

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: P331326-940

Luminaire Tested: **SA2XXDIP-C485D1080U940-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331326-940  
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: SA2XXDIP-C485D1080U940-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

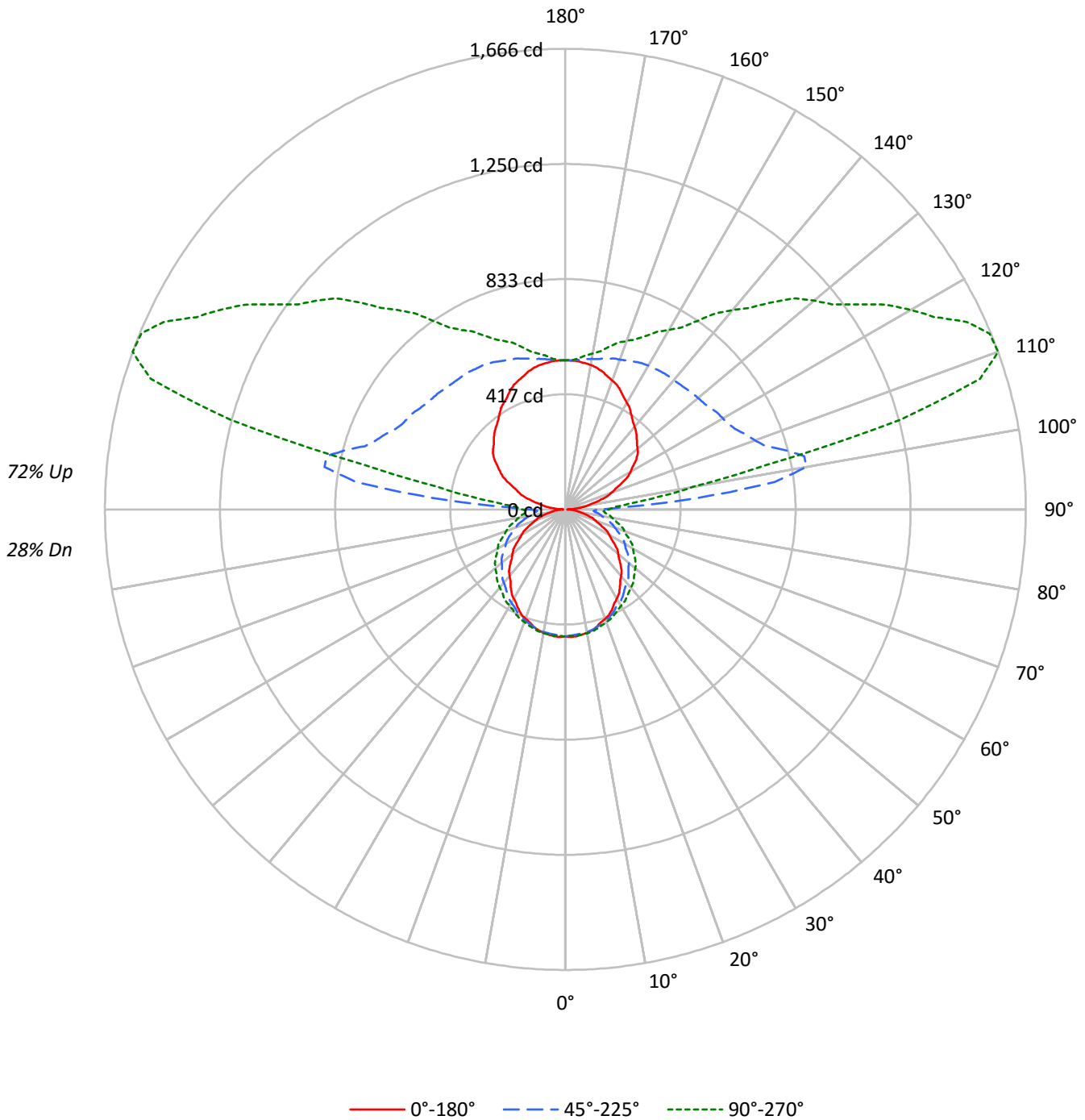
Lumens per Lamp: N/A  
Luminaire Lumens: 5506.2 lumens  
Efficiency: N/A  
Efficacy: 111.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	88	83	80	82	78	75	72	61	59	57	45	44	42	31	30	29	22
2	83	76	70	64	74	68	63	58	53	49	46	39	37	35	26	25	24	18
3	76	66	59	53	67	59	53	48	46	42	38	34	31	29	23	21	20	15
4	69	58	51	45	61	52	46	40	41	36	32	30	27	24	20	18	17	12
5	63	52	44	38	56	46	40	34	36	31	28	27	24	21	18	16	14	11
6	58	46	38	32	52	42	35	30	33	28	24	24	21	18	17	14	13	9
7	54	42	34	28	48	37	31	26	29	24	21	22	18	16	15	13	11	8
8	50	37	30	25	44	34	27	22	27	22	18	20	17	14	14	11	10	7
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	13	10	9	6
10	43	31	24	19	38	28	22	18	22	18	14	17	13	11	12	9	8	6

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

	0°	45°	90°
0°	7419	7419	7419
5°	7455	7143	7115
10°	7408	6931	6854
15°	7306	6708	6577
20°	7177	6468	6312
25°	7050	6237	6072
30°	6870	5999	5829
35°	6689	5771	5659
40°	6498	5576	5488
45°	6317	5402	5343
50°	6123	5242	5199
55°	5916	5073	5052
60°	5666	4897	4897
65°	5405	4692	4714
70°	5117	4470	4516
75°	4741	4251	4334
80°	4149	4028	4148
85°	3591	3837	4006



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.5	0.8
10°-20°	124.9	2.3
20°-30°	189.2	3.4
30°-40°	230.5	4.2
40°-50°	247.9	4.5
50°-60°	240.8	4.4
60°-70°	210.2	3.8
70°-80°	161.8	2.9
80°-90°	113.5	2.1
90°-100°	290.2	5.3
100°-110°	785.5	14.3
110°-120°	812.5	14.8
120°-130°	659.3	12.0
130°-140°	521.7	9.5
140°-150°	389.3	7.1
150°-160°	272.6	5.0
160°-170°	160.5	2.9
170°-180°	52.2	0.9
0°-30°	357.6	6.5
0°-40°	588.1	10.7
0°-60°	1076.8	19.6
0°-90°	1562.3	28.4
90°-120°	1888.3	34.3
90°-150°	3458.6	62.8
90°-180°	3944.0	71.6
0°-180°	5506.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	460	460	460	460	460	
