

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: P368606

Luminaire Tested: **MSA-SA4D-730-U-SL2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368606  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-730-U-SL2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 23801 lumens  
Efficiency: N/A  
Efficacy: 91.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B3 - U0 - G4

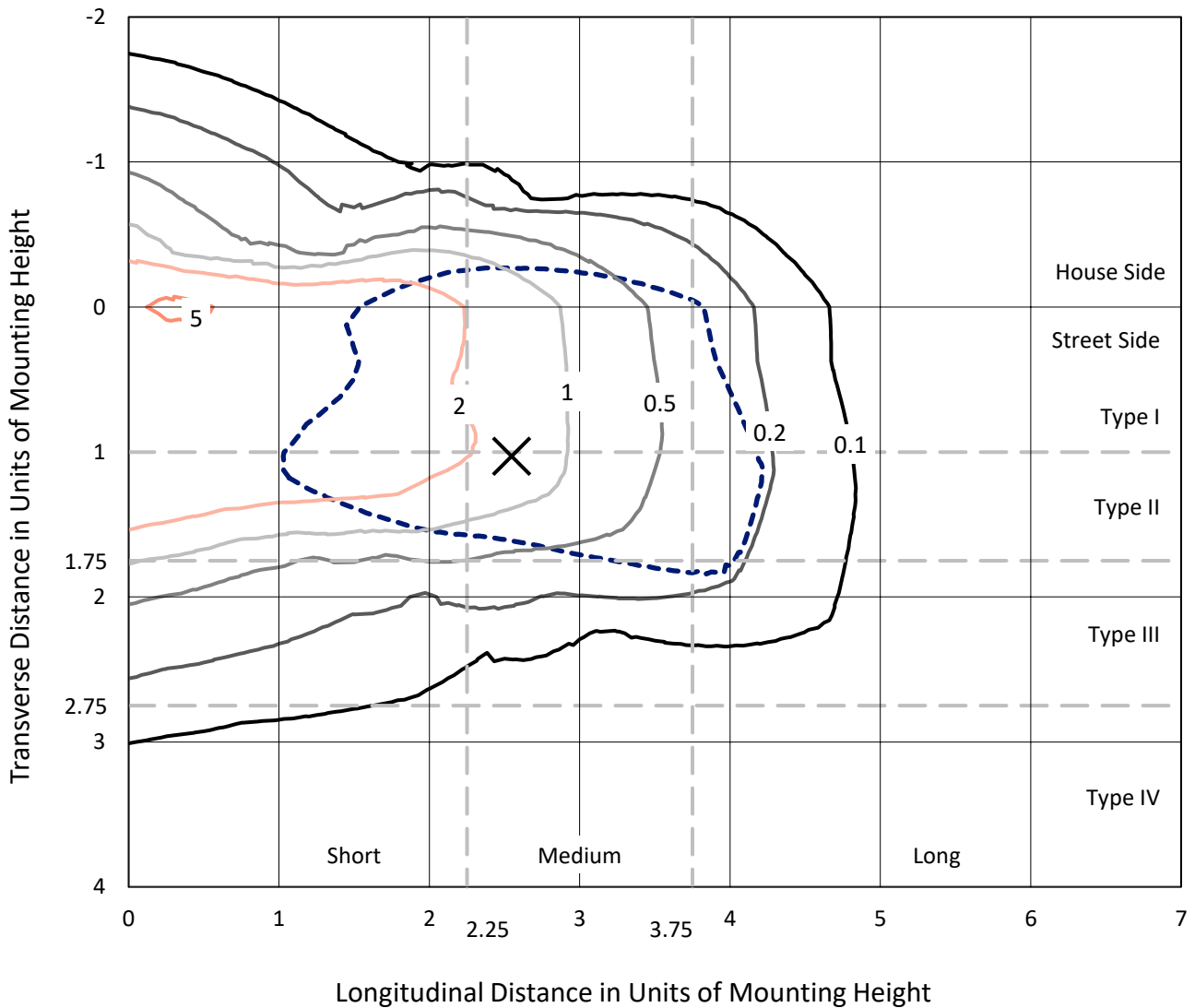
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

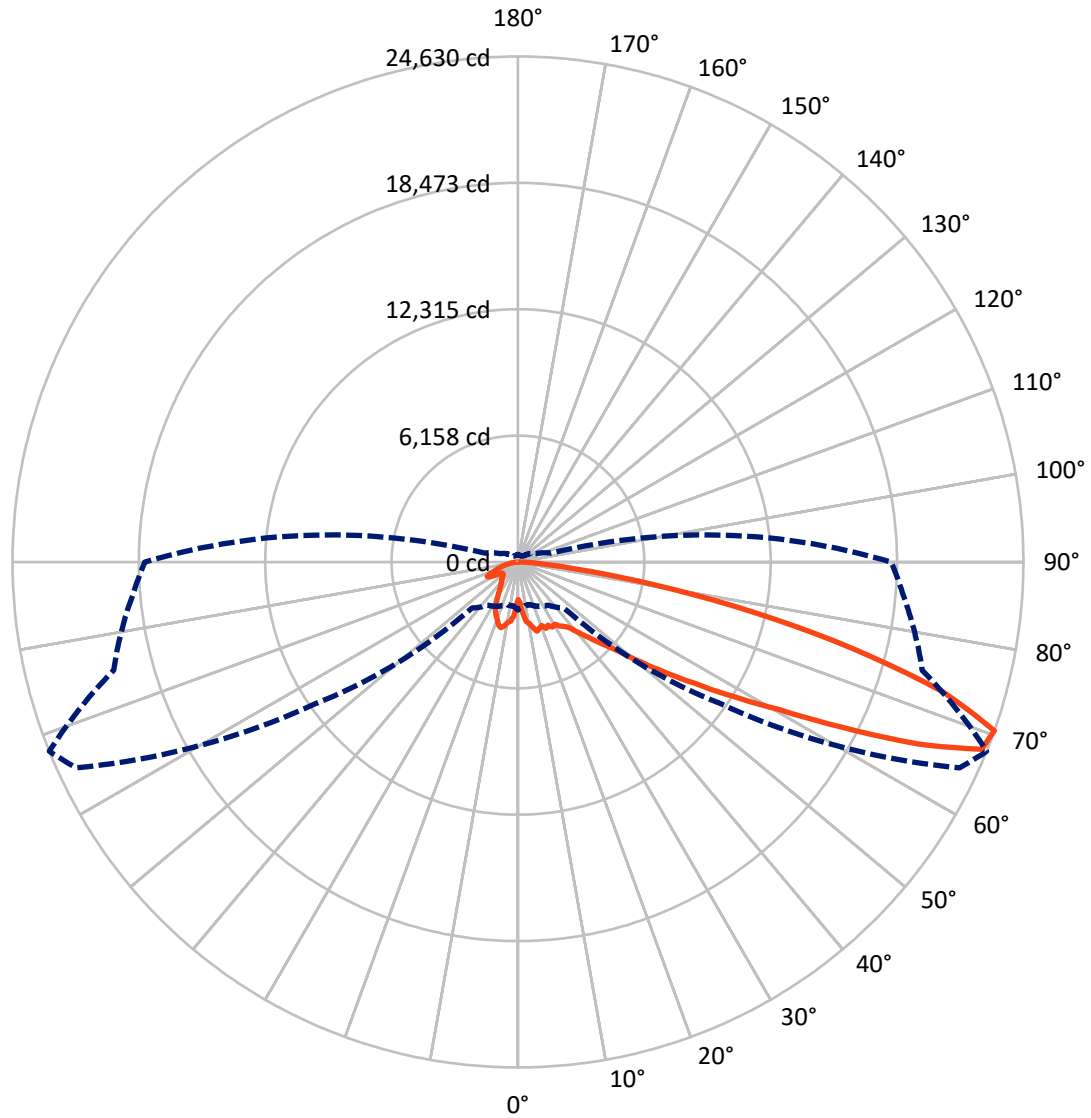
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.8 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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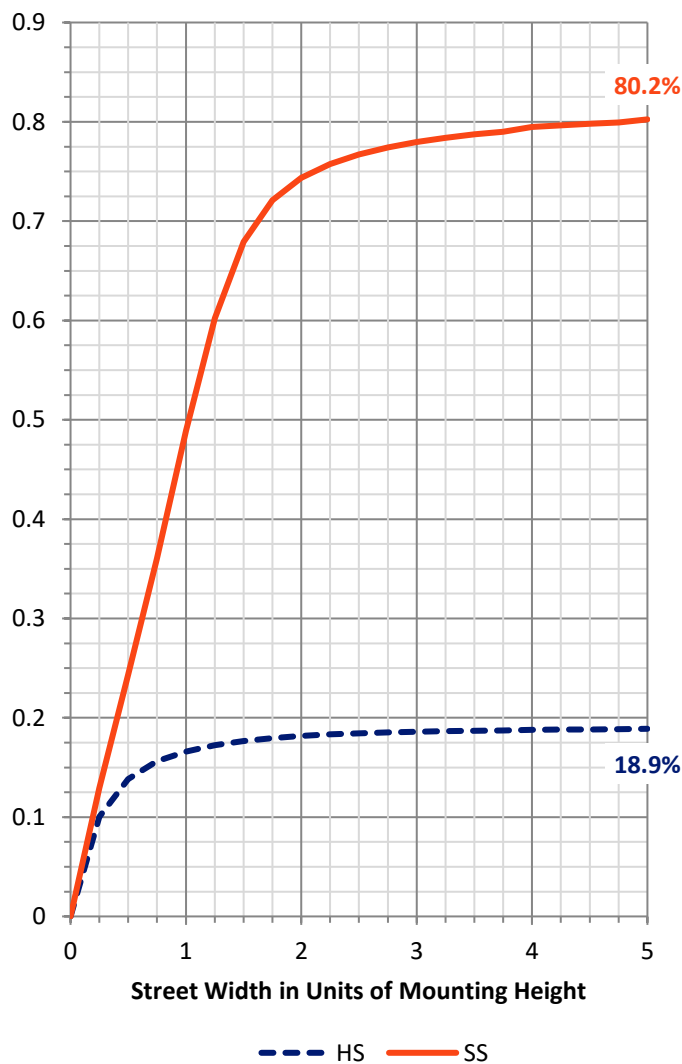
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4544.2	0.0	4544.2
	% Fixture	19.1	0.0	19.1
<b>Street Side</b>	Lumens	19256.8	0.0	19256.8
	% Fixture	80.9	0.0	80.9
<b>Total</b>	Lumens	23801.0	0.0	23801.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	243.7	1.0
10°-20°	794.4	3.3
20°-30°	1208.4	5.1
30°-40°	1845.8	7.8
40°-50°	3173.7	13.3
50°-60°	5253.1	22.1
60°-70°	6476.4	27.2
70°-80°	4160.3	17.5
80°-90°	645.3	2.7
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°	23801.0	100.0
