

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: P368582

Luminaire Tested: **MSA-SA4D-727-U-RW**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368582  
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-SA4D-727-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: 22594 lumens  
Efficiency: N/A  
Efficacy: 87.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B4 - U0 - G4

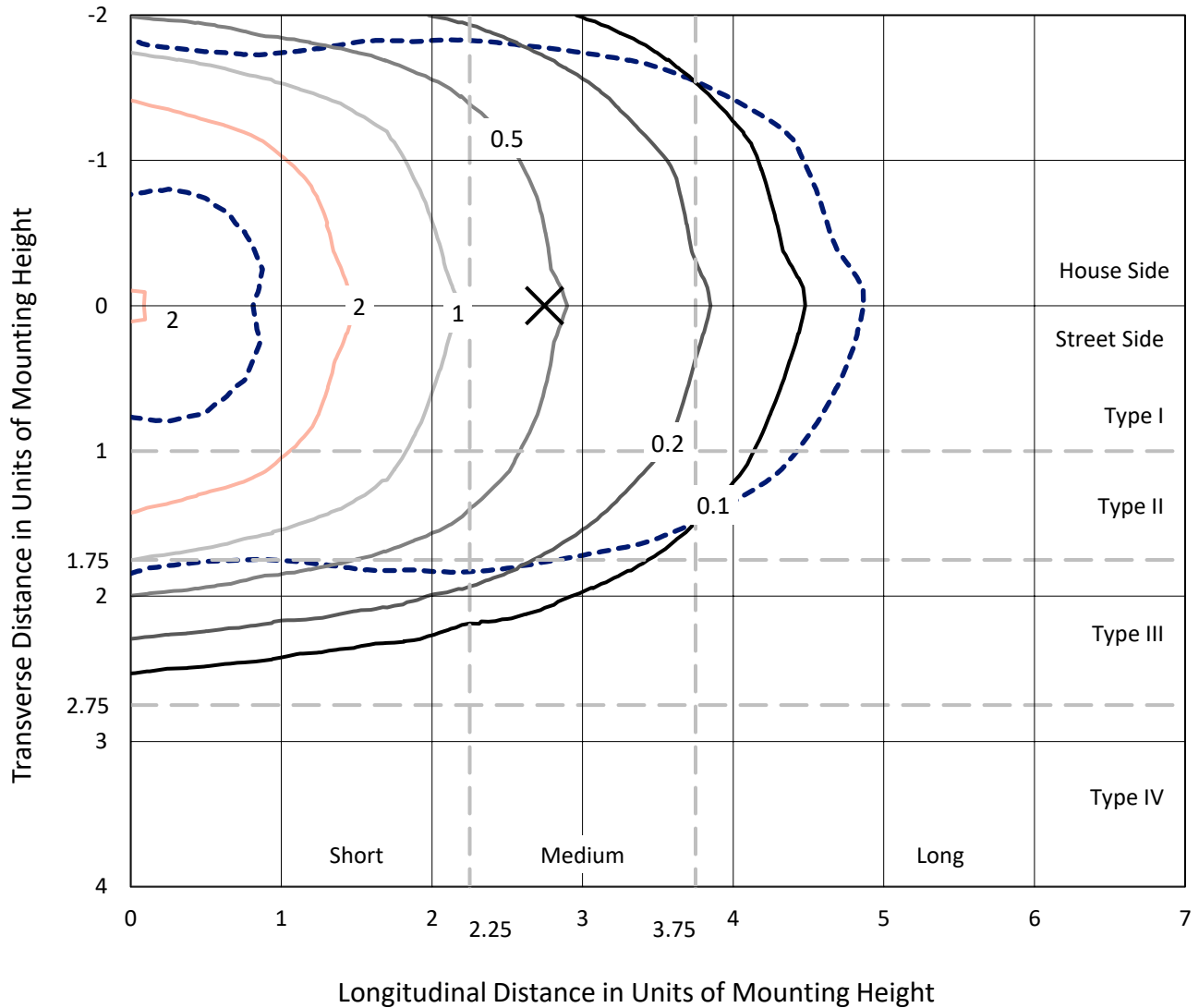
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

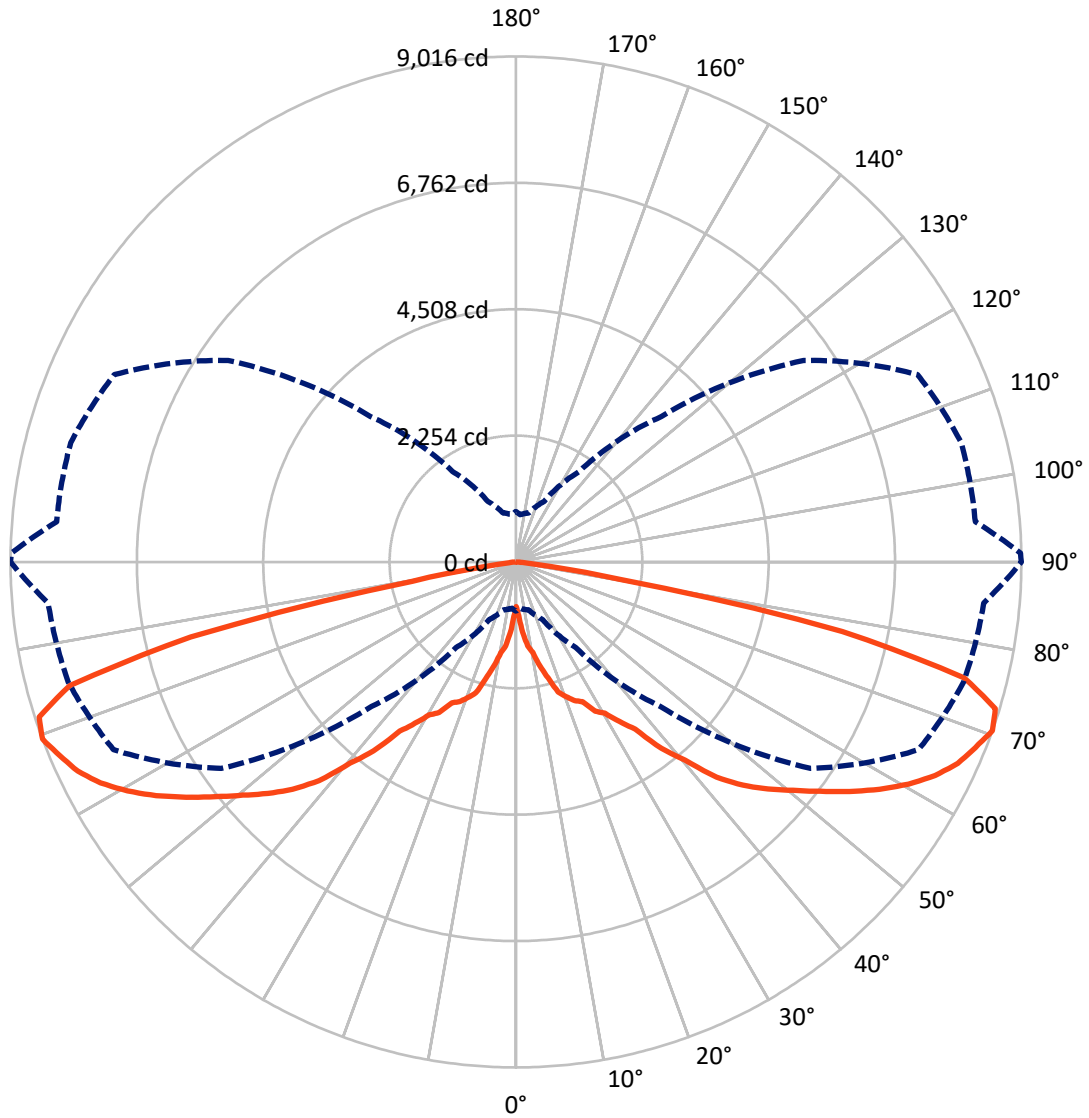
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 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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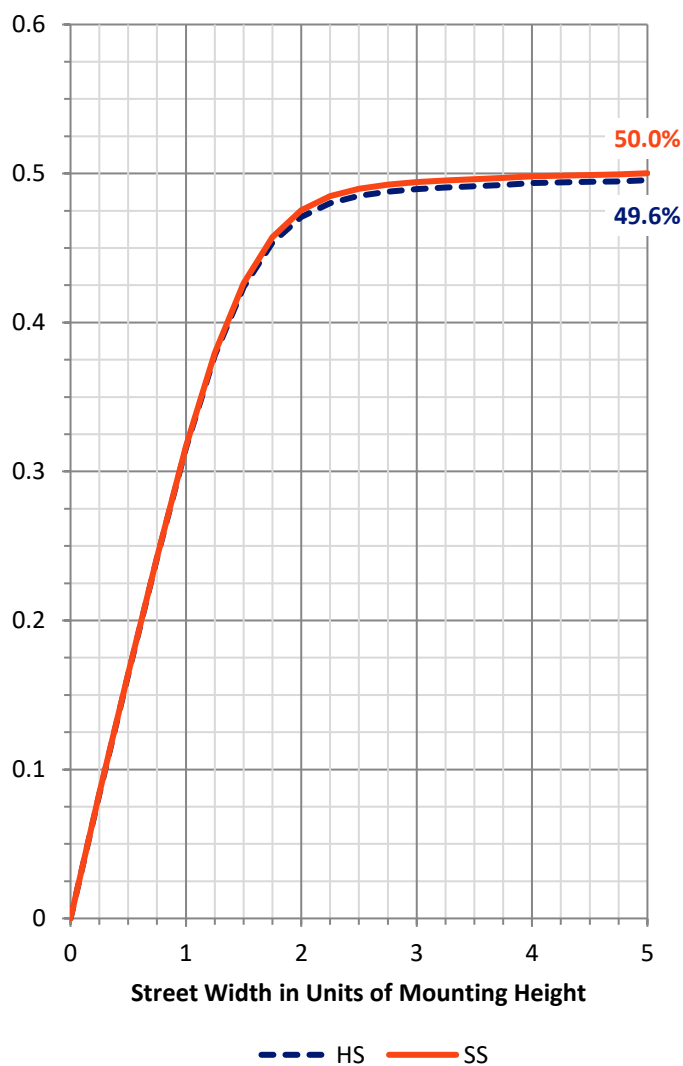
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	11255.1	0.0	11255.1
	% Fixture	49.8	0.0	49.8
<b>Street Side</b>	Lumens	11338.9	0.0	11338.9
	% Fixture	50.2	0.0	50.2
<b>Total</b>	Lumens	22594.0	0.0	22594.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.6	0.5
10°-20°	548.3	2.4
20°-30°	1185.4	5.2
30°-40°	2261.7	10.0
40°-50°	4108.7	18.2
50°-60°	5771.8	25.5
60°-70°	5510.9	24.4
70°-80°	2828.2	12.5
80°-90°	259.3	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°	22594.0	100.0
0°-180°	22594.0	100.0

