

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: P368406

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

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368406
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-760-U-RW
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19953 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B4 - U0 - G4

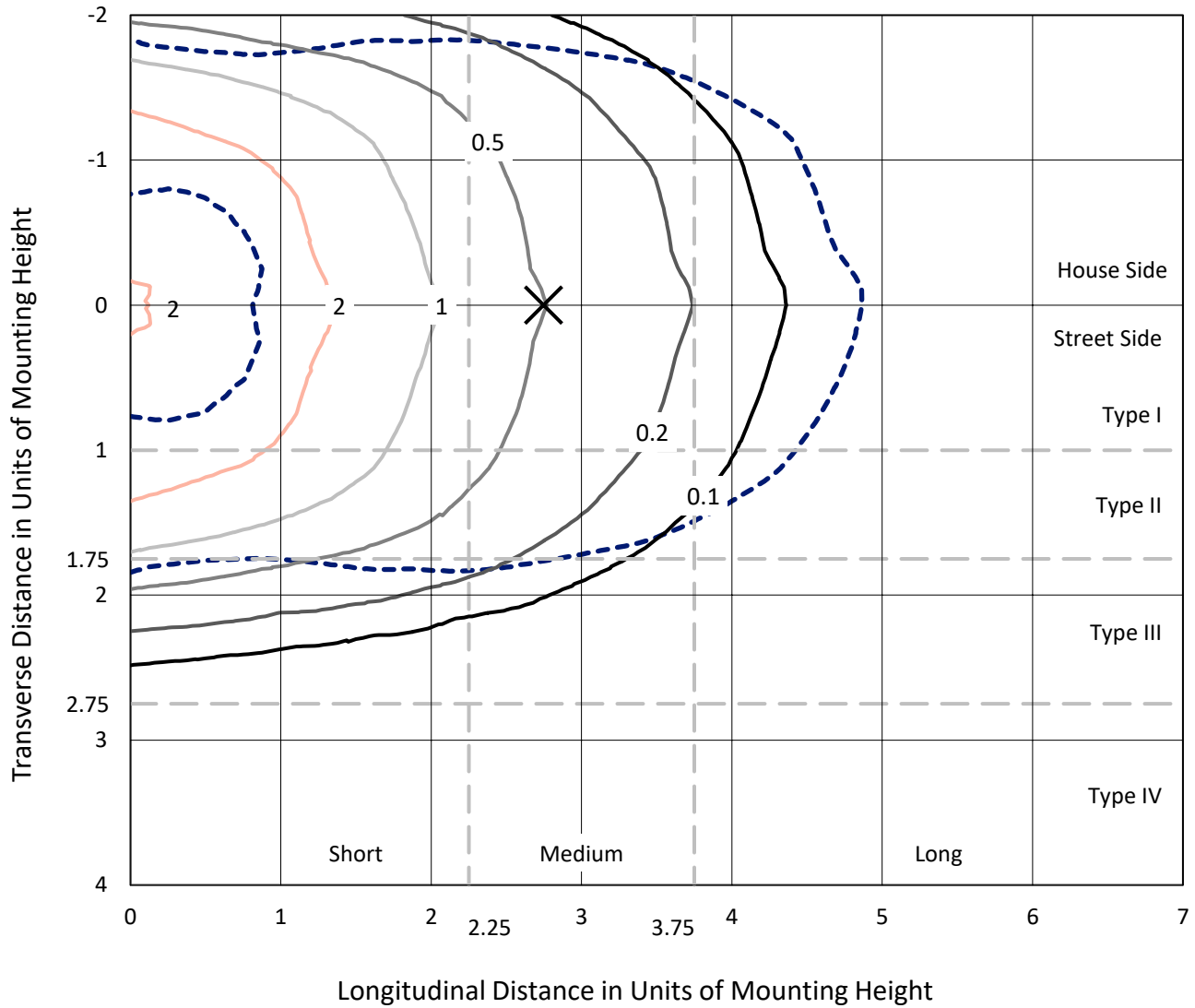
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

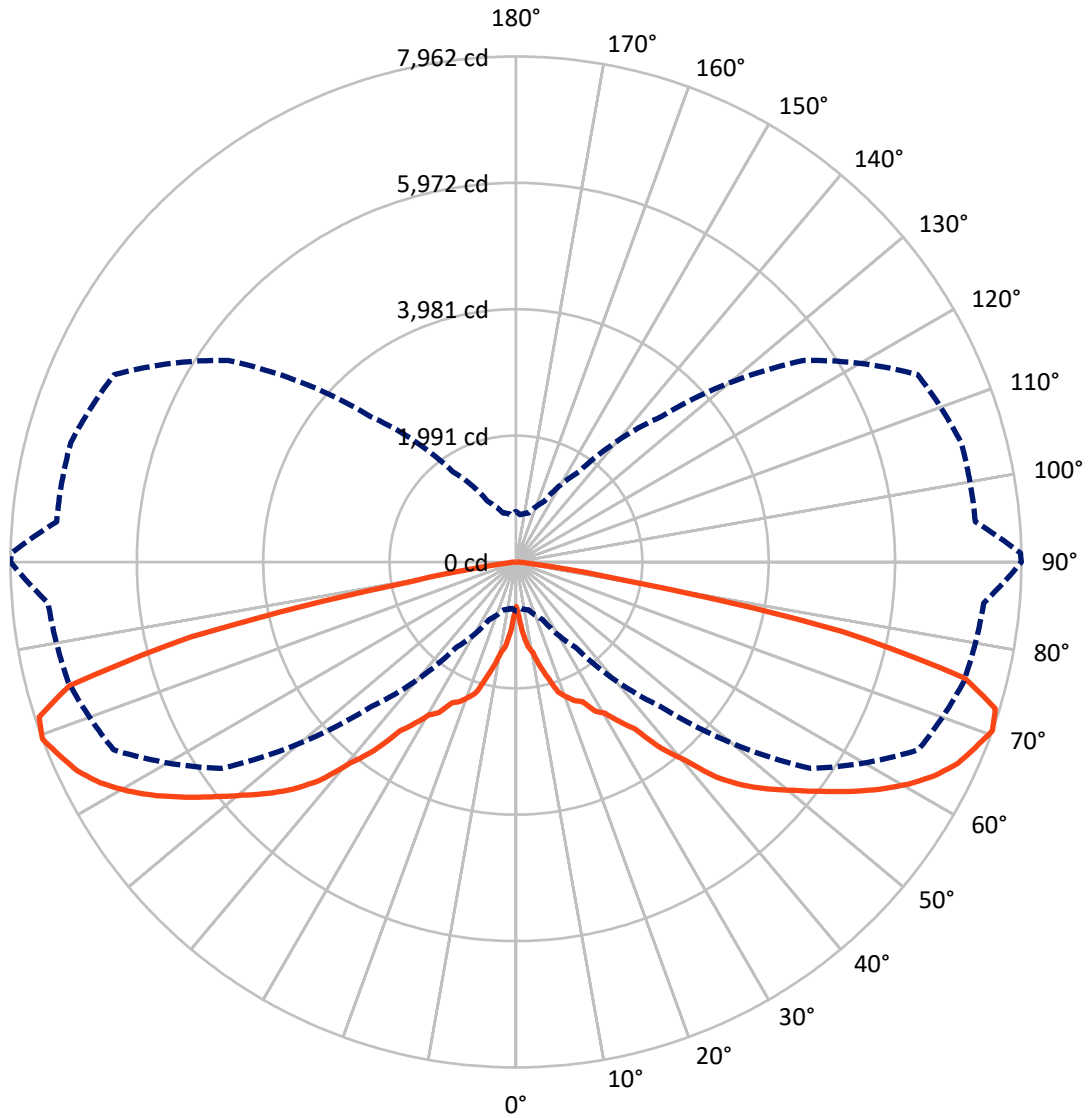
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.3 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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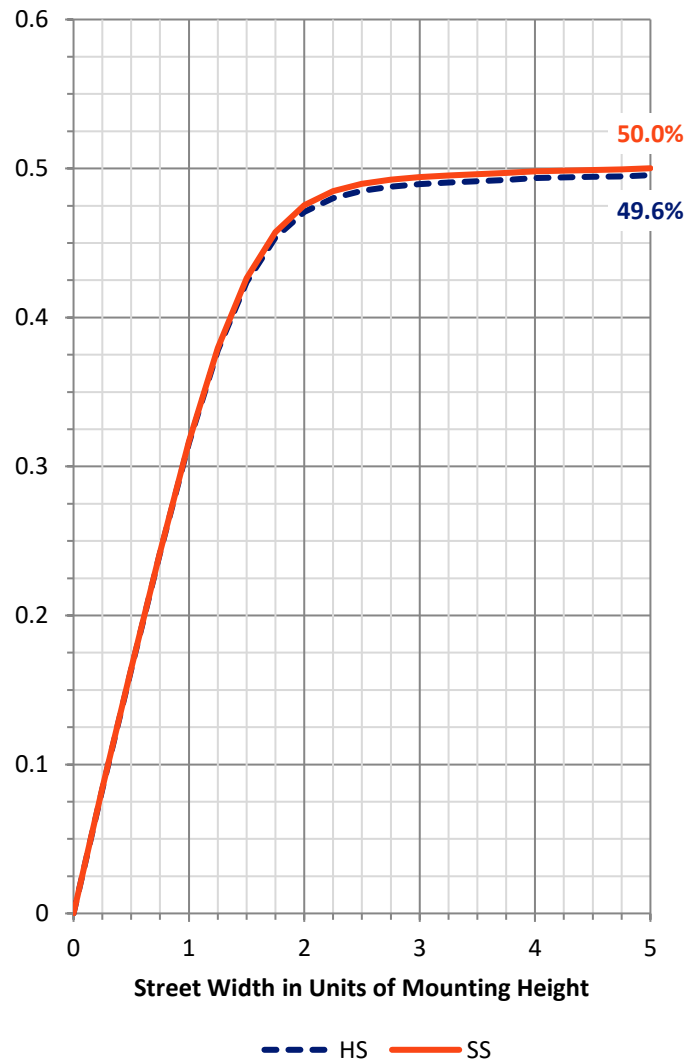
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	9939.5	0.0	9939.5
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	10013.5	0.0	10013.5
	% Fixture	50.2	0.0	50.2
Total	Lumens	19953.0	0.0	19953.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.6	0.5
10°-20°	484.2	2.4
20°-30°	1046.9	5.2
30°-40°	1997.3	10.0
40°-50°	3628.5	18.2
50°-60°	5097.1	25.5
60°-70°	4866.8	24.4
70°-80°	2497.6	12.5
80°-90°	229.0	1.1
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°	19953.0	100.0
0°-180°	19953.0	100.0



