

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: P368688

Luminaire Tested: **MSA-SA4D-760-U-T4W**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368688
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-760-U-T4W
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS
EACH AND TYPE IV WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26674 lumens
Efficiency: N/A
Efficacy: 103.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - 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

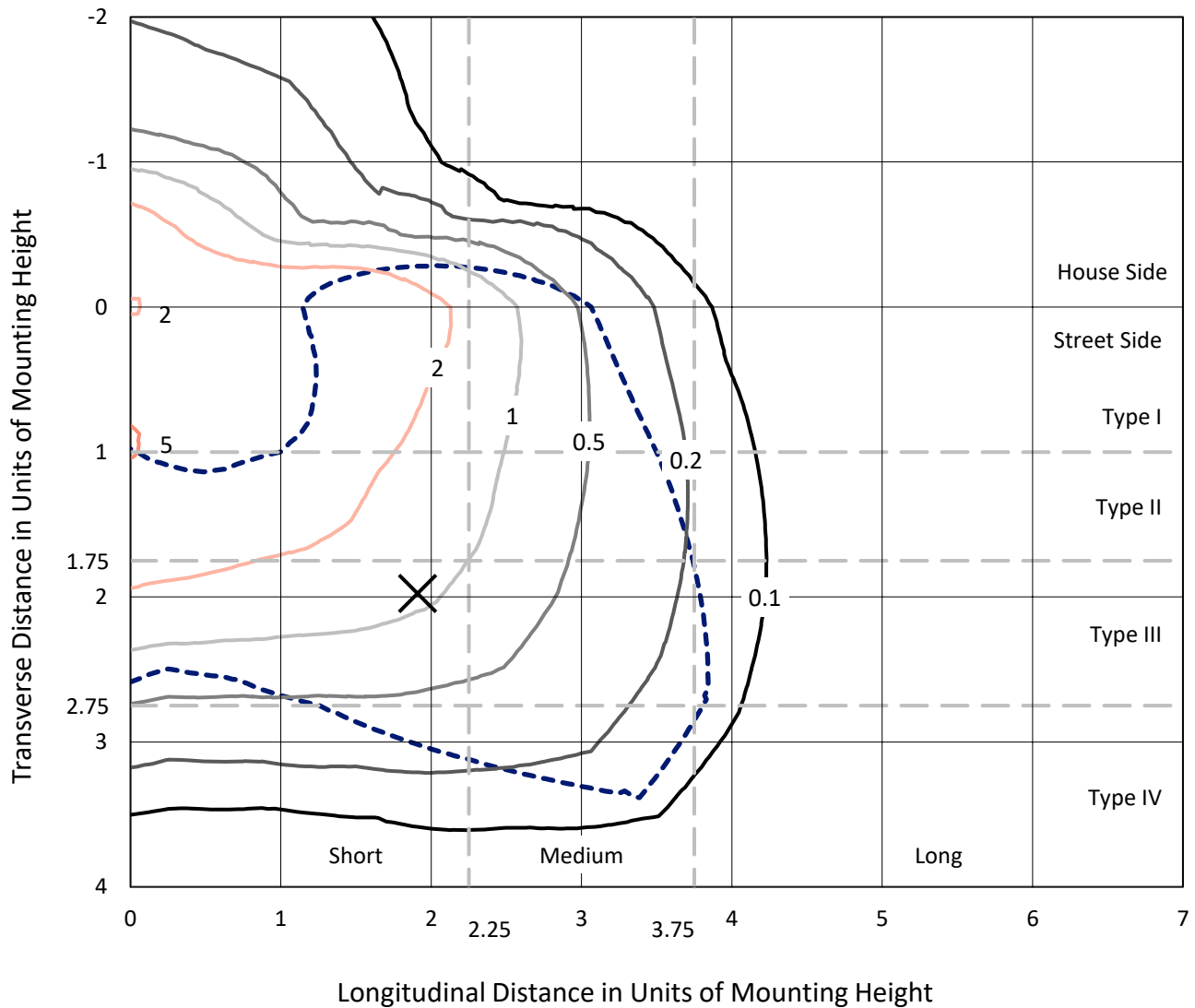


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
- - - 1/2 Max cd

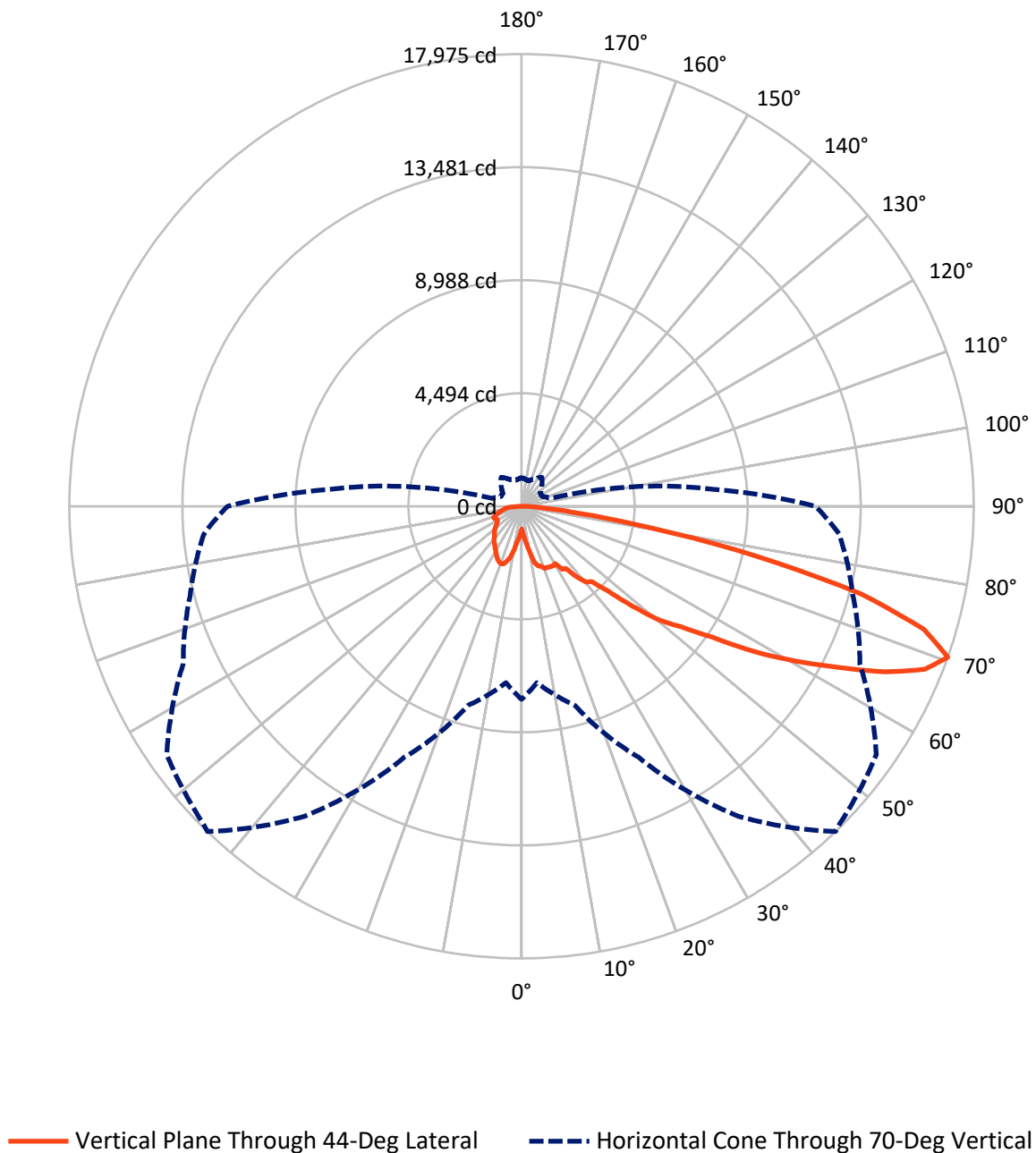


Based on 25 foot mounting height. Maximum calculated value = 5.2 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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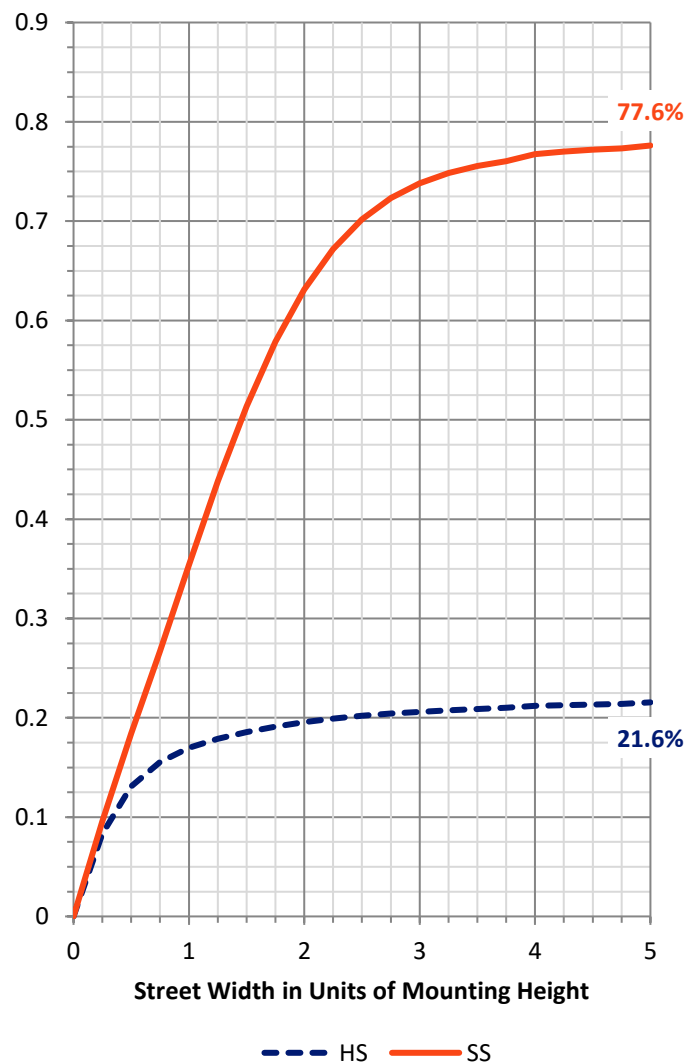
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5885.3	0.0	5885.3
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	20788.7	0.0	20788.7
	% Fixture	77.9	0.0	77.9
Total	Lumens	26674.0	0.0	26674.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.1	0.5
10°-20°	654.7	2.5
20°-30°	1223.3	4.6
30°-40°	1963.6	7.4
40°-50°	3314.4	12.4
50°-60°	5906.3	22.1
60°-70°	8079.0	30.3
70°-80°	4750.9	17.8
80°-90°	639.7	2.4
