

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: P368695

Luminaire Tested: **MSA-SA4D-830-U-SL3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368695  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-830-U-SL3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17167 lumens  
Efficiency: N/A  
Efficacy: 66.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G3

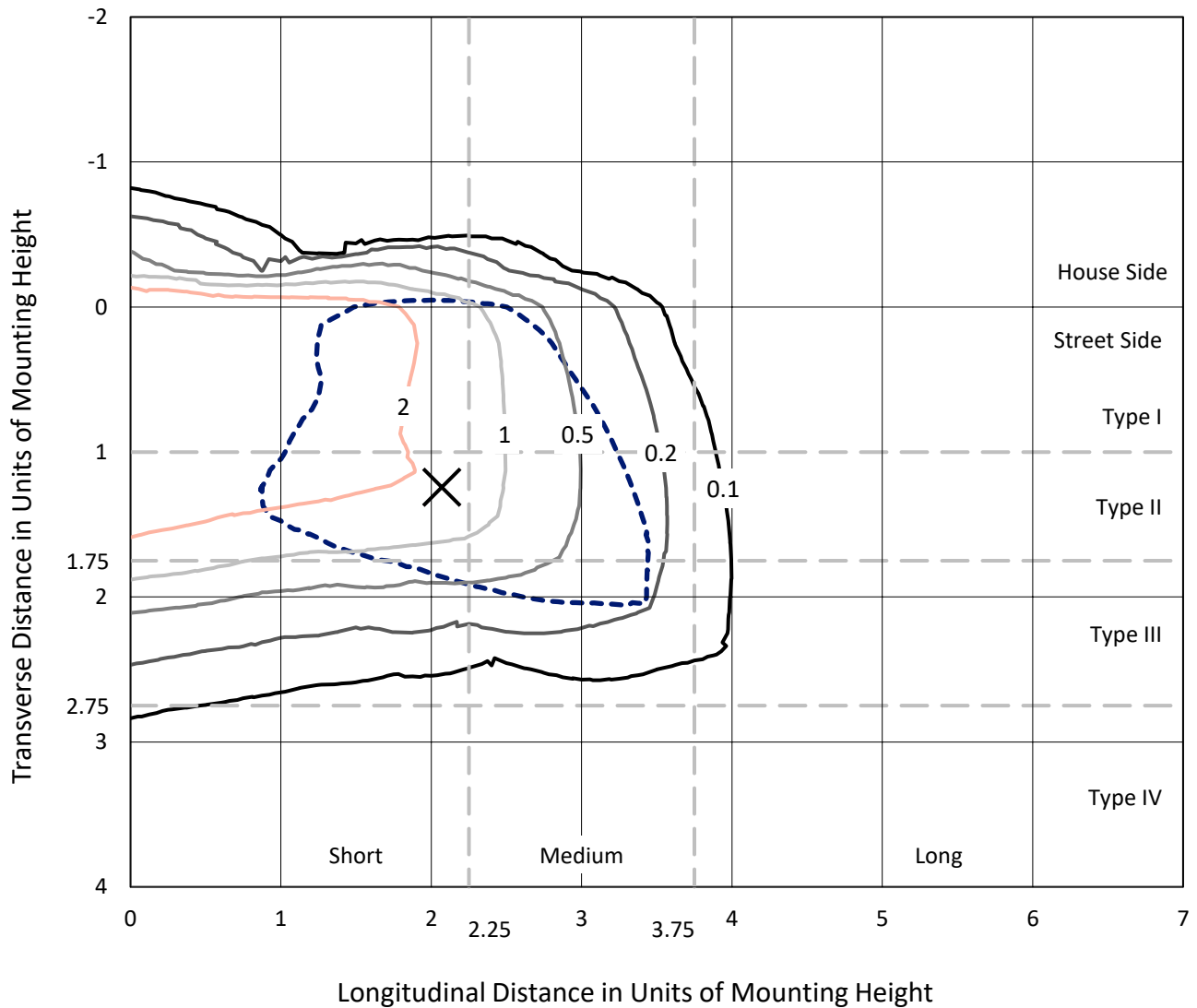
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

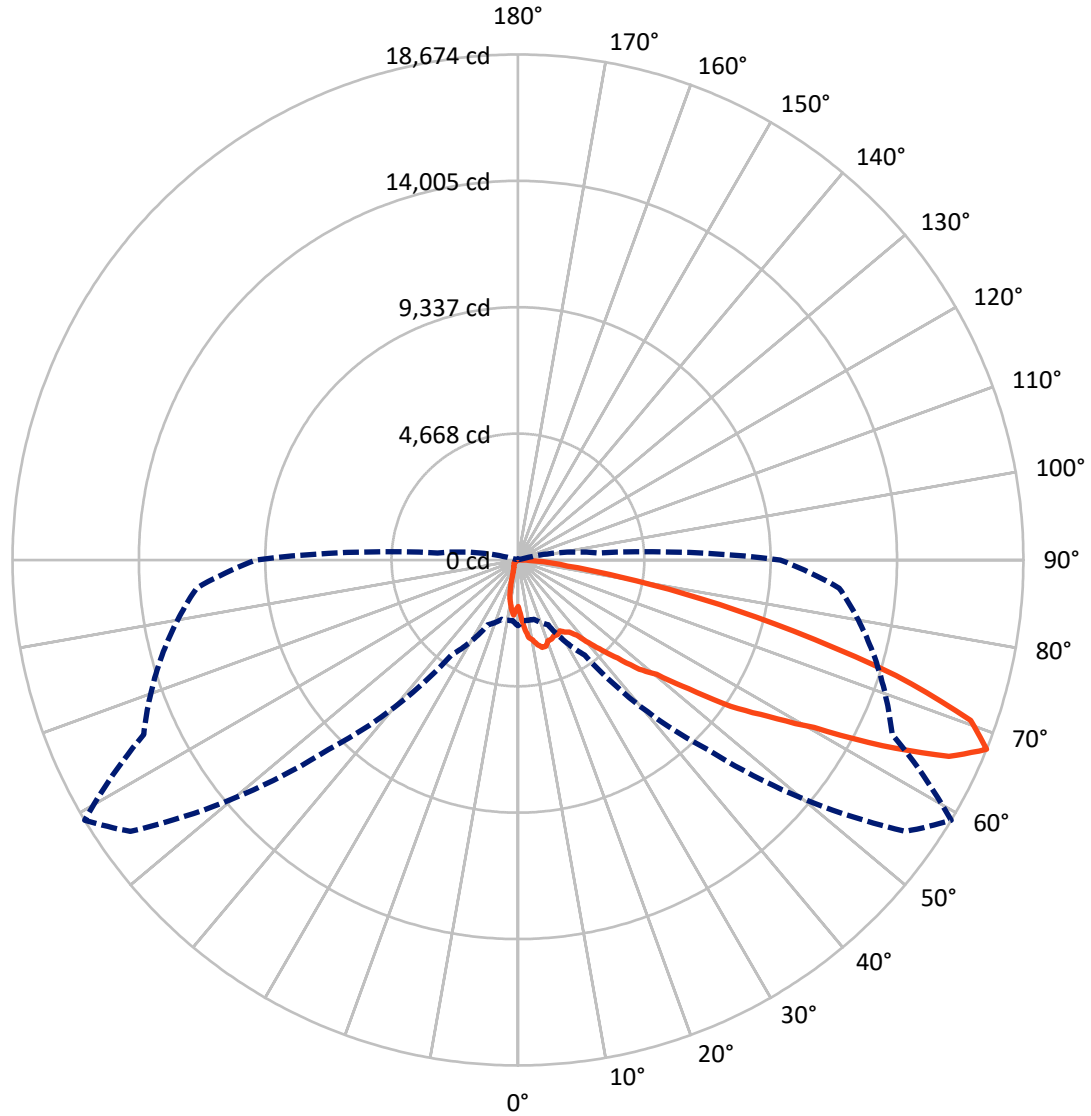
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.9 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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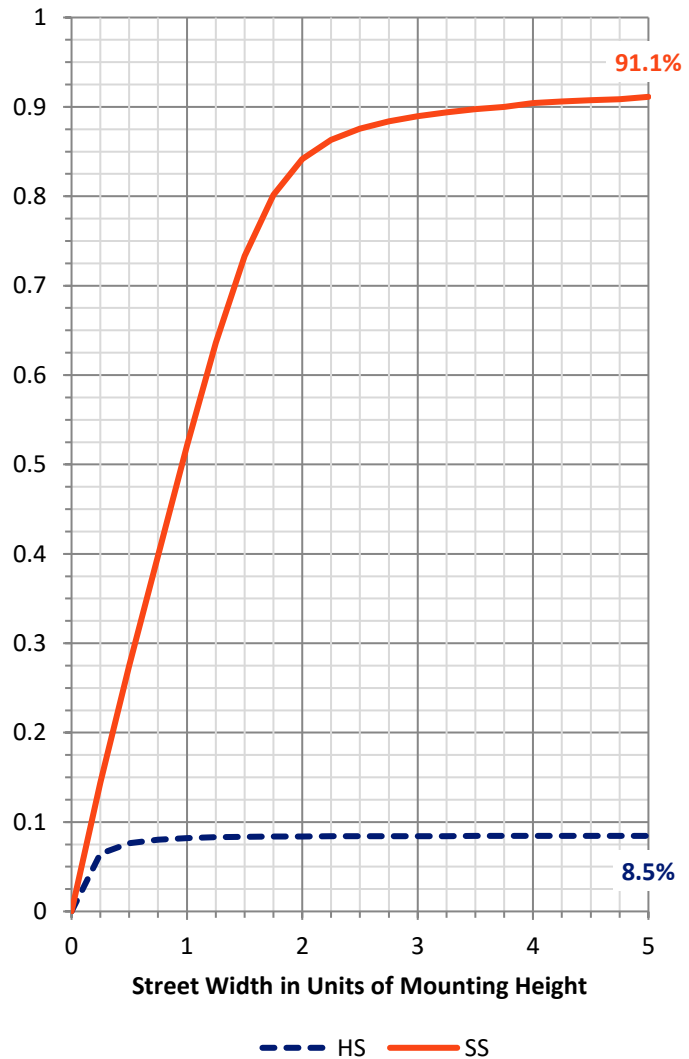
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1459.9	0.0	1459.9
	% Fixture	8.5	0.0	8.5
<b>Street Side</b>	Lumens	15707.1	0.0	15707.1
	% Fixture	91.5	0.0	91.5
<b>Total</b>	Lumens	17167.0	0.0	17167.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	208.8	1.2
10°-20°	588.1	3.4
20°-30°	874.7	5.1
30°-40°	1349.4	7.9
40°-50°	2408.3	14.0
50°-60°	4285.6	25.0
60°-70°	4991.3	29.1
70°-80°	2219.7	12.9
80°-90°	241.1	1.4
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°	17167.0	100.0
