

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: P331423-927

Luminaire Tested: **SA2XXDIP-C1005D330U927-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331423-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C1005D330U927-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

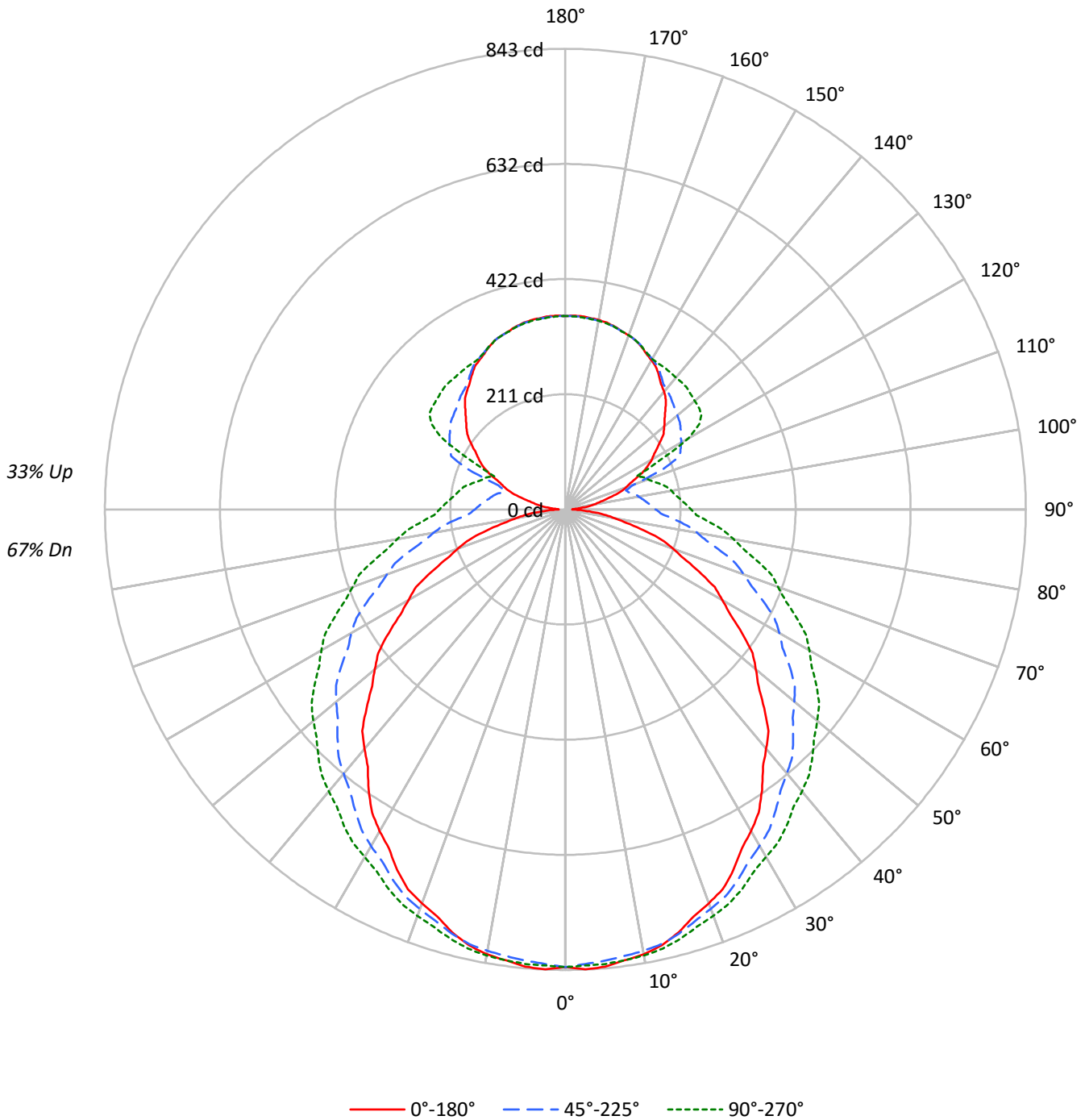
Lumens per Lamp: N/A  
Luminaire Lumens: 4234.1 lumens  
Efficiency: N/A  
Efficacy: 85.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 49.8  
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



TEST NUMBER: P331423-927  
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### Luminous Intensity Polar Plot





