

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: INVUE

Report Number: P368420

Luminaire Tested: **MSA-SA4B-760-U-T3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368420
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-10)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-760-U-T3
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19401 lumens
Efficiency: N/A
Efficacy: 113.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G3

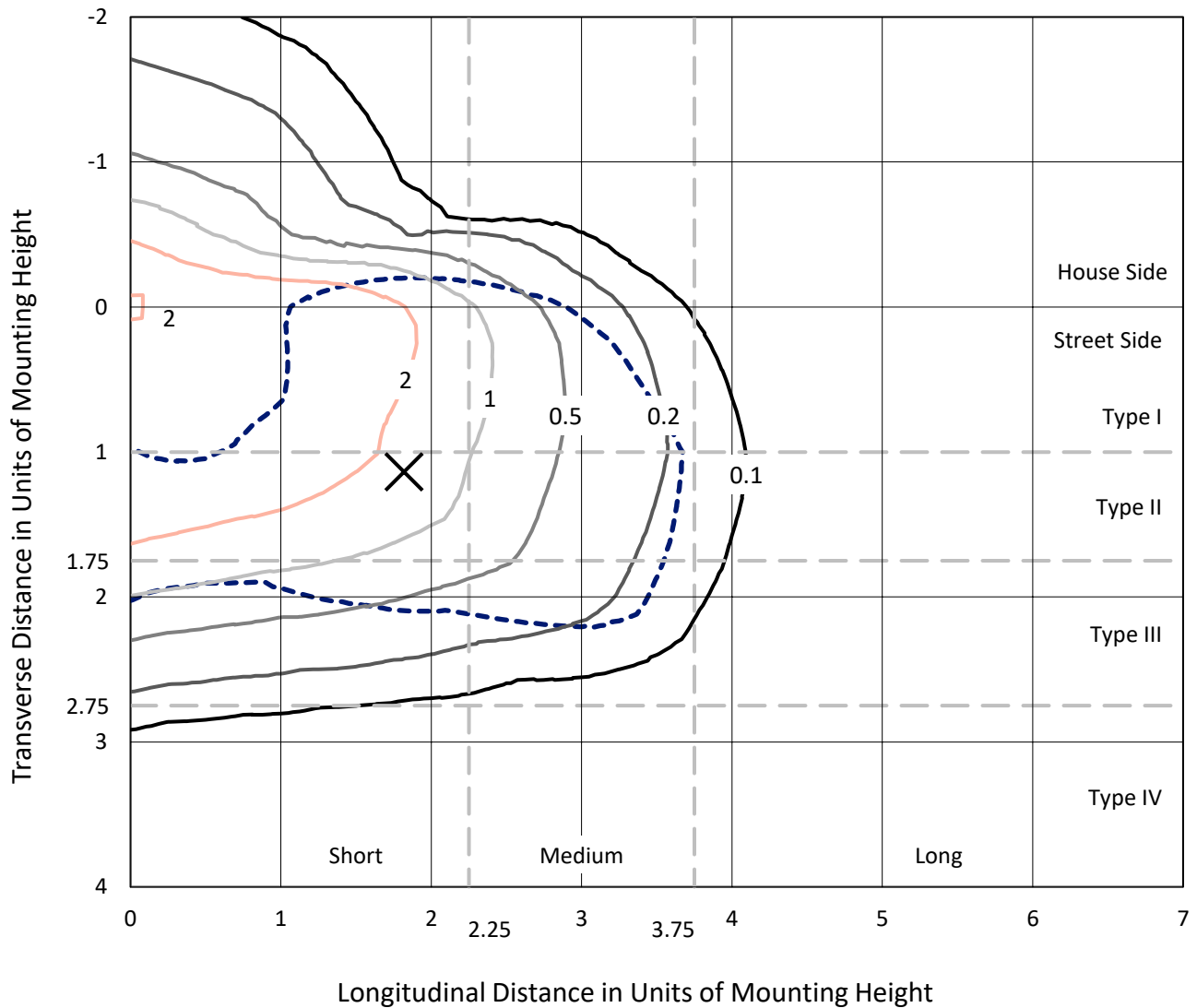
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

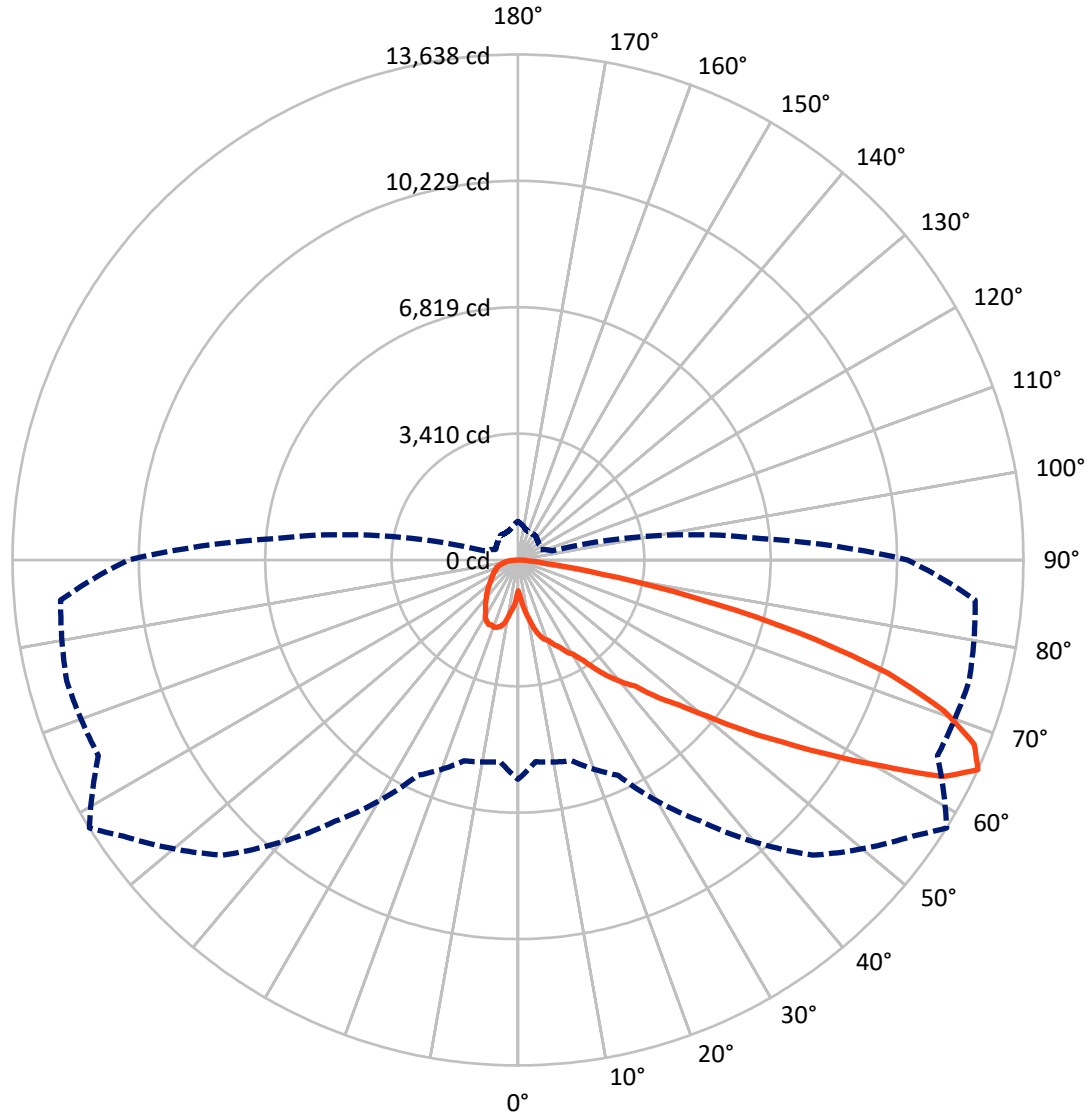
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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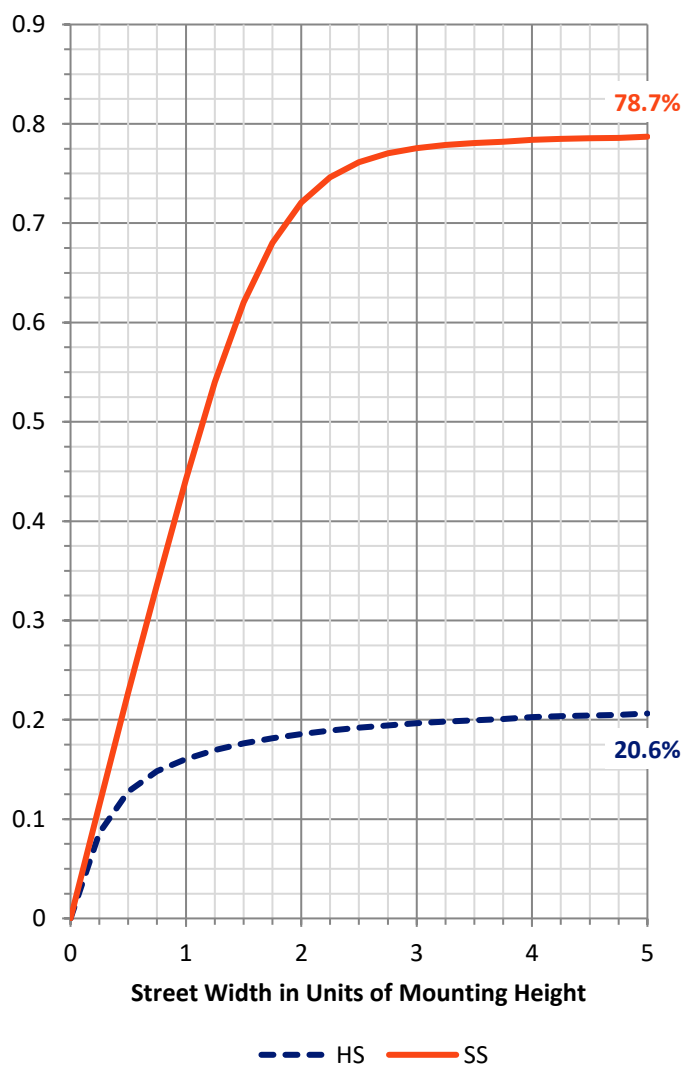
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4086.4	0.0	4086.4
	% Fixture	21.1	0.0	21.1
Street Side	Lumens	15314.6	0.0	15314.6
	% Fixture	78.9	0.0	78.9
Total	Lumens	19401.0	0.0	19401.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.9	0.7
10°-20°	553.7	2.9
20°-30°	1062.4	5.5
30°-40°	1754.0	9.0
40°-50°	2915.4	15.0
50°-60°	4814.8	24.8
60°-70°	5401.3	27.8
70°-80°	2455.8	12.7
80°-90°	316.7	1.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	19401.0	100.0
0°-180°	19401.0	100.0

