

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: P367702

Luminaire Tested: **MSA-SA3A-740-U-RW**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367702  
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-SA3A-740-U-RW  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12046 lumens  
Efficiency: N/A  
Efficacy: 125.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3

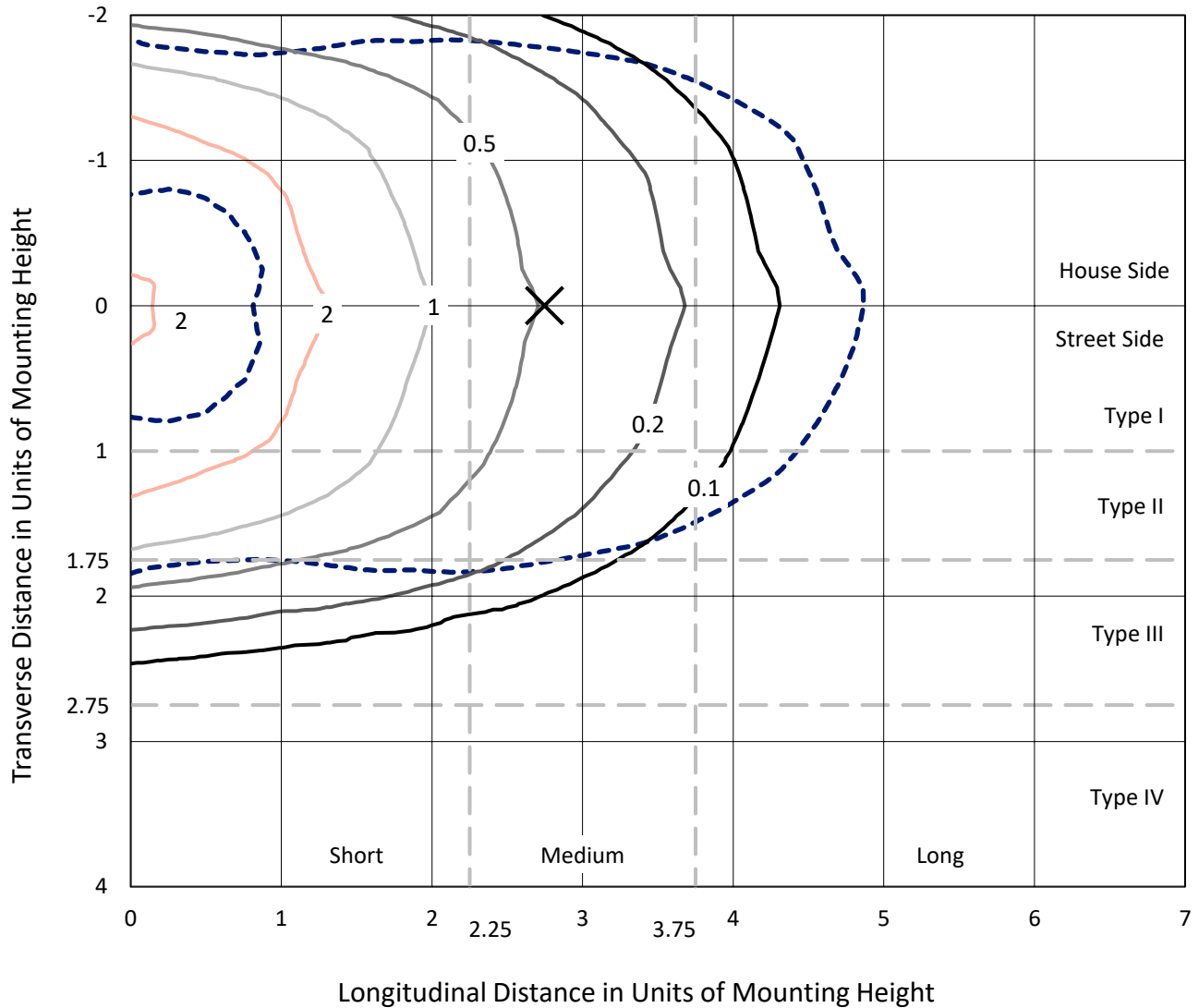
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

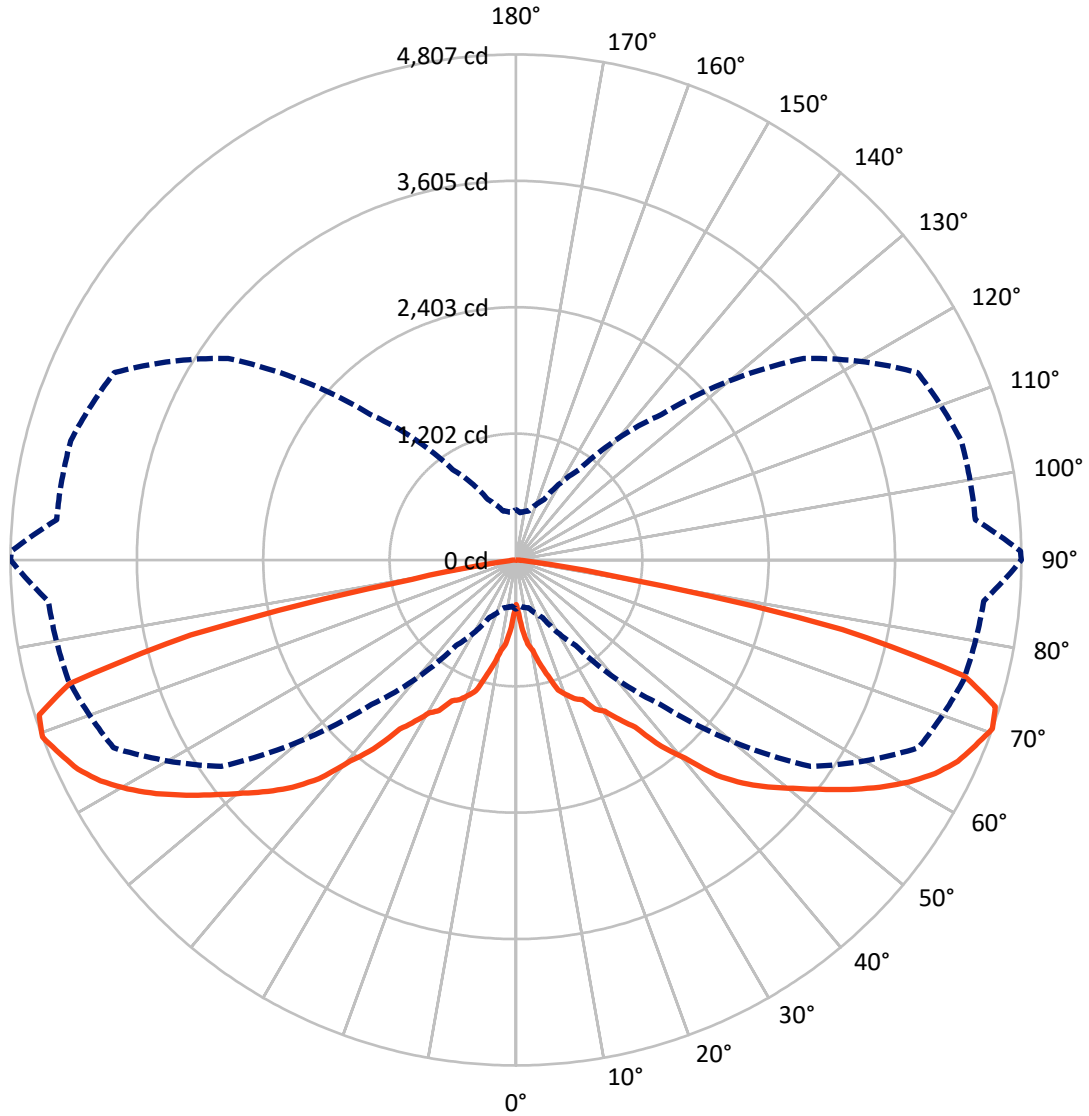
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.1 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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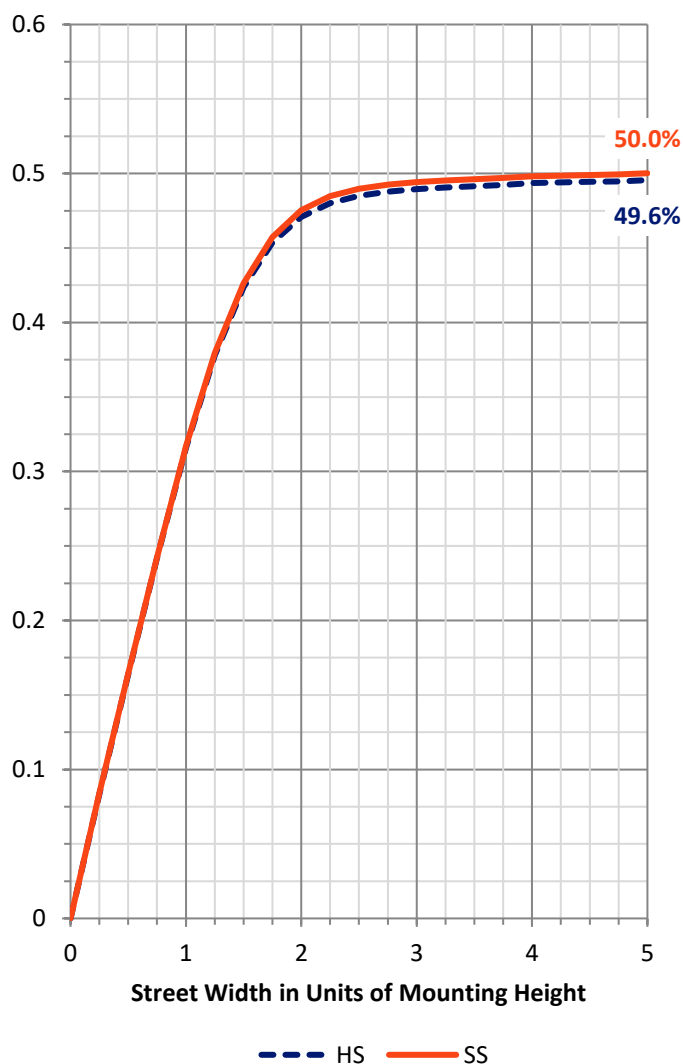
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	6000.7	0.0	6000.7
	% Fixture	49.8	0.0	49.8
<b>Street Side</b>	Lumens	6045.3	0.0	6045.3
	% Fixture	50.2	0.0	50.2
<b>Total</b>	Lumens	12046.0	0.0	12046.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.8	0.5
10°-20°	292.3	2.4
20°-30°	632.0	5.2
30°-40°	1205.8	10.0
40°-50°	2190.6	18.2
50°-60°	3077.2	25.5
60°-70°	2938.2	24.4
70°-80°	1507.9	12.5
80°-90°	138.2	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°	12046.0	100.0
0°-180°	12046.0	100.0

