

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: P331378-927

Luminaire Tested: **SA2XXDIP-C865D330U927-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331378-927  
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-C865D330U927-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

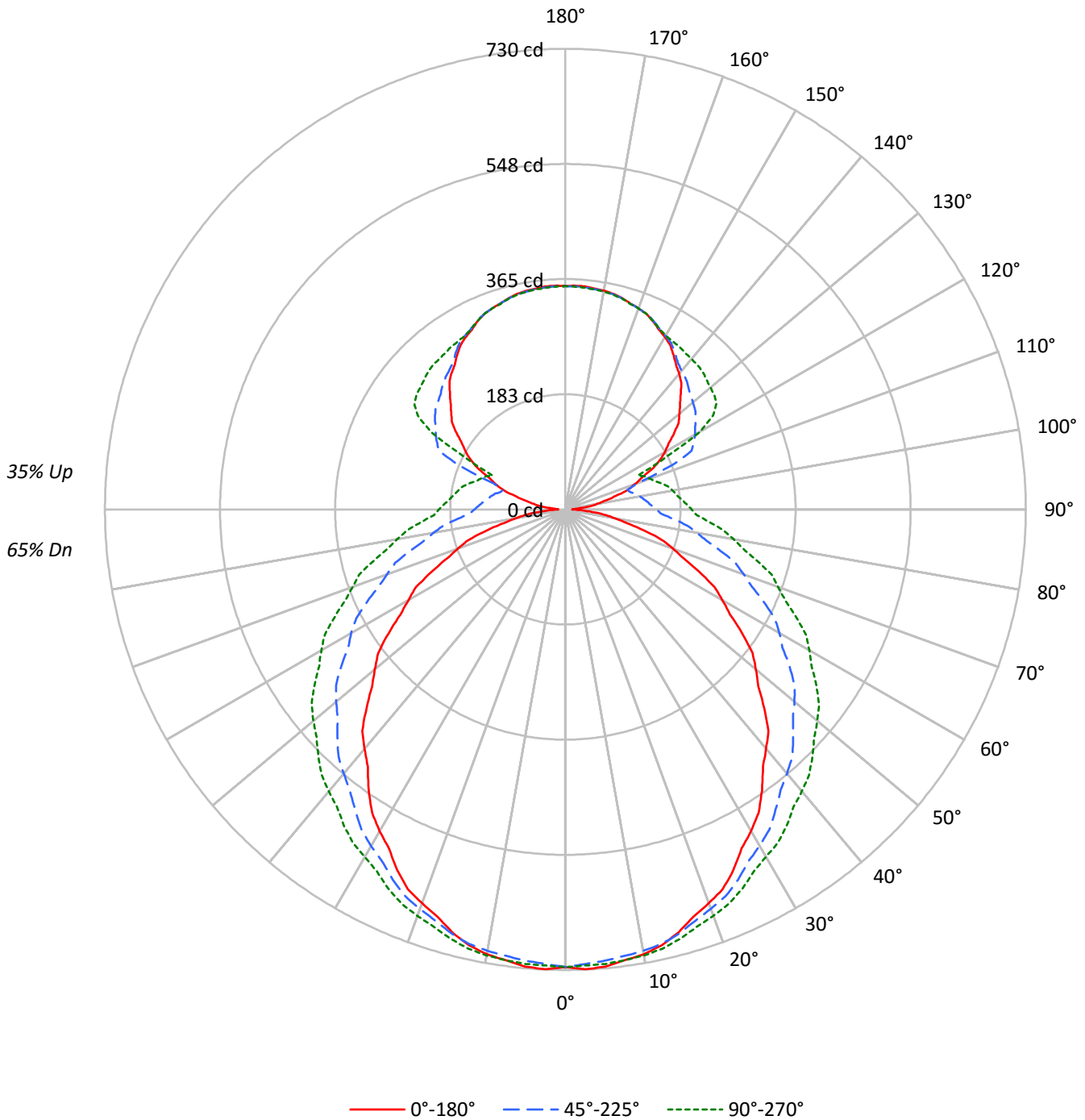
Lumens per Lamp: N/A  
Luminaire Lumens: 3805.4 lumens  
Efficiency: N/A  
Efficacy: 87.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 43.5  
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: P331378-927  
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### Luminous Intensity Polar Plot