0°-180°	17167.0	100.0

**Coefficient of Utilization**



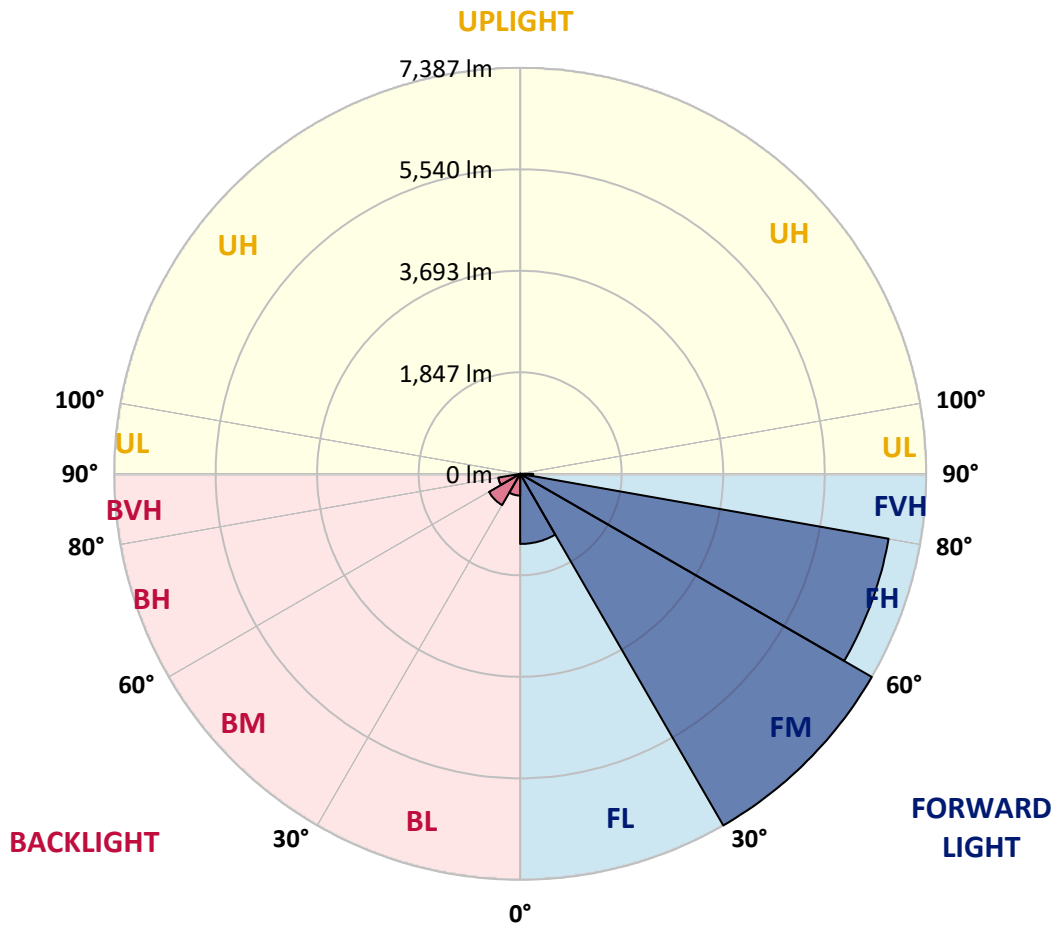
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1276.7	7.4			
FM (30°-60°)	7387.0	43.0			
FH (60°-80°)	6806.6	39.6			G3/7500
FVH (80°-90°)	236.8	1.4			G3/500
BL (0°-30°)	394.8	2.3	B1/500		
BM (30°-60°)	656.4	3.8	B1/1000		
BH (60°-80°)	404.4	2.4	B1/500		G1/500
BVH (80°-90°)	4.3	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6
2.5°	2239.2	2154.8	2034.9	2070.5	2102.7	2133.1	2082.7	2054.0	2040.1	1916.7	2071.4
5°	2749.4	2644.2	2589.5	2575.6	2540.8	2463.4	2592.1	2534.7	2553.8	2578.2	2628.6
7.5°	2905.0	2857.2	2778.1	2807.6	2675.5	2664.2	2842.4	2892.0	2957.1	2912.8	2973.7
10°	2825.0	2742.4	2779.8	2769.4	2764.2	2880.7	3005.8	3008.4	3105.8	3152.7	2946.7
12.5°	2666.8	2676.4	2810.2	2799.8	2973.7	3206.6	3235.3	3204.9	3363.9	3282.2	3250.9
15°	2772.0	2850.2	2776.3	2801.6	2863.3	3154.5	3256.2	3350.0	3500.4	3549.1	3337.9
17.5°	2898.9	2906.7	2772.0	2740.7	2896.3	3031.9	3271.8	3349.2	3363.9	3790.7	3533.5
20°	2830.2	2897.2	2736.4	2539.0	2780.7	2965.0	3208.4	3184.0	3283.1	3862.0	3577.8
22.5°	3012.8	2917.2	2711.2	2562.5	2644.2	2812.0	3018.0	3177.1	3325.7	3691.7	3635.2
