

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: P392596

Luminaire Tested: **MWL-3-37-28-UNV-L835-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392596
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-3-37-28-UNV-L835-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6418.0 lumens
Efficiency: N/A
Efficacy: 100.1 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

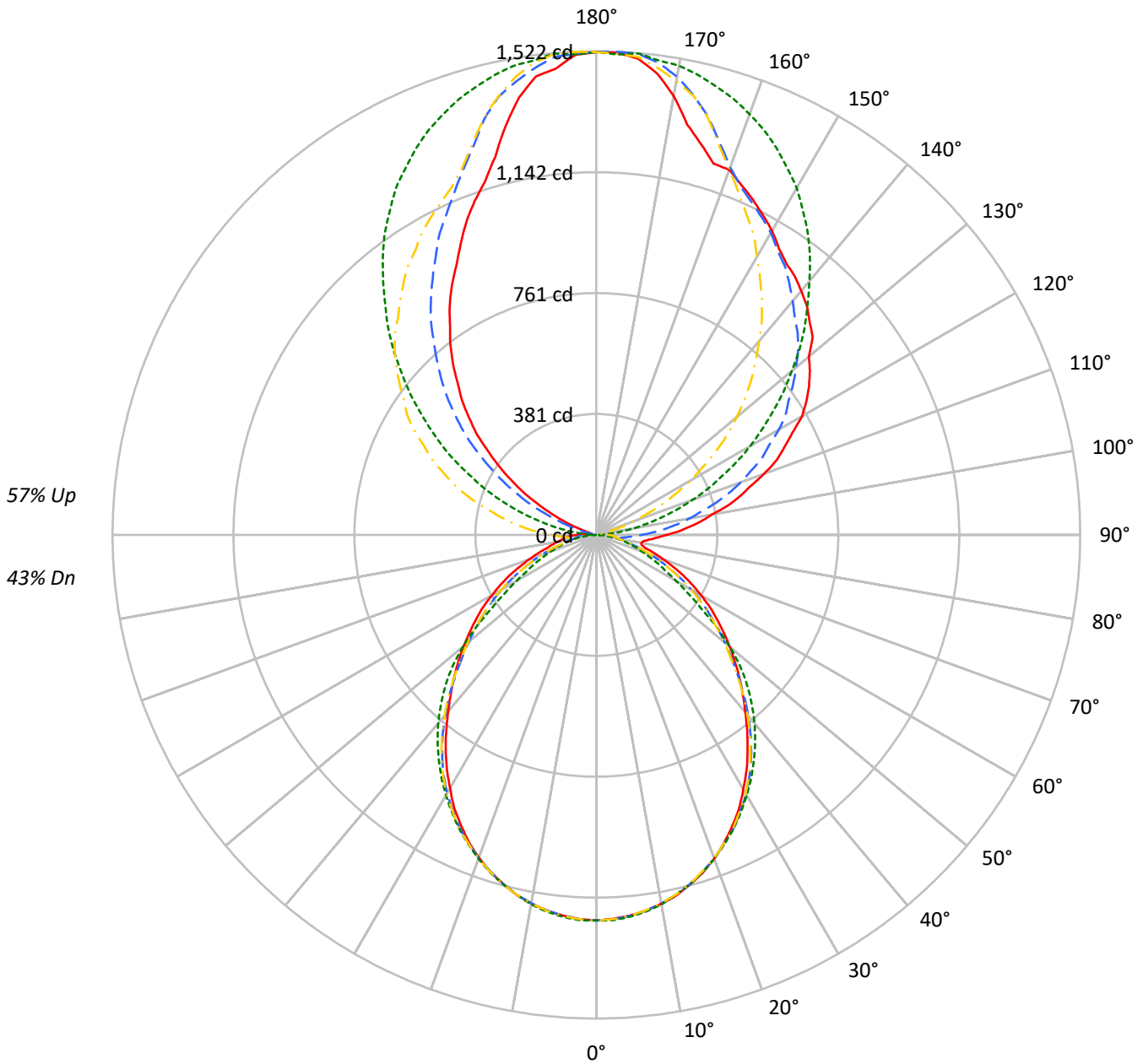
Input Watts (W): 64.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P392596

