

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: P332251-840

Luminaire Tested: **S123RDIP-S340D585U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332251-840  
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-S340D585U840-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3453.6 lumens  
Efficiency: N/A  
Efficacy: 134.9 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

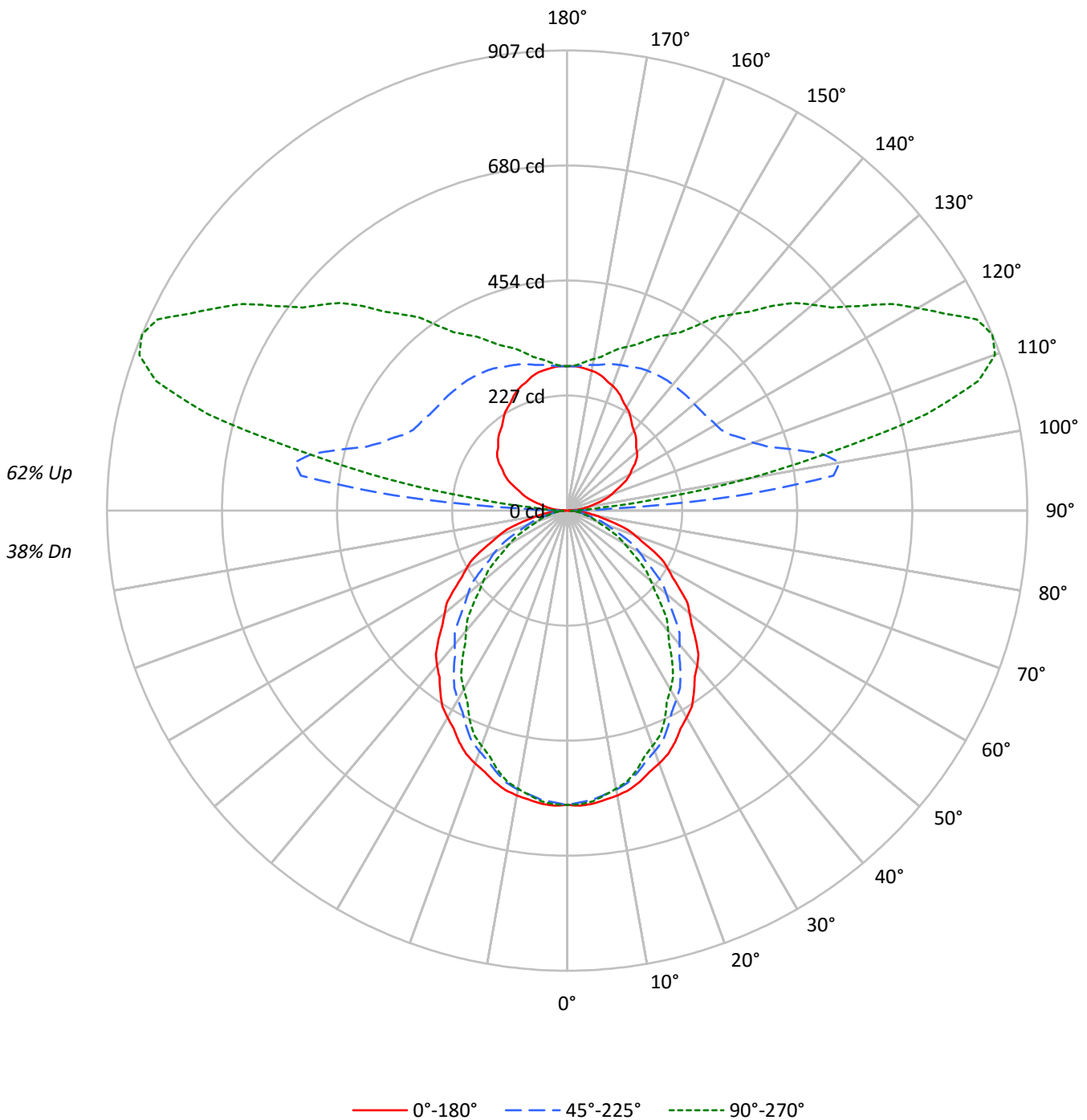
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	95	91	87	84	86	83	80	77	67	65	63	53	52	51	40	39	39	32
2	87	80	74	69	79	73	68	63	59	56	53	47	45	43	36	34	33	28
3	79	70	63	58	72	64	58	53	53	48	45	42	39	36	32	30	28	24
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	29	26	24	20
5	67	56	48	42	60	51	44	39	42	37	33	34	30	27	26	23	21	18
6	62	50	42	36	56	46	39	34	38	33	29	30	27	24	23	21	19	16
7	57	45	37	32	52	41	35	30	34	29	25	28	24	21	21	19	17	14
8	53	41	33	28	48	38	31	26	31	26	23	25	22	19	20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20	23	20	17	18	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	14	12	10

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

	0°	45°	90°
0°	6245	6245	6245
5°	6269	6183	6218
10°	6233	6105	6084
15°	6167	5962	5899
20°	6074	5783	5648
25°	5980	5583	5404
30°	5854	5351	5059
35°	5727	5119	4742
40°	5606	4846	4350
45°	5451	4576	3997
50°	5280	4270	3600
55°	5104	3920	3232
60°	4943	3546	2827
65°	4735	3140	2420
70°	4472	2634	1954
75°	4092	2075	1838
80°	3645	1841	1692
85°	3075	1618	1507



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.5	1.6
10°-20°	151.6	4.4
20°-30°	218.3	6.3
30°-40°	245.9	7.1
40°-50°	235.2	6.8
50°-60°	192.6	5.6
60°-70°	130.0	3.8
70°-80°	65.4	1.9
80°-90°	19.5	0.6
90°-100°	158.3	4.6
100°-110°	448.4	13.0
110°-120°	441.1	12.8
120°-130°	351.8	10.2
130°-140°	277.4	8.0
140°-150°	207.0	6.0
150°-160°	144.3	4.2
160°-170°	84.8	2.5
170°-180°	27.6	0.8
0°-30°	424.3	12.3
0°-40°	670.2	19.4
0°-60°	1098.1	31.8
0°-90°	1312.9	38.0
90°-120°	1047.8	30.3
90°-150°	1884.1	54.6
90°-180°	2141.0	62.0
0°-180°	3453.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	580	578	572	576	576	55
15°	553	548	535	533	529	156
25°	504	491	470	460	455	231
35°	436	418	390	370	361	273
45°	358	336	301	275	263	276
55°	272	248	209	183	172	244
65°	186	159	123	101	95	184
75°	98	76	50	45	44	105
85°	25	15	13	12	12	28