TEST NUMBER: P331378-927

CATALOG NUMBER: SA2XXDIP-C865D330U927-4F0-1E-UDD-D

**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	104	104	104	104	91	91	91	80	80	80	70	70	70	65				
1	99	94	89	85	93	88	84	80	77	74	71	68	65	63	58	57	55	50				
2	89	81	74	68	84	76	70	64	67	62	57	58	54	51	50	47	45	41				
3	81	70	62	56	76	66	59	53	58	52	47	51	46	42	44	40	37	34				
4	74	62	53	47	69	58	50	44	51	45	40	45	40	36	39	35	32	28				
5	68	55	46	40	63	52	44	38	46	39	34	40	35	31	35	31	27	24				
6	62	49	41	34	58	47	39	33	41	35	30	36	31	27	32	27	24	21				
7	58	44	36	30	54	42	34	29	37	31	26	33	27	23	29	24	21	18				
8	54	40	32	26	50	38	31	25	34	28	23	30	25	21	26	22	19	16				
9	50	37	29	23	47	35	28	23	31	25	21	28	22	19	24	20	17	15				
10	47	34	26	21	44	32	25	20	29	23	19	26	20	17	23	18	15	13				

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

	0°	45°	90°
0°	11711	11711	11711
5°	11768	11274	11230
10°	11694	10940	10818
15°	11533	10587	10382
20°	11328	10209	9963
25°	11128	9845	9582
30°	10845	9471	9201
35°	10557	9109	8932
40°	10256	8801	8662
45°	9969	8526	8433
50°	9662	8276	8207
55°	9341	8008	7975
60°	8945	7730	7732
65°	8536	7405	7441
70°	8073	7053	7130
75°	7484	6710	6841
80°	6553	6361	6548
85°	5671	6056	6323



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.7	1.8
10°-20°	197.1	5.2
20°-30°	298.7	7.8
30°-40°	363.8	9.6
40°-50°	391.3	10.3
50°-60°	380.0	10.0
60°-70°	331.8	8.7
70°-80°	255.5	6.7
80°-90°	172.3	4.5
90°-100°	129.9	3.4
100°-110°	129.6	3.4
110°-120°	172.7	4.5
120°-130°	222.9	5.9
130°-140°	216.5	5.7
140°-150°	191.2	5.0
150°-160°	151.8	4.0
160°-170°	97.8	2.6
170°-180°	33.7	0.9
0°-30°	564.5	14.8
0°-40°	928.2	24.4
0°-60°	1699.6	44.7
0°-90°	2459.2	64.6
90°-120°	432.2	11.4
90°-150°	1062.8	27.9
90°-180°	1346.0	35.4
0°-180°	3805.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	725	725	725	725	725	
5°	727	724	718	724	723	69
15°	694	696	696	705	704	195
25°	631	638	648	660	663	290
35°	543	562	581	604	612	340
45°	446	475	511	542	554	344
55°	342	380	434	471	486	305
65°	233	286	347	388	404	232
75°	129	189	255	299	314	137
85°	38	103	170	213	229	41
90°	11	75	144	186	200	8
95°	25	67	131	170	184	27
105°	83	118	106	144	158	89
115°	152	169	221	138	127	149
125°	210	216	252	281	293	188
135°	259	263	276	299	308	200
145°	299	299	303	311	315	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: P331378-927

