

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: P332783-927

Luminaire Tested: **S124DIW-S795D770U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332783-927  
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-S795D770U927-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 770 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4999.3 lumens  
Efficiency: N/A  
Efficacy: 111.1 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

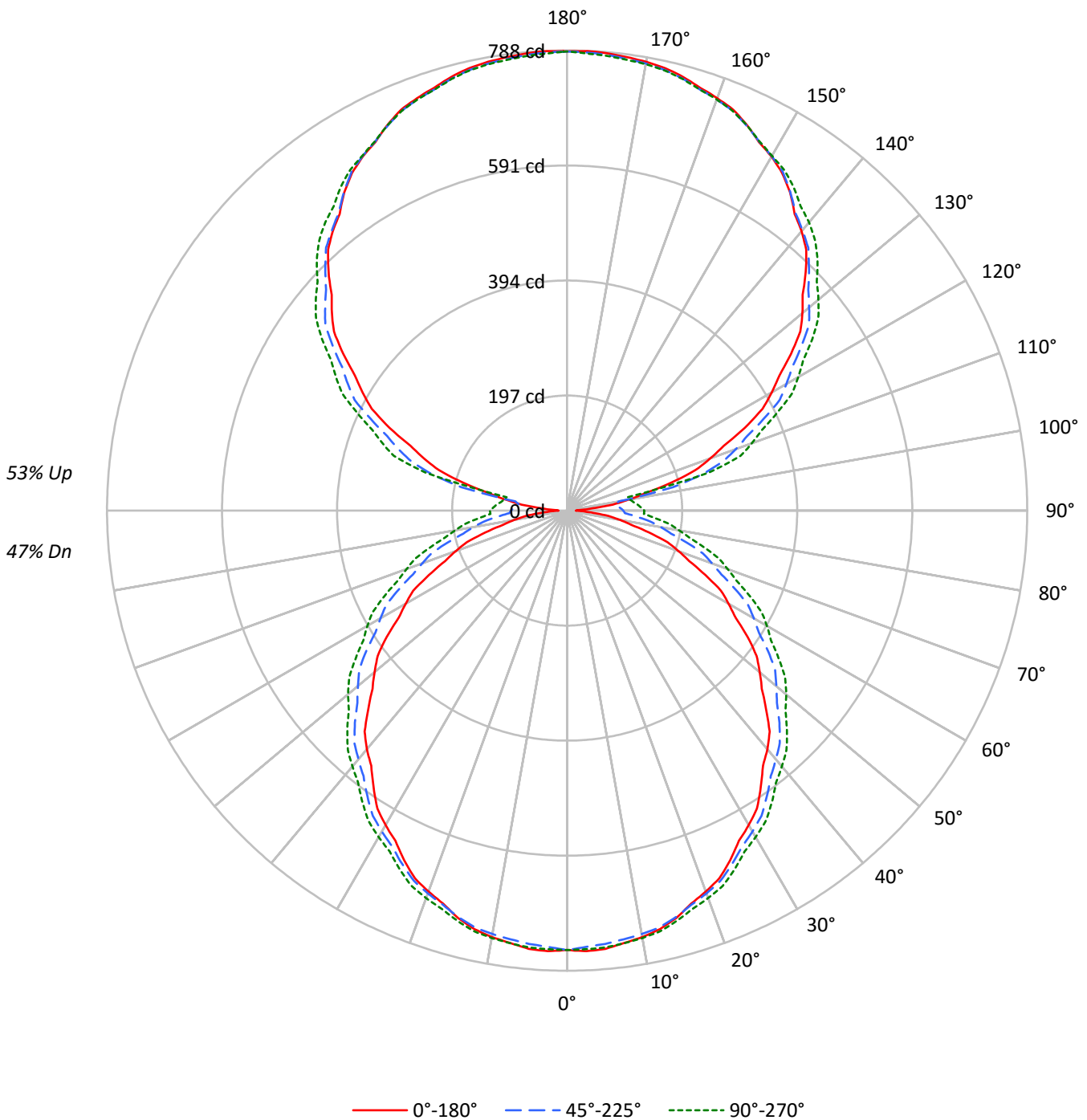
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332783-927

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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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	96	92	87	83	88	84	81	77	70	68	65	58	56	54	46	45	44	38
2	87	79	73	67	80	73	67	63	61	57	53	50	47	44	40	38	36	31
3	79	69	62	56	72	64	57	52	54	48	44	44	40	37	35	32	30	26
4	72	61	53	47	66	56	49	44	47	42	37	39	35	31	31	28	26	22
5	66	54	46	40	61	50	43	37	42	36	32	35	30	27	28	25	22	19
6	61	49	40	34	56	45	37	32	38	32	28	31	27	24	25	22	19	16
7	56	44	36	30	52	40	33	28	34	29	24	28	24	21	23	20	17	14
8	52	40	32	26	48	37	30	25	31	26	22	26	22	18	21	18	15	13
9	49	36	29	23	44	34	27	22	29	23	19	24	20	16	19	16	14	11
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	12	10

