

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: P368684

Luminaire Tested: **MSA-SA4D-760-U-T3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368684
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-SA4D-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: 26270 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G4

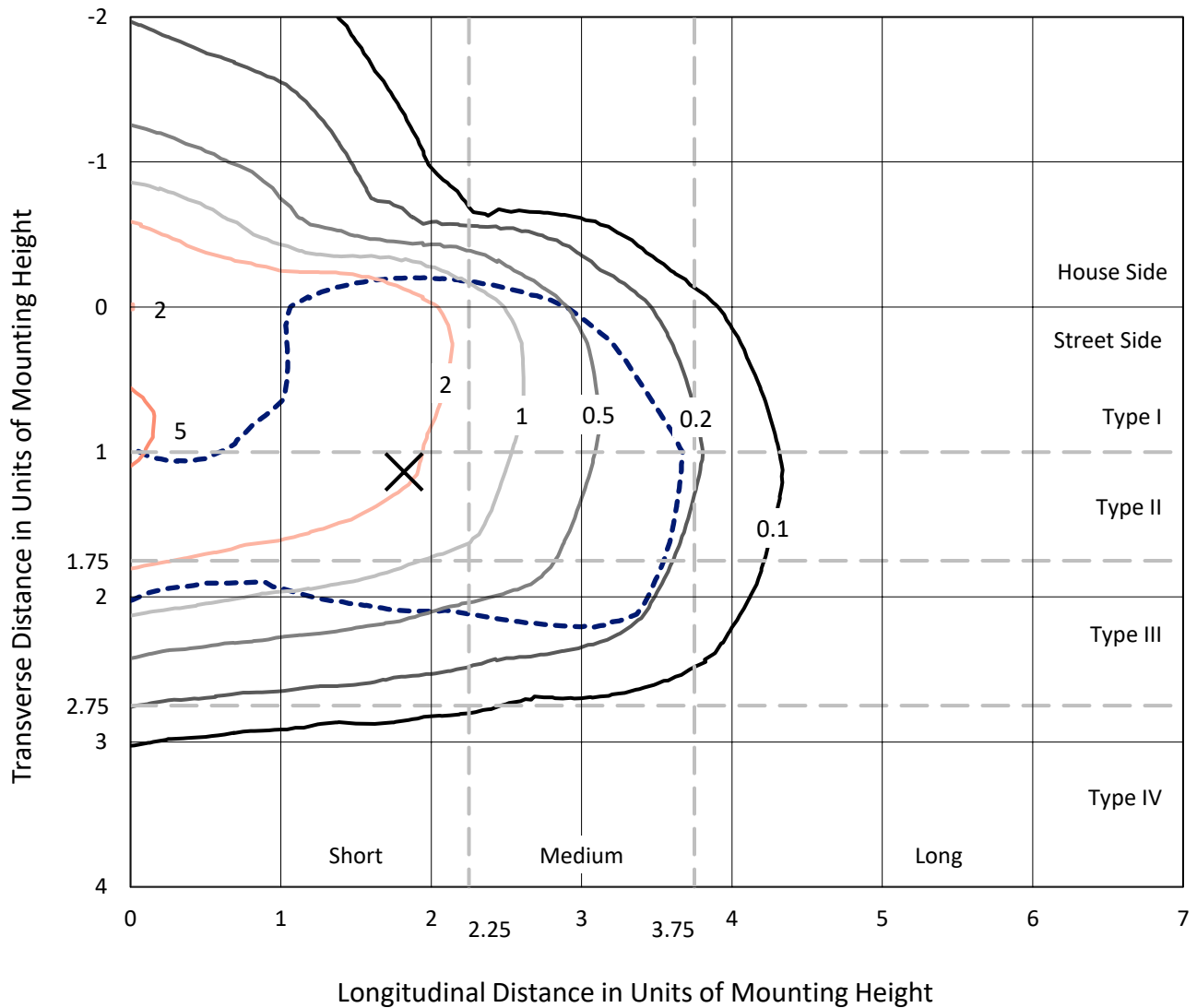
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

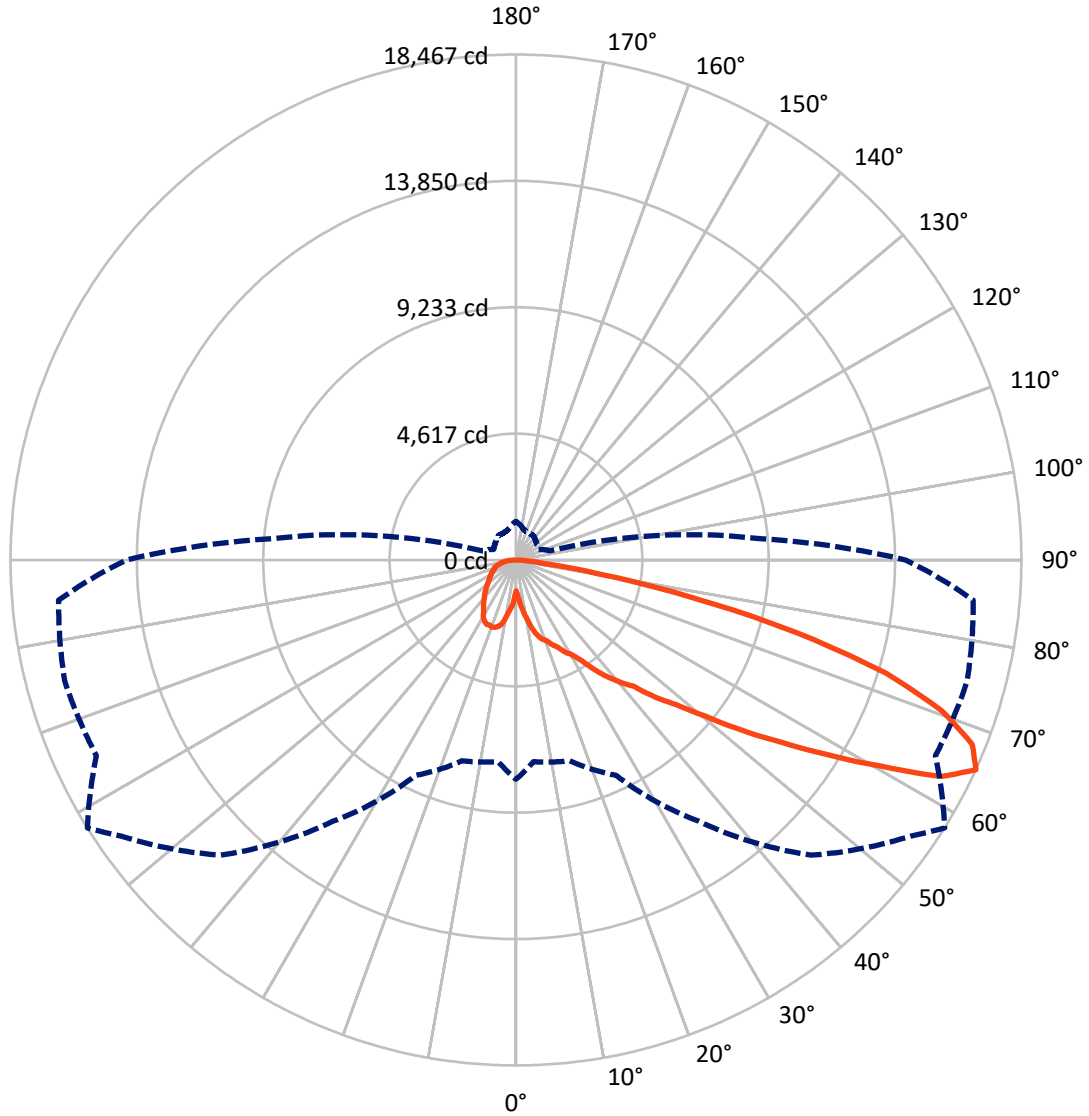
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.4 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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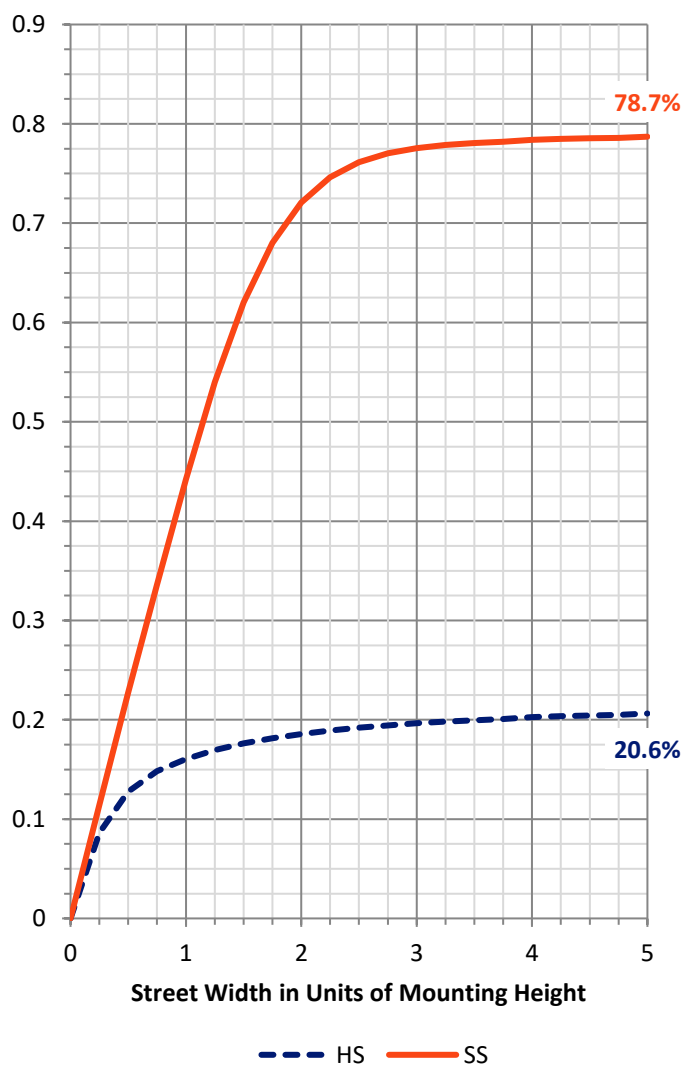
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5533.2	0.0	5533.2
	% Fixture	21.1	0.0	21.1
Street Side	Lumens	20736.8	0.0	20736.8
	% Fixture	78.9	0.0	78.9
Total	Lumens	26270.0	0.0	26270.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.8	0.7
10°-20°	749.7	2.9
20°-30°	1438.6	5.5
30°-40°	2375.0	9.0
40°-50°	3947.6	15.0
50°-60°	6519.4	24.8
60°-70°	7313.6	27.8
70°-80°	3325.3	12.7
80°-90°	428.9	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°	26270.0	100.0
0°-180°	26270.0	100.0

Coefficient of Utilization



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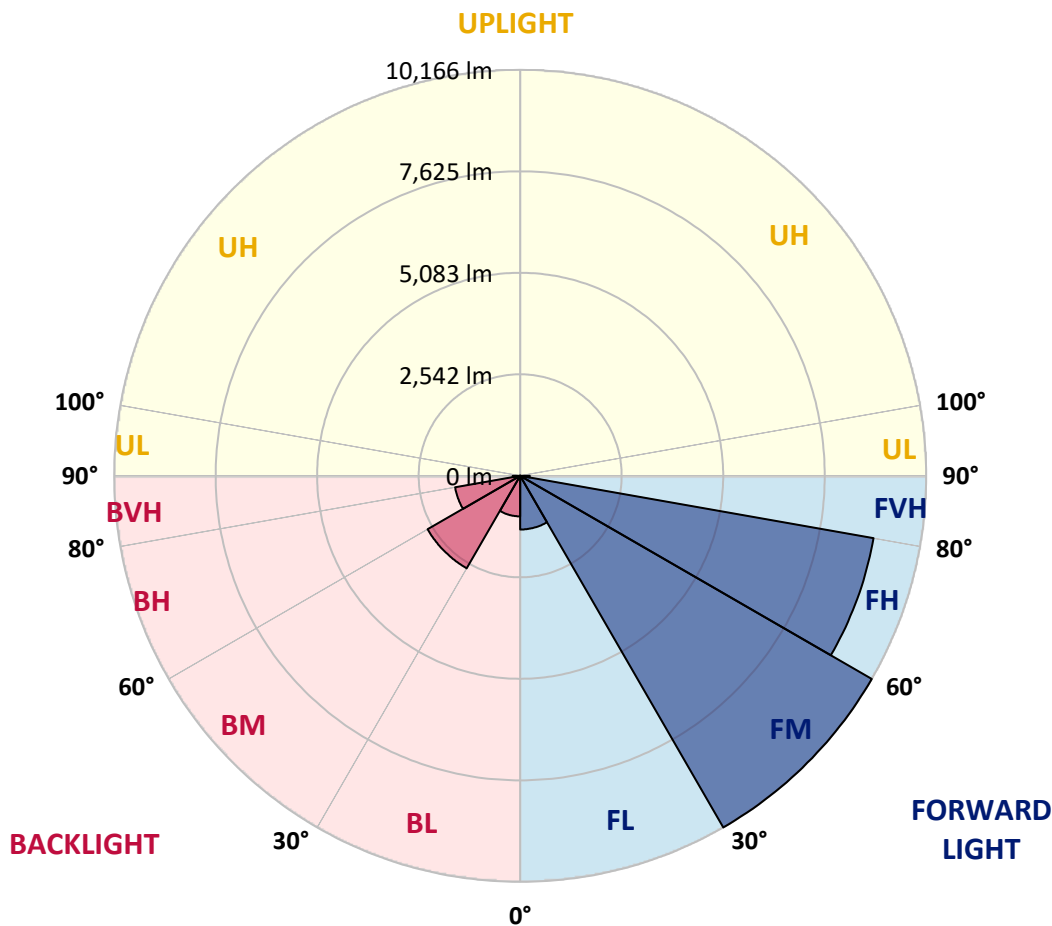
