

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: P366838

Luminaire Tested: **MSA-SA1B-760-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366838  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1B-760-U-T4FT  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5076 lumens  
Efficiency: N/A  
Efficacy: 115.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

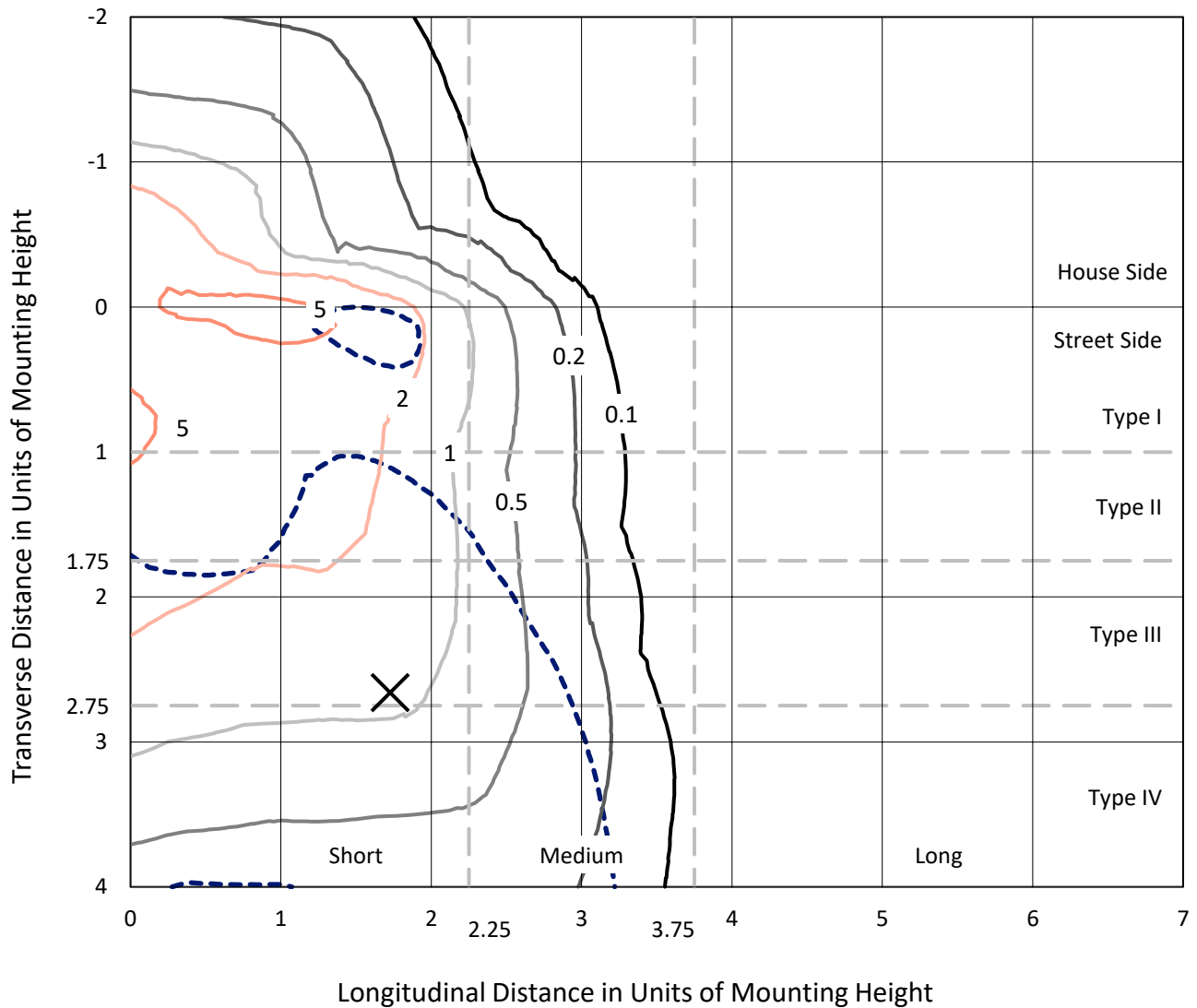
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

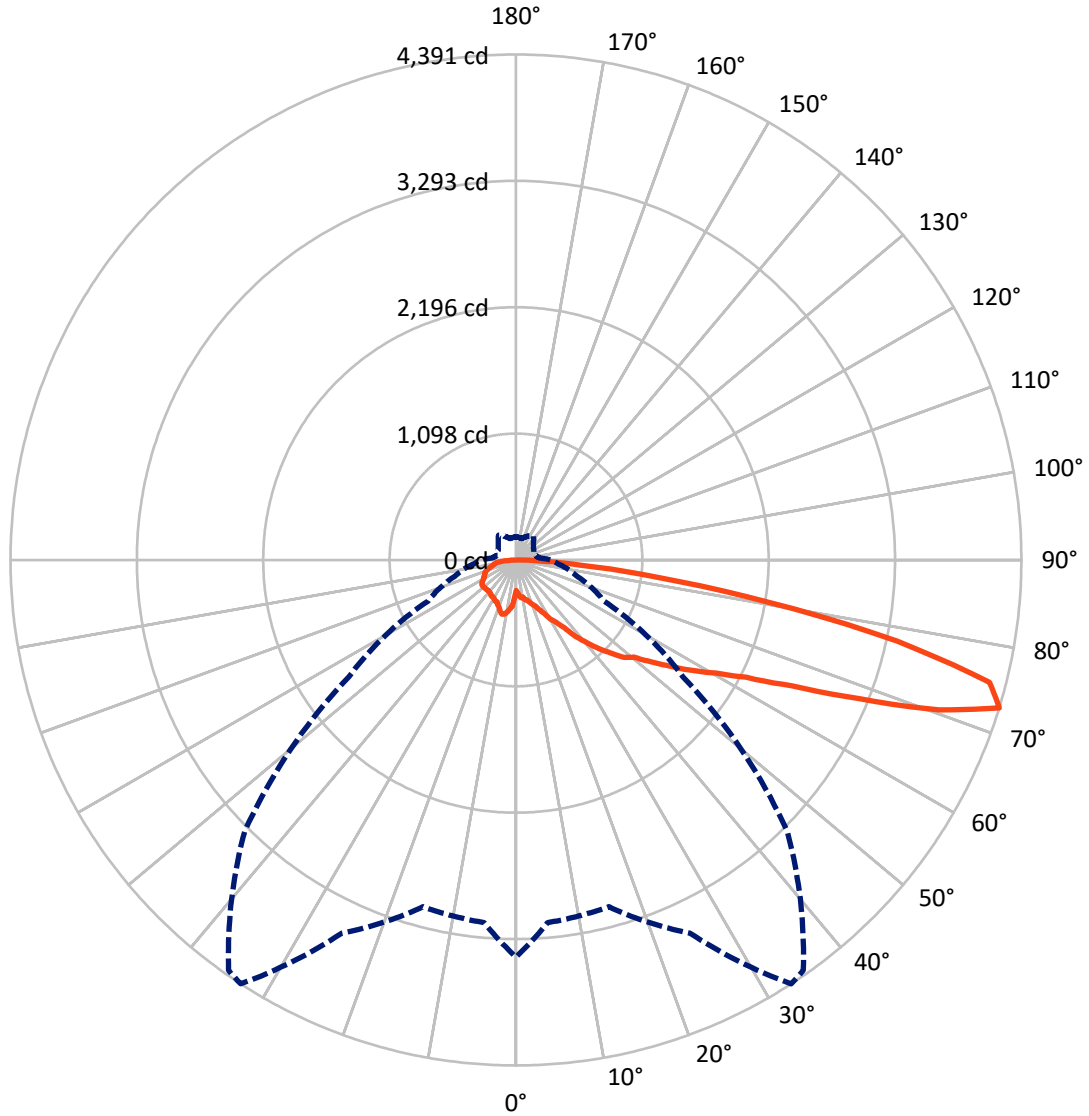
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.5 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral      - - - Horizontal Cone Through 72.5-Deg Vertical

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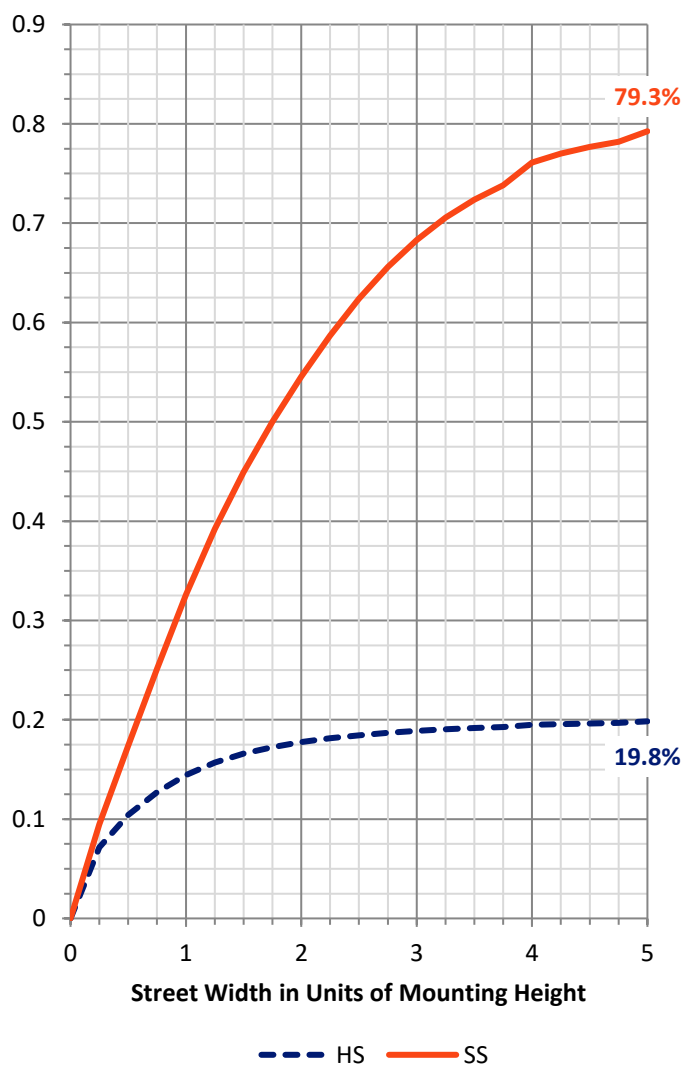
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1026.9	0.0	1026.9
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	4049.1	0.0	4049.1
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	5076.0	0.0	5076.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.6	0.7
10°-20°	135.2	2.7
20°-30°	246.6	4.9
30°-40°	417.2	8.2
40°-50°	694.1	13.7
50°-60°	1018.7	20.1
60°-70°	1303.1	25.7
70°-80°	1060.2	20.9
