

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: P176115

Luminaire Tested: **4BCLED-LD4-28SL-F-UNV-L840-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P176115
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4BCLED-LD4-28SL-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

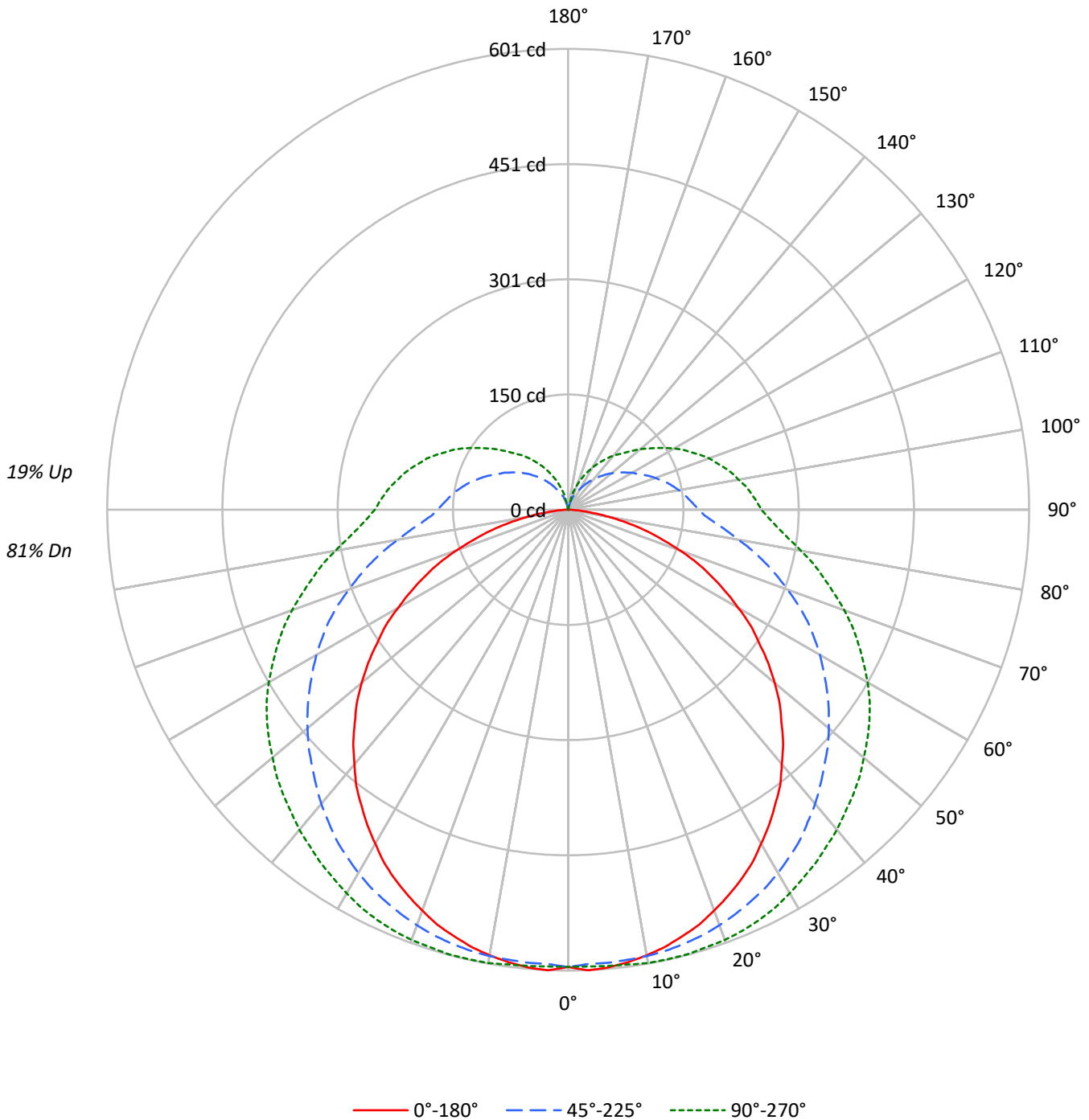
Lumens per Lamp: N/A
Luminaire Lumens: 2851.8 lumens
Efficiency: N/A
Efficacy: 96.7 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.44 / 1.51
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

Input Watts (W): 29.5
Input Voltage (V): NR
Input Current (A_{in}): 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	47	44	40
4	75	62	53	46	71	60	51	44	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	31	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	28	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°	4278	4278	4278
5°	4297	4118	4102
10°	4261	4004	3984
15°	4218	3904	3882
20°	4168	3808	3793
25°	4118	3716	3711
30°	4046	3632	3625
35°	3974	3546	3547
40°	3889	3449	3482
45°	3795	3352	3428
50°	3694	3275	3379
55°	3542	3193	3344
60°	3371	3119	3296
65°	3160	3042	3239
70°	2839	2927	3182
75°	2403	2825	3114
80°	1732	2710	3069
85°	846	2669	3075



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.9	2.0
10°-20°	166.4	5.8
20°-30°	260.2	9.1
30°-40°	327.2	11.5
40°-50°	361.5	12.7
50°-60°	361.4	12.7
60°-70°	326.2	11.4
70°-80°	261.9	9.2
80°-90°	191.4	6.7
90°-100°	154.6	5.4
100°-110°	128.3	4.5
110°-120°	99.5	3.5
120°-130°	70.9	2.5
130°-140°	45.9	1.6
140°-150°	26.0	0.9
150°-160°	11.3	0.4
160°-170°	2.4	0.1
170°-180°	0.0	0.0
0°-30°	483.4	17.0
0°-40°	810.6	28.4
0°-60°	1533.5	53.8
0°-90°	2312.9	81.1
90°-120°	382.4	13.4
90°-150°	525.2	18.4
90°-180°	539.0	18.9
0°-180°	2851.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	596	596	596	596	596	
5°	599	597	593	598	597	57
15°	576	581	586	598	600	163
25°	533	546	563	584	590	245
35°	470	493	526	554	562	294
45°	393	428	472	511	526	304
55°	304	350	412	462	479	273
65°	207	263	344	398	418	204
75°	104	176	265	324	345	109
85°	16	99	192	253	274	21
90°	0	79	170	230	252	1