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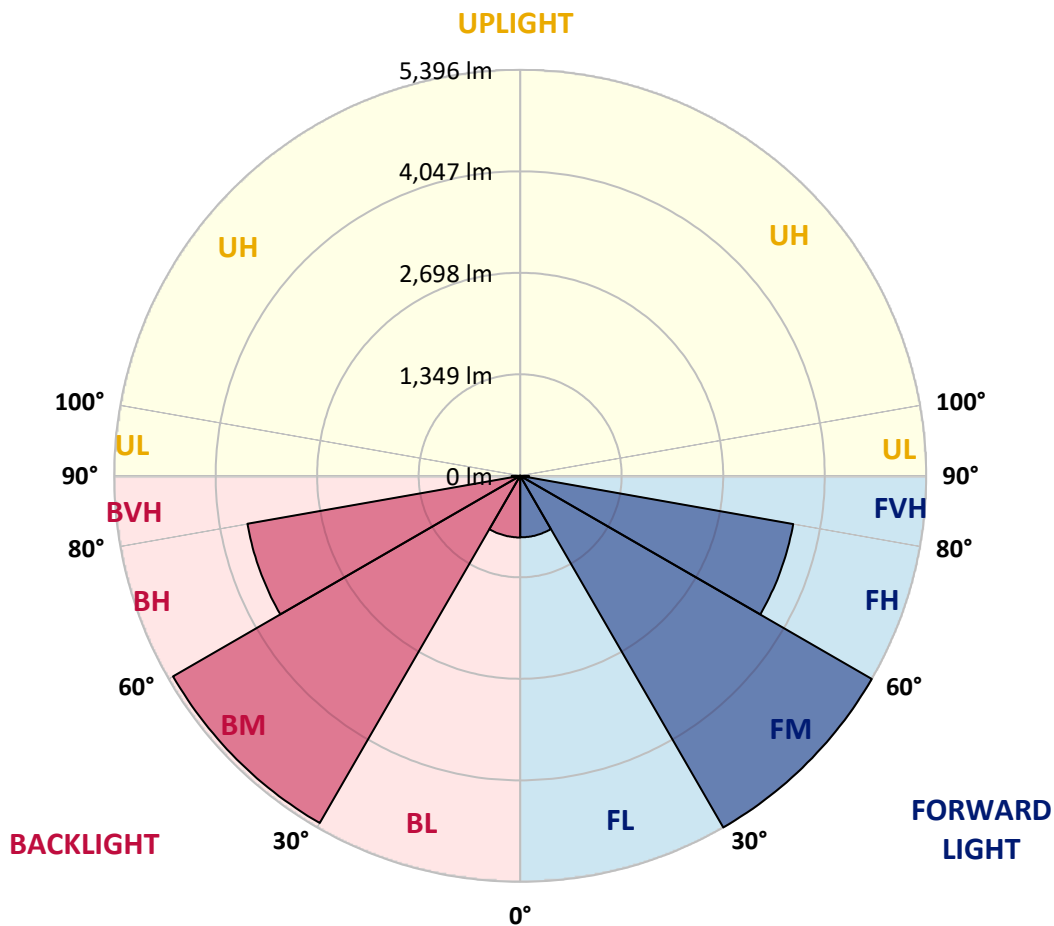
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	817.5	4.1			
FM (30°-60°)	5395.5	27.0			
FH (60°-80°)	3684.2	18.5			G2/5000
FVH (80°-90°)	116.2	0.6			G2/225
BL (0°-30°)	819.1	4.1	B2/1000		
BM (30°-60°)	5327.4	26.7	B4/8500		
BH (60°-80°)	3680.2	18.4	B4/5000		G4/5000
BVH (80°-90°)	112.8	0.6			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	700.3	700.3	700.3	700.3	700.3	700.3	700.3	700.3	700.3	700.3	700.3
2.5°	848.3	816.8	777.1	800.6	810.3	827.3	824.8	816.8	782.0	840.2	846.7
5°	1061.8	1011.6	993.0	989.8	994.7	978.5	1031.0	1015.7	1044.0	1096.6	1108.7
7.5°	1209.0	1171.8	1132.1	1144.3	1094.1	1086.8	1154.8	1215.4	1230.8	1327.0	1333.5
10°	1278.5	1242.1	1252.6	1245.3	1239.7	1286.6	1318.1	1362.6	1426.5	1435.4	1449.1
12.5°	1337.5	1352.1	1398.2	1396.6	1472.6	1555.9	1543.7	1589.8	1600.4	1711.9	1678.0
15°	1487.1	1517.1	1513.8	1542.1	1575.3	1711.9	1712.8	1791.2	1863.2	1906.8	1895.5
17.5°	1706.3	1716.8	1673.1	1674.7	1771.0	1826.8	1889.0	1875.3	2062.9	2148.6	2154.3
20°	1837.3	1864.0	1813.8	1747.5	1918.2	1995.0	2029.8	1949.7	2150.2	2265.9	2265.9
22.5°	2066.1	1997.4	1921.4	1876.9	2027.3	2109.0	2105.0	2082.3	2189.1	2393.7	2374.2
25°	2192.3	2153.5	2115.5	2126.8	2202.8	2244.9	2300.7	2248.1	2348.4	2500.4	2436.5
