

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: P332293-930

Luminaire Tested: **S123RDIP-S560D1025U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332293-930  
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: S123RDIP-S560D1025U930-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4767.4 lumens  
Efficiency: N/A  
Efficacy: 107.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

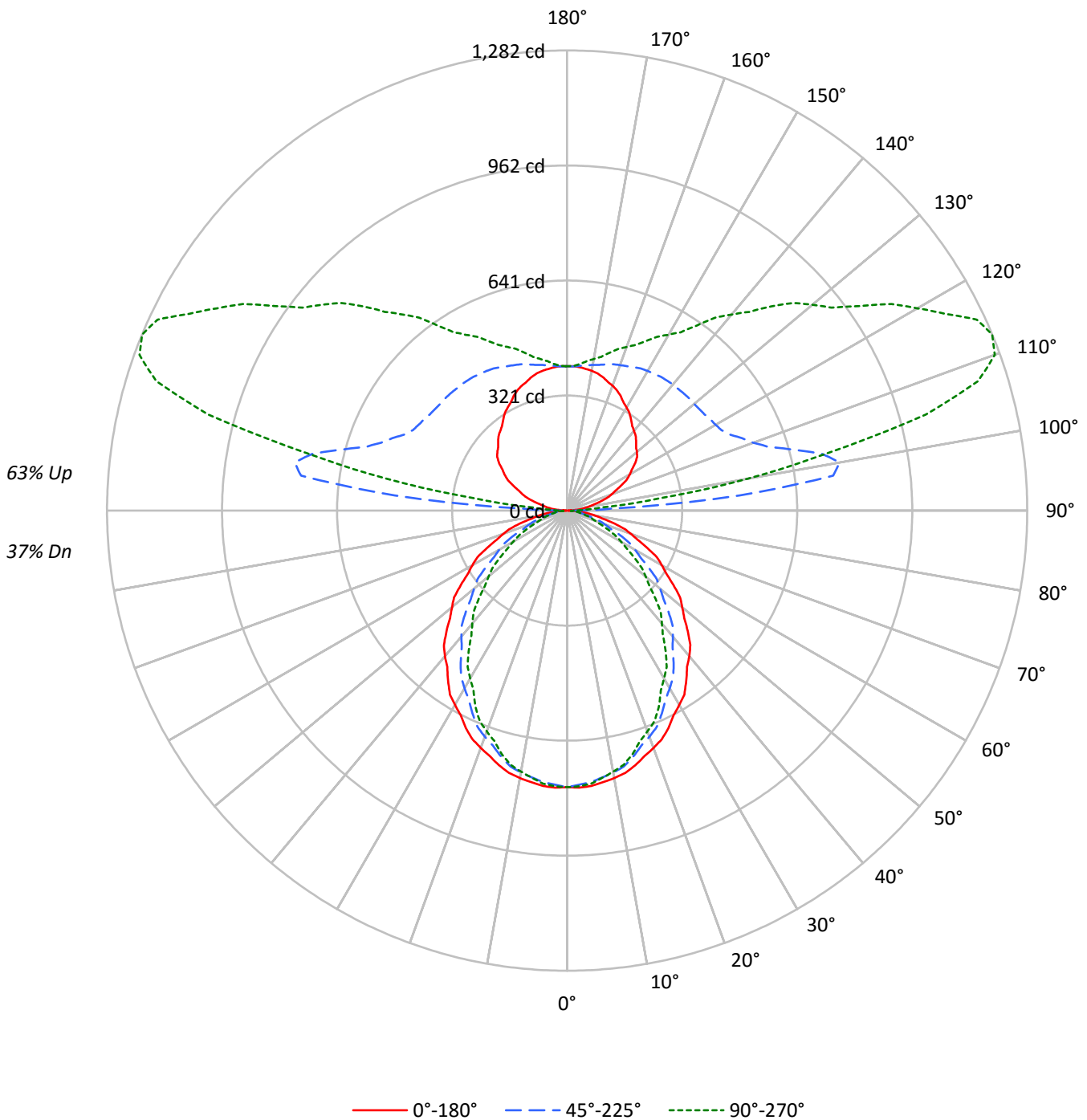
Input Watts (W): 44.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	76	76	76	59	59	59	44	44	44	37
1	95	91	87	84	86	82	79	76	67	65	63	52	51	50	39	38	37	31
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	35	33	32	27
3	79	70	63	57	71	64	58	53	52	48	44	41	38	36	31	29	27	23
4	72	62	55	49	65	57	50	45	46	41	38	37	33	31	28	26	24	20
5	67	55	48	42	60	51	44	39	41	36	33	33	29	27	25	23	21	17
6	61	50	42	36	55	45	39	34	37	32	28	30	26	23	23	20	18	15
7	57	45	37	32	51	41	34	29	34	29	25	27	23	21	21	18	16	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	18	19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12	10

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

	0°	45°	90°
0°	8289	8289	8289
5°	8321	8206	8253
10°	8273	8103	8075
15°	8184	7913	7830
20°	8062	7676	7497
25°	7936	7410	7172
30°	7771	7102	6714
35°	7599	6795	6294
40°	7442	6433	5774
45°	7234	6075	5305
50°	7006	5668	4779
55°	6775	5204	4290
60°	6562	4706	3750
65°	6283	4167	3212
70°	5936	3500	2593
75°	5427	2753	2441
80°	4841	2442	2244
85°	4088	2149	2001



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.3	1.5
10°-20°	201.2	4.2
20°-30°	289.7	6.1
30°-40°	326.3	6.8
40°-50°	312.2	6.5
50°-60°	255.7	5.4
60°-70°	172.5	3.6
70°-80°	86.8	1.8
80°-90°	26.1	0.5
90°-100°	223.7	4.7
100°-110°	633.5	13.3
110°-120°	623.2	13.1
120°-130°	497.1	10.4
130°-140°	391.9	8.2
140°-150°	292.5	6.1
150°-160°	203.9	4.3
160°-170°	119.8	2.5
170°-180°	39.0	0.8
0°-30°	563.2	11.8
0°-40°	889.5	18.7
0°-60°	1457.4	30.6
0°-90°	1742.7	36.6
90°-120°	1480.5	31.1
90°-150°	2662.0	55.8
90°-180°	3025.0	63.5
0°-180°	4767.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	770	767	760	765	764	73
15°	734	727	710	707	703	207
25°	668	652	624	611	604	307
35°	578	555	517	491	479	362
45°	475	446	399	365	348	367
55°	361	329	277	242	229	324
65°	247	212	164	134	126	244
75°	130	100	66	60	59	139
85°	33	20	17	16	16	37
90°	2	10	20	23	24	4
