

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: P392618

Luminaire Tested: **MWL-3-53-25-UNV-L840-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392618
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-3-53-25-UNV-L840-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7812.1 lumens
Efficiency: N/A
Efficacy: 83.5 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: Semi-Indirect

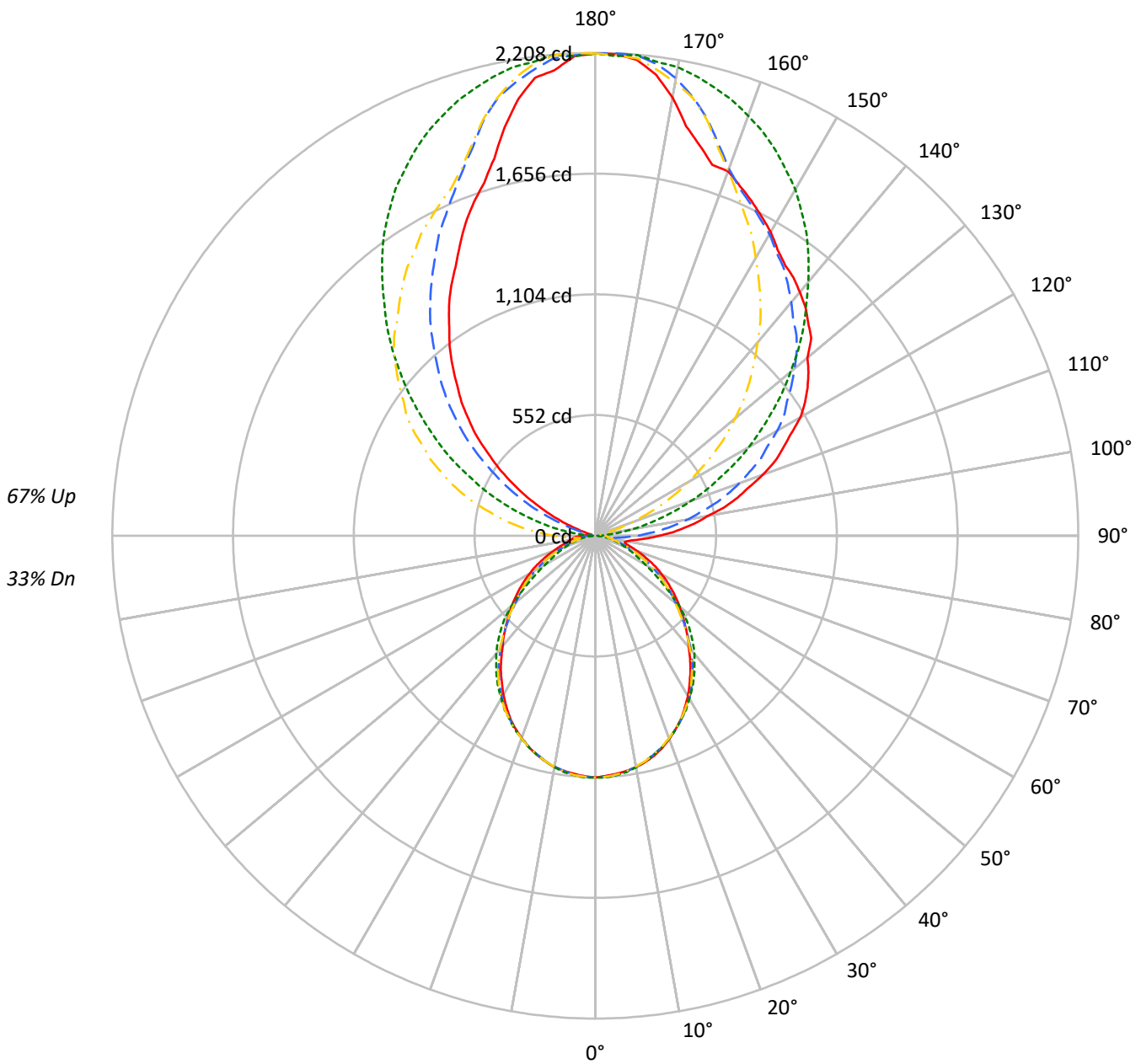
Input Watts (W): 93.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P392618

