

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: P368544

Luminaire Tested: **MSA-SA4C-760-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368544
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4C-760-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS
EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23438 lumens
Efficiency: N/A
Efficacy: 104.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

Input Watts (W): 225
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

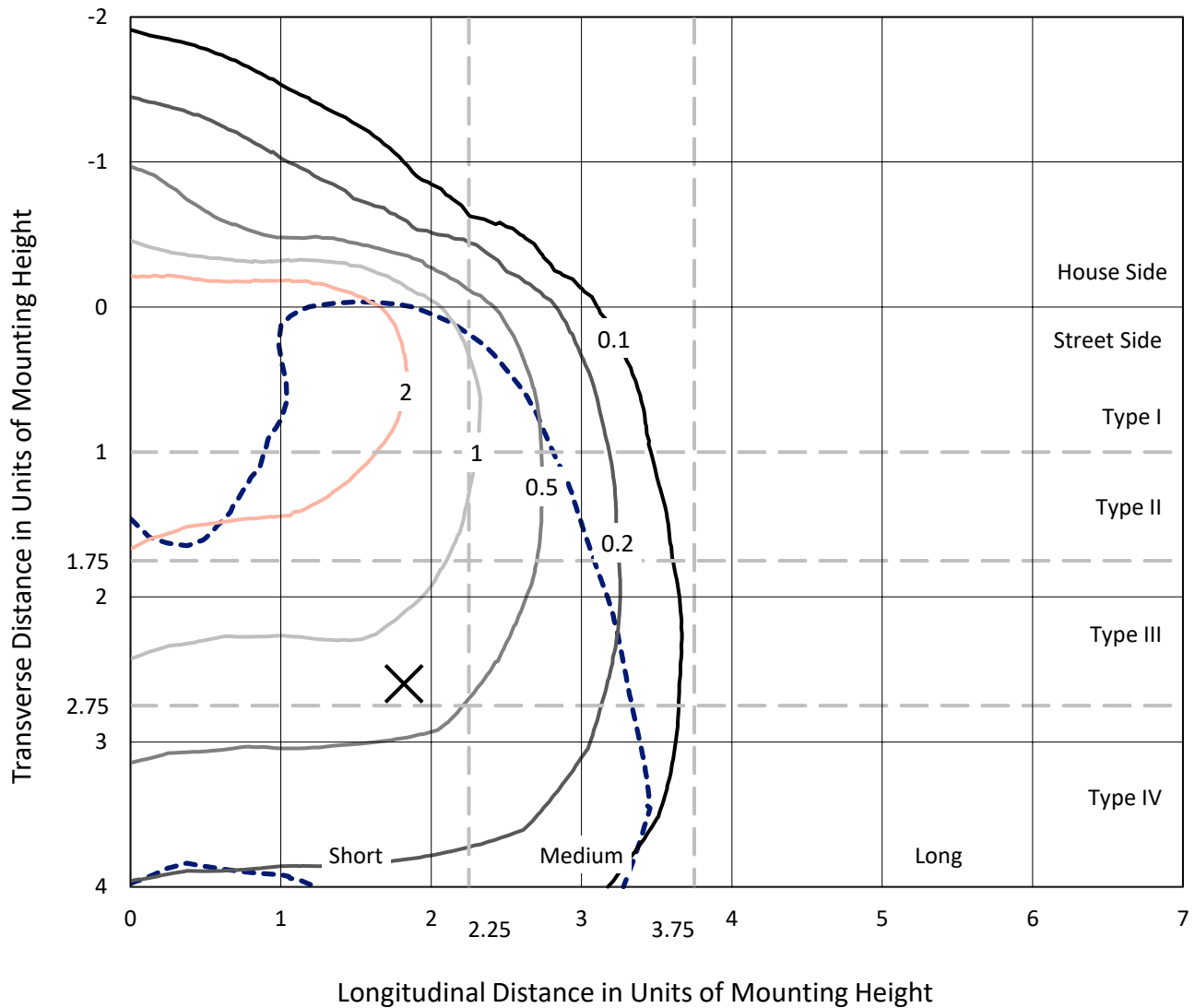


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

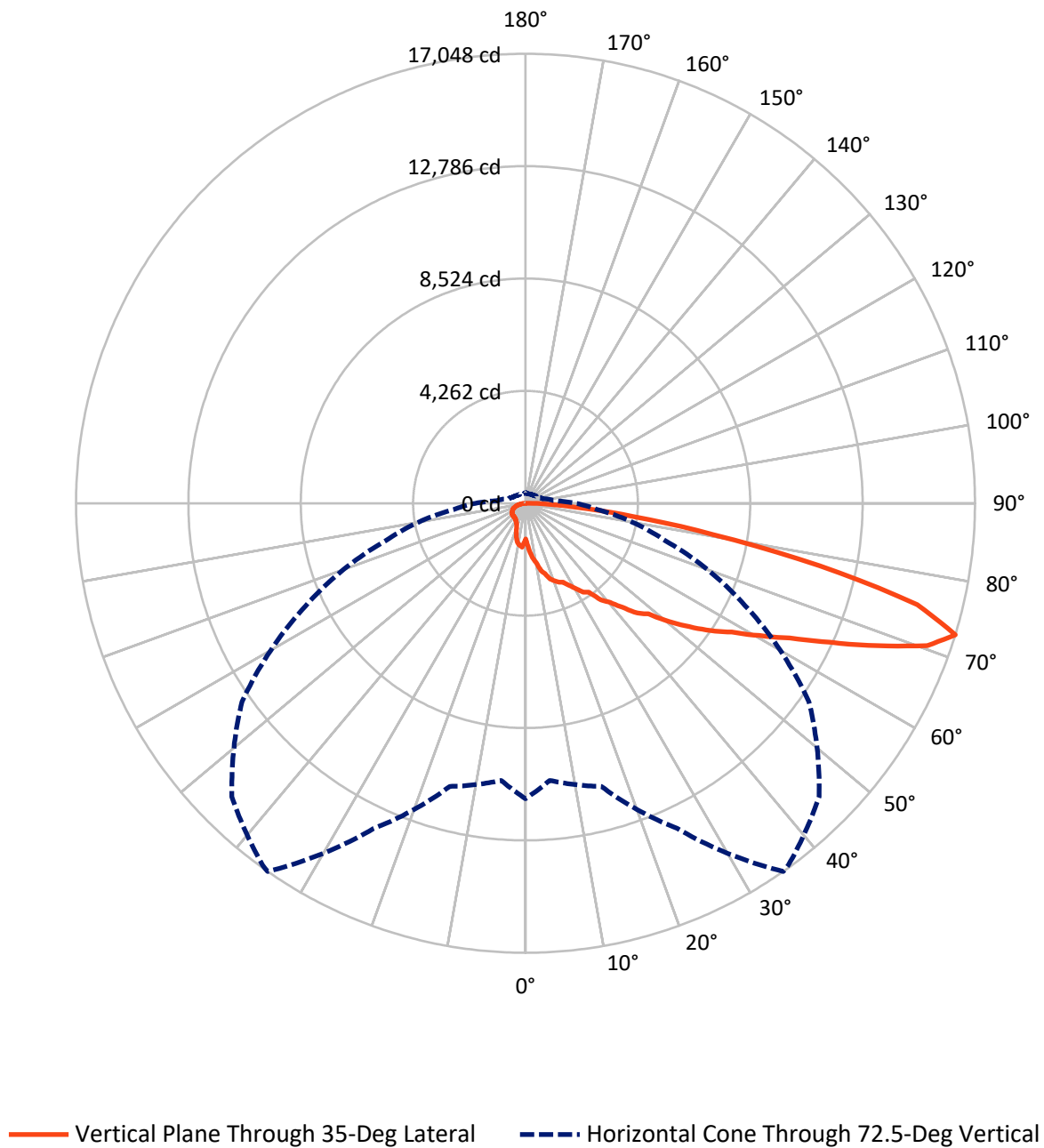


Based on 25 foot mounting height. Maximum calculated value = 4.7 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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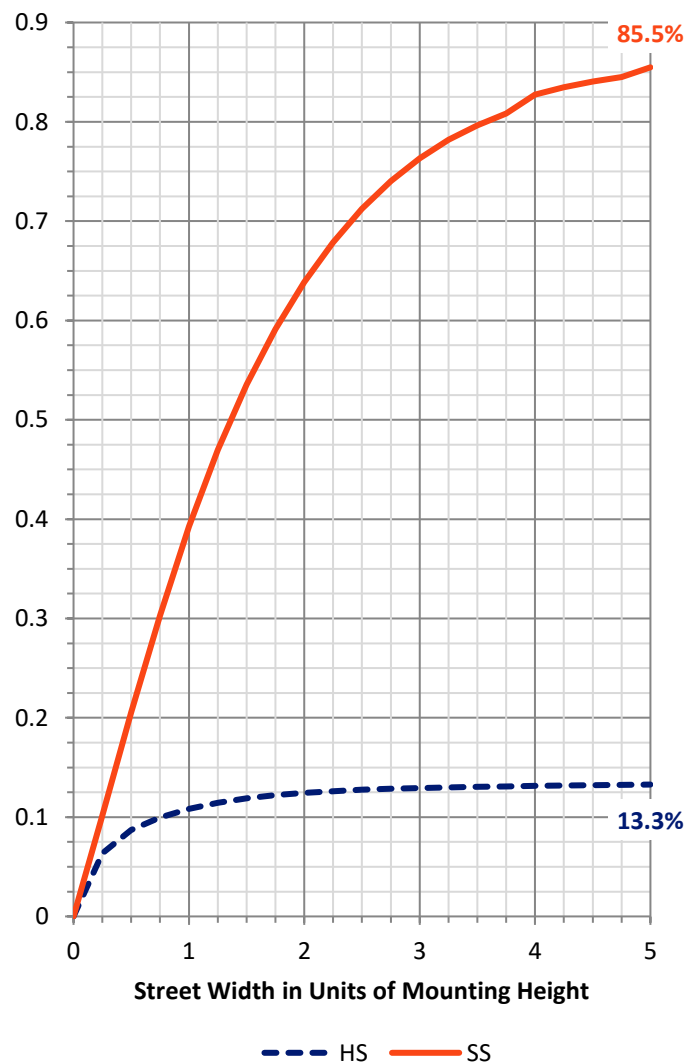
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3145.3	0.0	3145.3
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	20292.7	0.0	20292.7
	% Fixture	86.6	0.0	86.6
Total	Lumens	23438.0	0.0	23438.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.0	0.8
10°-20°	634.1	2.7
20°-30°	1101.8	4.7
30°-40°	1841.5	7.9
40°-50°	3196.2	13.6
50°-60°	4831.8	20.6
60°-70°	6259.5	26.7
70°-80°	4618.9	19.7
