

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: P176116

Luminaire Tested: **4BCLED-LD4-32SL-F-UNV-L840-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P176116  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4BCLED-LD4-32SL-F-UNV-L840-CD1-U  
Description: METALUX 4FT BC LED WALL BRACKET CORRIDOR LUMINAIRE WITH A  
Light Source: (112) COOPER LIGHTING 4000K LEDS  
Ballast/Driver: (1) ELECTRONIC DRIVER

**Summary**

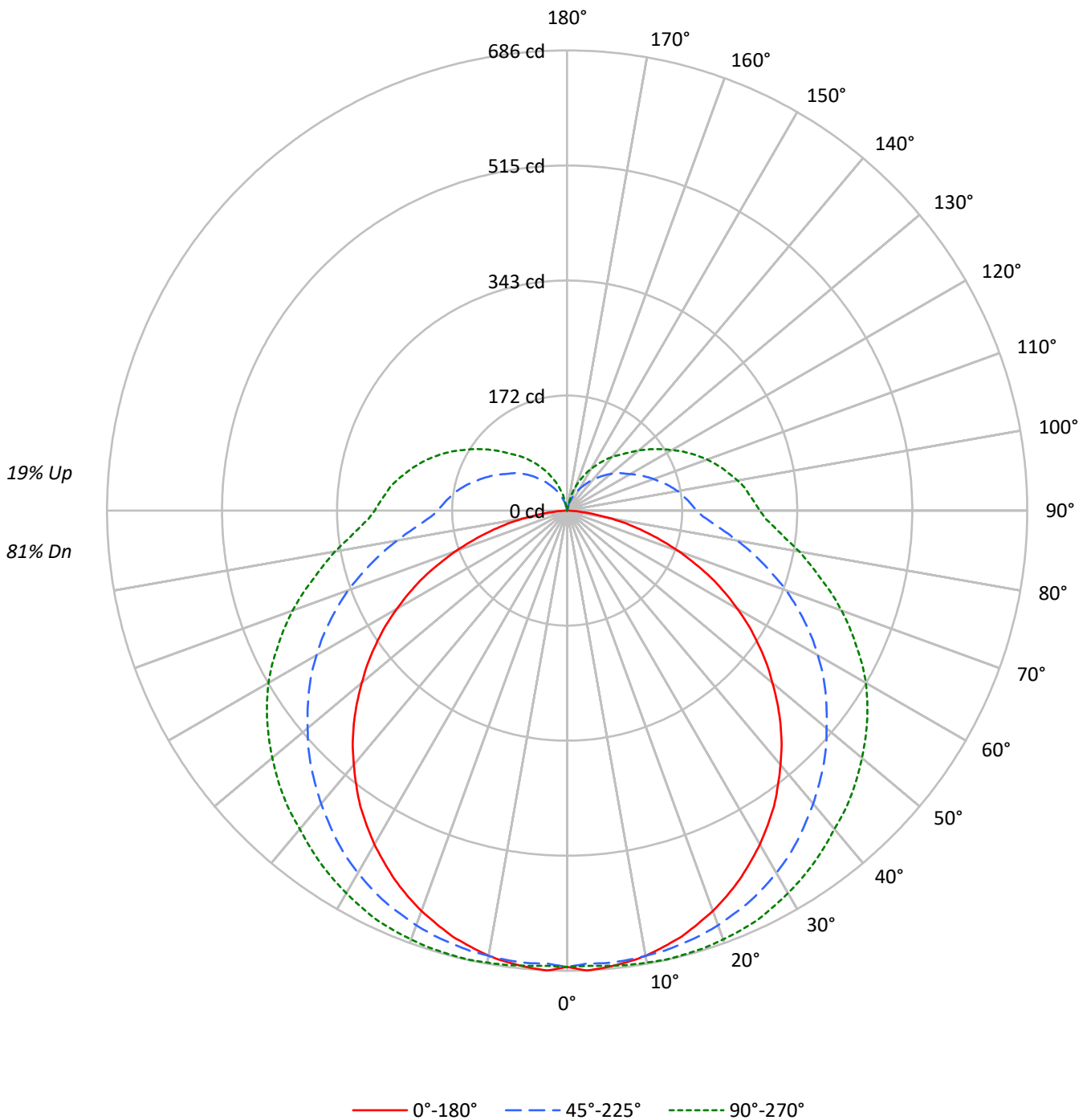
Lumens per Lamp: N/A  
Luminaire Lumens: 3248.5 lumens  
Efficiency: N/A  
Efficacy: 100.0 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.44 / 1.51  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 4' x H: 0.25')  
CIE Type: Semi-Direct

Input Watts (W): 32.5  
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	38	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°	4881	4881	4881
5°	4895	4667	4636
10°	4858	4503	4462
15°	4806	4360	4313
20°	4742	4229	4180
25°	4674	4106	4065
30°	4596	3984	3941
35°	4514	3857	3830
40°	4404	3731	3723
45°	4295	3615	3649
50°	4151	3492	3569
55°	4000	3388	3499
60°	3794	3270	3425
65°	3543	3147	3322
70°	3155	3015	3226
75°	2648	2856	3110
80°	1907	2708	3037
85°	884	2606	2984



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.9	2.0
10°-20°	189.7	5.8
20°-30°	296.7	9.1
30°-40°	372.9	11.5
40°-50°	412.0	12.7
50°-60°	411.9	12.7
60°-70°	371.5	11.4
70°-80°	298.0	9.2
80°-90°	217.4	6.7
90°-100°	175.7	5.4
100°-110°	145.9	4.5
110°-120°	113.1	3.5
120°-130°	80.8	2.5
130°-140°	52.4	1.6
140°-150°	29.8	0.9
150°-160°	13.1	0.4
160°-170°	2.7	0.1
170°-180°	0.0	0.0
0°-30°	551.3	17.0
0°-40°	924.2	28.5
0°-60°	1748.2	53.8
0°-90°	2635.0	81.1
90°-120°	434.6	13.4
90°-150°	597.7	18.4
90°-180°	613.0	18.9
0°-180°	3248.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	680	680	680	680	680	
5°	683	681	677	682	681	65
15°	658	662	668	682	684	185
25°	608	622	643	666	673	280
35°	538	563	599	631	641	336
45°	450	488	540	583	599	347
55°	348	398	470	526	546	311
65°	237	300	390	454	475	233
75°	118	200	301	369	391	125
85°	18	113	218	288	312	25
90°	0	89	193	262	287	1