95°	28	90	483	141	94	30
105°	94	140	654	1144	1035	100
115°	167	208	500	1097	1259	165
125°	232	274	467	846	993	206
135°	272	324	461	697	805	210
145°	310	355	455	572	629	194
155°	352	380	440	500	522	162
165°	385	396	422	447	455	108
175°	401	402	404	410	409	38
180°	402	402	402	402	402	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	772.6	772.1	771.7	771.2	770.8	769.9	768.6	767.2	765.9	764.6	765.8
5°	770.1	769.4	768.7	768.0	767.3	766.1	764.4	762.8	761.1	759.5	760.7
7.5°	763.0	762.2	761.4	760.7	759.9	758.5	756.4	754.2	752.0	749.8	750.5
10°	756.9	755.9	755.0	754.0	753.1	751.3	748.9	746.3	743.8	741.4	741.4
12.5°	748.4	747.4	746.2	745.2	744.1	742.1	739.0	736.0	732.9	729.9	729.8
15°	734.4	733.0	731.4	729.9	728.4	725.6	721.8	717.9	714.0	710.1	709.4
17.5°	716.8	715.1	713.3	711.5	709.7	706.4	701.4	696.5	691.5	686.6	685.2
20°	703.8	701.6	699.4	697.2	695.0	691.2	685.9	680.7	675.4	670.1	668.3
22.5°	689.3	686.8	684.3	681.7	679.1	675.1	669.4	663.8	658.3	652.6	650.4
25°	668.2	664.8	661.3	657.9	654.4	649.5	643.0	636.7	630.3	623.9	621.0
27.5°	642.6	638.8	635.0	631.1	627.3	621.8	614.7	607.6	600.5	593.5	589.4
30°	625.2	621.0	616.9	612.7	608.5	602.5	594.8	587.0	579.2	571.4	566.7
32.5°	607.6	603.0	598.3	593.5	588.8	582.4	574.1	565.9	557.7	549.4	544.3
35°	578.3	573.3	568.3	563.4	558.3	551.5	542.9	534.3	525.7	517.1	511.1
37.5°	548.6	543.1	537.5	531.9	526.4	519.0	509.8	500.7	491.5	482.2	475.5
40°	529.6	523.5	517.4	511.3	505.2	497.2	487.4	477.5	467.7	457.8	450.5
42.5°	508.1	502.0	495.9	489.8	483.7	475.6	465.4	455.2	445.0	434.8	426.9
45°	475.2	469.0	462.8	456.6	450.3	441.8	431.1	420.4	409.8	399.1	391.2
47.5°	442.4	435.5	428.7	421.8	415.0	406.3	395.5	384.8	374.1	363.5	354.9
50°	418.4	411.9	405.4	398.8	392.3	383.4	372.2	361.0	349.8	338.5	329.9
52.5°	397.0	389.9	382.8	375.7	368.7	359.5	348.4	337.3	326.1	315.0	306.1
55°	361.0	354.2	347.4	340.6	333.8	324.5	312.7	300.9	289.1	277.3	269.2
57.5°	327.8	320.3	312.9	305.5	298.1	288.5	276.6	264.8	252.9	241.1	233.5
60°	304.8	297.2	289.5	281.8	274.3	264.6	253.2	241.7	230.1	218.6	211.1
62.5°	281.8	274.2	266.5	258.9	251.3	241.7	230.2	218.7	207.1	195.6	188.6
65°	246.7	239.0	231.5	223.8	216.1	206.9	196.1	185.3	174.5	163.6	156.9
67.5°	211.6	203.9	196.2	188.4	180.8	171.7	161.3	150.9	140.6	130.1	125.1
70°	188.6	181.1	173.7	166.2	158.7	150.0	140.3	130.6	120.9	111.2	106.3