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1344.3	5.1			
FM (30°-60°)	10166.1	38.7			
FH (60°-80°)	8984.9	34.2			G4/12000
FVH (80°-90°)	241.5	0.9			G3/500
BL (0°-30°)	1015.8	3.9	B3/2500		
BM (30°-60°)	2676.0	10.2	B3/5000		
BH (60°-80°)	1654.0	6.3	B3/2500		G3/2500
BVH (80°-90°)	187.4	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-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9
2.5°	1346.7	1306.2	1238.4	1254.8	1294.2	1316.1	1303.0	1285.5	1262.5	1258.1	1358.7
5°	1743.8	1666.2	1634.4	1621.3	1573.2	1544.7	1594.0	1587.4	1613.7	1661.8	1760.2
7.5°	2033.7	1979.0	1926.5	1921.1	1828.1	1795.3	1860.9	1895.9	1942.9	1944.0	2077.5
10°	2189.1	2142.1	2141.0	2091.7	2084.1	2146.4	2147.5	2173.8	2179.2	2235.0	2208.8
12.5°	2357.6	2354.3	2414.5	2413.4	2483.4	2586.2	2534.8	2534.8	2550.1	2482.3	2565.4
15°	2759.1	2794.1	2681.4	2700.0	2700.0	2800.6	2797.4	2817.1	2864.1	2846.6	2809.4
17.5°	3177.0	3198.9	3074.1	2958.2	2966.9	2945.0	3023.8	3031.5	2986.6	3190.1	3145.3
20°	3446.1	3531.4	3268.9	3123.4	3151.8	3177.0	3180.3	3133.2	3110.2	3423.1	3361.9
22.5°	3778.7	3706.5	3465.8	3305.0	3347.6	3313.7	3307.2	3343.3	3375.0	3493.1	3592.7
25°	4000.8	3995.3	3706.5	3530.3	3483.3	3473.5	3540.2	3526.0	3601.4	3815.9	3753.5