TEST NUMBER: P331423-927

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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	50	30	10	0	
RCR																						
0	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67				
1	100	94	90	85	93	89	85	81	78	75	72	69	67	64	60	58	57	52				
2	90	81	74	68	84	77	70	65	68	63	58	59	56	52	52	49	46	42				
3	82	71	62	56	76	67	59	53	59	53	48	52	47	43	45	42	38	35				
4	74	62	53	47	70	59	51	45	52	46	40	46	41	36	40	36	33	29				
5	68	55	46	40	64	52	44	38	46	40	35	41	36	31	36	32	28	25				
6	63	50	41	34	59	47	39	33	42	35	30	37	31	27	33	28	25	22				
7	58	45	36	30	54	42	34	29	38	31	26	34	28	24	30	25	22	19				
8	54	41	32	26	50	38	31	25	34	28	23	31	25	21	27	23	19	17				
9	50	37	29	24	47	35	28	23	32	25	21	28	23	19	25	21	17	15				
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	19	16	14				

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

	0°	45°	90°
0°	13525	13525	13525
5°	13591	13020	12971
10°	13506	12635	12493
15°	13320	12228	11990
20°	13085	11791	11506
25°	12852	11370	11066
30°	12525	10939	10626
35°	12192	10521	10314
40°	11845	10165	10004
45°	11515	9846	9739
50°	11159	9559	9477
55°	10787	9249	9211
60°	10329	8927	8928
65°	9856	8551	8595
70°	9323	8147	8233
75°	8642	7750	7901
80°	7567	7345	7563
85°	6539	6995	7303



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.4	1.9
10°-20°	227.6	5.4
20°-30°	344.9	8.1
30°-40°	420.1	9.9
40°-50°	452.0	10.7
50°-60°	438.9	10.4
60°-70°	383.2	9.1
70°-80°	295.0	7.0
80°-90°	198.9	4.7
90°-100°	148.2	3.5
100°-110°	142.9	3.4
110°-120°	181.5	4.3
120°-130°	227.8	5.4
130°-140°	218.6	5.2
140°-150°	191.5	4.5
150°-160°	151.8	3.6
160°-170°	97.8	2.3
170°-180°	33.7	0.8
0°-30°	651.9	15.4
0°-40°	1072.0	25.3
0°-60°	1962.9	46.4
0°-90°	2840.1	67.1
90°-120°	472.7	11.2
90°-150°	1110.6	26.2
90°-180°	1394.0	32.9
0°-180°	4234.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	838	838	838	838	838	
5°	840	836	829	836	835	80
15°	801	804	804	814	813	226
25°	728	737	748	762	766	335
35°	628	648	671	697	706	392
45°	515	548	590	626	640	397
55°	395	439	501	544	561	353
65°	270	330	401	449	466	268
75°	149	218	295	345	363	158
85°	44	119	197	246	265	47
90°	12	86	165	213	230	9
95°	26	76	150	195	211	28
105°	84	124	120	164	180	90
115°	152	172	231	153	144	149
125°	211	216	258	291	304	188
135°	259	264	277	304	315	200
145°	299	299	303	312	317	187
155°	329	327	330	331	329	152
165°	347	345	346	348	346	98
175°	355	353	354	355	353	34
180°	354	354	354	354	354	