**Coefficient of Utilization**



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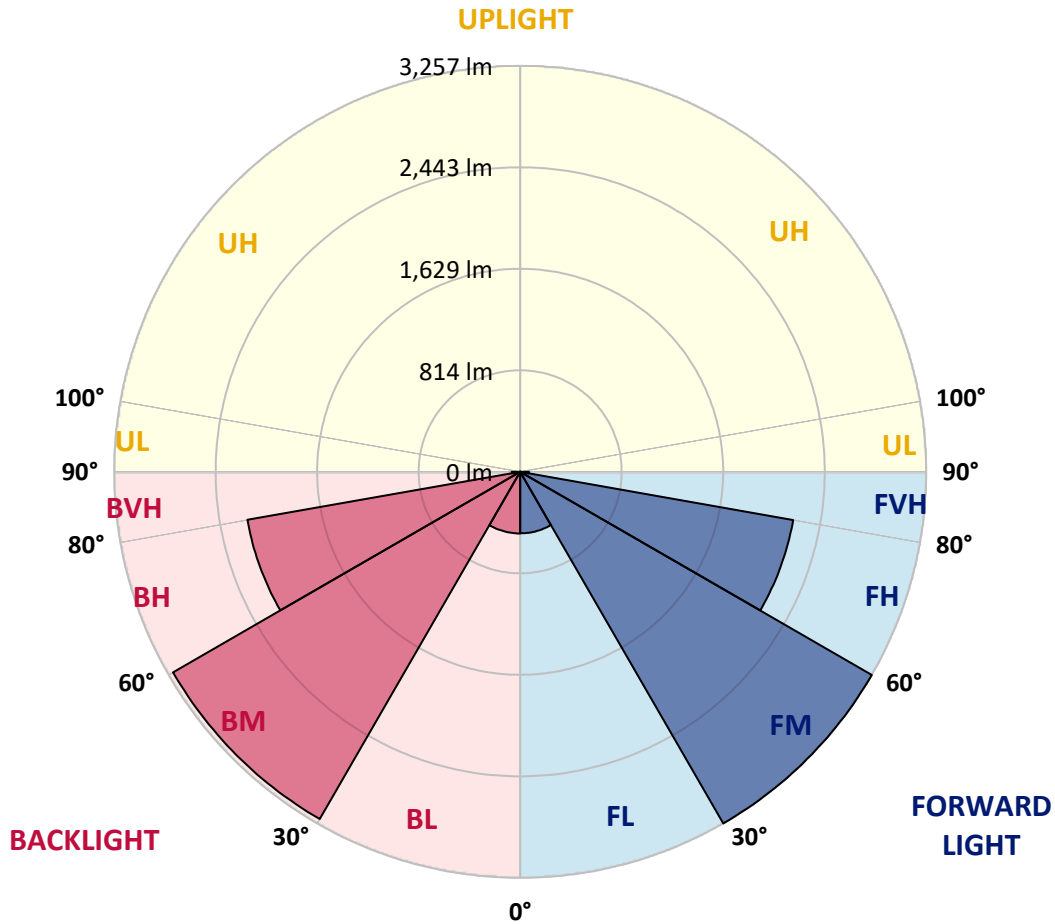
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	493.6	4.1			
FM (30°-60°)	3257.4	27.0			
FH (60°-80°)	2224.2	18.5			G2/5000
FVH (80°-90°)	70.1	0.6			G1/100
BL (0°-30°)	494.5	4.1	B1/500		
BM (30°-60°)	3216.3	26.7	B3/5000		
BH (60°-80°)	2221.8	18.4	B3/2500		G3/2500
BVH (80°-90°)	68.1	0.6			G1/100
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°	65°	75°	85°	90°
0°	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8
2.5°	512.1	493.1	469.2	483.3	489.2	499.4	498.0	493.1	472.1	507.2	511.2
5°	641.0	610.7	599.5	597.6	600.5	590.7	622.5	613.2	630.3	662.0	669.3
7.5°	729.9	707.4	683.5	690.8	660.5	656.2	697.2	733.8	743.1	801.1	805.1
10°	771.9	749.9	756.2	751.8	748.4	776.7	795.8	822.6	861.2	866.6	874.9
12.5°	807.5	816.3	844.1	843.1	889.0	939.3	932.0	959.8	966.2	1033.5	1013.0
15°	897.8	915.9	913.9	931.0	951.0	1033.5	1034.0	1081.4	1124.8	1151.2	1144.4
17.5°	1030.1	1036.5	1010.1	1011.1	1069.2	1102.9	1140.5	1132.2	1245.4	1297.2	1300.6
20°	1109.2	1125.3	1095.0	1055.0	1158.0	1204.4	1225.4	1177.1	1298.1	1368.0	1368.0
22.5°	1247.4	1205.9	1160.0	1133.1	1223.9	1273.2	1270.8	1257.1	1321.6	1445.1	1433.4