80°-90°	774.1	3.3
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°	23438.0	100.0
0°-180°	23438.0	100.0

Coefficient of Utilization



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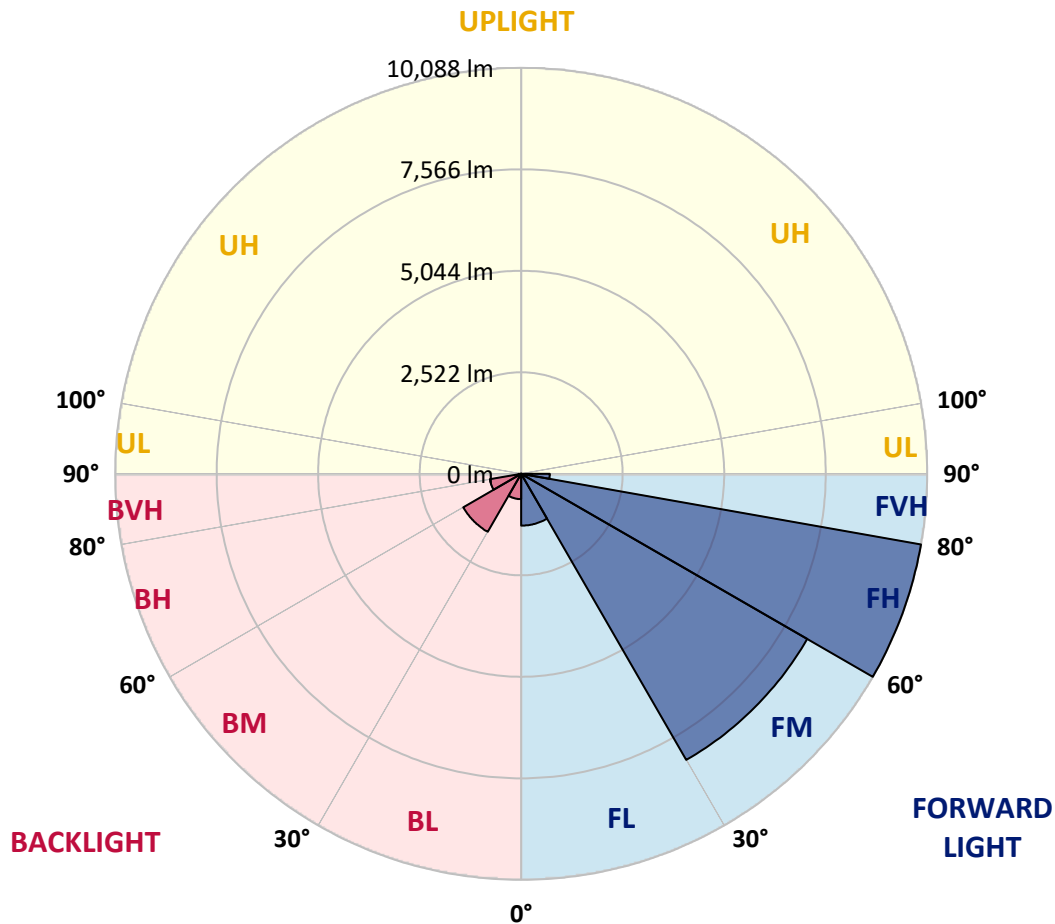
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1287.3	5.5			
FM	(30°-60°)	8207.2	35.0			
FH	(60°-80°)	10087.5	43.0			G4/12000
FVH	(80°-90°)	710.8	3.0			G4/750
BL	(0°-30°)	628.7	2.7	B2/1000		
BM	(30°-60°)	1662.4	7.1	B2/2500		
BH	(60°-80°)	790.9	3.4	B2/1000		G2/1000
BVH	(80°-90°)	63.4	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5
2.5°	1689.6	1608.6	1538.6	1535.6	1600.6	1625.6	1615.6	1593.6	1567.6	1512.5	1632.6
5°	2116.8	2000.7	1978.7	1952.7	1893.7	1909.7	1813.7	1886.7	1909.7	1962.7	2042.7
7.5°	2368.9	2300.8	2247.8	2225.8	2123.8	2111.8	2040.7	2144.8	2188.8	2181.8	2300.8
10°	2467.9	2405.9	2409.9	2337.8	2304.8	2318.8	2326.8	2328.8	2355.9	2377.9	2317.8
12.5°	2518.9	2542.9	2631.0	2581.9	2624.0	2641.0	2725.0	2639.0	2642.0	2528.9	2590.9
15°	2776.0	2836.0	2785.0	2783.0	2770.0	2798.0	2870.0	2812.0	2857.0	2821.0	2741.0
17.5°	3086.1	3104.1	3006.1	2966.1	3018.1	3009.1	2991.1	3000.1	2888.0	3096.1	2998.1
20°	3181.2	3252.2	3123.1	2966.1	3138.1	3161.1	3157.1	3118.1	2926.1	3226.2	3131.1
