

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: METALUX

Report Number: P176118

Luminaire Tested: **4BCLED-LD4-36SL-F-UNV-L830-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P176118  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4BCLED-LD4-36SL-F-UNV-L830-CD1-U  
Description: METALUX 4FT BC LED WALL BRACKET CORRIDOR LUMINAIRE WITH A  
Light Source: (112) COOPER LIGHTING 3000K LEDS  
Ballast/Driver: (1) ELECTRONIC DRIVER

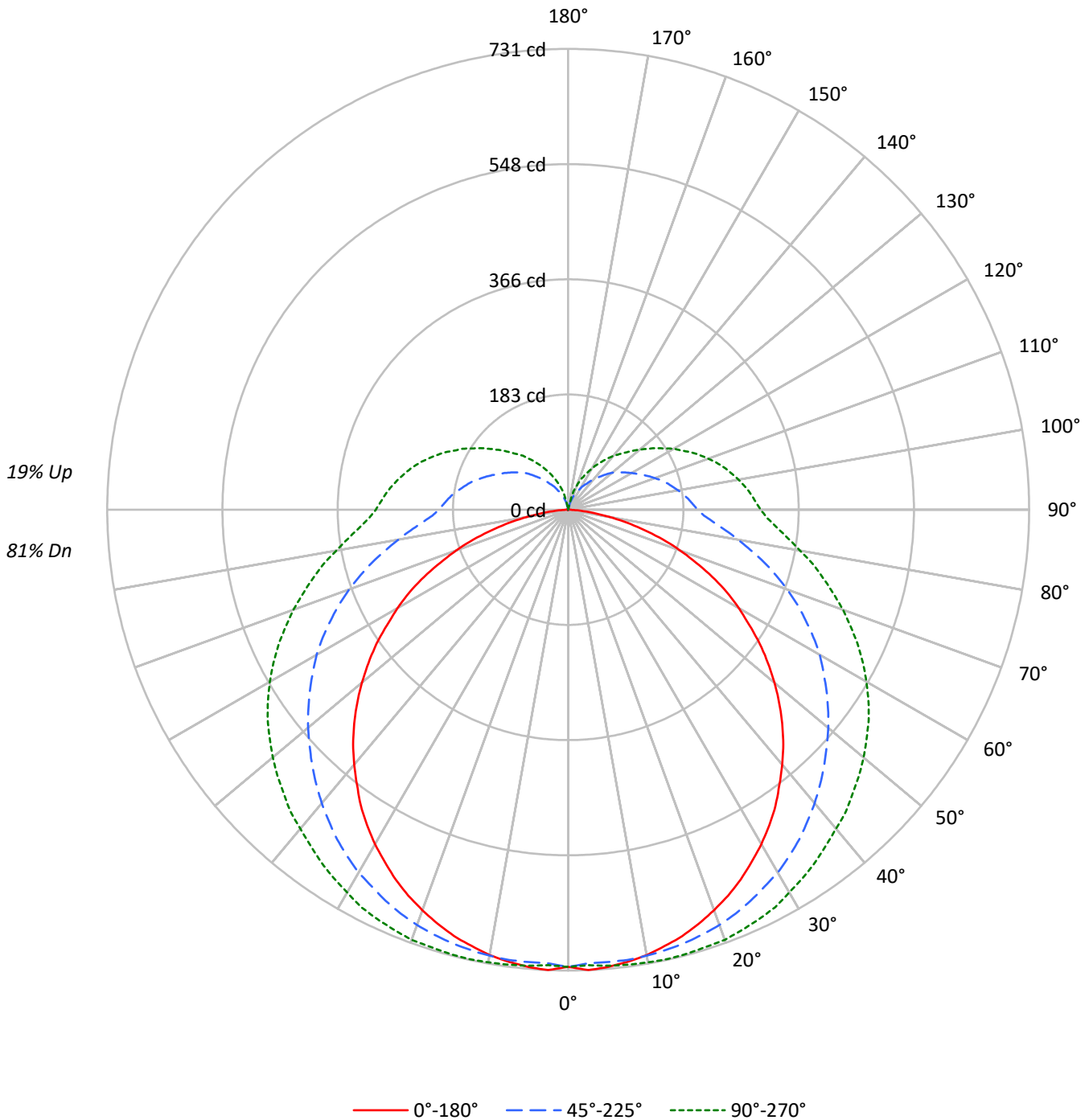
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3459.4 lumens  
Efficiency: N/A  
Efficacy: 92.2 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.44 / 1.51  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 4' x H: 0.25')  
CIE Type: Semi-Direct  
  
Input Watts (W): 37.5  
Input Voltage (V): NR  
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	115	115	115	115	110	110	110	110	101	101	101	92	92	92	85	85	85	81
1	102	96	91	86	97	92	87	83	84	80	77	77	74	71	70	68	66	62
2	91	82	74	68	87	78	71	65	72	66	61	66	61	57	60	56	53	50
3	83	71	62	55	78	68	60	53	62	56	50	57	51	47	52	48	44	41
4	75	62	53	46	71	60	51	45	55	48	42	50	44	39	46	41	37	34
5	69	55	46	39	65	53	44	38	49	41	36	45	39	34	41	36	32	29
6	63	50	40	34	60	48	39	33	44	36	31	40	34	29	37	32	27	25
7	59	45	36	29	56	43	34	29	40	32	27	37	30	26	34	28	24	22
8	54	41	32	26	52	39	31	25	36	29	24	33	27	23	31	25	21	19
9	51	37	29	23	48	36	28	22	33	26	21	31	25	20	28	23	19	17
10	47	34	26	21	45	33	25	20	31	24	19	28	22	18	26	21	17	15

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

	0°	45°	90°
0°	5203	5203	5203
5°	5216	4965	4942
10°	5170	4798	4753
15°	5115	4645	4595
20°	5048	4508	4462
25°	4979	4371	4328
30°	4899	4243	4195
35°	4811	4110	4078
40°	4700	3974	3969
45°	4584	3844	3882
50°	4436	3724	3805
55°	4263	3603	3729
60°	4048	3493	3638
65°	3773	3350	3542
70°	3375	3206	3434
75°	2810	3045	3325
80°	2026	2876	3225
85°	970	2769	3178



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.1	2.0
10°-20°	202.1	5.8
20°-30°	316.0	9.1
30°-40°	397.3	11.5
40°-50°	438.9	12.7
50°-60°	438.7	12.7
60°-70°	395.6	11.4
70°-80°	317.4	9.2
80°-90°	231.5	6.7
90°-100°	187.0	5.4
100°-110°	155.4	4.5
110°-120°	120.4	3.5
120°-130°	86.0	2.5
130°-140°	55.7	1.6
140°-150°	31.5	0.9