27.5°	4323.5	4424.1	3912.1	3955.9	3749.1	3531.4	3745.9	3810.4	3946.1	3911.1	4050.0
30°	4949.3	4873.8	4338.8	4326.8	4092.7	3910.0	4058.7	4004.0	4248.0	4240.3	4343.2
32.5°	5460.2	5512.7	4839.9	4714.0	4540.1	4320.2	4221.7	4373.8	4505.1	4720.6	4778.6
35°	6000.6	5988.6	5352.9	5099.1	4811.4	4720.6	4842.0	4905.5	5184.5	5382.5	5244.6
37.5°	6840.8	6745.6	6018.1	5537.8	5322.3	5289.5	5497.4	5405.5	5707.4	5754.4	5832.1
40°	7621.9	7335.3	6626.4	6076.1	5733.7	5856.2	5862.7	5874.8	6036.7	6164.7	6548.7
42.5°	8364.7	8163.4	7244.5	6830.9	6326.6	6207.4	6281.7	6306.9	6716.1	6977.5	7509.2
45°	9380.0	8840.6	8132.8	7708.3	7143.8	6991.8	6939.2	7155.9	7550.8	8145.9	8602.1
47.5°	10238.7	9751.9	9076.9	8517.9	7886.6	8321.0	8023.4	7902.0	8432.6	9169.9	9896.3
50°	10950.9	10414.9	9753.0	9430.3	9329.6	9716.9	8944.5	8958.8	9444.5	10484.9	11317.4
52.5°	11502.3	10930.2	10343.8	10179.7	10742.0	10965.2	10407.2	10323.0	10677.4	11907.1	12907.0
55°	12017.6	11410.4	10957.5	11292.3	12239.7	12264.8	12225.5	11758.3	12185.0	13431.0	14552.4
57.5°	12150.0	11495.8	11194.9	11675.2	12956.2	13952.9	14344.5	13427.8	13862.1	14817.1	15961.5
60°	11468.4	10908.3	10787.9	11440.0	13343.5	14800.7	15823.6	15275.5	15112.5	15929.7	16948.2
62.5°	10072.5	9422.6	9520.0	10425.8	12935.5	15136.6	16992.0	17419.8	16433.0	16814.8	17379.3