5°	461	459	455	459	458	44
15°	440	441	441	446	446	124
25°	400	404	410	418	420	184
35°	344	356	368	382	388	215
45°	282	301	324	344	351	218
55°	216	241	275	298	308	193
65°	148	181	220	246	256	147
75°	82	119	162	189	199	87
85°	24	65	108	135	145	26
90°	8	59	123	147	157	6
95°	42	126	483	254	228	43
105°	130	214	825	1452	1255	138
115°	225	292	682	1385	1604	223
125°	312	370	640	1114	1293	277
135°	365	436	617	923	1059	282
145°	416	479	607	758	832	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°	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5
2.5°	462.2	461.8	461.5	461.1	460.7	460.1	459.3	458.5	457.7	456.8	457.4
5°	460.8	460.4	459.9	459.5	459.1	458.4	457.5	456.6	455.8	454.9	455.8
7.5°	456.7	456.4	456.1	455.8	455.6	455.0	454.3	453.7	453.0	452.3	453.3
10°	453.5	453.3	452.9	452.6	452.4	452.0	451.6	451.1	450.7	450.2	451.4
12.5°	448.2	448.3	448.4	448.4	448.4	448.3	448.0	447.6	447.3	447.0	448.2
15°	439.5	439.8	440.1	440.4	440.7	440.9	440.9	440.9	440.9	440.9	442.2
17.5°	428.4	429.0	429.6	430.3	430.9	431.4	431.9	432.3	432.8	433.3	434.6
20°	420.9	421.6	422.4	423.1	423.8	424.5	425.1	425.7	426.3	426.9	428.5
22.5°	412.9	413.8	414.6	415.4	416.3	417.1	418.0	418.8	419.6	420.5	422.1
25°	399.6	400.6	401.6	402.7	403.7	404.9	406.3	407.6	408.9	410.2	412.0
27.5°	383.6	385.3	387.0	388.7	390.3	392.0	393.5	395.1	396.6	398.2	400.5
30°	372.9	374.9	376.7	378.7	380.7	382.5	384.5	386.4	388.3	390.2	392.6
32.5°	361.2	363.4	365.5	367.7	369.9	372.1	374.3	376.7	378.9	381.2	383.9
35°	344.3	346.8	349.4	351.9	354.4	357.0	359.8	362.7	365.4	368.3	371.5
37.5°	325.9	328.9	331.7	334.7	337.5	340.8	344.5	348.0	351.7	355.3	359.0
40°	313.7	316.9	320.2	323.4	326.7	330.3	334.3	338.3	342.3	346.3	350.2
42.5°	301.9	305.2	308.4	311.7	315.0	318.9	323.5	328.1	332.7	337.2	341.4
45°	282.4	286.3	290.3	294.4	298.4	302.9	308.1	313.3	318.5	323.7	328.2
47.5°	263.1	267.4	271.8	276.1	280.4	285.7	291.8	297.8	303.9	310.0	314.8
50°	249.8	254.3	259.0	263.5	268.0	273.7	280.4	287.0	293.7	300.3	305.4
52.5°	236.9	241.7	246.6	251.5	256.3	262.2	269.2	276.2	283.2	290.3	295.3
