

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: P332754-940

Luminaire Tested: **S124DIW-S575D770U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332754-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S575D770U940-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4489.0 lumens  
Efficiency: N/A  
Efficacy: 119.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

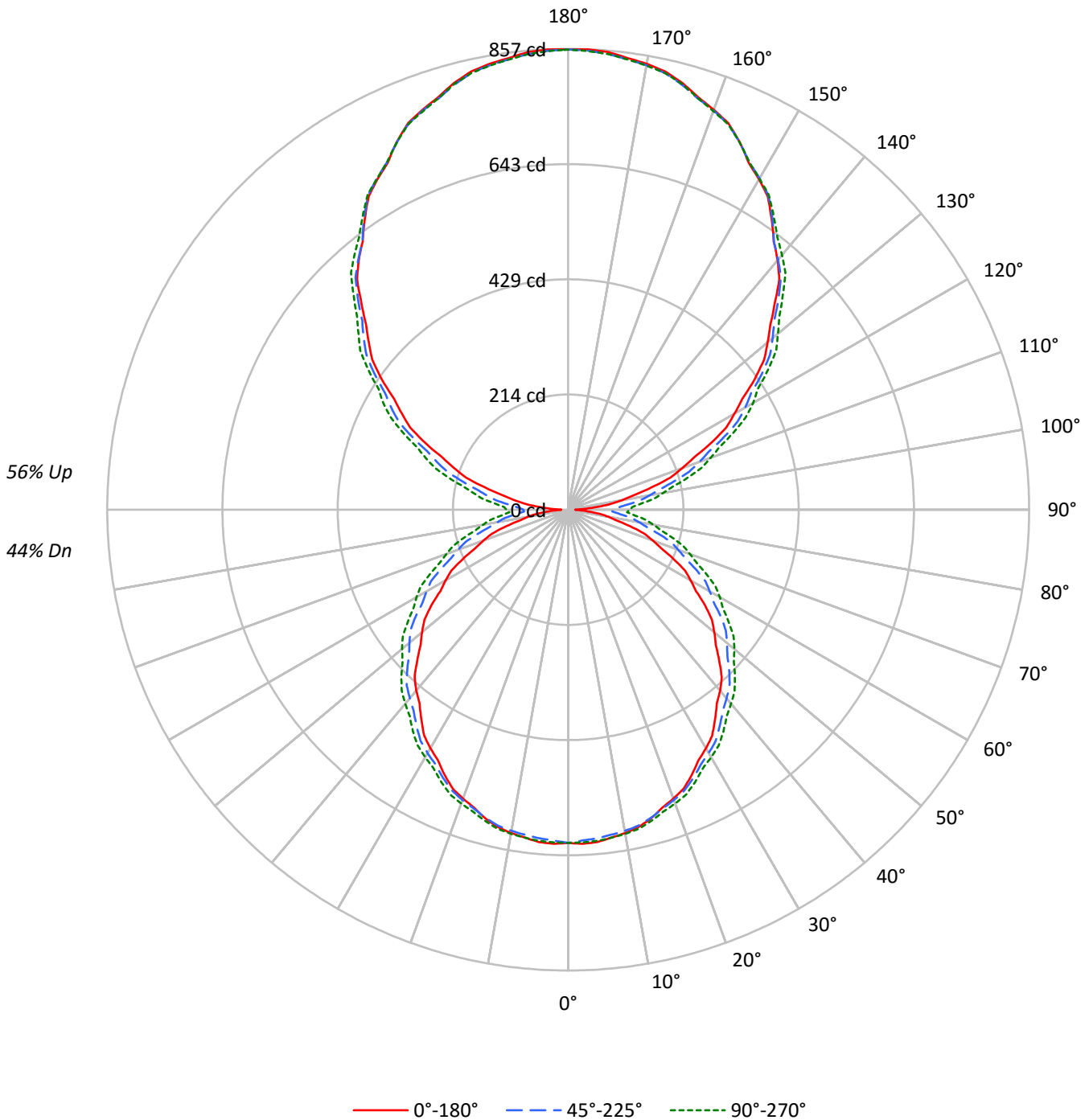
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44
1	95	91	87	83	87	83	79	76	69	66	64	55	53	52	43	42	41	35
2	87	79	72	67	79	72	66	62	60	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	36	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	23	24	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	12	10

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

	0°	45°	90°
0°	5002	5002	5002
5°	5018	4889	4903
10°	4987	4809	4805
15°	4943	4717	4690
20°	4875	4614	4579
25°	4799	4500	4456
30°	4717	4386	4330
35°	4624	4269	4220
40°	4550	4158	4105
45°	4439	4056	4005
50°	4344	3938	3901
55°	4249	3827	3778
60°	4098	3685	3667
65°	3933	3533	3529
70°	3733	3359	3369
75°	3453	3169	3224
80°	3143	2984	3082
85°	2746	2820	2999



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.7	1.3
10°-20°	168.1	3.7
20°-30°	254.2	5.7
30°-40°	307.6	6.9
40°-50°	325.2	7.2
50°-60°	306.0	6.8
60°-70°	253.9	5.7
70°-80°	178.3	4.0
80°-90°	103.4	2.3
90°-100°	116.3	2.6
100°-110°	211.5	4.7
110°-120°	313.5	7.0
120°-130°	391.0	8.7
130°-140°	427.5	9.5
140°-150°	414.4	9.2
150°-160°	347.3	7.7
160°-170°	231.1	5.1
170°-180°	80.9	1.8
0°-30°	481.0	10.7
0°-40°	788.6	17.6
0°-60°	1419.8	31.6
0°-90°	1955.4	43.6
90°-120°	641.4	14.3
90°-150°	1874.3	41.8
90°-180°	2534.0	56.4
0°-180°	4489.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	620	620	620	620	620	
5°	620	618	613	619	618	59
15°	595	595	593	599	599	167
25°	544	548	550	558	559	250
35°	476	484	491	501	503	298
45°	397	410	423	435	438	307
55°	311	326	346	360	364	277
65°	215	237	261	278	284	213
75°	119	145	174	193	200	127
85°	37	66	97	117	125	39
90°	13	48	83	106	114	10
95°	49	78	111	131	138	51
105°	160	176	203	222	230	171
115°	293	300	320	334	339	289
125°	423	423	439	450	454	377
135°	543	548	552	562	564	420
145°	659	661	662	665	666	412
155°	754	754	754	756	754	347
165°	821	819	818	822	819	231
175°	854	851	850	854	850	81
