

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: P176130

Luminaire Tested: **2BCLED-LD4-28HL-F-UNV-L840-CD1-U**

Test Date: 04/06/15



Test Information

Test Method: LM-79-08
Report Number: P176130
Test Lab: INNOVATION CENTER-P3
Test Date: 04/06/15
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 2BCLED-LD4-28HL-F-UNV-L840-CD1-U
Description: METALUX 2FT BC LED WALL BRACKET CORRIDOR LUMINAIRE WITH A WHITE
Light Source: (112) COOPER LIGHTING 4000K LEDS
Ballast/Driver: (1) ELECTRONIC DRIVER

Summary

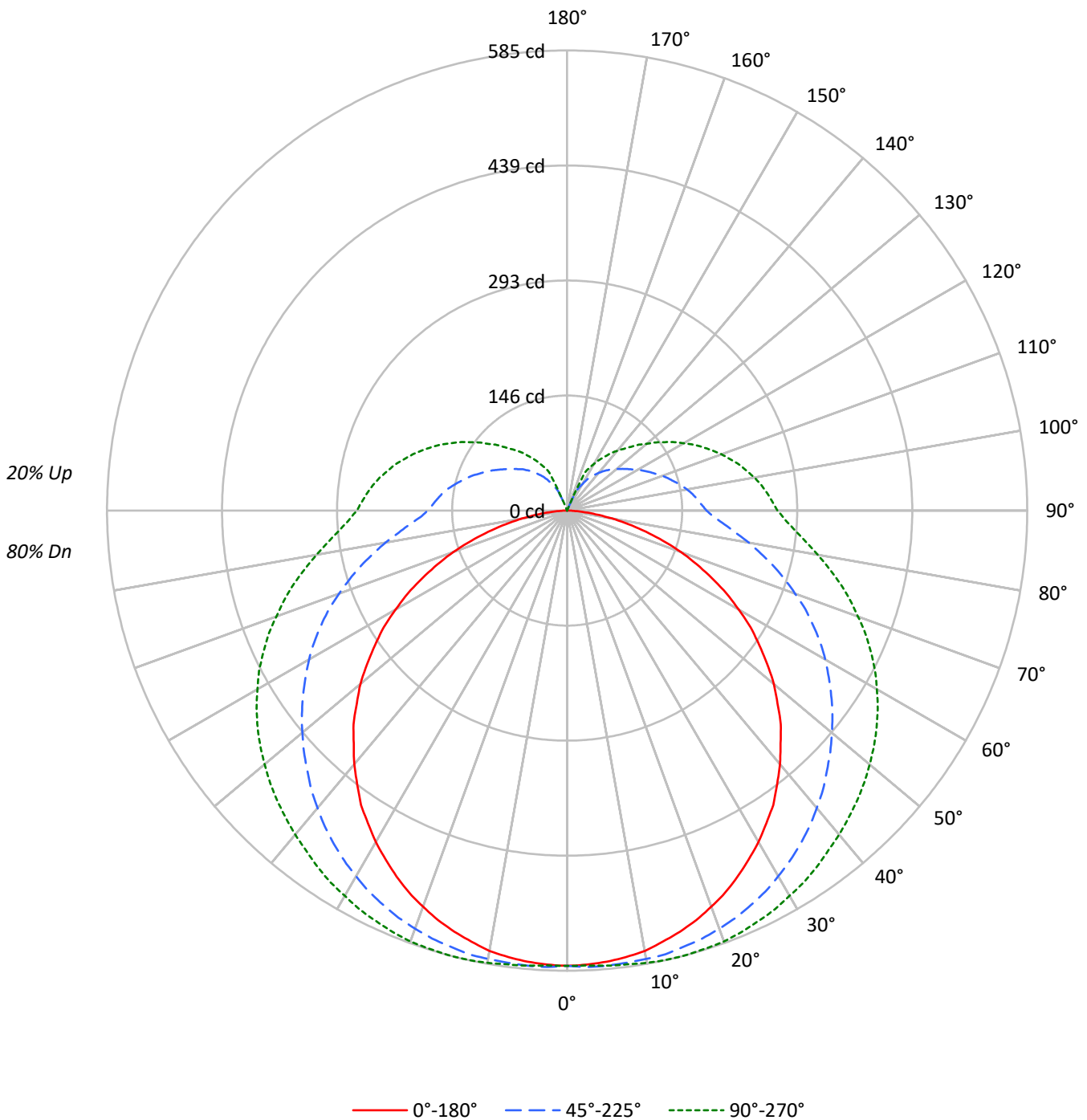
Lumens per Lamp: N/A
Luminaire Lumens: 2878.4 lumens
Efficiency: N/A
Efficacy: 98.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.46 / 1.53
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 2' x H: 0.21')
CIE Type: Semi-Direct

