

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: P392594

Luminaire Tested: **MWL-3-37-25-UNV-L940-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392594
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-13 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-3-37-25-UNV-L940-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5674.3 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

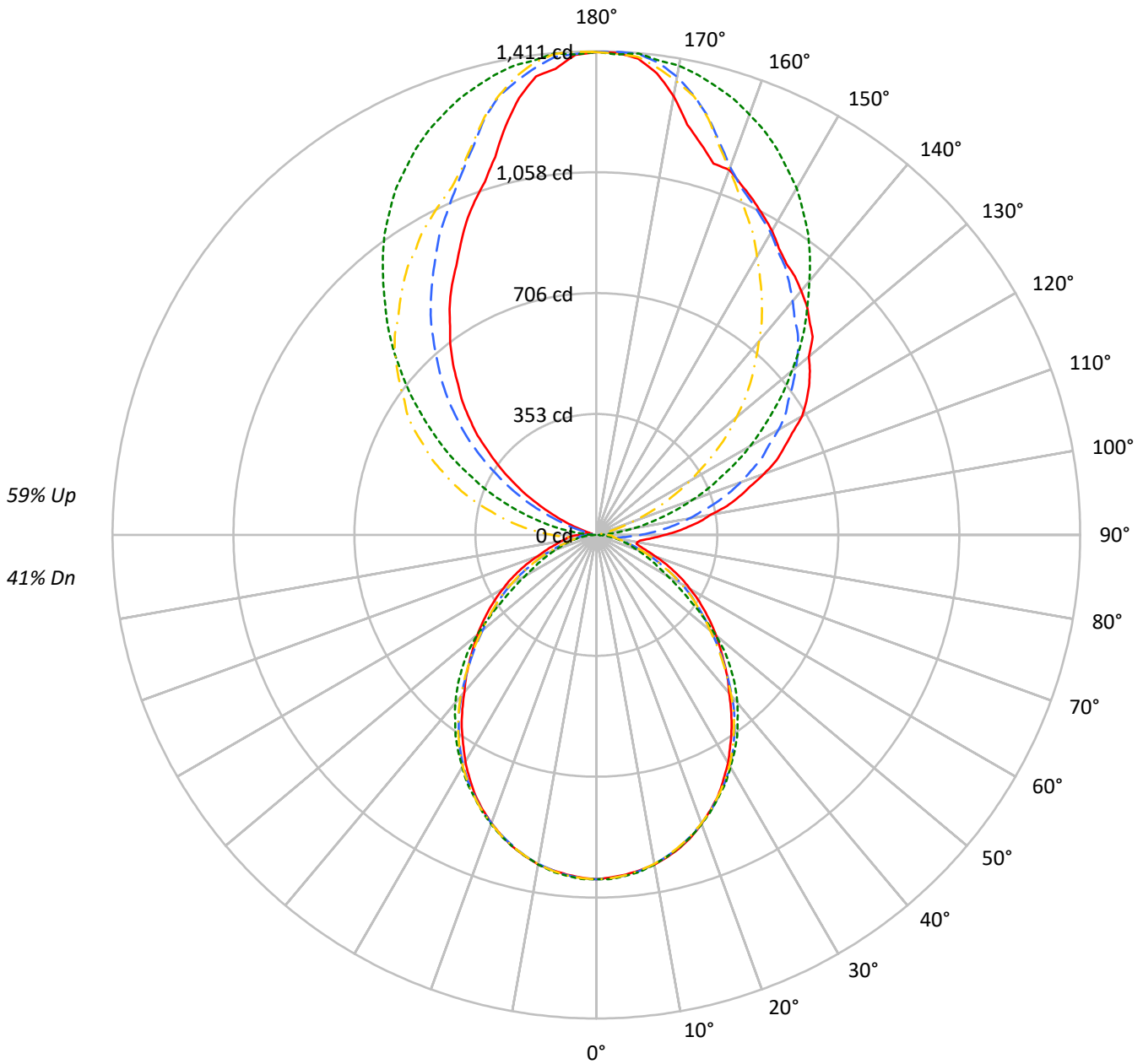
Input Watts (W): 61.004
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41
1	96	92	88	84	87	84	80	77	69	66	64	55	53	52	42	41	40	34
2	87	80	74	69	79	73	68	64	60	57	54	48	46	44	37	36	34	29
3	80	71	64	58	73	65	59	54	53	49	45	43	40	37	33	31	30	25
4	73	63	55	49	66	58	51	46	48	43	39	39	35	32	30	28	26	22
5	67	56	48	42	61	51	44	39	43	38	34	35	31	28	27	25	23	19
6	62	50	42	37	56	46	39	34	39	33	29	31	28	25	25	22	20	17
7	57	45	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	34	28	48	38	31	27	32	27	23	26	22	20	21	18	16	14
9	50	38	30	25	45	35	28	24	29	24	21	24	20	18	19	17	15	12
10	46	34	27	23	42	32	26	21	27	22	19	22	19	16	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	8652	8652	8652	8652
5°	8493	7936	8493	7936
10°	8334	7258	8334	7258
15°	8120	6621	8095	6621
20°	7827	6032	7802	6032
25°	7495	5464	7468	5464
30°	7069	4931	7033	4931
35°	6588	4425	6560	4425
40°	6070	3912	6031	3912
45°	5628	3381	5594	3381
50°	5232	2770	5198	2770
55°	4822	2063	4797	2063
60°	4381	1512	4367	1512
65°	3895	1146	3895	1146
70°	3324	846	3342	846
75°	2899	616	2965	616
80°	3373	400	2849	400
85°	5617	175	3150	175