0°-180°	23801.0	100.0

**Coefficient of Utilization**



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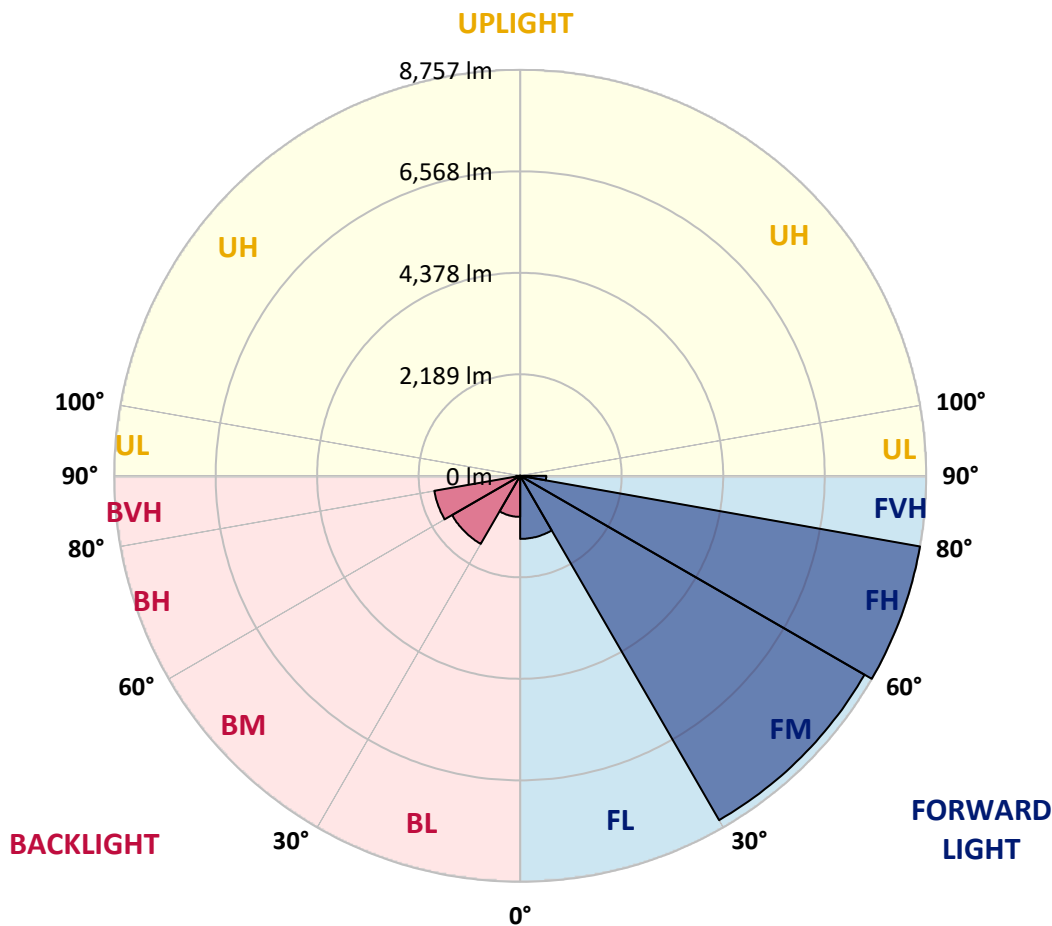
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1361.0	5.7			
FM (30°-60°)	8576.4	36.0			
FH (60°-80°)	8756.9	36.8			G4/12000
FVH (80°-90°)	562.5	2.4			G4/750
BL (0°-30°)	885.5	3.7	B2/1000		
BM (30°-60°)	1696.2	7.1	B2/2500		
BH (60°-80°)	1879.7	7.9	B3/2500		G3/2500
BVH (80°-90°)	82.8	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9
2.5°	2096.9	2012.2	1926.5	1968.3	2035.1	2093.9	2081.9	2088.9	2008.2	1997.2	2209.4
5°	2470.4	2325.0	2322.0	2324.0	2329.9	2262.2	2427.6	2513.2	2532.2	2619.8	2828.0
7.5°	2599.9	2541.1	2481.4	2511.2	2435.5	2442.5	2645.7	2868.8	2921.6	2985.4	3270.3
10°	2573.0	2517.2	2535.1	2540.1	2554.1	2666.6	2797.1	3011.3	3056.1	3259.3	3333.0
12.5°	2577.0	2567.0	2650.7	2653.7	2803.1	3005.3	3057.1	3254.4	3272.3	3421.7	3729.5
15°	2713.5	2782.2	2735.4	2760.3	2789.2	3031.2	3105.9	3388.8	3496.4	3688.7	3919.8
17.5°	2979.4	2999.3	2858.9	2822.0	2916.7	2990.4	3160.7	3283.2	3395.8	3932.7	4251.5
20°	3041.2	3095.0	2927.6	2737.4	2937.6	3040.2	3158.7	3214.5	3302.2	3968.6	4420.8
22.5°	3306.1	3194.6	2992.4	2827.0	2892.8	2992.4	3078.0	3288.2	3518.3	3866.0	4590.2