Input Watts (W): 29.1
Input Voltage (V): NR
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	114	114	114	114	109	109	109	109	100	100	100	92	92	92	84	84	84	80
1	101	95	90	85	96	91	86	82	83	79	76	76	73	70	69	67	64	61
2	91	82	74	67	86	78	71	65	71	65	60	65	60	56	59	55	52	48
3	82	71	62	54	78	67	59	53	62	55	49	56	51	46	51	47	43	39
4	75	62	53	45	71	59	51	44	54	47	41	49	43	38	45	40	36	33
5	68	55	45	38	65	53	44	37	48	41	35	44	38	33	40	35	31	28
6	63	49	40	33	60	47	38	32	43	36	30	40	33	28	36	31	27	24
7	58	44	35	29	55	42	34	28	39	32	26	36	30	25	33	28	23	21
8	54	40	31	25	51	39	30	25	36	28	23	33	27	22	30	25	21	19
9	50	37	28	23	48	35	27	22	33	26	21	30	24	20	28	23	19	17
10	47	34	26	20	45	32	25	20	30	23	19	28	22	18	26	21	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8307	8307	8307
5°	8219	8039	7980
10°	8135	7794	7750
15°	8011	7577	7564
20°	7884	7383	7405
25°	7750	7195	7241
30°	7607	7008	7096
35°	7461	6832	6978
40°	7253	6649	6872
45°	7062	6465	6803
50°	6817	6307	6744
55°	6493	6154	6703
60°	6128	6017	6653
65°	5629	5860	6605
70°	5014	5670	6534
75°	4133	5493	6488
80°	2982	5319	6446
85°	1466	5222	6517