90°	1	7	14	16	17	3
95°	20	64	342	100	67	21
105°	67	99	463	810	733	71
115°	118	147	354	777	891	117
125°	164	194	331	599	703	146
135°	192	230	326	493	570	149
145°	219	251	322	405	445	138
155°	249	269	312	354	369	115
165°	272	280	298	316	322	77
175°	284	284	286	290	290	27
180°	285	285	285	285	285	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	582.1	581.7	581.4	581.1	580.8	580.1	579.1	578.0	577.0	576.0	576.9
5°	580.2	579.7	579.2	578.7	578.0	577.2	575.9	574.7	573.4	572.2	573.1
7.5°	574.8	574.2	573.7	573.1	572.6	571.5	569.9	568.3	566.5	564.9	565.4
10°	570.3	569.6	568.9	568.2	567.3	566.0	564.2	562.3	560.4	558.6	558.7
12.5°	563.9	563.1	562.3	561.5	560.7	559.1	556.7	554.5	552.2	549.9	549.8
15°	553.4	552.2	551.1	549.9	548.8	546.7	543.8	540.9	538.0	535.0	534.5
17.5°	540.1	538.8	537.5	536.0	534.7	532.2	528.5	524.7	521.1	517.4	516.2
20°	530.3	528.7	526.9	525.3	523.6	520.8	516.8	512.8	508.9	504.9	503.5
22.5°	519.4	517.5	515.5	513.6	511.7	508.7	504.4	500.2	495.9	491.7	490.0
25°	503.5	500.9	498.3	495.6	493.0	489.3	484.5	479.7	474.8	470.1	467.9
27.5°	484.2	481.3	478.4	475.5	472.6	468.6	463.2	457.8	452.4	447.1	444.0
30°	471.0	467.9	464.7	461.6	458.5	453.9	448.1	442.2	436.4	430.5	427.0
32.5°	457.9	454.2	450.7	447.2	443.6	438.8	432.5	426.4	420.2	413.9	410.1
35°	435.8	431.9	428.2	424.4	420.7	415.6	409.1	402.5	396.1	389.6	385.2
37.5°	413.3	409.1	405.0	400.8	396.6	391.0	384.2	377.2	370.3	363.3	358.3
40°	399.0	394.5	389.8	385.3	380.6	374.6	367.2	359.7	352.3	344.9	339.5
42.5°	382.8	378.2	373.7	369.0	364.5	358.3	350.6	343.0	335.3	327.6	321.6
45°	358.1	353.4	348.7	344.0	339.2	332.9	324.9	316.8	308.7	300.6	294.7
47.5°	333.4	328.2	323.0	317.8	312.7	306.1	298.0	289.9	282.0	273.9	267.4
50°	315.3	310.3	305.5	300.5	295.6	288.9	280.4	272.0	263.5	255.0	248.5
52.5°	299.1	293.8	288.4	283.1	277.7	270.8	262.5	254.1	245.7	237.3	230.7
55°	272.0	266.8	261.8	256.6	251.5	244.5	235.6	226.7	217.8	208.9	202.9
57.5°	246.9	241.4	235.8	230.1	224.6	217.3	208.4	199.4	190.6	181.7	175.9
60°	229.6	223.9	218.1	212.4	206.6	199.4	190.8	182.1	173.4	164.7	159.1
62.5°	212.3	206.5	200.8	195.1	189.3	182.1	173.4	164.7	156.0	147.3	142.1
65°	185.9	180.2	174.4	168.6	162.9	155.9	147.7	139.6	131.5	123.3	118.2
67.5°	159.5	153.6	147.7	142.0	136.1	129.4	121.5	113.7	105.8	98.1	94.2
70°	142.1	136.4	130.8	125.1	119.6	113.0	105.7	98.4	91.1	83.7	80.1