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°	26674.0	100.0
0°-180°	26674.0	100.0

Coefficient of Utilization



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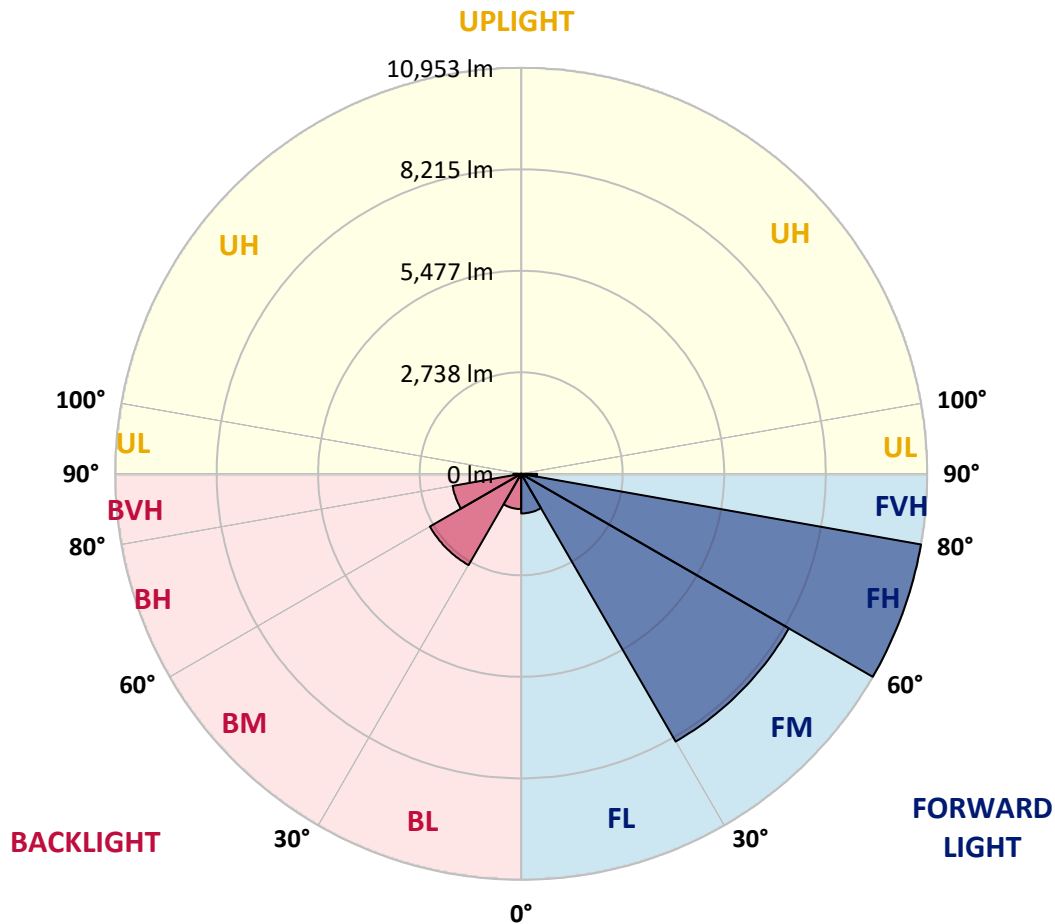
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1068.9	4.0			
FM	(30°-60°)	8340.2	31.3			
FH	(60°-80°)	10953.2	41.1			G4/12000
FVH	(80°-90°)	426.3	1.6			G3/500
BL	(0°-30°)	951.2	3.6	B2/1000		
BM	(30°-60°)	2844.1	10.7	B3/5000		
BH	(60°-80°)	1876.7	7.0	B3/2500		G3/2500
BVH	(80°-90°)	213.3	0.8			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 IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	906.7	906.7	906.7	906.7	906.7	906.7	906.7	906.7	906.7	906.7	906.7
2.5°	1100.3	1078.4	1025.9	1043.4	1065.3	1074.0	1071.8	1069.6	1035.7	1023.7	1083.9
5°	1495.1	1447.0	1408.7	1393.4	1343.1	1303.7	1279.6	1343.1	1333.2	1349.6	1391.2
7.5°	1867.0	1836.3	1749.9	1719.3	1616.5	1548.7	1541.0	1591.3	1604.5	1578.2	1649.3
10°	2106.5	2054.0	2036.5	1963.2	1892.1	1881.2	1874.6	1851.6	1819.9	1817.7	1754.3
12.5°	2292.4	2319.8	2334.0	2249.8	2251.9	2291.3	2270.5	2177.6	2124.0	2029.9	2037.6
15°	2626.0	2665.4	2552.7	2499.1	2396.3	2455.4	2447.7	2370.1	2362.4	2301.2	2230.1
17.5°	2916.9	2934.4	2746.3	2623.8	2588.8	2503.5	2526.5	2528.7	2428.0	2537.4	2474.0
20°	2941.0	3003.3	2786.8	2542.9	2647.9	2636.9	2640.2	2618.3	2486.0	2666.5	2642.4