25°	3030.2	2995.4	2812.0	2679.9	2666.0	2708.5	2995.4	3098.0	3330.9	3844.6	3586.5
27.5°	3225.7	3185.8	2810.2	2823.3	2692.9	2561.6	2885.9	3126.6	3425.7	3751.6	3689.9
30°	3477.8	3481.3	2997.1	3038.0	2852.0	2640.7	2975.4	3041.5	3490.0	3900.3	3766.4
32.5°	3733.4	3838.6	3366.6	3150.1	3091.9	2940.6	2864.1	3169.2	3419.6	4154.1	3957.6
35°	4121.9	4193.2	3670.8	3477.0	3248.3	3076.2	3166.6	3276.2	3672.5	4490.5	4208.8
37.5°	4779.9	4651.3	4216.7	3879.4	3824.6	3570.8	3616.0	3517.8	3930.7	4886.9	4706.1
40°	5150.2	5033.8	4581.8	4417.5	4068.0	4107.1	3964.6	4022.0	4305.3	5299.7	5158.9
42.5°	5536.2	5424.9	5028.5	4912.1	4579.1	4417.5	4353.1	4559.2	4879.9	5987.3	5808.2
45°	5923.9	5641.4	5473.6	5531.8	5382.3	5062.4	4987.7	5171.1	5507.5	6832.2	6493.2
47.5°	6250.7	6012.5	5886.5	5859.5	5801.3	6245.5	5941.2	6022.1	6170.7	7579.8	7346.8
50°	6840.0	6605.3	6408.0	6353.3	6636.6	7266.8	6797.4	6641.0	6938.3	8482.9	8336.0
52.5°	7691.0	7392.0	7078.2	7079.1	7613.7	7959.6	8182.1	7907.5	7963.1	9476.4	9411.2
55°	8375.1	7995.2	7735.3	7940.5	8737.6	8931.4	9780.7	9539.9	9467.7	10397.8	10317.8
57.5°	8469.0	8013.5	7890.1	8249.9	9340.8	10578.6	11492.2	10890.7	10780.3	11168.8	11327.9