22.5°	3457.3	3361.2	3259.2	3159.1	3247.2	3260.2	3238.2	3145.1	3081.1	3195.2	3270.2
25°	3582.3	3559.3	3429.2	3417.2	3320.2	3274.2	3312.2	3285.2	3222.2	3425.2	3342.2
27.5°	3868.4	3841.4	3542.3	3665.3	3524.3	3512.3	3311.2	3401.2	3464.3	3449.3	3573.3
30°	4192.5	4223.5	3786.4	3909.4	3746.4	3724.4	3522.3	3636.3	3679.3	3693.3	3848.4
32.5°	4552.7	4637.7	4203.5	4102.5	4015.5	4030.5	3859.4	3651.3	3818.4	4145.5	4212.5
35°	4942.8	4977.8	4522.6	4370.6	4143.5	4127.5	4130.5	4156.5	4325.6	4698.7	4750.7
37.5°	5664.1	5502.0	5102.9	4717.7	4641.7	4492.6	4593.7	4673.7	4842.8	5415.0	5633.0
40°	6108.2	5988.2	5380.0	5156.9	4946.8	4960.8	5149.9	5148.9	5548.0	6138.2	6471.4
42.5°	6519.4	6388.3	5815.1	5591.0	5392.0	5441.0	5495.0	5590.0	6355.3	7306.7	7458.7
45°	6850.5	6563.4	6151.2	6101.2	5937.2	5872.1	6101.2	6253.3	7320.7	8252.0	8340.0
47.5°	7075.6	6839.5	6436.3	6392.3	6271.3	6430.3	7055.6	7153.6	8068.9	9201.3	9194.3
50°	7417.7	7094.6	6730.4	6707.4	7048.6	7133.6	7895.9	7885.9	8797.2	9989.6	9824.6
52.5°	7811.8	7404.7	7009.5	7256.6	7776.8	7818.8	8480.1	8749.2	9592.5	10749.9	10318.7
55°	8265.0	7809.8	7427.7	7757.8	8532.1	8408.1	9077.3	9734.5	10587.8	11551.2	10675.9
57.5°	8826.2	8274.0	7964.9	8467.1	9221.4	9331.4	9932.6	10759.9	11389.1	12049.4	10936.0
