

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: P332778-927

Luminaire Tested: **S124DIW-S795D470U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332778-927  
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-S795D470U927-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3854.2 lumens  
Efficiency: N/A  
Efficacy: 102.2 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: Semi-Direct

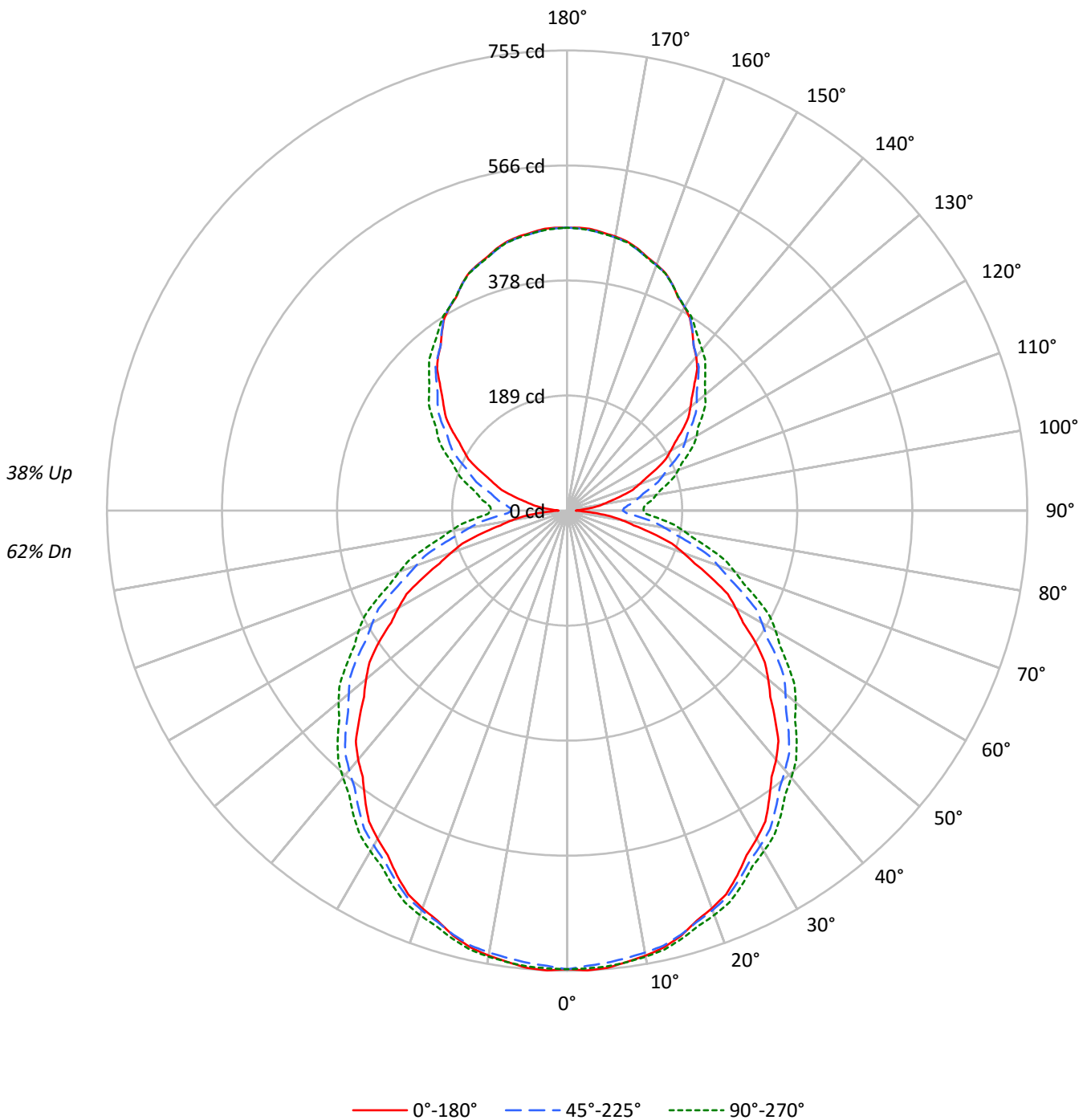
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67
1	99	94	90	86	92	88	84	81	77	74	71	67	64	62	57	55	54
2	90	82	75	69	84	76	70	65	67	62	58	58	54	51	49	47	44
3	82	71	63	57	76	67	60	54	58	53	48	51	46	43	43	40	37
4	74	63	54	48	69	59	51	45	52	46	41	45	40	36	39	35	32
5	68	56	47	41	63	52	45	39	46	40	35	40	35	31	35	31	27
6	63	50	41	35	58	47	39	34	41	35	30	36	31	27	31	27	24
7	58	45	37	31	54	42	35	29	38	31	27	33	28	24	28	24	21
8	54	41	33	27	50	39	31	26	34	28	24	30	25	21	26	22	19
9	50	37	30	24	47	35	28	23	31	25	21	28	23	19	24	20	17
10	47	34	27	22	44	32	25	21	29	23	19	26	21	17	22	18	15

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

	0°	45°	90°
0°	6075	6075	6075
5°	6093	5937	5954
10°	6056	5839	5835
15°	6002	5727	5695
20°	5920	5603	5561
25°	5828	5464	5411
30°	5728	5326	5258
35°	5615	5184	5124
40°	5525	5049	4984
45°	5391	4925	4864
50°	5277	4781	4738
55°	5160	4647	4588
60°	4976	4475	4453
65°	4776	4290	4285
70°	4532	4078	4091
75°	4196	3847	3915
80°	3817	3624	3742
85°	3344	3427	3643



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.3	1.8
10°-20°	204.2	5.3
20°-30°	308.7	8.0
30°-40°	373.5	9.7
40°-50°	394.9	10.2
50°-60°	371.6	9.6
60°-70°	308.3	8.0
70°-80°	216.6	5.6
80°-90°	123.8	3.2
90°-100°	103.3	2.7
100°-110°	144.5	3.7
110°-120°	190.0	4.9
120°-130°	223.3	5.8
130°-140°	236.7	6.1
140°-150°	225.8	5.9
150°-160°	188.4	4.9
160°-170°	125.3	3.3
170°-180°	43.9	1.1
0°-30°	584.1	15.2
0°-40°	957.6	24.8
0°-60°	1724.1	44.7
0°-90°	2372.8	61.6
90°-120°	437.9	11.4
90°-150°	1123.7	29.2
90°-180°	1481.0	38.4
0°-180°	3854.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	752	752	752	752	752	
5°	753	751	745	751	751	71
15°	722	723	720	728	727	203
25°	661	666	668	677	678	304
35°	578	588	597	608	611	362
45°	482	498	514	528	532	372
55°	378	396	420	437	442	336
65°	261	288	317	337	345	259
75°	145	176	212	234	243	154
85°	45	80	118	142	152	48
90°	15	52	91	117	125	10
95°	32	64	101	124	132	33