27.5°	2431.7	2359.7	2172.9	2321.7	2321.7	2290.1	2408.2	2433.3	2367.8	2615.2	2662.9
30°	2702.6	2677.5	2413.1	2570.8	2522.2	2433.3	2659.7	2643.5	2533.6	2785.9	2764.0
32.5°	2958.9	3041.4	2790.7	2704.2	2777.0	2810.9	2692.1	2740.6	2761.6	3005.0	2994.5
35°	3351.9	3421.5	3089.1	3067.3	2946.0	2914.4	3005.0	3021.2	3022.8	3279.1	3232.2
37.5°	4032.0	3931.7	3603.4	3449.0	3462.7	3424.7	3442.5	3314.7	3332.5	3704.5	3728.0
40°	4529.3	4416.1	4050.6	3939.8	3668.1	3830.7	3686.7	3673.8	3638.2	4120.2	4107.2
42.5°	5078.4	4923.2	4518.8	4370.8	4082.1	4015.8	3949.5	4099.1	4089.4	4535.8	4634.5
45°	5493.3	5179.5	4968.4	4876.3	4703.2	4540.7	4477.6	4544.7	4514.0	4845.5	5017.8
47.5°	5755.3	5482.8	5240.2	5046.1	4880.3	5279.0	4959.6	4869.8	4807.5	5178.7	5344.5
50°	5963.9	5649.3	5363.1	5298.4	5429.4	5782.0	5278.2	5080.0	5156.1	5429.4	5655.0
52.5°	6020.5	5687.4	5430.2	5389.0	5743.1	5807.0	5725.4	5392.2	5372.0	5730.2	6002.7
55°	5847.5	5528.0	5405.9	5631.6	6022.9	5969.6	6094.1	5881.4	5738.3	6037.5	6380.4
57.5°	5401.9	5084.9	5055.8	5380.9	5874.2	6328.6	6390.1	6221.9	6034.3	6351.3	6755.6
60°	4670.0	4380.5	4454.1	4813.2	5557.2	6204.1	6530.8	6377.1	6318.9	6634.3	7103.3
62.5°	3530.6	3305.0	3501.5	4002.1	4978.2	6043.2	6724.9	6700.6	6616.5	6935.1	7410.6