180°	856	856	856	856	856	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6
2.5°	621.9	621.5	621.2	620.7	620.4	619.7	618.8	617.8	616.7	615.7	616.6
5°	620.4	619.9	619.4	618.9	618.5	617.7	616.6	615.5	614.5	613.4	614.7
7.5°	615.1	614.7	614.5	614.2	613.9	613.4	612.5	611.6	610.6	609.8	611.2
10°	610.6	610.5	610.3	610.2	610.0	609.6	608.8	608.0	607.3	606.5	607.9
12.5°	604.5	604.5	604.5	604.4	604.4	604.1	603.6	603.1	602.5	602.0	603.2
15°	594.7	594.9	594.9	595.1	595.3	595.1	594.7	594.2	593.7	593.3	594.7
17.5°	581.2	581.7	582.1	582.6	583.1	583.3	583.2	583.1	583.0	582.9	584.2
20°	571.8	572.2	572.7	573.2	573.6	573.9	574.1	574.3	574.4	574.5	576.0
22.5°	561.2	561.8	562.4	562.9	563.6	564.0	564.3	564.5	564.8	565.1	566.7
25°	544.0	544.9	545.9	546.8	547.7	548.4	548.8	549.3	549.8	550.3	552.0
27.5°	524.9	526.2	527.5	529.0	530.3	531.3	532.0	532.7	533.4	534.1	535.7
30°	512.1	513.4	514.5	515.8	517.0	518.2	519.2	520.3	521.4	522.5	524.2
32.5°	498.2	499.7	501.1	502.7	504.2	505.5	506.7	507.9	509.1	510.3	512.2
35°	476.0	477.9	479.7	481.5	483.4	485.1	486.6	488.2	489.7	491.2	493.5
37.5°	453.7	455.8	457.9	460.0	462.2	464.2	466.1	468.1	469.9	471.8	474.0
40°	439.3	441.2	443.3	445.2	447.3	449.3	451.5	453.6	455.8	458.0	460.3
42.5°	422.6	424.8	427.0	429.4	431.6	434.0	436.5	439.0	441.6	444.1	446.7
45°	396.9	399.8	402.8	405.7	408.6	411.5	414.5	417.4	420.4	423.3	425.9
47.5°	372.4	375.3	378.4	381.4	384.4	387.6	391.0	394.4	397.8	401.2	403.9
50°	354.5	357.9	361.3	364.8	368.2	371.6	375.0	378.4	381.7	385.1	388.2
52.5°	336.8	340.2	343.6	347.0	350.4	354.0	357.9	361.8	365.7	369.5	372.6
55°	310.9	314.1	317.4	320.6	323.8	327.7	332.3	337.0	341.6	346.3	349.4
57.5°	281.9	285.9	289.9	293.9	297.9	302.2	306.7	311.4	316.0	320.6	324.2
60°	263.0	267.0	271.0	275.0	279.0	283.6	288.6	293.7	298.8	303.9	307.5
62.5°	244.7	249.1	253.4	257.8	262.2	266.9	272.0	277.1	282.2	287.3	290.8
65°	215.1	220.1	225.0	229.9	234.9	240.0	245.1	250.4	255.7	260.9	264.7
67.5°	186.6	191.9	197.2	202.4	207.6	213.0	218.6	224.3	229.9	235.5	239.4
70°	167.2	172.5	177.7	183.0	188.2	193.8	199.6	205.5	211.3	217.2	221.3
72.5°	148.4	153.7	159.1	164.4	169.8	175.6	181.8	188.1	194.3	200.5	204.6
75°	119.3	125.0	130.7	136.4	142.1	148.3	154.7	161.2	167.7	174.2	178.5
77.5°	92.3	98.4	104.4	110.4	116.5	122.9	129.7	136.4	143.2	150.0	154.4
