

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: P392655

Luminaire Tested: **MWL-4-34-25-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392655
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-4-34-25-UNV-L930-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

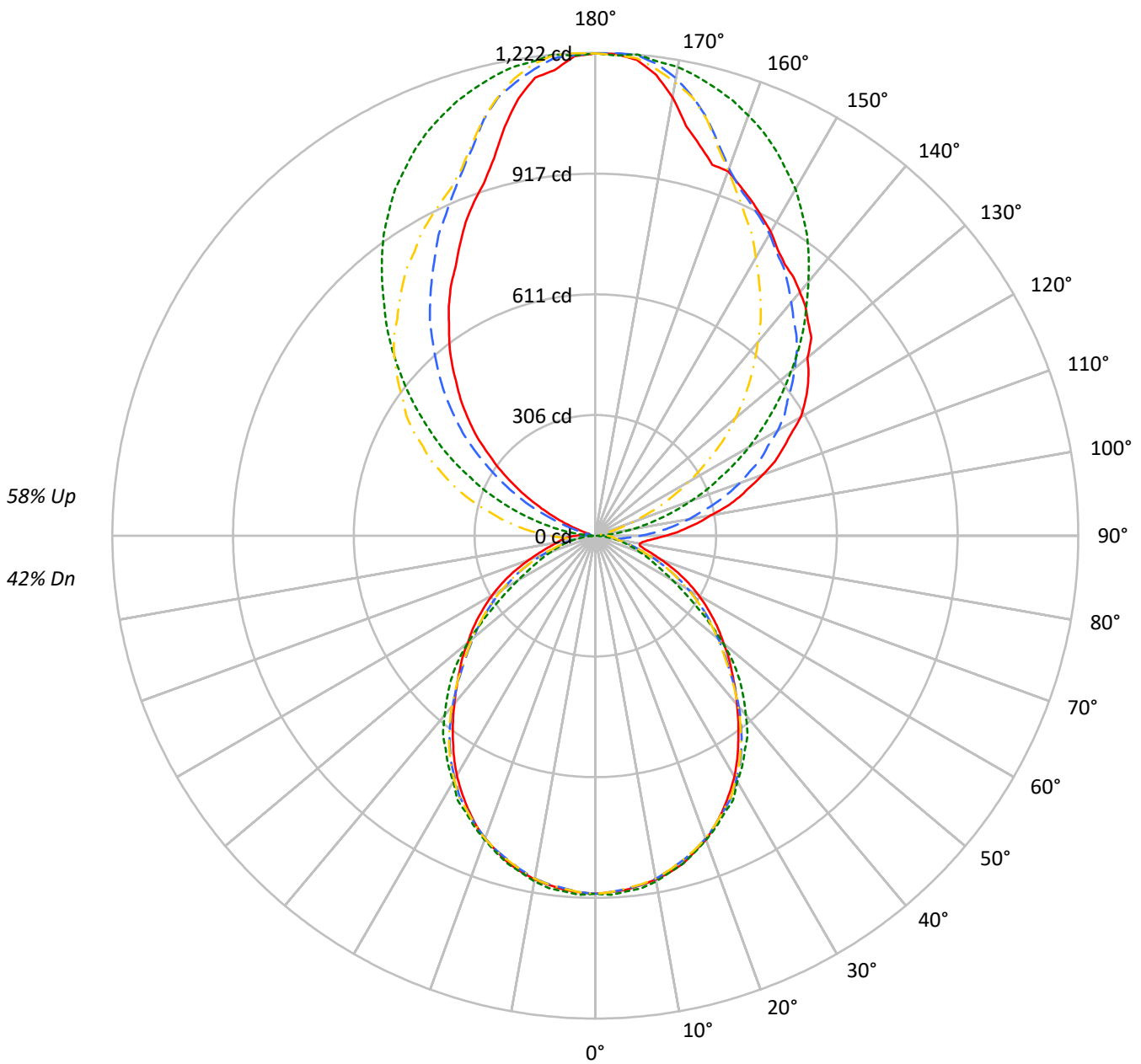
Lumens per Lamp: N/A
Luminaire Lumens: 5058.5 lumens
Efficiency: N/A
Efficacy: 87.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 57.671
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



