

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: P597161

Luminaire Tested: **MSA-SA4D-835-U-SL2-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P597161  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-835-U-SL2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17775 lumens  
Efficiency: N/A  
Efficacy: 68.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G3

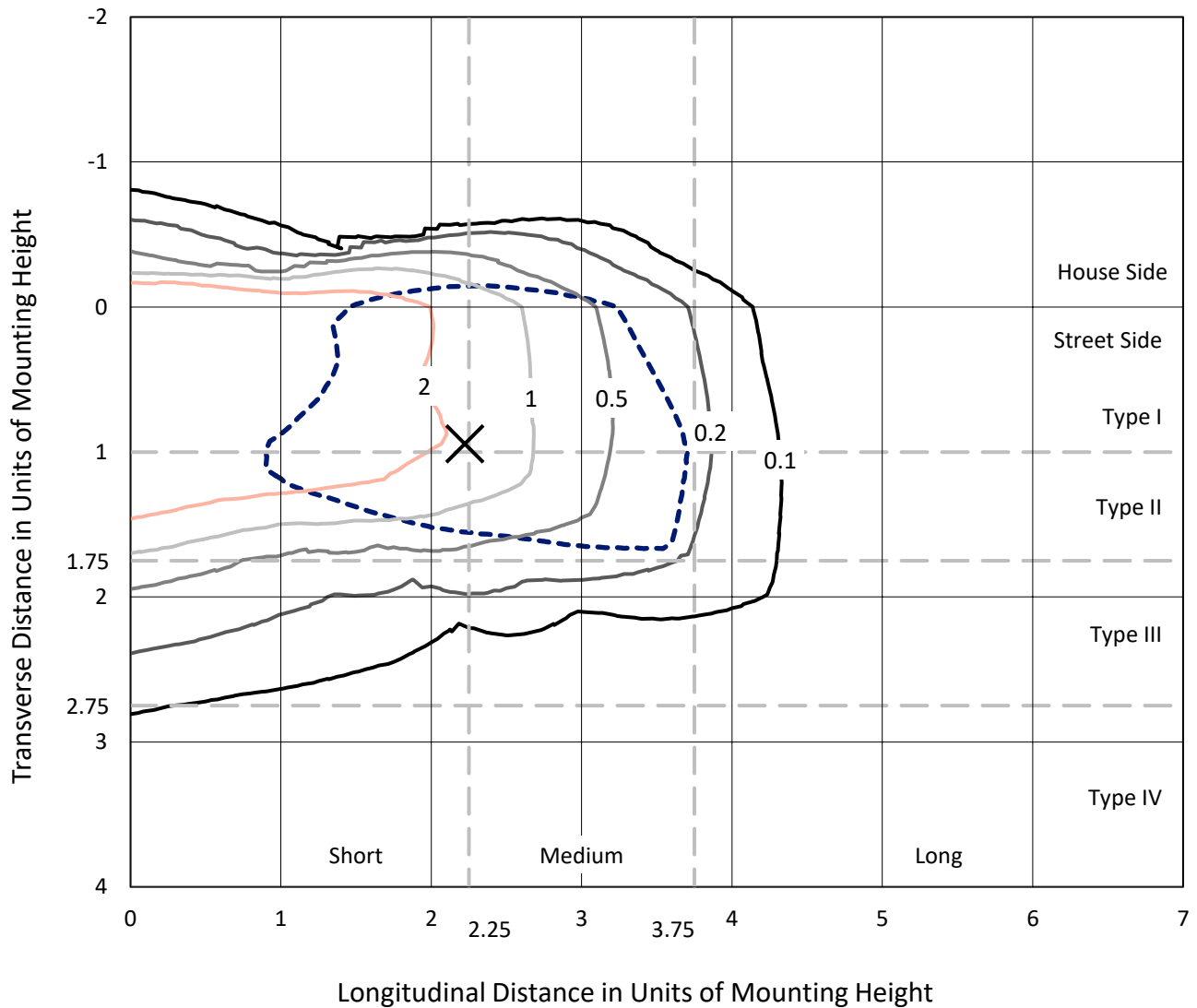
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

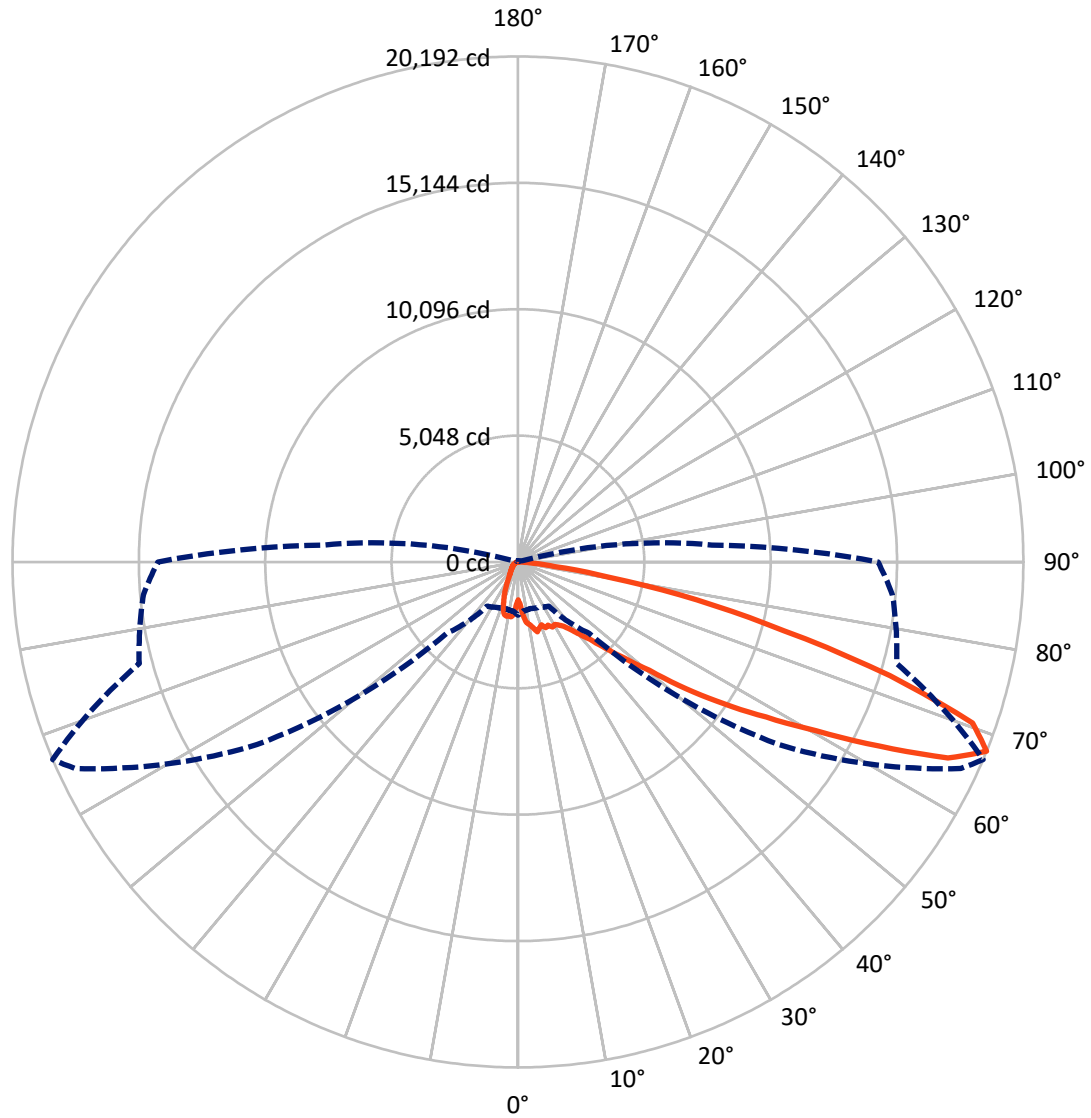
✕ Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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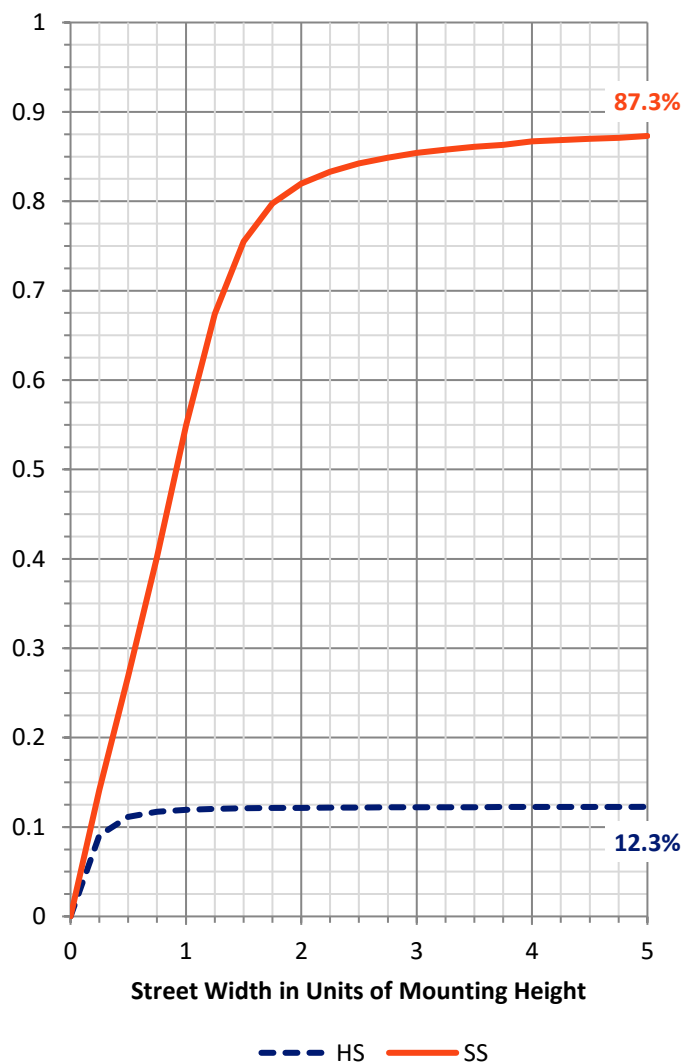
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2198.3	0.0	2198.3
	% Fixture	12.4	0.0	12.4
<b>Street Side</b>	Lumens	15576.7	0.0	15576.7
	% Fixture	87.6	0.0	87.6
<b>Total</b>	Lumens	17775.0	0.0	17775.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.0	1.1
10°-20°	562.3	3.2
20°-30°	881.2	5.0
30°-40°	1420.9	8.0
40°-50°	2610.9	14.7
50°-60°	4409.5	24.8
60°-70°	4874.8	27.4
70°-80°	2551.5	14.4
80°-90°	274.0	1.5
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°	17775.0	100.0
0°-180°	17775.0	100.0

