

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: P332593-940

Luminaire Tested: **S124DIP-S795D590U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332593-940  
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: S124DIP-S795D590U940-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 795 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: 4713.8 lumens  
Efficiency: N/A  
Efficacy: 117.0 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

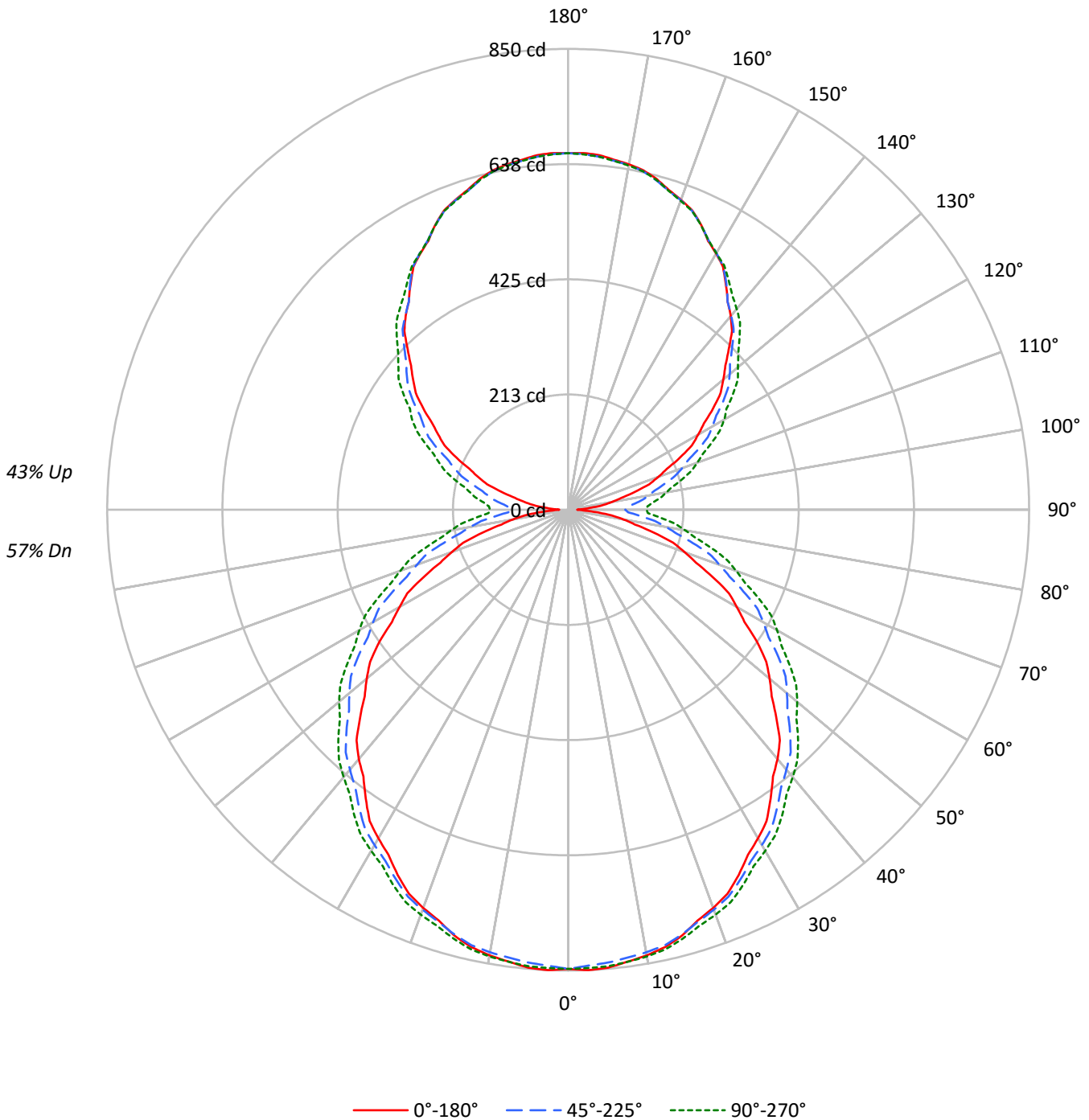
Input Watts (W): 40.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	57
1	98	93	89	85	91	87	83	80	75	72	69	63	61	59	53	52	50	45
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	44	41	37
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	40	37	35	31
4	74	62	54	47	68	58	51	45	50	44	40	43	38	35	36	32	30	26
5	68	55	47	40	62	52	44	38	45	39	34	38	33	30	32	29	26	22
6	62	50	41	35	58	46	39	33	40	34	29	34	30	26	29	25	22	20
7	57	45	36	31	53	42	34	29	36	30	26	31	26	23	27	23	20	17
8	53	40	32	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15
9	50	37	29	24	46	35	28	23	30	25	20	26	22	18	22	19	16	14
10	46	34	26	21	43	32	25	20	28	22	18	24	20	16	21	17	14	12

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

	0°	45°	90°
0°	6838	6838	6838
5°	6859	6683	6702
10°	6817	6573	6568
15°	6756	6446	6411
20°	6664	6307	6259
25°	6560	6151	6092
30°	6448	5995	5919
35°	6321	5835	5768
40°	6219	5684	5610
45°	6067	5543	5475
50°	5939	5383	5333
55°	5808	5231	5164
60°	5601	5036	5013
65°	5376	4829	4824
70°	5101	4592	4605
75°	4723	4331	4407
80°	4295	4081	4213
85°	3763	3857	4101



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.2	1.7
10°-20°	229.8	4.9
20°-30°	347.5	7.4
30°-40°	420.4	8.9
40°-50°	444.5	9.4
50°-60°	418.3	8.9
60°-70°	347.1	7.4
70°-80°	243.8	5.2
80°-90°	139.8	3.0
90°-100°	125.2	2.7
100°-110°	189.1	4.0
110°-120°	258.7	5.5
120°-130°	310.5	6.6
130°-140°	332.9	7.1
140°-150°	319.4	6.8
150°-160°	266.9	5.7
160°-170°	177.6	3.8
170°-180°	62.2	1.3
0°-30°	657.5	13.9
0°-40°	1077.9	22.9
0°-60°	1940.7	41.2
0°-90°	2671.4	56.7
90°-120°	573.0	12.2
90°-150°	1535.7	32.6
90°-180°	2042.0	43.3
0°-180°	4713.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	847	847	847	847	847	
5°	848	845	838	846	845	80
15°	813	814	811	819	818	229
25°	744	749	752	762	764	342
35°	651	662	672	684	688	407
45°	542	561	578	594	599	419
55°	425	445	473	492	498	378
