

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: P331674-940

Luminaire Tested: **SA2XXRDIP-C485D1080U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331674-940  
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: SA2XXRDIP-C485D1080U940-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5266.7 lumens  
Efficiency: N/A  
Efficacy: 106.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

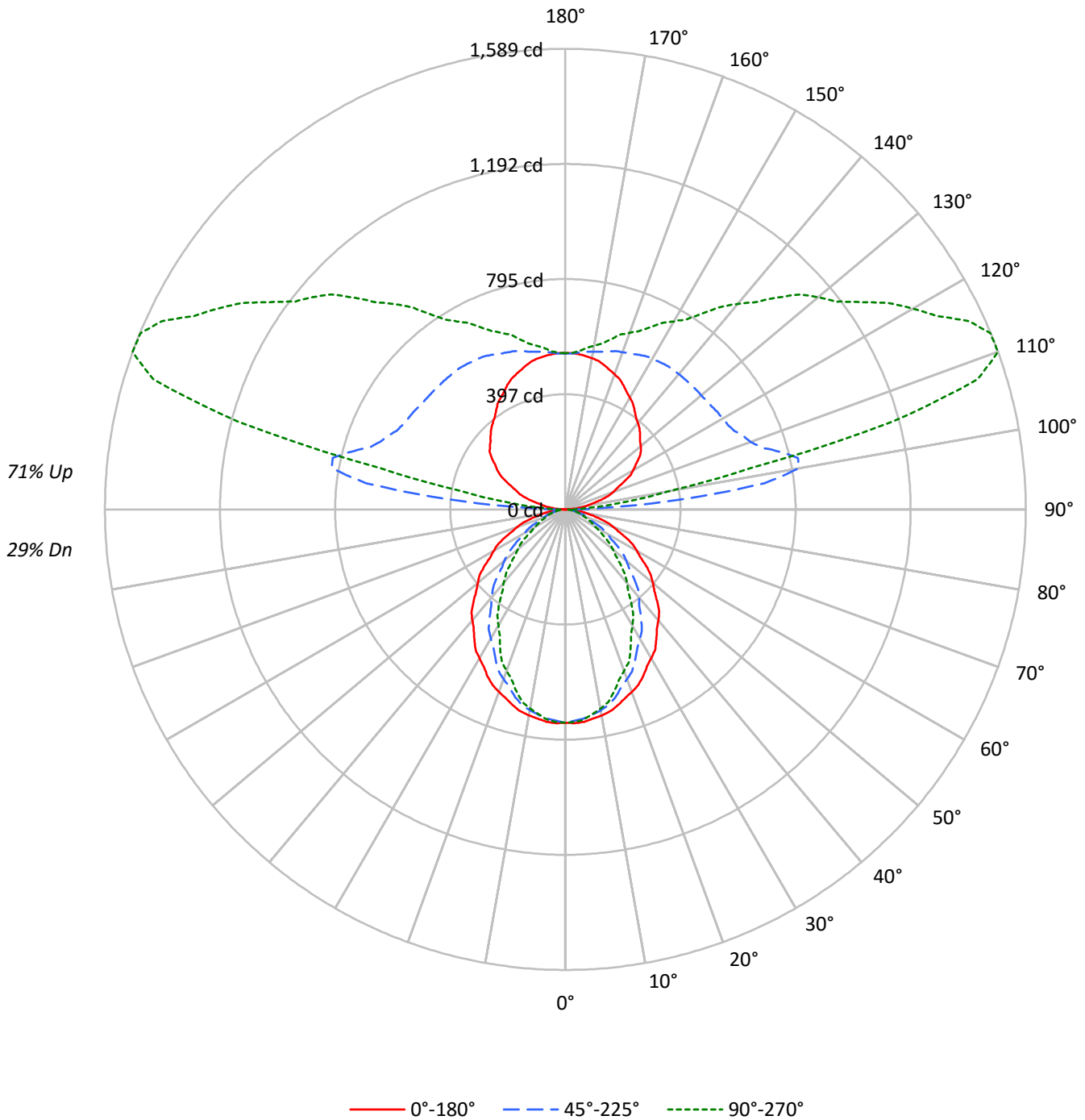
Input Watts (W): 49.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	102	102	102	102	91	91	91	91	72	72	72	53	53	53	37	37	37	29				
1	93	89	86	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25				
2	85	78	72	68	76	70	65	61	55	52	49	42	40	38	29	28	27	21				
3	78	69	62	56	69	62	56	51	49	45	42	37	34	32	26	24	23	18				
4	71	61	54	48	64	55	49	44	44	39	36	33	30	28	23	22	20	16				
5	65	54	47	41	58	49	43	38	39	34	31	30	27	24	21	19	18	14				
6	60	49	41	36	54	44	37	33	35	30	27	27	24	21	19	17	16	12				
7	56	44	36	31	50	40	33	29	32	27	24	25	21	19	18	16	14	11				
8	52	40	32	27	46	36	30	25	29	24	21	23	19	17	16	14	13	10				
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9				
10	45	33	26	22	40	30	24	20	24	20	17	19	16	14	14	12	10	8				

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

	0°	45°	90°
0°	11880	11880	11880
5°	11925	11733	11797
10°	11835	11540	11442
15°	11699	11198	10877
20°	11510	10710	10172
25°	11318	10156	9492
30°	11050	9587	8617
35°	10789	8966	7849
40°	10526	8323	6962
45°	10218	7604	6158
50°	9902	6875	5368
55°	9579	6092	4611
60°	9203	5270	3827
65°	8779	4424	3484
70°	8266	3644	3205
75°	7642	3319	2994
80°	6750	2966	2724
85°	5298	2353	2353



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.9	1.3
10°-20°	189.1	3.6
20°-30°	265.6	5.0
30°-40°	289.6	5.5
40°-50°	266.3	5.1
50°-60°	209.1	4.0
60°-70°	136.4	2.6
70°-80°	70.3	1.3
80°-90°	23.1	0.4
90°-100°	215.4	4.1
100°-110°	730.9	13.9
110°-120°	776.4	14.7
120°-130°	639.2	12.1
130°-140°	513.3	9.7
140°-150°	387.9	7.4
150°-160°	272.6	5.2
160°-170°	160.5	3.0
170°-180°	52.2	1.0
0°-30°	523.6	9.9
0°-40°	813.2	15.4
0°-60°	1288.6	24.5
0°-90°	1518.4	28.8
90°-120°	1722.7	32.7
90°-150°	3263.0	62.0
90°-180°	3748.0	71.2
0°-180°	5266.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	736	736	736	736	736	
5°	736	732	724	729	728	70
15°	700	692	670	658	651	197
25°	635	613	570	544	533	292
35°	547	512	455	414	398	342
45°	448	402	333	287	270	345