80°-90°	164.2	3.2
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°	5076.0	100.0
0°-180°	5076.0	100.0

**Coefficient of Utilization**



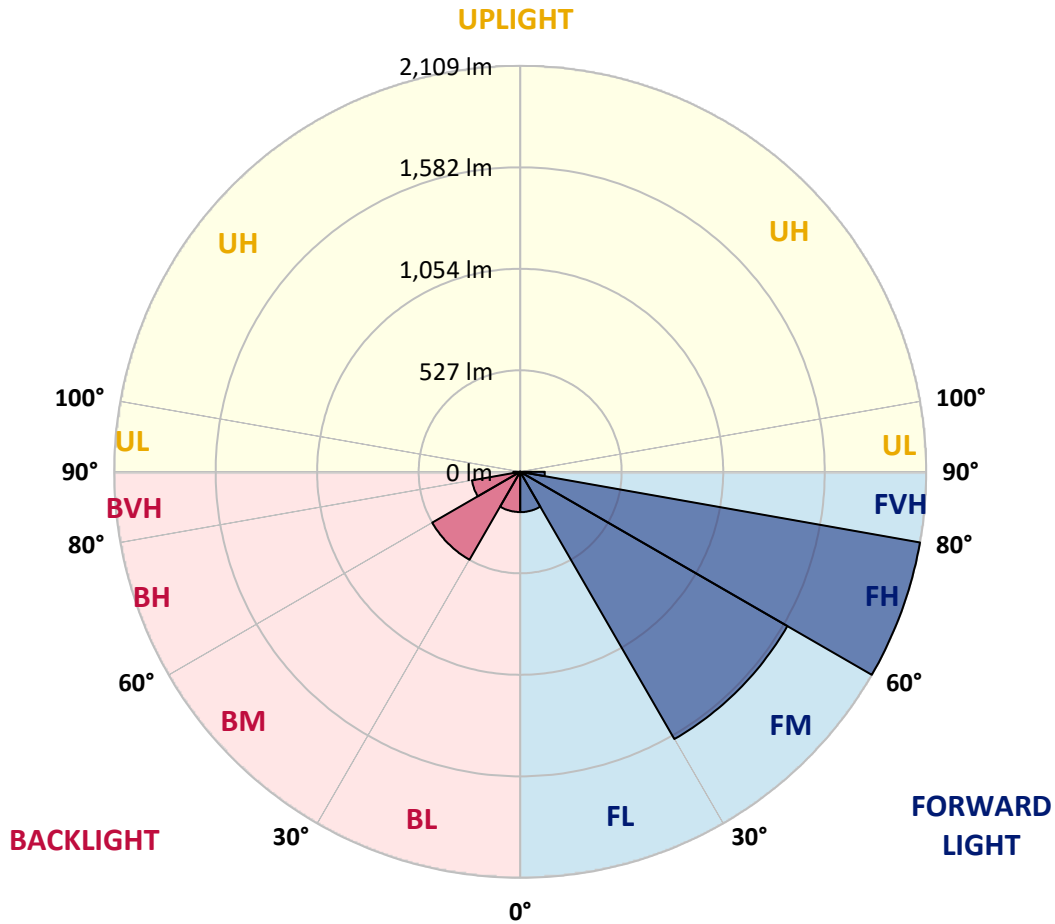
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	209.5	4.1			
FM (30°-60°)	1602.6	31.6			
FH (60°-80°)	2108.9	41.5			G2/5000
FVH (80°-90°)	128.2	2.5			G2/225
BL (0°-30°)	209.0	4.1	B1/500		
BM (30°-60°)	527.4	10.4	B1/1000		
BH (60°-80°)	254.4	5.0	B1/500		G1/500
BVH (80°-90°)	36.0	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	266.2	266.2	266.2	266.2	266.2	266.2	266.2	266.2	266.2	266.2	266.2
2.5°	301.8	292.3	276.7	276.3	284.9	286.8	292.5	292.9	295.0	291.6	315.7
5°	332.9	322.8	316.7	318.8	314.8	319.7	319.7	333.5	352.1	373.6	404.1
7.5°	340.3	332.9	326.0	331.2	332.1	327.4	331.9	364.5	398.0	419.5	468.3
10°	325.5	318.2	323.4	325.1	324.9	335.4	358.4	384.5	421.8	461.4	487.7
12.5°	322.8	328.1	330.6	333.5	353.6	356.7	391.5	418.4	455.9	490.6	559.1
15°	363.5	370.4	354.8	353.8	360.3	363.2	399.2	426.4	481.2	539.5	601.0
17.5°	421.4	423.9	395.9	381.6	386.4	388.7	404.5	438.6	472.3	580.1	656.8
20°	477.4	479.1	426.4	394.4	411.5	414.0	428.7	448.3	474.8	602.9	694.5