150°-160°	13.8	0.4
160°-170°	3.0	0.1
170°-180°	0.0	0.0
0°-30°	587.2	17.0
0°-40°	984.5	28.5
0°-60°	1862.1	53.8
0°-90°	2806.6	81.1
90°-120°	462.8	13.4
90°-150°	636.0	18.4
90°-180°	653.0	18.9
0°-180°	3459.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	725	725	725	725	725	
5°	728	725	720	727	726	69
15°	700	705	712	727	729	197
25°	647	663	685	709	716	298
35°	573	600	639	672	683	358
45°	480	520	574	620	638	370
55°	371	425	500	561	582	331
65°	252	319	416	482	507	249
75°	125	214	321	392	418	133
85°	20	120	232	306	333	27
90°	0	94	205	279	305	1
95°	0	83	191	264	290	0
105°	0	64	162	232	257	0
115°	1	53	131	192	215	1
125°	1	42	103	151	170	0
135°	1	30	76	115	128	0
145°	1	19	50	82	93	1
155°	1	11	30	46	59	0
165°	1	4	12	17	26	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	725.1	725.1	725.1	725.1	725.1	725.1	725.1	725.1	725.1	725.1	725.1
2.5°	730.9	729.9	728.0	727.0	727.0	727.0	726.1	725.1	722.2	720.3	720.3
5°	728.0	727.0	725.1	724.2	725.1	725.1	725.1	724.2	722.2	720.3	721.3
7.5°	723.2	723.2	721.3	721.3	722.2	723.2	723.2	723.2	721.3	720.3	722.2
10°	717.4	716.5	715.5	715.5	717.4	718.4	720.3	719.4	718.4	718.4	720.3
12.5°	708.8	708.8	708.8	708.8	711.7	713.6	715.5	715.5	715.5	715.5	718.4
15°	700.1	699.2	699.2	701.1	704.0	706.8	708.8	709.7	710.7	711.7	715.5
17.5°	688.6	688.6	689.5	690.5	695.3	698.2	701.1	703.0	704.9	706.8	711.7
20°	676.1	676.1	677.0	679.9	683.8	689.5	692.4	695.3	697.2	701.1	705.9
22.5°	662.6	662.6	664.5	668.4	672.2	678.0	682.8	685.7	689.5	693.4	699.2
25°	647.2	647.2	649.1	654.0	659.7	666.5	671.3	676.1	679.0	684.7	691.5
27.5°	629.9	630.9	632.8	638.6	645.3	652.0	658.8	664.5	669.3	674.2	681.8
30°	612.6	612.6	615.5	622.2	629.9	637.6	645.3	651.1	656.8	664.5	671.3
32.5°	593.4	594.3	598.2	603.9	612.6	622.2	629.9	636.6	644.3	652.0	660.7
35°	573.2	574.1	578.0	585.7	595.3	604.9	614.5	621.3	629.9	638.6	647.2
37.5°	550.1	553.0	556.8	565.5	576.1	586.6	595.3	603.9	613.6	623.2	632.8
40°	528.0	529.9	534.7	544.3	555.9	567.4	577.0	586.6	597.2	607.8	618.4
42.5°	504.9	506.8	513.5	523.2	535.7	547.2	557.8	569.3	580.9	591.4	603.0
45°	479.9	481.8	488.5	500.1	513.5	526.0	536.6	549.1	562.6	574.1	585.7
47.5°	453.9	455.8	463.5	477.0	490.5	503.9	516.4	529.9	543.4	555.9	569.3