CATALOG NUMBER: SA2XXDIP-C865D330U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
2.5°	729.5	729.0	728.4	727.9	727.3	726.4	725.0	723.7	722.4	721.1	722.1
5°	727.4	726.7	726.0	725.3	724.6	723.6	722.2	720.7	719.4	718.0	719.4
7.5°	720.9	720.4	719.9	719.5	719.1	718.3	717.2	716.1	715.0	714.0	715.7
10°	715.9	715.4	714.9	714.5	714.0	713.4	712.7	712.0	711.3	710.6	712.5
12.5°	707.4	707.6	707.7	707.7	707.8	707.6	707.1	706.5	706.1	705.5	707.4
15°	693.8	694.3	694.7	695.2	695.6	695.9	695.9	695.9	695.9	695.9	698.0
17.5°	676.1	677.1	678.1	679.1	680.0	680.9	681.7	682.4	683.2	683.9	686.1
20°	664.3	665.5	666.7	667.9	669.0	670.1	671.0	671.9	672.9	673.8	676.4
22.5°	651.7	653.1	654.4	655.8	657.1	658.5	659.8	661.1	662.4	663.7	666.3
25°	630.7	632.3	634.0	635.6	637.2	639.1	641.2	643.3	645.4	647.5	650.3
27.5°	605.5	608.2	610.8	613.5	616.2	618.7	621.2	623.7	626.1	628.6	632.2
30°	588.7	591.7	594.8	597.8	600.8	603.9	606.9	609.9	613.0	616.0	619.7
32.5°	570.1	573.5	576.9	580.4	583.8	587.3	590.9	594.5	598.1	601.7	606.0
35°	543.4	547.4	551.4	555.4	559.4	563.6	568.0	572.4	576.9	581.3	586.5
37.5°	514.4	519.0	523.6	528.1	532.7	537.9	543.7	549.5	555.2	560.9	566.6
40°	495.1	500.3	505.4	510.6	515.6	521.4	527.7	534.0	540.3	546.6	552.7
42.5°	476.6	481.7	486.9	492.0	497.2	503.4	510.6	517.8	525.1	532.3	538.9
45°	445.7	452.0	458.3	464.6	471.0	478.2	486.3	494.6	502.7	510.9	518.1
47.5°	415.2	422.1	429.0	435.9	442.7	450.9	460.5	470.1	479.7	489.3	496.8
50°	394.2	401.4	408.7	415.9	423.2	432.1	442.5	453.0	463.6	474.1	482.0
52.5°	374.0	381.6	389.3	396.9	404.5	413.8	424.9	435.9	447.0	458.1	466.2
55°	341.7	350.1	358.5	366.9	375.3	385.6	397.7	409.9	422.0	434.1	442.5
57.5°	309.7	319.2	328.7	338.1	347.6	358.5	370.9	383.3	395.7	408.1	417.2
60°	287.0	297.0	307.0	317.1	327.2	338.8	352.1	365.4	378.7	392.1	401.0
62.5°	266.8	277.2	287.6	298.0	308.5	320.4	333.7	347.0	360.3	373.6	383.0
65°	233.4	244.8	256.3	267.7	279.2	291.8	305.5	319.3	333.1	346.9	356.5
67.5°	202.6	214.6	226.6	238.5	250.5	263.6	277.7	291.8	305.9	320.0	329.6
70°	180.8	193.0	205.1	217.2	229.4	242.7	257.2	271.6	286.1	300.6	310.7
72.5°	160.7	173.2	185.7	198.2	210.7	224.3	239.0	253.7	268.3	283.0	292.9
75°	129.3	142.4	155.4	168.6	181.6	195.7	210.6	225.5	240.5	255.4	265.5
77.5°	99.0	112.7	126.4	140.1	153.8	168.2	183.4	198.6	213.7	228.9	238.9
80°	78.8	93.1	107.3	121.6	135.9	150.5	165.7	180.9	196.1	211.3	221.1
82.5°	62.0	76.0	90.2	104.2	118.3	133.0	148.4	163.7	179.1	194.5	204.3
85°	37.9	52.4	66.8	81.3	95.8	110.5	125.4	140.4	155.3	170.3	180.1