— 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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42				
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	36				
2	88	80	74	69	80	74	69	64	61	57	54	49	47	44	38	37	35	30				
3	80	71	64	58	73	65	59	54	54	49	46	44	41	38	34	32	30	26				
4	73	63	55	49	67	58	51	46	48	43	39	39	36	33	31	28	26	22				
5	67	56	48	42	61	52	45	39	43	38	34	35	31	28	28	25	23	20				
6	62	50	42	37	57	46	39	34	39	34	30	32	28	25	25	23	20	17				
7	57	45	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	16				
8	53	41	34	29	49	38	31	27	32	27	23	27	23	20	21	19	16	14				
9	50	38	30	25	45	35	28	24	30	24	21	24	21	18	20	17	15	13				
10	46	35	27	23	42	32	26	21	27	22	19	23	19	16	18	16	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	5852	5852	5852	5852
5°	5778	5387	5778	5387
10°	5688	4952	5688	4952
15°	5586	4529	5569	4529
20°	5418	4127	5401	4127
25°	5200	3759	5181	3759
30°	4953	3397	4929	3397
35°	4633	3061	4615	3061
40°	4325	2717	4299	2717
45°	4042	2359	4020	2359
50°	3785	1930	3763	1930
55°	3563	1451	3546	1451
60°	3302	1075	3294	1075
65°	2999	797	2999	797
70°	2606	596	2619	596
75°	2293	437	2339	437
80°	2658	283	2277	283
85°	4533	126	2638	126



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.4	1.7
10°-20°	241.0	4.8
20°-30°	354.0	7.0
30°-40°	402.4	8.0
40°-50°	378.7	7.5
50°-60°	303.8	6.0
60°-70°	201.9	4.0
70°-80°	106.1	2.1
80°-90°	67.4	1.3
90°-100°	100.4	2.0
100°-110°	190.0	3.8
110°-120°	324.4	6.4
120°-130°	440.8	8.7
130°-140°	502.7	9.9
140°-150°	501.4	9.9
150°-160°	436.6	8.6
160°-170°	307.1	6.1
170°-180°	114.4	2.3
0°-30°	680.4	13.5
0°-40°	1082.8	21.4
0°-60°	1765.2	34.9
0°-90°	2140.6	42.3
90°-120°	614.9	12.2
90°-150°	2059.8	40.7
90°-180°	2918.0	57.7
0°-180°	5058.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	906	906	906	906	906	
5°	899	904	899	904	899	85
15°	859	859	856	859	859	241
25°	765	773	762	773	765	352
35°	630	660	628	660	630	395
45°	489	516	486	516	489	378
55°	364	313	362	313	364	325
65°	240	164	240	164	240	237
75°	128	83	130	83	128	142
85°	134	21	78	21	134	106
90°	178	1	48	1	178	98
95°	234	35	30	35	234	204
105°	377	171	14	171	377	396
115°	524	348	121	348	524	520
125°	656	546	298	546	656	586
135°	762	746	479	746	762	588
145°	837	933	645	933	837	528
155°	935	1078	811	1078	935	431
165°	1022	1173	989	1173	1022	290
175°	1209	1222	1183	1222	1209	113
180°	1221	1221	1221	1221	1221	



