

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: FAIL-SAFE

Report Number: P392536

Luminaire Tested: **MWL-2-35-17-UNV-L935-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392536
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-25 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-2-35-17-UNV-L935-EDD
Description: MWL 2FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

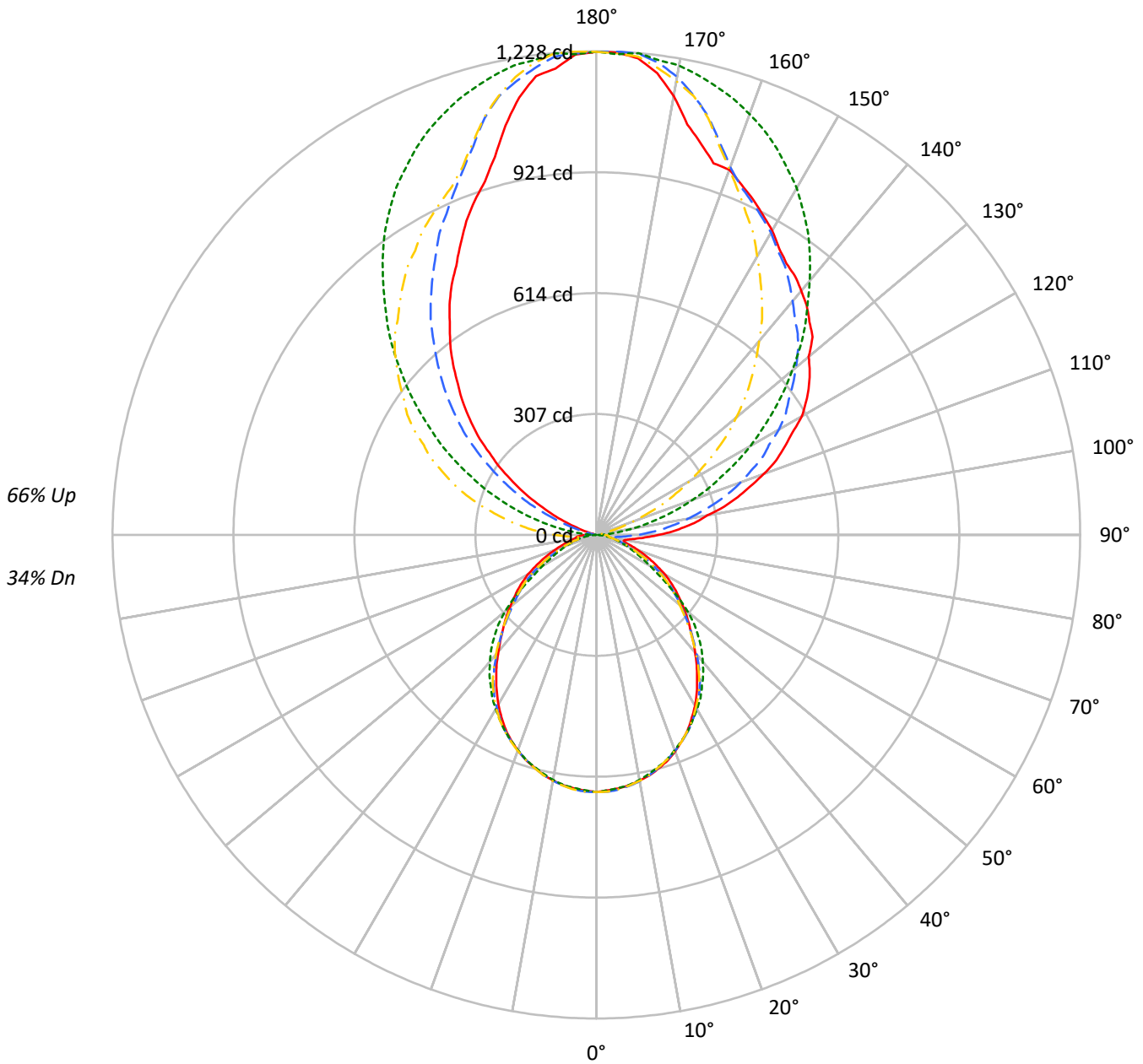
Lumens per Lamp: N/A
Luminaire Lumens: 4411.2 lumens
Efficiency: N/A
Efficacy: 74.3 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 2' x H: 0.42')
CIE Type: Semi-Indirect

Input Watts (W): 59.388
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



TEST NUMBER: P392536
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Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270° - - - 135°-315°