55°	340	287	216	178	164	304
65°	230	176	116	94	91	228
75°	122	77	53	49	48	130
85°	29	15	13	13	13	34
90°	1	14	35	34	34	3
95°	36	89	406	153	118	38
105°	126	191	768	1372	1167	134
115°	223	281	642	1325	1536	221
125°	311	368	617	1074	1246	276
135°	365	435	610	902	1033	282
145°	416	479	607	754	825	261
155°	473	511	589	667	693	218
165°	516	531	564	599	608	145
175°	538	538	543	550	548	51
180°	539	539	539	539	539	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	738.5	738.0	737.4	736.7	736.2	735.2	734.0	732.6	731.3	730.0	731.2
5°	735.8	735.1	734.4	733.7	732.9	731.6	729.7	727.7	725.9	723.9	725.2
7.5°	728.3	727.4	726.5	725.5	724.6	723.0	720.8	718.5	716.3	714.1	714.4
10°	721.9	720.9	719.8	718.8	717.7	715.8	712.8	709.8	706.9	703.9	703.5
12.5°	713.9	712.7	711.3	710.1	708.8	706.3	702.5	698.7	694.9	691.2	690.4
15°	699.9	698.3	696.7	695.0	693.4	690.1	685.0	680.0	675.0	669.9	667.2
17.5°	682.8	680.3	677.8	675.3	672.8	668.3	661.9	655.4	649.0	642.5	639.2
20°	669.9	667.0	664.1	661.1	658.1	652.9	645.5	638.1	630.7	623.3	619.6
22.5°	656.1	652.8	649.4	646.1	642.8	637.0	628.7	620.3	612.0	603.6	598.9
25°	635.3	630.6	625.9	621.1	616.4	609.1	599.3	589.6	579.8	570.1	564.0
27.5°	610.3	605.1	599.9	594.9	589.7	581.6	570.6	559.5	548.6	537.5	530.5
30°	592.7	587.1	581.5	575.9	570.2	561.5	549.7	537.8	525.9	514.2	506.6
32.5°	575.7	569.1	562.5	556.0	549.4	540.0	528.0	515.9	503.8	491.8	483.1
35°	547.4	539.8	532.4	524.8	517.2	506.9	493.9	480.9	467.9	454.9	445.5
37.5°	519.2	510.9	502.6	494.3	486.1	474.9	461.1	447.2	433.3	419.5	409.1
40°	499.4	490.6	481.7	472.9	464.0	452.4	438.0	423.7	409.3	394.9	384.4
42.5°	479.2	469.8	460.5	451.2	441.8	429.7	414.9	400.0	385.2	370.4	359.5
45°	447.5	437.7	427.7	417.8	407.9	395.1	379.6	364.1	348.5	333.0	322.4
47.5°	416.6	406.1	395.7	385.1	374.6	361.3	345.3	329.2	313.2	297.1	286.7
50°	394.2	383.7	373.3	362.7	352.2	338.9	322.5	306.3	290.0	273.7	263.5
52.5°	372.4	361.4	350.4	339.5	328.5	315.0	299.1	283.2	267.2	251.4	241.5
55°	340.3	328.8	317.2	305.7	294.2	280.4	264.4	248.4	232.4	216.4	207.6
57.5°	307.4	295.6	283.7	271.9	260.0	246.5	231.1	215.7	200.4	185.0	176.8
60°	285.0	273.2	261.4	249.5	237.6	224.2	208.9	193.7	178.4	163.2	155.6
62.5°	263.1	251.4	239.5	227.7	215.8	202.7	188.2	173.6	159.1	144.5	137.3
65°	229.8	217.8	205.8	193.8	181.8	169.2	155.9	142.5	129.2	115.8	110.8
67.5°	197.5	185.7	173.7	161.8	149.9	137.9	126.0	114.0	102.0	90.1	87.7