**Coefficient of Utilization**



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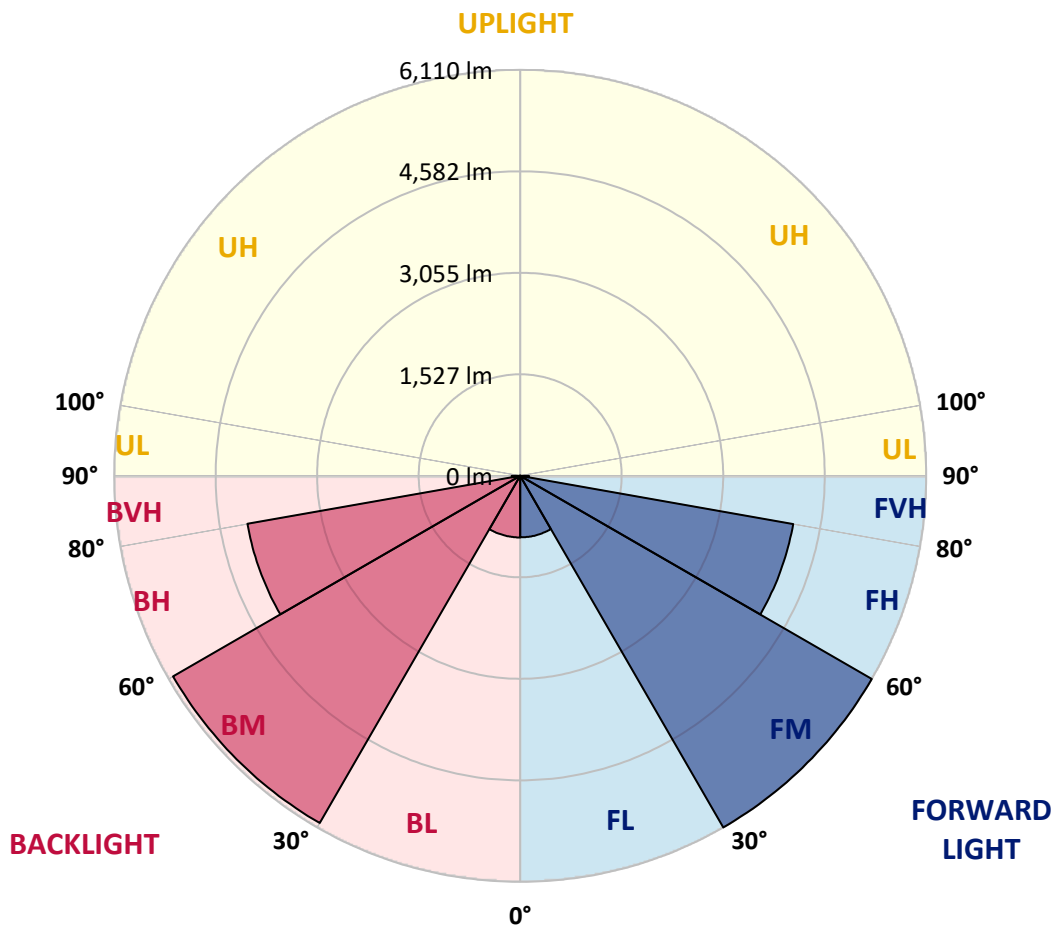
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	925.7	4.1			
FM (30°-60°)	6109.7	27.0			
FH (60°-80°)	4171.9	18.5			G2/5000
FVH (80°-90°)	131.6	0.6			G2/225
BL (0°-30°)	927.6	4.1	B2/1000		
BM (30°-60°)	6032.6	26.7	B4/8500		
BH (60°-80°)	4167.3	18.4	B4/5000		G4/5000
BVH (80°-90°)	127.7	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°	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0
2.5°	960.6	924.9	880.0	906.5	917.5	936.8	934.0	924.9	885.5	951.4	958.7
5°	1202.3	1145.5	1124.5	1120.8	1126.3	1108.0	1167.5	1150.1	1182.2	1241.7	1255.4
7.5°	1369.0	1326.9	1282.0	1295.7	1238.9	1230.7	1307.6	1376.3	1393.7	1502.7	1510.0
10°	1447.7	1406.5	1418.4	1410.2	1403.8	1456.9	1492.6	1543.0	1615.3	1625.4	1640.9
12.5°	1514.6	1531.1	1583.2	1581.4	1667.5	1761.8	1748.1	1800.3	1812.2	1938.5	1900.1
15°	1684.0	1717.9	1714.2	1746.2	1783.8	1938.5	1939.5	2028.3	2109.8	2159.2	2146.4
17.5°	1932.1	1944.0	1894.6	1896.4	2005.4	2068.6	2139.1	2123.5	2336.0	2433.0	2439.4
20°	2080.5	2110.7	2053.9	1978.8	2172.0	2259.0	2298.4	2207.8	2434.9	2565.8	2565.8
22.5°	2339.6	2261.8	2175.7	2125.3	2295.7	2388.2	2383.6	2357.9	2478.8	2710.5	2688.5