80°	75.6	81.8	88.0	94.2	100.3	106.7	113.6	120.4	127.2	133.9	138.6
82.5°	58.9	65.4	71.8	78.2	84.6	91.2	98.0	104.8	111.6	118.4	123.1
85°	36.7	43.2	49.8	56.2	62.7	69.4	76.3	83.3	90.2	97.1	101.7
87.5°	21.0	27.6	34.2	40.8	47.4	54.2	61.2	68.2	75.2	82.1	86.8
90°	13.1	20.9	28.6	36.5	44.2	52.0	59.8	67.7	75.4	83.3	88.6
92.5°	24.7	32.1	39.5	46.9	54.3	61.8	69.2	76.7	84.1	91.6	96.5
95°	48.7	55.1	61.5	67.9	74.4	81.2	88.6	95.9	103.3	110.7	115.3
97.5°	77.6	83.0	88.5	93.9	99.3	105.8	113.2	120.6	128.1	135.6	140.2
100°	100.3	104.9	109.5	114.0	118.7	124.7	132.0	139.3	146.7	154.0	158.5
102.5°	124.7	128.4	132.2	135.9	139.6	145.1	152.1	159.3	166.4	173.4	177.9
105°	160.4	163.7	166.9	170.1	173.3	178.2	184.4	190.7	197.0	203.3	207.6
107.5°	199.4	202.1	204.7	207.5	210.2	214.3	219.7	225.2	230.7	236.2	240.4
110°	225.2	227.7	230.2	232.6	235.1	239.0	244.2	249.4	254.7	259.9	263.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	252.3	254.2	256.2	258.2	260.1	263.6	268.4	273.3	278.2	283.1	286.5
115°	292.7	294.1	295.5	296.9	298.3	301.3	305.9	310.6	315.2	319.9	323.1
117.5°	331.4	332.4	333.4	334.3	335.3	338.0	342.3	346.7	351.2	355.5	358.2
120°	356.9	357.9	359.0	360.1	361.1	363.6	367.7	371.7	375.7	379.8	382.1
122.5°	383.9	384.2	384.5	384.9	385.2	387.4	391.4	395.4	399.4	403.4	406.0
125°	423.0	422.8	422.8	422.6	422.4	424.2	427.9	431.6	435.3	439.0	441.7
127.5°	459.1	459.3	459.6	459.9	460.2	461.6	464.4	467.2	469.8	472.6	475.1
130°	483.8	484.2	484.5	484.7	485.0	486.4	488.8	491.3	493.8	496.2	498.7
132.5°	509.8	510.0	510.1	510.3	510.5	511.5	513.4	515.2	517.1	519.0	521.3
135°	543.4	544.3	545.2	546.1	547.0	548.0	549.0	550.1	551.2	552.2	554.4
137.5°	580.8	581.0	581.2	581.5	581.8	582.3	583.0	583.8	584.5	585.3	587.2
140°	605.6	605.7	605.9	606.0	606.2	606.4	606.5	606.6	606.8	607.0	608.8
142.5°	627.9	628.1	628.4	628.7	628.9	628.9	628.7	628.5	628.3	628.1	629.8
145°	659.2	659.6	660.0	660.5	660.9	661.2	661.4	661.6	661.6	661.8	662.6
147.5°	690.5	691.0	691.5	692.1	692.7	692.9	692.8	692.6	692.5	692.4	692.4
150°	709.5	709.9	710.3	710.8	711.2	711.5	711.5	711.5	711.5	711.5	711.5
152.5°	726.9	727.3	727.5	727.9	728.3	728.4	728.5	728.7	728.8	728.9	729.2
155°	754.5	754.5	754.5	754.5	754.5	754.4	754.2	754.1	753.9	753.9	754.4
157.5°	777.8	777.5	777.2	776.9	776.7	776.6	776.5	776.5	776.5	776.4	776.9