105°	91	109	141	162	171	97
115°	162	170	195	213	219	160
125°	231	232	251	266	271	206
135°	296	298	304	316	320	229
145°	358	359	359	364	366	224
155°	409	409	409	410	409	188
165°	445	444	444	446	444	126
175°	463	462	461	464	461	44
180°	464	464	464	464	464	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	752.5	752.5	752.5	752.5	752.5	752.5	752.5	752.5	752.5	752.5	752.5
2.5°	755.2	754.7	754.2	753.8	753.4	752.6	751.3	750.1	748.9	747.7	748.8
5°	753.3	752.7	752.2	751.6	751.1	750.1	748.8	747.5	746.2	744.9	746.4
7.5°	746.9	746.6	746.2	745.9	745.5	744.8	743.8	742.7	741.6	740.5	742.2
10°	741.5	741.3	741.2	740.9	740.8	740.2	739.3	738.3	737.4	736.4	738.2
12.5°	734.1	734.0	734.0	734.0	734.0	733.6	733.0	732.3	731.7	731.0	732.6
15°	722.2	722.3	722.5	722.7	722.9	722.7	722.2	721.6	721.0	720.4	722.2
17.5°	705.8	706.3	706.9	707.5	708.1	708.2	708.1	708.1	707.9	707.8	709.6
20°	694.3	694.9	695.5	696.0	696.6	697.0	697.1	697.3	697.5	697.7	699.6
22.5°	681.5	682.2	682.9	683.7	684.4	684.9	685.2	685.6	685.9	686.3	688.1
25°	660.6	661.7	662.9	664.0	665.1	666.0	666.5	667.1	667.7	668.2	670.3
27.5°	637.4	639.0	640.6	642.3	644.0	645.2	646.1	646.9	647.8	648.6	650.5
30°	621.9	623.4	624.9	626.4	627.9	629.2	630.6	631.8	633.2	634.5	636.5
32.5°	605.0	606.8	608.6	610.4	612.2	613.8	615.3	616.7	618.2	619.6	622.0
35°	578.1	580.3	582.6	584.8	587.0	589.1	591.0	592.9	594.7	596.6	599.2
37.5°	550.9	553.5	556.1	558.6	561.3	563.7	566.0	568.3	570.7	573.0	575.7
40°	533.4	535.8	538.2	540.7	543.1	545.7	548.3	550.9	553.5	556.1	559.0
42.5°	513.2	515.9	518.6	521.3	524.1	527.0	530.0	533.1	536.2	539.2	542.4
45°	482.0	485.5	489.1	492.7	496.2	499.8	503.4	506.9	510.4	514.0	517.2
47.5°	452.2	455.8	459.5	463.2	466.8	470.7	474.8	479.0	483.1	487.2	490.5
50°	430.6	434.7	438.8	442.9	447.0	451.1	455.3	459.4	463.5	467.6	471.4
52.5°	409.0	413.1	417.2	421.4	425.5	429.9	434.6	439.3	444.1	448.8	452.5
55°	377.5	381.4	385.4	389.3	393.2	398.0	403.6	409.2	414.9	420.5	424.2
57.5°	342.3	347.1	352.0	356.9	361.7	366.9	372.6	378.1	383.7	389.3	393.7
60°	319.3	324.2	329.1	334.0	338.8	344.4	350.5	356.7	362.9	369.1	373.4
62.5°	297.1	302.5	307.8	313.1	318.4	324.2	330.3	336.5	342.7	348.9	353.2
65°	261.2	267.2	273.2	279.2	285.2	291.4	297.7	304.1	310.5	316.8	321.5
67.5°	226.6	233.1	239.4	245.7	252.2	258.7	265.5	272.4	279.2	286.0	290.7
70°	203.0	209.5	215.8	222.2	228.5	235.3	242.4	249.5	256.6	263.7	268.8