50°	427.0	430.8	438.5	451.0	466.4	480.8	495.3	509.7	524.1	538.6	552.0
52.5°	399.1	403.0	412.6	427.0	441.4	456.8	472.2	487.6	503.9	519.3	534.7
55°	371.2	375.1	384.7	400.1	416.4	432.8	449.1	466.4	483.7	500.1	517.4
57.5°	340.4	347.2	357.8	372.2	391.4	408.7	425.1	443.3	462.6	479.9	497.2
60°	312.6	317.4	329.9	345.3	363.5	382.8	401.0	421.2	441.4	460.7	478.0
62.5°	283.7	287.5	299.1	316.4	335.6	355.8	377.0	398.1	419.3	438.5	455.8
65°	252.0	256.8	270.2	287.5	307.7	329.9	352.9	375.1	396.2	415.5	434.7
67.5°	219.3	225.0	240.4	258.7	280.8	303.9	327.9	351.0	372.2	393.3	411.6
70°	188.5	195.2	208.7	228.9	253.9	278.9	303.9	327.0	349.1	369.3	389.5
72.5°	157.7	163.5	179.8	200.0	226.0	252.0	277.0	302.0	324.1	345.3	364.5
75°	125.0	132.7	150.0	174.1	201.0	226.0	252.9	277.0	300.1	321.2	341.4
77.5°	96.2	103.9	122.1	146.2	174.1	202.0	227.9	252.0	275.0	296.2	317.4
80°	66.4	75.0	95.2	121.2	149.1	176.0	202.9	227.9	252.0	273.1	293.3
82.5°	41.4	50.0	72.1	98.1	126.0	153.9	179.8	205.8	228.9	252.0	272.2
85°	20.2	29.8	51.9	78.9	105.8	133.7	160.6	185.6	209.7	231.8	252.0
87.5°	5.8	15.4	37.5	62.5	90.4	118.3	144.3	170.2	193.3	215.4	235.6
90°	0.0	9.6	29.8	53.9	80.8	107.7	134.6	159.6	182.7	204.8	225.0
92.5°	0.0	6.7	25.0	49.0	75.0	101.9	127.9	152.9	176.0	198.1	218.3
95°	0.0	6.7	22.1	45.2	70.2	96.2	122.1	146.2	169.3	191.4	211.6
97.5°	0.0	5.8	20.2	41.4	65.4	90.4	115.4	140.4	163.5	184.6	204.8
100°	0.0	5.8	19.2	38.5	61.5	85.6	109.6	133.7	155.8	177.0	196.2
102.5°	0.0	5.8	18.3	35.6	56.7	79.8	103.9	126.9	149.1	169.3	188.5
105°	0.0	5.8	18.3	34.6	53.9	75.0	98.1	120.2	142.3	162.5	180.8
107.5°	0.0	4.8	17.3	32.7	51.0	71.2	92.3	113.5	134.6	154.8	173.1
110°	0.0	4.8	16.3	31.7	49.0	67.3	86.6	107.7	127.9	146.2	164.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1.0	4.8	15.4	30.8	47.1	64.4	82.7	101.0	120.2	138.5	155.8
115°	1.0	4.8	15.4	28.9	45.2	61.5	77.9	95.2	113.5	130.8	147.1
117.5°	0.0	3.8	14.4	27.9	43.3	58.7	74.1	90.4	106.7	123.1	138.5
120°	1.0	3.8	13.5	26.0	40.4	55.8	71.2	85.6	101.0	116.4	130.8
122.5°	0.0	2.9	12.5	24.0	38.5	52.9	67.3	81.7	95.2	109.6	122.1
125°	1.0	2.9	11.5	23.1	35.6	49.0	63.5	76.9	90.4	102.9	115.4
127.5°	0.0	1.9	9.6	21.2	32.7	45.2	58.7	72.1	84.6	97.1	108.7
130°	0.0	1.9	8.7	19.2	29.8	41.4	53.9	66.4	78.9	91.4	101.9