22.5°	536.1	525.4	467.7	427.3	437.2	437.8	446.4	457.2	494.8	599.3	740.4
25°	600.3	593.6	521.0	482.2	481.8	473.2	473.6	489.0	516.1	637.6	770.5
27.5°	685.6	686.5	581.0	560.1	527.5	521.8	493.4	522.0	553.0	638.0	835.6
30°	796.2	775.8	664.6	630.9	598.7	586.7	548.1	572.6	586.0	674.5	906.3
32.5°	886.1	880.2	751.7	700.8	648.1	662.0	619.5	598.0	622.2	737.2	1013.5
35°	972.2	952.8	844.0	777.7	722.3	713.8	686.3	689.8	704.6	816.6	1153.5
37.5°	1100.7	1090.1	974.5	868.4	842.5	808.2	790.7	801.9	790.3	918.3	1363.5
40°	1244.3	1183.2	1083.6	989.1	940.6	916.4	922.5	912.0	903.2	1032.4	1551.7
42.5°	1381.8	1326.2	1156.1	1113.5	1050.3	1060.5	1027.0	1034.3	1059.4	1194.4	1725.9
45°	1531.5	1411.3	1232.9	1195.4	1150.2	1163.0	1189.7	1181.7	1222.8	1385.4	1889.9
47.5°	1606.3	1491.9	1327.2	1266.2	1265.6	1238.8	1401.6	1419.3	1355.0	1526.9	2056.5
50°	1678.3	1565.8	1397.4	1356.1	1326.2	1383.5	1604.8	1564.1	1474.7	1689.2	2239.7
52.5°	1778.5	1650.3	1477.8	1433.8	1470.9	1523.9	1766.9	1758.9	1591.9	1856.2	2398.9
55°	1854.9	1725.4	1598.9	1558.0	1628.8	1680.8	1932.0	1883.8	1692.4	1978.8	2499.7
57.5°	1988.9	1856.0	1777.7	1686.9	1814.1	1813.3	2091.2	2053.9	1799.8	2079.4	2540.4