TEST NUMBER: P392655

CATALOG NUMBER: MWL-4-34-25-UNV-L930-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	906.1	906.1	906.1	906.1	906.1	906.1	906.1	906.1	906.1	906.1	906.1
2.5°	902.7	902.7	902.8	912.9	909.6	912.1	902.8	902.7	903.6	902.7	902.8
5°	899.3	899.3	896.9	904.4	903.7	904.4	895.9	899.3	899.3	899.3	895.9
7.5°	891.7	891.7	890.9	896.9	899.4	895.9	890.0	890.9	891.7	890.9	890.0
10°	883.2	883.2	881.6	886.7	888.3	885.8	880.8	881.6	883.2	881.6	880.8
12.5°	872.4	874.0	866.3	871.4	872.3	871.4	866.3	872.3	870.6	872.3	866.3
15°	858.8	853.6	851.2	858.8	858.8	857.9	850.3	852.0	856.2	852.0	850.3
17.5°	837.7	838.5	835.1	839.3	839.3	839.3	834.3	837.6	835.1	837.6	834.3
20°	818.2	817.5	815.7	819.9	819.0	819.0	814.8	815.7	815.7	815.7	814.8
22.5°	792.9	795.4	792.8	796.2	797.9	795.4	792.0	793.7	791.1	793.7	792.0
25°	765.1	765.9	768.3	773.4	773.4	772.6	766.7	763.2	762.4	763.2	766.7
27.5°	734.6	737.9	745.5	752.3	754.8	751.4	743.8	735.4	732.0	735.4	743.8
30°	704.1	704.1	713.5	720.2	718.5	718.5	710.8	701.6	700.7	701.6	710.8
32.5°	668.7	668.7	681.3	693.1	691.5	691.5	678.8	665.2	665.2	665.2	678.8
35°	630.5	633.1	645.0	661.9	660.1	659.3	642.4	630.5	628.1	630.5	642.4
37.5°	594.2	592.6	606.0	625.5	633.1	623.0	603.5	590.0	591.7	590.0	603.5
40°	557.9	554.5	564.7	586.6	592.6	584.9	561.2	551.1	554.5	551.1	561.2
42.5°	523.2	517.3	522.4	545.2	554.5	543.5	519.8	513.9	519.8	513.9	519.8
45°	488.6	481.8	480.1	504.6	516.5	502.9	476.7	479.3	486.0	479.3	476.7
47.5°	458.1	448.9	442.1	457.3	472.6	456.5	438.7	446.3	455.7	446.3	438.7
50°	423.5	415.9	406.6	413.4	421.0	411.6	403.1	412.4	421.0	412.4	403.1
52.5°	394.7	385.5	371.9	372.8	366.0	371.1	369.4	382.0	392.3	382.0	369.4
55°	363.5	355.0	339.0	328.9	312.8	327.1	336.4	352.5	361.8	352.5	336.4
57.5°	333.1	327.2	306.1	285.7	265.5	284.0	303.4	324.6	331.4	324.6	303.4
60°	301.8	295.8	272.3	240.1	227.4	239.1	270.5	294.1	301.0	294.1	270.5
62.5°	271.4	267.1	239.2	203.0	191.0	202.0	237.5	265.4	270.5	265.4	237.5
65°	240.1	233.3	207.2	169.9	163.9	169.1	206.2	232.5	240.1	232.5	206.2
67.5°	208.0	201.2	175.0	142.8	142.0	142.8	174.1	200.3	208.0	200.3	174.1
70°	177.5	167.4	143.7	118.3	118.3	118.3	143.7	168.3	178.4	168.3	143.7
72.5°	150.5	137.8	117.5	98.0	100.6	97.2	117.5	138.7	152.2	138.7	117.5
75°	127.6	111.6	93.0	78.6	82.9	78.6	93.8	112.5	130.2	112.5	93.8
77.5°	115.1	94.7	72.6	61.7	66.7	61.7	73.5	92.2	111.6	92.2	73.5
80°	113.7	90.8	59.3	46.5	50.7	46.5	57.5	77.0	97.4	77.0	57.5
82.5°	120.9	97.0	59.4	32.9	35.5	32.9	49.1	66.0	88.1	66.0	49.1
85°	134.0	112.7	70.8	28.8	21.1	27.0	45.8	60.1	78.0	60.1	45.8
87.5°	153.3	137.1	89.0	35.8	6.8	23.8	39.9	54.3	64.5	54.3	39.9
90°	177.6	163.1	115.0	48.9	0.9	16.0	29.7	41.5	48.3	41.5	29.7
92.5°	207.1	194.2	141.8	69.6	14.6	10.1	23.8	34.7	38.1	34.7	23.8
95°	233.9	228.0	173.8	93.1	35.3	6.9	18.7	27.9	29.7	27.9	18.7
97.5°	266.0	262.5	206.7	121.5	62.1	11.2	16.1	25.4	24.6	25.4	16.1
100°	295.4	293.6	240.4	158.7	94.8	29.3	11.9	23.0	23.9	23.0	11.9
102.5°	339.4	327.4	271.5	194.0	130.1	54.2	14.6	17.1	18.8	17.1	14.6
105°	376.6	362.9	312.8	231.0	170.6	87.9	34.5	16.2	13.6	16.2	34.5
107.5°	409.4	399.0	350.8	268.9	213.7	126.7	63.8	33.5	23.2	33.5	63.8
110°	450.8	440.5	387.9	306.9	258.6	168.1	97.4	61.2	47.4	61.2	97.4