22.5°	3059.1	2964.0	2769.3	2591.0	2618.3	2634.7	2650.1	2623.8	2616.2	2716.8	2790.1
25°	3037.2	3006.6	2809.7	2658.8	2662.1	2665.4	2673.0	2751.8	2743.0	2879.7	2918.0
27.5°	3241.8	3194.7	2821.8	2784.6	2699.3	2680.7	2628.2	2792.2	2920.2	2916.9	3128.0
30°	3631.1	3583.0	3101.8	2993.5	2839.3	2649.0	2749.6	2968.3	3068.9	3102.9	3370.8
32.5°	4239.2	4318.0	3653.0	3216.6	3025.2	2983.6	2972.7	2950.8	3200.2	3367.5	3611.4
35°	5112.0	5049.7	4302.6	3694.5	3221.0	3042.7	3066.8	3200.2	3496.6	3604.9	3830.2
37.5°	6111.6	5982.6	5135.0	4235.9	3785.3	3562.2	3482.4	3611.4	3677.0	3762.4	4222.8
40°	7127.7	6812.7	5952.0	4947.9	4124.4	3955.9	3885.9	3727.4	3881.6	4054.4	4639.5
42.5°	8108.8	7864.9	6841.1	5797.7	4695.3	4094.8	4056.6	3901.3	4379.2	4561.9	5241.1
45°	9136.8	8571.4	7752.2	6756.9	5529.8	4776.2	4719.4	4440.5	5052.9	5433.5	6089.8
47.5°	9828.1	9304.2	8586.7	7535.7	6228.7	5915.9	5807.6	5330.7	5886.3	6380.7	7401.1
50°	10482.1	9942.9	9189.3	8387.7	7494.1	7134.3	6903.5	6109.5	6924.3	7729.2	9082.2
52.5°	11418.3	10936.0	9889.3	9246.2	8853.6	7968.8	7797.0	7360.7	8138.3	9224.3	10919.6
55°	12419.1	11761.7	10813.5	10456.9	10298.4	9165.3	9025.3	8747.5	9754.8	10754.4	12705.6
57.5°	12860.9	12175.2	11652.4	11439.1	11426.0	10904.3	10743.5	10549.9	11407.4	12066.9	14386.6
60°	13212.0	12475.9	12267.0	12386.3	12819.4	12475.9	12267.0	12096.4	12752.6	13364.0	15758.2
