

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: P332777-927

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332777-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
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-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 470 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4051.2 lumens  
Efficiency: N/A  
Efficacy: 107.5 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

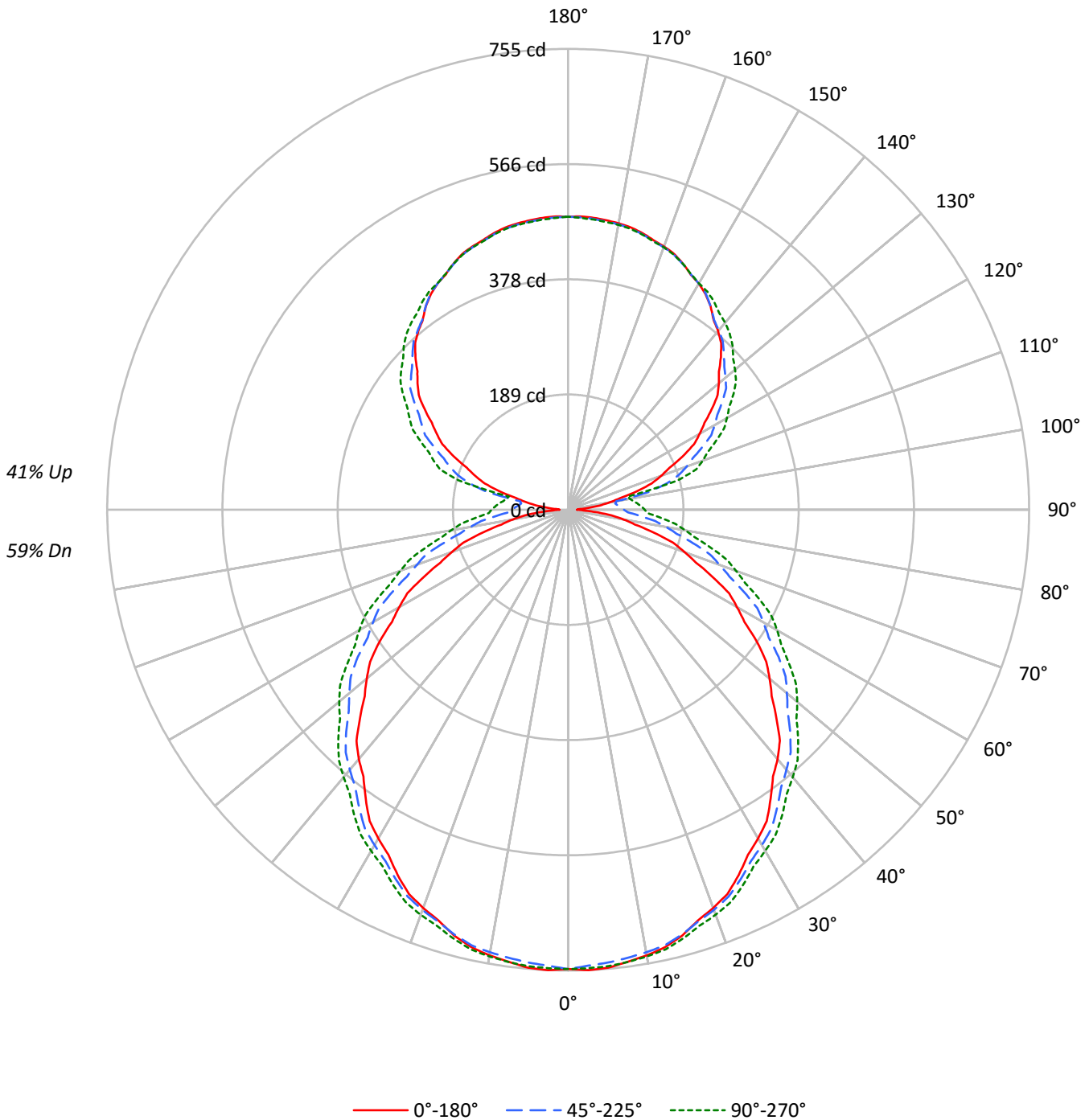
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332777-927

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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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59
1	99	94	89	85	92	87	83	80	76	73	70	65	63	61	55	53	52	47
2	89	81	74	69	83	76	70	65	65	61	57	56	53	50	47	45	43	38
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	42	38	36	32
4	74	62	54	48	69	58	51	45	51	45	40	44	39	35	37	33	30	27
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23	20
7	58	45	36	31	54	42	35	29	37	31	26	32	27	23	27	23	20	18
8	54	41	33	27	50	38	31	26	34	27	23	29	24	21	25	21	18	16
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	18	15	13

