

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: P332894-930

Luminaire Tested: **S124RDIP-S350D1205U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332894-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIP-S350D1205U930-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4674.2 lumens  
Efficiency: N/A  
Efficacy: 110.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

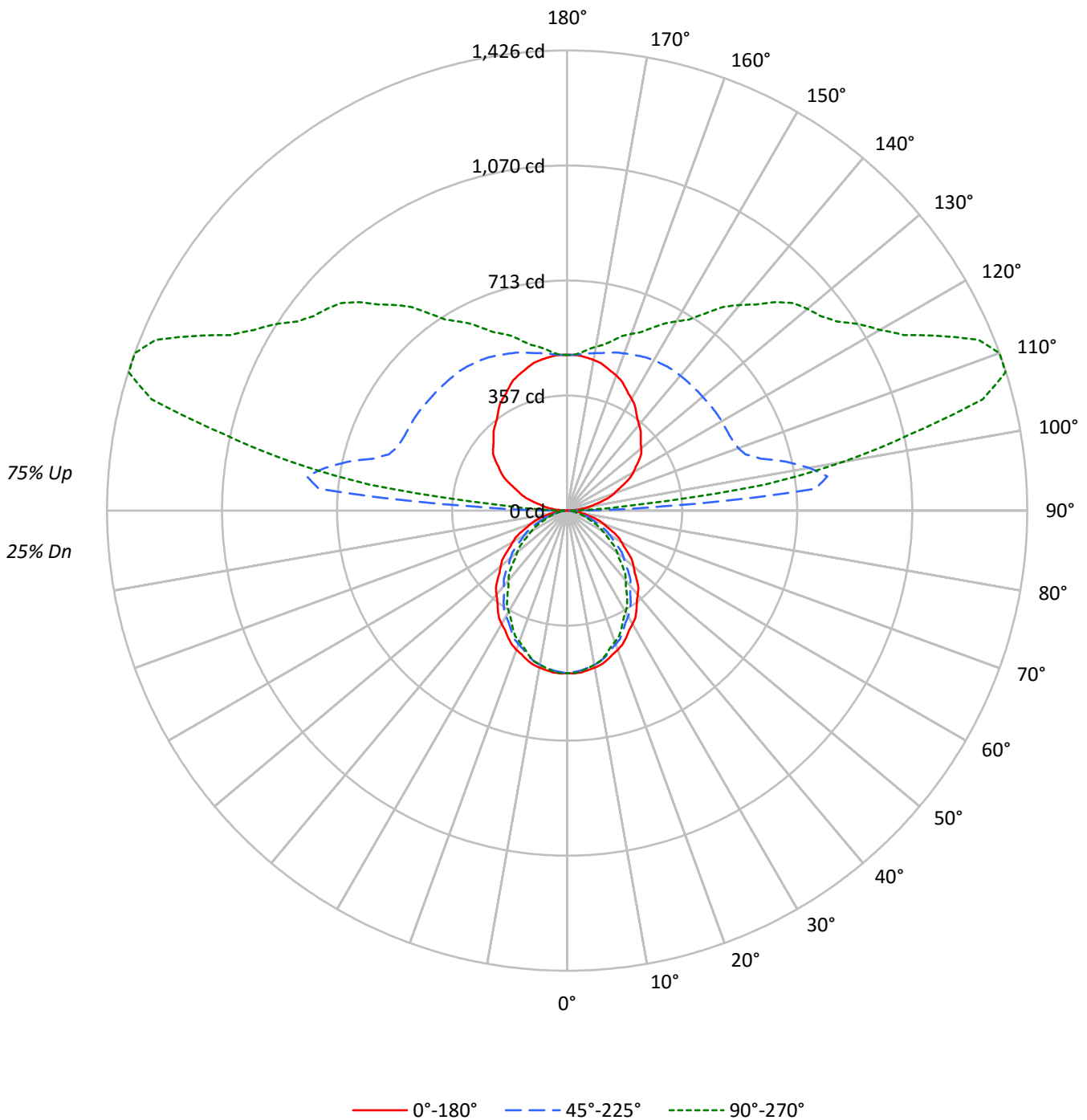
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	51	51	51	33	33	33	25
1	92	88	85	81	82	79	76	73	61	59	57	45	43	42	29	29	28	21
2	84	77	71	66	75	69	64	60	53	50	47	39	37	35	26	25	24	18
3	77	68	61	55	68	61	55	50	47	43	40	35	32	30	23	22	20	15
4	70	60	52	47	62	54	47	42	42	37	34	31	28	26	21	19	18	13
5	64	53	46	40	57	48	41	36	37	33	29	28	25	22	19	17	15	12
6	59	48	40	34	53	43	36	31	34	29	25	25	22	19	17	15	14	10
7	55	43	35	30	48	39	32	27	30	26	22	23	20	17	15	14	12	9
8	51	39	31	26	45	35	29	24	28	23	20	21	18	15	14	12	11	8
9	47	35	28	23	42	32	26	21	25	21	17	19	16	14	13	11	10	7
10	44	32	25	21	39	29	23	19	23	19	16	17	14	12	12	10	9	7

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

	0°	45°	90°
0°	4069	4069	4069
5°	4078	4028	4053
10°	4052	3980	3980
15°	4006	3896	3867
20°	3942	3786	3716
25°	3861	3657	3564
30°	3781	3522	3375
35°	3693	3381	3183
40°	3587	3222	2977
45°	3490	3062	2767
50°	3378	2880	2545
55°	3258	2688	2303
60°	3127	2480	2055
65°	3007	2220	1813
70°	2832	1931	1539
75°	2611	1603	1251
80°	2278	1223	1148
85°	1936	1112	1037



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.3	1.0
10°-20°	132.0	2.8
20°-30°	190.6	4.1
30°-40°	216.1	4.6
40°-50°	208.7	4.5
50°-60°	173.5	3.7
60°-70°	119.8	2.6
70°-80°	60.7	1.3
80°-90°	18.2	0.4
90°-100°	348.3	7.5
100°-110°	724.9	15.5
110°-120°	649.3	13.9
120°-130°	546.2	11.7
130°-140°	455.4	9.7
140°-150°	347.9	7.4
150°-160°	244.5	5.2
160°-170°	143.8	3.1
170°-180°	46.8	1.0
0°-30°	370.0	7.9
0°-40°	586.1	12.5
0°-60°	968.3	20.7
0°-90°	1167.1	25.0
90°-120°	1722.5	36.9
90°-150°	3071.9	65.7
90°-180°	3507.0	75.0
0°-180°	4674.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	504	504	504	504	504	
5°	503	502	497	501	500	48
15°	479	475	466	465	463	135
25°	433	426	411	404	400	200
35°	375	362	343	330	323	234
45°	306	291	268	250	242	236
55°	232	216	191	172	164	207
65°	157	140	116	100	95	155
75°	84	69	51	43	40	88
85°	21	13	12	11	11	23