25°	1323.5	1300.1	1277.1	1284.0	1329.9	1355.3	1388.9	1357.2	1417.8	1509.5	1471.0
27.5°	1468.0	1424.6	1311.8	1401.6	1401.6	1382.6	1453.9	1469.0	1429.5	1578.9	1607.7
30°	1631.6	1616.5	1456.8	1552.0	1522.7	1469.0	1605.7	1595.9	1529.6	1681.9	1668.7
32.5°	1786.3	1836.1	1684.8	1632.6	1676.5	1697.0	1625.2	1654.5	1667.2	1814.2	1807.8
35°	2023.6	2065.6	1865.0	1851.8	1778.5	1759.5	1814.2	1823.9	1824.9	1979.7	1951.4
37.5°	2434.2	2373.7	2175.5	2082.2	2090.5	2067.6	2078.3	2001.2	2011.9	2236.5	2250.6
40°	2734.4	2666.1	2445.4	2378.5	2214.5	2312.6	2225.7	2217.9	2196.4	2487.4	2479.6
42.5°	3065.9	2972.2	2728.1	2638.8	2464.5	2424.4	2384.4	2474.7	2468.9	2738.4	2797.9
45°	3316.4	3127.0	2999.5	2943.9	2839.4	2741.3	2703.2	2743.7	2725.2	2925.3	3029.3
47.5°	3474.6	3310.0	3163.6	3046.4	2946.3	3187.0	2994.2	2940.0	2902.4	3126.5	3226.6
50°	3600.5	3410.6	3237.8	3198.7	3277.8	3490.7	3186.5	3066.9	3112.8	3277.8	3414.0
52.5°	3634.7	3433.6	3278.3	3253.4	3467.2	3505.8	3456.5	3255.4	3243.2	3459.4	3624.0
55°	3530.2	3337.4	3263.7	3399.9	3636.2	3603.9	3679.1	3550.7	3464.3	3645.0	3852.0
57.5°	3261.2	3069.8	3052.3	3248.5	3546.3	3820.7	3857.8	3756.3	3643.0	3834.4	4078.5
60°	2819.4	2644.6	2689.0	2905.8	3355.0	3745.5	3942.8	3850.0	3814.9	4005.3	4288.4