132.5°	1.0	1.9	7.7	17.3	27.9	38.5	49.0	60.6	72.1	83.7	95.2
135°	1.0	1.0	6.7	15.4	25.0	34.6	44.2	54.8	66.4	76.0	87.5
137.5°	0.0	1.0	5.8	13.5	23.1	31.7	41.4	50.0	59.6	69.2	78.9
140°	1.0	1.0	5.8	11.5	20.2	28.9	37.5	45.2	53.9	62.5	72.1
142.5°	1.0	1.0	4.8	10.6	17.3	26.0	33.7	41.4	49.0	56.7	64.4
145°	1.0	1.0	3.8	9.6	15.4	23.1	29.8	36.5	43.3	50.0	56.7
147.5°	1.0	1.0	3.8	8.7	13.5	20.2	26.9	32.7	39.4	45.2	51.0
150°	1.0	1.0	2.9	6.7	11.5	17.3	23.1	28.9	34.6	39.4	45.2
152.5°	1.0	1.0	1.9	5.8	10.6	14.4	20.2	25.0	29.8	33.7	38.5
155°	1.0	1.0	1.9	4.8	8.7	12.5	16.3	21.2	26.0	29.8	32.7
157.5°	1.0	1.0	1.0	3.8	6.7	10.6	14.4	17.3	21.2	25.0	27.9
160°	1.0	1.0	1.0	2.9	5.8	8.7	11.5	14.4	17.3	20.2	22.1
162.5°	1.0	1.0	1.0	1.9	3.8	6.7	8.7	11.5	13.5	15.4	17.3
165°	1.0	1.0	1.0	1.0	2.9	4.8	6.7	8.7	10.6	11.5	13.5
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	725.1	725.1	725.1	725.1	725.1	725.1	725.1	725.1
2.5°	723.2	725.1	725.1	725.1	725.1	725.1	724.2	723.2
5°	724.2	726.1	727.0	727.0	727.0	727.0	726.1	726.1
7.5°	724.2	727.0	728.0	729.0	729.0	729.0	729.0	728.0
10°	724.2	726.1	728.0	729.0	729.9	729.9	729.9	729.0
12.5°	722.2	725.1	728.0	729.0	729.9	729.9	729.9	729.9
15°	719.4	723.2	726.1	727.0	729.0	729.0	729.0	729.0
17.5°	716.5	720.3	723.2	725.1	727.0	728.0	728.0	727.0
20°	711.7	716.5	719.4	722.2	724.2	725.1	725.1	726.1
22.5°	704.9	710.7	714.5	717.4	719.4	721.3	721.3	721.3
25°	698.2	704.0	707.8	710.7	714.5	715.5	716.5	716.5
27.5°	688.6	695.3	700.1	704.0	706.8	708.8	709.7	710.7
30°	679.9	685.7	691.5	695.3	698.2	700.1	701.1	701.1
32.5°	668.4	675.1	680.9	685.7	688.6	691.5	692.4	692.4
35°	656.8	663.6	669.3	674.2	678.0	680.9	682.8	682.8
37.5°	642.4	650.1	656.8	662.6	666.5	670.3	672.2	671.3
40°	628.0	635.7	644.3	650.1	654.9	657.8	660.7	660.7
42.5°	613.6	623.2	629.9	637.6	643.4	647.2	649.1	651.1
45°	597.2	607.8	616.4	624.1	629.9	633.8	636.6	637.6
47.5°	581.8	593.4	603.0	610.7	617.4	621.3	624.1	625.1
50°	566.4	578.0	587.6	596.3	603.9	607.8	610.7	611.6
52.5°	549.1	560.7	572.2	581.8	587.6	592.4	596.3	596.3
55°	530.9	544.3	555.9	565.5	573.2	577.0	580.9	581.8
57.5°	512.6	525.1	537.6	547.2	554.9	560.7	563.6	564.5
60°	494.3	507.8	519.3	528.9	536.6	541.4	545.3	546.2
62.5°	472.2	487.6	499.1	509.7	516.4	523.2	527.0	527.0