72.5°	124.8	119.3	113.7	108.1	102.5	96.4	89.8	83.1	76.4	69.8	66.9
75°	98.4	93.3	88.3	83.3	78.3	72.9	67.2	61.4	55.6	49.9	48.9
77.5°	74.2	69.7	65.1	60.6	56.1	52.0	48.3	44.5	40.9	37.2	36.7
80°	58.8	54.5	50.3	45.9	41.7	38.5	36.3	34.0	31.8	29.7	29.3
82.5°	44.1	40.4	36.8	33.0	29.3	27.0	26.0	24.9	23.9	22.8	22.5
85°	24.9	22.6	20.3	18.1	15.8	14.4	14.1	13.8	13.5	13.1	12.9
87.5°	9.3	8.6	7.9	7.3	6.7	6.4	6.8	7.1	7.5	7.8	7.6
90°	1.1	2.3	3.4	5.2	6.4	7.5	9.2	10.9	12.6	14.4	13.8
92.5°	7.2	10.6	15.5	19.9	24.7	33.3	48.4	73.1	97.5	88.6	66.9
95°	19.6	21.3	27.7	37.5	52.4	74.8	123.8	209.6	304.2	341.5	277.0
97.5°	33.4	34.0	39.0	47.5	62.2	86.5	133.3	230.0	387.5	529.4	566.3
100°	42.6	43.2	47.3	55.3	69.1	91.6	131.9	217.1	368.6	545.4	658.9
102.5°	52.3	53.3	57.0	64.5	77.0	97.6	133.7	206.1	341.0	515.5	663.6
105°	66.9	68.6	72.0	78.9	89.9	107.8	138.9	198.1	307.0	463.1	628.4
107.5°	82.2	84.0	87.4	94.1	104.4	121.0	148.2	197.5	285.4	416.8	566.9
110°	93.3	95.0	98.0	104.2	114.0	130.2	156.1	199.9	277.0	390.5	528.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	103.4	105.2	108.1	114.4	124.2	139.9	163.9	204.5	272.5	373.0	494.5
115°	118.1	120.4	123.8	129.6	139.4	154.9	176.8	212.0	270.7	354.3	453.9
117.5°	132.7	135.3	138.3	143.5	154.5	168.8	190.6	221.9	271.8	343.2	429.4
120°	142.9	144.6	147.4	153.2	164.2	178.5	199.2	229.2	273.6	338.1	416.5
122.5°	151.6	153.3	156.2	162.4	172.9	188.2	208.5	236.2	276.8	334.9	405.9
125°	164.2	165.3	168.7	175.1	186.0	201.6	221.8	247.1	281.7	330.6	392.2
127.5°	173.7	175.4	179.8	186.1	198.2	213.8	233.3	256.1	287.2	328.5	380.3
130°	179.8	181.5	186.6	193.5	205.6	221.2	240.1	262.1	290.8	327.2	373.9
132.5°	184.3	186.5	192.2	200.5	212.6	227.6	246.2	267.6	293.7	326.7	367.8
135°	192.4	194.7	201.1	209.6	221.8	237.3	255.2	274.8	297.8	326.0	360.0
137.5°	200.0	202.4	208.6	217.8	229.8	244.2	261.4	280.0	300.5	324.8	353.3
140°	205.1	207.9	213.7	222.9	234.4	248.8	265.5	282.9	302.4	324.3	349.0
142.5°	210.6	213.0	219.2	227.5	239.0	252.6	268.7	285.6	303.8	323.4	345.4
145°	219.4	221.2	226.4	235.0	244.8	258.0	273.1	288.6	304.7	321.9	340.4
147.5°	228.4	229.4	234.6	242.1	251.5	262.8	276.5	290.4	304.7	319.8	335.6
150°	234.4	235.0	239.6	247.1	255.2	265.5	278.8	290.8	304.7	317.9	332.3
152.5°	240.4	240.5	245.2	251.8	258.8	268.7	280.1	291.9	303.4	315.7	328.7