**Coefficient of Utilization**

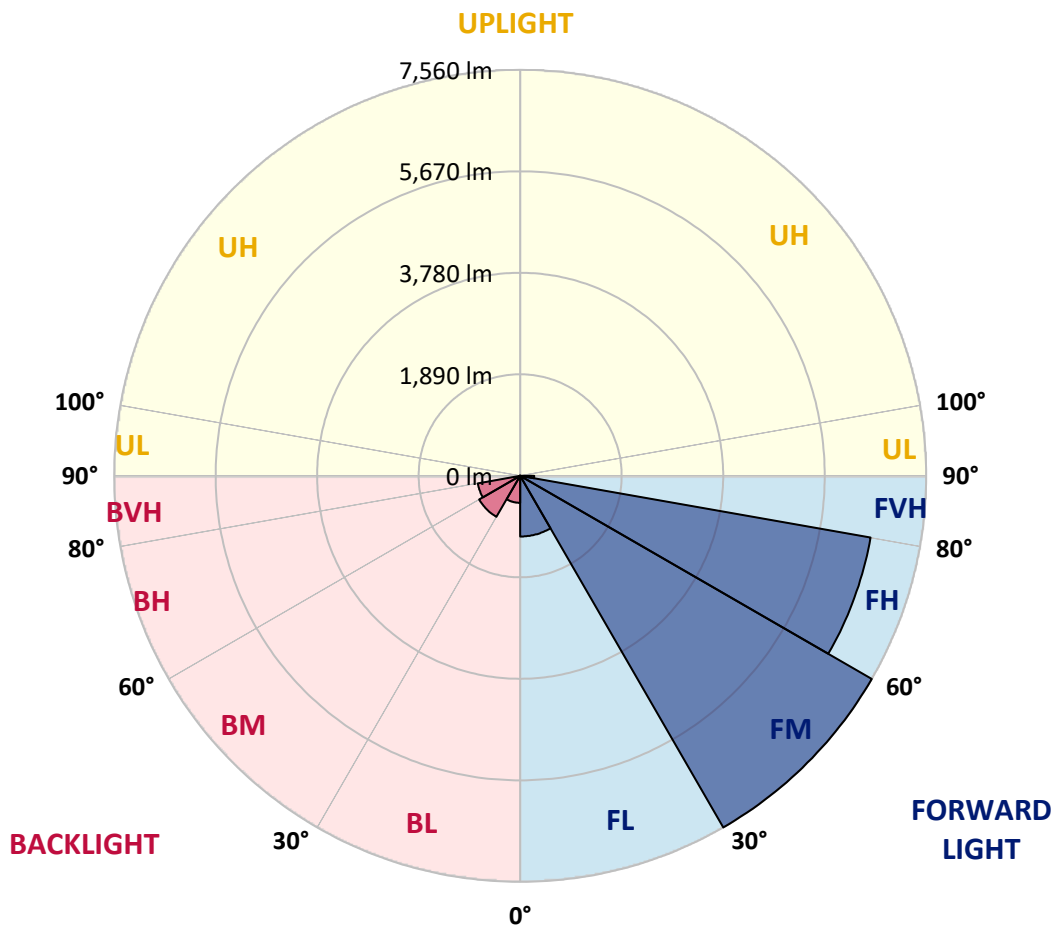


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1130.2	6.4			
FM (30°-60°)	7559.8	42.5			
FH (60°-80°)	6624.4	37.3			G3/7500
FVH (80°-90°)	262.3	1.5			G3/500
BL (0°-30°)	503.3	2.8	B2/1000		
BM (30°-60°)	881.4	5.0	B1/1000		
BH (60°-80°)	801.8	4.5	B2/1000		G2/1000
BVH (80°-90°)	11.7	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9
2.5°	1787.1	1726.7	1623.9	1653.7	1713.2	1762.8	1739.4	1693.4	1694.3	1647.4	1816.0
5°	2079.3	1998.1	1938.6	1959.4	1956.7	1954.9	2065.8	2108.1	2126.2	2203.7	2318.2
7.5°	2163.1	2134.3	2072.1	2091.0	2028.8	2033.3	2228.1	2412.0	2440.9	2488.7	2692.4
10°	2130.7	2074.8	2097.3	2097.3	2098.2	2199.2	2330.0	2505.8	2541.0	2724.9	2746.5
12.5°	2095.5	2098.2	2187.5	2171.3	2293.9	2475.1	2519.3	2716.8	2699.6	2859.2	3096.4
15°	2226.3	2294.8	2237.1	2259.6	2271.3	2484.1	2555.4	2817.8	2893.5	3095.5	3249.7
17.5°	2450.8	2459.8	2339.9	2307.4	2392.2	2452.6	2596.0	2722.2	2772.7	3302.9	3521.1
20°	2491.4	2549.1	2427.3	2239.8	2419.2	2502.2	2602.3	2662.7	2684.3	3366.9	3674.4
22.5°	2735.7	2671.7	2476.9	2334.5	2385.9	2476.0	2538.2	2720.4	2850.2	3246.1	3821.3