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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	94	90	86	83	85	81	78	75	65	63	61	50	49	48	36	36	35	29
2	86	79	73	68	77	71	66	62	57	54	51	44	42	40	32	31	30	24
3	79	69	62	57	71	63	57	52	51	47	43	39	37	34	29	27	26	21
4	72	62	54	48	65	56	49	44	45	41	37	35	32	29	26	24	22	18
5	66	55	47	41	59	50	43	38	40	36	32	32	28	26	24	21	20	16
6	61	49	41	36	55	45	38	33	36	31	28	29	25	22	21	19	17	14
7	56	44	37	31	51	40	34	29	33	28	24	26	23	20	20	17	15	13
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11
9	48	37	29	25	44	34	27	23	28	23	19	22	18	16	17	14	13	10
10	45	34	27	22	41	31	25	20	25	21	17	20	17	14	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	8431	8431	8431	8431
5°	8226	7693	8226	7693
10°	8013	7045	8013	7045
15°	7769	6425	7736	6425
20°	7476	5862	7442	5862
25°	7113	5337	7080	5337
30°	6667	4830	6622	4830
35°	6135	4334	6099	4334
40°	5596	3849	5546	3849
45°	5086	3347	5046	3347
50°	4664	2771	4622	2771
55°	4261	2051	4230	2051
60°	3819	1491	3802	1491
65°	3245	1104	3245	1104
70°	2668	824	2688	824
75°	2156	581	2229	581
80°	2503	381	1944	381
85°	4580	169	2108	169



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.4	1.4
10°-20°	172.3	3.9
20°-30°	252.1	5.7
30°-40°	284.7	6.5
40°-50°	264.4	6.0
50°-60°	207.9	4.7
60°-70°	131.6	3.0
70°-80°	66.4	1.5
80°-90°	50.2	1.1
90°-100°	93.2	2.1
100°-110°	188.5	4.3
110°-120°	325.5	7.4
120°-130°	442.3	10.0
130°-140°	504.6	11.4
140°-150°	503.8	11.4
150°-160°	438.7	9.9
160°-170°	308.6	7.0
170°-180°	114.9	2.6
0°-30°	485.7	11.0
0°-40°	770.5	17.5
0°-60°	1242.8	28.2
0°-90°	1491.0	33.8
90°-120°	607.3	13.8
90°-150°	2057.9	46.7
90°-180°	2920.0	66.2
0°-180°	4411.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	653	653	653	653	653	
5°	646	645	646	645	646	61
15°	613	609	611	609	613	173
25°	548	549	545	549	548	251
35°	446	467	443	467	446	279
45°	336	366	334	366	336	261
55°	246	221	244	221	246	219
65°	154	114	154	114	154	153
75°	77	55	79	55	77	88
85°	104	14	48	14	104	79
90°	158	1	28	1	158	87
95°	223	35	18	35	223	196
105°	372	172	7	172	372	391
115°	526	350	120	350	526	522
125°	658	548	299	548	658	588
135°	765	749	481	749	765	591
145°	841	937	648	937	841	530
155°	940	1083	815	1083	940	434
165°	1028	1178	994	1178	1028	291
175°	1215	1228	1189	1228	1215	113
180°	1227	1227	1227	1227	1227	