60°	9418.4	8770.2	8487.1	8965.3	10186.7	10312.7	10901.0	11612.2	12287.5	12518.5	10887.0
62.5°	9983.6	9282.4	9026.3	9616.5	11257.1	11569.2	12003.4	12456.5	13034.7	12632.6	10293.7
65°	10612.9	9910.6	9749.5	10634.9	12708.6	13018.7	13585.9	13449.9	13290.8	12228.4	9312.4
67.5°	11279.1	10565.8	10595.9	11816.3	14420.2	14473.3	15344.6	14440.2	12989.7	11158.1	7664.8
70°	11637.2	10907.0	11216.1	13075.8	16161.9	16085.8	16263.9	14706.3	11762.3	8820.2	5282.9
72.5°	11203.1	10551.8	11118.0	13605.9	17048.2	16966.2	15747.7	13126.8	9196.3	5485.0	2739.0
75°	9485.4	8857.2	9723.5	12128.4	15347.6	15423.6	13401.9	9761.5	5264.9	2205.8	1137.4
77.5°	6445.3	6121.2	6863.5	9040.3	11400.1	11663.2	9943.6	5708.1	2210.8	913.3	688.3
80°	3406.2	3252.2	3800.4	5207.9	7218.6	7414.7	5847.1	2843.0	1132.4	591.2	491.2
82.5°	1850.7	1785.6	2079.8	2678.0	4101.5	4272.6	3032.1	1888.7	763.3	370.1	300.1
85°	1243.5	1218.4	1413.5	1438.5	1939.7	1995.7	1588.6	1454.5	458.2	181.1	198.1
87.5°	622.2	597.2	744.3	657.2	740.3	741.3	728.3	928.3	116.0	60.0	36.0
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°	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5	1354.5
2.5°	1634.6	1599.6	1478.5	1477.5	1495.5	1483.5	1492.5	1443.5	1422.5	1518.6	1513.5
5°	2031.7	1926.7	1825.7	1790.7	1749.6	1660.6	1665.6	1666.6	1651.6	1708.6	1712.6