95°	0	69	158	218	240	0
105°	0	54	134	191	211	0
115°	0	44	108	159	177	0
125°	0	35	85	125	140	0
135°	0	25	62	95	106	0
145°	0	16	42	68	78	0
155°	1	9	24	37	49	0
165°	1	3	10	14	22	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°	596.2	596.2	596.2	596.2	596.2	596.2	596.2	596.2	596.2	596.2	596.2
2.5°	601.3	600.3	599.3	598.2	599.3	599.3	598.2	596.2	595.2	593.1	593.1
5°	599.3	598.2	597.2	596.2	597.2	597.2	596.2	596.2	594.2	593.1	594.2
7.5°	595.2	595.2	594.2	593.1	594.2	595.2	595.2	594.2	593.1	592.1	593.1
10°	590.1	590.1	589.0	589.0	591.1	592.1	592.1	592.1	592.1	591.1	593.1
12.5°	583.9	583.9	582.9	583.9	586.0	587.0	588.0	588.0	589.0	589.0	591.1
15°	575.7	576.7	575.7	576.7	579.8	581.9	583.9	583.9	584.9	586.0	589.0
17.5°	567.5	567.5	567.5	569.6	572.6	574.7	577.8	578.8	579.8	581.9	586.0
20°	556.2	557.3	558.3	560.3	563.4	566.5	569.6	571.6	574.7	576.7	580.8
22.5°	545.0	545.0	547.0	550.1	554.2	558.3	561.4	564.4	567.5	570.6	575.7
25°	532.7	533.7	535.8	538.8	544.0	548.1	552.2	556.2	559.3	563.4	569.6
27.5°	519.4	519.4	521.4	525.5	531.7	536.8	541.9	546.0	551.1	556.2	561.4
30°	503.0	505.0	508.1	512.2	519.4	525.5	530.6	535.8	540.9	547.0	553.2
32.5°	487.6	488.6	491.7	497.9	504.0	512.2	518.3	524.5	529.6	536.8	544.0
35°	470.2	472.2	476.3	482.5	489.7	496.8	505.0	512.2	519.4	526.5	533.7
37.5°	453.8	454.8	458.9	466.1	474.3	483.5	490.7	497.9	505.0	513.2	521.4
40°	433.3	436.4	441.5	448.7	457.9	467.1	475.3	483.5	492.7	500.9	509.1
42.5°	414.9	415.9	422.1	430.2	440.5	449.7	458.9	468.2	477.4	486.6	495.8
45°	393.4	396.4	402.6	411.8	422.1	433.3	442.5	452.8	463.0	472.2	482.5
47.5°	373.9	376.0	383.1	392.3	403.6	414.9	425.1	436.4	448.7	458.9	469.2
50°	351.4	354.4	361.6	371.9	384.2	396.4	407.7	419.0	431.3	443.6	454.8
52.5°	328.8	331.9	340.1	350.3	363.7	376.0	388.2	401.6	414.9	428.2	440.5
55°	304.2	308.3	316.5	328.8	343.2	356.5	369.8	384.2	398.5	411.8	425.1
57.5°	282.7	285.8	294.0	306.3	321.7	336.0	350.3	365.7	381.1	395.4	409.8
60°	256.1	261.2	271.5	284.8	299.1	315.5	330.9	347.3	363.7	379.0	393.4
62.5°	231.5	236.6	245.9	261.2	276.6	293.0	310.4	328.8	346.2	361.6	376.0