65°	2251.3	2132.5	2333.0	2841.7	4079.7	5750.4	6817.9	6850.2	6927.8	7167.2	7648.4
67.5°	1308.4	1245.3	1367.5	1783.9	2905.5	4721.8	6644.8	7109.0	7149.4	7286.9	7804.4
70°	773.9	732.7	782.8	1001.9	1644.8	3216.9	5667.9	6995.8	7301.4	7396.9	7962.1
72.5°	590.3	551.5	529.7	592.8	858.8	1661.8	3832.3	5930.0	7179.3	7324.1	7895.8
75°	510.3	473.1	447.2	452.9	511.1	789.3	2077.5	4241.5	6117.6	6669.1	7293.4
77.5°	438.3	405.1	386.5	384.9	392.2	433.4	868.5	2299.8	3831.5	4793.8	5257.9
80°	351.0	325.1	321.0	321.0	310.5	307.3	431.8	875.0	1458.0	1728.9	1657.8
82.5°	256.3	230.5	256.3	253.1	236.9	224.0	274.9	378.5	449.6	355.0	280.6
85°	173.1	149.6	169.0	172.2	156.9	116.4	165.0	189.2	194.1	121.3	100.3
87.5°	60.6	59.0	95.4	83.3	67.9	39.6	60.6	65.5	68.7	42.9	29.1
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):

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	700.3	700.3	700.3	700.3	700.3	700.3	700.3	700.3	700.3	700.3	700.3
2.5°	849.1	839.4	790.9	798.2	816.8	825.6	834.5	798.2	780.4	837.0	831.3
5°	1111.9	1076.3	1036.7	1031.0	1033.5	998.7	1018.9	1010.0	1014.1	1050.5	1057.7
7.5°	1331.9	1289.0	1236.5	1195.2	1124.0	1067.4	1115.2	1139.4	1146.7	1211.4	1235.6
10°	1450.7	1414.4	1399.0	1321.4	1297.9	1290.6	1279.3	1240.5	1283.4	1268.0	1280.1