25°	2482.5	2438.5	2395.5	2408.3	2494.4	2542.0	2605.2	2545.7	2659.2	2831.4	2759.0
27.5°	2753.5	2672.0	2460.5	2629.0	2629.0	2593.3	2727.0	2755.3	2681.2	2961.4	3015.4
30°	3060.3	3031.9	2732.5	2911.0	2856.1	2755.3	3011.7	2993.4	2868.9	3154.6	3129.9
32.5°	3350.6	3444.0	3160.1	3062.1	3144.5	3183.0	3048.4	3103.3	3127.1	3402.7	3390.8
35°	3795.6	3874.3	3498.0	3473.3	3335.9	3300.2	3402.7	3421.1	3422.9	3713.2	3660.1
37.5°	4565.7	4452.1	4080.4	3905.5	3921.0	3878.0	3898.1	3753.5	3773.6	4194.8	4221.4
40°	5128.8	5000.7	4586.8	4461.3	4153.6	4337.7	4174.7	4160.0	4119.7	4665.5	4650.9
42.5°	5750.6	5574.8	5116.9	4949.4	4622.5	4547.4	4472.3	4641.7	4630.7	5136.2	5247.9
45°	6220.4	5865.1	5626.1	5521.7	5325.7	5141.7	5070.2	5146.2	5111.5	5486.9	5681.9
47.5°	6517.1	6208.5	5933.8	5714.0	5526.3	5977.7	5616.0	5514.4	5443.9	5864.2	6051.9
50°	6753.3	6397.1	6072.9	5999.7	6148.0	6547.3	5976.8	5752.4	5838.5	6148.0	6403.5
52.5°	6817.4	6440.1	6148.9	6102.2	6503.3	6575.7	6483.2	6105.9	6083.0	6488.7	6797.3
55°	6621.4	6259.7	6121.5	6377.0	6820.2	6759.7	6900.7	6659.9	6497.8	6836.6	7224.9
57.5°	6116.9	5757.9	5725.0	6093.1	6651.7	7166.3	7235.9	7045.4	6833.0	7191.9	7649.8
60°	5288.2	4960.4	5043.7	5450.3	6292.7	7025.3	7395.2	7221.2	7155.3	7512.4	8043.5