65°	8016.8	7396.5	7593.5	8683.1	11654.4	15248.2	17589.3	18466.7	16910.0	17065.3	16768.8
67.5°	5653.8	5090.4	5338.7	6747.8	9695.0	13819.4	17692.2	17978.8	16402.3	16350.9	15101.6
70°	3203.2	2849.9	3119.0	4294.0	6843.0	11008.9	16885.9	16508.5	15492.1	14763.5	12635.7
72.5°	1469.2	1347.8	1476.9	2185.8	3939.5	7325.4	13785.5	14127.9	13349.0	12437.7	9613.0
75°	781.1	738.5	793.2	1091.8	1843.4	3985.4	9794.6	10564.8	10150.1	9433.6	6270.8
77.5°	580.9	548.1	574.4	707.8	984.6	1559.0	5565.2	6536.7	6694.2	6034.5	3482.2
80°	445.3	419.0	445.3	535.0	681.6	740.6	2379.5	3046.8	3470.2	2803.9	1383.9
82.5°	330.4	312.9	353.4	401.5	479.2	462.8	844.6	1051.3	1355.5	926.6	539.3
85°	262.6	240.7	256.0	272.4	306.3	253.8	386.2	432.1	457.3	382.9	199.1
87.5°	102.8	95.2	186.0	146.6	124.7	76.6	116.0	131.3	134.6	129.1	58.0
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°	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9	1127.9
2.5°	1369.7	1358.7	1294.2	1315.0	1348.9	1355.5	1369.7	1330.3	1310.6	1382.8	1386.1
5°	1769.0	1709.9	1679.3	1682.6	1660.7	1626.8	1678.2	1712.1	1725.2	1778.8	1798.5
7.5°	2078.6	2007.5	1956.1	1897.0	1813.9	1760.2	1850.0	1915.6	1950.6	2062.2	2106.0
10°	2216.4	2159.6	2148.6	2074.2	2072.0	2070.9	2066.6	2043.6	2119.1	2108.1	2138.8