160°	791.6	791.4	791.2	791.1	790.9	790.8	790.7	790.5	790.3	790.2	790.7
162.5°	804.2	803.9	803.4	803.1	802.7	802.5	802.3	802.2	802.0	801.8	802.6
165°	821.4	820.9	820.5	820.0	819.6	819.2	818.9	818.6	818.3	818.0	818.9
167.5°	834.4	833.8	833.2	832.6	832.0	831.6	831.7	831.7	831.7	831.8	832.7
170°	841.9	841.1	840.3	839.6	838.9	838.6	838.7	838.9	839.0	839.2	840.1
172.5°	847.1	846.5	845.9	845.3	844.6	844.4	844.4	844.5	844.5	844.5	845.5
175°	854.4	853.6	852.9	852.2	851.5	851.0	850.9	850.7	850.6	850.4	851.5
177.5°	856.8	856.2	855.6	855.1	854.4	854.2	854.2	854.2	854.2	854.2	855.0
180°	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6
2.5°	617.5	618.3	619.2	619.6	619.5	619.3	619.2	619.1
5°	615.9	617.1	618.3	618.8	618.8	618.6	618.4	618.2
7.5°	612.6	613.9	615.4	616.0	615.8	615.6	615.5	615.4
10°	609.2	610.6	612.0	612.6	612.5	612.3	612.2	612.0
12.5°	604.6	605.8	607.1	607.7	607.7	607.6	607.6	607.6
15°	596.0	597.4	598.8	599.4	599.3	599.1	599.0	598.8
17.5°	585.7	587.1	588.5	589.2	589.1	589.0	588.8	588.7
20°	577.7	579.2	580.7	581.5	581.5	581.5	581.5	581.5
22.5°	568.2	569.7	571.2	572.2	572.4	572.7	572.9	573.2
25°	553.7	555.4	557.1	557.9	558.1	558.3	558.4	558.6
27.5°	537.3	538.9	540.5	541.4	541.5	541.7	541.9	542.1
30°	525.9	527.6	529.3	530.3	530.6	530.9	531.2	531.5
32.5°	514.2	516.1	518.1	519.2	519.5	519.8	520.1	520.4
35°	495.6	497.8	499.9	501.2	501.7	502.1	502.6	503.1
37.5°	476.3	478.4	480.6	482.0	482.4	483.0	483.4	483.9
40°	462.6	464.9	467.3	468.7	469.3	469.9	470.6	471.2
42.5°	449.2	451.7	454.3	455.8	456.4	456.8	457.4	457.8
45°	428.6	431.1	433.7	435.4	436.2	437.0	437.7	438.5
47.5°	406.6	409.4	412.1	413.8	414.8	415.7	416.7	417.6
50°	391.3	394.4	397.4	399.5	400.4	401.3	402.3	403.1
52.5°	375.8	378.8	381.9	383.9	384.9	385.8	386.6	387.6
55°	352.4	355.5	358.6	360.6	361.5	362.5	363.4	364.3
57.5°	327.9	331.6	335.3	337.5	338.4	339.2	340.1	341.0
60°	311.0	314.6	318.1	320.5	321.7	323.0	324.2	325.5
62.5°	294.4	297.9	301.5	303.8	305.1	306.3	307.6	308.8
65°	268.6	272.5	276.3	278.8	280.1	281.3	282.6	283.8
67.5°	243.3	247.3	251.2	253.7	254.9	256.1	257.3	258.5
70°	225.5	229.7	233.8	236.5	237.6	238.6	239.7	240.8
72.5°	208.6	212.7	216.7	219.3	220.5	221.7	222.9	224.1
75°	182.8	187.1	191.5	194.3	195.6	197.1	198.5	199.8
77.5°	158.8	163.2	167.6	170.5	171.9	173.4	174.9	176.4