62.5°	3998.0	3742.5	3965.0	4531.8	5637.1	6843.0	7615.0	7587.5	7492.3	7853.1	8391.5
65°	2549.3	2414.7	2641.8	3217.8	4619.7	6511.6	7720.3	7756.9	7844.8	8115.9	8660.7
67.5°	1481.6	1410.2	1548.5	2020.0	3290.1	5346.8	7524.3	8049.9	8095.7	8251.4	8837.4
70°	876.3	829.6	886.4	1134.6	1862.5	3642.7	6418.2	7921.7	8267.9	8375.9	9016.0
72.5°	668.5	624.5	599.8	671.2	972.5	1881.8	4339.5	6714.8	8129.6	8293.5	8940.9
75°	577.8	535.7	506.4	512.8	578.7	893.7	2352.4	4802.9	6927.3	7551.8	8258.7
77.5°	496.3	458.8	437.7	435.9	444.1	490.8	983.5	2604.3	4338.6	5428.3	5953.9
80°	397.4	368.1	363.5	363.5	351.6	348.0	489.0	990.8	1651.0	1957.8	1877.2
82.5°	290.3	261.0	290.3	286.6	268.3	253.6	311.3	428.5	509.1	402.0	317.7
85°	196.0	169.4	191.4	195.0	177.6	131.9	186.8	214.3	219.8	137.4	113.5
87.5°	68.7	66.8	108.1	94.3	76.9	44.9	68.7	74.2	77.8	48.5	33.0
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):**

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0
2.5°	961.5	950.5	895.6	903.8	924.9	934.9	945.0	903.8	883.7	947.8	941.3
5°	1259.1	1218.8	1173.9	1167.5	1170.3	1130.9	1153.8	1143.7	1148.3	1189.5	1197.7
7.5°	1508.2	1459.6	1400.1	1353.4	1272.8	1208.7	1262.8	1290.2	1298.5	1371.7	1399.2
10°	1642.8	1601.6	1584.2	1496.3	1469.7	1461.5	1448.6	1404.7	1453.2	1435.8	1449.6
