

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: P332548-840

Luminaire Tested: **S124DIP-S575D590U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332548-840  
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: S124DIP-S575D590U840-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4460.6 lumens  
Efficiency: N/A  
Efficacy: 136.0 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

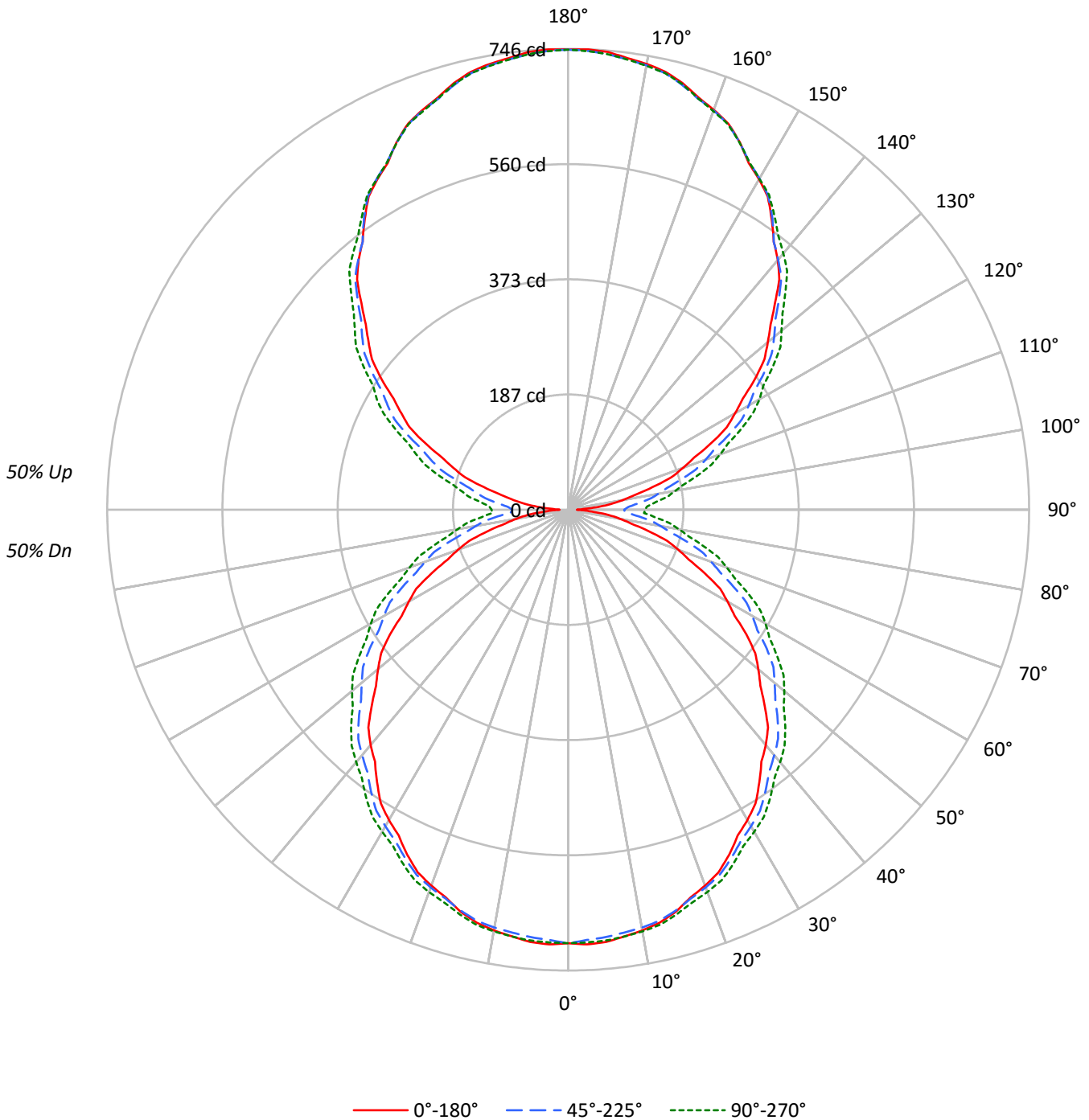
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	74	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	36	34	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	27	23
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	23	18	15	19	15	13	11

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

	0°	45°	90°
0°	5666	5666	5666
5°	5683	5537	5552
10°	5649	5446	5442
15°	5598	5341	5312
20°	5521	5226	5185
25°	5435	5096	5047
30°	5342	4967	4904
35°	5237	4834	4779
40°	5153	4710	4648
45°	5027	4594	4537
50°	4920	4460	4418
55°	4811	4333	4278
60°	4641	4173	4153
65°	4454	4001	3997
70°	4226	3805	3816
75°	3910	3587	3652
80°	3559	3381	3492
85°	3112	3195	3398



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.5	1.5
10°-20°	190.4	4.3
20°-30°	287.9	6.5
30°-40°	348.3	7.8
40°-50°	368.3	8.3
50°-60°	346.6	7.8
60°-70°	287.5	6.4
70°-80°	202.0	4.5
80°-90°	116.4	2.6
90°-100°	116.9	2.6
100°-110°	195.7	4.4
110°-120°	280.7	6.3
120°-130°	344.7	7.7
130°-140°	373.9	8.4
140°-150°	361.1	8.1
150°-160°	302.3	6.8
160°-170°	201.1	4.5
170°-180°	70.4	1.6
0°-30°	544.7	12.2
0°-40°	893.1	20.0
0°-60°	1607.9	36.0
0°-90°	2213.8	49.6
90°-120°	593.3	13.3
90°-150°	1672.9	37.5
90°-180°	2247.0	50.4
0°-180°	4460.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	702	702	702	702	702	
5°	703	700	695	700	700	67
15°	674	674	672	678	678	190
25°	616	621	623	631	633	284
35°	539	548	556	567	570	337
45°	450	464	479	492	497	347
55°	352	369	392	407	412	314
65°	244	269	296	314	321	241
75°	135	164	197	218	226	144
85°	42	75	110	133	142	44
90°	14	52	90	116	124	10
95°	45	76	112	134	142	47
105°	141	158	189	210	218	150
115°	256	264	287	303	308	253
125°	369	369	387	400	405	329
135°	473	477	482	493	497	366
145°	574	575	576	580	582	359
155°	657	657	656	658	656	302
165°	715	713	712	715	713	201
175°	744	741	740	744	740	71