12.5°	2500.9	2488.9	2384.9	2355.4	2358.7	2355.4	2263.5	2259.1	2260.2	2360.9	2324.8
15°	2765.6	2767.8	2672.6	2565.4	2469.2	2439.6	2403.5	2387.1	2411.2	2468.1	2433.1
17.5°	3092.7	3103.7	2831.3	2661.7	2534.8	2531.5	2445.1	2343.3	2489.9	2525.0	2486.7
20°	3303.9	3257.9	2923.2	2638.7	2602.6	2504.2	2397.0	2256.9	2383.8	2469.2	2493.2
22.5°	3504.1	3424.2	3008.5	2679.2	2506.4	2389.3	2285.4	2194.6	2235.0	2330.2	2314.9
25°	3639.7	3617.9	3126.7	2776.6	2503.1	2242.7	2102.7	2044.7	2065.5	2213.2	2198.9
27.5°	3963.6	3727.3	3105.9	2801.7	2398.0	2042.5	1972.5	1910.1	1889.3	2049.1	2092.8
30°	4180.2	4082.8	3244.8	2762.4	2265.7	1878.4	1775.6	1762.4	1769.0	1950.6	1962.6
32.5°	4547.8	4295.0	3472.4	2611.4	2073.1	1757.0	1638.8	1644.3	1673.8	1806.2	1833.5
35°	4930.7	4779.7	3503.0	2503.1	1916.7	1627.9	1579.7	1541.4	1557.9	1673.8	1679.3
37.5°	5641.8	5119.9	3691.2	2335.7	1801.8	1578.6	1486.7	1452.8	1461.6	1527.2	1574.3
40°	6267.5	5803.7	3603.6	2173.8	1659.6	1513.0	1398.1	1373.0	1346.7	1411.3	1440.8
42.5°	7270.7	6291.6	3574.1	1995.5	1592.9	1424.4	1345.6	1278.9	1253.7	1308.4	1362.0
45°	8273.9	6809.1	3413.3	1814.9	1498.8	1417.8	1269.0	1205.6	1212.2	1261.4	1316.1
47.5°	9392.0	7503.7	3140.9	1639.9	1395.9	1386.1	1192.5	1165.1	1184.8	1239.5	1294.2
50°	10713.5	8241.1	2915.5	1482.4	1322.6	1290.9	1182.6	1149.8	1168.4	1232.9	1286.5