87.5°	20.7	34.7	48.7	62.8	76.8	91.4	106.5	121.4	136.5	151.5	161.1
90°	10.8	25.0	39.1	53.3	67.5	82.2	97.7	113.0	128.5	143.9	153.5
92.5°	14.8	27.4	39.9	52.5	65.0	78.7	93.2	107.9	122.6	137.1	146.5
95°	25.0	34.1	43.3	52.4	61.5	73.2	87.6	102.0	116.5	130.9	140.1
97.5°	40.4	44.8	49.4	53.8	58.3	67.7	82.1	96.5	110.8	125.2	134.1
100°	52.7	53.6	54.4	55.2	56.1	63.5	77.6	91.7	105.7	119.7	128.8
102.5°	65.4	71.6	77.9	84.1	90.4	95.8	100.4	105.0	109.6	114.2	123.3
105°	83.1	91.6	100.1	108.5	117.1	119.6	116.2	112.8	109.4	106.0	114.9
107.5°	104.6	111.4	118.2	125.0	131.7	131.7	124.7	117.6	110.7	103.6	110.9
110°	117.6	123.5	129.4	135.3	141.2	141.6	136.6	131.6	126.6	121.5	123.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	130.8	135.8	140.8	145.8	150.8	156.6	163.4	170.2	177.1	183.9	170.6
115°	151.5	155.0	158.6	162.1	165.6	173.3	185.3	197.3	209.1	221.1	201.8
117.5°	168.9	171.7	174.4	177.2	180.0	186.7	197.4	208.1	218.8	229.5	230.0
120°	182.4	184.3	186.0	187.8	189.6	195.7	206.0	216.4	226.8	237.2	244.4
122.5°	193.9	195.2	196.5	197.7	199.0	204.6	214.5	224.4	234.3	244.2	251.0
125°	210.3	211.1	211.8	212.5	213.3	217.9	226.5	235.0	243.6	252.2	258.9
127.5°	226.2	226.7	227.4	227.9	228.5	232.2	239.1	245.9	252.7	259.6	265.9
130°	236.2	236.9	237.6	238.2	238.9	242.0	247.6	253.1	258.6	264.1	270.4
132.5°	246.4	247.0	247.6	248.1	248.6	251.1	255.5	259.9	264.4	268.7	274.7
135°	258.7	259.6	260.5	261.4	262.4	264.3	267.1	270.0	272.8	275.6	281.1
137.5°	272.2	272.7	273.4	273.9	274.6	275.7	277.3	278.8	280.5	282.1	286.9
140°	281.0	281.2	281.5	281.7	281.9	282.6	283.7	284.7	285.8	286.9	291.2
142.5°	288.4	288.6	288.8	288.9	289.1	289.6	290.4	291.2	292.0	292.8	296.3
145°	298.9	298.9	298.8	298.7	298.7	299.1	300.1	301.1	302.1	303.0	304.8
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°	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
2.5°	722.9	723.9	724.8	725.2	724.8	724.4	724.0	723.7
5°	720.7	722.2	723.6	724.1	723.9	723.7	723.4	723.2
7.5°	717.3	719.0	720.7	721.4	721.2	721.0	720.7	720.5
10°	714.3	716.2	718.1	718.9	718.7	718.4	718.2	718.0
12.5°	709.3	711.1	713.0	713.8	713.6	713.4	713.1	712.9
15°	700.1	702.2	704.3	705.2	705.0	704.7	704.5	704.3
17.5°	688.3	690.5	692.7	693.8	693.8	693.8	693.8	693.8
20°	679.0	681.5	684.0	685.4	685.4	685.4	685.4	685.4
22.5°	668.8	671.5	674.0	675.5	675.8	676.2	676.6	677.0
25°	653.2	655.9	658.8	660.5	661.2	661.9	662.6	663.3
27.5°	635.7	639.3	642.8	644.8	645.4	645.9	646.4	646.9
30°	623.4	627.2	631.0	633.2	633.8	634.5	635.3	636.0
32.5°	610.3	614.6	618.9	621.7	622.9	624.2	625.4	626.7
35°	591.6	596.8	601.9	605.2	606.9	608.6	610.1	611.8