7.5°	2264.8	2138.8	2045.7	1859.7	1713.6	1599.6	1614.6	1631.6	1614.6	1690.6	1718.6
10°	2298.8	2198.8	2087.8	1880.7	1783.6	1680.6	1576.6	1484.5	1473.5	1438.5	1449.5
12.5°	2500.9	2417.9	2185.8	1958.7	1845.7	1687.6	1497.5	1392.5	1304.5	1319.5	1291.5
15°	2667.0	2607.9	2329.8	2032.7	1762.6	1566.6	1364.5	1220.4	1141.4	1132.4	1104.4
17.5°	2892.1	2808.0	2342.9	1981.7	1655.6	1420.5	1192.4	1029.4	995.4	981.4	967.4
20°	3000.1	2849.0	2295.8	1821.7	1530.6	1246.5	1022.4	882.3	872.3	897.3	892.3
22.5°	3094.1	2883.0	2253.8	1724.6	1335.5	1070.4	906.3	814.3	803.3	835.3	841.3
25°	3149.1	2980.1	2207.8	1625.6	1214.4	939.3	819.3	767.3	769.3	811.3	806.3
27.5°	3397.2	3014.1	2091.8	1508.5	1075.4	842.3	777.3	750.3	739.3	797.3	802.3
30°	3553.3	3236.2	2065.8	1384.5	972.4	771.3	739.3	728.3	726.3	796.3	801.3
32.5°	3843.4	3310.2	2077.8	1249.5	879.3	749.3	711.3	710.3	730.3	797.3	805.3
35°	4245.5	3622.3	2019.7	1172.4	828.3	715.3	689.3	697.3	731.3	804.3	815.3
37.5°	5029.8	3916.4	2037.7	1100.4	811.3	704.3	683.2	688.3	743.3	822.3	852.3
40°	5651.1	4449.6	2009.7	1064.4	788.3	702.3	670.2	690.3	742.3	832.3	859.3
42.5°	6551.4	4874.8	2012.7	1028.4	787.3	694.3	668.2	692.3	740.3	823.3	860.3
45°	7323.7	5255.9	2055.7	1007.4	777.3	707.3	665.2	695.3	727.3	791.3	832.3