**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	1.4
10°-20°	204.2	4.1
20°-30°	308.7	6.2
30°-40°	373.5	7.5
40°-50°	394.9	7.9
50°-60°	371.6	7.4
60°-70°	308.3	6.2
70°-80°	216.6	4.3
80°-90°	124.7	2.5
90°-100°	99.6	2.0
100°-110°	225.3	4.5
110°-120°	364.1	7.3
120°-130°	436.7	8.7
130°-140°	454.3	9.1
140°-150°	418.3	8.4
150°-160°	335.9	6.7
160°-170°	216.7	4.3
170°-180°	74.7	1.5
0°-30°	584.1	11.7
0°-40°	957.6	19.2
0°-60°	1724.1	34.5
0°-90°	2373.7	47.5
90°-120°	688.9	13.8
90°-150°	1998.3	40.0
90°-180°	2626.0	52.5
0°-180°	4999.3	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	55	96	123	132	10
95°	43	53	86	112	121	50
105°	185	206	239	263	251	194
115°	336	346	371	390	397	330
125°	468	470	489	506	513	418
135°	578	578	586	600	606	445
145°	665	666	666	672	676	416
155°	729	729	727	729	728	336
165°	769	766	766	770	765	217
175°	786	783	783	788	782	75
180°	786	786	786	786	786	



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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°	25.3	33.2	41.1	49.1	57.0	65.2	73.6	82.0	90.4	98.8	104.4
90°	15.2	24.2	33.1	42.1	50.9	60.0	69.1	78.2	87.2	96.3	102.6
92.5°	20.2	27.0	33.8	40.6	47.5	55.5	64.6	73.7	82.8	91.8	97.9
95°	43.3	45.0	46.7	48.5	50.2	55.0	62.8	70.7	78.4	86.3	92.1
97.5°	78.7	86.7	94.8	102.9	111.0	111.5	104.6	97.6	90.6	83.6	88.6
100°	105.7	113.0	120.2	127.4	134.6	132.8	122.1	111.4	100.6	89.9	92.8
102.5°	136.7	142.8	148.8	154.7	160.7	166.1	171.0	175.7	180.5	185.3	166.3
105°	184.6	189.1	193.6	198.2	202.7	208.7	216.3	223.9	231.5	239.1	244.9
107.5°	230.4	233.9	237.3	240.7	244.2	249.7	257.1	264.6	272.0	279.5	284.6
110°	260.8	263.8	266.8	269.8	272.8	278.0	285.3	292.7	300.0	307.4	311.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	290.2	293.3	296.3	299.3	302.3	307.1	313.8	320.4	327.0	333.6	337.7
115°	335.5	337.6	339.7	341.7	343.8	347.8	353.6	359.5	365.4	371.2	375.7
117.5°	377.1	378.7	380.2	381.7	383.3	387.0	392.8	398.7	404.6	410.4	414.2
120°	404.6	405.8	406.9	407.9	409.0	412.2	417.5	422.8	428.1	433.4	437.4
122.5°	431.0	431.4	431.8	432.3	432.7	435.5	440.9	446.2	451.5	456.9	460.7
125°	467.9	468.3	468.6	468.9	469.3	471.7	476.0	480.5	484.9	489.3	493.3
127.5°	503.5	503.4	503.4	503.4	503.3	505.3	509.5	513.7	517.9	522.1	525.5
130°	525.9	525.9	525.8	525.7	525.6	527.3	530.7	534.1	537.5	540.9	544.4
132.5°	547.0	547.1	547.2	547.2	547.2	548.7	551.6	554.5	557.4	560.3	563.6
135°	578.0	577.8	577.7	577.6	577.4	578.3	580.1	581.9	583.8	585.6	588.9
137.5°	606.0	605.9	605.8	605.6	605.5	606.0	607.3	608.5	609.7	610.9	613.9
140°	624.4	624.5	624.6	624.6	624.7	625.0	625.4	625.8	626.3	626.8	629.5
142.5°	640.2	640.6	641.0	641.5	641.9	642.1	642.2	642.2	642.3	642.4	644.8
145°	665.3	665.5	665.7	665.9	666.1	666.2	666.2	666.2	666.2	666.2	667.5
147.5°	685.4	686.0	686.5	687.1	687.6	687.8	687.7	687.5	687.4	687.3	687.5
150°	700.0	700.4	700.7	701.0	701.3	701.5	701.3	701.2	701.1	700.9	700.9
152.5°	711.5	711.9	712.3	712.7	713.1	713.1	712.9	712.7	712.5	712.3	712.4
155°	728.6	728.7	728.8	729.0	729.1	729.0	728.6	728.2	727.8	727.4	727.9
157.5°	743.1	743.0	742.9	742.8	742.8	742.4	742.0	741.6	741.1	740.7	741.3
160°	751.5	751.1	750.8	750.4	750.0	749.6	749.6	749.4	749.2	749.2	750.0
162.5°	759.0	758.5	758.0	757.6	757.0	756.7	756.6	756.5	756.3	756.2	757.0
165°	768.6	767.9	767.2	766.6	766.0	765.6	765.6	765.6	765.6	765.6	766.7
167.5°	776.1	775.4	774.8	774.0	773.3	773.0	772.9	772.9	772.8	772.7	773.8
170°	780.3	779.5	778.7	777.9	777.2	776.8	777.0	777.1	777.2	777.4	778.4
172.5°	783.2	782.4	781.6	780.8	780.0	779.7	779.8	779.9	780.1	780.2	781.3
175°	786.2	785.4	784.7	783.9	783.1	782.8	782.8	783.0	783.2	783.2	784.4
177.5°	787.6	786.9	786.2	785.4	784.7	784.4	784.7	784.8	785.1	785.2	786.1
180°	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2