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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°	492.2	484.5	422.4	346.5	305.2	212.9	138.8	95.7	82.8	95.7	138.8
115°	524.1	519.8	462.9	383.6	348.3	263.8	185.3	136.1	120.7	136.1	185.3
117.5°	557.7	556.8	492.2	422.3	400.0	310.4	227.5	176.7	160.3	176.7	227.5
120°	600.0	593.0	532.7	460.2	449.9	358.6	274.1	223.2	206.9	223.2	274.1
122.5°	629.2	624.9	567.2	496.5	496.5	407.7	318.9	268.1	250.9	268.1	318.9
125°	656.0	654.2	593.0	532.7	546.4	453.5	368.9	317.2	298.2	317.2	368.9
127.5°	680.1	682.7	626.7	572.3	597.3	499.9	418.1	361.1	341.4	361.1	418.1
130°	700.8	709.4	658.5	608.6	645.6	550.8	462.1	405.2	392.3	405.2	462.1
132.5°	741.3	736.1	691.4	645.6	697.4	597.3	508.5	449.1	434.4	449.1	508.5
135°	762.0	763.7	719.7	677.5	745.6	643.9	552.6	493.9	479.3	493.9	552.6
137.5°	787.0	781.9	742.2	716.4	790.4	688.7	595.7	541.3	518.1	541.3	595.7
140°	805.1	804.2	771.5	750.8	838.8	732.7	639.6	584.4	562.9	584.4	639.6
142.5°	824.1	830.1	800.8	788.7	887.0	779.2	687.1	627.5	606.0	627.5	687.1
145°	837.0	848.2	830.1	836.1	932.7	830.9	728.3	667.2	644.8	667.2	728.3
147.5°	858.6	873.2	851.6	869.8	972.3	876.7	769.7	709.4	689.5	709.4	769.7
150°	887.8	894.8	881.8	916.3	1012.8	927.5	812.0	749.9	730.1	749.9	812.0
152.5°	911.1	919.8	905.1	967.2	1044.8	974.0	858.6	789.6	766.3	789.6	858.6
155°	935.3	938.7	928.4	1016.3	1078.4	1019.8	895.6	833.6	811.2	833.6	895.6
157.5°	957.7	964.6	952.5	1053.4	1107.7	1059.4	937.8	877.5	857.7	877.5	937.8
160°	981.8	981.8	988.7	1096.5	1131.8	1093.8	982.6	925.8	898.2	925.8	982.6
162.5°	984.4	1000.9	1037.8	1126.7	1155.0	1124.0	1031.0	960.3	936.1	960.3	1031.0
165°	1022.3	1037.0	1093.1	1153.4	1173.3	1150.7	1090.4	1017.2	988.7	1017.2	1090.4
167.5°	1062.0	1093.1	1137.8	1183.6	1190.4	1175.7	1136.1	1085.2	1059.4	1085.2	1136.1
170°	1126.7	1153.4	1175.7	1194.8	1204.3	1195.6	1164.6	1139.6	1123.2	1139.6	1164.6
172.5°	1176.7	1194.8	1203.4	1215.4	1210.2	1205.9	1190.4	1178.4	1169.0	1178.4	1190.4
175°	1208.6	1212.9	1220.6	1216.3	1222.3	1212.0	1212.9	1218.9	1182.7	1218.9	1212.9
177.5°	1219.8	1226.6	1222.3	1214.6	1216.2	1213.7	1217.2	1220.6	1214.6	1220.6	1217.2
180°	1220.6	1220.6	1220.6	1220.6	1220.6	1220.6	1220.6	1220.6	1220.6	1220.6	1220.6