80°	143.2	147.8	152.4	155.3	156.6	157.8	159.1	160.3
82.5°	127.9	132.6	137.4	140.4	141.8	143.1	144.5	145.9
85°	106.4	111.0	115.7	118.8	120.3	121.8	123.3	124.9
87.5°	91.5	96.1	100.8	103.8	105.2	106.6	108.0	109.4
90°	94.0	99.3	104.7	108.1	109.7	111.2	112.7	114.2
92.5°	101.3	106.2	111.1	114.2	115.7	117.1	118.4	119.8
95°	119.8	124.5	129.1	132.1	133.5	134.8	136.3	137.6
97.5°	144.7	149.4	153.9	156.9	158.2	159.5	160.9	162.1
100°	162.9	167.4	171.8	174.6	175.7	176.7	177.8	178.9
102.5°	182.4	186.8	191.3	194.1	195.5	196.8	198.1	199.4
105°	211.9	216.2	220.5	223.5	225.2	226.9	228.5	230.2
107.5°	244.6	248.8	253.1	255.7	256.7	257.9	259.0	260.0
110°	266.4	269.7	273.0	275.4	277.1	278.7	280.4	282.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	289.8	293.2	296.6	298.9	300.2	301.6	302.9	304.2
115°	326.4	329.6	332.8	334.9	335.8	336.8	337.7	338.7
117.5°	361.0	363.6	366.3	368.2	369.1	370.1	371.0	371.9
120°	384.4	386.8	389.1	391.1	392.6	394.1	395.7	397.2
122.5°	408.6	411.2	413.8	415.4	416.0	416.5	417.1	417.7
125°	444.3	446.9	449.6	451.2	451.8	452.5	453.1	453.7
127.5°	477.5	480.0	482.5	484.1	485.0	485.8	486.6	487.4
130°	501.2	503.7	506.2	507.7	507.9	508.3	508.6	509.0
132.5°	523.7	526.0	528.3	529.9	530.6	531.3	532.0	532.6
135°	556.6	558.7	561.0	562.2	562.8	563.2	563.7	564.2
137.5°	589.1	590.9	592.8	594.1	595.0	595.8	596.7	597.6
140°	610.6	612.5	614.4	615.6	616.3	616.9	617.5	618.1
142.5°	631.5	633.3	635.0	636.1	636.8	637.4	638.0	638.6
145°	663.3	664.1	664.9	665.4	665.6	665.8	665.9	666.1
147.5°	692.4	692.4	692.4	692.6	692.9	693.3	693.7	694.0
150°	711.5	711.5	711.5	711.4	711.2	711.1	711.0	710.8
152.5°	729.6	730.0	730.3	730.3	730.0	729.6	729.2	728.8
155°	755.0	755.5	756.2	756.2	755.5	755.0	754.4	753.9
157.5°	777.3	777.8	778.2	778.2	777.7	777.2	776.7	776.1
160°	791.1	791.6	792.0	791.8	791.1	790.3	789.6	788.9
162.5°	803.4	804.2	805.0	805.0	804.3	803.6	802.9	802.1
165°	819.7	820.6	821.5	821.7	821.1	820.5	819.9	819.3
167.5°	833.6	834.4	835.3	835.3	834.4	833.5	832.6	831.6
170°	841.0	841.9	842.8	842.7	841.6	840.6	839.5	838.6
172.5°	846.5	847.5	848.5	848.5	847.4	846.4	845.3	844.4
175°	852.5	853.5	854.5	854.5	853.5	852.5	851.5	850.4
177.5°	855.8	856.6	857.5	857.4	856.4	855.5	854.5	853.6
180°	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7

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