65°	206.9	211.0	222.3	237.7	254.1	272.5	290.9	309.4	326.8	344.2	358.5
67.5°	182.3	186.4	197.7	213.1	231.5	251.0	270.4	289.9	307.3	324.7	339.1
70°	154.7	160.8	173.1	189.5	209.0	229.5	250.0	269.4	287.9	304.2	319.6
72.5°	128.0	135.2	148.5	166.0	186.4	208.0	228.4	248.9	268.4	284.8	301.2
75°	103.5	109.6	122.9	143.4	164.9	187.5	208.0	228.4	246.9	265.3	280.7
77.5°	77.9	85.0	100.4	121.9	144.4	167.0	187.5	208.0	227.4	245.9	261.2
80°	54.3	62.5	79.9	100.4	122.9	146.5	168.0	188.5	208.0	225.4	241.8
82.5°	32.8	42.0	59.4	82.0	104.5	127.0	149.6	170.1	189.5	208.0	224.3
85°	16.4	25.6	43.0	65.6	88.1	110.6	133.2	153.7	174.1	191.6	209.0
87.5°	4.1	13.3	30.7	52.2	75.8	98.3	119.9	140.3	159.8	178.2	194.6
90°	0.0	8.2	24.6	45.1	67.6	90.1	111.7	132.1	151.6	170.1	186.4
92.5°	0.0	6.1	21.5	41.0	62.5	84.0	106.5	127.0	145.5	163.9	180.3
95°	0.0	5.1	18.4	37.9	58.4	79.9	100.4	120.9	140.3	157.8	174.1
97.5°	0.0	5.1	17.4	33.8	54.3	74.8	96.3	115.8	135.2	152.6	169.0
100°	0.0	5.1	16.4	31.8	50.2	70.7	91.2	110.6	129.1	146.5	162.9
102.5°	0.0	5.1	15.4	29.7	47.1	66.6	86.0	104.5	122.9	140.3	155.7
105°	0.0	4.1	15.4	28.7	45.1	62.5	80.9	99.4	116.8	134.2	149.6
107.5°	0.0	4.1	14.3	27.7	42.0	59.4	76.8	94.2	111.7	127.0	142.4
110°	0.0	4.1	13.3	26.6	40.0	56.3	71.7	89.1	105.5	120.9	136.2



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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	25.6	38.9	53.3	67.6	84.0	99.4	114.7	129.1
115°	0.0	4.1	12.3	24.6	36.9	50.2	64.5	78.9	94.2	107.6	121.9
117.5°	0.0	3.1	11.3	23.6	35.9	48.1	61.5	74.8	88.1	101.4	114.7
120°	0.0	3.1	11.3	21.5	33.8	46.1	58.4	70.7	84.0	96.3	107.6
122.5°	0.0	3.1	10.2	20.5	31.8	43.0	55.3	67.6	78.9	90.1	101.4
125°	0.0	2.0	9.2	18.4	29.7	41.0	52.2	63.5	74.8	85.0	95.3
127.5°	0.0	2.0	8.2	16.4	26.6	36.9	48.1	58.4	69.7	79.9	89.1
130°	0.0	2.0	7.2	15.4	24.6	34.8	44.0	54.3	63.5	73.8	84.0
132.5°	0.0	1.0	7.2	14.3	22.5	31.8	41.0	50.2	59.4	68.6	77.9
135°	0.0	1.0	6.1	12.3	20.5	28.7	36.9	46.1	54.3	62.5	70.7
137.5°	0.0	1.0	5.1	11.3	18.4	25.6	33.8	42.0	49.2	57.4	64.5
140°	0.0	1.0	5.1	10.2	16.4	23.6	30.7	37.9	45.1	52.2	58.4