155°	249.4	249.4	252.9	258.6	265.0	273.1	282.9	292.1	301.8	311.6	323.2
157.5°	256.5	257.0	259.7	264.9	270.2	276.5	284.3	292.7	299.8	308.0	316.9
160°	262.1	262.1	264.4	269.0	273.1	278.8	285.7	292.7	298.9	305.3	312.8
162.5°	266.2	266.2	268.1	271.8	275.3	280.1	286.2	292.2	297.1	302.6	308.6
165°	272.5	271.9	273.1	275.9	278.2	282.3	286.8	290.8	294.4	298.4	303.0
167.5°	277.2	276.5	277.0	279.2	280.8	283.4	286.7	289.9	291.5	294.2	297.6
170°	279.9	278.8	279.3	281.0	282.3	283.4	286.3	288.6	289.7	291.4	294.4
172.5°	281.8	281.0	281.2	282.5	283.2	283.9	286.3	288.1	288.3	289.1	291.1
175°	284.0	283.4	282.9	284.0	284.0	284.6	285.7	286.8	286.3	286.3	287.4
177.5°	285.0	284.6	284.1	284.6	284.6	284.6	285.0	285.9	285.0	284.6	285.0
180°	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	577.8	578.8	579.8	580.1	580.0	579.8	579.6	579.5
5°	574.1	575.0	575.9	576.3	576.1	575.9	575.7	575.5
7.5°	566.0	566.5	567.0	567.1	566.7	566.4	566.0	565.7
10°	558.8	558.9	559.0	558.8	558.3	557.7	557.1	556.6
12.5°	549.8	549.7	549.7	549.3	548.7	548.1	547.4	546.8
15°	533.9	533.4	532.9	532.3	531.6	530.8	530.1	529.4
17.5°	515.1	514.0	512.9	511.8	510.7	509.6	508.6	507.5
20°	502.2	500.8	499.5	498.2	496.9	495.6	494.4	493.1
22.5°	488.4	486.7	484.9	483.5	482.3	481.2	480.0	478.9
25°	465.6	463.5	461.3	459.6	458.5	457.4	456.2	455.0
27.5°	441.0	438.0	434.9	432.5	430.7	429.0	427.3	425.5
30°	423.4	419.9	416.4	413.7	412.0	410.4	408.7	407.0
32.5°	406.2	402.3	398.4	395.6	393.8	392.1	390.3	388.6
35°	380.6	376.1	371.6	368.4	366.6	364.7	362.7	360.9
37.5°	353.1	348.0	343.0	339.2	336.9	334.6	332.2	329.9
40°	334.1	328.6	323.2	319.2	316.8	314.5	312.0	309.6
42.5°	315.7	309.8	303.9	299.8	297.6	295.5	293.4	291.1
45°	288.7	282.8	276.8	272.6	270.1	267.6	265.1	262.6
47.5°	260.8	254.4	247.9	243.6	241.4	239.1	236.8	234.6
50°	242.1	235.6	229.1	224.7	222.3	219.8	217.4	215.0
52.5°	223.9	217.1	210.5	206.0	203.8	201.7	199.5	197.3
55°	196.8	190.8	184.7	180.6	178.5	176.4	174.3	172.2
57.5°	170.2	164.4	158.8	154.9	153.2	151.4	149.7	147.8
60°	153.4	147.7	142.1	138.4	136.6	134.8	133.1	131.3
62.5°	136.7	131.5	126.1	122.5	120.7	118.9	116.9	115.1
65°	113.0	108.0	102.8	99.7	98.5	97.4	96.2	95.0
67.5°	90.4	86.5	82.7	80.2	79.0	77.8	76.5	75.3
70°	76.4	72.8	69.1	66.8	65.5	64.4	63.2	62.1
72.5°	63.8	60.9	57.9	56.1	55.6	55.1	54.7	54.2
75°	47.8	46.8	45.6	45.0	44.8	44.6	44.4	44.2