CATALOG NUMBER: MWL-3-53-25-UNV-L840-EDD

Luminous Intensity Polar Plot



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



TEST NUMBER: P392618

CATALOG NUMBER: MWL-3-53-25-UNV-L840-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	0
RCR																		
0	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	94	90	86	82	84	81	78	75	65	62	60	49	48	47	36	35	34	28
2	86	79	73	68	77	71	66	62	57	53	50	44	41	39	32	30	29	23
3	78	69	62	57	70	63	57	52	50	46	42	39	36	33	28	26	25	20
4	72	61	54	48	64	56	49	44	45	40	36	35	31	29	25	23	22	17
5	66	55	47	41	59	50	43	38	40	35	31	31	28	25	23	21	19	15
6	61	49	41	36	54	44	38	33	36	31	27	28	25	22	21	18	17	14
7	56	44	36	31	50	40	33	29	33	28	24	26	22	19	19	17	15	12
8	52	40	33	27	47	36	30	25	30	25	21	23	20	17	17	15	13	11
9	48	36	29	24	43	33	27	23	27	22	19	22	18	16	16	14	12	10
10	45	33	26	22	41	30	24	20	25	20	17	20	16	14	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9522	9522	9522	9522
5°	9335	8739	9335	8739
10°	9168	7989	9168	7989
15°	8947	7283	8907	7283
20°	8627	6632	8586	6632
25°	8259	6008	8217	6008
30°	7792	5423	7734	5423
35°	7261	4867	7216	4867
40°	6694	4308	6632	4308
45°	6205	3725	6156	3725
50°	5773	3051	5721	3051
55°	5322	2273	5283	2273
60°	4834	1669	4813	1669
65°	4297	1264	4297	1264
70°	3665	935	3694	935
75°	3201	679	3304	679
80°	4053	443	3232	443
85°	7629	196	3761	196



TEST NUMBER: P392618

CATALOG NUMBER: MWL-3-53-25-UNV-L840-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.0	1.3
10°-20°	291.8	3.7
20°-30°	426.1	5.5
30°-40°	481.6	6.2
40°-50°	450.9	5.8
50°-60°	356.2	4.6
60°-70°	233.2	3.0
70°-80°	122.7	1.6
80°-90°	92.5	1.2
90°-100°	169.9	2.2
100°-110°	340.4	4.4
110°-120°	585.3	7.5
120°-130°	795.2	10.2
130°-140°	907.3	11.6
140°-150°	905.3	11.6
150°-160°	788.4	10.1
160°-170°	554.7	7.1
170°-180°	206.6	2.6
0°-30°	822.0	10.5
0°-40°	1303.6	16.7
0°-60°	2110.7	27.0
0°-90°	2559.1	32.8
90°-120°	1095.6	14.0
90°-150°	3703.4	47.4
90°-180°	5253.0	67.2
0°-180°	7812.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1106	1106	1106	1106	1106	
5°	1093	1099	1093	1099	1093	104
15°	1041	1036	1036	1036	1041	293
25°	926	927	921	927	926	425
35°	758	787	753	787	758	473
45°	580	612	576	612	580	449
55°	425	368	422	368	425	380
65°	274	195	274	195	274	272
75°	146	97	151	97	146	166
85°	200	25	98	25	200	152
90°	292	2	58	2	292	161
95°	407	63	38	63	407	357
105°	673	308	17	308	673	708
115°	946	629	217	629	946	939
125°	1184	986	538	986	1184	1058
135°	1376	1346	865	1346	1376	1062
145°	1512	1684	1164	1684	1512	953
155°	1689	1947	1465	1947	1689	779
165°	1847	2119	1786	2119	1847	524
175°	2184	2206	2137	2206	2184	204
180°	2205	2205	2205	2205	2205	