25°	3456.6	3391.8	3211.5	3034.2	2978.4	2981.4	3146.8	3335.0	3414.7	4016.4	4624.0
27.5°	3820.2	3716.6	3311.1	3277.3	3067.1	2903.7	3157.7	3450.6	3590.0	3898.8	4789.4
30°	4275.4	4196.7	3664.8	3619.9	3299.2	3014.3	3297.2	3536.3	3516.3	3975.5	4903.9
32.5°	4643.9	4775.4	4238.5	3884.9	3656.8	3383.8	3253.4	3521.3	3719.5	4153.9	5098.2
35°	5169.9	5293.4	4685.8	4446.7	3951.6	3555.2	3559.2	3726.5	3849.0	4362.0	5315.3
37.5°	6080.4	5971.8	5482.7	5105.2	4788.4	4196.7	4019.4	3960.6	4059.2	4617.1	5740.7
40°	6736.8	6645.2	6069.4	5854.2	5237.6	4894.0	4407.9	4352.1	4526.4	4880.0	6088.3
42.5°	7514.8	7351.4	6815.5	6638.2	5993.7	5374.1	4884.0	4915.9	5000.6	5376.1	6558.5
45°	8306.7	7910.3	7606.4	7592.5	7162.2	6306.5	5648.0	5622.1	5625.1	6106.3	7086.5
47.5°	8935.3	8578.7	8231.0	8065.7	7848.5	7919.2	6757.7	6453.9	6362.3	6841.4	7878.4
50°	9360.6	8950.2	8556.7	8517.9	9097.6	9479.2	7799.7	7474.9	7531.7	7893.3	8934.3
52.5°	9369.6	8882.5	8472.1	8744.0	10109.7	10655.6	9594.7	8687.2	8868.5	9114.6	10311.9
55°	8718.1	8213.1	7946.1	8565.7	10505.2	12051.2	12116.9	10629.7	10420.5	10511.1	11958.5
57.5°	7344.5	6834.4	6679.0	7421.2	9755.1	13396.9	15163.1	12950.7	12337.0	11958.5	13646.0
60°	5528.5	5087.2	4990.6	5463.8	8087.6	13001.5	17629.5	15839.4	14589.3	13575.2	15338.4