70°	175.1	163.6	152.0	140.5	128.9	118.1	107.9	97.6	87.5	77.2	75.8
72.5°	153.8	142.8	131.7	120.6	109.6	100.0	91.8	83.6	75.3	67.1	65.9
75°	122.5	112.2	101.8	91.5	81.1	73.4	68.4	63.3	58.3	53.2	52.3
77.5°	91.8	82.7	73.6	64.5	55.5	49.7	47.3	44.9	42.4	39.9	39.3
80°	72.6	65.0	57.5	49.9	42.4	37.9	36.4	35.0	33.4	31.9	31.4
82.5°	55.0	49.1	43.2	37.4	31.5	28.0	27.0	25.9	25.0	24.0	23.6
85°	28.6	25.5	22.4	19.4	16.2	14.4	14.0	13.6	13.1	12.7	12.7
87.5°	8.7	8.4	8.3	7.8	7.2	7.4	8.4	9.9	11.1	11.3	11.0
90°	1.1	4.1	8.3	10.3	12.4	15.5	20.7	28.0	34.2	35.2	34.2
92.5°	12.7	18.2	25.7	30.2	37.3	47.0	70.4	103.3	132.8	134.6	113.8
95°	36.3	40.4	50.7	60.1	76.7	101.5	149.2	239.2	359.4	406.1	355.3
97.5°	59.0	64.6	75.6	89.7	108.8	137.0	196.8	322.4	522.1	693.2	727.2
100°	79.7	82.8	92.2	108.8	129.5	158.5	213.4	339.7	563.5	818.3	967.5
102.5°	98.8	101.1	110.4	127.0	148.6	177.5	228.3	340.6	547.8	822.5	1057.0
105°	126.4	130.5	137.8	153.3	176.1	205.1	253.8	346.0	516.9	767.6	1043.1
107.5°	156.2	159.5	166.6	180.8	203.5	232.6	279.9	360.3	501.6	708.7	952.2
110°	176.1	180.2	186.5	199.9	221.7	251.7	297.3	371.8	498.3	680.6	895.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	194.3	198.5	205.5	218.1	239.1	269.9	313.9	384.3	499.1	662.4	855.2
115°	222.7	227.9	234.1	246.6	267.2	295.2	339.7	403.0	503.5	642.2	805.9
117.5°	252.2	256.3	262.5	273.5	293.4	322.4	363.6	422.8	510.9	632.5	774.8
120°	270.4	274.5	280.7	290.1	310.8	339.7	380.1	436.1	515.9	626.7	758.2
122.5°	287.8	291.1	297.3	307.5	328.1	358.0	395.9	447.7	521.7	623.4	744.1
125°	310.8	313.9	320.1	332.5	353.2	382.3	419.5	466.2	530.4	617.4	724.1
127.5°	329.0	333.1	341.9	355.5	375.4	405.2	441.5	483.3	539.3	613.9	705.4
130°	339.7	343.9	354.3	368.8	389.5	418.5	454.8	494.1	545.9	612.2	693.0
132.5°	349.7	354.7	365.9	381.2	402.8	431.8	466.4	504.9	552.5	611.4	683.1
135°	364.6	368.8	381.2	396.7	420.5	449.6	482.7	519.0	560.4	610.1	669.1
137.5°	378.7	383.7	396.1	412.7	436.3	463.2	496.0	529.8	567.5	609.9	659.4
140°	389.5	393.6	406.1	422.7	445.4	472.3	503.5	535.6	570.8	609.1	653.6
142.5°	400.3	403.6	415.2	431.8	453.7	479.0	509.3	540.6	573.3	609.1	647.8
145°	416.4	420.5	431.0	446.5	467.2	490.0	517.9	547.0	576.0	607.0	640.2
147.5°	433.8	436.9	446.8	461.2	478.4	498.6	525.0	550.5	576.8	603.3	632.3
150°	445.4	448.5	456.8	470.3	485.8	504.4	528.3	552.1	576.0	600.8	625.6
152.5°	457.0	458.5	466.7	478.6	493.3	510.2	531.6	552.9	574.3	596.6	619.8