Coefficient of Utilization

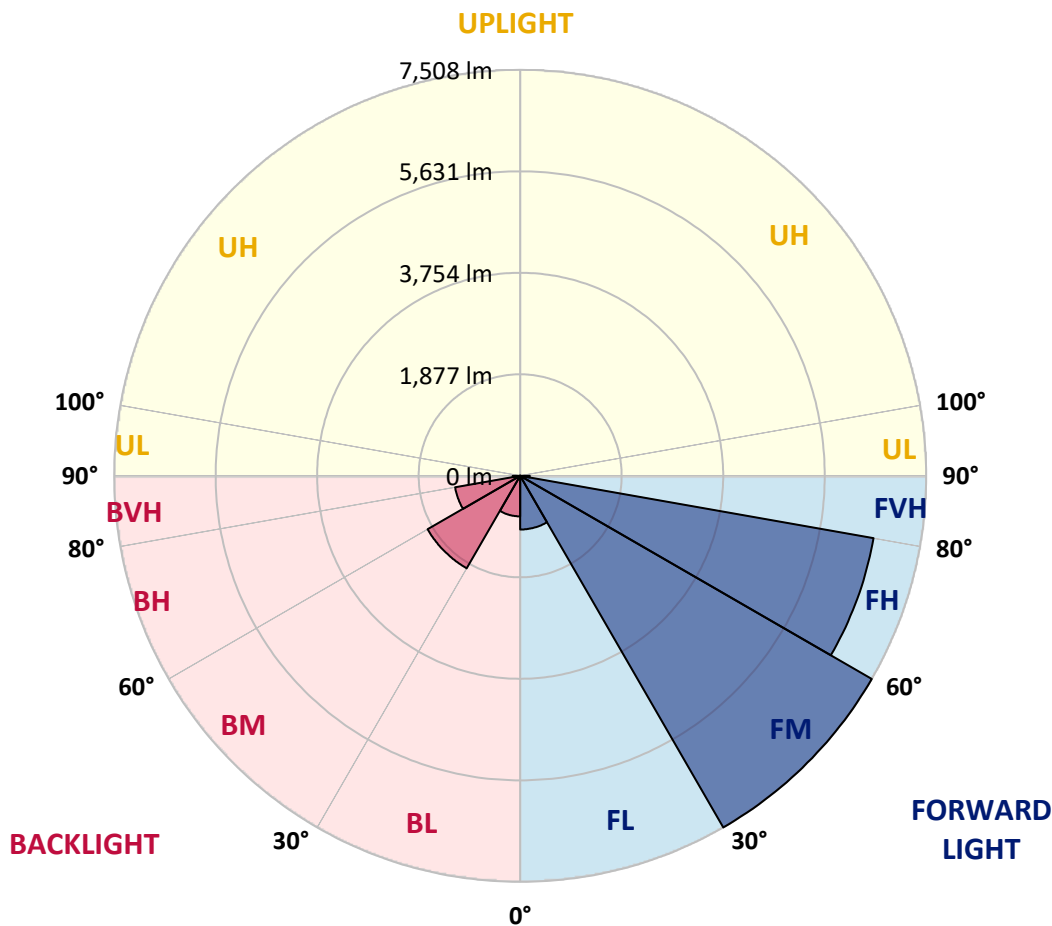


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	992.8	5.1			
FM (30°-60°)	7507.9	38.7			
FH (60°-80°)	6635.5	34.2			G3/7500
FVH (80°-90°)	178.4	0.9			G2/225
BL (0°-30°)	750.2	3.9	B2/1000		
BM (30°-60°)	1976.3	10.2	B2/2500		
BH (60°-80°)	1221.5	6.3	B3/2500		G3/2500
BVH (80°-90°)	138.4	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3
 Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0
2.5°	994.6	964.7	914.6	926.7	955.8	972.0	962.3	949.3	932.4	929.1	1003.5
5°	1287.9	1230.5	1207.1	1197.4	1161.8	1140.8	1177.2	1172.3	1191.7	1227.3	1300.0
7.5°	1502.0	1461.6	1422.8	1418.8	1350.1	1325.8	1374.3	1400.2	1434.9	1435.7	1534.3
10°	1616.7	1582.0	1581.1	1544.8	1539.1	1585.2	1586.0	1605.4	1609.4	1650.6	1631.2
12.5°	1741.1	1738.7	1783.1	1782.3	1834.0	1910.0	1872.0	1872.0	1883.3	1833.2	1894.6
15°	2037.6	2063.5	1980.3	1994.0	1994.0	2068.3	2065.9	2080.5	2115.2	2102.3	2074.8
17.5°	2346.3	2362.4	2270.3	2184.7	2191.1	2175.0	2233.2	2238.8	2205.7	2356.0	2322.8
20°	2545.0	2608.0	2414.1	2306.7	2327.7	2346.3	2348.7	2314.0	2297.0	2528.1	2482.8
22.5°	2790.6	2737.3	2559.6	2440.8	2472.3	2447.3	2442.4	2469.1	2492.5	2579.8	2653.3
