

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: P176112

Luminaire Tested: **4BCLED-LD4-20SL-F-UNV-L840-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P176112
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4BCLED-LD4-20SL-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) OSRAM ELECTRONIC DRIVER

Summary

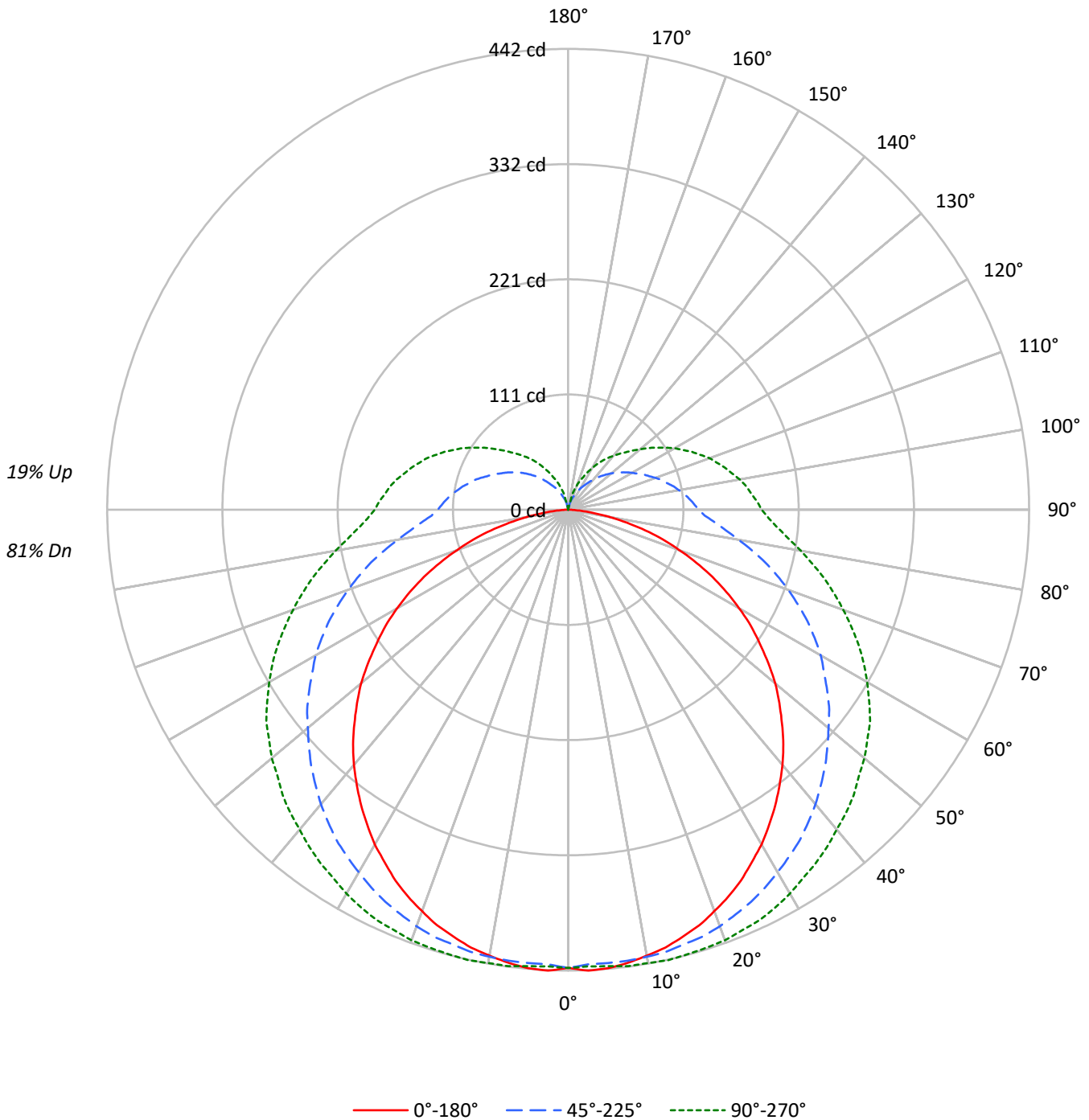
Lumens per Lamp: N/A
Luminaire Lumens: 2098.5 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.44 / 1.51
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

Input Watts (W): 21.8
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	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	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°	3154	3154	3154
5°	3166	3030	3019
10°	3136	2949	2930
15°	3107	2873	2855
20°	3071	2807	2792
25°	3032	2737	2731
30°	2983	2666	2667
35°	2926	2607	2610
40°	2869	2539	2559
45°	2796	2472	2526
50°	2725	2405	2491
55°	2612	2351	2465
60°	2495	2301	2420
65°	2331	2236	2381
70°	2087	2158	2331
75°	1783	2084	2292
80°	1308	1996	2254
85°	635	1970	2261



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	2.0
10°-20°	122.5	5.8
20°-30°	191.5	9.1
30°-40°	240.8	11.5
40°-50°	266.0	12.7
50°-60°	265.9	12.7
60°-70°	240.1	11.4
70°-80°	192.6	9.2
80°-90°	140.7	6.7
90°-100°	113.8	5.4
100°-110°	94.5	4.5
110°-120°	73.2	3.5
120°-130°	52.2	2.5
130°-140°	33.8	1.6
140°-150°	19.0	0.9
150°-160°	8.2	0.4
160°-170°	1.8	0.1
170°-180°	0.0	0.0
0°-30°	355.9	17.0
0°-40°	596.7	28.4
0°-60°	1128.6	53.8
0°-90°	1702.0	81.1
90°-120°	281.5	13.4
90°-150°	386.5	18.4
90°-180°	396.0	18.9
0°-180°	2098.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	440	440	440	440	440	
5°	442	440	436	440	440	42
15°	424	428	431	440	442	120
25°	392	402	415	430	434	181
35°	346	364	387	407	414	217
45°	290	314	348	376	387	224
55°	224	257	303	340	353	201
65°	153	194	253	293	307	151
75°	77	130	196	238	254	81
85°	12	73	141	186	202	16
90°	0	57	125	170	185	1
95°	0	51	117	161	176	0
105°	0	39	98	141	156	0
115°	0	32	80	117	131	0
125°	0	25	62	92	104	0
