

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: P368629

Luminaire Tested: **MSA-SA4D-740-U-SL3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368629  
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-740-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: 21603 lumens  
Efficiency: N/A  
Efficacy: 83.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G4

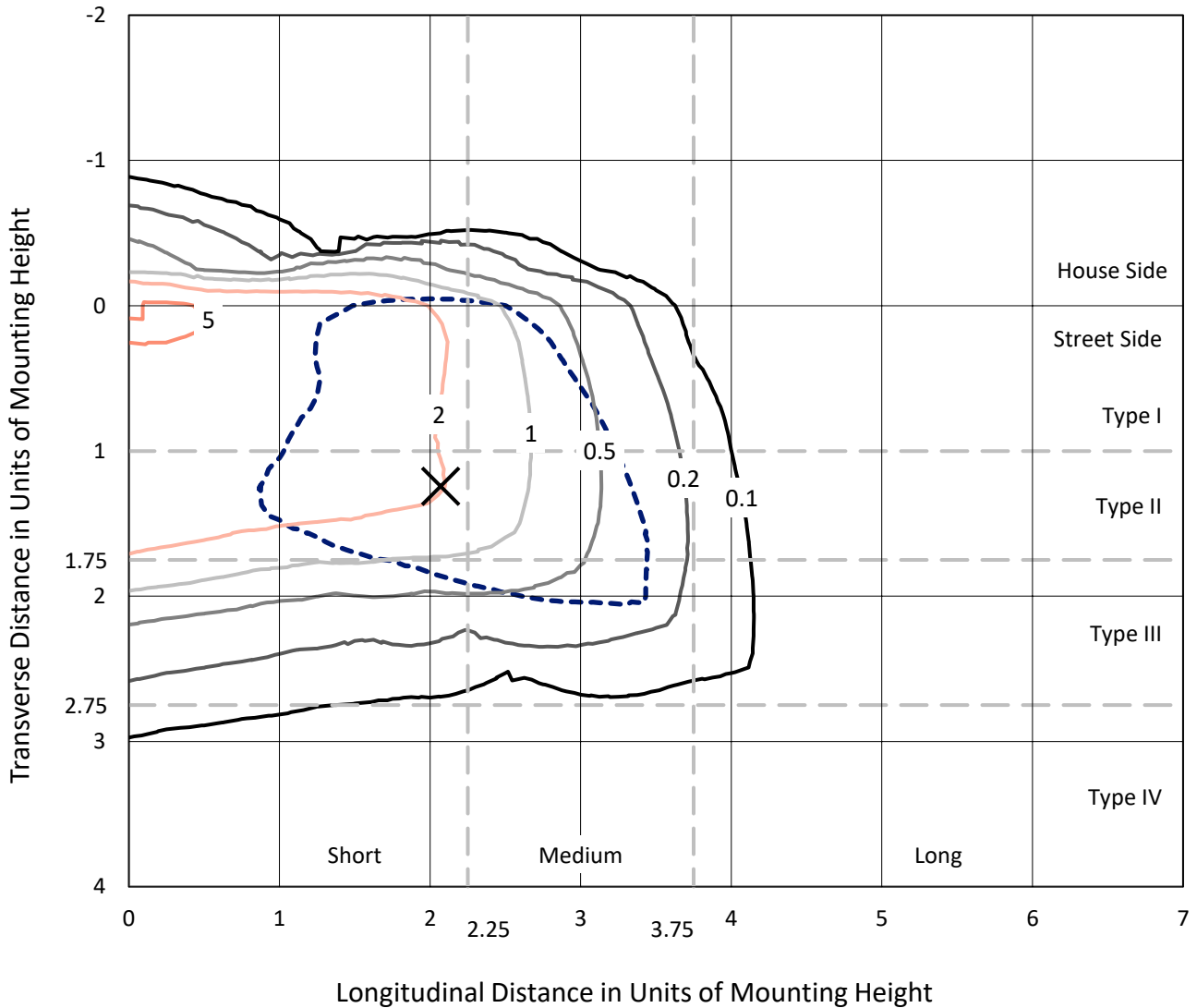
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

