

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: P176123

Luminaire Tested: **2BCLED-LD4-8SL-F-UNV-L830-CD1-U**

Test Date: 04/05/15



Test Information

Test Method: LM-79-08
Report Number: P176123
Test Lab: INNOVATION CENTER-P3
Test Date: 04/05/15
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 2BCLED-LD4-8SL-F-UNV-L830-CD1-U
Description:
Light Source: (56) COOPER LIGHTING 3000K LEDS
Ballast/Driver: (1) ELECTRONIC DRIVER

Summary

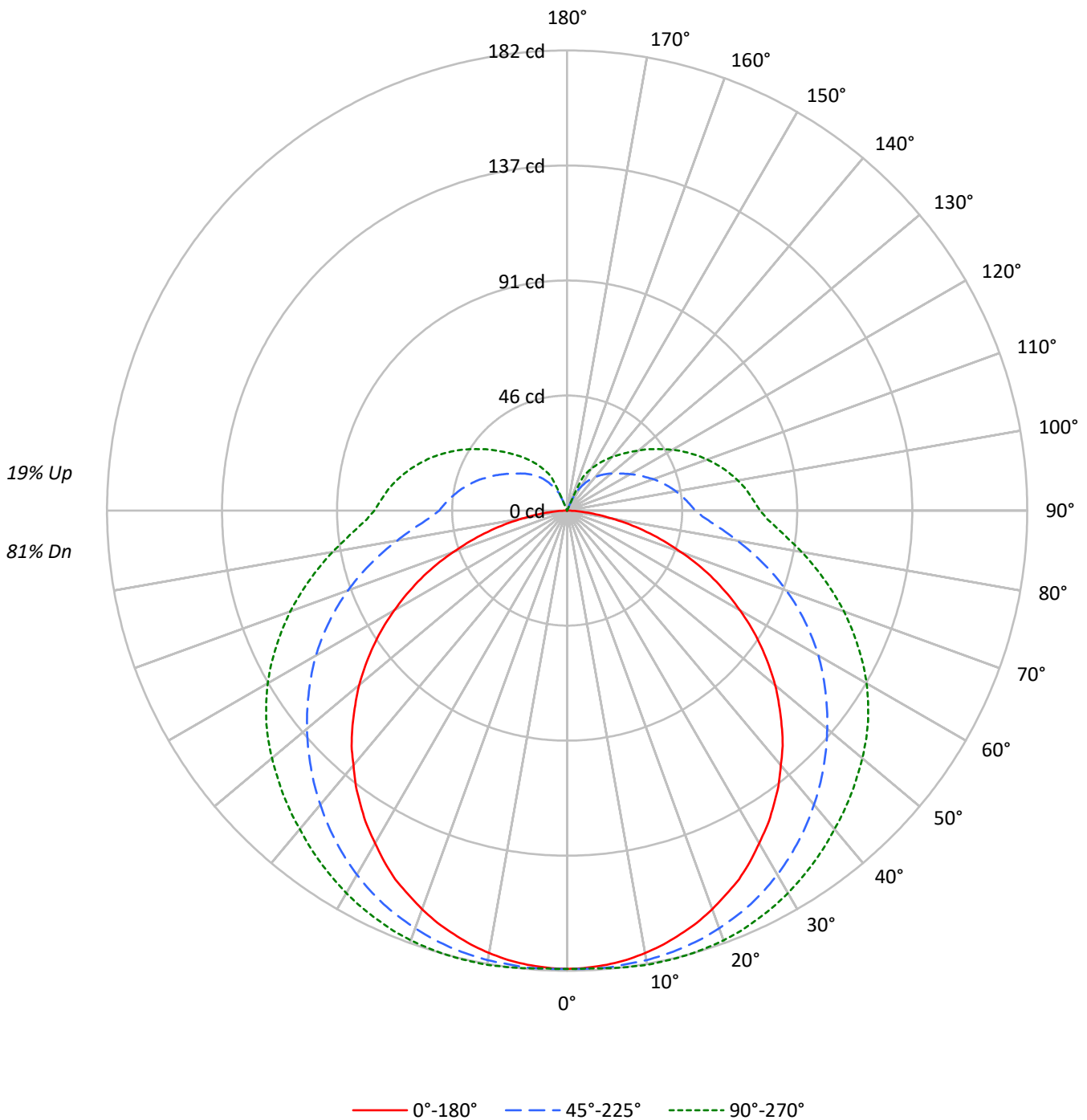
Lumens per Lamp: N/A
Luminaire Lumens: 862.5 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.44 / 1.51
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 0.38' x H: 0.21')
CIE Type: Semi-Direct

