

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: P331954-935

Luminaire Tested: **S123DIP-S560D1195U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331954-935  
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-S560D1195U935-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5717.7 lumens  
Efficiency: N/A  
Efficacy: 115.7 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

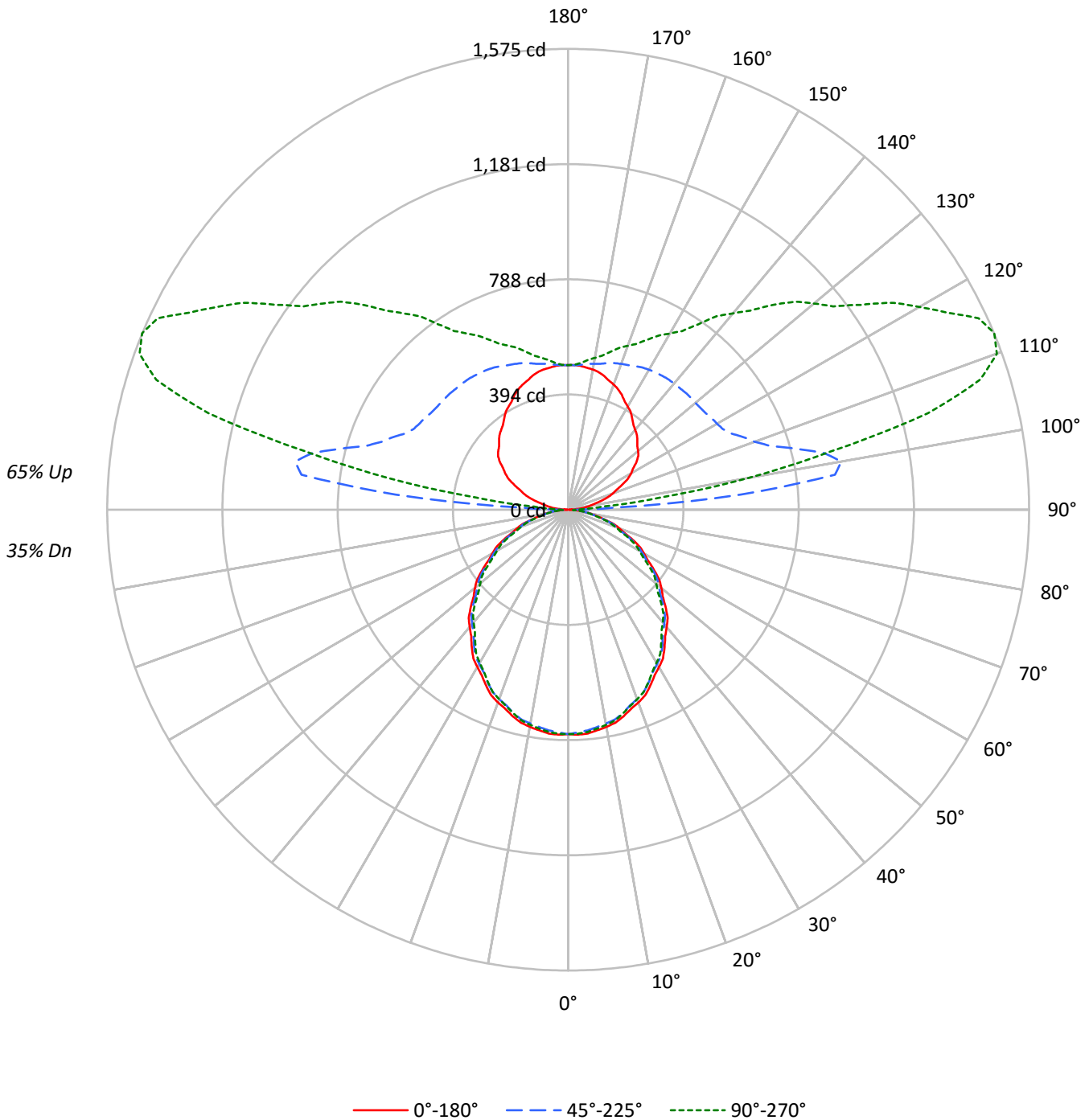
Input Watts (W): 49.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35
1	94	90	86	83	85	82	78	75	66	63	61	51	49	48	37	36	36	29
2	86	79	73	68	77	71	66	62	57	54	51	45	42	40	33	31	30	25
3	78	69	62	56	70	63	56	52	51	46	43	39	36	34	29	27	25	21
4	72	61	53	47	64	55	49	44	45	40	36	35	32	29	26	24	22	18
5	66	54	46	40	59	49	42	37	40	35	31	31	28	25	23	21	19	15
6	60	49	41	35	54	44	37	32	36	31	27	28	25	22	21	19	17	14
7	56	44	36	31	50	40	33	28	33	27	24	26	22	19	19	17	15	12
8	52	40	32	27	47	36	29	25	30	25	21	23	20	17	18	15	13	11
9	48	36	29	24	43	33	26	22	27	22	19	22	18	15	16	14	12	10
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	13	11	9

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

	0°	45°	90°
0°	8257	8257	8257
5°	8295	8182	8238
10°	8240	8110	8160
15°	8143	8018	8033
20°	8031	7887	7895
25°	7880	7732	7715
30°	7713	7558	7501
35°	7540	7376	7281
40°	7359	7173	7062
45°	7159	6987	6817
50°	6958	6759	6571
55°	6696	6523	6324
60°	6433	6247	6047
65°	6199	5947	5761
70°	5854	5605	5353
75°	5348	5157	4937
80°	4823	4624	4581
85°	4236	4076	3915



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.3	1.3
10°-20°	204.0	3.6
20°-30°	301.4	5.3
30°-40°	352.0	6.2
40°-50°	353.9	6.2
50°-60°	310.9	5.4
60°-70°	231.6	4.1
70°-80°	132.0	2.3
80°-90°	41.7	0.7
90°-100°	275.0	4.8
100°-110°	778.7	13.6
110°-120°	766.1	13.4
120°-130°	611.0	10.7
130°-140°	481.8	8.4
140°-150°	359.6	6.3
150°-160°	250.6	4.4
160°-170°	147.2	2.6
170°-180°	47.9	0.8
0°-30°	577.6	10.1
0°-40°	929.7	16.3
0°-60°	1594.5	27.9
0°-90°	1999.8	35.0
90°-120°	1819.8	31.8
90°-150°	3272.2	57.2
90°-180°	3718.0	65.0
0°-180°	5717.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	767	767	767	767	767	
5°	768	764	757	763	762	73
15°	731	728	720	724	721	206
25°	664	659	651	651	650	305
35°	574	570	561	557	554	359
45°	470	467	459	451	448	363
55°	357	356	348	340	337	319
65°	243	240	234	228	226	240
75°	129	126	124	121	119	138
85°	34	33	33	32	32	38