12.5°	1683.6	1676.4	1596.3	1545.4	1550.2	1564.0	1492.8	1454.0	1398.2	1485.5	1454.0
15°	1881.8	1913.3	1833.2	1740.3	1694.2	1717.6	1663.4	1606.8	1556.7	1583.4	1549.4
17.5°	2134.9	2134.1	1978.0	1878.5	1874.5	1872.9	1792.8	1668.3	1728.1	1709.5	1711.1
20°	2269.1	2247.3	2053.2	1938.4	2036.2	2001.4	1929.5	1769.4	1838.9	1861.6	1876.1
22.5°	2381.5	2369.4	2134.1	2050.0	2113.0	2113.9	2041.9	1957.8	1948.9	2019.2	1981.2
25°	2460.0	2508.5	2286.9	2266.7	2294.2	2266.7	2196.3	2141.3	2105.8	2210.9	2105.8
27.5°	2646.0	2577.2	2310.4	2425.2	2442.2	2303.9	2392.0	2327.3	2228.7	2358.9	2401.7
30°	2778.6	2819.0	2475.3	2648.4	2628.2	2500.4	2536.8	2534.4	2416.3	2670.2	2640.3
32.5°	3006.6	2958.1	2744.6	2730.9	2779.4	2773.7	2712.3	2742.2	2771.3	2955.7	3000.2
35°	3240.3	3292.1	2916.9	3009.9	2996.1	2908.8	3069.7	3051.1	3137.6	3516.1	3390.7
37.5°	3767.6	3520.9	3303.4	3291.3	3383.5	3397.2	3345.5	3427.1	3613.9	3905.1	4039.3
40°	4112.9	4000.5	3630.9	3645.5	3517.7	3737.7	3592.1	3854.9	3997.2	4488.1	4440.4
42.5°	4635.3	4361.1	4006.1	4054.7	4028.8	3922.8	4114.5	4249.5	4453.3	4827.7	5069.5
45°	5024.2	4648.2	4480.0	4450.1	4446.9	4631.2	4607.0	4822.9	4895.7	5177.1	5377.6
47.5°	5319.4	5000.0	4750.9	4784.9	4686.2	5212.7	4932.1	4999.2	5146.4	5411.6	5645.3