62.5°	13147.5	12409.2	12516.4	12879.5	13985.3	14085.9	13925.1	13511.7	14085.9	14427.1	16544.5
65°	12106.3	11423.8	12048.3	12910.1	15069.1	15873.0	15864.2	14782.6	14981.6	14981.6	16461.4
67.5°	10282.0	9575.4	10598.0	12640.0	15818.3	17289.3	17291.5	16130.0	15063.6	14925.8	15175.2
70°	7677.8	7038.0	8187.5	11008.2	15045.1	17975.1	17875.6	17217.2	14838.3	13634.2	12676.1
72.5°	4585.9	4172.5	5230.1	8013.6	12833.6	16714.1	16978.7	15964.9	13583.9	11338.5	9061.4
75°	2082.4	1903.1	2457.6	4603.4	9162.0	13941.5	14229.1	13473.4	10789.4	8154.7	5236.7
77.5°	891.4	843.2	1072.9	2042.0	5051.8	9533.9	10123.4	9629.0	7310.3	4739.0	2316.5
80°	573.1	542.5	659.5	982.2	2346.0	5151.4	5658.8	5474.0	3724.1	1842.9	815.9
82.5°	342.3	332.5	440.8	616.9	1279.6	2267.3	2554.9	2622.7	1546.5	826.8	467.0
85°	187.0	189.2	241.7	374.0	767.8	882.6	945.0	1028.1	728.4	479.0	226.4
87.5°	62.3	72.2	97.3	152.0	273.4	249.4	250.5	290.9	307.3	199.1	72.2
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°	906.7	906.7	906.7	906.7	906.7	906.7	906.7	906.7	906.7	906.7	906.7
2.5°	1093.7	1074.0	1023.7	1027.0	1045.6	1050.0	1055.4	1023.7	1017.1	1077.3	1082.8
5°	1397.8	1333.2	1303.7	1293.9	1265.4	1255.6	1308.1	1332.1	1356.2	1403.2	1426.2
7.5°	1641.7	1569.5	1515.9	1466.7	1425.1	1401.0	1489.6	1557.4	1599.0	1695.2	1739.0