135°	0	18	46	70	78	0
145°	0	11	30	50	57	0
155°	0	7	17	28	35	0
165°	0	3	7	11	15	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°	439.5	439.5	439.5	439.5	439.5	439.5	439.5	439.5	439.5	439.5	439.5
2.5°	442.5	441.5	441.5	440.5	440.5	440.5	440.5	439.5	438.4	436.4	437.4
5°	441.5	440.5	439.5	439.5	439.5	439.5	439.5	439.5	437.4	436.4	437.4
7.5°	438.4	438.4	437.4	437.4	437.4	438.4	438.4	438.4	437.4	436.4	437.4
10°	434.3	434.3	433.3	433.3	435.4	435.4	436.4	436.4	435.4	435.4	436.4
12.5°	430.2	430.2	430.2	430.2	432.3	433.3	434.3	434.3	434.3	434.3	435.4
15°	424.1	424.1	424.1	425.1	427.2	428.2	430.2	431.3	431.3	431.3	434.3
17.5°	418.0	416.9	418.0	419.0	421.0	423.1	425.1	426.2	427.2	429.2	431.3
20°	409.8	409.8	410.8	412.8	414.9	416.9	420.0	422.1	423.1	425.1	428.2
22.5°	401.6	401.6	402.6	404.6	407.7	410.8	413.9	415.9	416.9	420.0	423.1
25°	392.3	392.3	393.4	395.4	399.5	403.6	406.7	408.7	411.8	414.9	419.0
27.5°	381.1	382.1	384.2	387.2	391.3	395.4	399.5	402.6	404.6	408.7	412.8
30°	370.8	371.9	373.9	377.0	382.1	386.2	391.3	394.4	398.5	401.6	406.7
32.5°	358.5	359.6	362.6	366.7	371.9	377.0	382.1	386.2	390.3	394.4	399.5
35°	346.2	348.3	350.3	355.5	360.6	366.7	371.9	377.0	382.1	387.2	392.3
37.5°	332.9	334.0	338.1	343.2	349.3	356.5	361.6	366.7	371.9	378.0	384.2
40°	319.6	320.6	324.7	329.9	337.0	344.2	350.3	355.5	362.6	368.8	374.9
42.5°	305.3	306.3	310.4	317.6	324.7	331.9	338.1	345.2	352.4	358.5	365.7
45°	289.9	292.0	296.1	303.2	310.4	318.6	325.8	332.9	340.1	348.3	355.5
47.5°	274.5	276.6	280.7	288.9	297.1	305.3	313.5	320.6	328.8	337.0	345.2
50°	259.2	260.2	266.3	273.5	282.7	290.9	300.1	308.3	317.6	325.8	335.0
52.5°	241.8	243.8	250.0	258.1	267.4	276.6	285.8	296.1	305.3	315.5	323.7
55°	224.3	227.4	233.6	241.8	252.0	262.2	272.5	282.7	293.0	303.2	313.5
57.5°	208.0	210.0	216.1	226.4	236.6	246.9	258.1	269.4	280.7	290.9	301.2
60°	189.5	192.6	199.8	209.0	220.2	231.5	243.8	256.1	268.4	279.7	289.9
62.5°	171.1	174.1	181.3	192.6	203.9	216.1	229.5	241.8	254.1	266.3	277.6
65°	152.6	155.7	163.9	175.2	186.4	200.8	214.1	227.4	240.7	253.0	264.3