65°	451.0	464.5	477.0	487.6	497.2	502.0	505.9	506.8
67.5°	428.0	442.4	455.8	466.4	475.1	480.8	484.7	484.7
70°	405.8	420.3	433.7	444.3	453.0	457.8	462.6	463.5
72.5°	381.8	397.2	410.6	421.2	429.9	435.7	439.5	440.5
75°	357.8	373.1	387.6	397.2	407.8	413.5	417.4	418.3
77.5°	334.7	351.0	364.5	375.1	384.7	390.5	394.3	397.2
80°	312.6	328.9	341.4	352.9	361.6	368.3	371.2	373.1
82.5°	290.4	305.8	321.2	331.8	340.4	347.2	351.0	352.0
85°	271.2	286.6	300.1	312.6	322.2	327.9	331.8	332.7
87.5°	253.9	270.2	284.7	295.2	304.9	311.6	315.4	316.4
90°	243.3	259.7	273.1	284.7	294.3	300.1	303.9	304.9
92.5°	236.6	252.9	266.4	277.9	286.6	292.4	296.2	297.2
95°	228.9	245.2	258.7	270.2	278.9	285.6	289.5	290.4
97.5°	222.2	238.5	252.0	263.5	271.2	277.9	281.8	282.7
100°	214.5	229.8	243.3	254.9	263.5	269.3	273.1	274.1
102.5°	205.8	221.2	234.7	246.2	254.9	260.6	264.5	265.4
105°	198.1	212.5	226.0	237.5	246.2	251.0	255.8	256.8
107.5°	189.5	203.9	217.3	227.0	235.6	242.3	245.2	247.2
110°	179.8	195.2	207.7	217.3	226.0	231.8	235.6	236.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	171.2	185.6	198.1	207.7	215.4	221.2	225.0	226.0
115°	162.5	176.0	187.5	197.1	204.8	210.6	213.5	215.4
117.5°	152.9	166.4	177.0	186.6	194.3	200.0	202.9	202.9
120°	144.3	156.8	167.3	176.0	183.7	188.5	192.3	193.3
122.5°	135.6	147.1	156.8	165.4	172.1	177.0	180.8	180.8
125°	126.9	137.5	147.1	154.8	161.6	166.4	169.3	170.2
127.5°	119.3	128.9	137.5	145.2	151.0	154.8	158.7	158.7
130°	111.6	121.2	128.9	135.6	140.4	145.2	147.1	148.1
132.5°	104.8	113.5	120.2	126.0	130.8	134.6	137.5	138.5
135°	97.1	105.8	112.5	118.3	122.1	125.0	127.9	127.9
137.5°	89.4	99.1	104.8	110.6	113.5	117.3	119.3	119.3
140°	80.8	89.4	98.1	102.9	105.8	108.7	110.6	111.6
142.5°	72.1	80.8	89.4	94.2	98.1	100.0	101.9	101.9
145°	64.4	72.1	78.9	85.6	89.4	91.4	93.3	93.3
147.5°	56.7	62.5	69.2	76.9	80.8	82.7	84.6	84.6
150°	50.0	54.8	60.6	66.4	72.1	74.1	75.0	76.0
152.5°	43.3	48.1	51.9	57.7	63.5	65.4	67.3	67.3
155°	36.5	40.4	44.2	48.1	53.9	57.7	58.7	58.7
157.5°	30.8	33.7	37.5	40.4	44.2	49.0	50.0	51.0
160°	24.0	27.9	29.8	32.7	35.6	40.4	42.3	42.3
162.5°	19.2	21.2	23.1	25.0	26.9	29.8	33.7	34.6
165°	14.4	15.4	16.3	17.3	19.2	21.2	25.0	26.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)