12.5°	1906.5	1898.3	1807.6	1749.9	1755.4	1771.0	1690.4	1646.4	1583.2	1682.1	1646.4
15°	2130.8	2166.6	2075.9	1970.6	1918.4	1945.0	1883.6	1819.5	1762.7	1792.9	1754.5
17.5°	2417.5	2416.5	2239.8	2127.2	2122.6	2120.8	2030.1	1889.1	1956.9	1935.8	1937.6
20°	2569.5	2544.7	2325.0	2194.9	2305.7	2266.4	2184.9	2003.6	2082.3	2107.9	2124.4
22.5°	2696.7	2683.0	2416.5	2321.3	2392.7	2393.6	2312.1	2216.9	2206.8	2286.5	2243.5
25°	2785.6	2840.5	2589.6	2566.7	2597.8	2566.7	2487.0	2424.8	2384.5	2503.5	2384.5
27.5°	2996.2	2918.3	2616.2	2746.2	2765.4	2608.8	2708.6	2635.4	2523.7	2671.1	2719.6
30°	3146.4	3192.1	2803.0	2998.9	2976.0	2831.4	2872.6	2869.8	2736.1	3023.6	2989.8
32.5°	3404.6	3349.6	3107.9	3092.3	3147.3	3140.9	3071.3	3105.1	3138.1	3346.9	3397.3
35°	3669.2	3727.8	3302.9	3408.2	3392.7	3293.8	3476.0	3454.9	3552.9	3981.5	3839.5
37.5°	4266.3	3987.0	3740.6	3726.9	3831.3	3846.9	3788.3	3880.7	4092.3	4421.9	4573.9
40°	4657.3	4530.0	4111.5	4128.0	3983.3	4232.4	4067.5	4365.2	4526.3	5082.1	5028.1
42.5°	5248.8	4938.4	4536.4	4591.3	4562.0	4442.1	4659.1	4812.0	5042.8	5466.7	5740.5
45°	5689.3	5263.5	5073.0	5039.1	5035.4	5244.2	5216.8	5461.2	5543.7	5862.3	6089.4
47.5°	6023.5	5661.8	5379.8	5418.2	5306.5	5902.6	5584.9	5660.9	5827.5	6127.9	6392.5
50°	6420.0	6017.1	5696.6	5791.8	6063.8	6292.7	6005.2	5875.1	5956.6	6311.0	6605.9