60°	2201.8	2045.7	1963.8	1859.2	1995.4	2044.0	2273.1	2165.8	1875.8	2143.0	2467.1
62.5°	2500.6	2315.3	2182.4	2078.8	2244.9	2333.0	2497.8	2247.2	1880.6	2124.9	2274.4
65°	2870.1	2644.8	2470.7	2361.2	2635.3	2761.0	2769.5	2297.6	1836.0	1937.7	1869.3
67.5°	3230.6	2977.3	2795.6	2816.4	3216.7	3276.3	3063.9	2339.7	1596.2	1555.9	1298.0
70°	3467.9	3193.4	3072.3	3293.4	3901.5	3840.5	3302.4	2228.7	1256.9	1008.7	730.9
72.5°	3450.0	3162.6	3119.0	3576.8	4391.3	4353.2	3331.5	1772.4	841.9	551.5	364.5
75°	2810.7	2587.3	2686.3	3386.0	4250.2	4248.3	2892.4	1097.1	431.9	283.2	230.4
77.5°	1554.0	1467.3	1758.1	2563.7	3384.1	3401.4	1954.3	497.6	232.9	200.7	173.5
80°	544.3	536.3	761.9	1383.5	2226.2	2230.4	908.8	227.6	169.3	151.8	127.4
82.5°	199.0	197.3	315.9	642.7	1225.8	1223.0	344.7	141.7	125.5	107.4	84.0
85°	79.4	77.7	144.5	285.3	563.1	554.0	133.9	80.4	82.1	64.0	41.3
87.5°	21.9	22.7	49.1	89.3	172.5	159.8	33.7	27.2	33.3	26.1	13.1
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°	266.2	266.2	266.2	266.2	266.2	266.2	266.2	266.2	266.2	266.2	266.2
2.5°	319.9	322.0	301.1	308.5	318.0	323.0	325.5	314.8	318.4	333.5	332.9
5°	410.4	402.0	394.0	402.2	396.7	388.9	401.6	400.9	409.1	417.4	419.3
7.5°	478.0	467.1	463.3	444.7	426.2	407.5	423.7	433.8	435.9	456.3	464.9