95°	0	78	180	248	272	0
105°	0	60	153	217	241	0
115°	0	50	123	181	202	0
125°	0	40	97	142	160	0
135°	0	28	73	108	120	0
145°	1	18	48	78	88	0
155°	1	10	28	44	55	0
165°	1	3	11	16	24	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°	680.2	680.2	680.2	680.2	680.2	680.2	680.2	680.2	680.2	680.2	680.2
2.5°	686.3	685.3	683.3	682.3	682.3	682.3	682.3	680.2	678.2	676.1	677.1
5°	683.3	682.3	680.2	680.2	681.2	681.2	681.2	680.2	678.2	677.1	677.1
7.5°	679.2	678.2	677.1	677.1	678.2	679.2	679.2	678.2	677.1	676.1	677.1
10°	674.1	672.0	671.0	671.0	673.0	675.1	675.1	676.1	675.1	674.1	676.1
12.5°	665.9	665.9	664.8	665.9	667.9	670.0	671.0	672.0	672.0	672.0	675.1
15°	657.7	656.6	656.6	658.7	660.7	663.8	665.9	666.9	666.9	667.9	672.0
17.5°	646.4	646.4	647.4	648.4	652.5	655.6	658.7	659.7	661.8	663.8	667.9
20°	635.1	635.1	636.2	638.2	642.3	647.4	650.5	652.5	654.6	657.7	662.8
22.5°	621.8	621.8	623.9	626.9	631.0	636.2	640.2	644.3	647.4	650.5	656.6
25°	607.5	608.5	610.5	613.6	619.8	624.9	630.0	634.1	638.2	643.3	649.5
27.5°	591.1	592.1	594.2	599.3	606.4	612.6	618.7	623.9	628.0	634.1	640.2
30°	574.7	575.7	577.8	583.9	592.1	599.3	606.4	611.6	616.7	623.9	631.0
32.5°	556.2	557.3	561.4	567.5	575.7	583.9	591.1	598.2	604.4	612.6	619.8
35°	537.8	537.8	542.9	549.1	558.3	567.5	575.7	582.9	590.1	599.3	607.5
37.5°	516.3	518.3	523.5	531.7	540.9	550.1	559.3	566.5	575.7	584.9	594.2
40°	494.8	496.8	502.0	511.2	522.4	532.7	541.9	551.1	560.3	570.6	579.8
42.5°	473.3	476.3	480.4	490.7	503.0	513.2	523.5	533.7	545.0	555.2	565.5
45°	449.7	452.8	458.9	470.2	482.5	493.8	504.0	515.3	527.6	539.9	551.1
47.5°	425.1	429.2	436.4	446.6	460.0	472.2	484.5	496.8	510.2	523.5	534.7
50°	399.5	402.6	410.8	424.1	438.4	451.8	464.1	477.4	491.7	505.0	518.3
52.5°	374.9	378.0	387.2	401.6	414.9	429.2	443.6	457.9	473.3	487.6	502.0
55°	348.3	352.4	362.6	376.0	390.3	406.7	421.0	437.4	453.8	470.2	484.5
57.5°	321.7	325.8	336.0	350.3	366.7	383.1	398.5	416.9	434.3	451.8	467.1
60°	293.0	298.1	308.3	323.7	341.1	359.6	376.0	395.4	413.9	431.3	448.7
62.5°	265.3	270.4	281.7	298.1	315.5	334.0	354.4	374.9	393.4	411.8	428.2