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.2	1.9
10°-20°	161.7	5.6
20°-30°	253.5	8.8
30°-40°	320.4	11.1
40°-50°	356.1	12.4
50°-60°	359.2	12.5
60°-70°	328.2	11.4
70°-80°	268.9	9.3
80°-90°	201.0	7.0
90°-100°	163.3	5.7
100°-110°	136.6	4.7
110°-120°	106.5	3.7
120°-130°	77.0	2.7
130°-140°	51.2	1.8
140°-150°	29.7	1.0
150°-160°	9.7	0.3
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	470.5	16.3
0°-40°	790.9	27.5
0°-60°	1506.2	52.3
0°-90°	2304.4	80.1
90°-120°	406.4	14.1
90°-150°	564.3	19.6
90°-180°	574.0	19.9
0°-180°	2878.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	579	579	579	579	579	
5°	576	577	581	581	581	55
15°	554	561	574	582	585	156
25°	513	529	553	571	576	237
35°	457	480	517	544	553	285
45°	384	417	467	507	521	295
55°	298	343	410	462	480	267
65°	203	261	345	404	426	201
75°	104	178	272	336	360	110
85°	20	104	201	267	291	24
90°	1	81	177	244	267	2
95°	1	73	166	232	255	0
105°	0	57	141	203	226	0
115°	0	47	116	170	190	0
125°	0	39	92	136	152	0
135°	0	30	73	104	115	0
145°	0	18	52	76	84	0
155°	0	8	28	48	53	0
165°	0	0	0	0	0	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°	578.8	578.8	578.8	578.8	578.8	578.8	578.8	578.8	578.8	578.8	578.8
2.5°	577.8	577.8	577.8	577.8	577.8	578.8	579.8	579.8	579.8	580.8	580.8
5°	575.7	575.7	575.7	575.7	576.7	577.8	578.8	578.8	579.8	580.8	580.8
7.5°	572.6	572.6	572.6	572.6	574.7	575.7	576.7	577.8	578.8	579.8	580.8
10°	568.5	568.5	568.5	569.6	570.6	572.6	574.7	575.7	577.8	578.8	580.8
12.5°	561.4	562.4	562.4	563.4	565.5	568.5	570.6	572.6	574.7	577.8	578.8
15°	554.2	554.2	555.2	557.3	560.3	562.4	565.5	568.5	571.6	573.7	575.7
17.5°	546.0	546.0	547.0	550.1	553.2	556.2	560.3	563.4	566.5	570.6	573.7
20°	535.8	536.8	538.8	541.9	545.0	549.1	553.2	557.3	561.4	565.5	569.6
22.5°	525.5	526.5	528.6	531.7	535.8	540.9	546.0	550.1	555.2	560.3	564.4
25°	513.2	514.2	517.3	520.4	525.5	531.7	535.8	542.9	548.1	553.2	558.3
27.5°	499.9	500.9	504.0	509.1	515.3	520.4	527.6	533.7	539.9	546.0	551.1
30°	486.6	487.6	490.7	495.8	502.0	509.1	516.3	523.5	530.6	536.8	542.9
32.5°	471.2	472.2	477.4	483.5	489.7	497.9	505.0	513.2	521.4	527.6	534.7
35°	456.9	456.9	462.0	468.2	476.3	483.5	492.7	500.9	509.1	517.3	524.5
37.5°	438.4	440.5	445.6	452.8	461.0	469.2	479.4	487.6	496.8	506.1	513.2
40°	421.0	423.1	429.2	436.4	445.6	454.8	465.1	474.3	484.5	493.8	502.0
42.5°	401.6	404.6	410.8	419.0	429.2	439.5	449.7	461.0	470.2	481.5	489.7
45°	384.2	385.2	392.3	401.6	411.8	423.1	434.3	445.6	456.9	467.1	478.4
47.5°	362.6	366.7	372.9	383.1	393.4	405.7	416.9	430.2	441.5	453.8	465.1
50°	343.2	346.2	353.4	363.7	376.0	388.2	400.5	413.9	427.2	439.5	451.8
52.5°	320.6	324.7	332.9	344.2	356.5	369.8	383.1	397.5	410.8	425.1	438.4
55°	298.1	302.2	311.4	323.7	336.0	350.3	364.7	380.1	395.4	409.8	424.1
57.5°	276.6	280.7	288.9	301.2	316.5	329.9	347.3	362.6	379.0	394.4	408.7
60°	252.0	257.1	266.3	279.7	295.0	310.4	327.8	345.2	362.6	379.0	393.4
62.5°	228.4	233.6	242.8	257.1	273.5	290.9	308.3	326.8	345.2	362.6	378.0