10°	502.4	498.2	499.7	475.3	472.9	474.8	459.9	443.7	453.6	445.2	451.5
12.5°	558.9	569.4	543.3	526.6	525.2	513.6	483.7	473.2	462.0	473.6	467.7
15°	604.1	623.7	595.7	566.4	533.4	515.5	490.0	474.0	466.6	469.2	462.0
17.5°	670.5	688.8	617.6	572.8	538.6	512.3	473.4	439.3	457.4	458.8	450.6
20°	714.5	715.7	625.0	557.2	526.4	480.7	442.8	412.9	433.8	455.1	464.3
22.5°	757.4	748.0	634.0	544.8	482.0	437.8	419.3	417.4	432.9	450.8	452.9
25°	789.7	791.1	639.3	540.1	455.9	395.7	395.7	409.4	423.0	465.6	463.5
27.5°	867.8	810.3	618.9	518.9	419.7	371.0	395.9	414.2	420.7	466.8	471.5
30°	924.6	887.1	623.1	482.4	383.0	359.5	379.9	402.8	420.9	474.2	472.5
32.5°	1020.0	919.2	633.0	431.3	355.7	355.0	373.1	397.4	419.0	466.2	468.7
35°	1125.5	1013.5	605.4	392.3	349.1	352.5	375.9	385.6	411.0	463.1	465.4
37.5°	1320.7	1062.8	587.9	362.2	344.9	354.6	363.5	378.4	404.1	447.3	462.4
40°	1435.3	1164.3	523.1	344.7	336.1	352.9	357.3	370.0	383.9	428.3	438.0
42.5°	1586.0	1196.3	467.7	325.3	331.7	346.0	359.2	362.4	371.7	398.4	416.1
45°	1711.8	1220.3	408.9	309.8	316.7	361.3	362.2	360.7	359.0	368.9	383.5
47.5°	1841.9	1284.7	354.8	292.5	311.0	374.0	363.7	350.2	343.2	344.5	358.0