65°	294	324	357	379	388	291
75°	163	198	238	264	273	174
85°	50	90	133	160	171	54
90°	17	60	105	134	144	12
95°	43	79	121	147	157	44
105°	127	148	184	208	218	135
115°	228	237	265	285	292	225
125°	327	327	349	365	371	291
135°	418	422	428	442	446	324
145°	507	508	508	514	516	317
155°	580	580	579	581	579	267
165°	631	630	629	631	630	178
175°	657	654	654	657	654	62
180°	658	658	658	658	658	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0
2.5°	850.1	849.5	849.0	848.6	848.0	847.1	845.7	844.4	843.0	841.7	842.8
5°	847.9	847.3	846.7	846.1	845.4	844.4	842.8	841.4	839.9	838.5	840.2
7.5°	840.7	840.3	840.0	839.6	839.2	838.4	837.2	836.0	834.7	833.6	835.4
10°	834.6	834.5	834.3	834.0	833.8	833.2	832.1	831.1	830.0	828.9	830.9
12.5°	826.3	826.3	826.3	826.2	826.2	825.8	825.1	824.3	823.6	822.9	824.7
15°	812.9	813.1	813.2	813.5	813.7	813.5	812.9	812.3	811.5	810.9	812.9
17.5°	794.4	795.0	795.7	796.4	797.0	797.2	797.1	797.0	796.8	796.7	798.7
20°	781.6	782.2	782.8	783.5	784.1	784.5	784.7	784.9	785.2	785.3	787.5
22.5°	767.1	767.9	768.7	769.5	770.3	771.0	771.3	771.7	772.0	772.5	774.5
25°	743.6	744.8	746.2	747.4	748.7	749.7	750.3	750.9	751.5	752.2	754.5
27.5°	717.5	719.3	721.1	723.0	724.9	726.3	727.3	728.2	729.2	730.1	732.3
30°	700.0	701.7	703.4	705.1	706.8	708.3	709.8	711.2	712.7	714.2	716.5
32.5°	681.0	683.1	685.1	687.1	689.1	690.9	692.6	694.2	695.9	697.5	700.2
35°	650.7	653.2	655.8	658.3	660.8	663.1	665.2	667.4	669.4	671.5	674.5
37.5°	620.1	623.0	626.0	628.8	631.8	634.5	637.1	639.7	642.4	645.0	648.0
40°	600.4	603.2	605.8	608.6	611.4	614.2	617.2	620.1	623.0	626.0	629.2
42.5°	577.7	580.7	583.8	586.8	590.0	593.2	596.6	600.1	603.6	607.0	610.6
45°	542.5	546.5	550.5	554.6	558.6	562.6	566.6	570.6	574.5	578.5	582.2
47.5°	509.0	513.1	517.2	521.4	525.5	529.9	534.5	539.1	543.8	548.4	552.1
50°	484.6	489.3	493.9	498.6	503.2	507.8	512.5	517.1	521.7	526.4	530.7
52.5°	460.4	465.0	469.7	474.3	478.9	483.9	489.2	494.5	499.9	505.2	509.3
55°	424.9	429.4	433.8	438.2	442.6	448.0	454.3	460.7	467.0	473.3	477.5
57.5°	385.3	390.7	396.3	401.7	407.2	413.0	419.4	425.6	431.9	438.2	443.2
60°	359.4	365.0	370.4	375.9	381.4	387.6	394.6	401.5	408.5	415.4	420.3
62.5°	334.4	340.5	346.4	352.4	358.4	364.9	371.8	378.8	385.8	392.7	397.5
65°	294.0	300.8	307.6	314.2	321.0	328.0	335.1	342.3	349.5	356.6	361.9
67.5°	255.1	262.3	269.5	276.6	283.8	291.2	298.9	306.6	314.2	321.9	327.3