90°	1	8	17	19	20	3
95°	31	99	772	382	231	35
105°	111	161	622	1338	1333	118
115°	195	245	554	1065	1280	193
125°	272	323	551	906	1021	242
135°	323	385	547	804	913	250
145°	372	426	544	678	746	234
155°	424	457	529	599	624	195
165°	461	476	507	537	545	130
175°	481	482	486	493	491	46
180°	482	482	482	482	482	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	505.2	504.9	504.7	504.4	504.1	503.6	502.9	502.1	501.3	500.6	501.3
5°	503.2	502.9	502.6	502.2	501.8	501.2	500.1	499.1	498.1	497.1	497.9
7.5°	498.6	498.3	498.0	497.6	497.3	496.4	495.0	493.7	492.4	491.1	491.5
10°	494.3	493.9	493.5	493.1	492.6	491.6	490.1	488.5	487.0	485.5	485.8
12.5°	488.8	488.3	487.8	487.3	486.8	485.7	483.8	482.0	480.2	478.3	478.6
15°	479.3	478.5	477.8	477.0	476.2	474.7	472.6	470.4	468.3	466.2	466.0
17.5°	467.8	466.7	465.5	464.5	463.3	461.5	458.9	456.3	453.8	451.2	450.7
20°	458.9	457.7	456.6	455.5	454.4	452.4	449.5	446.5	443.6	440.7	440.0
22.5°	449.0	447.7	446.5	445.2	443.9	441.7	438.6	435.5	432.4	429.3	428.3
25°	433.4	431.9	430.3	428.8	427.2	424.7	421.2	417.7	414.1	410.6	409.1
27.5°	417.0	415.1	413.1	411.2	409.3	406.4	402.7	398.9	395.2	391.4	389.6
30°	405.6	403.4	401.3	399.2	397.1	394.0	389.9	385.9	381.8	377.8	375.7
32.5°	393.5	391.1	388.7	386.3	383.8	380.6	376.4	372.3	368.1	363.9	361.4
35°	374.7	371.9	369.2	366.5	363.7	360.2	356.0	351.6	347.4	343.1	340.1
37.5°	354.6	351.7	348.9	346.1	343.2	339.5	334.7	330.0	325.2	320.5	317.2
40°	340.4	337.5	334.7	331.9	329.1	325.2	320.3	315.4	310.5	305.7	302.1
42.5°	326.8	323.8	320.8	317.9	315.0	310.9	305.8	300.7	295.6	290.5	286.8
45°	305.7	302.5	299.3	296.1	292.9	288.8	283.6	278.5	273.4	268.2	264.0
47.5°	283.8	280.5	277.3	273.9	270.7	266.4	261.1	255.7	250.3	245.0	240.6
50°	269.0	265.6	262.3	258.9	255.6	251.2	245.7	240.2	234.7	229.3	224.9
52.5°	253.9	250.5	247.3	244.0	240.8	236.3	230.6	225.0	219.4	213.8	209.5
55°	231.5	228.1	224.7	221.3	217.8	213.3	207.7	202.2	196.6	191.0	186.5
57.5°	209.5	205.9	202.4	198.8	195.2	190.7	185.2	179.7	174.2	168.7	164.2
60°	193.7	190.3	186.9	183.4	180.0	175.5	170.1	164.5	159.1	153.6	149.1
62.5°	179.5	175.9	172.4	168.8	165.3	160.7	155.1	149.4	143.8	138.2	134.0
65°	157.4	153.8	150.1	146.4	142.7	138.1	132.6	127.1	121.6	116.2	112.5
67.5°	134.5	131.0	127.4	123.9	120.4	116.1	111.0	105.9	100.8	95.7	92.5
70°	120.0	116.4	112.8	109.3	105.6	101.3	96.4	91.6	86.7	81.8	79.0