65°	202.8	209.0	220.2	234.6	251.0	270.4	289.9	308.3	327.8	345.2	360.6
67.5°	178.2	183.4	195.7	212.1	229.5	250.0	270.4	289.9	309.4	327.8	343.2
70°	153.7	158.8	172.1	188.5	208.0	229.5	251.0	270.4	289.9	308.3	325.8
72.5°	128.0	134.2	147.5	166.0	187.5	209.0	230.5	252.0	271.5	289.9	307.3
75°	103.5	109.6	125.0	144.4	167.0	189.5	211.0	232.5	253.0	271.5	288.9
77.5°	79.9	87.1	102.4	124.0	146.5	169.0	191.6	213.1	233.6	252.0	270.4
80°	57.4	64.5	82.0	103.5	127.0	149.6	173.1	193.6	215.1	234.6	252.0
82.5°	36.9	44.0	62.5	85.0	108.6	132.1	154.7	176.2	196.7	216.1	234.6
85°	19.5	27.7	46.1	68.6	92.2	115.8	138.3	160.8	181.3	200.8	218.2
87.5°	8.2	15.4	33.8	55.3	78.9	101.4	125.0	146.5	167.0	186.4	204.9
90°	1.0	9.2	25.6	47.1	69.7	93.2	115.8	137.3	158.8	177.2	195.7
92.5°	1.0	7.2	22.5	43.0	65.6	88.1	110.6	132.1	152.6	171.1	189.5
95°	1.0	6.1	19.5	38.9	61.5	84.0	105.5	127.0	147.5	166.0	183.4
97.5°	0.0	5.1	18.4	35.9	57.4	78.9	100.4	121.9	141.4	160.8	178.2
100°	0.0	5.1	17.4	33.8	53.3	74.8	95.3	116.8	136.2	154.7	172.1
102.5°	0.0	5.1	16.4	31.8	50.2	70.7	90.1	110.6	130.1	148.5	164.9
105°	0.0	5.1	15.4	29.7	47.1	66.6	86.0	105.5	124.0	141.4	158.8
107.5°	0.0	4.1	15.4	28.7	45.1	62.5	80.9	99.4	118.8	135.2	151.6
110°	0.0	4.1	14.3	27.7	43.0	59.4	76.8	94.2	111.7	129.1	144.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	0.0	4.1	13.3	26.6	41.0	56.3	72.7	89.1	106.5	121.9	137.3
115°	0.0	3.1	13.3	25.6	38.9	54.3	68.6	84.0	100.4	115.8	130.1
117.5°	0.0	3.1	12.3	24.6	37.9	51.2	65.6	79.9	95.3	109.6	122.9
120°	0.0	3.1	11.3	23.6	35.9	49.2	62.5	75.8	90.1	103.5	115.8
122.5°	0.0	2.0	11.3	21.5	33.8	47.1	59.4	72.7	85.0	97.3	109.6
125°	0.0	2.0	10.2	20.5	32.8	45.1	57.4	68.6	80.9	92.2	103.5
127.5°	0.0	2.0	9.2	19.5	30.7	42.0	54.3	65.6	76.8	87.1	97.3
130°	0.0	2.0	8.2	17.4	28.7	40.0	51.2	61.5	72.7	82.0	91.2
132.5°	0.0	1.0	7.2	16.4	26.6	36.9	48.1	58.4	68.6	77.9	86.0
135°	0.0	1.0	6.1	14.3	24.6	34.8	44.0	54.3	63.5	72.7	80.9
137.5°	0.0	1.0	5.1	13.3	22.5	31.8	41.0	50.2	59.4	67.6	75.8
140°	0.0	1.0	4.1	11.3	19.5	28.7	37.9	46.1	55.3	62.5	70.7
142.5°	0.0	1.0	4.1	9.2	17.4	24.6	32.8	42.0	50.2	57.4	64.5
145°	0.0	1.0	3.1	8.2	14.3	21.5	29.7	36.9	44.0	52.2	59.4
147.5°	1.0	1.0	2.0	6.1	12.3	18.4	25.6	31.8	38.9	46.1	52.2
150°	1.0	0.0	2.0	5.1	9.2	15.4	21.5	27.7	32.8	38.9	46.1
152.5°	1.0	1.0	1.0	4.1	8.2	12.3	17.4	23.6	28.7	33.8	38.9
155°	0.0	1.0	1.0	3.1	6.1	9.2	14.3	18.4	23.6	27.7	32.8
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	578.8	578.8	578.8	578.8	578.8	578.8	578.8	578.8
2.5°	580.8	579.8	579.8	579.8	578.8	578.8	578.8	578.8
5°	580.8	580.8	580.8	580.8	580.8	580.8	580.8	580.8
7.5°	581.9	581.9	581.9	581.9	581.9	581.9	581.9	581.9
10°	581.9	582.9	582.9	583.9	583.9	583.9	583.9	583.9
12.5°	580.8	581.9	582.9	583.9	584.9	584.9	584.9	584.9
15°	578.8	580.8	581.9	582.9	583.9	583.9	584.9	584.9
17.5°	575.7	578.8	580.8	581.9	582.9	582.9	583.9	583.9
20°	572.6	575.7	577.8	579.8	580.8	581.9	582.9	582.9