TEST NUMBER: P331423-927

CATALOG NUMBER: SA2XXDIP-C1005D330U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7
2.5°	842.6	841.9	841.2	840.6	840.0	838.8	837.3	835.8	834.3	832.8	833.9
5°	840.1	839.3	838.5	837.7	836.9	835.7	834.1	832.4	830.8	829.2	830.8
7.5°	832.6	832.0	831.5	831.0	830.4	829.6	828.3	827.0	825.9	824.6	826.5
10°	826.8	826.2	825.7	825.1	824.6	823.9	823.2	822.3	821.5	820.7	822.8
12.5°	817.1	817.1	817.3	817.4	817.5	817.2	816.7	816.0	815.5	814.8	817.1
15°	801.3	801.8	802.3	802.9	803.4	803.7	803.7	803.7	803.7	803.7	806.1
17.5°	780.9	782.0	783.2	784.3	785.4	786.4	787.3	788.1	789.0	789.9	792.4
20°	767.3	768.7	770.0	771.3	772.7	773.9	775.0	776.0	777.1	778.2	781.2
22.5°	752.7	754.2	755.8	757.4	759.0	760.5	762.0	763.5	765.0	766.5	769.5
25°	728.4	730.3	732.2	734.1	736.0	738.2	740.5	743.0	745.4	747.8	751.1
27.5°	699.3	702.3	705.4	708.5	711.6	714.5	717.4	720.3	723.1	726.0	730.1
30°	679.9	683.3	686.9	690.4	693.9	697.4	700.9	704.4	707.9	711.5	715.7
32.5°	658.5	662.4	666.4	670.3	674.2	678.3	682.5	686.6	690.8	694.9	699.9
35°	627.6	632.2	636.8	641.4	646.0	650.9	656.0	661.1	666.2	671.4	677.3
37.5°	594.1	599.4	604.8	610.0	615.3	621.2	627.9	634.5	641.2	647.8	654.4
40°	571.8	577.7	583.7	589.6	595.6	602.1	609.4	616.7	624.0	631.3	638.3
42.5°	550.5	556.3	562.3	568.2	574.2	581.3	589.7	598.1	606.4	614.8	622.4
45°	514.8	522.0	529.3	536.6	543.9	552.2	561.7	571.2	580.6	590.0	598.4
47.5°	479.6	487.5	495.4	503.4	511.3	520.8	531.9	542.9	554.0	565.0	573.8
50°	455.3	463.7	472.0	480.4	488.7	499.0	511.1	523.2	535.4	547.6	556.7
52.5°	432.0	440.8	449.6	458.4	467.1	477.9	490.7	503.5	516.3	529.1	538.4
55°	394.6	404.3	414.0	423.7	433.4	445.3	459.3	473.3	487.4	501.4	511.1
57.5°	357.7	368.6	379.5	390.5	401.5	414.1	428.4	442.7	457.0	471.3	481.7
60°	331.4	343.0	354.7	366.2	377.9	391.3	406.7	422.1	437.4	452.8	463.1
62.5°	308.2	320.1	332.2	344.2	356.2	369.9	385.3	400.7	416.1	431.5	442.4
65°	269.5	282.7	296.0	309.2	322.4	337.0	352.9	368.8	384.7	400.6	411.7
67.5°	234.1	247.9	261.7	275.5	289.3	304.4	320.7	337.0	353.2	369.6	380.7
70°	208.8	222.8	236.9	250.9	264.9	280.3	297.1	313.8	330.5	347.2	358.8
72.5°	185.5	199.9	214.4	228.9	243.4	259.0	276.0	292.9	309.9	326.9	338.2
75°	149.3	164.5	179.5	194.6	209.8	225.9	243.2	260.5	277.7	295.0	306.6
77.5°	114.4	130.2	146.0	161.8	177.6	194.2	211.8	229.3	246.8	264.4	276.0
80°	91.0	107.5	124.0	140.5	156.9	173.9	191.4	209.0	226.5	244.0	255.3
82.5°	71.6	87.9	104.1	120.3	136.6	153.6	171.3	189.1	206.8	224.6	235.9
85°	43.7	60.4	77.2	93.9	110.6	127.6	144.9	162.2	179.4	196.7	208.0
87.5°	23.8	40.1	56.2	72.5	88.6	105.4	122.8	140.1	157.5	174.9	185.9
90°	12.4	28.7	44.9	61.2	77.5	94.5	112.2	129.9	147.7	165.4	176.4
92.5°	16.3	30.8	45.4	59.9	74.4	90.1	106.9	123.7	140.6	157.5	168.2
95°	26.4	37.2	47.9	58.8	69.6	83.3	99.8	116.5	133.0	149.6	160.2
97.5°	41.5	47.5	53.5	59.5	65.5	76.7	93.2	109.6	126.1	142.5	152.7
100°	53.9	56.0	58.2	60.4	62.6	71.7	87.8	103.9	119.9	136.0	146.5
102.5°	66.4	73.8	81.4	88.8	96.3	103.3	109.9	116.5	123.0	129.6	140.0
105°	84.0	93.5	103.0	112.6	122.1	126.0	124.5	123.0	121.5	120.0	130.1