TEST NUMBER: P392618

CATALOG NUMBER: MWL-3-53-25-UNV-L840-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1105.8	1105.8	1105.8	1105.8	1105.8	1105.8	1105.8	1105.8	1105.8	1105.8	1105.8
2.5°	1099.1	1104.2	1103.4	1105.9	1106.9	1104.4	1103.4	1104.2	1100.7	1104.2	1103.4
5°	1093.1	1098.2	1098.4	1098.4	1099.4	1098.4	1096.8	1098.2	1093.1	1098.2	1096.8
7.5°	1084.7	1088.8	1086.8	1089.4	1090.4	1087.8	1085.2	1087.2	1084.7	1087.2	1085.2
10°	1074.2	1074.8	1073.8	1074.8	1074.8	1073.2	1072.2	1071.7	1074.2	1071.7	1072.2
12.5°	1059.4	1056.8	1055.2	1057.2	1055.7	1057.2	1055.2	1053.7	1056.2	1053.7	1055.2
15°	1040.9	1037.9	1035.3	1037.3	1035.8	1035.8	1033.8	1034.8	1036.3	1034.8	1033.8
17.5°	1017.0	1013.9	1012.3	1013.8	1013.8	1013.8	1010.8	1012.3	1012.3	1012.3	1010.8
20°	989.0	989.5	986.3	988.8	987.2	987.2	984.8	986.3	984.3	986.3	984.8
22.5°	957.5	959.5	958.3	959.8	959.2	958.2	956.8	956.3	954.3	956.3	956.8
25°	925.5	924.5	927.9	930.8	927.2	929.2	924.8	919.8	920.8	919.8	924.8
27.5°	885.5	891.5	894.9	899.3	897.2	897.8	891.8	886.8	880.8	886.8	891.8
30°	846.5	849.5	859.5	864.9	860.2	861.8	854.8	844.8	840.2	844.8	854.8
32.5°	801.5	807.5	818.5	827.9	824.8	824.8	813.8	801.2	795.2	801.2	813.8
35°	757.9	759.9	773.9	787.9	787.2	783.2	769.2	755.2	753.2	755.2	769.2
37.5°	710.9	712.9	728.9	745.9	744.8	741.2	724.2	708.2	706.2	708.2	724.2
40°	664.9	665.9	678.9	700.3	704.8	697.2	672.7	659.7	658.7	659.7	672.7
42.5°	624.9	617.9	626.3	652.3	659.8	649.2	621.7	611.7	618.7	611.7	621.7
45°	580.3	572.3	577.3	601.3	611.8	598.2	571.1	567.7	575.7	567.7	571.1
47.5°	540.3	530.3	529.3	545.8	561.8	544.2	523.1	525.7	535.7	525.7	523.1
50°	502.3	490.3	481.3	492.8	499.2	489.7	475.1	484.1	497.7	484.1	475.1
52.5°	464.3	452.3	437.8	440.8	432.2	437.7	433.1	446.1	459.7	446.1	433.1
55°	424.8	414.8	397.8	387.2	367.7	384.1	393.1	410.1	421.7	410.1	393.1
57.5°	387.8	379.8	358.8	336.2	312.7	333.1	354.1	375.1	384.7	375.1	354.1
60°	348.2	344.2	316.2	283.7	264.7	282.1	313.1	341.1	346.7	341.1	313.1
62.5°	313.2	306.2	276.2	238.7	225.1	237.1	273.1	303.1	311.7	303.1	273.1
65°	273.7	268.7	234.7	201.7	195.1	200.1	233.1	267.1	273.7	267.1	233.1
67.5°	238.7	228.7	200.7	165.1	165.1	165.1	199.1	227.1	238.7	227.1	199.1
70°	201.1	191.1	165.1	138.1	139.1	138.1	165.1	192.7	202.7	192.7	165.1
72.5°	172.1	157.1	135.1	113.1	115.6	111.6	135.1	158.7	175.2	158.7	135.1
75°	146.1	128.1	106.6	91.6	96.6	91.6	108.1	129.7	150.8	129.7	108.1
77.5°	136.6	109.3	83.6	71.6	77.6	71.6	85.1	104.7	130.3	104.7	85.1
80°	146.1	113.2	70.2	54.6	59.6	54.6	67.1	88.2	116.5	88.2	67.1
82.5°	164.5	134.4	76.9	39.6	41.6	39.6	58.2	78.3	105.3	78.3	58.2
85°	199.8	170.2	102.2	34.2	24.6	31.1	57.0	75.1	98.5	75.1	57.0
87.5°	242.8	219.8	140.4	51.6	7.0	29.8	51.6	70.3	82.4	70.3	51.6
90°	291.6	272.0	190.5	77.3	1.6	18.1	36.2	52.3	57.9	52.3	36.2
92.5°	351.2	330.5	242.1	119.6	25.9	12.1	28.7	42.2	45.8	42.2	28.7
95°	406.9	395.6	303.1	164.0	63.3	8.2	22.7	34.1	37.7	34.1	22.7
97.5°	468.5	458.7	364.7	219.1	111.6	19.7	20.3	30.2	32.2	30.2	20.3
100°	522.2	518.7	428.8	286.1	170.8	52.4	15.9	29.5	31.5	29.5	15.9
102.5°	605.1	583.4	488.7	350.0	234.7	97.6	24.4	22.5	25.5	22.5	24.4
105°	672.8	648.0	565.0	417.0	307.9	158.4	61.8	21.7	16.9	21.7	61.8
107.5°	735.8	720.3	633.6	485.6	385.8	228.5	114.7	59.6	37.8	59.6	114.7
110°	813.7	795.0	700.6	554.1	466.9	303.3	175.5	109.5	84.6	109.5	175.5