CATALOG NUMBER: MWL-3-37-28-UNV-L835-EDD

Luminous Intensity Polar Plot



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



TEST NUMBER: P392596

CATALOG NUMBER: MWL-3-37-28-UNV-L835-EDD

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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43				
1	96	92	88	85	88	84	81	78	70	68	66	57	55	54	44	43	42	37				
2	88	81	75	70	80	74	69	65	62	58	55	50	47	45	39	38	36	31				
3	80	71	64	58	73	65	59	54	55	50	46	45	41	39	35	33	31	27				
4	74	63	56	50	67	58	51	46	49	44	40	40	36	33	32	29	27	23				
5	68	56	49	43	62	52	45	40	44	38	34	36	32	29	29	26	24	20				
6	62	51	43	37	57	47	40	35	39	34	30	33	29	26	26	23	21	18				
7	58	46	38	33	53	42	35	31	36	30	27	30	26	23	24	21	19	16				
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	22	19	17	15				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13				
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	19	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	10449	10449	10449	10449
5°	10269	9591	10269	9591
10°	10054	8779	10054	8779
15°	9789	7998	9762	7998
20°	9455	7285	9427	7285
25°	9022	6613	8994	6613
30°	8510	5963	8471	5963
35°	7943	5344	7914	5344
40°	7338	4731	7295	4731
45°	6806	4091	6771	4091
50°	6299	3354	6262	3354
55°	5805	2481	5778	2481
60°	5273	1829	5257	1829
65°	4711	1383	4711	1383
70°	4069	1025	4089	1025
75°	3493	740	3565	740
80°	3995	490	3426	490
85°	6400	204	3738	204



TEST NUMBER: P392596

CATALOG NUMBER: MWL-3-37-28-UNV-L835-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.1	1.8
10°-20°	320.5	5.0
20°-30°	467.6	7.3
30°-40°	528.4	8.2
40°-50°	494.0	7.7
50°-60°	389.8	6.1
60°-70°	255.1	4.0
70°-80°	133.4	2.1
80°-90°	84.4	1.3
90°-100°	125.0	1.9
100°-110°	235.8	3.7
110°-120°	403.7	6.3
120°-130°	548.4	8.5
130°-140°	625.6	9.7
140°-150°	624.0	9.7
150°-160°	543.5	8.5
160°-170°	382.3	6.0
170°-180°	142.4	2.2
0°-30°	902.2	14.1
0°-40°	1430.6	22.3
0°-60°	2314.4	36.1
0°-90°	2787.3	43.4
90°-120°	764.5	11.9
90°-150°	2562.5	39.9
90°-180°	3631.0	56.6
0°-180°	6418.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1213	1213	1213	1213	1213	
5°	1202	1207	1202	1207	1202	114
15°	1139	1138	1136	1138	1139	321
25°	1011	1021	1008	1021	1011	465
35°	829	864	826	864	829	518
45°	636	672	633	672	636	491
55°	463	401	461	401	463	415
65°	300	214	300	214	300	297
75°	159	105	163	105	159	179
85°	168	26	98	26	168	132
90°	220	2	60	2	220	122
95°	294	44	40	44	294	256
105°	466	212	14	212	466	491
115°	652	434	150	434	652	647
125°	816	679	371	679	816	729
135°	949	927	597	927	949	732
145°	1042	1160	803	1160	1042	657
155°	1164	1342	1010	1342	1164	537
165°	1273	1460	1231	1460	1273	361
175°	1505	1521	1472	1521	1505	140
180°	1520	1520	1520	1520	1520	