72.5°	180.1	186.6	193.2	199.7	206.2	213.3	220.9	228.4	236.0	243.5	248.4
75°	145.0	151.9	158.8	165.7	172.6	180.1	187.9	195.7	203.7	211.5	216.7
77.5°	112.1	119.4	126.7	134.1	141.4	149.2	157.5	165.7	174.0	182.2	187.5
80°	91.8	99.3	106.8	114.3	121.8	129.7	137.9	146.2	154.4	162.6	168.3
82.5°	71.6	79.4	87.2	95.0	102.7	110.8	119.1	127.3	135.5	143.8	149.5
85°	44.7	52.5	60.4	68.3	76.1	84.3	92.7	101.1	109.6	118.0	123.6
87.5°	25.2	33.0	40.8	48.6	56.4	64.5	72.8	81.1	89.5	97.8	103.3
90°	14.6	22.9	31.3	39.7	48.0	56.6	65.3	73.9	82.6	91.3	97.2
92.5°	20.5	28.2	36.0	43.7	51.5	59.6	68.1	76.6	85.1	93.6	99.2
95°	32.5	39.4	46.3	53.2	60.0	67.7	75.9	84.1	92.4	100.6	105.9
97.5°	47.5	53.5	59.3	65.3	71.1	78.2	86.4	94.7	103.0	111.2	116.5
100°	59.5	64.7	69.9	75.1	80.2	86.9	94.9	102.9	110.9	119.0	124.2
102.5°	72.7	77.2	81.5	86.0	90.3	96.4	104.3	112.0	119.9	127.6	132.8
105°	91.3	95.1	98.9	102.7	106.5	112.1	119.3	126.6	133.8	141.0	146.0
107.5°	112.3	115.4	118.6	121.8	124.9	129.8	136.4	143.0	149.6	156.2	161.1
110°	126.0	128.7	131.5	134.3	137.0	141.6	148.1	154.6	161.1	167.5	171.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	140.2	142.5	144.9	147.3	149.6	153.8	159.9	166.0	172.1	178.2	182.4
115°	161.6	163.3	164.9	166.6	168.3	172.1	177.9	183.7	189.6	195.4	199.5
117.5°	182.5	183.5	184.7	185.8	186.8	190.0	195.5	201.0	206.4	212.0	215.6
120°	195.9	196.8	197.6	198.5	199.4	202.5	207.6	212.9	218.0	223.2	226.6
122.5°	210.6	210.8	211.0	211.3	211.5	214.1	219.2	224.2	229.2	234.2	237.7
125°	231.3	231.2	230.9	230.8	230.6	232.7	237.3	242.0	246.6	251.2	254.6
127.5°	250.7	250.8	250.9	250.9	251.0	252.7	256.2	259.7	263.1	266.6	269.8
130°	263.9	263.9	264.0	264.0	264.0	265.6	268.5	271.6	274.6	277.6	280.7
132.5°	277.9	277.9	277.9	277.9	277.9	279.0	281.4	283.7	286.1	288.4	291.4
135°	295.6	296.2	296.7	297.1	297.6	298.5	299.8	301.1	302.5	303.7	306.6
137.5°	315.9	316.0	316.0	316.0	316.1	316.5	317.3	318.0	318.8	319.6	322.0
140°	329.4	329.4	329.4	329.3	329.3	329.4	329.5	329.8	329.9	330.2	332.5
142.5°	341.1	341.2	341.4	341.4	341.6	341.6	341.4	341.2	341.0	340.9	342.9
145°	358.0	358.1	358.3	358.4	358.5	358.6	358.7	358.8	358.9	358.9	360.0
147.5°	374.9	375.2	375.3	375.6	375.7	375.8	375.7	375.7	375.7	375.6	375.7
150°	385.3	385.4	385.6	385.7	385.8	385.9	385.9	385.9	385.9	385.9	385.9
152.5°	394.4	394.5	394.7	394.8	395.0	395.1	395.1	395.2	395.3	395.4	395.5
155°	409.2	409.2	409.2	409.2	409.2	409.2	409.1	409.0	408.9	408.8	409.2