72.5°	165.6	158.2	150.8	143.5	136.1	128.0	119.2	110.3	101.5	92.7	88.7
75°	130.5	123.8	117.2	110.6	103.9	96.7	89.1	81.4	73.9	66.2	64.8
77.5°	98.6	92.5	86.5	80.5	74.4	69.0	64.1	59.2	54.2	49.3	48.6
80°	78.1	72.4	66.7	61.0	55.3	51.0	48.1	45.2	42.2	39.4	38.9
82.5°	58.6	53.6	48.8	43.9	38.9	35.8	34.4	33.1	31.7	30.3	29.9
85°	33.1	30.1	27.0	24.0	20.9	19.2	18.8	18.3	17.9	17.4	17.2
87.5°	12.3	11.4	10.5	9.8	8.9	8.6	9.1	9.6	10.1	10.6	10.3
90°	1.6	3.3	4.9	7.3	9.0	10.6	13.0	15.5	17.9	20.4	19.6
92.5°	10.1	15.0	21.9	28.1	35.0	47.0	68.3	103.4	137.7	125.1	94.4
95°	27.6	30.1	39.1	52.9	74.0	105.8	175.0	296.2	429.7	482.6	391.4
97.5°	47.2	48.0	55.0	67.0	87.9	122.2	188.3	325.1	547.6	747.9	800.1
100°	60.3	61.1	66.8	78.1	97.7	129.4	186.4	306.8	520.8	770.7	931.0
102.5°	73.9	75.3	80.4	91.2	108.8	137.9	189.0	291.1	481.8	728.4	937.5
105°	94.4	96.9	101.7	111.5	126.9	152.2	196.2	280.0	433.7	654.3	887.9
107.5°	116.2	118.6	123.4	133.0	147.5	170.9	209.5	279.2	403.2	588.9	801.0
110°	131.8	134.3	138.4	147.3	161.1	183.9	220.5	282.4	391.4	551.8	746.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	146.2	148.6	152.7	161.6	175.5	197.6	231.6	288.9	384.9	527.0	698.7
115°	166.8	170.1	175.0	183.1	197.0	218.9	249.8	299.5	382.5	500.5	641.3
117.5°	187.5	191.3	195.3	202.8	218.3	238.6	269.2	313.5	383.9	484.9	606.6
120°	201.8	204.2	208.3	216.5	232.0	252.3	281.6	323.9	386.5	477.7	588.4
122.5°	214.2	216.6	220.7	229.5	244.3	266.0	294.6	333.7	391.1	473.1	573.4
125°	232.0	233.6	238.5	247.4	262.9	284.9	313.3	349.1	397.9	467.2	554.2
127.5°	245.5	247.9	253.9	263.0	280.1	302.1	329.6	361.8	405.8	464.2	537.3
130°	253.9	256.3	263.7	273.5	290.5	312.5	339.3	370.3	411.0	462.3	528.2
132.5°	260.4	263.5	271.5	283.2	300.3	321.6	347.8	378.1	414.9	461.6	519.7
135°	271.8	275.1	284.1	296.2	313.3	335.3	360.5	388.2	420.8	460.6	508.7
137.5°	282.6	286.0	294.7	307.8	324.7	345.0	369.3	395.7	424.6	458.9	499.0
140°	289.8	293.8	301.9	315.0	331.3	351.6	375.2	399.6	427.2	458.2	493.2
142.5°	297.5	300.9	309.7	321.5	337.7	356.8	379.8	403.5	429.2	456.9	488.0
145°	310.1	312.5	319.8	332.1	345.8	364.6	385.7	407.7	430.5	454.9	480.9
147.5°	322.8	324.2	331.4	341.9	355.3	371.3	390.6	410.3	430.5	451.8	474.1
150°	331.3	332.1	338.5	349.1	360.5	375.2	393.9	411.0	430.5	449.2	469.5
152.5°	339.7	339.8	346.3	355.6	365.7	379.8	395.8	412.3	428.5	446.0	464.4
155°	352.4	352.4	357.3	365.4	374.4	385.7	399.6	412.6	426.4	440.3	456.6