60°	7592.8	7109.5	7202.5	7781.4	9537.3	11582.6	13063.8	12572.7	11871.2	12072.0	12181.5
62.5°	5663.1	5277.1	5537.9	6304.6	8780.2	12255.4	14883.1	15110.8	13136.8	12750.0	12726.5
65°	3674.3	3432.6	3603.9	4232.3	6644.5	12178.9	16508.6	17496.0	14133.8	13302.8	12897.7
67.5°	2430.4	2247.0	2271.3	2643.4	4296.6	9905.0	17480.4	18673.8	15255.1	13616.6	11916.4
70°	1811.5	1667.2	1675.9	1877.6	2550.3	6532.3	16125.2	17744.6	15664.5	12529.2	9618.1
72.5°	1306.5	1210.0	1290.8	1515.1	2032.3	3454.3	12018.9	14613.6	13659.2	9882.4	6480.2
75°	904.9	841.4	973.5	1267.3	1855.0	2144.4	7942.2	10519.5	9573.8	6200.3	2929.3
77.5°	501.6	482.4	672.8	1032.7	1683.7	1757.6	4865.1	6912.2	5310.2	2222.6	697.1
80°	219.0	212.1	326.0	775.4	1415.1	1588.1	2739.0	3832.5	2088.8	396.4	225.1
82.5°	93.9	90.4	139.1	466.8	1028.3	1328.2	1688.9	1844.5	718.9	122.6	127.8
85°	16.5	18.3	55.6	246.0	625.9	674.5	1223.0	1091.8	361.6	58.2	91.3
87.5°	0.0	0.0	8.7	47.8	117.3	193.0	530.2	382.5	68.7	19.1	15.6
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°	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6	1717.6
2.5°	2093.1	2044.4	1859.3	1835.8	1810.6	1773.2	1759.3	1679.4	1668.9	1771.5	1771.5