52.5°	6787.2	6363.2	6010.7	6090.3	6534.5	6430.1	6398.9	6070.2	6060.1	6344.9	6680.0
55°	7216.7	6738.7	6427.3	6680.0	6837.5	6708.4	6659.0	6258.8	6011.6	6170.0	6485.9
57.5°	7637.9	7110.4	6800.9	6853.1	7052.7	6924.5	6553.7	5937.4	5628.8	5660.0	5979.5
60°	8032.5	7452.0	7196.5	7146.1	7305.5	6802.8	6153.5	5348.6	4939.3	4864.2	5140.8
62.5°	8370.4	7737.7	7495.9	7358.6	7510.6	6807.3	5529.9	4403.6	3954.0	3699.4	3914.6
65°	8638.7	7974.9	7802.7	7731.3	7786.2	6393.4	4558.4	3233.3	2682.1	2400.1	2525.5
67.5°	8817.3	8107.6	8028.9	8122.3	7389.7	5324.8	3377.1	2069.5	1559.4	1405.6	1484.4
70°	9002.3	8224.8	8222.1	7904.3	6266.2	3671.1	1972.4	1193.2	907.5	847.9	897.4
72.5°	8940.0	8085.7	8126.9	6912.6	4342.3	1962.4	1041.2	674.9	614.4	635.5	679.5
75°	8278.9	7351.3	7152.6	4969.5	2463.2	912.0	599.8	511.0	507.3	539.3	582.4
77.5°	6005.2	5119.7	4594.1	2816.7	1055.8	493.6	441.4	426.7	426.7	452.4	490.8
80°	1979.7	1713.3	1785.6	1089.7	499.1	340.6	344.3	350.7	348.9	355.3	387.3
82.5°	325.1	337.0	521.0	445.0	301.3	232.6	260.1	272.9	276.5	247.2	281.1
85°	115.4	130.0	221.6	206.0	174.0	117.2	171.2	191.4	188.6	164.8	182.2
87.5°	35.7	45.8	80.6	62.3	52.2	32.0	64.1	75.1	94.3	38.5	34.8
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)