180°	745	745	745	745	745	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8
2.5°	704.3	703.9	703.5	703.0	702.6	701.9	700.7	699.6	698.4	697.3	698.3
5°	702.6	702.1	701.5	700.9	700.4	699.5	698.3	697.1	695.9	694.7	696.1
7.5°	696.6	696.2	695.9	695.6	695.3	694.7	693.7	692.7	691.6	690.5	692.2
10°	691.6	691.4	691.2	691.1	690.8	690.3	689.4	688.5	687.7	686.8	688.4
12.5°	684.6	684.6	684.6	684.5	684.5	684.2	683.6	683.0	682.4	681.8	683.2
15°	673.5	673.7	673.8	674.0	674.2	674.0	673.5	673.0	672.4	671.9	673.5
17.5°	658.2	658.7	659.2	659.7	660.4	660.6	660.5	660.4	660.2	660.1	661.7
20°	647.5	648.0	648.5	649.1	649.6	649.9	650.2	650.4	650.5	650.7	652.4
22.5°	635.6	636.2	636.9	637.5	638.2	638.7	639.0	639.3	639.6	640.0	641.8
25°	616.1	617.1	618.2	619.2	620.3	621.1	621.6	622.1	622.7	623.2	625.1
27.5°	594.4	595.9	597.4	599.1	600.6	601.7	602.5	603.3	604.1	604.9	606.7
30°	580.0	581.4	582.7	584.1	585.5	586.8	588.0	589.3	590.5	591.8	593.7
32.5°	564.2	565.9	567.5	569.3	571.0	572.5	573.8	575.2	576.5	577.9	580.1
35°	539.1	541.2	543.3	545.3	547.4	549.4	551.1	552.9	554.6	556.3	558.9
37.5°	513.8	516.1	518.6	521.0	523.4	525.7	527.9	530.1	532.2	534.3	536.8
40°	497.5	499.7	502.0	504.2	506.5	508.9	511.3	513.7	516.2	518.7	521.3
42.5°	478.6	481.1	483.6	486.3	488.8	491.5	494.3	497.2	500.1	502.9	505.8
45°	449.5	452.8	456.2	459.5	462.7	466.1	469.4	472.7	476.1	479.4	482.3
47.5°	421.7	425.1	428.5	431.9	435.4	439.0	442.8	446.7	450.5	454.3	457.5
50°	401.5	405.4	409.2	413.1	417.0	420.8	424.6	428.5	432.3	436.2	439.6
52.5°	381.4	385.3	389.1	392.9	396.8	400.9	405.4	409.7	414.1	418.5	422.0
55°	352.0	355.7	359.4	363.0	366.7	371.1	376.4	381.6	386.9	392.1	395.7
57.5°	319.2	323.8	328.3	332.9	337.4	342.2	347.4	352.6	357.9	363.0	367.2
60°	297.8	302.4	306.9	311.4	316.0	321.1	326.9	332.6	338.4	344.2	348.2
62.5°	277.1	282.1	287.0	292.0	296.9	302.3	308.0	313.8	319.6	325.4	329.3
65°	243.6	249.2	254.8	260.3	266.0	271.8	277.6	283.6	289.5	295.5	299.8
67.5°	211.4	217.3	223.3	229.2	235.1	241.3	247.6	254.0	260.3	266.7	271.1
70°	189.3	195.3	201.3	207.2	213.2	219.4	226.0	232.7	239.3	246.0	250.6
72.5°	168.0	174.1	180.2	186.2	192.3	198.8	205.9	213.0	220.0	227.1	231.7
75°	135.1	141.6	148.0	154.5	161.0	167.9	175.2	182.6	190.0	197.2	202.2
77.5°	104.5	111.4	118.3	125.0	131.9	139.2	146.8	154.5	162.2	169.9	174.8