107.5°	105.4	113.0	120.6	128.3	135.9	137.1	131.9	126.7	121.5	116.3	124.8
110°	118.4	124.9	131.5	138.1	144.7	146.4	143.1	139.9	136.7	133.5	136.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	131.4	137.0	142.6	148.2	153.8	160.8	169.4	177.8	186.4	194.9	182.8
115°	152.1	156.1	160.0	163.9	167.9	176.7	190.2	203.7	217.3	230.8	212.6
117.5°	169.4	172.5	175.5	178.5	181.5	189.1	201.3	213.5	225.7	237.9	239.6
120°	182.9	184.9	186.8	188.7	190.7	197.6	209.4	221.2	233.0	244.8	253.0
122.5°	194.4	195.7	197.1	198.4	199.7	206.0	217.3	228.5	239.8	251.0	258.8
125°	210.6	211.4	212.1	212.9	213.7	218.9	228.5	238.3	248.0	257.7	265.4
127.5°	226.5	227.0	227.6	228.1	228.7	232.8	240.6	248.4	256.2	264.0	271.2
130°	236.5	237.2	237.8	238.4	239.1	242.6	248.8	255.2	261.4	267.8	274.8
132.5°	246.8	247.3	247.8	248.3	248.8	251.5	256.5	261.6	266.6	271.6	278.3
135°	258.9	259.8	260.7	261.7	262.5	264.6	267.8	271.0	274.3	277.4	283.7
137.5°	272.4	272.9	273.5	274.1	274.7	275.8	277.7	279.4	281.1	283.0	288.4
140°	281.1	281.4	281.5	281.7	281.9	282.6	283.8	284.9	286.1	287.2	292.1
142.5°	288.5	288.7	288.8	289.0	289.1	289.6	290.4	291.2	292.1	292.9	296.8
145°	298.9	298.9	298.8	298.7	298.7	299.1	300.1	301.1	302.1	303.0	305.0
147.5°	309.0	308.8	308.6	308.3	308.2	308.5	309.4	310.5	311.4	312.4	312.8
150°	315.5	315.1	314.7	314.3	313.9	314.3	315.1	316.1	317.0	317.9	318.2
152.5°	321.1	320.7	320.2	319.7	319.3	319.5	320.4	321.2	322.1	323.0	323.3
155°	329.2	328.6	328.1	327.6	327.1	327.2	327.9	328.5	329.2	329.9	330.3
157.5°	335.4	335.0	334.5	334.1	333.7	333.7	334.2	334.7	335.2	335.6	336.0
160°	339.1	338.8	338.4	338.1	337.8	337.8	338.1	338.4	338.8	339.1	339.5
162.5°	342.4	342.1	341.7	341.4	341.0	341.0	341.3	341.6	341.9	342.2	342.6
165°	346.8	346.5	346.1	345.8	345.5	345.4	345.5	345.7	345.9	346.0	346.4
167.5°	350.1	349.7	349.4	349.0	348.7	348.6	348.8	349.0	349.1	349.3	349.7
170°	352.0	351.6	351.3	350.9	350.5	350.5	350.5	350.7	350.8	350.9	351.3
172.5°	353.2	352.8	352.4	352.1	351.8	351.6	351.8	351.9	352.0	352.1	352.5
175°	354.7	354.3	353.9	353.6	353.2	353.0	353.2	353.2	353.4	353.5	353.9
177.5°	355.0	354.7	354.3	354.0	353.7	353.6	353.6	353.7	353.7	353.8	354.1
180°	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7
2.5°	835.0	836.1	837.2	837.5	837.0	836.6	836.1	835.8
5°	832.4	834.1	835.7	836.3	836.1	835.8	835.5	835.3
7.5°	828.5	830.4	832.3	833.2	832.9	832.7	832.3	832.1
10°	825.0	827.2	829.3	830.3	830.0	829.7	829.5	829.2
12.5°	819.2	821.3	823.5	824.4	824.2	823.9	823.6	823.4
15°	808.6	811.0	813.4	814.5	814.2	814.0	813.7	813.4
17.5°	795.0	797.5	800.0	801.3	801.3	801.3	801.3	801.3
20°	784.1	787.1	790.0	791.5	791.5	791.5	791.5	791.5
22.5°	772.5	775.5	778.4	780.1	780.5	781.0	781.4	781.9
25°	754.3	757.6	760.8	762.8	763.7	764.5	765.2	766.0
27.5°	734.2	738.3	742.4	744.7	745.4	745.9	746.6	747.1
30°	720.1	724.4	728.7	731.3	732.1	732.8	733.7	734.5
32.5°	704.9	709.8	714.8	718.0	719.5	720.9	722.4	723.8
35°	683.3	689.2	695.1	699.0	700.9	702.8	704.7	706.5
37.5°	661.0	667.6	674.1	678.4	680.4	682.5	684.4	686.4
40°	645.3	652.4	659.3	664.1	666.5	668.9	671.4	673.8