TEST NUMBER: P392596

CATALOG NUMBER: MWL-3-37-28-UNV-L835-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1213.4	1213.4	1213.4	1213.4	1213.4	1213.4	1213.4	1213.4	1213.4	1213.4	1213.4
2.5°	1209.3	1211.4	1210.5	1212.6	1213.6	1211.5	1210.5	1211.4	1210.3	1211.4	1210.5
5°	1202.4	1204.6	1203.7	1204.6	1206.6	1204.6	1202.6	1204.6	1202.4	1204.6	1202.6
7.5°	1192.7	1194.7	1192.8	1194.8	1195.8	1193.7	1191.8	1193.7	1192.7	1193.7	1191.8
10°	1178.0	1179.0	1178.0	1179.0	1181.0	1178.0	1177.0	1176.9	1178.0	1176.9	1177.0
12.5°	1162.4	1161.3	1159.3	1160.3	1159.2	1160.3	1159.3	1159.2	1160.3	1159.2	1159.3
15°	1138.9	1138.7	1137.7	1139.7	1137.6	1138.6	1136.6	1136.6	1135.8	1136.6	1136.6
17.5°	1114.3	1113.1	1111.2	1113.0	1113.0	1113.0	1110.1	1112.2	1111.2	1112.2	1110.1
20°	1083.9	1084.7	1083.7	1085.5	1084.4	1084.4	1082.6	1082.7	1080.7	1082.7	1082.6
22.5°	1049.4	1051.3	1051.2	1055.1	1053.0	1054.0	1050.1	1049.3	1047.3	1049.3	1050.1
25°	1011.0	1014.0	1019.8	1021.6	1020.6	1020.6	1017.7	1010.8	1007.9	1010.8	1017.7
27.5°	971.7	974.7	980.5	985.4	984.2	984.3	978.4	971.5	968.6	971.5	978.4
30°	924.5	930.4	942.2	948.0	945.9	946.0	939.1	927.3	920.3	927.3	939.1
32.5°	879.3	884.2	897.0	907.7	906.7	905.7	893.9	880.0	875.1	880.0	893.9
35°	829.1	832.1	848.8	863.5	864.3	860.4	845.6	828.9	826.0	828.9	845.6
37.5°	779.0	780.0	797.7	818.3	820.2	815.2	794.5	776.8	775.8	776.8	794.5
40°	728.9	726.9	742.6	767.2	774.0	765.0	738.4	722.7	724.6	722.7	738.4
42.5°	681.7	674.8	687.6	715.1	723.9	712.9	684.3	670.6	677.5	670.6	684.3
45°	636.5	624.7	631.6	656.1	671.8	654.0	627.2	621.4	633.2	621.4	627.2
47.5°	591.3	580.5	577.5	597.1	614.8	596.0	573.2	577.2	588.0	577.2	573.2
50°	548.0	536.2	527.4	539.1	548.8	536.9	523.1	531.9	544.8	531.9	523.1
52.5°	504.8	494.0	479.1	481.1	477.1	478.9	475.9	489.6	501.5	489.6	475.9
55°	463.4	453.6	433.9	424.0	401.3	421.8	430.7	450.3	461.2	450.3	430.7
57.5°	424.1	415.2	390.7	366.0	341.3	363.8	387.4	412.0	421.9	412.0	387.4
60°	379.8	374.8	346.3	308.9	290.2	307.8	344.2	372.7	378.7	372.7	344.2
62.5°	340.5	334.6	302.1	260.7	245.9	259.7	300.0	332.4	339.4	332.4	300.0
65°	300.1	291.2	257.8	217.5	213.5	216.4	256.7	290.1	300.1	290.1	256.7
67.5°	259.8	250.9	219.5	183.0	180.1	183.0	218.4	249.8	259.8	249.8	218.4
70°	223.3	209.5	182.0	150.6	152.5	150.6	182.0	210.6	224.4	210.6	182.0
72.5°	189.9	170.2	149.6	124.0	127.9	123.0	149.6	171.3	192.0	171.3	149.6
75°	159.4	137.8	116.1	99.4	105.3	99.4	117.2	138.9	162.7	138.9	117.2
77.5°	145.4	116.6	90.5	78.7	86.6	78.7	91.6	113.3	141.1	113.3	91.6
80°	144.0	111.8	74.1	60.1	65.9	60.1	71.9	94.7	123.5	94.7	71.9
82.5°	149.1	120.8	75.2	42.4	45.3	42.4	62.3	82.2	108.3	82.2	62.3
85°	167.6	141.1	88.9	35.8	25.7	33.6	57.8	75.7	97.9	75.7	57.8
87.5°	191.6	172.0	112.2	43.9	6.9	29.0	51.0	69.0	81.0	69.0	51.0
90°	220.5	204.9	143.0	59.7	2.1	18.9	36.8	53.7	59.6	53.7	36.8
92.5°	259.0	242.2	176.8	86.0	18.2	12.0	29.8	43.6	48.6	43.6	29.8
95°	294.0	285.5	216.0	114.6	43.9	7.3	22.9	36.6	39.6	36.6	22.9
97.5°	333.3	326.0	256.4	151.3	77.2	13.9	19.3	30.9	32.8	30.9	19.3
100°	368.3	364.2	296.8	197.4	117.9	36.4	12.4	27.2	30.2	27.2	12.4
102.5°	422.6	405.8	336.9	241.4	162.0	67.5	17.1	19.4	23.3	19.4	17.1
105°	466.3	447.3	389.5	287.6	212.4	109.4	42.9	15.8	14.3	15.8	42.9
107.5°	507.4	496.7	436.8	334.8	266.1	157.6	79.3	41.7	26.6	41.7	79.3
110°	561.1	548.2	482.9	382.0	321.9	209.2	121.2	76.0	58.9	76.0	121.2