80°	85.6	92.6	99.7	106.6	113.6	120.9	128.7	136.3	144.0	151.7	156.9
82.5°	66.8	74.0	81.3	88.6	95.8	103.3	111.0	118.7	126.3	134.1	139.5
85°	41.6	49.0	56.4	63.6	71.0	78.6	86.4	94.3	102.2	110.0	115.2
87.5°	23.6	31.0	38.4	45.8	53.2	60.9	68.7	76.5	84.4	92.3	97.5
90°	14.3	22.7	31.1	39.5	47.9	56.4	64.8	73.4	81.9	90.5	96.3
92.5°	24.2	32.2	40.1	48.0	55.8	63.9	72.2	80.4	88.6	96.8	102.2
95°	44.7	51.7	58.6	65.5	72.4	79.9	88.0	96.0	104.1	112.1	117.2
97.5°	69.7	75.5	81.4	87.3	93.1	100.2	108.4	116.4	124.6	132.7	137.7
100°	89.3	94.3	99.4	104.4	109.5	116.0	123.9	131.9	139.9	147.8	152.8
102.5°	110.5	114.6	118.9	123.0	127.2	133.2	140.9	148.7	156.3	164.1	169.0
105°	141.3	144.9	148.6	152.2	155.7	161.1	168.0	175.0	182.0	188.9	193.7
107.5°	175.1	178.1	181.2	184.2	187.1	191.8	197.9	204.2	210.4	216.5	221.2
110°	197.5	200.3	202.9	205.6	208.3	212.7	218.6	224.6	230.7	236.6	240.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	220.9	223.1	225.3	227.5	229.7	233.6	239.2	244.8	250.4	256.0	259.8
115°	255.8	257.4	259.0	260.5	262.2	265.6	270.9	276.2	281.6	286.9	290.6
117.5°	289.5	290.6	291.6	292.7	293.8	296.8	301.7	306.8	311.8	316.9	320.0
120°	311.5	312.6	313.6	314.6	315.7	318.5	323.2	327.9	332.5	337.2	340.1
122.5°	335.0	335.3	335.6	335.9	336.3	338.7	343.3	347.9	352.5	357.1	360.2
125°	368.9	368.7	368.5	368.4	368.2	370.2	374.5	378.7	382.9	387.2	390.2
127.5°	400.2	400.4	400.6	400.8	401.0	402.7	405.9	409.0	412.1	415.3	418.2
130°	421.6	421.9	422.1	422.3	422.5	424.0	426.8	429.6	432.4	435.2	438.1
132.5°	444.2	444.3	444.4	444.5	444.6	445.8	448.0	450.1	452.2	454.3	457.1
135°	473.3	474.0	474.8	475.6	476.4	477.4	478.6	479.8	481.0	482.2	484.8
137.5°	505.7	505.9	506.1	506.3	506.5	507.1	507.8	508.6	509.4	510.2	512.4
140°	527.5	527.6	527.6	527.7	527.8	527.9	528.1	528.3	528.5	528.6	530.7
142.5°	546.6	546.8	547.0	547.2	547.5	547.5	547.3	547.1	546.9	546.6	548.7
145°	573.9	574.2	574.5	574.9	575.2	575.4	575.6	575.7	575.8	575.9	576.9
147.5°	601.1	601.5	602.0	602.4	602.8	603.0	602.9	602.8	602.7	602.6	602.6
150°	617.6	618.0	618.3	618.6	619.0	619.1	619.1	619.1	619.1	619.1	619.1
152.5°	632.7	633.0	633.3	633.5	633.8	634.0	634.1	634.2	634.3	634.4	634.7
155°	656.6	656.6	656.6	656.6	656.6	656.5	656.4	656.3	656.2	656.0	656.5
157.5°	676.9	676.6	676.4	676.2	676.0	675.8	675.8	675.8	675.8	675.7	676.1