90°	2	12	25	28	29	4
95°	34	110	593	173	116	37
105°	116	172	804	1406	1272	123
115°	205	256	615	1349	1548	203
125°	285	337	574	1040	1220	253
135°	334	399	566	857	989	258
145°	381	437	559	703	773	239
155°	433	467	541	615	641	199
165°	473	487	518	550	559	133
175°	493	494	497	504	503	47
180°	494	494	494	494	494	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	769.6	769.2	768.8	768.3	767.8	766.9	765.6	764.3	763.1	761.8	762.9
5°	767.7	767.0	766.2	765.5	764.7	763.6	762.0	760.3	758.8	757.2	758.6
7.5°	760.2	759.5	758.7	758.0	757.2	756.0	754.4	752.7	751.1	749.4	750.7
10°	753.9	753.1	752.4	751.7	751.0	749.6	747.7	745.8	743.9	742.0	743.3
12.5°	745.5	744.8	744.2	743.6	743.0	741.8	739.9	738.1	736.4	734.6	735.6
15°	730.7	730.2	729.6	729.0	728.4	727.2	725.3	723.4	721.4	719.5	720.7
17.5°	713.8	713.0	712.2	711.4	710.7	709.4	707.5	705.6	703.7	701.7	702.6
20°	701.1	700.3	699.3	698.4	697.6	696.2	694.3	692.4	690.4	688.5	689.1
22.5°	686.8	686.0	685.1	684.2	683.3	681.9	680.0	678.1	676.2	674.3	674.8
25°	663.5	662.6	661.8	660.9	660.0	658.6	656.7	654.8	652.9	651.0	651.1
27.5°	638.6	637.7	636.9	636.0	635.2	633.7	631.6	629.6	627.6	625.5	625.6
30°	620.6	619.9	619.1	618.5	617.7	616.3	614.2	612.2	610.2	608.1	608.1
32.5°	602.7	601.8	600.7	599.8	598.8	597.5	596.0	594.3	592.8	591.2	590.4
35°	573.8	572.9	572.0	571.2	570.3	568.9	567.0	565.1	563.2	561.3	560.4
37.5°	544.2	543.1	542.0	540.9	539.8	538.3	536.3	534.4	532.4	530.5	529.5
40°	523.7	522.8	521.9	521.1	520.1	518.7	516.6	514.6	512.6	510.5	509.3
42.5°	503.1	502.1	501.1	500.1	499.1	497.6	495.5	493.5	491.5	489.4	488.2
45°	470.3	469.7	469.1	468.5	467.9	466.7	464.8	462.9	461.0	459.0	457.3
47.5°	437.6	436.8	436.0	435.1	434.3	432.9	431.2	429.4	427.6	425.8	424.0
50°	415.5	414.7	414.1	413.3	412.6	411.3	409.3	407.4	405.5	403.6	402.0
52.5°	392.3	391.8	391.3	390.8	390.3	389.0	387.0	385.0	383.0	381.0	379.6
55°	356.8	356.6	356.5	356.4	356.2	355.2	353.3	351.4	349.5	347.6	345.9
57.5°	323.0	322.5	322.0	321.6	321.1	320.0	318.5	317.0	315.5	313.9	312.5
60°	298.8	298.6	298.5	298.3	298.2	297.2	295.5	293.7	292.0	290.2	288.9
62.5°	277.2	276.7	276.4	276.0	275.6	274.6	272.8	271.0	269.2	267.5	266.2
65°	243.4	242.6	241.9	241.2	240.5	239.4	237.9	236.4	235.0	233.5	232.3
67.5°	207.6	207.0	206.3	205.7	205.0	204.1	203.0	201.9	200.8	199.8	198.7
70°	186.0	185.1	184.3	183.4	182.4	181.6	180.7	179.9	178.9	178.1	177.0