155°	473.4	474.4	480.6	492.0	503.5	519.0	536.5	554.2	571.8	589.4	609.1
157.5°	487.1	488.1	493.1	503.0	512.1	525.2	540.1	554.2	567.0	581.9	599.0
160°	496.1	497.2	501.3	509.6	517.9	529.3	541.8	554.2	564.5	577.0	591.5
162.5°	505.3	504.7	508.8	515.4	522.9	531.8	542.6	553.4	562.0	572.8	584.9
165°	515.9	514.9	516.9	523.1	528.3	534.5	543.9	551.1	557.3	564.5	573.9
167.5°	524.6	523.3	525.2	529.1	532.9	536.8	543.6	549.7	552.5	557.3	563.1
170°	530.4	528.3	529.3	532.4	534.5	537.6	542.8	548.0	550.0	553.1	557.3
172.5°	533.7	532.4	531.8	534.9	536.2	538.4	542.0	545.5	546.7	548.2	551.5
175°	537.6	536.5	535.6	537.6	537.6	538.7	540.7	542.8	541.8	542.8	543.9
177.5°	539.5	537.8	537.0	538.7	538.7	538.7	539.5	541.2	539.5	538.7	539.5
180°	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	732.4	733.6	734.8	735.2	735.0	734.8	734.5	734.3
5°	726.6	727.9	729.2	729.7	729.2	728.8	728.3	727.9
7.5°	714.8	715.2	715.6	715.4	714.6	713.8	713.1	712.3
10°	703.0	702.6	702.1	701.5	700.6	699.7	698.8	697.9
12.5°	689.6	688.8	688.0	686.8	685.3	683.9	682.3	680.9
15°	664.3	661.6	658.7	656.6	655.1	653.6	652.1	650.7
17.5°	635.8	632.5	629.1	626.2	623.7	621.1	618.6	616.0
20°	615.9	612.2	608.5	605.0	601.8	598.5	595.3	592.0
22.5°	594.1	589.3	584.6	580.9	578.5	576.1	573.7	571.2
25°	557.9	551.9	545.8	541.6	539.4	537.2	535.0	532.8
27.5°	523.4	516.3	509.3	504.0	500.4	497.0	493.4	489.9
30°	499.0	491.5	483.9	478.1	474.1	470.2	466.2	462.2
32.5°	474.5	465.9	457.3	451.1	447.4	443.6	439.8	436.0
35°	436.2	426.9	417.6	411.3	408.0	404.7	401.5	398.2
37.5°	398.9	388.6	378.4	371.3	367.7	363.9	360.2	356.4
40°	373.9	363.4	352.8	345.7	341.9	338.0	334.1	330.3
42.5°	348.7	337.8	327.0	319.7	315.9	312.2	308.4	304.7
45°	311.9	301.5	291.0	283.9	280.4	276.8	273.2	269.7
47.5°	276.3	265.8	255.4	248.5	245.3	242.1	238.8	235.6
50°	253.2	243.1	232.8	226.2	223.1	220.0	216.9	213.7
52.5°	231.6	221.8	211.9	205.5	202.7	199.8	196.9	194.0
55°	198.7	189.8	180.9	175.0	172.3	169.4	166.7	163.8
57.5°	168.7	160.6	152.5	147.2	144.8	142.5	140.1	137.7
60°	148.0	140.5	133.0	128.0	125.6	123.2	120.9	118.5
62.5°	130.1	123.0	115.7	111.5	110.0	108.6	107.2	105.8
65°	105.8	100.8	95.8	93.0	92.6	92.1	91.7	91.2
67.5°	85.4	83.1	80.8	79.5	78.9	78.5	78.0	77.5
70°	74.3	72.9	71.3	70.3	69.7	69.1	68.5	67.9
72.5°	64.6	63.4	62.2	61.3	61.0	60.6	60.3	59.9
75°	51.2	50.2	49.1	48.5	48.4	48.2	48.1	48.0
77.5°	38.8	38.2	37.6	37.2	36.9	36.7	36.5	36.2