70°	228.5	235.8	242.9	250.1	257.3	264.8	272.9	280.9	288.8	296.9	302.6
72.5°	202.8	210.1	217.5	224.8	232.1	240.0	248.6	257.1	265.6	274.1	279.6
75°	163.2	170.9	178.7	186.5	194.3	202.7	211.5	220.3	229.3	238.1	244.0
77.5°	126.2	134.4	142.7	151.0	159.2	168.0	177.3	186.5	195.8	205.1	211.1
80°	103.3	111.8	120.2	128.7	137.1	146.0	155.2	164.5	173.8	183.1	189.4
82.5°	80.6	89.3	98.2	106.9	115.7	124.8	134.0	143.3	152.6	161.8	168.3
85°	50.3	59.1	67.9	76.9	85.7	94.9	104.3	113.8	123.3	132.8	139.1
87.5°	28.4	37.2	46.1	54.9	63.8	72.9	82.3	91.8	101.1	110.6	116.8
90°	16.7	26.4	36.0	45.7	55.4	65.2	75.2	85.2	95.1	105.1	111.9
92.5°	25.3	34.3	43.3	52.3	61.3	70.7	80.4	90.1	99.8	109.5	115.8
95°	42.8	50.8	58.8	66.8	74.7	83.5	92.9	102.3	111.7	121.2	127.2
97.5°	64.5	71.2	78.1	84.9	91.7	99.9	109.3	118.8	128.3	137.8	143.7
100°	81.6	87.6	93.5	99.4	105.4	113.0	122.2	131.4	140.6	149.9	155.8
102.5°	100.3	105.3	110.3	115.3	120.3	127.2	136.3	145.3	154.2	163.2	169.1
105°	127.1	131.3	135.7	140.0	144.4	150.6	158.9	167.1	175.4	183.6	189.2
107.5°	156.9	160.4	164.1	167.6	171.2	176.7	184.2	191.6	199.1	206.5	212.0
110°	176.5	179.6	182.8	186.0	189.1	194.4	201.6	208.9	216.2	223.5	228.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	196.8	199.5	202.2	204.8	207.5	212.2	219.1	225.9	232.7	239.6	244.2
115°	227.5	229.3	231.2	233.1	235.1	239.2	245.8	252.3	258.8	265.3	269.8
117.5°	257.2	258.4	259.6	260.8	262.1	265.7	271.9	277.9	284.1	290.3	294.3
120°	276.3	277.4	278.5	279.6	280.6	284.1	289.9	295.6	301.4	307.2	310.9
122.5°	297.1	297.4	297.7	298.0	298.3	301.3	306.9	312.5	318.2	323.8	327.5
125°	326.7	326.5	326.4	326.1	325.9	328.4	333.5	338.7	343.8	349.0	352.8
127.5°	354.4	354.5	354.5	354.7	354.8	356.9	360.7	364.5	368.5	372.3	375.9
130°	373.1	373.2	373.4	373.4	373.6	375.3	378.7	382.1	385.5	388.9	392.4
132.5°	393.1	393.1	393.1	393.2	393.2	394.5	397.1	399.8	402.3	404.9	408.3
135°	418.4	419.1	419.8	420.4	421.2	422.2	423.7	425.2	426.7	428.1	431.2
137.5°	447.1	447.2	447.3	447.5	447.5	448.0	449.0	449.9	450.8	451.7	454.4
140°	466.3	466.3	466.3	466.3	466.3	466.5	466.6	466.8	467.1	467.3	469.8
142.5°	483.0	483.1	483.3	483.5	483.8	483.7	483.5	483.2	483.0	482.9	485.2
145°	507.0	507.2	507.5	507.7	507.9	508.1	508.3	508.4	508.5	508.5	509.7
147.5°	531.0	531.4	531.6	532.0	532.4	532.4	532.4	532.3	532.2	532.1	532.2
150°	545.6	545.9	546.1	546.4	546.6	546.7	546.7	546.7	546.7	546.7	546.7