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.5	1.7
10°-20°	265.2	4.7
20°-30°	387.1	6.8
30°-40°	437.4	7.7
40°-50°	409.3	7.2
50°-60°	323.2	5.7
60°-70°	211.4	3.7
70°-80°	110.6	1.9
80°-90°	72.7	1.3
90°-100°	113.7	2.0
100°-110°	218.3	3.8
110°-120°	374.1	6.6
120°-130°	508.2	9.0
130°-140°	579.8	10.2
140°-150°	578.5	10.2
150°-160°	503.7	8.9
160°-170°	354.4	6.2
170°-180°	132.0	2.3
0°-30°	746.9	13.2
0°-40°	1184.3	20.9
0°-60°	1916.8	33.8
0°-90°	2311.5	40.7
90°-120°	706.1	12.4
90°-150°	2372.6	41.8
90°-180°	3363.0	59.3
0°-180°	5674.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1005	1005	1005	1005	1005	
5°	994	998	994	998	994	94
15°	945	942	942	942	945	266
25°	840	843	837	843	840	385
35°	688	716	685	716	688	429
45°	526	555	523	555	526	407
55°	385	334	383	334	385	345
65°	248	177	248	177	248	247
75°	132	88	135	88	132	148
85°	147	22	82	22	147	115
90°	199	1	50	1	199	110
95°	269	41	33	41	269	235
105°	431	197	12	197	431	455
115°	605	402	139	402	605	600
125°	757	630	344	630	757	676
135°	880	860	553	860	880	679
145°	966	1076	744	1076	966	609
155°	1080	1244	936	1244	1080	498
165°	1180	1354	1141	1354	1180	335
175°	1395	1410	1365	1410	1395	130
180°	1409	1409	1409	1409	1409	