62.5°	4145.9	3829.1	3683.7	3751.4	5596.2	11715.5	19249.2	19489.2	17719.1	15340.4	16992.0
65°	3368.9	3112.9	2983.4	2895.7	3480.5	9058.8	18956.3	22561.3	21374.9	17194.2	18279.0
67.5°	2814.1	2586.9	2527.2	2612.8	2751.3	5255.6	16665.2	24279.6	24360.3	19023.1	19031.0
70°	2335.9	2167.6	2145.7	2388.7	2571.0	3171.7	12037.2	23739.7	24630.3	20394.7	18854.7
72.5°	1805.0	1714.3	1711.3	2092.9	2554.1	2703.5	7168.1	20508.3	21704.6	19956.4	17129.4
75°	1252.1	1189.4	1237.2	1720.3	2495.3	2742.3	4091.1	15973.9	16869.4	16982.0	13721.7
77.5°	861.7	808.9	860.7	1244.2	2228.3	2808.1	2861.9	11550.1	11649.7	11387.7	7859.5
80°	599.7	562.8	602.7	880.6	1734.3	2779.2	2436.5	7271.7	6672.1	5082.2	2516.2
82.5°	371.6	360.6	404.4	627.6	1221.3	2528.2	2309.0	3752.4	2864.9	1402.5	898.5
85°	195.2	179.3	235.1	409.4	764.0	1984.3	2163.6	1712.3	1105.7	498.1	360.6
87.5°	57.8	51.8	90.6	165.4	323.7	889.5	1238.2	726.2	412.4	146.4	112.6
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9	1824.9
2.5°	2224.4	2213.4	2066.0	2084.9	2116.8	2124.7	2123.7	2070.0	2013.2	2171.6	2166.6
5°	2833.0	2734.4	2660.7	2644.7	2554.1	2463.4	2495.3	2484.3	2470.4	2542.1	2551.1
7.5°	3271.3	3134.8	3049.1	2829.0	2619.8	2438.5	2496.3	2514.2	2478.4	2607.9	2646.7