72.5°	163.3	162.6	162.0	161.4	160.7	159.9	158.9	157.9	156.9	155.9	155.0
75°	128.6	128.0	127.4	126.8	126.3	125.8	125.3	124.8	124.4	124.0	123.3
77.5°	97.9	97.6	97.2	96.9	96.6	96.2	95.7	95.1	94.5	94.0	93.6
80°	77.8	77.4	77.0	76.5	76.0	75.7	75.4	75.1	74.8	74.6	74.4
82.5°	58.3	58.2	58.1	58.0	57.9	57.9	57.9	57.8	57.7	57.7	57.3
85°	34.3	34.0	33.8	33.4	33.1	33.0	33.0	33.0	33.0	33.0	32.7
87.5°	14.1	14.2	14.2	14.5	14.6	14.6	15.2	15.7	16.1	16.6	16.3
90°	2.0	4.0	6.0	9.0	11.0	13.0	16.0	19.0	22.0	25.0	24.0
92.5°	12.4	18.4	26.8	34.6	43.0	57.9	84.0	127.1	169.3	153.9	116.1
95°	34.0	37.0	48.0	65.0	91.0	130.0	215.1	364.1	528.2	593.2	481.1
97.5°	58.0	59.0	67.6	82.4	108.1	150.2	231.5	399.5	673.0	919.3	983.5
100°	74.0	75.0	82.1	96.0	120.0	159.0	229.1	377.1	640.2	947.4	1144.4
102.5°	90.8	92.6	98.8	112.0	133.6	169.4	232.3	357.9	592.2	895.4	1152.4
105°	116.1	119.1	125.0	137.1	156.0	187.1	241.1	344.1	533.2	804.3	1091.4
107.5°	142.8	145.9	151.6	163.4	181.2	210.1	257.5	343.1	495.6	723.8	984.6
110°	162.0	165.1	170.0	181.1	198.0	226.1	271.1	347.2	481.1	678.2	917.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	179.7	182.7	187.7	198.6	215.7	242.9	284.7	355.2	473.2	647.8	858.9
115°	205.1	209.1	215.1	225.1	242.1	269.1	307.1	368.2	470.2	615.2	788.2
117.5°	230.5	235.1	240.0	249.3	268.3	293.3	330.9	385.3	472.0	596.0	745.6
120°	248.1	251.1	256.1	266.1	285.1	310.1	346.1	398.1	475.2	587.2	723.2
122.5°	263.3	266.3	271.3	282.1	300.3	326.9	362.1	410.2	480.8	581.6	704.8
125°	285.1	287.1	293.1	304.1	323.1	350.1	385.1	429.1	489.1	574.2	681.2
127.5°	301.7	304.7	312.1	323.3	344.3	371.3	405.1	444.8	498.8	570.6	660.5
130°	312.1	315.1	324.1	336.1	357.1	384.1	417.2	455.1	505.1	568.2	649.2
132.5°	320.1	323.9	333.7	348.1	369.1	395.4	427.6	464.8	510.0	567.4	638.9
135°	334.2	338.1	349.1	364.1	385.1	412.2	443.2	477.2	517.2	566.2	625.3
137.5°	347.3	351.5	362.3	378.3	399.2	424.1	453.9	486.4	522.0	564.0	613.4
140°	356.1	361.1	371.1	387.1	407.2	432.1	461.2	491.2	525.2	563.2	606.2
142.5°	365.8	370.0	380.7	395.1	415.2	438.6	466.7	495.9	527.6	561.6	599.8
145°	381.2	384.1	393.1	408.1	425.2	448.2	474.2	501.2	529.2	559.2	591.2
147.5°	396.7	398.6	407.3	420.3	436.8	456.3	480.2	504.4	529.2	555.4	582.8
150°	407.2	408.1	416.1	429.1	443.2	461.2	484.1	505.1	529.2	552.2	577.2
152.5°	417.6	417.8	425.8	437.1	449.5	466.7	486.6	506.8	526.8	548.2	570.8
155°	433.2	433.2	439.2	449.2	460.1	474.2	491.2	507.2	524.2	541.2	561.2