152.5°	558.7	558.9	559.2	559.4	559.6	559.8	559.9	560.0	560.1	560.2	560.4
155°	579.8	579.8	579.8	579.8	579.8	579.7	579.6	579.5	579.4	579.3	579.7
157.5°	597.7	597.4	597.3	597.1	596.9	596.7	596.7	596.7	596.7	596.6	597.0
160°	608.2	608.1	608.1	608.0	607.8	607.7	607.6	607.5	607.3	607.3	607.6
162.5°	618.0	617.8	617.4	617.2	616.9	616.6	616.5	616.4	616.4	616.2	616.8
165°	631.2	630.8	630.4	630.2	629.8	629.5	629.3	629.1	628.8	628.7	629.3
167.5°	641.2	640.8	640.2	639.8	639.4	639.1	639.1	639.2	639.2	639.2	639.9
170°	646.9	646.4	645.8	645.2	644.6	644.4	644.5	644.6	644.8	644.9	645.6
172.5°	650.9	650.5	650.1	649.6	649.1	648.9	648.9	648.9	648.9	649.0	649.7
175°	656.6	656.0	655.5	654.9	654.3	654.0	653.9	653.8	653.6	653.5	654.3
177.5°	658.4	658.0	657.5	657.1	656.6	656.4	656.4	656.4	656.4	656.4	657.0
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0
2.5°	844.0	845.3	846.4	846.9	846.8	846.6	846.4	846.2
5°	841.9	843.6	845.2	846.0	845.7	845.5	845.3	845.1
7.5°	837.3	839.2	841.2	842.0	841.8	841.5	841.3	841.2
10°	832.8	834.6	836.6	837.4	837.2	837.0	836.8	836.6
12.5°	826.3	828.1	829.8	830.6	830.6	830.5	830.5	830.5
15°	814.8	816.6	818.5	819.4	819.2	818.9	818.8	818.5
17.5°	800.6	802.5	804.5	805.4	805.2	805.0	804.9	804.7
20°	789.5	791.7	793.8	794.9	794.9	794.9	794.9	794.9
22.5°	776.7	778.7	780.9	782.1	782.5	782.7	783.1	783.5
25°	756.8	759.1	761.4	762.7	762.9	763.1	763.3	763.6
27.5°	734.4	736.6	738.8	739.9	740.2	740.5	740.7	740.9
30°	718.8	721.1	723.4	724.9	725.3	725.7	726.1	726.6
32.5°	702.8	705.5	708.1	709.7	710.1	710.5	711.0	711.4
35°	677.4	680.4	683.3	685.1	685.7	686.3	687.1	687.7
37.5°	650.9	654.0	656.9	658.8	659.4	660.1	660.8	661.5
40°	632.3	635.5	638.6	640.6	641.5	642.3	643.2	644.0
42.5°	614.0	617.5	621.0	623.1	623.8	624.5	625.2	625.8
45°	585.8	589.3	592.9	595.2	596.3	597.4	598.4	599.4
47.5°	555.8	559.5	563.3	565.7	567.0	568.3	569.5	570.8
50°	534.8	539.0	543.2	546.0	547.2	548.6	549.8	551.1
52.5°	513.6	517.8	522.0	524.8	526.0	527.3	528.5	529.9
55°	481.7	486.0	490.2	492.9	494.2	495.4	496.7	497.9
57.5°	448.3	453.3	458.3	461.4	462.5	463.7	464.9	466.1
60°	425.2	430.0	434.8	438.1	439.8	441.5	443.2	444.9
62.5°	402.3	407.2	412.1	415.4	417.1	418.7	420.4	422.0
65°	367.2	372.5	377.7	381.2	382.9	384.6	386.2	387.9
67.5°	332.6	338.0	343.3	346.8	348.5	350.1	351.8	353.4
70°	308.3	314.0	319.7	323.2	324.7	326.2	327.6	329.1
72.5°	285.2	290.7	296.2	299.8	301.4	303.1	304.7	306.4