10°	3386.8	3279.3	3186.6	2903.7	2788.2	2682.6	2526.2	2347.9	2324.0	2249.3	2258.2
12.5°	3684.7	3669.7	3354.0	3104.9	2954.5	2744.3	2406.6	2190.5	2005.2	2014.2	1960.4
15°	3919.8	3927.7	3548.2	3199.6	2796.1	2475.4	2077.9	1809.0	1618.7	1580.9	1542.0
17.5°	4235.5	4219.6	3564.1	3086.0	2575.0	2104.8	1617.7	1350.7	1318.9	1340.8	1306.9
20°	4373.0	4232.5	3462.5	2804.1	2229.3	1598.8	1222.2	1080.8	1142.6	1230.2	1232.2
22.5°	4496.5	4256.5	3409.7	2577.0	1769.1	1162.5	981.2	955.3	1028.0	1146.5	1156.5
25°	4491.5	4367.0	3315.1	2347.9	1371.7	907.5	852.7	871.6	958.3	1081.8	1088.8
27.5°	4717.7	4282.4	3069.1	2047.0	1033.0	777.0	790.9	825.8	866.6	984.2	1007.1
30°	4715.7	4439.7	2945.6	1681.5	829.8	712.2	748.1	778.0	811.8	919.4	932.4
32.5°	4827.2	4337.1	2870.8	1307.9	744.1	696.3	705.3	735.1	784.0	856.7	865.6
35°	4961.7	4453.7	2631.8	1039.0	712.2	682.3	689.3	706.3	751.1	817.8	826.8
37.5°	5393.0	4475.6	2537.1	875.6	710.2	676.4	675.4	684.3	735.1	795.9	822.8
40°	5561.4	4675.8	2261.2	817.8	703.3	676.4	662.4	667.4	709.2	786.9	807.9
42.5°	5964.8	4742.6	2057.0	797.9	703.3	664.4	642.5	650.5	699.3	768.0	800.9
45°	6380.2	4837.2	1813.9	793.9	702.3	663.4	621.6	639.5	679.4	737.1	773.0
47.5°	6971.9	5177.9	1570.9	782.0	694.3	668.4	616.6	615.6	650.5	700.3	734.1