157.5°	445.6	446.3	451.2	459.9	469.3	480.2	493.8	508.2	520.8	535.0	550.4
160°	455.1	455.1	459.2	467.2	474.2	484.1	496.2	508.2	519.2	530.2	543.2
162.5°	462.4	462.4	465.5	472.0	478.2	486.6	497.0	507.4	516.0	525.4	536.0
165°	473.2	472.2	474.2	479.1	483.2	490.2	498.2	505.1	511.2	518.1	526.2
167.5°	481.4	480.2	481.1	485.0	487.8	492.1	498.0	503.6	506.4	511.0	516.8
170°	486.2	484.1	485.2	488.2	490.2	492.1	497.1	501.2	503.2	506.2	511.2
172.5°	489.4	488.2	488.4	490.6	491.8	493.0	497.1	500.4	500.8	502.1	505.6
175°	493.2	492.1	491.2	493.2	493.2	494.2	496.2	498.2	497.1	497.1	499.2
177.5°	495.0	494.2	493.4	494.2	494.2	494.2	495.0	496.5	495.0	494.2	495.0
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	764.1	765.3	766.5	767.0	766.9	766.7	766.6	766.5
5°	760.1	761.6	763.0	763.6	763.3	763.0	762.8	762.4
7.5°	752.0	753.3	754.7	755.2	755.0	754.8	754.7	754.5
10°	744.6	746.0	747.3	747.8	747.5	747.2	746.9	746.6
12.5°	736.5	737.5	738.5	738.8	738.7	738.5	738.3	738.1
15°	721.9	723.1	724.3	724.4	723.5	722.6	721.8	720.9
17.5°	703.4	704.2	705.1	705.2	705.0	704.6	704.3	704.0
20°	689.7	690.3	690.9	691.0	690.5	690.1	689.7	689.2
22.5°	675.3	675.7	676.2	676.1	675.6	675.0	674.5	673.9
25°	651.3	651.4	651.5	651.4	651.0	650.6	650.1	649.6
27.5°	625.8	625.9	625.9	625.8	625.2	624.7	624.1	623.5
30°	608.1	608.1	608.1	607.6	606.6	605.5	604.5	603.5
32.5°	589.6	588.8	587.9	587.2	586.7	586.2	585.6	585.0
35°	559.5	558.6	557.8	557.0	556.2	555.5	554.7	554.1
37.5°	528.4	527.4	526.3	525.6	525.1	524.6	524.2	523.7
40°	508.2	507.0	505.8	504.9	504.3	503.8	503.2	502.6
42.5°	487.1	485.9	484.7	483.8	483.2	482.7	482.1	481.5
45°	455.6	453.7	452.0	450.7	450.0	449.3	448.6	447.8
47.5°	422.3	420.6	418.9	417.7	417.1	416.4	415.8	415.1
50°	400.5	398.8	397.2	396.0	395.0	394.2	393.3	392.4
52.5°	378.2	376.9	375.5	374.3	373.4	372.6	371.7	370.8
55°	344.3	342.8	341.1	339.9	339.2	338.5	337.8	337.0
57.5°	311.1	309.6	308.2	307.0	306.2	305.4	304.5	303.7
60°	287.6	286.3	284.9	283.9	283.2	282.4	281.7	280.9
62.5°	264.8	263.6	262.3	261.3	260.8	260.4	259.8	259.3
65°	231.1	230.0	228.8	228.0	227.6	227.1	226.7	226.2
67.5°	197.7	196.7	195.6	194.8	194.2	193.6	193.0	192.3
70°	176.0	175.0	174.0	173.1	172.4	171.6	170.9	170.1
72.5°	154.1	153.2	152.3	151.6	151.3	150.8	150.5	150.1
75°	122.5	121.8	121.1	120.5	120.0	119.6	119.2	118.7
77.5°	93.1	92.6	92.0	91.8	91.8	91.8	91.8	91.8