72.5°	104.6	101.3	98.1	94.8	91.6	87.6	83.0	78.4	73.8	69.1	66.8
75°	83.7	80.6	77.4	74.2	71.0	67.4	63.4	59.4	55.4	51.4	49.3
77.5°	62.6	59.9	57.2	54.5	51.9	48.8	45.6	42.3	39.1	35.8	34.7
80°	49.0	46.6	44.0	41.6	39.1	36.5	34.0	31.4	28.8	26.3	26.0
82.5°	37.3	35.0	32.7	30.4	28.1	26.3	24.8	23.3	21.9	20.4	20.2
85°	20.9	19.2	17.4	15.7	13.9	13.0	12.7	12.5	12.2	12.0	11.8
87.5°	7.3	7.1	7.2	6.8	6.4	6.1	7.2	7.1	7.4	7.7	7.5
90°	1.0	2.9	5.7	6.6	7.6	7.6	13.3	13.3	15.2	17.0	16.1
92.5°	10.8	15.7	24.6	36.2	50.1	69.7	117.9	191.4	263.0	300.5	250.3
95°	31.2	34.1	43.6	55.9	78.6	118.5	200.8	356.2	582.6	772.1	793.9
97.5°	56.1	56.1	64.2	75.6	95.1	128.5	191.9	320.2	545.3	813.3	997.4
100°	72.0	72.0	78.6	90.0	108.0	138.4	194.2	301.3	494.6	761.7	1004.2
102.5°	87.2	88.7	94.6	105.2	122.4	151.2	201.8	296.0	460.4	697.2	947.4
105°	110.9	113.7	118.5	129.8	146.8	174.3	219.8	298.4	431.0	621.5	844.1
107.5°	137.0	138.8	143.7	155.7	172.0	199.2	240.8	312.4	425.7	579.0	760.8
110°	154.4	156.3	161.0	172.4	189.5	215.1	256.7	323.0	427.3	564.7	719.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	171.1	173.0	178.5	189.1	206.2	231.7	271.9	334.4	431.8	557.8	695.5
115°	195.2	198.0	204.6	214.1	232.1	257.7	295.5	352.5	440.5	554.2	673.6
117.5°	220.1	222.8	228.7	239.1	256.0	282.5	318.5	370.8	449.8	553.3	663.7
120°	236.8	238.7	245.4	255.8	271.9	298.4	334.4	383.7	456.6	553.3	658.4
122.5°	252.0	253.9	260.6	270.2	287.8	313.6	349.6	395.8	463.5	552.5	652.4
125°	271.9	275.7	281.4	291.8	309.8	336.3	370.4	414.0	473.7	551.4	642.3
127.5°	289.5	292.5	299.4	311.3	330.0	356.8	389.7	429.7	481.8	549.3	628.8
130°	299.4	303.1	310.7	325.0	342.9	370.4	402.7	439.6	487.9	548.5	620.5
132.5°	309.2	312.3	322.1	335.6	355.1	381.1	413.3	449.5	493.2	547.8	612.9
135°	323.0	326.9	336.3	352.5	372.3	397.0	428.2	462.4	501.2	546.7	601.6
137.5°	336.9	340.5	350.9	366.2	386.9	410.4	439.6	471.4	505.9	546.4	591.7
140°	346.7	349.6	360.0	376.1	396.0	418.7	447.2	477.4	509.7	545.7	586.4
142.5°	357.3	360.2	369.8	385.2	404.3	426.3	454.0	482.0	512.7	545.7	581.9
145°	372.3	375.2	384.7	397.9	415.9	436.8	461.4	487.0	514.5	543.8	574.1
147.5°	389.1	390.1	398.4	412.1	427.1	445.8	469.0	491.3	515.4	540.4	567.1
150°	399.8	400.7	408.3	419.7	433.9	451.9	472.7	493.6	515.4	538.1	561.8
152.5°	409.6	409.9	417.4	428.0	440.8	457.2	475.8	495.1	513.9	534.3	555.7
155°	423.5	424.4	430.1	439.6	450.0	464.2	480.3	496.4	511.6	528.6	546.7