75°	249.9	255.7	261.7	265.6	267.5	269.4	271.3	273.1
77.5°	217.0	223.0	229.0	233.0	235.1	237.0	239.1	241.1
80°	195.7	202.1	208.4	212.3	214.0	215.7	217.4	219.1
82.5°	174.8	181.3	187.8	192.0	193.8	195.6	197.5	199.4
85°	145.4	151.8	158.1	162.3	164.4	166.5	168.6	170.8
87.5°	123.1	129.3	135.5	139.6	141.5	143.4	145.3	147.2
90°	118.7	125.5	132.2	136.6	138.5	140.4	142.3	144.3
92.5°	122.2	128.5	134.9	139.0	140.8	142.6	144.5	146.2
95°	133.2	139.3	145.3	149.3	151.1	153.0	155.0	156.9
97.5°	149.6	155.5	161.5	165.3	167.2	169.0	170.8	172.6
100°	161.8	167.6	173.5	177.3	178.7	180.2	181.7	183.2
102.5°	174.9	180.7	186.5	190.3	192.1	193.8	195.6	197.2
105°	194.8	200.5	206.1	209.9	212.0	213.9	216.0	218.0
107.5°	217.5	223.0	228.5	232.0	233.5	235.1	236.5	238.0
110°	232.6	237.3	241.9	245.2	247.3	249.3	251.3	253.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	248.9	253.4	258.1	261.3	263.1	264.8	266.5	268.3
115°	274.4	278.8	283.4	286.3	287.7	289.1	290.4	291.8
117.5°	298.2	302.2	306.2	309.0	310.4	311.9	313.3	314.8
120°	314.5	318.2	321.8	324.6	326.5	328.4	330.3	332.3
122.5°	331.4	335.2	339.0	341.5	342.7	343.8	344.8	346.0
125°	356.6	360.3	364.1	366.5	367.6	368.6	369.6	370.7
127.5°	379.4	383.0	386.6	389.0	390.2	391.5	392.7	394.0
130°	396.0	399.6	403.1	405.3	406.1	407.0	407.8	408.6
132.5°	411.7	415.1	418.6	420.8	421.9	422.9	424.0	425.1
135°	434.4	437.6	440.7	442.7	443.6	444.6	445.5	446.5
137.5°	457.2	459.9	462.8	464.7	465.8	467.0	468.1	469.2
140°	472.5	475.1	477.8	479.6	480.5	481.4	482.3	483.3
142.5°	487.6	490.0	492.3	494.0	494.8	495.7	496.6	497.4
145°	510.9	512.0	513.2	514.0	514.5	515.1	515.5	516.0
147.5°	532.3	532.4	532.4	532.7	533.2	533.9	534.4	534.9
150°	546.7	546.7	546.7	546.7	546.5	546.4	546.4	546.3
152.5°	560.7	561.0	561.2	561.2	561.0	560.6	560.4	560.1
155°	580.1	580.6	581.1	581.1	580.6	580.1	579.7	579.3
157.5°	597.4	597.7	598.1	598.0	597.6	597.3	596.8	596.5
160°	608.0	608.2	608.6	608.5	608.0	607.3	606.8	606.3
162.5°	617.4	618.0	618.7	618.7	618.1	617.5	617.0	616.4
165°	630.0	630.6	631.3	631.4	631.0	630.5	630.1	629.6
167.5°	640.5	641.2	641.9	641.9	641.2	640.5	639.8	639.1
170°	646.2	646.9	647.6	647.6	646.8	646.0	645.2	644.4
172.5°	650.5	651.3	652.0	652.0	651.2	650.4	649.6	648.9
175°	655.1	655.9	656.7	656.7	655.9	655.1	654.3	653.5
177.5°	657.6	658.3	658.9	658.9	658.2	657.5	656.7	655.9
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6

(END OF REPORT)