22.5°	568.5	571.6	574.7	576.7	577.8	579.8	579.8	579.8
25°	562.4	566.5	569.6	572.6	573.7	574.7	575.7	575.7
27.5°	556.2	560.3	564.4	566.5	568.5	570.6	571.6	571.6
30°	549.1	553.2	557.3	560.3	563.4	565.5	565.5	565.5
32.5°	540.9	547.0	551.1	554.2	557.3	559.3	560.3	560.3
35°	531.7	537.8	542.9	546.0	550.1	552.2	553.2	553.2
37.5°	521.4	527.6	532.7	537.8	541.9	544.0	545.0	545.0
40°	510.2	517.3	523.5	528.6	532.7	535.8	537.8	537.8
42.5°	498.9	507.1	513.2	519.4	523.5	527.6	528.6	529.6
45°	487.6	495.8	504.0	510.2	514.2	518.3	520.4	521.4
47.5°	475.3	484.5	492.7	499.9	505.0	509.1	511.2	512.2
50°	463.0	473.3	481.5	488.6	494.8	498.9	500.9	502.0
52.5°	450.7	461.0	470.2	478.4	484.5	488.6	490.7	491.7
55°	436.4	448.7	457.9	466.1	472.2	477.4	479.4	480.4
57.5°	423.1	434.3	445.6	453.8	460.0	465.1	468.2	468.2
60°	407.7	420.0	431.3	439.5	446.6	451.8	453.8	454.8
62.5°	392.3	404.6	415.9	425.1	432.3	437.4	440.5	441.5
65°	376.0	388.2	399.5	408.7	416.9	421.0	424.1	426.2
67.5°	358.5	371.9	383.1	392.3	400.5	405.7	408.7	410.8
70°	341.1	354.4	365.7	374.9	384.2	389.3	392.3	393.4
72.5°	323.7	337.0	348.3	358.5	366.7	371.9	376.0	377.0
75°	304.2	318.6	330.9	341.1	348.3	354.4	357.5	359.6
77.5°	285.8	300.1	312.4	322.7	330.9	337.0	340.1	341.1
80°	268.4	282.7	295.0	304.2	313.5	318.6	322.7	323.7
82.5°	250.0	265.3	277.6	287.9	296.1	302.2	305.3	306.3
85°	234.6	248.9	262.2	272.5	280.7	286.8	290.9	290.9
87.5°	221.3	235.6	247.9	259.2	267.4	272.5	276.6	277.6
90°	211.0	226.4	238.7	248.9	257.1	263.3	266.3	267.4
92.5°	204.9	219.2	231.5	242.8	251.0	256.1	260.2	261.2
95°	199.8	214.1	226.4	236.6	244.8	251.0	254.1	255.1
97.5°	194.6	208.0	220.2	230.5	238.7	243.8	247.9	248.9
100°	187.5	201.8	213.1	223.3	231.5	236.6	240.7	241.8
102.5°	180.3	194.6	206.9	216.1	223.3	229.5	232.5	233.6
105°	174.1	187.5	198.7	208.0	216.1	221.3	225.4	226.4
107.5°	167.0	180.3	190.5	200.8	208.0	214.1	217.2	217.2
110°	159.8	172.1	183.4	192.6	199.8	204.9	208.0	209.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	151.6	163.9	174.1	183.4	190.5	195.7	198.7	199.8
115°	143.4	155.7	166.0	174.1	181.3	186.4	189.5	190.5
117.5°	136.2	147.5	157.8	166.0	172.1	177.2	180.3	181.3
120°	128.0	139.3	148.5	156.7	162.9	168.0	170.1	171.1
122.5°	120.9	131.1	140.3	147.5	153.7	157.8	160.8	161.9
125°	113.7	122.9	132.1	139.3	144.4	148.5	151.6	151.6
127.5°	106.5	115.8	124.0	130.1	135.2	139.3	141.4	142.4
130°	100.4	108.6	115.8	121.9	127.0	130.1	132.1	132.1
132.5°	94.2	101.4	108.6	113.7	117.8	120.9	122.9	124.0
135°	88.1	95.3	101.4	106.5	109.6	112.7	114.7	114.7
137.5°	83.0	89.1	94.2	99.4	102.4	105.5	106.5	106.5
140°	76.8	83.0	88.1	92.2	95.3	97.3	99.4	99.4
142.5°	70.7	75.8	80.9	85.0	88.1	90.1	92.2	92.2
145°	64.5	69.7	74.8	77.9	80.9	83.0	84.0	84.0
147.5°	58.4	63.5	67.6	70.7	73.8	74.8	76.8	76.8
150°	51.2	56.3	60.4	63.5	65.6	67.6	68.6	68.6
152.5°	44.0	49.2	53.3	56.3	58.4	59.4	61.5	61.5
155°	36.9	42.0	46.1	49.2	51.2	52.2	53.3	53.3
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)