37.5°	572.3	578.0	583.7	587.4	589.1	590.9	592.6	594.4
40°	558.7	564.8	570.9	575.0	577.1	579.2	581.3	583.4
42.5°	545.6	552.2	558.9	563.2	565.3	567.4	569.5	571.6
45°	525.4	532.6	539.9	544.6	547.0	549.3	551.7	554.0
47.5°	504.4	511.9	519.5	524.6	527.1	529.7	532.3	534.9
50°	490.0	497.9	505.9	511.1	513.7	516.3	518.8	521.4
52.5°	474.4	482.5	490.6	496.1	498.8	501.6	504.3	507.1
55°	451.0	459.4	467.8	473.5	476.5	479.6	482.6	485.6
57.5°	426.2	435.2	444.3	450.4	453.4	456.5	459.6	462.7
60°	409.9	418.7	427.6	433.6	437.0	440.2	443.5	446.8
62.5°	392.4	401.9	411.3	417.6	420.6	423.7	426.8	429.9
65°	366.1	375.7	385.2	391.5	394.5	397.6	400.6	403.6
67.5°	339.3	349.0	358.7	365.1	368.3	371.5	374.6	377.8
70°	320.8	330.7	340.8	347.2	350.1	352.8	355.7	358.5
72.5°	302.7	312.5	322.4	329.0	332.4	335.7	339.1	342.5
75°	275.5	285.6	295.6	302.1	305.2	308.2	311.2	314.3
77.5°	249.0	259.0	268.9	275.6	278.8	282.1	285.4	288.7
80°	230.9	240.7	250.6	257.1	260.3	263.6	266.9	270.1
82.5°	214.1	223.9	233.7	240.2	243.3	246.3	249.4	252.5
85°	189.9	199.7	209.5	216.1	219.4	222.6	225.9	229.2
87.5°	170.7	180.3	189.9	196.2	199.2	202.2	205.3	208.3
90°	163.1	172.8	182.4	188.7	191.5	194.5	197.4	200.3
92.5°	155.7	165.0	174.4	180.5	183.3	186.2	189.0	191.9
95°	149.2	158.4	167.5	173.5	176.2	179.0	181.7	184.4
97.5°	143.0	151.9	160.7	166.5	169.4	172.2	175.0	177.8
100°	137.9	147.0	156.1	162.0	164.7	167.4	170.1	172.8
102.5°	132.4	141.4	150.4	156.3	159.1	161.8	164.5	167.2
105°	123.7	132.5	141.2	147.0	149.8	152.7	155.4	158.2
107.5°	118.1	125.3	132.5	137.5	140.3	143.1	145.9	148.7
110°	125.2	126.9	128.7	130.9	133.8	136.6	139.3	142.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	157.3	144.0	130.8	125.5	128.3	130.9	133.7	136.5
115°	182.4	163.0	143.7	133.3	131.7	130.2	128.7	127.1
117.5°	230.6	231.1	231.6	226.4	215.3	204.2	193.1	182.0
120°	251.6	258.8	266.0	267.1	262.0	256.9	251.8	246.6
122.5°	257.7	264.5	271.2	275.0	275.7	276.4	277.1	277.8
125°	265.6	272.3	279.0	283.5	285.7	288.0	290.3	292.6
127.5°	272.3	278.7	285.0	289.3	291.4	293.5	295.6	297.6
130°	276.6	282.8	289.1	293.1	294.9	296.8	298.6	300.3
132.5°	280.7	286.6	292.6	296.4	298.3	300.1	301.9	303.7
135°	286.6	292.1	297.5	301.2	302.9	304.7	306.4	308.2
137.5°	291.8	296.7	301.5	304.7	306.0	307.4	308.8	310.2
140°	295.4	299.7	304.0	306.6	307.8	308.9	310.0	311.1
142.5°	299.8	303.2	306.7	308.9	309.7	310.7	311.6	312.6
145°	306.6	308.4	310.2	311.6	312.4	313.3	314.2	315.1
147.5°	313.3	313.8	314.3	314.7	315.0	315.3	315.6	315.9
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)