160°	688.8	688.7	688.6	688.5	688.3	688.2	688.1	688.0	687.8	687.7	688.1
162.5°	699.9	699.6	699.2	698.9	698.6	698.3	698.2	698.1	698.0	697.8	698.5
165°	714.8	714.4	714.0	713.7	713.3	713.0	712.7	712.5	712.2	712.0	712.7
167.5°	726.2	725.7	725.1	724.6	724.1	723.8	723.8	723.9	723.9	723.9	724.7
170°	732.7	732.1	731.3	730.7	730.0	729.8	729.9	730.0	730.2	730.3	731.1
172.5°	737.2	736.7	736.2	735.7	735.1	734.9	734.9	734.9	734.9	735.0	735.8
175°	743.6	743.0	742.4	741.6	741.0	740.6	740.5	740.4	740.2	740.1	741.0
177.5°	745.7	745.2	744.7	744.2	743.6	743.4	743.4	743.4	743.4	743.4	744.1
180°	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8
2.5°	699.3	700.2	701.3	701.7	701.6	701.4	701.3	701.1
5°	697.5	698.8	700.2	700.8	700.7	700.5	700.3	700.1
7.5°	693.8	695.3	696.9	697.6	697.4	697.2	697.0	696.9
10°	689.9	691.6	693.1	693.8	693.7	693.5	693.3	693.1
12.5°	684.7	686.1	687.5	688.2	688.2	688.1	688.1	688.1
15°	675.0	676.6	678.1	678.8	678.7	678.5	678.3	678.1
17.5°	663.3	664.9	666.5	667.2	667.1	667.0	666.8	666.7
20°	654.2	655.9	657.6	658.5	658.5	658.5	658.5	658.5
22.5°	643.5	645.2	646.9	648.0	648.2	648.5	648.8	649.1
25°	627.0	628.9	630.9	631.9	632.1	632.3	632.4	632.6
27.5°	608.5	610.3	612.1	613.1	613.3	613.5	613.7	613.9
30°	595.6	597.5	599.5	600.6	600.9	601.3	601.6	602.0
32.5°	582.3	584.5	586.7	587.9	588.3	588.7	589.1	589.4
35°	561.3	563.7	566.1	567.6	568.2	568.7	569.2	569.8
37.5°	539.4	541.8	544.3	545.8	546.3	546.9	547.4	548.1
40°	523.9	526.5	529.2	530.8	531.5	532.2	532.9	533.6
42.5°	508.8	511.6	514.5	516.2	516.8	517.4	518.0	518.5
45°	485.3	488.3	491.2	493.1	494.0	494.9	495.7	496.7
47.5°	460.5	463.6	466.7	468.7	469.8	470.8	471.9	472.9
50°	443.1	446.7	450.1	452.4	453.4	454.4	455.6	456.6
52.5°	425.6	429.0	432.5	434.7	435.9	436.9	437.9	439.0
55°	399.1	402.6	406.1	408.4	409.4	410.5	411.5	412.5
57.5°	371.3	375.6	379.7	382.2	383.2	384.2	385.2	386.2
60°	352.2	356.3	360.2	362.9	364.4	365.8	367.2	368.6
62.5°	333.4	337.4	341.4	344.1	345.5	346.9	348.3	349.7
65°	304.2	308.6	313.0	315.8	317.2	318.6	320.0	321.4
67.5°	275.6	280.0	284.5	287.3	288.7	290.0	291.4	292.8
70°	255.4	260.1	264.8	267.8	269.0	270.2	271.5	272.7
72.5°	236.2	240.9	245.4	248.3	249.7	251.1	252.5	253.8
75°	207.0	211.9	216.8	220.0	221.6	223.2	224.8	226.3
77.5°	179.9	184.8	189.8	193.1	194.7	196.4	198.0	199.8
80°	162.2	167.3	172.6	175.9	177.3	178.7	180.2	181.6