10°	1753.2	1690.9	1671.2	1631.8	1663.5	1735.7	1752.1	1754.3	1846.2	1844.0	1862.6
12.5°	1975.2	1934.8	1870.2	1884.5	1967.6	2042.0	2021.2	2052.9	2085.7	2164.4	2128.4
15°	2177.6	2166.6	2106.5	2116.3	2132.7	2225.7	2237.7	2269.4	2319.8	2382.1	2339.4
17.5°	2426.9	2422.6	2276.0	2262.9	2301.2	2391.9	2363.5	2307.7	2474.0	2540.7	2523.2
20°	2596.5	2563.7	2375.5	2319.8	2417.1	2429.1	2396.3	2307.7	2452.1	2597.6	2636.9
22.5°	2737.6	2699.3	2505.7	2396.3	2376.6	2382.1	2382.1	2365.7	2436.8	2556.0	2554.9
25°	2851.3	2887.4	2641.3	2536.3	2431.3	2300.1	2283.7	2297.9	2338.3	2568.0	2560.4
27.5°	3136.8	3037.2	2687.2	2608.5	2393.0	2186.3	2231.2	2253.0	2266.2	2517.7	2559.3
30°	3322.7	3353.3	2851.3	2651.1	2337.3	2059.5	2074.8	2138.2	2214.8	2512.2	2524.3
32.5°	3573.1	3507.5	3107.2	2580.1	2188.5	1982.9	1954.5	2039.8	2153.5	2423.7	2456.5
35°	3806.1	3883.8	3215.5	2566.9	2084.6	1868.1	1898.7	1928.2	2046.3	2325.2	2363.5
37.5°	4353.0	4175.8	3519.6	2503.5	1998.2	1810.1	1777.3	1822.1	1922.7	2138.2	2226.8
40°	4768.6	4779.5	3585.2	2423.7	1833.1	1727.0	1657.0	1701.8	1744.5	1916.2	1954.5
42.5°	5548.4	5310.0	3746.0	2248.7	1729.2	1602.3	1562.9	1582.6	1589.2	1661.3	1724.8
45°	6540.4	5981.5	3809.4	2013.5	1592.4	1550.9	1471.0	1461.2	1425.1	1434.9	1490.7
47.5°	7913.0	7029.3	3763.5	1763.1	1471.0	1484.2	1369.3	1324.5	1274.2	1286.2	1338.7