TEST NUMBER: P392594

CATALOG NUMBER: MWL-3-37-25-UNV-L940-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1004.7	1004.7	1004.7	1004.7	1004.7	1004.7	1004.7	1004.7	1004.7	1004.7	1004.7
2.5°	999.9	1003.8	1002.0	1003.9	1004.9	1002.9	1002.0	1003.8	1000.9	1003.8	1002.0
5°	994.5	998.3	997.5	997.5	998.4	997.5	996.5	998.3	994.5	998.3	996.5
7.5°	986.4	989.2	987.4	989.3	990.2	988.3	986.4	988.3	986.4	988.3	986.4
10°	976.4	976.4	975.5	976.4	976.4	975.5	974.6	974.5	976.4	974.5	974.6
12.5°	961.9	960.0	959.1	960.9	959.9	960.9	959.1	958.1	960.0	958.1	959.1
15°	944.7	942.7	940.9	942.7	941.7	941.7	939.9	940.8	941.8	940.8	939.9
17.5°	922.9	920.8	919.9	921.7	921.7	921.7	918.9	919.9	919.9	919.9	918.9
20°	897.3	898.2	896.2	898.9	897.9	897.9	895.2	896.2	894.4	896.2	895.2
22.5°	869.0	870.8	870.7	872.5	872.4	871.5	869.7	868.9	867.1	868.9	869.7
25°	839.9	838.9	842.5	846.0	843.2	845.0	840.6	836.0	836.9	836.0	840.6
27.5°	803.4	808.9	812.4	817.0	815.9	816.0	810.5	806.0	800.5	806.0	810.5
30°	767.9	770.6	779.7	785.1	782.2	783.2	776.8	767.7	764.0	767.7	776.8
32.5°	726.9	732.3	742.4	751.4	749.5	749.5	739.4	728.4	723.0	728.4	739.4
35°	687.6	689.4	702.2	714.9	715.7	712.0	699.3	686.5	684.7	686.5	699.3
37.5°	644.8	646.6	661.2	676.7	676.6	673.8	658.3	643.7	641.9	643.7	658.3
40°	602.9	603.8	615.6	635.7	640.1	633.7	611.7	599.9	599.0	599.9	611.7
42.5°	566.3	560.0	568.3	591.9	599.1	589.9	565.2	556.0	562.4	556.0	565.2
45°	526.3	519.0	523.5	545.4	555.3	543.4	519.5	516.0	523.2	516.0	519.5
47.5°	489.8	480.7	479.8	495.2	509.8	494.2	475.8	477.7	486.8	477.7	475.8
50°	455.2	444.3	436.1	446.9	453.2	444.9	432.0	440.2	452.2	440.2	432.0
52.5°	420.6	409.6	396.8	399.5	392.1	397.5	393.8	405.6	417.6	405.6	393.8
55°	384.9	375.8	360.3	351.1	333.7	349.1	357.3	372.8	382.9	372.8	357.3
57.5°	351.2	343.9	324.8	304.7	283.6	302.7	321.8	340.9	349.2	340.9	321.8
60°	315.6	312.0	286.4	257.2	239.9	256.2	284.4	310.0	314.6	310.0	284.4
62.5°	283.7	277.3	250.0	216.2	204.3	215.2	248.0	275.3	282.7	275.3	248.0
65°	248.1	243.5	212.6	182.5	176.9	181.5	211.6	242.5	248.1	242.5	211.6
67.5°	216.2	207.1	181.6	149.6	149.6	149.6	180.6	206.1	216.2	206.1	180.6
70°	182.4	173.3	149.6	125.0	125.9	125.0	149.6	174.3	183.4	174.3	149.6
72.5°	156.0	142.3	122.3	102.2	104.9	101.2	122.3	143.3	158.0	143.3	122.3
75°	132.3	115.9	96.7	83.0	87.6	83.0	97.7	116.9	135.3	116.9	97.7
77.5°	120.2	97.1	75.7	64.8	70.2	64.8	76.7	94.1	116.3	94.1	76.7
80°	121.6	94.6	62.3	49.3	53.8	49.3	60.3	78.7	102.7	78.7	60.3
82.5°	128.2	104.7	63.3	35.6	37.4	35.6	51.4	68.9	90.4	68.9	51.4
85°	147.1	124.5	77.0	29.5	22.0	27.5	48.1	63.8	82.5	63.8	48.1
87.5°	171.2	154.0	99.5	38.9	6.4	25.1	42.7	58.5	68.7	58.5	42.7
90°	199.0	185.4	129.8	53.5	1.0	15.7	31.3	45.2	49.7	45.2	31.3
92.5°	234.6	220.9	161.2	78.8	16.9	10.2	24.9	36.8	39.6	36.8	24.9
95°	268.9	261.0	198.4	105.3	40.7	5.8	19.4	30.2	33.1	30.2	19.4
97.5°	306.2	299.5	235.9	140.2	71.5	12.8	16.0	25.9	27.7	25.9	16.0
100°	338.7	335.8	275.2	182.9	109.3	33.7	11.5	23.4	25.2	23.4	11.5
102.5°	390.0	375.3	312.3	223.8	150.1	62.6	15.9	17.0	19.8	17.0	15.9
105°	431.3	414.6	361.1	266.6	196.9	101.4	39.7	14.7	12.4	14.7	39.7
107.5°	470.4	460.5	404.9	310.3	246.6	146.1	73.5	38.6	24.7	38.6	73.5
110°	520.1	508.2	447.6	354.1	298.4	194.0	112.3	70.4	54.6	70.4	112.3