TEST NUMBER: P392618

CATALOG NUMBER: MWL-3-53-25-UNV-L840-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	888.5	874.5	762.9	625.8	551.0	384.3	250.3	171.8	148.5	171.8	250.3
115°	946.2	938.4	834.6	692.8	628.9	476.2	332.9	245.1	217.0	245.1	332.9
117.5°	1006.9	1005.4	887.5	761.3	722.4	558.8	409.2	318.3	288.7	318.3	409.2
120°	1083.2	1070.7	960.8	829.9	811.2	646.0	493.3	402.4	372.8	402.4	493.3
122.5°	1136.2	1128.4	1023.1	895.3	895.3	734.8	574.4	483.4	452.3	483.4	574.4
125°	1184.5	1181.3	1069.7	960.8	985.7	817.4	664.7	572.2	538.0	572.2	664.7
127.5°	1228.1	1232.8	1130.5	1032.4	1077.5	901.6	753.5	651.7	615.9	651.7	753.5
130°	1265.5	1281.1	1188.1	1097.8	1164.8	993.5	833.0	731.2	707.8	731.2	833.0
132.5°	1338.7	1329.4	1248.3	1164.8	1258.2	1077.5	918.1	810.6	784.1	810.6	918.1
135°	1376.1	1379.2	1299.8	1222.4	1345.5	1161.6	997.6	891.6	865.2	891.6	997.6
137.5°	1421.3	1411.9	1339.3	1292.5	1426.5	1242.7	1074.4	977.3	935.3	977.3	1074.4
140°	1454.0	1452.4	1393.2	1355.8	1513.8	1323.1	1154.9	1055.1	1016.3	1055.1	1154.9
142.5°	1488.3	1497.6	1446.2	1423.4	1601.0	1406.3	1240.5	1131.5	1094.1	1131.5	1240.5
145°	1511.6	1531.9	1499.2	1510.1	1683.6	1500.7	1315.3	1204.7	1164.2	1204.7	1315.3
147.5°	1550.6	1577.1	1538.1	1570.9	1755.3	1583.3	1390.1	1281.1	1245.2	1281.1	1390.1
150°	1603.6	1616.0	1592.7	1655.0	1828.5	1675.2	1466.5	1354.3	1318.5	1354.3	1466.5
152.5°	1645.6	1661.2	1633.7	1745.9	1886.1	1758.4	1549.6	1426.0	1383.9	1426.0	1549.6
155°	1689.3	1695.5	1676.8	1834.7	1946.9	1841.0	1617.6	1505.4	1464.9	1505.4	1617.6
157.5°	1729.8	1742.2	1720.4	1901.7	1999.9	1912.6	1693.9	1584.9	1549.0	1584.9	1693.9
160°	1773.4	1773.4	1785.9	1980.6	2043.5	1975.9	1775.0	1672.1	1622.3	1672.1	1775.0
162.5°	1778.1	1806.7	1874.7	2035.2	2086.6	2030.5	1862.2	1733.5	1690.8	1733.5	1862.2
165°	1846.6	1872.1	1974.4	2083.5	2119.3	2078.8	1969.7	1836.3	1785.9	1836.3	1969.7
167.5°	1918.3	1973.4	2055.4	2138.0	2150.4	2124.0	2052.3	1959.4	1913.6	1959.4	2052.3
170°	2034.2	2082.5	2124.0	2158.2	2175.4	2159.8	2103.7	2057.5	2027.9	2057.5	2103.7
172.5°	2126.1	2157.2	2173.8	2195.6	2184.7	2178.5	2150.4	2127.6	2112.1	2127.6	2150.4
175°	2183.7	2190.0	2205.0	2197.2	2206.5	2189.4	2191.0	2200.9	2137.0	2200.9	2191.0