TEST NUMBER: P392536

CATALOG NUMBER: MWL-2-35-17-UNV-L935-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7
2.5°	649.2	651.0	652.7	651.0	649.3	650.2	652.7	651.0	650.1	651.0	652.7
5°	646.0	647.6	649.3	646.8	645.2	646.8	648.5	647.6	646.0	647.6	648.5
7.5°	640.9	642.7	642.7	641.8	640.2	641.0	641.7	641.7	640.9	641.7	641.7
10°	633.4	635.2	635.2	633.5	631.8	632.6	634.2	633.4	633.4	633.4	634.2
12.5°	625.2	625.2	624.2	622.6	620.9	622.6	624.2	623.4	623.4	623.4	624.2
15°	613.4	612.7	611.7	610.8	609.2	610.1	610.8	610.8	610.8	610.8	610.8
17.5°	600.9	599.3	598.3	598.3	597.6	598.3	597.6	598.3	598.3	598.3	597.6
20°	585.1	585.1	583.3	583.3	581.7	582.5	582.5	583.3	582.5	583.3	582.5
22.5°	566.8	567.6	567.5	566.7	565.8	565.8	566.7	565.8	565.0	565.8	566.7
25°	547.6	548.4	550.1	549.1	549.1	548.3	548.3	545.8	545.0	545.8	548.3
27.5°	524.2	527.6	530.1	530.8	530.0	530.0	528.3	525.0	521.6	525.0	528.3
30°	500.8	503.3	508.3	512.5	510.8	510.8	505.7	500.7	497.4	500.7	505.7
32.5°	474.2	477.4	484.9	490.8	491.6	489.1	482.4	474.1	470.7	474.1	482.4
35°	445.8	447.4	458.3	466.7	467.3	464.1	455.7	444.8	443.2	444.8	455.7
37.5°	418.2	417.4	428.3	443.3	445.7	440.7	425.7	414.8	415.7	414.8	425.7
40°	389.9	388.2	396.6	415.7	419.8	414.0	393.1	384.7	386.4	384.7	393.1
42.5°	363.2	361.5	364.7	387.3	395.6	385.6	362.2	358.0	359.7	358.0	362.2
45°	336.4	333.9	334.7	354.7	366.4	353.1	331.3	331.3	333.8	331.3	331.3
47.5°	313.1	308.8	306.3	320.6	338.1	319.7	303.0	306.2	310.5	306.2	303.0
50°	289.7	285.5	278.8	288.8	302.2	287.1	275.4	282.1	287.1	282.1	275.4
52.5°	266.3	263.8	253.8	258.8	263.0	257.1	251.2	260.4	263.7	260.4	251.2
55°	245.5	242.1	230.4	227.9	221.2	226.2	227.9	239.5	243.7	239.5	227.9
57.5°	222.9	221.2	207.1	197.1	185.3	195.3	204.5	218.7	221.2	218.7	204.5
60°	201.2	197.1	180.3	166.1	157.7	165.2	178.6	195.3	200.3	195.3	178.6
62.5°	176.2	173.7	155.3	137.7	133.6	136.9	153.6	172.0	175.3	172.0	153.6
65°	153.6	148.6	130.2	115.2	113.6	114.4	129.4	147.7	153.6	147.7	129.4
67.5°	132.7	124.4	108.6	95.2	96.0	95.2	107.7	123.6	132.7	123.6	107.7
70°	111.1	101.9	89.4	78.5	81.8	78.5	89.4	102.7	111.9	102.7	89.4
72.5°	93.5	82.7	72.7	64.3	66.7	63.4	72.7	83.5	95.3	83.5	72.7
75°	76.8	66.0	56.7	50.9	55.1	50.9	57.6	66.8	79.4	66.8	57.6
77.5°	70.4	57.7	43.4	40.9	44.2	40.9	44.3	55.1	66.9	55.1	44.3
80°	73.4	60.7	36.1	30.9	34.2	30.9	34.3	46.9	57.0	46.9	34.3
82.5°	85.1	74.0	41.4	21.7	23.4	21.7	31.1	42.7	52.1	42.7	31.1
85°	104.5	94.1	56.3	19.3	14.2	17.6	31.2	41.2	48.1	41.2	31.2
87.5°	128.9	122.0	77.2	29.0	3.4	16.8	27.9	38.8	39.7	38.8	27.9
90°	157.7	151.6	105.1	43.8	0.9	11.0	19.3	29.3	27.8	29.3	19.3
92.5°	191.7	183.8	134.7	65.7	13.9	6.0	16.0	23.6	21.8	23.6	16.0
95°	222.9	218.6	167.7	90.9	34.6	4.3	11.7	17.6	17.6	17.6	11.7
97.5°	256.9	252.6	200.8	121.3	61.5	10.4	9.3	14.3	14.3	14.3	9.3
100°	286.5	284.8	236.5	158.5	94.4	28.6	6.9	12.8	13.6	12.8	6.9
102.5°	332.6	320.6	272.1	194.1	130.0	53.8	13.9	8.6	10.3	8.6	13.9
105°	371.7	359.5	314.4	232.2	171.5	88.4	34.6	11.3	6.9	11.3	34.6
107.5°	408.9	400.2	352.6	270.3	214.9	127.3	64.1	32.9	20.8	32.9	64.1
110°	452.2	441.9	389.9	308.5	259.9	169.0	97.9	60.7	46.7	60.7	97.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	493.8	486.1	424.5	348.3	306.7	214.0	139.5	95.3	82.2	95.3	139.5
115°	525.9	521.5	464.4	385.5	350.0	265.1	185.4	136.0	120.4	136.0	185.4
117.5°	559.7	558.8	493.8	423.7	401.9	311.0	227.9	176.7	160.2	176.7	227.9
120°	602.1	595.2	534.6	461.8	451.4	359.5	274.7	223.5	207.1	223.5	274.7
122.5°	631.6	627.2	569.3	498.2	498.2	408.9	319.7	268.5	251.2	268.5	319.7
125°	658.5	656.7	595.2	534.6	548.4	454.8	369.9	318.0	298.8	318.0	369.9
127.5°	682.7	685.3	629.0	574.4	599.5	501.7	419.3	362.2	342.2	362.2	419.3
130°	703.5	712.2	661.1	610.8	648.1	552.8	463.5	406.3	393.3	406.3	463.5
132.5°	744.2	739.1	693.9	648.1	700.1	599.5	510.2	450.5	435.8	450.5	510.2
135°	765.0	766.8	722.6	680.1	748.6	646.3	554.5	495.6	480.8	495.6	554.5
137.5°	790.2	784.9	745.1	719.1	793.6	691.4	597.8	543.2	519.9	543.2	597.8
140°	809.2	808.3	775.4	753.8	842.2	735.6	642.9	587.4	565.7	587.4	642.9
142.5°	828.2	833.5	804.8	792.0	890.6	782.3	690.5	629.8	609.0	629.8	690.5
145°	841.2	852.5	834.3	840.4	936.6	835.1	732.1	670.6	648.0	670.6	732.1
147.5°	862.9	877.7	856.0	874.2	976.5	881.1	773.7	713.0	693.1	713.0	773.7
150°	892.4	899.3	886.3	921.0	1017.2	932.3	816.1	753.7	733.8	753.7	816.1
152.5°	915.7	924.4	909.8	972.1	1049.2	979.0	862.9	793.6	770.2	793.6	862.9
155°	940.0	943.5	933.1	1021.4	1083.0	1025.0	900.2	837.8	815.3	837.8	900.2
157.5°	962.6	969.5	957.4	1058.8	1112.5	1064.7	942.6	882.0	862.0	882.0	942.6
160°	986.8	986.8	993.7	1101.2	1136.8	1098.6	987.7	930.6	902.8	930.6	987.7
162.5°	989.4	1005.9	1043.2	1131.5	1160.1	1128.9	1036.3	965.2	940.8	965.2	1036.3
165°	1027.5	1042.2	1098.6	1158.4	1178.3	1155.8	1096.0	1022.4	993.7	1022.4	1096.0
167.5°	1067.4	1098.6	1142.7	1188.7	1195.6	1180.9	1141.1	1090.8	1064.7	1090.8	1141.1
170°	1131.5	1159.2	1180.9	1200.8	1210.3	1201.7	1169.7	1145.3	1128.1	1145.3	1169.7
172.5°	1182.6	1199.9	1208.7	1221.6	1215.5	1212.1	1195.6	1183.6	1174.8	1183.6	1195.6
175°	1214.7	1218.2	1226.8	1222.6	1227.6	1218.2	1219.0	1224.3	1188.7	1224.3	1219.0
177.5°	1225.9	1232.0	1228.5	1220.7	1221.6	1219.9	1223.3	1225.9	1220.7	1225.9	1223.3
180°	1226.8	1226.8	1226.8	1226.8	1226.8	1226.8	1226.8	1226.8	1226.8	1226.8	1226.8