47.5°	7956.9	5681.1	2099.8	987.4	773.3	719.3	662.2	674.2	705.3	755.3	792.3
50°	8473.1	5980.2	2155.8	983.4	773.3	713.3	654.2	653.2	679.2	719.3	754.3
52.5°	8875.2	6191.2	2193.8	988.4	773.3	690.3	644.2	636.2	652.2	681.2	716.3
55°	9166.3	6256.3	2162.8	1001.4	772.3	669.2	626.2	619.2	627.2	647.2	680.2
57.5°	9283.4	6085.2	1977.7	978.4	772.3	654.2	604.2	596.2	604.2	619.2	652.2
60°	8990.3	5535.0	1710.6	919.3	757.3	634.2	579.2	574.2	586.2	599.2	631.2
62.5°	8255.0	4803.7	1425.5	849.3	726.3	617.2	555.2	556.2	575.2	593.2	625.2
65°	7112.6	3919.4	1188.4	778.3	687.2	590.2	530.2	537.2	564.2	588.2	620.2
67.5°	5597.0	2904.1	1000.4	709.3	632.2	546.2	502.2	504.2	523.2	546.2	577.2
70°	3741.4	1847.7	822.3	628.2	560.2	489.2	459.2	452.2	447.2	467.2	494.2
72.5°	1897.7	1091.4	675.2	537.2	482.2	427.2	404.1	386.1	372.1	384.1	405.1
75°	994.4	763.3	545.2	446.2	398.1	363.1	346.1	322.1	312.1	319.1	334.1
77.5°	703.3	597.2	441.2	353.1	324.1	288.1	291.1	266.1	258.1	262.1	278.1
80°	540.2	473.2	339.1	267.1	250.1	215.1	225.1	210.1	200.1	198.1	210.1
82.5°	368.1	356.1	241.1	187.1	175.1	150.1	164.1	158.1	145.1	137.0	143.1
85°	248.1	236.1	147.1	108.0	103.0	78.0	100.0	96.0	85.0	73.0	74.0
87.5°	43.0	79.0	42.0	27.0	25.0	9.0	23.0	22.0	20.0	10.0	8.0
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)