5°	2605.1	2431.3	2254.8	2115.7	1991.4	1819.3	1770.6	1720.2	1679.4	1668.9	1701.1
7.5°	2875.4	2663.3	2386.1	2032.3	1745.4	1496.0	1391.6	1318.6	1236.9	1261.3	1274.3
10°	2860.7	2635.5	2281.7	1827.1	1509.0	1233.4	968.3	813.6	727.6	685.0	679.7
12.5°	3005.8	2793.7	2211.3	1663.7	1257.8	877.1	609.3	498.9	435.5	436.4	431.1
15°	3090.1	2858.9	2129.6	1456.8	885.8	564.1	422.4	398.1	389.4	399.0	393.8
17.5°	3238.8	2927.6	1944.5	1148.3	609.3	425.9	388.5	379.0	390.3	410.3	405.1
20°	3227.5	2808.5	1681.1	809.3	450.3	383.3	367.7	352.9	376.4	397.2	393.8
22.5°	3217.0	2692.0	1433.4	597.2	376.4	349.4	336.4	330.3	342.5	366.8	372.0
25°	3124.9	2634.7	1182.2	448.5	340.7	317.3	311.2	306.0	310.3	330.3	329.4
27.5°	3237.9	2489.5	912.7	376.4	315.5	287.7	282.5	273.8	265.1	282.5	285.1
30°	3214.4	2509.5	715.4	331.2	290.3	252.9	254.7	236.4	220.8	236.4	236.4
32.5°	3299.6	2363.5	572.8	300.8	265.1	238.2	216.4	197.3	186.0	195.6	197.3
35°	3423.9	2369.5	448.5	281.6	243.4	212.1	186.0	166.9	156.5	160.8	163.4
37.5°	3840.3	2327.8	374.6	266.9	235.6	196.4	169.5	144.3	137.3	142.6	145.2
40°	4111.5	2439.1	330.3	259.0	215.6	180.8	145.2	126.9	120.8	123.4	127.8
42.5°	4622.6	2500.8	308.6	250.3	197.3	154.7	124.3	113.9	105.2	108.7	112.1
