

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: P331887-930

Luminaire Tested: **S123DIP-S340D805U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331887-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D805U930-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3422.6 lumens  
Efficiency: N/A  
Efficacy: 109.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

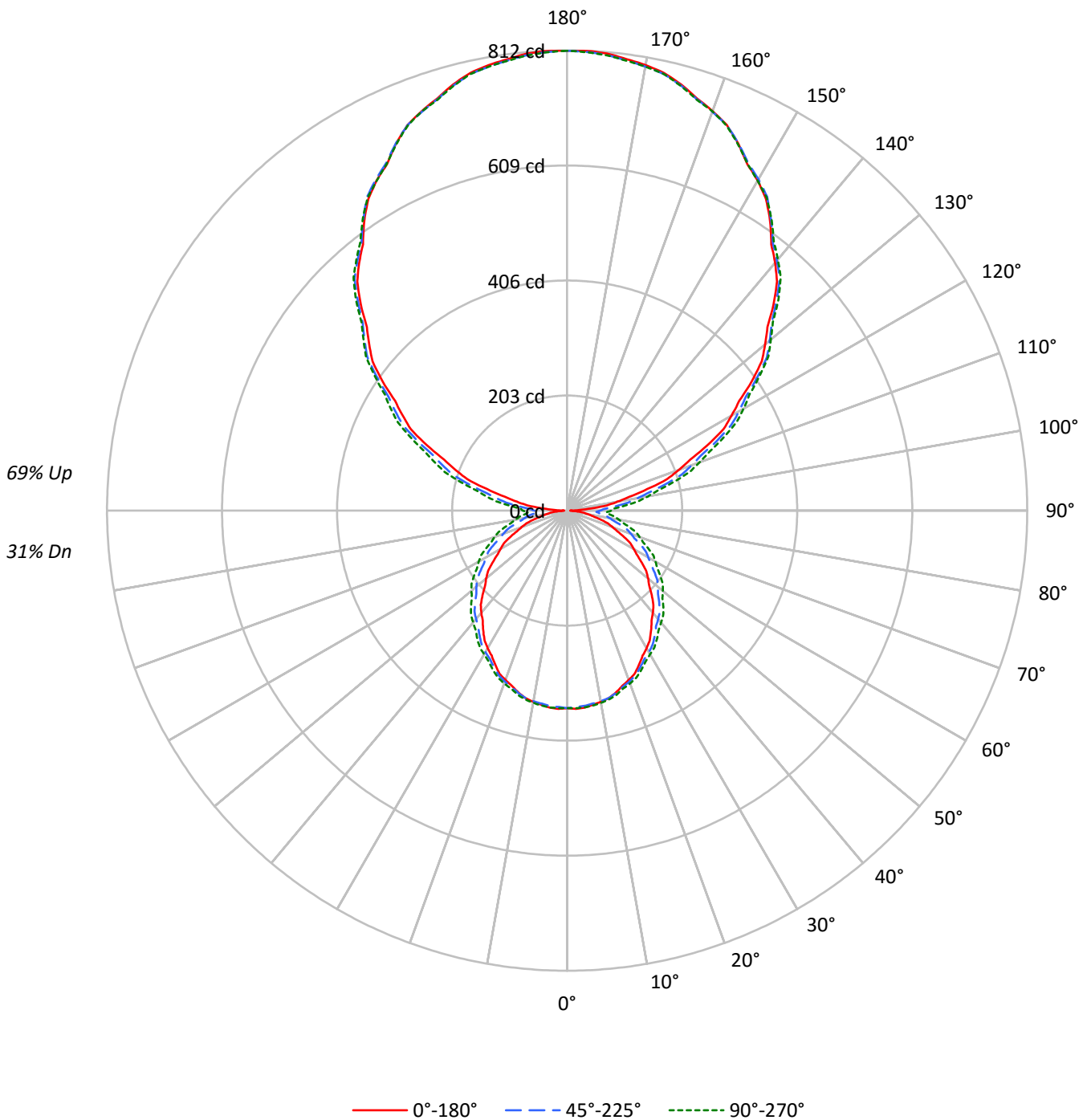
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	31
1	93	88	84	81	83	80	76	73	63	61	58	48	46	45	33	32	32	25
2	84	77	71	65	75	69	64	59	55	51	48	41	39	37	29	27	26	20
3	77	67	60	54	69	61	54	49	48	43	40	36	33	31	25	24	22	17
4	70	59	51	45	63	53	47	41	42	38	34	32	29	26	23	20	19	14
5	64	53	45	39	57	47	41	35	38	33	29	29	25	22	20	18	16	12
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	18	16	14	11
7	54	42	34	29	49	38	31	27	31	25	22	23	20	17	17	14	12	10
8	50	38	31	25	45	35	28	23	28	23	19	21	18	15	15	13	11	9
9	47	35	27	22	42	32	25	21	25	20	17	20	16	13	14	12	10	8
10	44	32	25	20	39	29	23	18	23	18	15	18	15	12	13	11	9	7