65°	236.6	241.8	254.1	270.4	288.9	310.4	330.9	352.4	371.9	390.3	407.7
67.5°	205.9	212.1	224.3	242.8	263.3	285.8	308.3	328.8	350.3	368.8	387.2
70°	176.2	183.4	196.7	215.1	237.7	262.2	283.8	306.3	326.8	347.3	363.7
72.5°	146.5	153.7	169.0	188.5	212.1	236.6	261.2	282.7	304.2	323.7	342.1
75°	117.8	125.0	141.4	162.9	187.5	213.1	236.6	260.2	281.7	301.2	319.6
77.5°	91.2	97.3	114.7	137.3	163.9	188.5	213.1	236.6	259.2	279.7	297.1
80°	62.5	70.7	90.1	114.7	140.3	166.0	190.5	214.1	236.6	257.1	275.6
82.5°	38.9	47.1	68.6	93.2	117.8	144.4	169.0	192.6	215.1	236.6	255.1
85°	18.4	28.7	48.1	73.8	99.4	126.0	150.6	174.1	196.7	218.2	236.6
87.5°	5.1	14.3	34.8	59.4	85.0	110.6	136.2	159.8	182.3	202.8	221.3
90°	0.0	8.2	27.7	51.2	75.8	101.4	126.0	149.6	172.1	192.6	211.0
92.5°	0.0	7.2	23.6	46.1	70.7	96.3	120.9	143.4	166.0	186.4	204.9
95°	0.0	6.1	21.5	42.0	65.6	90.1	114.7	137.3	159.8	180.3	198.7
97.5°	0.0	6.1	19.5	38.9	61.5	86.0	108.6	131.1	153.7	173.1	191.6
100°	0.0	5.1	18.4	35.9	57.4	79.9	103.5	125.0	146.5	167.0	184.4
102.5°	0.0	5.1	17.4	33.8	53.3	75.8	97.3	118.8	139.3	159.8	177.2
105°	0.0	5.1	16.4	31.8	50.2	70.7	92.2	112.7	133.2	152.6	170.1
107.5°	0.0	5.1	16.4	30.7	48.1	66.6	87.1	106.5	126.0	144.4	161.9
110°	0.0	4.1	15.4	29.7	46.1	63.5	82.0	100.4	119.9	137.3	154.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	0.0	4.1	15.4	28.7	44.0	60.4	76.8	95.3	112.7	130.1	146.5
115°	0.0	4.1	14.3	27.7	42.0	57.4	73.8	90.1	106.5	122.9	138.3
117.5°	0.0	4.1	13.3	26.6	40.0	55.3	69.7	85.0	100.4	115.8	130.1
120°	0.0	3.1	12.3	24.6	38.9	52.2	66.6	80.9	95.3	108.6	122.9
122.5°	0.0	3.1	11.3	23.6	35.9	50.2	63.5	76.8	89.1	102.4	115.8
125°	0.0	3.1	10.2	21.5	33.8	46.1	59.4	72.7	85.0	97.3	108.6
127.5°	0.0	2.0	9.2	19.5	30.7	43.0	55.3	67.6	79.9	91.2	101.4
130°	0.0	2.0	8.2	17.4	28.7	40.0	51.2	62.5	73.8	85.0	96.3
132.5°	0.0	1.0	7.2	16.4	25.6	36.9	47.1	57.4	67.6	78.9	89.1
135°	0.0	1.0	6.1	14.3	23.6	32.8	43.0	52.2	62.5	72.7	82.0
137.5°	0.0	1.0	6.1	12.3	21.5	30.7	38.9	48.1	57.4	65.6	74.8
140°	0.0	1.0	5.1	11.3	18.4	27.7	35.9	43.0	51.2	59.4	67.6
142.5°	0.0	1.0	4.1	10.2	16.4	24.6	31.8	38.9	46.1	54.3	61.5