77.5°	36.1	35.4	34.9	34.5	34.3	34.1	33.9	33.7
80°	29.0	28.7	28.4	28.2	27.9	27.7	27.5	27.3
82.5°	22.2	21.9	21.6	21.4	21.4	21.3	21.3	21.3
85°	12.7	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	7.6	7.7	7.7	7.8	7.6	7.7	7.7	7.5
90°	14.4	14.9	15.6	16.7	16.2	16.7	17.3	16.7
92.5°	48.5	38.5	34.0	31.0	30.0	28.2	28.8	27.8
95°	207.3	140.6	110.0	89.3	78.4	73.1	69.1	66.9
97.5°	516.9	414.0	339.7	270.8	228.3	202.4	186.8	181.9
100°	679.1	632.5	565.0	483.2	425.1	383.0	360.6	361.1
102.5°	733.1	731.5	692.3	640.4	595.1	561.8	543.0	529.8
105°	748.8	806.4	817.4	802.3	775.9	754.0	735.6	732.7
107.5°	703.4	797.0	847.4	867.9	868.4	861.0	854.7	849.5
110°	660.0	766.1	838.7	879.0	895.1	899.7	898.6	897.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	617.2	725.5	806.9	858.7	888.2	902.5	906.9	907.1
115°	560.5	660.7	745.4	808.1	851.3	876.7	888.2	891.1
117.5°	519.3	605.8	681.9	745.6	790.6	819.6	836.3	840.1
120°	497.7	575.4	644.5	702.8	748.2	780.5	794.3	797.8
122.5°	480.6	551.0	615.0	669.0	709.5	738.5	753.8	758.1
125°	457.9	520.7	576.0	622.1	658.9	684.3	698.7	702.8
127.5°	438.1	494.1	544.0	585.9	618.7	640.4	653.4	657.1
130°	425.7	477.5	524.1	563.3	593.9	614.6	626.7	631.3
132.5°	414.1	461.8	505.2	542.6	571.3	592.0	602.7	605.9
135°	398.6	439.5	477.0	509.8	538.0	555.2	565.6	569.7
137.5°	384.5	418.0	450.2	478.7	502.4	519.9	528.7	531.3
140°	376.2	405.5	433.1	457.9	479.8	495.9	505.1	504.5
142.5°	368.3	393.5	417.5	439.0	457.7	472.0	480.3	479.7
145°	358.8	377.9	396.3	413.0	427.4	439.5	444.1	445.2
147.5°	351.1	366.2	381.1	392.9	403.8	412.0	416.5	416.9
150°	345.6	358.8	370.9	381.9	390.5	396.9	400.3	400.3
152.5°	340.5	351.9	362.6	371.7	378.5	384.5	386.5	386.5
155°	333.0	342.1	350.8	357.7	362.8	367.5	368.6	369.2
157.5°	324.9	332.5	339.3	344.7	349.2	352.6	353.6	353.5
160°	320.2	326.6	332.3	336.4	340.4	343.9	343.9	343.3
162.5°	314.8	320.1	325.5	329.0	331.6	334.7	334.7	334.1
165°	307.6	311.0	315.1	317.9	320.2	322.6	321.9	321.9
167.5°	301.3	304.0	306.3	308.4	309.4	311.0	310.4	310.4
170°	297.2	298.9	301.2	302.4	303.0	304.2	303.6	303.6
172.5°	293.6	294.8	296.6	297.3	297.4	298.6	297.6	297.1
175°	288.6	289.1	290.3	290.3	290.3	290.8	290.3	289.7
177.5°	285.5	285.9	286.4	286.4	285.9	286.4	285.5	285.5
180°	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6

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