TEST NUMBER: P392596

CATALOG NUMBER: MWL-3-37-28-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	612.7	603.0	525.8	431.4	379.9	265.0	172.7	118.9	102.8	118.9	172.7
115°	652.4	647.0	576.1	477.6	433.5	328.4	230.6	169.4	150.1	169.4	230.6
117.5°	694.3	693.2	612.7	524.7	497.9	385.2	283.2	219.9	199.4	219.9	283.2
120°	746.8	738.2	663.1	572.0	559.0	445.3	341.1	277.7	257.4	277.7	341.1
122.5°	783.3	777.9	706.1	617.0	617.0	506.4	397.0	333.6	312.1	333.6	397.0
125°	816.5	814.5	738.2	662.1	679.3	563.4	459.2	394.8	371.2	394.8	459.2
127.5°	846.6	849.8	780.1	711.5	742.6	621.3	520.3	449.5	424.9	449.5	520.3
130°	872.4	883.1	819.8	756.6	802.7	684.6	575.1	504.3	488.2	504.3	575.1
132.5°	922.8	916.4	860.6	802.7	867.1	742.6	633.0	559.0	540.8	559.0	633.0
135°	948.6	950.7	895.9	843.4	927.2	801.6	687.8	614.8	596.6	614.8	687.8
137.5°	979.7	973.3	923.9	891.7	983.0	857.3	741.4	673.8	644.8	673.8	741.4
140°	1002.3	1001.2	960.4	934.7	1043.1	912.1	796.2	727.5	700.7	727.5	796.2
142.5°	1025.9	1032.3	996.9	981.8	1103.2	970.0	855.3	780.1	754.3	780.1	855.3
145°	1042.0	1055.9	1033.3	1040.9	1160.1	1034.4	906.8	830.5	802.6	830.5	906.8
147.5°	1068.8	1087.0	1060.2	1082.8	1209.5	1091.3	958.3	883.1	858.4	883.1	958.3
150°	1105.3	1113.8	1097.7	1140.7	1260.9	1154.6	1010.8	933.6	908.9	933.6	1010.8
152.5°	1134.3	1145.0	1126.7	1204.1	1300.6	1212.6	1068.8	982.9	953.9	982.9	1068.8
155°	1164.4	1168.6	1155.7	1265.2	1342.4	1269.5	1114.9	1037.7	1009.8	1037.7	1114.9
157.5°	1192.2	1200.8	1185.8	1311.4	1379.0	1318.9	1167.5	1092.4	1067.7	1092.4	1167.5
160°	1222.2	1222.2	1230.9	1365.0	1409.0	1361.8	1223.3	1152.5	1118.2	1152.5	1223.3
162.5°	1225.5	1245.8	1292.0	1402.6	1438.0	1399.3	1283.5	1195.4	1165.3	1195.4	1283.5
165°	1272.7	1290.9	1360.7	1435.8	1460.5	1432.7	1357.5	1266.3	1230.9	1266.3	1357.5
167.5°	1322.1	1360.7	1416.5	1473.5	1482.0	1463.7	1414.4	1351.1	1318.9	1351.1	1414.4
170°	1402.6	1435.8	1463.7	1487.4	1499.2	1488.4	1449.8	1418.7	1398.3	1418.7	1449.8
172.5°	1464.9	1487.4	1498.1	1513.2	1505.6	1501.3	1482.0	1467.0	1455.3	1467.0	1482.0
175°	1504.6	1509.9	1519.5	1514.2	1520.6	1508.8	1509.9	1517.4	1472.5	1517.4	1509.9
177.5°	1518.6	1527.1	1521.7	1512.1	1513.2	1511.0	1515.2	1519.5	1512.2	1519.5	1515.2
180°	1519.5	1519.5	1519.5	1519.5	1519.5	1519.5	1519.5	1519.5	1519.5	1519.5	1519.5