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

	0°	45°	90°
0°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.1	1.0
10°-20°	94.2	2.8
20°-30°	141.0	4.1
30°-40°	168.3	4.9
40°-50°	176.1	5.1
50°-60°	165.3	4.8
60°-70°	138.0	4.0
70°-80°	98.8	2.9
80°-90°	61.3	1.8
90°-100°	89.8	2.6
100°-110°	185.4	5.4
110°-120°	287.2	8.4
120°-130°	364.3	10.6
130°-140°	402.5	11.8
140°-150°	392.1	11.5
150°-160°	329.2	9.6
160°-170°	219.2	6.4
170°-180°	76.7	2.2
0°-30°	268.3	7.8
0°-40°	436.6	12.8
0°-60°	778.0	22.7
0°-90°	1076.1	31.4
90°-120°	562.5	16.4
90°-150°	1721.4	50.3
90°-180°	2347.0	68.6
0°-180°	3422.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	6	31	58	73	79	6
95°	42	61	85	98	103	46
105°	146	158	179	189	194	157
115°	273	280	292	301	304	270
125°	398	400	409	414	415	355
135°	515	519	522	526	527	397
145°	624	625	627	629	629	390
155°	714	715	715	717	713	329
165°	778	776	776	780	776	219
175°	810	807	807	810	806	77
180°	812	812	812	812	812	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.3	14.8	19.2	23.7	28.2	32.8	37.4	42.1	46.8	51.4	54.5
90°	5.5	11.2	16.7	22.3	27.8	33.7	39.8	45.9	52.1	58.2	61.6
92.5°	20.1	24.8	29.4	34.2	38.8	43.9	49.1	54.4	59.7	65.0	68.2
95°	41.8	46.1	50.4	54.6	58.9	63.7	69.0	74.3	79.5	84.8	88.0
97.5°	70.5	74.3	77.9	81.6	85.4	89.6	94.4	99.1	104.0	108.7	111.9
100°	90.1	93.7	97.2	100.8	104.3	108.4	113.0	117.6	122.1	126.8	129.6
102.5°	112.8	115.7	118.6	121.6	124.5	128.3	133.1	137.9	142.6	147.4	150.2
105°	146.4	148.8	151.1	153.4	155.7	159.3	164.2	169.1	174.0	179.0	181.3
107.5°	185.2	187.2	189.1	190.9	192.8	195.8	199.7	203.7	207.7	211.6	214.3
110°	209.5	211.2	213.0	214.8	216.6	219.4	223.1	226.7	230.4	234.0	236.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	235.0	236.4	237.8	239.2	240.6	243.0	246.3	249.6	252.9	256.2	259.0
115°	272.8	274.3	275.7	277.1	278.6	280.6	283.4	286.2	288.9	291.7	293.8
117.5°	311.2	312.2	313.1	314.0	314.9	316.6	319.0	321.6	324.0	326.5	328.5
120°	334.9	336.1	337.5	338.7	340.0	341.7	343.7	345.8	347.9	350.0	351.8
122.5°	359.9	360.7	361.6	362.4	363.3	364.8	367.1	369.4	371.7	374.0	375.4
125°	397.6	398.0	398.4	398.9	399.3	400.6	402.8	405.0	407.1	409.3	410.5
127.5°	432.8	433.7	434.5	435.3	436.1	437.4	439.1	440.8	442.5	444.3	445.1
130°	456.2	457.3	458.4	459.4	460.5	461.6	462.8	464.1	465.4	466.7	467.7
132.5°	479.4	480.5	481.7	482.7	483.9	484.9	486.0	487.1	488.1	489.1	490.0
135°	515.2	515.9	516.7	517.5	518.2	519.0	519.8	520.6	521.4	522.1	523.1
137.5°	548.2	548.9	549.5	550.2	550.8	551.5	552.4	553.3	554.2	555.1	555.9
140°	570.9	571.6	572.3	573.0	573.7	574.3	574.7	575.0	575.4	575.8	577.0
142.5°	591.8	592.4	593.0	593.7	594.4	594.8	595.2	595.4	595.7	596.1	597.0
145°	624.4	624.6	624.8	625.0	625.3	625.5	626.0	626.4	626.8	627.2	627.8
147.5°	652.6	653.1	653.6	654.1	654.7	655.1	655.5	655.9	656.3	656.7	656.9
150°	672.5	672.8	673.0	673.4	673.6	673.9	674.2	674.5	674.7	675.1	675.1
152.5°	688.8	689.2	689.6	690.0	690.4	690.7	690.9	691.0	691.2	691.4	691.6