157.5°	362.5	363.1	367.0	374.2	381.8	390.6	401.7	413.4	423.7	435.2	447.8
160°	370.3	370.3	373.6	380.0	385.7	393.9	403.7	413.4	422.4	431.3	441.9
162.5°	376.2	376.2	378.8	383.9	389.0	395.8	404.3	412.8	419.8	427.4	436.0
165°	384.9	384.1	385.7	389.8	393.1	398.8	405.3	411.0	415.9	421.6	428.0
167.5°	391.6	390.6	391.4	394.5	396.8	400.4	405.1	409.7	412.0	415.7	420.4
170°	395.5	393.9	394.7	397.1	398.8	400.4	404.5	407.7	409.4	411.8	415.9
172.5°	398.1	397.1	397.3	399.1	400.1	401.0	404.5	407.1	407.4	408.5	411.3
175°	401.2	400.4	399.6	401.2	401.2	402.0	403.7	405.3	404.5	404.5	406.1
177.5°	402.7	402.0	401.4	402.0	402.0	402.0	402.7	404.0	402.7	402.0	402.7
180°	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	767.0	768.3	769.5	770.0	769.7	769.5	769.3	769.1
5°	761.9	763.2	764.4	764.9	764.7	764.3	764.1	763.8
7.5°	751.2	751.9	752.6	752.7	752.2	751.8	751.3	750.8
10°	741.6	741.8	741.8	741.6	740.9	740.2	739.6	738.8
12.5°	729.7	729.6	729.5	729.0	728.2	727.4	726.7	725.9
15°	708.7	708.0	707.4	706.5	705.5	704.6	703.6	702.6
17.5°	683.7	682.2	680.7	679.3	677.8	676.4	674.9	673.5
20°	666.5	664.7	662.9	661.2	659.5	657.9	656.2	654.5
22.5°	648.2	645.9	643.7	641.7	640.2	638.6	637.1	635.5
25°	618.1	615.1	612.3	610.0	608.5	607.0	605.4	603.9
27.5°	585.3	581.3	577.2	574.1	571.7	569.4	567.0	564.7
30°	562.0	557.3	552.6	549.1	546.9	544.7	542.4	540.2
32.5°	539.2	533.9	528.8	525.1	522.8	520.4	518.0	515.8
35°	505.2	499.2	493.3	489.0	486.5	484.0	481.5	479.0
37.5°	468.7	461.9	455.2	450.3	447.2	444.1	441.0	437.9
40°	443.4	436.1	428.9	423.7	420.5	417.4	414.2	410.9
42.5°	419.1	411.2	403.2	397.9	395.0	392.2	389.3	386.5
45°	383.3	375.4	367.5	361.8	358.5	355.1	351.8	348.5
47.5°	346.3	337.7	329.1	323.3	320.3	317.3	314.4	311.4
50°	321.3	312.7	304.1	298.2	295.0	291.8	288.6	285.4
52.5°	297.2	288.2	279.2	273.4	270.5	267.7	264.8	262.0
55°	261.2	253.2	245.1	239.7	236.9	234.2	231.4	228.6
57.5°	225.8	218.3	210.7	205.7	203.3	201.0	198.6	196.2
60°	203.6	196.1	188.6	183.7	181.3	179.0	176.6	174.2
62.5°	181.5	174.5	167.4	162.7	160.2	157.7	155.2	152.8
65°	150.0	143.2	136.4	132.2	130.8	129.2	127.7	126.1
67.5°	120.0	114.9	109.8	106.5	104.8	103.2	101.6	100.0
70°	101.4	96.6	91.7	88.5	87.0	85.5	84.0	82.4
72.5°	84.7	80.8	76.8	74.5	73.9	73.2	72.6	71.9
75°	63.4	62.0	60.7	59.8	59.5	59.3	58.9	58.7
77.5°	47.9	47.1	46.3	45.8	45.6	45.2	45.0	44.7