52.5°	12158.7	9049.6	2751.4	1336.9	1239.5	1215.4	1195.7	1164.0	1185.9	1241.7	1297.5
55°	13595.1	9788.0	2639.8	1237.3	1168.4	1183.7	1223.1	1200.1	1211.1	1252.6	1308.4
57.5°	14660.7	10177.5	2415.6	1131.2	1110.4	1165.1	1226.4	1188.1	1194.6	1252.6	1312.8
60°	15279.9	10251.9	2046.9	1044.8	1064.5	1127.9	1192.5	1143.2	1138.9	1234.0	1309.5
62.5°	15212.1	9819.7	1623.5	966.0	1012.0	1072.1	1141.0	1094.0	1106.0	1236.2	1316.1
65°	14240.6	8936.9	1290.9	899.3	948.5	1010.9	1098.4	1079.8	1137.8	1323.7	1410.2
67.5°	12534.0	7647.1	1037.1	836.9	889.4	969.3	1127.9	1177.1	1202.3	1413.4	1502.1
70°	10157.8	5941.5	864.3	782.2	842.4	989.0	1213.2	1203.4	1182.6	1370.8	1440.8
72.5°	7338.6	4073.0	760.3	728.6	784.4	929.9	1215.4	1162.9	1136.7	1251.5	1301.9
75°	4591.5	2429.8	664.1	660.8	695.8	833.6	1160.7	1113.7	1042.6	1099.5	1165.1
77.5°	2622.3	1243.9	559.0	588.6	609.4	723.1	1039.3	996.6	933.2	957.3	1021.8
80°	1001.0	601.7	471.5	522.9	517.5	612.6	880.7	870.8	798.6	806.3	845.7
82.5°	471.5	337.0	391.7	449.6	420.1	487.9	715.5	712.2	648.7	587.5	619.2
85°	175.0	179.4	286.6	342.4	292.1	315.1	517.5	503.2	442.0	373.1	412.4
87.5°	39.4	64.5	141.1	178.3	101.7	97.4	209.0	181.6	175.0	103.9	109.4
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)