50°	7937.2	5709.8	1382.6	767.0	695.3	664.4	606.6	592.7	615.6	659.4	692.3
52.5°	9280.9	6616.3	1308.9	759.0	687.3	648.5	589.7	567.8	580.7	615.6	647.5
55°	10840.9	7840.5	1381.6	759.0	671.4	623.6	565.8	539.9	546.9	570.8	601.7
57.5°	12663.8	9361.6	1733.3	748.1	651.5	593.7	536.9	507.0	509.0	529.9	557.8
60°	14567.4	11061.0	2521.2	739.1	637.5	560.8	503.0	472.2	469.2	489.1	514.0
62.5°	16474.0	12628.9	3350.0	760.0	633.5	532.9	467.2	436.3	435.3	453.2	474.2
65°	17990.1	13700.7	3556.2	844.7	659.4	501.1	430.3	401.4	399.4	414.4	437.3
67.5°	18734.2	13856.1	2701.5	950.3	714.2	471.2	394.5	367.6	365.6	381.5	401.4
70°	18183.3	12794.3	1667.5	961.3	711.2	436.3	357.6	334.7	330.7	347.6	362.6
72.5°	16145.2	11191.5	1267.1	850.7	615.6	386.5	320.8	300.8	294.9	309.8	323.7
75°	12958.6	8885.5	1015.1	686.3	485.1	325.7	283.9	265.0	258.0	271.9	283.9
77.5°	7548.7	4998.6	742.1	535.9	366.6	266.0	242.1	225.1	217.2	232.1	241.1
80°	2454.5	1665.5	466.2	384.5	268.0	208.2	196.2	184.3	176.3	186.3	189.3
82.5°	881.6	619.6	258.0	236.1	178.3	149.4	148.4	141.5	131.5	135.5	135.5
85°	390.5	282.9	153.4	126.5	106.6	79.7	93.6	88.7	78.7	76.7	73.7
87.5°	109.6	93.6	55.8	42.8	34.9	12.9	29.9	26.9	21.9	19.9	13.9
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)