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CATALOG NUMBER: MWL-3-37-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	568.1	559.0	487.4	399.9	352.1	245.6	160.1	110.2	95.3	110.2	160.1
115°	604.9	599.9	533.2	442.7	401.9	304.4	212.8	157.1	139.1	157.1	212.8
117.5°	643.7	642.7	567.1	486.4	461.6	357.1	261.6	203.8	184.9	203.8	261.6
120°	692.4	684.4	613.9	530.3	518.2	412.8	315.3	257.5	238.6	257.5	315.3
122.5°	726.2	721.2	653.7	572.1	572.1	469.5	367.1	309.2	289.4	309.2	367.1
125°	757.0	755.1	683.5	613.9	629.8	522.2	424.8	366.0	344.1	366.0	424.8
127.5°	784.9	787.9	722.3	659.6	688.5	576.1	481.4	416.7	393.9	416.7	481.4
130°	808.8	818.7	759.1	701.5	744.2	634.8	532.2	467.5	452.5	467.5	532.2
132.5°	855.5	849.6	797.9	744.2	804.0	688.5	586.9	518.2	501.3	518.2	586.9
135°	879.5	881.4	830.6	781.0	859.6	742.3	637.7	570.0	553.0	570.0	637.7
137.5°	908.3	902.4	855.6	825.8	911.4	793.9	686.5	624.7	597.9	624.7	686.5
140°	929.2	928.2	890.4	866.5	967.0	845.6	738.2	674.5	649.6	674.5	738.2
142.5°	951.1	957.0	924.2	909.4	1022.8	898.4	792.9	723.2	699.4	723.2	792.9
145°	966.0	979.0	958.0	965.0	1075.6	959.0	840.7	770.0	744.1	770.0	840.7
147.5°	990.9	1007.8	982.9	1003.8	1121.3	1011.8	888.4	818.7	795.8	818.7	888.4
150°	1024.7	1032.6	1017.7	1057.5	1168.0	1070.5	937.2	865.5	842.7	865.5	937.2
152.5°	1051.6	1061.5	1043.7	1115.4	1204.8	1123.3	990.0	911.3	884.4	911.3	990.0
155°	1079.5	1083.4	1071.5	1172.0	1243.7	1176.0	1033.6	962.0	936.2	962.0	1033.6
157.5°	1105.3	1113.3	1099.3	1214.9	1277.5	1221.8	1082.4	1012.8	989.9	1012.8	1082.4
160°	1133.1	1133.1	1141.2	1265.5	1305.3	1262.5	1134.1	1068.4	1036.6	1068.4	1134.1
162.5°	1136.1	1154.1	1197.8	1300.3	1333.1	1297.3	1189.9	1107.4	1080.4	1107.4	1189.9
165°	1179.9	1195.9	1261.5	1331.1	1354.0	1328.2	1258.5	1173.0	1141.2	1173.0	1258.5
167.5°	1225.7	1260.6	1313.3	1366.0	1373.9	1357.0	1311.3	1251.7	1222.7	1251.7	1311.3
170°	1299.4	1330.2	1357.0	1378.9	1389.9	1379.9	1344.1	1314.4	1295.4	1314.4	1344.1
172.5°	1358.1	1378.0	1388.9	1402.8	1395.8	1391.8	1373.9	1359.1	1349.2	1359.1	1373.9
175°	1394.9	1398.9	1408.7	1403.8	1409.7	1398.8	1399.8	1405.8	1365.1	1405.8	1399.8
177.5°	1407.8	1414.8	1410.7	1401.8	1402.8	1400.8	1404.7	1407.8	1401.9	1407.8	1404.7
180°	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7