142.5°	0.0	1.0	4.1	9.2	14.3	20.5	27.7	33.8	40.0	47.1	53.3
145°	0.0	1.0	4.1	8.2	13.3	18.4	24.6	29.7	35.9	42.0	47.1
147.5°	0.0	1.0	3.1	7.2	11.3	17.4	21.5	26.6	31.8	36.9	42.0
150°	1.0	1.0	2.0	6.1	10.2	14.3	19.5	23.6	27.7	31.8	36.9
152.5°	1.0	1.0	2.0	5.1	8.2	12.3	17.4	20.5	24.6	27.7	31.8
155°	1.0	1.0	2.0	4.1	7.2	10.2	14.3	17.4	21.5	23.6	26.6
157.5°	1.0	1.0	1.0	3.1	6.1	9.2	12.3	15.4	17.4	20.5	22.5
160°	1.0	1.0	1.0	2.0	5.1	7.2	9.2	12.3	14.3	17.4	18.4
162.5°	1.0	1.0	1.0	2.0	3.1	5.1	7.2	9.2	11.3	13.3	15.4
165°	1.0	1.0	1.0	1.0	2.0	4.1	5.1	7.2	8.2	10.2	11.3
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°	596.2	596.2	596.2	596.2	596.2	596.2	596.2	596.2
2.5°	595.2	596.2	597.2	597.2	597.2	596.2	595.2	596.2
5°	596.2	597.2	598.2	598.2	598.2	598.2	597.2	597.2
7.5°	596.2	597.2	599.3	599.3	599.3	599.3	599.3	598.2
10°	595.2	598.2	599.3	600.3	600.3	600.3	600.3	600.3
12.5°	595.2	597.2	599.3	600.3	600.3	601.3	601.3	600.3
15°	593.1	595.2	597.2	599.3	600.3	600.3	600.3	600.3
17.5°	590.1	593.1	595.2	597.2	599.3	599.3	599.3	598.2
20°	584.9	589.0	592.1	594.2	596.2	597.2	597.2	597.2
22.5°	580.8	584.9	589.0	591.1	592.1	593.1	594.2	594.2
25°	574.7	578.8	582.9	586.0	588.0	589.0	589.0	590.1
27.5°	567.5	572.6	576.7	579.8	581.9	583.9	583.9	584.9
30°	559.3	564.4	568.5	572.6	575.7	576.7	577.8	577.8
32.5°	550.1	556.2	560.3	564.4	567.5	568.5	570.6	569.6
35°	539.9	546.0	552.2	555.2	558.3	560.3	561.4	562.4
37.5°	529.6	536.8	541.9	546.0	549.1	552.2	553.2	553.2
40°	517.3	524.5	530.6	535.8	539.9	542.9	544.0	545.0
42.5°	505.0	513.2	520.4	525.5	529.6	532.7	534.7	534.7
45°	491.7	500.9	508.1	514.2	519.4	523.5	525.5	525.5
47.5°	479.4	488.6	496.8	503.0	508.1	512.2	514.2	515.3
50°	466.1	476.3	484.5	491.7	496.8	500.9	503.0	503.0
52.5°	452.8	463.0	471.2	478.4	484.5	488.6	490.7	491.7
55°	438.4	448.7	457.9	465.1	471.2	475.3	478.4	479.4
57.5°	423.1	434.3	443.6	451.8	457.9	462.0	465.1	466.1
60°	406.7	416.9	427.2	436.4	442.5	446.6	448.7	450.7
62.5°	389.3	401.6	410.8	420.0	426.2	431.3	433.3	434.3
65°	371.9	383.1	394.4	402.6	408.7	414.9	416.9	418.0
67.5°	353.4	365.7	376.0	384.2	392.3	397.5	399.5	401.6