50°	9688.1	8368.0	3760.2	1550.9	1387.9	1396.7	1302.6	1221.7	1171.4	1196.5	1242.5
52.5°	11679.7	9711.0	3775.5	1405.4	1297.1	1292.8	1258.9	1160.4	1120.0	1146.2	1198.7
55°	13585.0	10866.0	3889.2	1313.5	1203.1	1210.7	1223.9	1140.7	1095.9	1120.0	1174.6
57.5°	15243.0	11778.1	3846.6	1216.2	1115.6	1150.6	1185.6	1113.4	1079.5	1114.5	1169.2
60°	16402.3	12201.4	3509.7	1123.2	1051.1	1099.2	1167.0	1110.1	1105.7	1181.2	1246.8
62.5°	16825.6	12045.0	2853.5	1050.0	1012.8	1092.6	1209.6	1182.3	1186.7	1279.6	1370.4
65°	16207.7	11222.5	2128.4	1002.9	983.2	1124.3	1308.1	1225.0	1164.8	1241.4	1324.5
67.5°	14450.1	9760.3	1555.3	962.5	949.3	1174.6	1398.9	1220.6	1109.0	1186.7	1254.5
70°	11690.7	7704.1	1204.2	911.1	904.5	1140.7	1407.6	1187.8	1048.9	1099.2	1137.5
72.5°	8010.3	5275.0	997.5	861.8	826.8	1010.6	1336.5	1114.5	976.7	1006.2	1037.9
75°	4476.5	2960.7	838.9	800.6	724.0	900.1	1253.4	1070.7	923.1	931.8	975.6
77.5°	2009.1	1280.7	712.0	719.7	631.1	796.2	1145.1	1000.7	841.1	821.4	865.1
80°	760.1	624.5	577.5	608.1	530.4	690.1	1032.5	937.3	754.7	729.5	754.7
82.5°	440.8	378.4	428.7	468.1	421.1	634.4	985.4	879.3	665.0	601.5	623.4
85°	204.5	195.8	257.0	304.1	294.2	494.4	843.2	661.7	473.6	400.3	443.0
87.5°	53.6	60.2	90.8	107.2	109.4	169.5	324.8	246.1	184.8	140.0	134.5
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)