25°	2861.1	2843.9	2658.2	2536.4	2484.1	2476.9	2619.4	2757.4	2798.8	3371.4	3857.4
27.5°	3161.3	3122.5	2762.8	2747.4	2575.2	2423.7	2622.1	2870.1	2947.6	3253.3	3992.7
30°	3569.8	3555.3	3076.6	3066.6	2792.5	2520.2	2768.2	2939.5	2892.6	3313.7	4082.8
32.5°	3980.9	4098.2	3608.5	3329.0	3123.4	2874.6	2726.7	2917.9	3001.7	3460.7	4248.7
35°	4477.8	4562.5	4063.9	3861.0	3403.9	3040.5	3001.7	3124.3	3160.4	3635.6	4437.2
37.5°	5347.0	5219.0	4794.3	4448.9	4209.1	3632.9	3441.7	3344.4	3428.2	3872.7	4822.2
40°	5989.0	5907.8	5384.9	5178.4	4626.6	4289.3	3789.8	3698.7	3792.5	4116.2	5090.0
42.5°	6763.5	6594.9	6102.6	5962.9	5394.8	4744.7	4237.9	4269.5	4210.9	4596.8	5559.8
45°	7464.2	7083.6	6809.5	6841.1	6538.1	5659.9	4985.4	4970.1	4921.4	5292.9	6053.9
47.5°	7935.7	7603.0	7336.1	7248.7	7212.6	7269.4	6065.6	5793.3	5757.3	6024.2	6832.1
50°	8189.1	7824.8	7494.8	7512.9	8245.0	8796.0	7180.1	6793.3	6806.8	7085.5	7896.1
52.5°	8018.7	7606.6	7258.6	7596.7	9045.7	9814.0	9025.0	8099.8	8413.6	8342.4	9323.4
55°	7231.5	6873.6	6626.5	7231.5	9133.2	10909.5	11296.3	10066.4	9996.1	9833.8	10778.8
57.5°	5906.9	5598.6	5446.2	6084.6	8176.5	11792.3	13577.6	12289.1	11689.5	11009.6	11987.0
60°	4401.1	4173.9	4015.2	4352.4	6442.5	10934.8	15071.7	14383.7	13689.4	12143.0	13072.6