157.5°	436.9	436.9	442.2	449.6	458.7	469.9	483.6	496.4	509.2	522.8	537.4
160°	445.2	445.2	449.1	455.7	463.3	473.7	485.0	496.4	506.9	518.2	530.5
162.5°	452.8	452.1	455.1	461.0	467.8	476.0	486.6	496.4	504.6	513.6	524.5
165°	461.4	461.4	463.3	468.0	472.7	478.4	487.0	494.6	500.2	506.9	514.5
167.5°	469.9	469.0	469.9	473.5	476.1	480.5	486.7	492.3	495.7	500.0	505.3
170°	473.7	472.7	473.7	476.5	478.4	481.3	486.0	490.7	492.6	495.5	499.3
172.5°	477.4	476.5	476.7	478.8	480.0	482.0	485.3	489.3	489.6	490.9	494.0
175°	481.3	480.3	480.3	481.3	482.2	482.2	484.1	487.0	486.0	486.0	487.9
177.5°	483.0	482.2	481.4	482.2	482.2	482.2	483.0	484.5	483.0	483.0	483.7
180°	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	502.1	502.9	503.6	503.9	503.9	503.9	503.8	503.7
5°	498.8	499.6	500.5	500.8	500.7	500.5	500.3	500.1
7.5°	492.1	492.7	493.3	493.3	493.1	492.8	492.5	492.3
10°	486.2	486.5	486.8	486.8	486.5	486.2	485.8	485.5
12.5°	478.7	479.0	479.2	479.1	478.6	478.1	477.6	477.1
15°	465.9	465.7	465.5	465.1	464.5	463.9	463.3	462.7
17.5°	450.2	449.8	449.3	448.6	447.7	446.8	445.9	445.0
20°	439.4	438.6	438.0	437.1	435.9	434.8	433.7	432.6
22.5°	427.2	426.2	425.2	424.2	423.3	422.4	421.5	420.5
25°	407.6	406.3	404.8	403.7	402.8	401.9	401.0	400.1
27.5°	387.8	386.0	384.2	382.7	381.4	380.2	379.0	377.7
30°	373.5	371.4	369.2	367.5	366.1	364.8	363.4	362.0
32.5°	359.0	356.4	354.0	352.0	350.7	349.4	348.1	346.8
35°	337.2	334.4	331.4	329.2	327.7	326.1	324.6	323.0
37.5°	314.0	310.7	307.4	305.0	303.5	301.9	300.4	298.8
40°	298.4	294.8	291.2	288.7	287.1	285.6	284.1	282.5
42.5°	283.2	279.5	275.8	273.2	271.6	269.9	268.3	266.8
45°	259.8	255.6	251.4	248.5	247.0	245.4	243.9	242.4
47.5°	236.3	231.9	227.6	224.5	222.8	221.1	219.4	217.8
50°	220.6	216.4	212.1	209.1	207.5	205.9	204.2	202.6
52.5°	205.0	200.7	196.4	193.3	191.7	190.0	188.3	186.5
55°	182.1	177.7	173.2	170.2	168.5	166.9	165.3	163.6
57.5°	159.6	155.2	150.6	147.7	146.5	145.3	144.0	142.8
60°	144.6	140.2	135.7	132.8	131.4	130.1	128.7	127.3
62.5°	130.0	125.8	121.7	119.1	118.0	116.9	115.8	114.7
65°	108.8	105.1	101.4	99.1	98.0	97.0	96.0	94.9
67.5°	89.4	86.2	83.0	80.9	79.7	78.6	77.5	76.3
70°	76.1	73.3	70.5	68.6	67.8	66.9	66.0	65.2
72.5°	64.3	61.9	59.5	57.9	57.1	56.3	55.5	54.7
75°	47.4	45.4	43.5	42.2	41.7	41.2	40.7	40.1
77.5°	33.5	32.4	31.2	30.6	30.4	30.2	30.1	29.9