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CATALOG NUMBER: MWL-3-37-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1004.7	1004.7	1004.7	1004.7	1004.7	1004.7
2.5°	1002.9	1004.9	1003.9	1002.0	1003.8	999.9
5°	997.5	998.4	997.5	997.5	998.3	994.5
7.5°	988.3	990.2	989.3	987.4	989.2	986.4
10°	975.5	976.4	976.4	975.5	976.4	976.4
12.5°	960.9	959.9	960.9	959.1	960.0	961.9
15°	941.7	941.7	942.7	940.9	942.7	944.7
17.5°	921.7	921.7	921.7	919.9	920.8	922.9
20°	897.9	897.9	898.9	896.2	898.2	897.3
22.5°	871.5	872.4	872.5	870.7	870.8	869.0
25°	845.0	843.2	846.0	842.5	838.9	839.9
27.5°	816.0	815.9	817.0	812.4	808.9	803.4
30°	783.2	782.2	785.1	779.7	770.6	767.9
32.5°	749.5	749.5	751.4	742.4	732.3	726.9
35°	712.0	715.7	714.9	702.2	689.4	687.6
37.5°	673.8	676.6	676.7	661.2	646.6	644.8
40°	633.7	640.1	635.7	615.6	603.8	602.9
42.5°	589.9	599.1	591.9	568.3	560.0	566.3
45°	543.4	555.3	545.4	523.5	519.0	526.3
47.5°	494.2	509.8	495.2	479.8	480.7	489.8
50°	444.9	453.2	446.9	436.1	444.3	455.2
52.5°	397.5	392.1	399.5	396.8	409.6	420.6
55°	349.1	333.7	351.1	360.3	375.8	384.9
57.5°	302.7	283.6	304.7	324.8	343.9	351.2
60°	256.2	239.9	257.2	286.4	312.0	315.6
62.5°	215.2	204.3	216.2	250.0	277.3	283.7
65°	181.5	176.9	182.5	212.6	243.5	248.1
67.5°	149.6	149.6	149.6	181.6	207.1	216.2
70°	125.0	125.9	125.0	149.6	173.3	182.4
72.5°	101.2	104.9	102.2	122.3	142.3	156.0
75°	83.0	87.6	83.0	96.7	115.9	132.3
77.5°	64.8	70.2	64.8	75.7	97.1	120.2
80°	49.3	53.8	49.3	62.3	94.6	121.6
82.5°	35.6	37.4	35.6	63.3	104.7	128.2
85°	27.5	22.0	29.5	77.0	124.5	147.1
87.5°	25.1	6.4	38.9	99.5	154.0	171.2
90°	15.7	1.0	53.5	129.8	185.4	199.0
92.5°	10.2	16.9	78.8	161.2	220.9	234.6
95°	5.8	40.7	105.3	198.4	261.0	268.9
97.5°	12.8	71.5	140.2	235.9	299.5	306.2
100°	33.7	109.3	182.9	275.2	335.8	338.7
102.5°	62.6	150.1	223.8	312.3	375.3	390.0
105°	101.4	196.9	266.6	361.1	414.6	431.3
107.5°	146.1	246.6	310.3	404.9	460.5	470.4
110°	194.0	298.4	354.1	447.6	508.2	520.1



TEST NUMBER: P392594

CATALOG NUMBER: MWL-3-37-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	245.6	352.1	399.9	487.4	559.0	568.1
115°	304.4	401.9	442.7	533.2	599.9	604.9
117.5°	357.1	461.6	486.4	567.1	642.7	643.7
120°	412.8	518.2	530.3	613.9	684.4	692.4
122.5°	469.5	572.1	572.1	653.7	721.2	726.2
125°	522.2	629.8	613.9	683.5	755.1	757.0
127.5°	576.1	688.5	659.6	722.3	787.9	784.9
130°	634.8	744.2	701.5	759.1	818.7	808.8
132.5°	688.5	804.0	744.2	797.9	849.6	855.5
135°	742.3	859.6	781.0	830.6	881.4	879.5
137.5°	793.9	911.4	825.8	855.6	902.4	908.3
140°	845.6	967.0	866.5	890.4	928.2	929.2
142.5°	898.4	1022.8	909.4	924.2	957.0	951.1
145°	959.0	1075.6	965.0	958.0	979.0	966.0
147.5°	1011.8	1121.3	1003.8	982.9	1007.8	990.9
150°	1070.5	1168.0	1057.5	1017.7	1032.6	1024.7
152.5°	1123.3	1204.8	1115.4	1043.7	1061.5	1051.6
155°	1176.0	1243.7	1172.0	1071.5	1083.4	1079.5
157.5°	1221.8	1277.5	1214.9	1099.3	1113.3	1105.3
160°	1262.5	1305.3	1265.5	1141.2	1133.1	1133.1
162.5°	1297.3	1333.1	1300.3	1197.8	1154.1	1136.1
165°	1328.2	1354.0	1331.1	1261.5	1195.9	1179.9
167.5°	1357.0	1373.9	1366.0	1313.3	1260.6	1225.7
170°	1379.9	1389.9	1378.9	1357.0	1330.2	1299.4
172.5°	1391.8	1395.8	1402.8	1388.9	1378.0	1358.1
175°	1398.8	1409.7	1403.8	1408.7	1398.9	1394.9
177.5°	1400.8	1402.8	1401.8	1410.7	1414.8	1407.8
180°	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7

(END OF REPORT)