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	906.1	906.1	906.1	906.1	906.1	906.1
2.5°	912.1	909.6	912.9	902.8	902.7	902.7
5°	904.4	903.7	904.4	896.9	899.3	899.3
7.5°	895.9	899.4	896.9	890.9	891.7	891.7
10°	885.8	888.3	886.7	881.6	883.2	883.2
12.5°	871.4	872.3	871.4	866.3	874.0	872.4
15°	857.9	858.8	858.8	851.2	853.6	858.8
17.5°	839.3	839.3	839.3	835.1	838.5	837.7
20°	819.0	819.0	819.9	815.7	817.5	818.2
22.5°	795.4	797.9	796.2	792.8	795.4	792.9
25°	772.6	773.4	773.4	768.3	765.9	765.1
27.5°	751.4	754.8	752.3	745.5	737.9	734.6
30°	718.5	718.5	720.2	713.5	704.1	704.1
32.5°	691.5	691.5	693.1	681.3	668.7	668.7
35°	659.3	660.1	661.9	645.0	633.1	630.5
37.5°	623.0	633.1	625.5	606.0	592.6	594.2
40°	584.9	592.6	586.6	564.7	554.5	557.9
42.5°	543.5	554.5	545.2	522.4	517.3	523.2
45°	502.9	516.5	504.6	480.1	481.8	488.6
47.5°	456.5	472.6	457.3	442.1	448.9	458.1
50°	411.6	421.0	413.4	406.6	415.9	423.5
52.5°	371.1	366.0	372.8	371.9	385.5	394.7
55°	327.1	312.8	328.9	339.0	355.0	363.5
57.5°	284.0	265.5	285.7	306.1	327.2	333.1
60°	239.1	227.4	240.1	272.3	295.8	301.8
62.5°	202.0	191.0	203.0	239.2	267.1	271.4
65°	169.1	163.9	169.9	207.2	233.3	240.1
67.5°	142.8	142.0	142.8	175.0	201.2	208.0
70°	118.3	118.3	118.3	143.7	167.4	177.5
72.5°	97.2	100.6	98.0	117.5	137.8	150.5
75°	78.6	82.9	78.6	93.0	111.6	127.6
77.5°	61.7	66.7	61.7	72.6	94.7	115.1
80°	46.5	50.7	46.5	59.3	90.8	113.7
82.5°	32.9	35.5	32.9	59.4	97.0	120.9
85°	27.0	21.1	28.8	70.8	112.7	134.0
87.5°	23.8	6.8	35.8	89.0	137.1	153.3
90°	16.0	0.9	48.9	115.0	163.1	177.6
92.5°	10.1	14.6	69.6	141.8	194.2	207.1
95°	6.9	35.3	93.1	173.8	228.0	233.9
97.5°	11.2	62.1	121.5	206.7	262.5	266.0
100°	29.3	94.8	158.7	240.4	293.6	295.4
102.5°	54.2	130.1	194.0	271.5	327.4	339.4
105°	87.9	170.6	231.0	312.8	362.9	376.6
107.5°	126.7	213.7	268.9	350.8	399.0	409.4
110°	168.1	258.6	306.9	387.9	440.5	450.8



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	212.9	305.2	346.5	422.4	484.5	492.2
115°	263.8	348.3	383.6	462.9	519.8	524.1
117.5°	310.4	400.0	422.3	492.2	556.8	557.7
120°	358.6	449.9	460.2	532.7	593.0	600.0
122.5°	407.7	496.5	496.5	567.2	624.9	629.2
125°	453.5	546.4	532.7	593.0	654.2	656.0
127.5°	499.9	597.3	572.3	626.7	682.7	680.1
130°	550.8	645.6	608.6	658.5	709.4	700.8
132.5°	597.3	697.4	645.6	691.4	736.1	741.3
135°	643.9	745.6	677.5	719.7	763.7	762.0
137.5°	688.7	790.4	716.4	742.2	781.9	787.0
140°	732.7	838.8	750.8	771.5	804.2	805.1
142.5°	779.2	887.0	788.7	800.8	830.1	824.1
145°	830.9	932.7	836.1	830.1	848.2	837.0
147.5°	876.7	972.3	869.8	851.6	873.2	858.6
150°	927.5	1012.8	916.3	881.8	894.8	887.8
152.5°	974.0	1044.8	967.2	905.1	919.8	911.1
155°	1019.8	1078.4	1016.3	928.4	938.7	935.3
157.5°	1059.4	1107.7	1053.4	952.5	964.6	957.7
160°	1093.8	1131.8	1096.5	988.7	981.8	981.8
162.5°	1124.0	1155.0	1126.7	1037.8	1000.9	984.4
165°	1150.7	1173.3	1153.4	1093.1	1037.0	1022.3
167.5°	1175.7	1190.4	1183.6	1137.8	1093.1	1062.0
170°	1195.6	1204.3	1194.8	1175.7	1153.4	1126.7
172.5°	1205.9	1210.2	1215.4	1203.4	1194.8	1176.7
175°	1212.0	1222.3	1216.3	1220.6	1212.9	1208.6
177.5°	1213.7	1216.2	1214.6	1222.3	1226.6	1219.8
180°	1220.6	1220.6	1220.6	1220.6	1220.6	1220.6

(END OF REPORT)