80°	25.8	25.4	25.2	25.0	24.9	24.9	24.8	24.7
82.5°	20.0	19.8	19.6	19.5	19.4	19.3	19.2	19.2
85°	11.7	11.4	11.3	11.2	11.2	11.2	11.2	11.2
87.5°	7.6	7.7	7.8	7.8	8.1	8.3	8.2	8.3
90°	17.0	18.0	18.9	18.9	19.9	20.9	19.9	19.9
92.5°	186.1	140.0	111.5	92.5	81.3	76.1	73.0	73.0
95°	702.0	555.1	428.2	336.3	289.9	260.6	243.4	231.1
97.5°	1037.2	982.6	890.0	791.1	723.0	666.0	637.6	617.9
100°	1142.6	1161.5	1115.1	1045.0	962.5	904.7	876.4	868.8
102.5°	1137.3	1231.2	1244.6	1215.4	1164.9	1123.0	1093.1	1087.0
105°	1061.0	1225.0	1318.7	1357.6	1359.5	1351.9	1338.6	1332.9
107.5°	952.8	1127.4	1259.5	1343.9	1390.7	1412.3	1421.8	1424.3
110°	887.7	1051.6	1189.0	1293.1	1360.4	1400.2	1417.3	1425.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	839.9	984.9	1114.7	1218.9	1295.3	1343.4	1367.3	1381.1
115°	792.0	908.6	1019.4	1110.4	1185.2	1242.0	1272.4	1279.9
117.5°	768.5	865.0	952.1	1029.2	1093.1	1140.8	1171.5	1177.4
120°	757.9	846.0	921.8	989.0	1043.1	1084.8	1109.4	1119.8
122.5°	748.8	833.9	902.9	961.8	1007.5	1043.1	1063.9	1074.3
125°	733.3	814.7	880.1	932.2	970.1	997.6	1015.6	1021.2
127.5°	714.3	792.2	857.4	906.9	944.9	969.4	984.6	990.2
130°	699.2	774.0	838.5	888.7	927.5	951.1	966.3	972.0
132.5°	683.2	753.6	816.4	866.7	904.7	931.5	945.8	951.5
135°	661.3	722.8	780.6	828.0	865.9	892.4	907.6	913.3
137.5°	641.4	693.5	742.2	785.0	820.4	846.6	859.1	865.9
140°	630.0	674.5	717.1	756.9	790.1	811.0	824.2	831.8
142.5°	619.4	658.6	695.2	729.7	759.0	778.4	790.1	795.4
145°	604.5	636.7	665.0	691.6	715.3	731.4	740.9	745.6
147.5°	592.2	617.7	640.4	661.3	678.7	692.5	699.8	701.4
150°	584.6	606.3	625.3	642.3	657.5	669.8	675.5	676.5
152.5°	576.2	594.9	612.4	626.4	639.3	649.3	652.7	653.7
155°	563.7	578.9	593.0	604.5	613.9	621.5	624.4	624.4
157.5°	550.2	563.0	574.9	584.0	591.2	596.9	598.6	598.6
160°	541.9	552.3	562.7	570.3	576.0	581.7	582.6	582.6
162.5°	533.5	542.5	550.7	557.4	561.6	567.3	568.3	567.4
165°	522.0	527.7	534.3	539.1	542.8	546.7	545.7	544.8
167.5°	510.9	515.2	520.5	523.3	525.2	527.7	527.5	526.8
170°	504.0	506.9	510.6	513.5	515.4	516.3	515.4	515.4
172.5°	497.9	500.0	502.3	504.3	505.5	506.5	505.5	504.0
175°	489.8	490.7	492.6	492.6	492.6	494.6	492.6	490.7
177.5°	484.5	485.3	485.3	486.0	485.3	486.0	484.5	483.0
180°	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2

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