**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	5.0
20°-30°	308.7	7.6
30°-40°	373.5	9.2
40°-50°	394.9	9.7
50°-60°	371.6	9.2
60°-70°	308.3	7.6
70°-80°	216.6	5.3
80°-90°	123.8	3.1
90°-100°	89.1	2.2
100°-110°	158.5	3.9
110°-120°	236.4	5.8
120°-130°	274.6	6.8
130°-140°	280.8	6.9
140°-150°	256.1	6.3
150°-160°	205.1	5.1
160°-170°	132.3	3.3
170°-180°	45.6	1.1
0°-30°	584.1	14.4
0°-40°	957.6	23.6
0°-60°	1724.1	42.6
0°-90°	2372.8	58.6
90°-120°	484.0	11.9
90°-150°	1295.4	32.0
90°-180°	1678.0	41.4
0°-180°	4051.2	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°	31	47	81	105	114	34
105°	116	135	168	190	186	122
115°	207	216	242	261	267	204
125°	287	289	308	324	330	256
135°	354	354	360	374	380	273
145°	406	407	407	412	416	254
155°	445	445	444	445	444	205
165°	469	468	468	470	467	133
175°	480	478	478	481	477	46
180°	480	480	480	480	480	



TEST NUMBER: P332777-927

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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°	17.3	24.1	30.9	37.7	44.5	52.2	60.9	69.6	78.3	87.0	92.8
95°	30.7	34.1	37.6	41.1	44.6	50.1	57.9	65.7	73.4	81.2	86.7
97.5°	51.9	58.9	65.9	72.9	79.9	82.8	81.4	80.2	78.9	77.6	82.5
100°	68.1	74.5	80.7	87.1	93.4	94.7	90.9	87.2	83.6	79.9	83.5
102.5°	87.1	92.4	97.8	103.1	108.4	113.9	119.6	125.3	131.0	136.8	127.1
105°	115.7	119.9	124.1	128.3	132.5	138.3	145.7	153.0	160.3	167.6	173.0
107.5°	143.5	146.9	150.2	153.5	156.8	162.0	169.1	176.2	183.3	190.4	195.4
110°	161.8	164.7	167.5	170.4	173.3	178.2	185.3	192.3	199.3	206.4	210.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	179.5	182.3	185.1	187.8	190.5	195.2	201.6	208.1	214.6	221.1	225.2
115°	206.8	208.7	210.6	212.6	214.5	218.4	224.3	230.3	236.1	242.1	246.4
117.5°	232.1	233.5	234.8	236.1	237.5	241.0	246.8	252.5	258.3	264.0	267.9
120°	248.7	249.6	250.5	251.4	252.2	255.3	260.7	266.0	271.4	276.7	280.7
122.5°	264.8	265.1	265.4	265.7	266.0	268.8	274.0	279.2	284.5	289.8	293.6
125°	287.0	287.2	287.2	287.4	287.5	289.9	294.4	298.9	303.4	307.9	311.7
127.5°	308.6	308.6	308.5	308.3	308.2	310.1	314.1	318.1	322.0	326.0	329.3
130°	322.0	321.9	321.9	321.7	321.6	323.2	326.5	329.6	332.9	336.1	339.6
132.5°	335.0	334.9	334.9	334.9	334.8	336.1	338.8	341.5	344.2	346.9	350.2
135°	353.6	353.5	353.4	353.3	353.2	353.9	355.6	357.3	358.9	360.5	363.7
137.5°	370.7	370.5	370.3	370.2	370.0	370.5	371.5	372.5	373.4	374.5	377.3
140°	381.9	381.8	381.8	381.8	381.8	381.9	382.3	382.6	382.9	383.3	386.0
142.5°	391.3	391.5	391.7	392.1	392.3	392.4	392.4	392.4	392.4	392.3	394.6
145°	406.5	406.5	406.6	406.7	406.7	406.8	406.8	406.8	406.8	406.8	408.0
147.5°	418.8	419.1	419.3	419.6	419.9	419.9	419.9	419.8	419.7	419.6	419.9
150°	427.7	427.9	428.0	428.1	428.3	428.3	428.2	428.1	428.0	427.9	427.9
152.5°	434.5	434.7	434.9	435.1	435.4	435.4	435.3	435.1	435.0	434.8	435.0
155°	444.8	444.9	445.0	445.0	445.1	445.0	444.8	444.6	444.3	444.1	444.4
157.5°	453.7	453.6	453.5	453.5	453.4	453.3	453.0	452.7	452.5	452.3	452.7
160°	458.8	458.6	458.4	458.1	457.9	457.7	457.6	457.6	457.5	457.4	457.9
162.5°	463.4	463.1	462.8	462.5	462.2	462.0	461.9	461.8	461.8	461.7	462.2
165°	469.2	468.8	468.4	468.0	467.6	467.5	467.5	467.5	467.5	467.5	468.1
167.5°	473.8	473.4	473.0	472.6	472.1	471.9	471.9	471.8	471.8	471.7	472.5
170°	476.4	475.9	475.5	475.0	474.5	474.3	474.4	474.4	474.5	474.6	475.2
172.5°	478.2	477.7	477.2	476.7	476.3	476.0	476.1	476.2	476.3	476.3	477.0
175°	480.0	479.5	479.0	478.6	478.1	477.9	478.0	478.1	478.2	478.2	479.0
177.5°	480.9	480.5	480.0	479.5	479.1	479.0	479.0	479.2	479.3	479.4	479.9
180°	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0