80°	74.2	74.0	74.0	73.9	73.9	73.9	73.9	73.9
82.5°	57.1	56.8	56.6	56.4	56.3	56.1	56.1	56.0
85°	32.4	32.1	31.8	31.7	31.7	31.7	31.7	31.7
87.5°	16.4	16.4	16.5	16.9	16.7	16.9	17.0	16.9
90°	25.0	26.0	27.0	29.0	28.0	29.0	30.0	29.0
92.5°	84.2	66.8	59.0	53.8	52.0	49.0	50.0	48.2
95°	360.2	244.1	191.1	155.1	136.0	127.1	120.0	116.1
97.5°	897.7	719.0	590.0	470.4	396.6	351.5	324.5	315.9
100°	1179.4	1098.4	981.4	839.3	738.2	665.2	626.2	627.2
102.5°	1273.1	1270.4	1202.2	1112.2	1033.5	975.8	943.1	920.2
105°	1300.5	1400.5	1419.5	1393.5	1347.5	1309.5	1277.5	1272.5
107.5°	1221.6	1384.1	1471.7	1507.4	1508.1	1495.3	1484.5	1475.3
110°	1146.4	1330.5	1456.6	1526.6	1554.5	1562.5	1560.6	1558.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1071.9	1260.1	1401.3	1491.3	1542.6	1567.4	1574.9	1575.4
115°	973.4	1147.4	1294.4	1403.5	1478.5	1522.5	1542.6	1547.6
117.5°	901.9	1052.1	1184.2	1294.9	1373.1	1423.5	1452.3	1459.1
120°	864.3	999.4	1119.4	1220.5	1299.4	1355.5	1379.5	1385.5
122.5°	834.7	956.9	1068.2	1162.0	1232.3	1282.6	1309.1	1316.6
125°	795.3	904.3	1000.3	1080.4	1144.4	1188.4	1213.4	1220.5
127.5°	760.9	858.1	944.7	1017.5	1074.6	1112.2	1134.8	1141.2
130°	739.3	829.3	910.3	978.4	1031.4	1067.4	1088.4	1096.4
132.5°	719.3	802.1	877.5	942.4	992.1	1028.1	1046.8	1052.4
135°	692.2	763.3	828.3	885.3	934.4	964.3	982.3	989.4
137.5°	667.6	725.8	781.9	831.3	872.5	902.9	918.1	922.7
140°	653.2	704.2	752.3	795.3	833.3	861.3	877.3	876.3
142.5°	639.6	683.5	725.0	762.5	794.9	819.7	834.1	833.1
145°	623.2	656.3	688.3	717.2	742.3	763.3	771.3	773.3
147.5°	609.8	636.0	661.9	682.4	701.5	715.7	723.2	724.0
150°	600.2	623.2	644.2	663.2	678.2	689.2	695.3	695.3
152.5°	591.4	611.2	629.8	645.7	657.5	667.6	671.2	671.2
155°	578.2	594.2	609.2	621.2	630.3	638.3	640.2	641.2
157.5°	564.2	577.6	589.2	598.6	606.4	612.4	614.0	613.8
160°	556.2	567.2	577.2	584.2	591.2	597.2	597.2	596.2
162.5°	546.6	556.0	565.2	571.4	576.0	581.2	581.2	580.2
165°	534.2	540.2	547.2	552.2	556.2	560.2	559.2	559.2
167.5°	523.4	528.0	532.0	535.6	537.4	540.2	539.2	539.2
170°	516.2	519.2	523.1	525.2	526.2	528.2	527.2	527.2
172.5°	509.8	512.0	515.2	516.3	516.6	518.6	516.8	516.0
175°	501.2	502.1	504.2	504.2	504.2	505.1	504.2	503.2
177.5°	495.8	496.5	497.4	497.4	496.5	497.4	495.8	495.8
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2

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