Input Watts (W): 10.1
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	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	44	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	33	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°	2602	2602	2602
5°	2477	2512	2594
10°	2359	2432	2610
15°	2243	2361	2632
20°	2132	2295	2662
25°	2024	2234	2693
30°	1906	2171	2731
35°	1796	2108	2776
40°	1680	2045	2834
45°	1566	1985	2919
50°	1443	1927	3027
55°	1306	1873	3165
60°	1156	1823	3327
65°	990	1762	3523
70°	794	1696	3801
75°	586	1620	4205
80°	352	1548	4894
85°	137	1501	6292



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	17.3	2.0
10°-20°	50.4	5.8
20°-30°	78.8	9.1
30°-40°	99.1	11.5
40°-50°	109.5	12.7
50°-60°	109.6	12.7
60°-70°	99.0	11.5
70°-80°	79.7	9.2
80°-90°	58.0	6.7
90°-100°	46.3	5.4
100°-110°	38.5	4.5
110°-120°	29.8	3.5
120°-130°	21.4	2.5
130°-140°	14.2	1.6
140°-150°	8.2	1.0
150°-160°	2.7	0.3
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	146.5	17.0
0°-40°	245.5	28.5
0°-60°	464.7	53.9
0°-90°	701.3	81.3
90°-120°	114.7	13.3
90°-150°	158.5	18.4
90°-180°	161.0	18.7
0°-180°	862.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	181	181	181	181	181	
5°	180	181	182	182	182	17
15°	173	175	179	181	182	49
25°	161	165	172	177	178	74
35°	142	149	160	168	170	89
45°	120	129	143	155	159	93
55°	94	106	125	140	145	84
65°	64	80	104	121	127	63
75°	32	54	80	99	105	34
85°	6	30	58	77	84	7
90°	0	23	51	70	76	0
95°	0	20	47	66	72	0
105°	0	16	40	58	64	0
115°	0	13	32	48	54	0
125°	0	10	26	38	42	0
135°	0	8	20	29	32	0
145°	0	5	14	21	23	0
155°	0	2	7	13	14	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°	181.3	181.3	181.3	181.3	181.3	181.3	181.3	181.3	181.3	181.3	181.3
2.5°	181.0	180.8	180.7	180.8	181.0	181.3	181.4	181.5	181.5	181.4	181.4
5°	180.3	180.2	180.1	180.3	180.5	180.8	181.1	181.4	181.4	181.5	181.5
7.5°	179.3	179.2	179.1	179.3	179.6	179.9	180.3	180.8	180.9	180.9	181.3
10°	177.7	177.7	177.8	178.1	178.5	179.0	179.5	180.0	180.4	180.6	181.1
12.5°	175.8	175.9	176.1	176.4	176.9	177.6	178.2	178.9	179.5	179.8	180.3
15°	173.4	173.4	173.8	174.3	174.9	175.7	176.5	177.3	178.2	178.8	179.5
17.5°	170.9	170.8	171.2	172.0	172.7	173.7	174.5	175.7	176.6	177.5	178.3