25°	2954.7	2950.6	2737.3	2607.2	2572.5	2565.2	2614.5	2604.0	2659.8	2818.1	2772.1
27.5°	3193.0	3267.3	2889.2	2921.5	2768.8	2608.0	2766.4	2814.1	2914.3	2888.4	2991.0
30°	3655.1	3599.4	3204.3	3195.4	3022.5	2887.6	2997.5	2957.1	3137.2	3131.6	3207.5
32.5°	4032.4	4071.2	3574.3	3481.4	3353.0	3190.6	3117.9	3230.2	3327.1	3486.3	3529.1
35°	4431.6	4422.7	3953.3	3765.8	3553.3	3486.3	3576.0	3622.8	3828.8	3975.1	3873.3
37.5°	5052.1	4981.8	4444.5	4089.8	3930.6	3906.4	4059.9	3992.1	4215.0	4249.8	4307.2
40°	5628.9	5417.3	4893.7	4487.3	4234.4	4324.9	4329.8	4338.7	4458.2	4552.8	4836.4
42.5°	6177.5	6028.9	5350.2	5044.8	4672.3	4584.3	4639.2	4657.8	4960.0	5153.1	5545.7
45°	6927.3	6529.0	6006.3	5692.8	5275.9	5163.6	5124.8	5284.8	5576.4	6016.0	6352.9
47.5°	7561.5	7202.0	6703.5	6290.7	5824.5	6145.2	5925.5	5835.8	6227.6	6772.2	7308.7
50°	8087.5	7691.6	7202.8	6964.5	6890.1	7176.2	6605.8	6616.3	6975.0	7743.3	8358.2
52.5°	8494.7	8072.2	7639.1	7517.9	7933.2	8098.0	7686.0	7623.8	7885.5	8793.7	9532.1
55°	8875.3	8426.9	8092.4	8339.6	9039.3	9057.9	9028.8	8683.8	8998.9	9919.1	10747.3
57.5°	8973.0	8489.9	8267.7	8622.4	9568.5	10304.5	10593.8	9916.7	10237.5	10942.8	11787.9
60°	8469.7	8056.0	7967.1	8448.7	9854.5	10930.7	11686.1	11281.3	11160.9	11764.5	12516.7