177.5°	2204.0	2214.9	2208.1	2194.1	2195.6	2192.5	2198.7	2204.0	2194.6	2204.0	2198.7
180°	2205.0	2205.0	2205.0	2205.0	2205.0	2205.0	2205.0	2205.0	2205.0	2205.0	2205.0



TEST NUMBER: P392618

CATALOG NUMBER: MWL-3-53-25-UNV-L840-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1105.8	1105.8	1105.8	1105.8	1105.8	1105.8
2.5°	1104.4	1106.9	1105.9	1103.4	1104.2	1099.1
5°	1098.4	1099.4	1098.4	1098.4	1098.2	1093.1
7.5°	1087.8	1090.4	1089.4	1086.8	1088.8	1084.7
10°	1073.2	1074.8	1074.8	1073.8	1074.8	1074.2
12.5°	1057.2	1055.7	1057.2	1055.2	1056.8	1059.4
15°	1035.8	1035.8	1037.3	1035.3	1037.9	1040.9
17.5°	1013.8	1013.8	1013.8	1012.3	1013.9	1017.0
20°	987.2	987.2	988.8	986.3	989.5	989.0
22.5°	958.2	959.2	959.8	958.3	959.5	957.5
25°	929.2	927.2	930.8	927.9	924.5	925.5
27.5°	897.8	897.2	899.3	894.9	891.5	885.5
30°	861.8	860.2	864.9	859.5	849.5	846.5
32.5°	824.8	824.8	827.9	818.5	807.5	801.5
35°	783.2	787.2	787.9	773.9	759.9	757.9
37.5°	741.2	744.8	745.9	728.9	712.9	710.9
40°	697.2	704.8	700.3	678.9	665.9	664.9
42.5°	649.2	659.8	652.3	626.3	617.9	624.9
45°	598.2	611.8	601.3	577.3	572.3	580.3
47.5°	544.2	561.8	545.8	529.3	530.3	540.3
50°	489.7	499.2	492.8	481.3	490.3	502.3
52.5°	437.7	432.2	440.8	437.8	452.3	464.3
55°	384.1	367.7	387.2	397.8	414.8	424.8
57.5°	333.1	312.7	336.2	358.8	379.8	387.8
60°	282.1	264.7	283.7	316.2	344.2	348.2
62.5°	237.1	225.1	238.7	276.2	306.2	313.2
65°	200.1	195.1	201.7	234.7	268.7	273.7
67.5°	165.1	165.1	165.1	200.7	228.7	238.7
70°	138.1	139.1	138.1	165.1	191.1	201.1
72.5°	111.6	115.6	113.1	135.1	157.1	172.1
75°	91.6	96.6	91.6	106.6	128.1	146.1
77.5°	71.6	77.6	71.6	83.6	109.3	136.6
80°	54.6	59.6	54.6	70.2	113.2	146.1
82.5°	39.6	41.6	39.6	76.9	134.4	164.5
85°	31.1	24.6	34.2	102.2	170.2	199.8
87.5°	29.8	7.0	51.6	140.4	219.8	242.8
90°	18.1	1.6	77.3	190.5	272.0	291.6
92.5°	12.1	25.9	119.6	242.1	330.5	351.2
95°	8.2	63.3	164.0	303.1	395.6	406.9
97.5°	19.7	111.6	219.1	364.7	458.7	468.5
100°	52.4	170.8	286.1	428.8	518.7	522.2
102.5°	97.6	234.7	350.0	488.7	583.4	605.1
105°	158.4	307.9	417.0	565.0	648.0	672.8
107.5°	228.5	385.8	485.6	633.6	720.3	735.8
110°	303.3	466.9	554.1	700.6	795.0	813.7