145°	1.0	1.0	4.1	9.2	14.3	21.5	28.7	34.8	42.0	48.1	54.3
147.5°	1.0	1.0	3.1	8.2	12.3	18.4	25.6	30.7	36.9	43.0	48.1
150°	1.0	1.0	3.1	7.2	11.3	16.4	21.5	27.7	31.8	37.9	42.0
152.5°	1.0	1.0	2.0	5.1	9.2	14.3	18.4	23.6	28.7	32.8	36.9
155°	1.0	1.0	2.0	4.1	8.2	12.3	15.4	20.5	23.6	27.7	30.7
157.5°	1.0	1.0	1.0	3.1	6.1	10.2	13.3	16.4	19.5	22.5	25.6
160°	1.0	1.0	1.0	2.0	5.1	8.2	10.2	13.3	16.4	18.4	20.5
162.5°	1.0	1.0	1.0	2.0	3.1	6.1	8.2	10.2	12.3	14.3	16.4
165°	1.0	1.0	1.0	1.0	2.0	4.1	6.1	8.2	9.2	11.3	12.3
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°	680.2	680.2	680.2	680.2	680.2	680.2	680.2	680.2
2.5°	678.2	680.2	681.2	681.2	680.2	680.2	680.2	679.2
5°	679.2	681.2	682.3	682.3	683.3	682.3	682.3	681.2
7.5°	679.2	682.3	683.3	683.3	684.3	684.3	683.3	683.3
10°	679.2	682.3	683.3	684.3	685.3	685.3	685.3	684.3
12.5°	678.2	681.2	683.3	684.3	685.3	685.3	685.3	685.3
15°	676.1	679.2	681.2	683.3	684.3	685.3	685.3	684.3
17.5°	672.0	676.1	678.2	680.2	682.3	683.3	683.3	683.3
20°	667.9	672.0	675.1	678.2	679.2	680.2	681.2	680.2
22.5°	661.8	666.9	670.0	673.0	675.1	676.1	677.1	677.1
25°	654.6	660.7	664.8	667.9	670.0	672.0	673.0	673.0
27.5°	646.4	652.5	657.7	661.8	663.8	665.9	665.9	665.9
30°	637.2	644.3	649.5	652.5	655.6	658.7	658.7	658.7
32.5°	626.9	633.1	639.2	643.3	646.4	648.4	650.5	650.5
35°	615.7	621.8	629.0	633.1	636.2	639.2	640.2	641.3
37.5°	603.4	610.5	616.7	621.8	625.9	629.0	631.0	631.0
40°	589.0	598.2	604.4	610.5	615.7	618.7	619.8	619.8
42.5°	575.7	584.9	592.1	598.2	603.4	607.5	609.5	610.5
45°	560.3	571.6	578.8	587.0	592.1	596.2	598.2	599.3
47.5°	546.0	557.3	565.5	573.7	578.8	583.9	586.0	587.0
50°	530.6	541.9	552.2	559.3	566.5	570.6	573.7	573.7
52.5°	516.3	527.6	536.8	545.0	553.2	557.3	559.3	560.3
55°	498.9	511.2	521.4	530.6	537.8	541.9	545.0	546.0
57.5°	482.5	493.8	505.0	514.2	521.4	526.5	529.6	530.6
60°	463.0	476.3	487.6	496.8	504.0	509.1	512.2	514.2
62.5°	443.6	455.9	469.2	478.4	485.6	490.7	493.8	495.8
65°	423.1	437.4	448.7	458.9	466.1	471.2	474.3	475.3
67.5°	401.6	415.9	428.2	438.4	446.6	451.8	454.8	455.9
70°	381.1	394.4	407.7	418.0	425.1	430.2	434.3	435.4