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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°	110.0	115.6	121.1	124.8	126.5	128.2	129.9	131.6
90°	108.8	115.0	121.2	125.2	127.0	128.7	130.5	132.2
92.5°	103.9	110.0	116.1	119.9	121.4	123.0	124.5	126.1
95°	97.9	103.8	109.6	113.4	115.3	117.1	118.9	120.7
97.5°	93.6	98.5	103.5	106.9	108.7	110.4	112.1	113.8
100°	95.6	98.4	101.2	103.4	104.8	106.2	107.7	109.2
102.5°	147.2	128.2	109.1	100.3	101.8	103.3	104.8	106.2
105°	250.8	256.7	262.5	263.8	260.6	257.4	254.2	251.0
107.5°	289.9	295.0	300.2	303.7	305.5	307.4	309.3	311.1
110°	316.5	321.1	325.6	328.8	330.7	332.6	334.5	336.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	341.8	345.9	350.1	353.1	355.1	357.0	359.1	361.1
115°	380.0	384.4	388.8	391.7	392.9	394.3	395.5	396.9
117.5°	418.1	421.9	425.8	428.4	429.8	431.3	432.8	434.2
120°	441.4	445.4	449.4	452.0	453.3	454.5	455.7	457.0
122.5°	464.6	468.5	472.5	474.9	476.0	477.1	478.2	479.3
125°	497.2	501.1	505.1	507.7	509.0	510.2	511.5	512.7
127.5°	528.7	532.0	535.3	537.5	538.7	539.9	541.1	542.2
130°	547.9	551.4	554.8	557.1	558.3	559.4	560.5	561.7
132.5°	567.0	570.3	573.7	575.8	576.9	577.9	578.9	580.0
135°	592.2	595.4	598.7	600.9	602.4	603.7	605.1	606.5
137.5°	617.0	620.0	623.0	625.0	625.8	626.6	627.5	628.4
140°	632.4	635.3	638.0	640.0	641.1	642.1	643.2	644.3
142.5°	647.2	649.6	652.0	653.6	654.5	655.3	656.1	656.9
145°	668.8	670.0	671.2	672.4	673.4	674.4	675.4	676.4
147.5°	687.8	688.0	688.3	688.8	689.5	690.2	691.0	691.7
150°	700.9	700.9	700.9	701.0	701.2	701.2	701.4	701.5
152.5°	712.6	712.8	713.0	713.1	713.0	713.0	712.9	712.8
155°	728.4	729.0	729.4	729.5	729.1	728.7	728.3	728.0
157.5°	742.0	742.8	743.4	743.4	742.8	742.0	741.3	740.7
160°	750.8	751.5	752.3	752.3	751.5	750.8	750.0	749.2
162.5°	757.8	758.5	759.3	759.3	758.4	757.5	756.6	755.7
165°	767.7	768.7	769.8	769.8	768.6	767.4	766.2	765.0
167.5°	775.0	776.1	777.3	777.2	775.9	774.6	773.2	772.0
170°	779.4	780.5	781.6	781.4	780.1	778.8	777.5	776.2
172.5°	782.3	783.3	784.3	784.2	782.8	781.4	780.0	778.6
175°	785.6	786.8	788.0	787.7	786.2	784.7	783.1	781.5
177.5°	787.0	787.7	788.6	788.4	787.1	785.8	784.7	783.4
180°	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2

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