20°	167.8	167.9	168.5	169.2	170.1	171.3	172.3	173.9	174.8	175.8	177.0
22.5°	164.3	164.5	165.1	166.0	167.2	168.6	169.9	171.3	172.6	173.9	175.1
25°	160.9	160.7	161.5	162.7	163.9	165.5	167.0	168.6	170.1	171.8	173.1
27.5°	156.6	156.9	157.6	158.9	160.5	162.2	164.1	165.8	167.4	169.2	170.8
30°	151.9	152.5	153.5	155.0	156.7	158.5	160.4	162.4	164.4	166.3	168.1
32.5°	147.5	147.7	149.1	150.5	152.6	154.6	156.8	159.1	161.2	163.1	165.1
35°	142.4	142.9	144.2	146.0	148.2	150.3	152.7	155.2	157.4	159.6	161.9
37.5°	137.3	137.7	139.1	141.0	143.3	145.9	148.3	151.0	153.5	155.9	158.4
40°	131.5	132.1	133.9	136.1	138.4	141.1	143.9	146.8	149.4	151.9	154.5
42.5°	126.2	126.8	128.4	130.6	133.3	136.2	139.2	141.9	145.1	147.8	150.6
45°	120.0	120.6	122.5	125.0	127.7	130.8	134.1	137.1	140.4	143.4	146.5
47.5°	113.7	114.5	116.5	119.3	122.1	125.3	129.0	132.2	135.7	139.0	142.2
50°	107.4	108.0	110.4	113.3	116.2	119.7	123.6	127.0	130.8	134.3	138.0
52.5°	100.6	101.7	103.9	106.9	110.2	114.1	118.0	121.8	125.9	129.6	133.5
55°	93.6	94.7	97.1	100.2	104.0	107.7	112.0	116.4	120.7	124.7	129.0
57.5°	86.5	87.5	90.2	93.5	97.4	101.7	106.1	110.7	115.5	119.8	124.1
60°	79.0	80.1	83.0	86.6	90.7	95.2	100.1	105.0	110.1	114.8	119.1
62.5°	71.5	72.7	75.7	79.7	84.1	88.8	94.2	99.3	104.5	109.3	114.0
65°	63.9	65.2	68.1	72.3	77.1	82.3	87.9	93.4	98.8	103.8	108.4
67.5°	56.0	57.4	60.6	65.1	70.2	76.2	81.6	87.7	93.1	98.1	102.9
70°	47.8	49.9	53.1	57.7	63.4	69.4	75.6	81.4	87.0	92.2	96.9
72.5°	40.0	41.9	45.8	50.8	56.9	62.9	69.1	75.1	80.8	86.3	91.2
75°	32.5	34.1	38.2	43.9	50.3	56.8	62.8	68.9	74.7	80.1	85.2
77.5°	25.1	26.9	31.4	37.4	43.9	50.3	56.8	62.9	68.5	74.2	79.3
80°	17.7	19.8	24.6	31.0	37.6	44.1	50.6	56.7	62.7	68.3	73.3
82.5°	11.5	13.5	18.8	25.1	31.7	38.5	44.9	51.2	57.0	62.9	67.8
85°	6.1	8.4	13.7	20.0	26.5	33.4	39.8	46.1	52.2	57.7	62.8
87.5°	2.2	4.4	9.5	15.9	22.5	29.1	35.7	42.0	48.0	53.6	58.8
90°	0.1	2.4	7.2	13.3	19.8	26.4	32.9	39.1	45.1	50.6	55.7
92.5°	0.1	1.9	6.3	12.0	18.4	24.8	31.4	37.5	43.4	48.9	53.9
95°	0.1	1.5	5.5	11.0	17.1	23.5	29.9	36.0	41.7	47.2	52.2
97.5°	0.1	1.4	4.9	10.0	16.0	22.1	28.4	34.3	40.1	45.5	50.5
100°	0.0	1.3	4.5	9.2	14.8	20.8	26.8	32.8	38.4	43.7	48.6
102.5°	0.1	1.3	4.3	8.7	13.8	19.5	25.4	31.2	36.6	41.9	46.7
105°	0.1	1.2	4.2	8.3	13.1	18.4	24.0	29.6	34.9	40.0	44.7