82.5°	144.8	150.2	155.6	159.1	160.6	162.1	163.6	165.2
85°	120.5	125.7	131.0	134.5	136.2	137.9	139.7	141.5
87.5°	102.7	108.0	113.1	116.5	118.2	119.8	121.3	122.9
90°	102.1	108.0	113.8	117.5	119.2	120.9	122.5	124.1
92.5°	107.7	113.0	118.4	121.9	123.4	124.9	126.5	128.1
95°	122.3	127.4	132.5	135.8	137.4	139.1	140.6	142.2
97.5°	142.8	147.8	152.9	156.1	157.6	159.2	160.7	162.2
100°	157.7	162.8	167.7	170.9	172.1	173.3	174.5	175.7
102.5°	173.9	178.8	183.8	187.0	188.4	190.0	191.4	192.9
105°	198.4	203.2	207.9	211.2	213.0	214.8	216.5	218.3
107.5°	225.8	230.5	235.1	238.1	239.3	240.5	241.8	243.0
110°	244.1	247.9	251.7	254.4	256.2	257.9	259.7	261.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	263.7	267.5	271.4	274.0	275.5	276.9	278.4	279.8
115°	294.4	298.0	301.7	304.2	305.3	306.4	307.4	308.5
117.5°	323.3	326.5	329.6	331.8	333.0	334.1	335.3	336.4
120°	343.0	345.8	348.6	350.9	352.5	354.2	355.9	357.5
122.5°	363.2	366.3	369.3	371.2	372.0	372.8	373.7	374.5
125°	393.3	396.4	399.4	401.3	402.1	402.9	403.7	404.6
127.5°	421.0	423.9	426.9	428.8	429.8	430.7	431.7	432.7
130°	441.0	443.8	446.8	448.5	449.0	449.5	450.1	450.6
132.5°	459.8	462.5	465.3	467.1	468.0	468.8	469.7	470.5
135°	487.4	489.9	492.4	494.0	494.6	495.3	496.0	496.7
137.5°	514.6	516.8	519.1	520.7	521.6	522.5	523.5	524.4
140°	532.9	535.0	537.1	538.6	539.4	540.1	540.9	541.6
142.5°	550.6	552.6	554.5	555.9	556.6	557.3	558.1	558.8
145°	577.8	578.8	579.7	580.3	580.6	580.9	581.2	581.5
147.5°	602.7	602.7	602.7	603.0	603.4	603.8	604.3	604.7
150°	619.1	619.1	619.1	619.1	618.9	618.8	618.7	618.6
152.5°	635.0	635.3	635.6	635.6	635.3	634.9	634.6	634.3
155°	657.0	657.5	658.1	658.1	657.5	657.0	656.5	656.0
157.5°	676.5	676.9	677.3	677.2	676.8	676.4	675.9	675.5
160°	688.5	688.8	689.2	689.1	688.5	687.8	687.2	686.6
162.5°	699.2	699.9	700.6	700.6	700.0	699.3	698.7	698.1
165°	713.5	714.2	715.0	715.1	714.6	714.1	713.6	713.1
167.5°	725.4	726.2	727.0	726.9	726.2	725.4	724.6	723.8
170°	731.8	732.7	733.4	733.4	732.5	731.5	730.6	729.7
172.5°	736.7	737.6	738.4	738.4	737.5	736.6	735.7	734.9
175°	741.9	742.9	743.7	743.7	742.9	741.9	741.0	740.1
177.5°	744.8	745.5	746.2	746.2	745.4	744.6	743.7	742.9
180°	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8

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