62.5°	7438.7	6958.8	7030.7	7699.7	9553.1	11178.7	12549.0	12864.9	12136.1	12418.1	12835.0
65°	5920.6	5462.5	5607.9	6412.7	8607.0	11261.1	12990.1	13638.1	12488.4	12603.1	12384.2
67.5°	4175.5	3759.4	3942.8	4983.4	7160.0	10206.0	13066.1	13277.8	12113.5	12075.5	11152.9
70°	2365.7	2104.7	2303.4	3171.2	5053.7	8130.3	12470.6	12191.9	11441.3	10903.2	9331.8
72.5°	1085.1	995.4	1090.7	1614.3	2909.4	5410.0	10180.9	10433.8	9858.5	9185.5	7099.4
75°	576.9	545.4	585.8	806.3	1361.4	2943.3	7233.5	7802.3	7496.1	6966.9	4631.1
77.5°	429.0	404.8	424.2	522.7	727.1	1151.3	4110.0	4827.5	4943.8	4456.6	2571.7
80°	328.8	309.4	328.8	395.1	503.3	547.0	1757.3	2250.1	2562.8	2070.8	1022.0
82.5°	244.0	231.1	261.0	296.5	353.9	341.8	623.7	776.4	1001.0	684.3	398.3
85°	193.9	177.7	189.1	201.2	226.2	187.4	285.2	319.1	337.7	282.8	147.0
87.5°	75.9	70.3	137.4	108.3	92.1	56.6	85.6	97.0	99.4	95.3	42.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0
2.5°	1011.5	1003.5	955.8	971.1	996.2	1001.0	1011.5	982.5	967.9	1021.2	1023.7
5°	1306.4	1262.8	1240.2	1242.6	1226.5	1201.4	1239.4	1264.4	1274.1	1313.7	1328.3
7.5°	1535.1	1482.6	1444.6	1401.0	1339.6	1300.0	1366.2	1414.7	1440.6	1523.0	1555.3
10°	1636.9	1594.9	1586.8	1531.9	1530.2	1529.4	1526.2	1509.2	1565.0	1556.9	1579.5