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CATALOG NUMBER: MWL-2-35-17-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	652.7	652.7	652.7	652.7	652.7	652.7
2.5°	650.2	649.3	651.0	652.7	651.0	649.2
5°	646.8	645.2	646.8	649.3	647.6	646.0
7.5°	641.0	640.2	641.8	642.7	642.7	640.9
10°	632.6	631.8	633.5	635.2	635.2	633.4
12.5°	622.6	620.9	622.6	624.2	625.2	625.2
15°	610.1	609.2	610.8	611.7	612.7	613.4
17.5°	598.3	597.6	598.3	598.3	599.3	600.9
20°	582.5	581.7	583.3	583.3	585.1	585.1
22.5°	565.8	565.8	566.7	567.5	567.6	566.8
25°	548.3	549.1	549.1	550.1	548.4	547.6
27.5°	530.0	530.0	530.8	530.1	527.6	524.2
30°	510.8	510.8	512.5	508.3	503.3	500.8
32.5°	489.1	491.6	490.8	484.9	477.4	474.2
35°	464.1	467.3	466.7	458.3	447.4	445.8
37.5°	440.7	445.7	443.3	428.3	417.4	418.2
40°	414.0	419.8	415.7	396.6	388.2	389.9
42.5°	385.6	395.6	387.3	364.7	361.5	363.2
45°	353.1	366.4	354.7	334.7	333.9	336.4
47.5°	319.7	338.1	320.6	306.3	308.8	313.1
50°	287.1	302.2	288.8	278.8	285.5	289.7
52.5°	257.1	263.0	258.8	253.8	263.8	266.3
55°	226.2	221.2	227.9	230.4	242.1	245.5
57.5°	195.3	185.3	197.1	207.1	221.2	222.9
60°	165.2	157.7	166.1	180.3	197.1	201.2
62.5°	136.9	133.6	137.7	155.3	173.7	176.2
65°	114.4	113.6	115.2	130.2	148.6	153.6
67.5°	95.2	96.0	95.2	108.6	124.4	132.7
70°	78.5	81.8	78.5	89.4	101.9	111.1
72.5°	63.4	66.7	64.3	72.7	82.7	93.5
75°	50.9	55.1	50.9	56.7	66.0	76.8
77.5°	40.9	44.2	40.9	43.4	57.7	70.4
80°	30.9	34.2	30.9	36.1	60.7	73.4
82.5°	21.7	23.4	21.7	41.4	74.0	85.1
85°	17.6	14.2	19.3	56.3	94.1	104.5
87.5°	16.8	3.4	29.0	77.2	122.0	128.9
90°	11.0	0.9	43.8	105.1	151.6	157.7
92.5°	6.0	13.9	65.7	134.7	183.8	191.7
95°	4.3	34.6	90.9	167.7	218.6	222.9
97.5°	10.4	61.5	121.3	200.8	252.6	256.9
100°	28.6	94.4	158.5	236.5	284.8	286.5
102.5°	53.8	130.0	194.1	272.1	320.6	332.6
105°	88.4	171.5	232.2	314.4	359.5	371.7
107.5°	127.3	214.9	270.3	352.6	400.2	408.9
110°	169.0	259.9	308.5	389.9	441.9	452.2