TEST NUMBER: P392596

CATALOG NUMBER: MWL-3-37-28-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1213.4	1213.4	1213.4	1213.4	1213.4	1213.4
2.5°	1211.5	1213.6	1212.6	1210.5	1211.4	1209.3
5°	1204.6	1206.6	1204.6	1203.7	1204.6	1202.4
7.5°	1193.7	1195.8	1194.8	1192.8	1194.7	1192.7
10°	1178.0	1181.0	1179.0	1178.0	1179.0	1178.0
12.5°	1160.3	1159.2	1160.3	1159.3	1161.3	1162.4
15°	1138.6	1137.6	1139.7	1137.7	1138.7	1138.9
17.5°	1113.0	1113.0	1113.0	1111.2	1113.1	1114.3
20°	1084.4	1084.4	1085.5	1083.7	1084.7	1083.9
22.5°	1054.0	1053.0	1055.1	1051.2	1051.3	1049.4
25°	1020.6	1020.6	1021.6	1019.8	1014.0	1011.0
27.5°	984.3	984.2	985.4	980.5	974.7	971.7
30°	946.0	945.9	948.0	942.2	930.4	924.5
32.5°	905.7	906.7	907.7	897.0	884.2	879.3
35°	860.4	864.3	863.5	848.8	832.1	829.1
37.5°	815.2	820.2	818.3	797.7	780.0	779.0
40°	765.0	774.0	767.2	742.6	726.9	728.9
42.5°	712.9	723.9	715.1	687.6	674.8	681.7
45°	654.0	671.8	656.1	631.6	624.7	636.5
47.5°	596.0	614.8	597.1	577.5	580.5	591.3
50°	536.9	548.8	539.1	527.4	536.2	548.0
52.5°	478.9	477.1	481.1	479.1	494.0	504.8
55°	421.8	401.3	424.0	433.9	453.6	463.4
57.5°	363.8	341.3	366.0	390.7	415.2	424.1
60°	307.8	290.2	308.9	346.3	374.8	379.8
62.5°	259.7	245.9	260.7	302.1	334.6	340.5
65°	216.4	213.5	217.5	257.8	291.2	300.1
67.5°	183.0	180.1	183.0	219.5	250.9	259.8
70°	150.6	152.5	150.6	182.0	209.5	223.3
72.5°	123.0	127.9	124.0	149.6	170.2	189.9
75°	99.4	105.3	99.4	116.1	137.8	159.4
77.5°	78.7	86.6	78.7	90.5	116.6	145.4
80°	60.1	65.9	60.1	74.1	111.8	144.0
82.5°	42.4	45.3	42.4	75.2	120.8	149.1
85°	33.6	25.7	35.8	88.9	141.1	167.6
87.5°	29.0	6.9	43.9	112.2	172.0	191.6
90°	18.9	2.1	59.7	143.0	204.9	220.5
92.5°	12.0	18.2	86.0	176.8	242.2	259.0
95°	7.3	43.9	114.6	216.0	285.5	294.0
97.5°	13.9	77.2	151.3	256.4	326.0	333.3
100°	36.4	117.9	197.4	296.8	364.2	368.3
102.5°	67.5	162.0	241.4	336.9	405.8	422.6
105°	109.4	212.4	287.6	389.5	447.3	466.3
107.5°	157.6	266.1	334.8	436.8	496.7	507.4
110°	209.2	321.9	382.0	482.9	548.2	561.1



TEST NUMBER: P392596

CATALOG NUMBER: MWL-3-37-28-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	265.0	379.9	431.4	525.8	603.0	612.7
115°	328.4	433.5	477.6	576.1	647.0	652.4
117.5°	385.2	497.9	524.7	612.7	693.2	694.3
120°	445.3	559.0	572.0	663.1	738.2	746.8
122.5°	506.4	617.0	617.0	706.1	777.9	783.3
125°	563.4	679.3	662.1	738.2	814.5	816.5
127.5°	621.3	742.6	711.5	780.1	849.8	846.6
130°	684.6	802.7	756.6	819.8	883.1	872.4
132.5°	742.6	867.1	802.7	860.6	916.4	922.8
135°	801.6	927.2	843.4	895.9	950.7	948.6
137.5°	857.3	983.0	891.7	923.9	973.3	979.7
140°	912.1	1043.1	934.7	960.4	1001.2	1002.3
142.5°	970.0	1103.2	981.8	996.9	1032.3	1025.9
145°	1034.4	1160.1	1040.9	1033.3	1055.9	1042.0
147.5°	1091.3	1209.5	1082.8	1060.2	1087.0	1068.8
150°	1154.6	1260.9	1140.7	1097.7	1113.8	1105.3
152.5°	1212.6	1300.6	1204.1	1126.7	1145.0	1134.3
155°	1269.5	1342.4	1265.2	1155.7	1168.6	1164.4
157.5°	1318.9	1379.0	1311.4	1185.8	1200.8	1192.2
160°	1361.8	1409.0	1365.0	1230.9	1222.2	1222.2
162.5°	1399.3	1438.0	1402.6	1292.0	1245.8	1225.5
165°	1432.7	1460.5	1435.8	1360.7	1290.9	1272.7
167.5°	1463.7	1482.0	1473.5	1416.5	1360.7	1322.1
170°	1488.4	1499.2	1487.4	1463.7	1435.8	1402.6
172.5°	1501.3	1505.6	1513.2	1498.1	1487.4	1464.9
175°	1508.8	1520.6	1514.2	1519.5	1509.9	1504.6
177.5°	1511.0	1513.2	1512.1	1521.7	1527.1	1518.6
180°	1519.5	1519.5	1519.5	1519.5	1519.5	1519.5

(END OF REPORT)