55°	216.4	221.8	227.1	232.4	237.7	244.2	252.0	259.7	267.3	275.0	280.4
57.5°	196.2	202.2	208.2	214.2	220.3	227.1	235.0	242.8	250.7	258.5	264.3
60°	181.8	188.2	194.6	200.9	207.2	214.6	223.1	231.5	240.0	248.4	254.0
62.5°	169.0	175.6	182.3	188.9	195.5	203.0	211.3	219.8	228.3	236.7	242.6
65°	147.8	155.1	162.4	169.6	176.8	184.9	193.6	202.3	211.1	219.8	225.9
67.5°	128.4	136.0	143.6	151.1	158.7	166.9	175.9	184.9	193.8	202.7	208.8
70°	114.6	122.3	129.9	137.6	145.3	153.7	162.9	172.1	181.3	190.5	196.8
72.5°	101.7	109.7	117.6	125.6	133.5	142.1	151.4	160.7	170.0	179.2	185.6
75°	81.9	90.2	98.4	106.7	115.0	123.9	133.4	142.9	152.4	161.8	168.2
77.5°	62.8	71.4	80.1	88.7	97.5	106.6	116.2	125.8	135.5	145.1	151.4
80°	49.9	58.9	68.0	77.0	86.1	95.4	105.0	114.6	124.2	133.8	140.1
82.5°	39.3	48.2	57.1	66.0	74.9	84.3	94.0	103.7	113.4	123.2	129.4
85°	24.0	33.2	42.4	51.5	60.6	70.0	79.5	88.9	98.4	107.9	114.1
87.5°	13.3	22.7	32.4	41.6	50.8	60.5	71.1	82.0	92.7	102.4	108.3
90°	7.7	19.4	32.1	42.8	53.4	65.5	80.3	96.9	112.6	123.1	128.0
92.5°	18.7	32.4	47.8	60.4	75.3	93.7	126.2	168.3	206.8	217.8	202.7
95°	41.6	52.7	70.0	86.3	109.8	142.6	199.1	298.1	427.1	482.7	437.5
97.5°	63.7	75.5	92.6	112.9	138.2	173.7	242.1	376.2	584.4	764.1	803.5
100°	84.4	93.0	107.8	129.8	156.0	191.9	255.1	389.8	621.8	884.9	1039.6
102.5°	103.0	110.2	124.6	146.2	172.7	208.2	267.0	387.4	602.6	885.4	1125.2
105°	129.7	138.1	149.7	169.5	196.6	231.6	287.9	387.9	566.5	824.8	1105.5
107.5°	159.4	166.1	176.6	194.4	220.3	255.0	309.6	397.3	546.0	760.5	1009.0
110°	178.8	185.8	195.0	211.4	236.2	271.3	324.1	406.0	539.7	729.2	948.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	197.0	203.7	213.1	228.3	251.7	287.2	338.0	415.4	537.1	707.2	904.8
115°	225.3	232.2	240.0	254.0	276.4	308.5	359.7	429.6	536.7	682.2	850.3
117.5°	254.1	259.3	266.6	278.7	299.6	332.3	379.6	445.1	539.2	667.0	813.7
120°	272.3	277.1	283.9	293.8	315.1	347.4	393.7	455.6	541.3	658.0	793.7
122.5°	289.8	293.3	299.8	310.1	331.1	363.8	407.3	464.7	544.2	651.5	776.3
125°	312.1	315.2	321.5	333.9	354.5	385.9	427.9	479.3	548.3	640.0	750.7