72.5°	358.5	371.9	385.2	395.4	403.6	409.8	411.8	413.9
75°	336.0	351.4	363.7	373.9	382.1	388.2	391.3	391.3
77.5°	314.5	329.9	342.1	353.4	361.6	367.8	370.8	370.8
80°	293.0	307.3	320.6	330.9	340.1	346.2	349.3	351.4
82.5°	272.5	287.9	301.2	311.4	319.6	325.8	328.8	329.9
85°	254.1	269.4	282.7	293.0	301.2	308.3	310.4	312.4
87.5°	238.7	254.1	267.4	277.6	285.8	292.0	296.1	297.1
90°	228.4	243.8	257.1	267.4	276.6	282.7	285.8	286.8
92.5°	222.3	236.6	250.0	261.2	269.4	274.5	278.6	279.7
95°	215.1	230.5	242.8	254.1	262.2	268.4	271.5	272.5
97.5°	209.0	223.3	235.6	246.9	255.1	261.2	264.3	266.3
100°	201.8	216.1	228.4	238.7	246.9	253.0	256.1	258.1
102.5°	193.6	208.0	220.2	230.5	238.7	244.8	247.9	248.9
105°	185.4	199.8	212.1	222.3	230.5	235.6	239.7	240.7
107.5°	178.2	191.6	203.9	214.1	221.3	227.4	230.5	231.5
110°	169.0	183.4	194.6	204.9	212.1	217.2	221.3	222.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	160.8	174.1	185.4	194.6	202.8	208.0	211.0	212.1
115°	152.6	164.9	176.2	185.4	192.6	197.7	200.8	201.8
117.5°	143.4	155.7	167.0	175.2	182.3	187.5	190.5	191.6
120°	135.2	147.5	156.7	164.9	172.1	177.2	180.3	180.3
122.5°	127.0	138.3	147.5	155.7	161.9	167.0	169.0	170.1
125°	118.8	129.1	138.3	145.5	151.6	156.7	158.8	159.8
127.5°	111.7	120.9	129.1	136.2	141.4	146.5	148.5	149.6
130°	105.5	113.7	120.9	128.0	132.1	136.2	138.3	139.3
132.5°	98.3	106.5	112.7	118.8	122.9	127.0	129.1	129.1
135°	92.2	99.4	105.5	110.6	114.7	117.8	119.9	119.9
137.5°	84.0	92.2	99.4	103.5	107.6	109.6	111.7	111.7
140°	75.8	85.0	91.2	96.3	99.4	102.4	103.5	104.5
142.5°	68.6	75.8	84.0	89.1	92.2	94.2	96.3	96.3
145°	61.5	67.6	74.8	82.0	84.0	86.0	88.1	88.1
147.5°	54.3	60.4	66.6	72.7	76.8	77.9	79.9	79.9
150°	47.1	52.2	58.4	63.5	68.6	70.7	71.7	71.7
152.5°	41.0	45.1	50.2	54.3	60.4	62.5	63.5	64.5
155°	34.8	38.9	42.0	46.1	51.2	55.3	55.3	55.3
157.5°	28.7	31.8	34.8	37.9	42.0	46.1	47.1	48.1
160°	23.6	25.6	27.7	30.7	32.8	37.9	40.0	40.0
162.5°	17.4	19.5	21.5	23.6	25.6	27.7	31.8	31.8
165°	13.3	14.3	15.4	16.4	18.4	19.5	23.6	23.6
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)