50°	1985.5	1331.5	316.5	278.4	312.3	374.0	370.8	339.4	325.5	322.0	336.1
52.5°	2111.8	1336.9	287.4	267.0	307.0	361.1	375.7	332.7	309.3	300.7	314.0
55°	2180.7	1267.7	266.4	256.7	293.5	349.6	373.1	328.9	289.7	283.2	295.0
57.5°	2179.2	1152.7	248.5	242.4	278.2	333.3	359.0	308.3	277.7	274.0	285.5
60°	2100.7	1017.9	234.8	230.6	262.4	309.8	333.8	294.8	266.2	264.3	276.9
62.5°	1922.5	878.7	221.5	218.2	247.6	293.1	321.8	279.9	254.2	254.0	266.0
65°	1574.5	705.4	209.1	208.3	233.9	276.7	310.4	267.2	241.7	246.0	258.2
67.5°	1084.9	495.7	195.8	198.4	221.3	260.9	301.8	258.8	228.7	237.3	248.3
70°	595.3	306.6	181.1	186.1	205.3	242.6	288.3	245.1	211.6	224.9	232.5
72.5°	302.8	204.5	162.8	170.8	185.7	215.6	263.0	225.3	193.3	198.4	202.4
75°	203.4	153.9	142.3	151.2	161.9	189.9	233.3	206.8	175.8	175.2	179.6
77.5°	153.7	120.2	120.9	131.0	137.9	167.0	209.7	191.2	161.1	159.6	166.1
80°	112.4	91.2	97.3	107.8	114.1	149.9	194.4	173.9	141.1	135.2	140.7
82.5°	74.5	64.6	72.0	82.5	87.6	125.3	176.5	147.6	115.0	100.0	100.9
85°	35.2	33.9	43.0	48.0	54.5	77.7	132.0	102.1	73.3	60.6	63.4
87.5°	8.0	10.7	14.1	13.9	16.2	20.8	41.1	28.6	21.3	14.5	9.7
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)