127.5°	330.3	334.3	342.9	356.4	376.1	407.8	447.9	493.6	553.3	631.7	726.9
130°	341.1	345.1	355.3	369.7	390.2	420.7	460.0	502.6	557.4	626.9	711.2
132.5°	351.1	355.9	366.9	382.1	403.5	433.6	470.6	511.6	561.6	622.9	697.9
135°	365.3	369.4	381.8	397.4	421.2	450.9	485.6	523.3	566.2	617.4	679.6
137.5°	379.4	384.3	396.7	413.3	436.8	464.1	497.5	531.9	570.2	613.4	665.7
140°	390.1	394.1	406.4	422.8	445.5	472.5	503.9	536.3	571.8	610.5	657.4
142.5°	400.9	404.1	415.5	431.9	453.8	479.0	509.3	540.6	573.5	609.4	650.0
145°	416.4	420.5	431.0	446.5	467.2	490.0	517.9	547.0	576.0	607.0	641.1
147.5°	433.8	436.9	446.8	461.2	478.4	498.6	525.0	550.5	576.8	603.3	632.4
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°	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5
2.5°	458.1	458.6	459.2	459.4	459.1	459.0	458.7	458.4
5°	456.6	457.5	458.4	458.8	458.6	458.5	458.3	458.2
7.5°	454.4	455.5	456.6	457.0	456.9	456.7	456.6	456.5
10°	452.5	453.7	455.0	455.5	455.3	455.1	455.0	454.9
12.5°	449.3	450.6	451.7	452.3	452.1	451.9	451.8	451.7
15°	443.5	444.9	446.2	446.7	446.7	446.5	446.3	446.2
17.5°	436.0	437.5	438.8	439.5	439.5	439.5	439.5	439.5
20°	430.2	431.8	433.4	434.2	434.2	434.2	434.2	434.2
22.5°	423.7	425.3	427.0	427.9	428.2	428.4	428.6	428.9
25°	413.8	415.5	417.3	418.5	418.9	419.4	419.8	420.3
27.5°	402.8	405.0	407.2	408.5	408.8	409.2	409.5	409.8
30°	395.0	397.3	399.8	401.1	401.5	402.0	402.4	402.9
32.5°	386.6	389.3	392.1	393.9	394.7	395.5	396.3	397.1
35°	374.8	378.1	381.3	383.4	384.5	385.5	386.6	387.6
37.5°	362.6	366.2	369.8	372.1	373.3	374.3	375.4	376.6
40°	354.0	357.8	361.7	364.3	365.6	366.9	368.3	369.6
42.5°	345.6	349.8	354.0	356.9	358.1	359.4	360.8	362.1
45°	332.9	337.4	342.0	345.0	346.5	348.0	349.5	351.0
47.5°	319.5	324.3	329.1	332.3	333.9	335.6	337.2	338.9
50°	310.4	315.4	320.5	323.8	325.5	327.1	328.7	330.3
52.5°	300.5	305.7	310.9	314.2	316.0	317.8	319.5	321.3
55°	285.7	291.1	296.3	300.0	301.9	303.8	305.8	307.6
57.5°	270.0	275.7	281.5	285.3	287.3	289.3	291.2	293.2
60°	259.7	265.3	270.9	274.7	276.8	278.9	281.0	283.0
62.5°	248.6	254.6	260.6	264.6	266.5	268.5	270.5	272.4