155°	714.5	714.5	714.5	714.5	714.5	714.6	714.8	714.9	715.1	715.2	715.8
157.5°	736.5	736.3	736.1	736.0	735.8	735.8	735.9	736.1	736.1	736.2	736.9
160°	750.2	750.0	749.7	749.4	749.1	749.0	749.0	749.0	749.0	749.0	749.7
162.5°	762.5	762.1	761.7	761.3	760.9	760.8	760.9	761.0	761.1	761.2	761.9
165°	778.3	777.9	777.5	777.1	776.6	776.4	776.4	776.4	776.4	776.4	777.2
167.5°	790.9	790.4	789.8	789.2	788.6	788.5	788.6	788.6	788.8	788.9	789.8
170°	798.1	797.5	797.0	796.4	795.8	795.5	795.5	795.5	795.5	795.5	796.5
172.5°	803.6	803.2	802.6	802.0	801.4	801.1	801.1	801.1	801.1	801.1	802.0
175°	809.5	808.9	808.5	807.9	807.3	807.0	807.0	807.0	807.0	807.0	807.9
177.5°	812.0	811.5	811.1	810.6	810.2	809.9	809.9	809.9	809.9	809.9	810.6
180°	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	57.4	60.4	63.4	65.3	66.2	67.1	68.0	69.0
90°	65.1	68.6	72.0	74.3	75.4	76.5	77.6	78.8
92.5°	71.5	74.8	78.0	79.9	80.6	81.1	81.8	82.3
95°	91.2	94.3	97.5	99.5	100.4	101.2	102.1	102.9
97.5°	115.0	118.2	121.4	123.4	124.1	124.9	125.7	126.5
100°	132.5	135.3	138.3	140.2	141.4	142.5	143.7	144.7
102.5°	153.0	155.8	158.6	160.4	161.2	162.0	162.7	163.5
105°	183.7	186.1	188.4	190.0	191.1	192.2	193.2	194.3
107.5°	217.0	219.7	222.4	224.1	224.7	225.3	225.8	226.4
110°	239.5	242.3	245.1	246.6	247.0	247.4	247.9	248.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	261.8	264.6	267.4	269.1	269.9	270.5	271.2	271.9
115°	296.0	298.2	300.4	301.7	302.2	302.8	303.3	303.9
117.5°	330.4	332.5	334.4	335.6	335.8	336.1	336.3	336.6
120°	353.6	355.4	357.2	358.2	358.6	358.8	359.1	359.5
122.5°	377.0	378.5	380.0	380.8	381.0	381.2	381.4	381.6
125°	411.7	412.9	414.1	414.7	414.7	414.7	414.8	414.8
127.5°	446.0	446.9	447.8	448.2	448.1	448.0	447.9	447.8
130°	468.7	469.8	470.8	471.1	470.6	470.1	469.6	469.1
132.5°	490.8	491.7	492.5	492.8	492.7	492.5	492.3	492.1
135°	524.1	525.1	525.9	526.5	526.7	526.8	526.9	527.1
137.5°	556.6	557.3	558.1	558.4	558.3	558.2	558.1	557.9
140°	578.1	579.2	580.3	580.7	580.1	579.5	578.9	578.4
142.5°	598.0	599.0	600.0	600.3	600.0	599.7	599.3	599.0
145°	628.3	628.8	629.4	629.5	629.3	629.1	628.8	628.6
147.5°	657.1	657.3	657.5	657.3	656.8	656.2	655.7	655.2
150°	675.1	675.1	675.1	674.7	674.0	673.4	672.6	672.0
152.5°	691.8	692.0	692.3	692.0	691.3	690.6	689.9	689.3
155°	716.3	716.9	717.5	717.2	716.2	715.3	714.3	713.3
157.5°	737.4	738.0	738.6	738.5	737.8	736.9	736.1	735.3
160°	750.4	751.1	751.8	751.9	751.3	750.7	750.2	749.6
162.5°	762.6	763.4	764.1	763.9	763.0	762.1	761.2	760.3
165°	778.1	778.9	779.8	779.8	778.8	777.7	776.7	775.8
167.5°	790.7	791.5	792.4	792.4	791.5	790.7	789.8	788.9
170°	797.5	798.5	799.5	799.5	798.5	797.5	796.5	795.5
172.5°	802.9	803.8	804.6	804.6	803.6	802.6	801.6	800.6
175°	808.7	809.5	810.4	810.3	809.3	808.4	807.3	806.3
177.5°	811.3	812.0	812.6	812.6	811.8	811.0	810.2	809.4
180°	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5

(END OF REPORT)