62.5°	2131.5	1995.3	2113.9	2416.1	3005.4	3648.4	4059.9	4045.3	3994.5	4186.9	4473.9
65°	1359.2	1287.4	1408.5	1715.6	2463.0	3471.6	4116.1	4135.6	4182.5	4327.0	4617.5
67.5°	789.9	751.8	825.6	1077.0	1754.1	2850.6	4011.6	4291.8	4316.2	4399.2	4711.7
70°	467.2	442.3	472.6	604.9	993.0	1942.1	3421.8	4223.5	4408.0	4465.6	4806.9
72.5°	356.4	333.0	319.8	357.9	518.5	1003.3	2313.6	3580.0	4334.3	4421.7	4766.9
75°	308.1	285.6	270.0	273.4	308.5	476.5	1254.2	2560.6	3693.3	4026.2	4403.1
77.5°	264.6	244.6	233.4	232.4	236.8	261.7	524.3	1388.5	2313.1	2894.1	3174.3
80°	211.9	196.3	193.8	193.8	187.5	185.5	260.7	528.2	880.2	1043.8	1000.8
82.5°	154.8	139.1	154.8	152.8	143.0	135.2	166.0	228.5	271.4	214.3	169.4
85°	104.5	90.3	102.0	104.0	94.7	70.3	99.6	114.2	117.2	73.2	60.5
87.5°	36.6	35.6	57.6	50.3	41.0	23.9	36.6	39.5	41.5	25.9	17.6
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°	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8
2.5°	512.6	506.8	477.5	481.9	493.1	498.5	503.8	481.9	471.1	505.3	501.9
5°	671.3	649.8	625.9	622.5	623.9	602.9	615.1	609.8	612.2	634.2	638.6
7.5°	804.1	778.2	746.5	721.6	678.6	644.4	673.2	687.9	692.3	731.3	746.0
10°	875.8	853.9	844.6	797.7	783.6	779.2	772.3	748.9	774.8	765.5	772.8