42.5°	630.1	637.8	645.5	650.5	652.9	655.4	657.7	660.2
45°	606.7	615.1	623.4	629.0	631.7	634.4	637.1	639.8
47.5°	582.5	591.2	600.0	605.9	608.8	611.8	614.7	617.7
50°	565.9	575.0	584.2	590.3	593.3	596.2	599.2	602.1
52.5°	547.9	557.2	566.6	572.9	576.1	579.3	582.5	585.7
55°	520.9	530.5	540.3	546.8	550.3	553.9	557.4	560.9
57.5°	492.3	502.7	513.2	520.1	523.7	527.3	530.8	534.4
60°	473.3	483.6	493.8	500.9	504.6	508.4	512.2	515.9
62.5°	453.3	464.1	475.1	482.3	485.8	489.4	493.0	496.5
65°	422.8	433.8	444.9	452.2	455.7	459.1	462.7	466.2
67.5°	391.9	403.1	414.2	421.7	425.3	429.0	432.7	436.3
70°	370.4	382.0	393.6	401.0	404.3	407.5	410.7	414.0
72.5°	349.6	361.0	372.3	380.0	383.9	387.8	391.7	395.5
75°	318.2	329.8	341.4	349.0	352.4	356.0	359.5	363.0
77.5°	287.5	299.0	310.6	318.3	322.0	325.8	329.6	333.4
80°	266.6	278.1	289.4	296.9	300.7	304.4	308.2	312.0
82.5°	247.2	258.6	269.9	277.3	280.9	284.5	288.0	291.6
85°	219.4	230.7	242.0	249.5	253.3	257.1	260.9	264.7
87.5°	197.0	208.1	219.1	226.4	229.9	233.4	236.9	240.3
90°	187.5	198.6	209.7	216.9	220.2	223.6	227.0	230.3
92.5°	178.9	189.6	200.3	207.4	210.6	214.0	217.3	220.6
95°	170.7	181.3	191.8	198.6	201.8	204.9	208.2	211.4
97.5°	163.0	173.2	183.4	190.1	193.4	196.6	199.9	203.1
100°	156.9	167.3	177.8	184.5	187.6	190.7	193.8	196.9
102.5°	150.4	160.7	171.0	177.8	180.9	184.0	187.2	190.3
105°	140.1	150.3	160.3	166.9	170.2	173.3	176.5	179.7
107.5°	133.2	141.6	150.0	155.8	159.1	162.2	165.4	168.7
110°	139.3	142.3	145.2	148.3	151.5	154.6	157.9	161.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	170.6	158.5	146.4	141.9	145.0	148.1	151.3	154.5
115°	194.3	176.1	157.8	148.1	147.0	145.9	144.7	143.6
117.5°	241.1	242.7	244.4	239.8	229.1	218.4	207.7	196.9
120°	261.3	269.5	277.7	279.5	274.8	270.1	265.4	260.6
122.5°	266.6	274.3	282.1	286.5	287.5	288.5	289.6	290.7
125°	273.1	280.7	288.4	293.6	296.2	298.8	301.3	304.0
127.5°	278.5	285.7	293.0	297.9	300.2	302.7	305.1	307.5
130°	281.9	289.1	296.1	300.7	302.9	304.9	307.0	309.1
132.5°	285.1	291.9	298.7	303.2	305.2	307.4	309.4	311.6
135°	289.9	296.1	302.4	306.5	308.6	310.6	312.7	314.7
137.5°	294.0	299.5	305.0	308.6	310.2	311.9	313.5	315.2
140°	296.9	301.7	306.6	309.7	311.0	312.3	313.6	315.0
142.5°	300.7	304.7	308.6	311.1	312.2	313.3	314.4	315.5
145°	307.0	309.0	311.1	312.6	313.7	314.7	315.8	316.9
147.5°	313.4	313.9	314.4	314.8	315.2	315.7	316.1	316.5
150°	318.5	318.9	319.2	319.2	319.0	318.7	318.4	318.1
152.5°	323.7	324.0	324.3	324.3	323.9	323.6	323.2	322.8
155°	330.6	330.9	331.3	331.2	330.7	330.3	329.9	329.4
157.5°	336.4	336.8	337.2	337.2	336.7	336.3	335.8	335.4
160°	339.8	340.2	340.5	340.5	340.1	339.7	339.3	338.9
162.5°	342.9	343.3	343.7	343.7	343.2	342.7	342.2	341.7
165°	346.8	347.2	347.6	347.6	347.2	346.8	346.4	346.0
167.5°	350.1	350.5	350.9	350.8	350.3	349.7	349.3	348.7
170°	351.7	352.1	352.5	352.4	352.0	351.4	350.9	350.4
172.5°	352.9	353.3	353.7	353.7	353.2	352.7	352.1	351.6
175°	354.3	354.7	355.1	355.0	354.4	353.9	353.2	352.7
177.5°	354.4	354.7	355.1	355.0	354.6	354.2	353.8	353.4
180°	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9

(END OF REPORT)