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	214.0	306.7	348.3	424.5	486.1	493.8
115°	265.1	350.0	385.5	464.4	521.5	525.9
117.5°	311.0	401.9	423.7	493.8	558.8	559.7
120°	359.5	451.4	461.8	534.6	595.2	602.1
122.5°	408.9	498.2	498.2	569.3	627.2	631.6
125°	454.8	548.4	534.6	595.2	656.7	658.5
127.5°	501.7	599.5	574.4	629.0	685.3	682.7
130°	552.8	648.1	610.8	661.1	712.2	703.5
132.5°	599.5	700.1	648.1	693.9	739.1	744.2
135°	646.3	748.6	680.1	722.6	766.8	765.0
137.5°	691.4	793.6	719.1	745.1	784.9	790.2
140°	735.6	842.2	753.8	775.4	808.3	809.2
142.5°	782.3	890.6	792.0	804.8	833.5	828.2
145°	835.1	936.6	840.4	834.3	852.5	841.2
147.5°	881.1	976.5	874.2	856.0	877.7	862.9
150°	932.3	1017.2	921.0	886.3	899.3	892.4
152.5°	979.0	1049.2	972.1	909.8	924.4	915.7
155°	1025.0	1083.0	1021.4	933.1	943.5	940.0
157.5°	1064.7	1112.5	1058.8	957.4	969.5	962.6
160°	1098.6	1136.8	1101.2	993.7	986.8	986.8
162.5°	1128.9	1160.1	1131.5	1043.2	1005.9	989.4
165°	1155.8	1178.3	1158.4	1098.6	1042.2	1027.5
167.5°	1180.9	1195.6	1188.7	1142.7	1098.6	1067.4
170°	1201.7	1210.3	1200.8	1180.9	1159.2	1131.5
172.5°	1212.1	1215.5	1221.6	1208.7	1199.9	1182.6
175°	1218.2	1227.6	1222.6	1226.8	1218.2	1214.7
177.5°	1219.9	1221.6	1220.7	1228.5	1232.0	1225.9
180°	1226.8	1226.8	1226.8	1226.8	1226.8	1226.8

(END OF REPORT)