12.5°	1016.4	1012.1	963.7	933.0	935.9	944.2	901.2	877.8	844.1	896.8	877.8
15°	1136.1	1155.1	1106.8	1050.6	1022.8	1037.0	1004.2	970.1	939.8	955.9	935.4
17.5°	1288.9	1288.4	1194.2	1134.1	1131.7	1130.7	1082.4	1007.2	1043.3	1032.1	1033.0
20°	1369.9	1356.7	1239.6	1170.2	1229.3	1208.3	1164.9	1068.2	1110.2	1123.9	1132.6
22.5°	1437.8	1430.4	1288.4	1237.6	1275.7	1276.2	1232.7	1181.9	1176.6	1219.1	1196.1
25°	1485.1	1514.4	1380.6	1368.4	1385.0	1368.4	1326.0	1292.8	1271.3	1334.8	1271.3
27.5°	1597.4	1555.9	1394.8	1464.1	1474.4	1390.9	1444.1	1405.1	1345.5	1424.1	1450.0
30°	1677.5	1701.9	1494.4	1598.9	1586.7	1509.5	1531.5	1530.0	1458.8	1612.1	1594.0
32.5°	1815.2	1785.9	1657.0	1648.7	1678.0	1674.6	1637.4	1655.5	1673.1	1784.4	1811.2
35°	1956.2	1987.5	1761.0	1817.1	1808.8	1756.1	1853.2	1842.0	1894.2	2122.7	2047.1
37.5°	2274.6	2125.7	1994.3	1987.0	2042.7	2051.0	2019.7	2069.0	2181.8	2357.6	2438.6
40°	2483.0	2415.2	2192.0	2200.8	2123.7	2256.5	2168.6	2327.3	2413.2	2709.5	2680.7
42.5°	2798.4	2632.9	2418.6	2447.9	2432.2	2368.3	2484.0	2565.5	2688.6	2914.6	3060.6
45°	3033.2	2806.2	2704.7	2686.6	2684.7	2796.0	2781.3	2911.7	2955.6	3125.5	3246.6
47.5°	3211.4	3018.6	2868.2	2888.7	2829.2	3147.0	2977.6	3018.1	3106.9	3267.1	3408.2
50°	3422.8	3208.0	3037.1	3087.9	3232.9	3355.0	3201.7	3132.3	3175.8	3364.7	3521.9