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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	109.1	114.9	118.7	120.4	122.1	123.7	125.4
92.5°	98.5	104.3	110.0	113.7	115.2	116.7	118.3	119.8
95°	92.3	97.8	103.4	107.0	108.8	110.5	112.3	114.1
97.5°	87.5	92.4	97.4	100.7	102.3	104.1	105.8	107.4
100°	87.2	90.9	94.7	97.2	98.5	100.0	101.3	102.7
102.5°	117.3	107.6	97.9	93.7	95.2	96.7	98.2	99.7
105°	178.4	183.8	189.3	191.2	189.9	188.5	187.1	185.8
107.5°	200.3	205.3	210.2	213.5	215.2	216.8	218.5	220.1
110°	215.3	219.8	224.2	227.4	229.1	230.8	232.5	234.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	229.3	233.5	237.6	240.5	242.3	244.2	246.0	247.7
115°	250.6	254.9	259.2	262.0	263.3	264.6	265.9	267.3
117.5°	271.7	275.6	279.5	282.2	283.6	285.1	286.5	288.0
120°	284.6	288.4	292.4	295.0	296.4	297.6	299.0	300.3
122.5°	297.5	301.3	305.1	307.6	308.8	310.0	311.2	312.4
125°	315.5	319.3	323.1	325.6	326.9	328.0	329.2	330.4
127.5°	332.6	336.0	339.3	341.6	342.8	344.0	345.2	346.4
130°	343.0	346.5	349.9	352.2	353.3	354.5	355.6	356.7
132.5°	353.6	356.8	360.1	362.3	363.4	364.4	365.5	366.5
135°	366.8	369.9	373.1	375.3	376.6	377.9	379.2	380.5
137.5°	380.2	383.2	386.0	387.9	388.9	389.8	390.6	391.5
140°	388.6	391.3	394.0	395.9	396.9	397.9	398.9	399.9
142.5°	397.0	399.3	401.6	403.1	403.9	404.7	405.5	406.3
145°	409.2	410.4	411.6	412.6	413.5	414.5	415.3	416.3
147.5°	420.0	420.3	420.5	420.9	421.6	422.3	422.9	423.7
150°	427.9	427.9	427.9	428.0	428.1	428.2	428.3	428.3
152.5°	435.1	435.2	435.4	435.4	435.4	435.3	435.2	435.2
155°	444.7	445.0	445.4	445.4	445.2	445.0	444.7	444.5
157.5°	453.0	453.4	453.8	453.8	453.4	453.0	452.7	452.3
160°	458.4	458.8	459.3	459.3	458.8	458.4	457.9	457.4
162.5°	462.6	463.1	463.6	463.6	463.0	462.5	461.9	461.4
165°	468.7	469.4	470.0	469.9	469.2	468.5	467.8	467.1
167.5°	473.2	473.9	474.6	474.5	473.7	472.9	472.1	471.3
170°	475.9	476.5	477.2	477.1	476.3	475.5	474.7	473.9
172.5°	477.6	478.2	478.9	478.8	477.9	477.1	476.2	475.3
175°	479.7	480.4	481.1	480.9	480.0	479.0	478.1	477.1
177.5°	480.5	480.9	481.5	481.3	480.6	479.8	479.0	478.3
180°	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0

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