62.5°	3259.6	3074.8	2906.1	2936.8	4436.3	9404.6	15645.2	16602.8	16204.2	13339.5	14097.0
65°	2601.4	2432.7	2314.6	2247.0	2747.4	7075.5	14847.2	18421.5	18881.3	14466.7	14836.3
67.5°	2124.4	1981.9	1923.3	2000.8	2155.0	4033.2	12715.6	19525.1	20192.4	15662.3	15018.5
70°	1728.5	1611.3	1605.0	1814.2	1984.6	2458.9	9353.2	18763.2	19265.4	15866.1	13926.5
72.5°	1204.7	1153.3	1235.3	1532.0	1966.6	2047.7	5371.3	15527.0	15545.1	14013.1	11455.0
75°	681.7	673.6	803.4	1221.8	1915.2	2027.0	2994.5	10972.6	10980.7	10598.4	7935.7
77.5°	375.1	350.8	468.0	825.9	1644.7	1980.1	1931.4	7492.1	7300.1	5897.9	3624.8
80°	173.1	163.2	253.4	529.3	1202.8	1872.8	1548.2	4118.0	3713.1	1921.5	884.6
82.5°	71.2	67.6	116.3	339.9	760.1	1508.5	1304.7	1826.8	1466.1	365.2	273.2
85°	12.6	13.5	47.8	205.6	425.6	695.2	1057.7	867.4	637.5	101.0	149.7
87.5°	0.0	0.0	9.9	49.6	102.8	190.3	429.2	242.6	166.8	29.8	44.2
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°	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9	1513.9
2.5°	1849.4	1834.0	1678.9	1686.2	1697.0	1687.1	1685.3	1642.0	1602.3	1733.0	1731.2
5°	2339.0	2229.9	2122.6	2081.1	1991.8	1874.6	1875.5	1838.5	1800.7	1853.9	1853.9