67.5°	133.2	137.3	145.5	156.7	170.1	184.4	198.7	213.1	226.4	238.7	250.0
70°	113.7	117.8	126.0	139.3	153.7	169.0	184.4	197.7	211.0	224.3	235.6
72.5°	95.3	99.4	108.6	121.9	137.3	152.6	169.0	183.4	196.7	210.0	221.3
75°	76.8	79.9	91.2	105.5	121.9	138.3	153.7	169.0	181.3	195.7	206.9
77.5°	57.4	62.5	73.8	89.1	105.5	121.9	138.3	153.7	167.0	180.3	192.6
80°	41.0	46.1	58.4	73.8	90.1	107.6	122.9	138.3	152.6	166.0	178.2
82.5°	24.6	30.7	44.0	59.4	76.8	93.2	110.6	125.0	139.3	152.6	164.9
85°	12.3	18.4	31.8	48.1	64.5	80.9	97.3	112.7	127.0	141.4	153.7
87.5°	4.1	9.2	22.5	37.9	55.3	71.7	88.1	103.5	117.8	131.1	143.4
90°	0.0	5.1	17.4	32.8	49.2	65.6	82.0	97.3	111.7	125.0	137.3
92.5°	0.0	4.1	15.4	29.7	46.1	62.5	77.9	93.2	107.6	120.9	133.2
95°	0.0	4.1	13.3	27.7	43.0	58.4	73.8	89.1	103.5	116.8	129.1
97.5°	0.0	4.1	12.3	25.6	40.0	55.3	70.7	85.0	99.4	112.7	124.0
100°	0.0	3.1	11.3	23.6	36.9	52.2	66.6	80.9	95.3	107.6	119.9
102.5°	0.0	3.1	11.3	21.5	34.8	49.2	63.5	76.8	91.2	103.5	114.7
105°	0.0	3.1	11.3	20.5	32.8	46.1	59.4	73.8	86.0	98.3	109.6
107.5°	0.0	3.1	10.2	20.5	30.7	43.0	56.3	69.7	82.0	94.2	105.5
110°	0.0	3.1	10.2	19.5	29.7	41.0	53.3	65.6	77.9	89.1	100.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	0.0	3.1	9.2	18.4	28.7	38.9	50.2	61.5	72.7	84.0	94.2
115°	0.0	3.1	9.2	17.4	27.7	36.9	47.1	58.4	68.6	79.9	90.1
117.5°	0.0	2.0	8.2	16.4	26.6	35.9	45.1	55.3	65.6	74.8	84.0
120°	0.0	2.0	8.2	15.4	24.6	33.8	43.0	52.2	61.5	70.7	79.9
122.5°	0.0	2.0	7.2	14.3	22.5	31.8	41.0	49.2	58.4	66.6	74.8
125°	0.0	2.0	7.2	13.3	20.5	29.7	37.9	46.1	54.3	62.5	69.7
127.5°	0.0	1.0	6.1	12.3	19.5	26.6	35.9	43.0	51.2	58.4	66.6
130°	0.0	1.0	5.1	11.3	17.4	24.6	32.8	40.0	47.1	54.3	61.5
132.5°	0.0	1.0	5.1	10.2	16.4	22.5	29.7	36.9	44.0	50.2	57.4
135°	0.0	1.0	4.1	9.2	15.4	20.5	26.6	33.8	40.0	46.1	52.2
137.5°	0.0	1.0	4.1	8.2	13.3	19.5	24.6	29.7	35.9	42.0	48.1
140°	0.0	1.0	3.1	7.2	12.3	17.4	22.5	26.6	32.8	37.9	43.0
142.5°	0.0	0.0	3.1	6.1	11.3	15.4	20.5	24.6	28.7	33.8	38.9
145°	0.0	0.0	3.1	6.1	9.2	13.3	18.4	21.5	25.6	29.7	34.8