12.5°	1847.0	1838.1	1761.3	1739.5	1741.9	1739.5	1671.6	1668.4	1669.2	1743.5	1716.9
15°	2042.5	2044.1	1973.8	1894.6	1823.5	1801.7	1775.1	1762.9	1780.7	1822.7	1796.9
17.5°	2284.1	2292.1	2091.0	1965.7	1872.0	1869.6	1805.8	1730.6	1838.9	1864.7	1836.5
20°	2440.0	2406.1	2158.8	1948.8	1922.1	1849.4	1770.2	1666.8	1760.5	1823.5	1841.3
22.5°	2587.8	2528.9	2221.8	1978.7	1851.0	1764.6	1687.8	1620.7	1650.6	1720.9	1709.6
25°	2688.0	2671.9	2309.1	2050.6	1848.6	1656.3	1552.9	1510.0	1525.4	1634.5	1624.0
27.5°	2927.2	2752.7	2293.8	2069.1	1771.0	1508.4	1456.7	1410.7	1395.3	1513.3	1545.6
30°	3087.2	3015.2	2396.4	2040.1	1673.3	1387.2	1311.3	1301.6	1306.4	1440.6	1449.5
32.5°	3358.6	3172.0	2564.4	1928.6	1531.1	1297.6	1210.3	1214.3	1236.2	1333.9	1354.1
35°	3641.4	3529.9	2587.0	1848.6	1415.5	1202.2	1166.7	1138.4	1150.5	1236.2	1240.2
37.5°	4166.6	3781.2	2726.0	1725.0	1330.7	1165.9	1098.0	1072.9	1079.4	1127.9	1162.6
40°	4628.7	4286.1	2661.4	1605.4	1225.7	1117.4	1032.6	1014.0	994.6	1042.2	1064.1
42.5°	5369.6	4646.5	2639.6	1473.7	1176.4	1051.9	993.8	944.5	925.9	966.3	1005.9
45°	6110.5	5028.6	2520.8	1340.4	1106.9	1047.1	937.2	890.4	895.2	931.6	972.0
47.5°	6936.2	5541.7	2319.6	1211.1	1030.9	1023.7	880.7	860.5	875.0	915.4	955.8