7.5°	2687.9	2537.3	2401.2	2158.6	1922.4	1708.7	1689.8	1639.3	1581.6	1651.0	1664.5
10°	2769.1	2638.3	2462.5	2106.3	1882.7	1674.4	1445.4	1257.0	1169.5	1128.9	1121.7
12.5°	3018.8	2921.5	2528.3	2134.3	1812.4	1459.8	1084.7	861.1	708.7	697.0	680.8
15°	3185.7	3117.1	2593.2	2064.9	1514.8	1049.6	681.7	523.0	461.7	456.3	448.1
17.5°	3444.4	3325.4	2531.0	1843.9	1184.8	692.5	458.1	413.0	420.2	436.4	423.8
20°	3549.9	3317.3	2395.8	1523.8	832.3	464.4	397.6	373.3	392.2	407.6	400.3
22.5°	3658.1	3340.7	2275.9	1256.0	543.7	384.1	354.4	341.7	343.5	358.9	359.8
25°	3657.2	3405.7	2137.0	978.3	404.9	341.7	320.1	303.9	297.6	308.4	305.7
27.5°	3834.9	3330.8	1883.6	725.9	356.2	305.7	284.9	265.1	242.6	253.4	253.4
30°	3835.8	3452.6	1706.9	521.2	326.4	272.3	254.3	223.6	197.5	206.5	207.4
32.5°	3937.7	3347.1	1543.7	398.5	303.0	252.5	212.8	184.8	169.5	174.9	174.9
35°	4054.0	3437.2	1293.0	351.7	279.5	224.5	182.1	159.6	147.9	152.4	152.4
37.5°	4438.1	3418.3	1119.0	327.3	264.2	202.9	165.9	140.7	135.3	138.0	141.6
40°	4577.0	3552.6	882.8	312.9	238.9	183.0	146.1	127.1	119.9	121.7	122.6
42.5°	4930.4	3582.4	705.1	301.2	216.4	158.7	129.8	116.3	107.3	107.3	110.0
45°	5320.9	3657.2	560.8	291.2	197.5	142.5	117.2	106.4	92.9	91.1	94.7