65°	231.9	238.0	244.1	248.1	249.9	251.9	253.8	255.7
67.5°	215.0	221.1	227.2	231.3	233.3	235.3	237.4	239.3
70°	203.2	209.6	215.9	220.0	221.8	223.6	225.3	227.1
72.5°	191.8	198.0	204.3	208.5	210.5	212.7	214.8	217.0
75°	174.6	180.9	187.3	191.5	193.3	195.3	197.2	199.1
77.5°	157.7	164.1	170.4	174.6	176.6	178.7	180.8	182.9
80°	146.3	152.5	158.7	162.8	165.0	167.0	169.1	171.1
82.5°	135.6	141.9	148.0	152.1	154.1	156.0	158.0	160.0
85°	120.3	126.5	132.8	136.9	138.9	141.1	143.1	145.2
87.5°	114.0	119.7	126.2	130.3	132.2	134.1	136.0	137.9
90°	132.9	136.7	144.7	149.6	151.4	153.2	155.0	156.8
92.5°	185.0	178.0	175.1	172.5	173.4	171.8	174.5	174.6
95°	359.3	301.7	263.8	244.7	233.0	226.5	225.2	228.0
97.5°	715.2	605.5	498.8	427.7	379.9	356.1	342.8	335.8
100°	1023.3	900.4	763.9	642.1	557.8	514.9	486.4	469.4
102.5°	1224.1	1200.4	1102.0	972.6	880.8	806.5	770.5	746.9
105°	1326.2	1448.5	1467.1	1436.3	1373.7	1311.1	1268.2	1255.4
107.5°	1242.4	1423.7	1536.4	1589.8	1599.6	1597.7	1590.4	1572.8
110°	1171.6	1361.8	1499.1	1587.2	1633.4	1654.7	1665.7	1666.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1106.6	1289.3	1435.7	1536.3	1599.9	1634.4	1653.7	1660.9
115°	1025.6	1189.6	1329.8	1439.5	1514.7	1564.0	1592.5	1603.5
117.5°	963.3	1107.8	1235.2	1338.2	1414.7	1466.6	1496.5	1505.8
120°	931.5	1064.1	1178.0	1275.1	1349.3	1399.6	1431.3	1443.2
122.5°	905.7	1027.3	1135.4	1223.2	1289.7	1338.9	1367.1	1377.2
125°	867.6	978.3	1073.4	1153.8	1215.2	1255.9	1283.2	1292.8
127.5°	830.1	930.2	1019.9	1094.1	1147.8	1186.0	1209.7	1217.6
130°	805.9	898.6	983.9	1054.6	1106.6	1143.0	1164.9	1174.4
132.5°	782.6	868.4	947.1	1013.6	1064.8	1101.2	1121.4	1130.1
135°	750.0	821.5	893.0	953.1	998.9	1034.2	1054.1	1059.4
137.5°	723.3	783.2	840.2	892.6	934.2	964.6	982.0	989.2
140°	706.3	758.4	808.4	855.6	889.7	917.5	933.9	941.0
142.5°	692.7	736.8	779.8	819.2	851.5	876.7	891.4	893.4
145°	674.0	709.1	742.2	773.0	798.6	816.9	828.0	831.9
147.5°	659.9	687.0	712.1	734.3	755.2	769.6	777.0	779.3
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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