107.5°	0.1	1.1	4.0	7.9	12.3	17.3	22.6	28.0	33.3	38.2	42.7
110°	0.1	1.1	3.8	7.6	11.7	16.3	21.3	26.4	31.4	36.3	40.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	0.1	1.0	3.6	7.2	11.3	15.5	20.1	24.9	29.6	34.2	38.6
115°	0.0	0.9	3.4	6.9	10.8	14.8	19.1	23.6	28.0	32.4	36.4
117.5°	0.1	0.9	3.2	6.6	10.3	14.2	18.2	22.2	26.4	30.6	34.4
120°	0.1	0.8	3.0	6.3	9.9	13.7	17.3	21.2	24.9	28.8	32.5
122.5°	0.0	0.6	2.7	5.8	9.3	12.8	16.4	20.0	23.5	27.1	30.5
125°	0.1	0.5	2.5	5.4	8.8	12.2	15.7	19.0	22.2	25.5	28.7
127.5°	0.1	0.5	2.4	5.0	8.3	11.5	14.9	18.1	21.2	24.1	26.9
130°	0.1	0.4	2.2	4.6	7.7	10.9	14.0	17.0	20.0	22.8	25.4
132.5°	0.2	0.4	2.0	4.3	7.1	10.2	13.2	16.1	18.8	21.5	23.9
135°	0.1	0.3	1.7	3.8	6.4	9.3	12.2	15.0	17.6	20.1	22.4
137.5°	0.2	0.3	1.5	3.5	5.8	8.5	11.3	14.0	16.3	18.8	21.0
140°	0.2	0.3	1.3	3.1	5.1	7.5	10.2	12.8	15.2	17.4	19.4
142.5°	0.1	0.2	1.1	2.6	4.5	6.5	8.9	11.4	13.8	16.0	17.9
145°	0.1	0.2	0.8	2.2	3.8	5.8	7.8	10.0	12.2	14.3	16.3
147.5°	0.2	0.2	0.7	1.8	3.3	5.0	6.7	8.7	10.5	12.5	14.4
150°	0.1	0.1	0.5	1.4	2.8	4.2	5.7	7.3	9.0	10.7	12.5
152.5°	0.2	0.2	0.4	1.2	2.2	3.6	4.8	6.2	7.6	9.1	10.6
155°	0.1	0.1	0.3	0.8	1.6	2.8	3.9	5.1	6.3	7.4	8.8
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°	181.3	181.3	181.3	181.3	181.3	181.3	181.3	181.3
2.5°	181.6	181.5	181.7	181.6	181.5	181.5	181.5	181.3
5°	181.6	181.7	181.9	182.0	181.9	181.8	181.8	181.7
7.5°	181.6	181.7	182.0	182.1	182.0	182.0	182.0	182.1
10°	181.6	181.8	182.1	182.3	182.4	182.4	182.4	182.4
12.5°	180.9	181.4	181.9	182.1	182.3	182.4	182.3	182.3
15°	180.2	180.7	181.2	181.7	181.9	182.0	182.0	182.1
17.5°	179.2	179.8	180.5	181.0	181.3	181.6	181.6	181.6
20°	177.8	178.7	179.5	180.0	180.4	180.7	180.8	180.9
22.5°	176.3	177.2	178.1	178.8	179.4	179.5	179.7	179.8
25°	174.3	175.4	176.4	177.1	177.9	178.1	178.2	178.3
27.5°	172.1	173.4	174.5	175.2	176.0	176.4	176.7	176.7
30°	169.6	171.1	172.1	173.2	173.9	174.4	174.6	174.7
32.5°	167.0	168.3	169.7	170.7	171.6	172.1	172.5	172.4
35°	163.6	165.4	167.0	168.1	169.0	169.6	169.9	170.0
37.5°	160.4	162.1	163.9	165.0	166.1	166.9	167.1	167.4
40°	156.8	158.6	160.6	162.0	163.1	164.1	164.5	164.5
42.5°	153.1	155.3	157.1	158.8	160.1	161.1	161.5	161.8
45°	149.2	151.5	153.9	155.6	156.9	158.0	158.5	158.8