80°	38.5	38.1	37.7	37.3	37.1	36.8	36.5	36.2
82.5°	29.5	29.1	28.7	28.5	28.4	28.4	28.3	28.2
85°	17.0	16.6	16.4	16.2	16.2	16.2	16.2	16.2
87.5°	10.4	10.4	10.4	10.7	10.4	10.4	10.5	10.2
90°	20.4	21.2	22.0	23.6	22.7	23.6	24.4	23.6
92.5°	68.5	54.4	48.0	43.8	42.3	39.9	40.7	39.2
95°	292.9	198.6	155.5	126.1	110.7	103.4	97.7	94.4
97.5°	730.3	585.0	480.0	382.6	322.6	286.0	264.0	257.0
100°	959.5	893.6	798.3	682.8	600.6	541.2	509.5	510.3
102.5°	1035.7	1033.6	978.0	904.8	840.8	793.8	767.3	748.5
105°	1057.9	1139.4	1154.8	1133.7	1096.2	1065.3	1039.3	1035.2
107.5°	993.8	1126.0	1197.3	1226.3	1226.9	1216.5	1207.7	1200.2
110°	932.6	1082.4	1184.9	1241.9	1264.7	1271.2	1269.6	1268.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	872.0	1025.1	1140.0	1213.2	1254.9	1275.0	1281.2	1281.6
115°	791.8	933.4	1053.0	1141.7	1202.8	1238.6	1254.9	1259.0
117.5°	733.8	856.0	963.4	1053.4	1117.0	1158.1	1181.5	1187.0
120°	703.1	813.0	910.7	992.9	1057.1	1102.7	1122.3	1127.2
122.5°	679.1	778.5	869.0	945.3	1002.5	1043.5	1064.9	1071.1
125°	647.0	735.7	813.8	878.9	931.0	966.8	987.2	992.9
127.5°	619.0	698.1	768.6	827.8	874.2	904.8	923.2	928.4
130°	601.4	674.7	740.5	795.9	839.0	868.4	885.4	891.9
132.5°	585.1	652.5	713.9	766.6	807.1	836.4	851.6	856.1
135°	563.1	620.9	673.8	720.2	760.1	784.5	799.2	804.9
137.5°	543.2	590.5	636.1	676.3	709.8	734.6	746.9	750.6
140°	531.4	572.9	612.0	647.0	677.9	700.7	713.7	712.9
142.5°	520.3	556.0	589.9	620.3	646.7	666.8	678.6	677.8
145°	507.0	533.9	559.9	583.5	603.8	620.9	627.5	629.1
147.5°	496.1	517.4	538.4	555.2	570.6	582.2	588.4	589.1
150°	488.3	507.0	524.1	539.6	551.8	560.7	565.6	565.6
152.5°	481.1	497.3	512.4	525.2	534.8	543.2	546.1	546.1
155°	470.3	483.4	495.6	505.4	512.7	519.2	520.8	521.6
157.5°	459.0	469.9	479.3	487.0	493.3	498.2	499.5	499.4
160°	452.5	461.5	469.5	475.2	480.9	485.8	485.8	485.0
162.5°	444.7	452.3	459.8	464.9	468.6	472.8	472.8	472.0
165°	434.6	439.4	445.2	449.2	452.5	455.8	454.9	454.9
167.5°	425.7	429.5	432.8	435.7	437.2	439.4	438.6	438.6
170°	420.0	422.4	425.6	427.2	428.0	429.7	428.8	428.8
172.5°	414.7	416.5	419.1	420.1	420.3	421.9	420.4	419.8
175°	407.7	408.5	410.2	410.2	410.2	411.0	410.2	409.4
177.5°	403.3	404.0	404.6	404.6	404.0	404.6	403.3	403.3
180°	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0

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