567.1	565.9
170°	543.1	546.1	550.1	552.1	553.1	556.1	555.1	553.1
172.5°	535.9	538.1	541.3	542.5	543.5	544.9	543.9	542.7
175°	528.1	529.1	530.1	531.1	531.1	532.1	531.1	529.1
177.5°	522.5	522.5	523.3	523.3	523.3	523.3	522.5	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1

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