50°	5669.6	5313.7	5030.7	5114.8	5355.0	5557.2	5303.2	5188.4	5260.4	5573.3	5833.7
52.5°	5993.8	5619.4	5308.1	5378.4	5770.6	5678.5	5651.0	5360.6	5351.8	5603.2	5899.2
55°	6373.1	5951.0	5676.0	5899.2	6038.3	5924.3	5880.6	5527.2	5308.9	5448.8	5727.8
57.5°	6745.1	6279.3	6006.0	6052.1	6228.3	6115.1	5787.6	5243.4	4970.9	4998.4	5280.6
60°	7093.6	6580.9	6355.3	6310.8	6451.5	6007.6	5434.2	4723.4	4361.9	4295.6	4539.9
62.5°	7392.0	6833.2	6619.7	6498.4	6632.7	6011.6	4883.5	3888.9	3491.8	3267.0	3457.0
65°	7629.0	7042.7	6890.6	6827.6	6876.1	5646.1	4025.5	2855.4	2368.6	2119.5	2230.3
67.5°	7786.6	7159.9	7090.4	7172.9	6525.9	4702.4	2982.4	1827.6	1377.2	1241.3	1310.8
70°	7950.0	7263.4	7261.0	6980.4	5533.7	3241.9	1741.9	1053.7	801.4	748.8	792.5
72.5°	7895.0	7140.5	7176.9	6104.6	3834.7	1733.0	919.5	596.0	542.6	561.2	600.0
75°	7311.2	6492.0	6316.5	4388.6	2175.3	805.4	529.7	451.2	448.0	476.3	514.3
77.5°	5303.2	4521.3	4057.1	2487.5	932.4	435.9	389.8	376.8	376.8	399.5	433.4
80°	1748.3	1513.0	1576.9	962.3	440.7	300.8	304.1	309.7	308.1	313.8	342.1
82.5°	287.1	297.6	460.1	393.0	266.1	205.4	229.7	241.0	244.2	218.3	248.3
85°	101.9	114.8	195.7	181.9	153.6	103.5	151.2	169.0	166.6	145.6	160.9
87.5°	31.5	40.4	71.2	55.0	46.1	28.3	56.6	66.3	83.3	34.0	30.7
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)