50°	7912.2	6086.2	2153.2	1094.8	976.8	953.4	873.4	849.1	862.9	910.6	950.1
52.5°	8979.5	6683.3	2032.0	987.3	915.4	897.6	883.1	859.7	875.8	917.0	958.2
55°	10040.3	7228.7	1949.6	913.8	862.9	874.2	903.3	886.3	894.4	925.1	966.3
57.5°	10827.3	7516.3	1783.9	835.4	820.1	860.5	905.7	877.4	882.3	925.1	969.5
60°	11284.6	7571.2	1511.7	771.6	786.1	833.0	880.7	844.3	841.1	911.4	967.1
62.5°	11234.5	7252.1	1199.0	713.4	747.3	791.8	842.7	807.9	816.8	913.0	972.0
65°	10517.0	6600.1	953.4	664.1	700.5	746.5	811.2	797.4	840.3	977.6	1041.4
67.5°	9256.6	5647.5	765.9	618.1	656.9	715.8	833.0	869.3	887.9	1043.9	1109.3
70°	7501.8	4387.9	638.3	577.7	622.1	730.4	896.0	888.7	873.4	1012.4	1064.1
72.5°	5419.7	3008.0	561.5	538.1	579.3	686.8	897.6	858.8	839.5	924.3	961.5
75°	3390.9	1794.4	490.4	488.0	513.9	615.7	857.2	822.5	770.0	812.0	860.5
77.5°	1936.6	918.6	412.9	434.7	450.0	534.1	767.5	736.0	689.2	707.0	754.6
80°	739.3	444.4	348.2	386.2	382.2	452.4	650.4	643.1	589.8	595.5	624.5
82.5°	348.2	248.8	289.2	332.1	310.3	360.3	528.4	526.0	479.1	433.9	457.3
85°	129.3	132.5	211.7	252.9	215.7	232.7	382.2	371.7	326.4	275.5	304.6
87.5°	29.1	47.7	104.2	131.7	75.1	71.9	154.3	134.1	129.3	76.8	80.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)