TEST NUMBER: P392618

CATALOG NUMBER: MWL-3-53-25-UNV-L840-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	384.3	551.0	625.8	762.9	874.5	888.5
115°	476.2	628.9	692.8	834.6	938.4	946.2
117.5°	558.8	722.4	761.3	887.5	1005.4	1006.9
120°	646.0	811.2	829.9	960.8	1070.7	1083.2
122.5°	734.8	895.3	895.3	1023.1	1128.4	1136.2
125°	817.4	985.7	960.8	1069.7	1181.3	1184.5
127.5°	901.6	1077.5	1032.4	1130.5	1232.8	1228.1
130°	993.5	1164.8	1097.8	1188.1	1281.1	1265.5
132.5°	1077.5	1258.2	1164.8	1248.3	1329.4	1338.7
135°	1161.6	1345.5	1222.4	1299.8	1379.2	1376.1
137.5°	1242.7	1426.5	1292.5	1339.3	1411.9	1421.3
140°	1323.1	1513.8	1355.8	1393.2	1452.4	1454.0
142.5°	1406.3	1601.0	1423.4	1446.2	1497.6	1488.3
145°	1500.7	1683.6	1510.1	1499.2	1531.9	1511.6
147.5°	1583.3	1755.3	1570.9	1538.1	1577.1	1550.6
150°	1675.2	1828.5	1655.0	1592.7	1616.0	1603.6
152.5°	1758.4	1886.1	1745.9	1633.7	1661.2	1645.6
155°	1841.0	1946.9	1834.7	1676.8	1695.5	1689.3
157.5°	1912.6	1999.9	1901.7	1720.4	1742.2	1729.8
160°	1975.9	2043.5	1980.6	1785.9	1773.4	1773.4
162.5°	2030.5	2086.6	2035.2	1874.7	1806.7	1778.1
165°	2078.8	2119.3	2083.5	1974.4	1872.1	1846.6
167.5°	2124.0	2150.4	2138.0	2055.4	1973.4	1918.3
170°	2159.8	2175.4	2158.2	2124.0	2082.5	2034.2
172.5°	2178.5	2184.7	2195.6	2173.8	2157.2	2126.1
175°	2189.4	2206.5	2197.2	2205.0	2190.0	2183.7
177.5°	2192.5	2195.6	2194.1	2208.1	2214.9	2204.0
180°	2205.0	2205.0	2205.0	2205.0	2205.0	2205.0

(END OF REPORT)