157.5°	421.8	421.7	421.6	421.4	421.3	421.2	421.2	421.2	421.1	421.1	421.4
160°	429.4	429.3	429.2	429.1	429.0	429.0	428.9	428.8	428.7	428.6	428.9
162.5°	436.3	436.0	435.8	435.6	435.4	435.2	435.1	435.1	435.0	434.9	435.4
165°	445.4	445.2	445.0	444.7	444.5	444.3	444.2	444.0	443.9	443.7	444.2
167.5°	452.6	452.3	451.9	451.6	451.2	451.1	451.1	451.1	451.1	451.1	451.6
170°	456.6	456.2	455.8	455.4	455.0	454.9	455.0	455.0	455.1	455.2	455.7
172.5°	459.5	459.1	458.8	458.5	458.1	458.0	458.0	458.0	458.0	458.0	458.6
175°	463.4	463.0	462.6	462.2	461.8	461.6	461.5	461.4	461.4	461.3	461.8
177.5°	464.7	464.4	464.1	463.7	463.4	463.3	463.3	463.3	463.3	463.3	463.7
180°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	752.5	752.5	752.5	752.5	752.5	752.5	752.5	752.5
2.5°	749.8	750.9	751.9	752.4	752.3	752.1	751.9	751.8
5°	747.9	749.4	750.8	751.5	751.3	751.1	751.0	750.8
7.5°	743.9	745.5	747.3	748.0	747.8	747.6	747.4	747.3
10°	739.8	741.5	743.2	743.9	743.8	743.5	743.4	743.2
12.5°	734.1	735.7	737.2	737.9	737.9	737.8	737.8	737.8
15°	723.8	725.5	727.1	727.9	727.8	727.5	727.4	727.1
17.5°	711.2	713.0	714.7	715.5	715.3	715.2	715.0	714.9
20°	701.4	703.3	705.2	706.2	706.2	706.2	706.2	706.2
22.5°	690.0	691.8	693.7	694.8	695.1	695.4	695.7	696.0
25°	672.3	674.4	676.4	677.6	677.7	677.9	678.1	678.3
27.5°	652.4	654.3	656.3	657.4	657.6	657.8	658.1	658.2
30°	638.6	640.6	642.7	644.0	644.4	644.7	645.1	645.5
32.5°	624.4	626.8	629.1	630.5	630.8	631.2	631.6	632.0
35°	601.8	604.4	607.0	608.6	609.2	609.7	610.4	610.9
37.5°	578.3	581.0	583.6	585.3	585.8	586.5	587.0	587.6
40°	561.7	564.6	567.4	569.1	569.9	570.6	571.4	572.1
42.5°	545.5	548.6	551.7	553.6	554.1	554.8	555.4	556.0
45°	520.4	523.6	526.7	528.8	529.7	530.7	531.6	532.5
47.5°	493.8	497.1	500.4	502.6	503.7	504.9	506.0	507.1
50°	475.2	478.9	482.6	485.1	486.2	487.4	488.5	489.6
52.5°	456.3	460.0	463.7	466.2	467.3	468.4	469.5	470.7
55°	427.9	431.7	435.5	437.9	439.0	440.1	441.2	442.4
57.5°	398.2	402.7	407.1	409.9	410.9	411.9	413.0	414.1
60°	377.7	382.0	386.3	389.2	390.7	392.2	393.7	395.2
62.5°	357.4	361.8	366.1	369.0	370.5	372.0	373.4	374.9
65°	326.2	330.9	335.6	338.7	340.2	341.7	343.1	344.6
67.5°	295.5	300.2	305.0	308.1	309.6	311.0	312.5	313.9
70°	273.9	278.9	284.0	287.2	288.4	289.8	291.0	292.4
72.5°	253.3	258.3	263.2	266.3	267.8	269.3	270.7	272.2
75°	222.0	227.2	232.5	235.9	237.7	239.3	241.0	242.6