52.5°	3618.6	3392.6	3204.6	3247.1	3483.8	3428.2	3411.6	3236.3	3231.0	3382.8	3561.5
55°	3847.6	3592.7	3426.7	3561.5	3645.4	3576.6	3550.2	3336.9	3205.1	3289.5	3458.0
57.5°	4072.1	3790.9	3625.9	3653.7	3760.2	3691.8	3494.1	3165.5	3001.0	3017.6	3188.0
60°	4282.6	3973.0	3836.8	3810.0	3894.9	3626.9	3280.8	2851.6	2633.4	2593.4	2740.8
62.5°	4462.7	4125.3	3996.5	3923.2	4004.3	3629.3	2948.3	2347.8	2108.1	1972.4	2087.1
65°	4605.7	4251.8	4160.0	4121.9	4151.2	3408.7	2430.3	1723.9	1430.0	1279.6	1346.5
67.5°	4700.9	4322.6	4280.6	4330.4	3939.8	2838.9	1800.5	1103.3	831.4	749.4	791.4
70°	4799.6	4385.1	4383.6	4214.2	3340.8	1957.2	1051.6	636.1	483.8	452.1	478.4
72.5°	4766.4	4310.9	4332.8	3685.5	2315.1	1046.2	555.1	359.8	327.6	338.8	362.2
75°	4413.9	3919.3	3813.4	2649.5	1313.3	486.3	319.8	272.4	270.5	287.6	310.5
77.5°	3201.7	2729.6	2449.3	1501.7	562.9	263.1	235.3	227.5	227.5	241.2	261.7
80°	1055.5	913.4	952.0	581.0	266.1	181.6	183.6	187.0	186.0	189.4	206.5
82.5°	173.3	179.7	277.8	237.3	160.6	124.0	138.7	145.5	147.4	131.8	149.9
85°	61.5	69.3	118.1	109.8	92.8	62.5	91.3	102.0	100.6	87.9	97.2
87.5°	19.0	24.4	43.0	33.2	27.8	17.1	34.2	40.0	50.3	20.5	18.6
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)