47.5°	5886.2	3944.0	457.2	271.4	174.9	132.5	108.2	92.0	81.2	77.5	81.2
50°	6832.1	4430.9	404.0	247.1	158.7	124.4	95.6	78.4	70.3	65.8	68.5
52.5°	8166.6	5272.2	376.0	224.5	144.3	111.8	85.7	68.5	60.4	56.8	58.6
55°	9648.9	6237.0	362.5	202.0	131.6	98.3	74.8	60.4	53.2	48.7	49.6
57.5°	11019.5	7144.1	349.0	180.3	119.0	87.5	65.8	53.2	46.0	41.5	42.4
60°	12370.2	7868.1	316.5	155.1	107.3	78.4	57.7	46.0	41.5	36.1	36.1
62.5°	13565.0	8300.9	269.6	134.4	96.5	69.4	51.4	41.5	37.9	32.5	32.5
65°	14378.3	8320.8	217.3	115.4	84.8	59.5	45.1	38.8	35.2	28.9	28.0
67.5°	14390.0	7779.7	174.0	102.8	74.8	52.3	40.6	37.0	32.5	27.1	25.2
70°	12879.7	6427.2	145.2	90.2	64.9	46.0	35.2	35.2	31.6	26.1	23.4
72.5°	10302.7	4911.5	121.7	78.4	57.7	39.7	32.5	33.4	30.7	26.1	23.4
75°	6925.0	2816.9	101.0	66.7	50.5	33.4	31.6	32.5	31.6	26.1	22.5
77.5°	3189.3	897.2	78.4	55.0	43.3	28.0	30.7	30.7	28.9	23.4	19.8
80°	718.6	220.9	56.8	40.6	35.2	20.7	28.0	25.2	22.5	16.2	11.7
82.5°	261.5	67.6	34.3	25.2	21.6	8.1	18.0	18.0	16.2	11.7	7.2
85°	149.7	35.2	18.9	16.2	11.7	3.6	9.9	10.8	9.0	8.1	3.6
87.5°	48.7	8.1	9.0	9.9	9.0	1.8	3.6	3.6	2.7	1.8	0.0
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)