147.5°	0.0	0.0	2.0	5.1	8.2	12.3	16.4	19.5	22.5	26.6	29.7
150°	0.0	0.0	2.0	4.1	7.2	11.3	14.3	17.4	20.5	23.6	26.6
152.5°	0.0	0.0	1.0	4.1	6.1	9.2	12.3	15.4	17.4	20.5	22.5
155°	0.0	0.0	1.0	3.1	5.1	8.2	10.2	13.3	15.4	17.4	19.5
157.5°	0.0	0.0	1.0	2.0	4.1	6.1	9.2	11.3	13.3	14.3	16.4
160°	0.0	0.0	0.0	2.0	3.1	5.1	7.2	9.2	10.2	12.3	13.3
162.5°	0.0	0.0	0.0	1.0	2.0	4.1	5.1	7.2	8.2	10.2	11.3
165°	0.0	0.0	0.0	1.0	2.0	3.1	4.1	5.1	6.1	7.2	8.2
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°	439.5	439.5	439.5	439.5	439.5	439.5	439.5	439.5
2.5°	438.4	439.5	439.5	439.5	439.5	439.5	438.4	438.4
5°	438.4	439.5	439.5	440.5	440.5	440.5	439.5	439.5
7.5°	439.5	440.5	441.5	441.5	441.5	441.5	441.5	441.5
10°	438.4	440.5	440.5	441.5	441.5	442.5	441.5	441.5
12.5°	438.4	439.5	440.5	441.5	442.5	442.5	442.5	442.5
15°	436.4	438.4	440.5	440.5	441.5	442.5	442.5	441.5
17.5°	434.3	436.4	438.4	439.5	440.5	441.5	441.5	440.5
20°	431.3	434.3	436.4	438.4	438.4	439.5	439.5	439.5
22.5°	427.2	430.2	433.3	434.3	436.4	436.4	437.4	436.4
25°	423.1	426.2	429.2	431.3	432.3	433.3	434.3	434.3
27.5°	418.0	421.0	424.1	426.2	428.2	429.2	430.2	430.2
30°	411.8	414.9	419.0	421.0	423.1	424.1	425.1	425.1
32.5°	404.6	408.7	412.8	414.9	416.9	418.0	420.0	419.0
35°	397.5	401.6	405.7	408.7	410.8	412.8	412.8	413.9
37.5°	389.3	394.4	398.5	401.6	404.6	405.7	406.7	407.7
40°	381.1	385.2	390.3	394.4	396.4	399.5	400.5	400.5
42.5°	371.9	377.0	382.1	386.2	389.3	391.3	393.4	394.4
45°	361.6	368.8	374.9	378.0	382.1	385.2	386.2	387.2
47.5°	353.4	359.6	365.7	370.8	373.9	377.0	379.0	378.0
50°	343.2	350.3	356.5	361.6	365.7	367.8	369.8	370.8
52.5°	332.9	340.1	347.3	352.4	356.5	359.6	361.6	361.6
55°	322.7	329.9	337.0	343.2	347.3	350.3	352.4	353.4
57.5°	310.4	318.6	325.8	331.9	336.0	339.1	341.1	342.1
60°	299.1	307.3	314.5	320.6	324.7	328.8	330.9	330.9
62.5°	286.8	295.0	303.2	309.4	313.5	317.6	319.6	319.6
65°	273.5	282.7	289.9	296.1	301.2	304.2	307.3	307.3
67.5°	260.2	268.4	276.6	283.8	287.9	292.0	294.0	294.0
70°	245.9	255.1	263.3	270.4	274.5	278.6	280.7	280.7