80°	30.8	30.2	29.6	29.3	29.3	29.3	29.3	29.3
82.5°	23.3	22.9	22.6	22.4	22.4	22.4	22.4	22.4
85°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
87.5°	10.6	10.2	10.4	10.5	10.5	10.5	10.5	10.5
90°	33.2	31.1	33.2	34.2	34.2	34.2	34.2	34.2
92.5°	90.3	77.5	68.8	62.3	61.5	58.2	59.0	57.4
95°	271.4	208.2	164.7	141.9	128.4	120.2	117.1	118.1
97.5°	633.3	518.2	406.1	331.3	281.8	256.3	241.1	232.5
100°	945.7	817.3	675.4	550.0	464.0	419.5	389.5	370.9
102.5°	1150.5	1121.4	1017.6	884.8	791.4	715.4	677.9	652.6
105°	1258.6	1375.6	1389.1	1355.0	1290.7	1226.5	1182.0	1167.4
107.5°	1180.7	1357.0	1464.7	1514.8	1523.0	1519.4	1510.5	1491.2
110°	1113.6	1299.0	1431.6	1516.5	1561.0	1580.7	1590.1	1589.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1052.2	1230.2	1371.9	1469.3	1531.2	1564.1	1581.8	1587.3
115°	976.9	1136.4	1272.0	1378.8	1452.3	1499.9	1526.9	1536.2
117.5°	920.1	1060.2	1183.2	1283.3	1358.3	1408.5	1437.0	1444.8
120°	891.9	1020.3	1130.2	1224.4	1296.9	1345.6	1375.6	1386.0
122.5°	869.5	987.2	1091.2	1176.3	1241.4	1289.2	1316.0	1324.6
125°	837.0	943.7	1034.8	1112.5	1172.6	1212.0	1237.9	1246.2
127.5°	804.9	901.4	987.4	1059.1	1111.5	1148.3	1170.7	1177.4
130°	784.2	873.3	955.1	1023.4	1074.2	1109.5	1130.2	1138.4
132.5°	764.3	846.8	921.9	986.1	1036.1	1071.3	1090.4	1097.8
135°	736.5	804.9	873.3	931.2	975.8	1010.0	1028.6	1032.8
137.5°	714.3	771.5	825.8	876.4	916.9	946.4	962.8	968.9
140°	700.3	750.0	797.6	843.2	876.4	903.3	918.8	925.1
142.5°	688.7	730.9	772.0	810.0	841.5	866.0	879.9	881.1
145°	672.3	706.5	738.6	768.7	793.4	811.1	821.4	824.6
147.5°	659.7	686.6	711.7	733.6	754.1	768.2	775.3	777.1
150°	650.5	673.3	695.1	713.7	729.2	741.7	747.9	748.9
152.5°	641.4	662.5	681.0	697.1	709.4	720.1	724.7	724.9
155°	628.7	645.3	660.8	672.3	683.7	690.9	695.1	693.0
157.5°	614.0	627.9	641.0	649.9	658.0	664.0	665.8	665.8
160°	604.9	616.4	627.8	635.0	642.2	647.4	648.5	648.5
162.5°	595.8	605.6	615.3	620.9	628.1	631.7	632.7	631.9
165°	582.2	589.4	596.6	600.8	604.9	609.1	609.1	608.1
167.5°	569.1	574.7	579.7	583.4	585.2	587.5	587.4	586.1
170°	562.5	565.6	569.7	571.8	572.8	576.0	574.9	572.8
172.5°	555.0	557.3	560.6	561.9	562.9	564.4	563.3	562.0
175°	547.0	548.0	549.0	550.0	550.0	551.1	550.0	548.0
177.5°	541.2	541.2	542.0	542.0	542.0	542.0	541.2	539.5
180°	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7

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