47.5°	145.2	147.9	150.3	152.3	153.9	155.0	155.6	155.6
50°	141.2	144.2	146.7	148.7	150.4	151.7	152.2	152.4
52.5°	136.9	140.1	142.7	145.0	146.7	148.0	148.8	149.0
55°	132.5	135.9	138.7	141.0	142.8	144.2	144.7	145.3
57.5°	127.8	131.5	134.3	136.7	138.6	140.0	140.8	141.1
60°	123.0	126.7	129.6	132.0	134.1	135.5	136.4	136.8
62.5°	117.9	121.6	124.8	127.4	129.3	130.7	131.8	132.0
65°	112.5	116.3	119.6	122.2	124.4	125.9	126.7	126.9
67.5°	106.9	111.1	114.2	116.8	119.1	120.8	121.5	121.8
70°	101.4	105.3	108.8	111.6	113.5	115.1	116.2	116.5
72.5°	95.4	99.6	103.0	105.8	108.0	109.6	110.6	110.9
75°	89.6	93.9	97.1	100.1	102.4	104.1	104.9	105.3
77.5°	83.8	88.0	91.6	94.3	96.7	98.4	99.3	99.7
80°	78.1	82.2	85.7	88.6	91.0	92.6	93.7	94.2
82.5°	72.4	76.7	80.1	83.2	85.6	87.1	88.4	88.6
85°	67.5	71.7	75.3	78.4	80.6	82.3	83.3	83.7
87.5°	63.3	67.3	71.0	74.1	76.4	78.1	79.1	79.3
90°	60.3	64.5	68.0	71.0	73.3	74.9	75.9	76.3
92.5°	58.5	62.6	66.2	69.1	71.4	73.1	74.1	74.3
95°	56.7	61.0	64.3	67.4	69.7	71.3	72.2	72.5
97.5°	55.0	59.1	62.5	65.4	67.7	69.3	70.3	70.7
100°	53.0	57.1	60.5	63.4	65.6	67.3	68.2	68.6
102.5°	51.0	55.0	58.4	61.2	63.4	65.0	66.0	66.3
105°	49.1	53.0	56.3	59.0	61.2	62.8	63.7	64.0
107.5°	46.8	50.7	54.0	56.7	58.9	60.4	61.3	61.5
110°	44.7	48.5	51.6	54.3	56.5	57.9	58.8	59.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	42.6	46.0	49.1	51.7	53.8	55.1	56.0	56.4
115°	40.3	43.7	46.6	49.1	51.2	52.5	53.4	53.6
117.5°	38.0	41.4	44.2	46.6	48.5	49.8	50.6	50.9
120°	35.9	39.0	41.7	44.0	45.8	47.1	47.9	48.1
122.5°	33.7	36.6	39.1	41.4	43.0	44.1	44.9	45.2
125°	31.6	34.4	36.8	38.8	40.3	41.5	42.2	42.4
127.5°	29.6	32.2	34.4	36.3	37.8	38.9	39.5	39.8
130°	27.8	30.1	32.1	33.9	35.3	36.4	36.9	37.0
132.5°	26.2	28.2	30.1	31.5	32.9	33.8	34.2	34.4
135°	24.4	26.4	28.1	29.4	30.6	31.4	31.8	32.0
137.5°	22.9	24.7	26.2	27.5	28.6	29.2	29.6	29.7
140°	21.3	23.0	24.3	25.6	26.4	27.1	27.6	27.7
142.5°	19.6	21.2	22.5	23.6	24.3	25.1	25.4	25.5
145°	17.9	19.3	20.6	21.5	22.3	23.0	23.3	23.4
147.5°	16.3	17.5	18.7	19.5	20.3	20.9	21.2	21.2
150°	14.1	15.7	16.6	17.5	18.2	18.7	18.9	19.0
152.5°	12.1	13.7	14.7	15.5	16.2	16.5	16.8	17.0
155°	10.0	11.3	12.6	13.4	13.9	14.4	14.6	14.5
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)