72.5°	231.5	240.7	248.9	256.1	261.2	264.3	267.4	267.4
75°	217.2	226.4	234.6	241.8	246.9	251.0	253.0	254.1
77.5°	203.9	213.1	221.3	227.4	232.5	237.7	239.7	239.7
80°	189.5	198.7	206.9	214.1	219.2	223.3	225.4	226.4
82.5°	176.2	185.4	194.6	201.8	206.9	211.0	213.1	213.1
85°	164.9	174.1	182.3	189.5	195.7	198.7	200.8	201.8
87.5°	154.7	164.9	173.1	180.3	185.4	189.5	191.6	192.6
90°	148.5	157.8	166.0	173.1	178.2	182.3	184.4	185.4
92.5°	143.4	153.7	161.9	169.0	174.1	178.2	180.3	181.3
95°	139.3	149.6	157.8	163.9	170.1	174.1	176.2	176.2
97.5°	135.2	144.4	152.6	159.8	164.9	169.0	171.1	172.1
100°	130.1	139.3	147.5	154.7	159.8	163.9	166.0	167.0
102.5°	126.0	135.2	142.4	149.6	154.7	158.8	160.8	160.8
105°	119.9	129.1	137.3	144.4	149.6	152.6	155.7	155.7
107.5°	114.7	124.0	132.1	138.3	143.4	147.5	149.6	149.6
110°	109.6	118.8	126.0	132.1	137.3	141.4	143.4	144.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	104.5	112.7	119.9	126.0	131.1	134.2	136.2	137.3
115°	98.3	106.5	113.7	119.9	125.0	128.0	130.1	131.1
117.5°	93.2	101.4	107.6	113.7	117.8	121.9	124.0	124.0
120°	88.1	95.3	101.4	107.6	111.7	114.7	116.8	117.8
122.5°	82.0	89.1	95.3	100.4	104.5	107.6	109.6	110.6
125°	77.9	84.0	89.1	94.2	98.3	101.4	103.5	103.5
127.5°	72.7	78.9	84.0	88.1	92.2	94.2	96.3	97.3
130°	67.6	73.8	78.9	83.0	86.0	88.1	90.1	90.1
132.5°	63.5	68.6	73.8	76.8	79.9	82.0	83.0	84.0
135°	58.4	64.5	68.6	71.7	74.8	75.8	77.9	77.9
137.5°	53.3	59.4	64.5	67.6	69.7	70.7	72.7	72.7
140°	48.1	54.3	59.4	62.5	64.5	66.6	66.6	67.6
142.5°	44.0	48.1	53.3	57.4	59.4	61.5	62.5	62.5
145°	38.9	43.0	47.1	52.2	54.3	56.3	56.3	57.4
147.5°	33.8	37.9	42.0	46.1	49.2	50.2	51.2	52.2
150°	29.7	32.8	35.9	40.0	44.0	45.1	46.1	46.1
152.5°	25.6	27.7	30.7	33.8	37.9	40.0	41.0	41.0
155°	21.5	23.6	26.6	28.7	31.8	34.8	34.8	34.8
157.5°	18.4	20.5	21.5	23.6	25.6	28.7	29.7	30.7
160°	14.3	16.4	17.4	19.5	20.5	23.6	25.6	25.6
162.5°	11.3	12.3	13.3	14.3	16.4	17.4	20.5	20.5
165°	9.2	9.2	10.2	11.3	11.3	12.3	14.3	15.4
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)