45°	5169.4	2606.0	292.1	240.8	183.4	135.6	109.5	100.8	89.5	90.4	93.9
47.5°	5841.3	2856.3	272.9	224.3	164.3	123.4	97.4	84.3	73.9	73.0	77.4
50°	6743.5	3191.0	255.6	203.4	152.1	113.0	85.2	68.7	60.0	57.4	60.8
52.5°	7706.7	3623.9	237.3	188.6	137.3	99.1	73.0	55.6	47.8	46.1	48.7
55°	8661.1	4039.3	219.9	179.1	121.7	85.2	61.7	46.1	39.1	37.4	39.1
57.5°	9748.5	4488.7	197.3	159.9	106.9	73.9	51.3	38.2	32.2	30.4	31.3
60°	10567.3	4646.9	178.2	139.1	93.0	65.2	43.5	30.4	26.1	24.3	25.2
62.5°	10955.9	4388.8	159.9	120.8	81.7	56.5	36.5	25.2	21.7	20.0	20.0
65°	10855.0	3816.8	141.7	103.4	70.4	46.9	28.7	21.7	19.1	16.5	15.6
67.5°	9690.3	2986.7	120.8	86.9	59.1	38.2	24.3	20.9	17.4	15.6	13.0
70°	7684.9	2162.7	98.2	72.1	49.5	31.3	19.1	19.1	16.5	15.6	12.2
72.5°	5037.2	1361.2	80.0	58.2	40.9	24.3	14.8	17.4	15.6	15.6	11.3
75°	2182.7	486.8	64.3	46.9	33.9	16.5	13.0	15.6	16.5	15.6	13.0
77.5°	511.1	151.2	50.4	37.4	27.8	11.3	13.0	15.6	16.5	14.8	11.3
80°	192.1	64.3	33.0	24.3	21.7	7.0	11.3	9.6	8.7	6.1	1.7
82.5°	116.5	26.9	17.4	12.2	10.4	1.7	5.2	3.5	1.7	1.7	0.0
85°	82.6	13.0	9.6	8.7	5.2	0.0	0.9	0.0	0.0	0.9	0.0
87.5°	11.3	3.5	4.3	4.3	3.5	0.0	0.0	0.0	0.0	0.0	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)