77.5°	192.8	198.1	203.4	207.0	208.8	210.6	212.4	214.2
80°	173.9	179.5	185.1	188.6	190.1	191.6	193.1	194.6
82.5°	155.3	161.1	166.8	170.6	172.1	173.8	175.5	177.1
85°	129.2	134.8	140.5	144.2	146.1	147.9	149.8	151.7
87.5°	108.8	114.4	119.9	123.5	125.2	126.9	128.6	130.2
90°	103.1	109.0	114.9	118.7	120.4	122.1	123.7	125.4
92.5°	104.7	110.3	115.9	119.5	121.0	122.6	124.2	125.8
95°	111.1	116.5	121.8	125.2	126.9	128.7	130.3	132.0
97.5°	121.6	126.8	132.0	135.4	137.0	138.6	140.2	141.9
100°	129.4	134.6	139.8	143.1	144.4	145.7	147.0	148.3
102.5°	137.9	143.1	148.1	151.5	153.0	154.6	156.1	157.6
105°	150.9	155.8	160.7	164.1	165.8	167.5	169.3	171.0
107.5°	165.9	170.7	175.5	178.6	179.9	181.3	182.6	183.9
110°	175.9	180.0	184.2	187.1	188.9	190.6	192.3	194.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	186.5	190.7	194.8	197.6	199.2	200.7	202.2	203.7
115°	203.5	207.6	211.6	214.2	215.4	216.7	217.9	219.1
117.5°	219.2	222.8	226.4	228.9	230.3	231.6	232.9	234.2
120°	229.9	233.3	236.6	239.1	240.7	242.4	244.1	245.7
122.5°	241.1	244.6	248.1	250.4	251.4	252.5	253.6	254.6
125°	258.0	261.3	264.7	267.0	267.9	268.9	269.8	270.8
127.5°	273.0	276.2	279.4	281.6	282.7	283.9	285.0	286.2
130°	284.0	287.2	290.4	292.4	293.3	294.1	294.9	295.6
132.5°	294.5	297.5	300.6	302.6	303.6	304.7	305.6	306.7
135°	309.4	312.3	315.1	317.0	317.8	318.7	319.6	320.4
137.5°	324.6	327.1	329.6	331.4	332.4	333.4	334.4	335.3
140°	334.9	337.2	339.5	341.2	342.0	342.9	343.7	344.6
142.5°	345.1	347.2	349.4	350.8	351.6	352.3	353.1	353.9
145°	361.1	362.1	363.1	363.9	364.4	365.0	365.4	366.0
147.5°	375.7	375.8	375.9	376.2	376.7	377.2	377.8	378.3
150°	385.9	385.9	385.9	385.9	385.8	385.7	385.6	385.6
152.5°	395.8	395.9	396.2	396.1	395.9	395.7	395.5	395.3
155°	409.5	409.8	410.1	410.1	409.8	409.5	409.2	408.8
157.5°	421.6	421.8	422.1	422.1	421.8	421.5	421.3	421.0
160°	429.1	429.4	429.6	429.5	429.1	428.7	428.3	427.9
162.5°	435.8	436.3	436.7	436.7	436.3	435.9	435.5	435.1
165°	444.7	445.1	445.6	445.7	445.4	445.0	444.7	444.4
167.5°	452.1	452.6	453.0	453.0	452.6	452.1	451.5	451.1
170°	456.1	456.6	457.1	457.0	456.5	455.9	455.3	454.8
172.5°	459.1	459.7	460.2	460.2	459.6	459.1	458.5	458.0
175°	462.4	463.0	463.5	463.5	463.0	462.4	461.8	461.3
177.5°	464.2	464.6	465.1	465.0	464.5	464.1	463.5	463.0
180°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1

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