70°	334.0	347.3	357.5	366.7	373.9	378.0	381.1	383.1
72.5°	314.5	327.8	338.1	348.3	355.5	359.6	362.6	363.7
75°	295.0	308.3	319.6	328.8	336.0	341.1	344.2	345.2
77.5°	276.6	289.9	301.2	309.4	316.5	322.7	324.7	327.8
80°	257.1	270.4	281.7	290.9	299.1	304.2	306.3	308.3
82.5°	239.7	253.0	264.3	273.5	281.7	285.8	289.9	289.9
85°	223.3	236.6	247.9	258.1	265.3	270.4	273.5	274.5
87.5°	210.0	223.3	234.6	244.8	252.0	258.1	260.2	262.2
90°	200.8	214.1	225.4	235.6	242.8	247.9	251.0	252.0
92.5°	195.7	208.0	220.2	229.5	236.6	241.8	244.8	245.9
95°	189.5	202.8	214.1	222.3	230.5	235.6	238.7	239.7
97.5°	183.4	196.7	208.0	217.2	224.3	229.5	232.5	233.6
100°	177.2	189.5	200.8	210.0	217.2	222.3	225.4	225.4
102.5°	170.1	182.3	193.6	202.8	210.0	215.1	218.2	219.2
105°	162.9	175.2	186.4	195.7	202.8	206.9	210.0	211.0
107.5°	156.7	168.0	179.3	187.5	194.6	199.8	202.8	202.8
110°	148.5	160.8	171.1	180.3	186.4	191.6	194.6	195.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	141.4	152.6	162.9	171.1	178.2	182.3	185.4	186.4
115°	134.2	145.5	154.7	162.9	169.0	174.1	177.2	177.2
117.5°	126.0	137.3	146.5	154.7	159.8	164.9	168.0	169.0
120°	118.8	129.1	138.3	145.5	151.6	155.7	157.8	159.8
122.5°	111.7	121.9	130.1	136.2	142.4	146.5	148.5	149.6
125°	105.5	113.7	121.9	128.0	133.2	137.3	140.3	140.3
127.5°	98.3	106.5	113.7	119.9	125.0	128.0	130.1	131.1
130°	92.2	100.4	106.5	111.7	115.8	119.9	121.9	122.9
132.5°	86.0	93.2	99.4	104.5	108.6	111.7	112.7	113.7
135°	79.9	87.1	93.2	97.3	100.4	103.5	105.5	105.5
137.5°	71.7	79.9	87.1	91.2	94.2	96.3	98.3	98.3
140°	65.6	72.7	79.9	85.0	87.1	90.1	91.2	92.2
142.5°	59.4	65.6	72.7	77.9	80.9	83.0	84.0	85.0
145°	53.3	58.4	64.5	70.7	73.8	75.8	76.8	77.9
147.5°	47.1	52.2	57.4	62.5	67.6	68.6	69.7	70.7
150°	41.0	45.1	50.2	54.3	60.4	62.5	62.5	63.5
152.5°	34.8	38.9	43.0	47.1	51.2	54.3	55.3	56.3
155°	29.7	32.8	35.9	38.9	43.0	48.1	48.1	49.2
157.5°	24.6	26.6	29.7	32.8	34.8	40.0	41.0	42.0
160°	20.5	21.5	23.6	25.6	28.7	31.8	34.8	34.8
162.5°	16.4	17.4	18.4	20.5	21.5	23.6	27.7	27.7
165°	12.3	12.3	13.3	14.3	15.4	17.4	19.5	21.5
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)