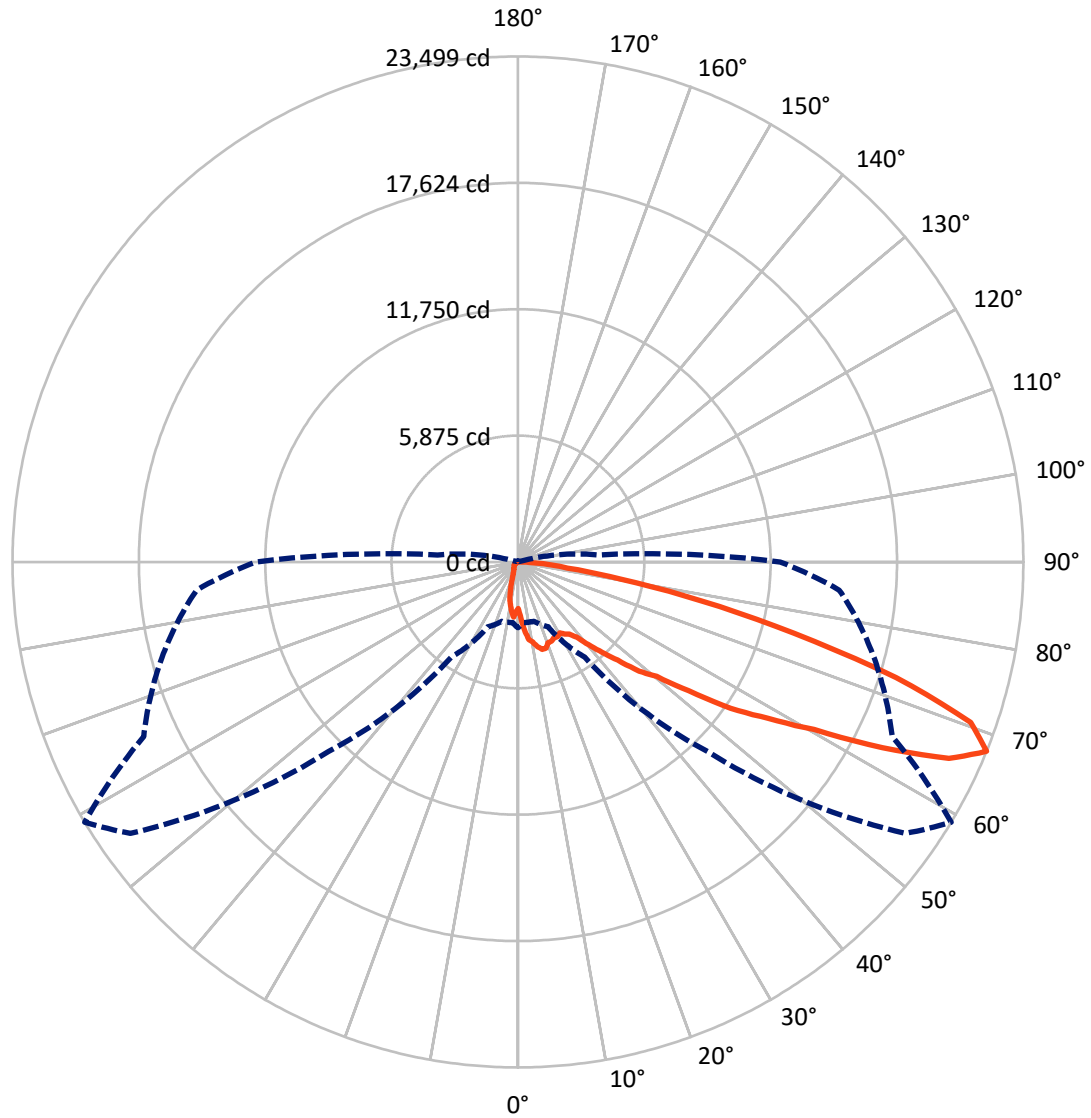
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.2 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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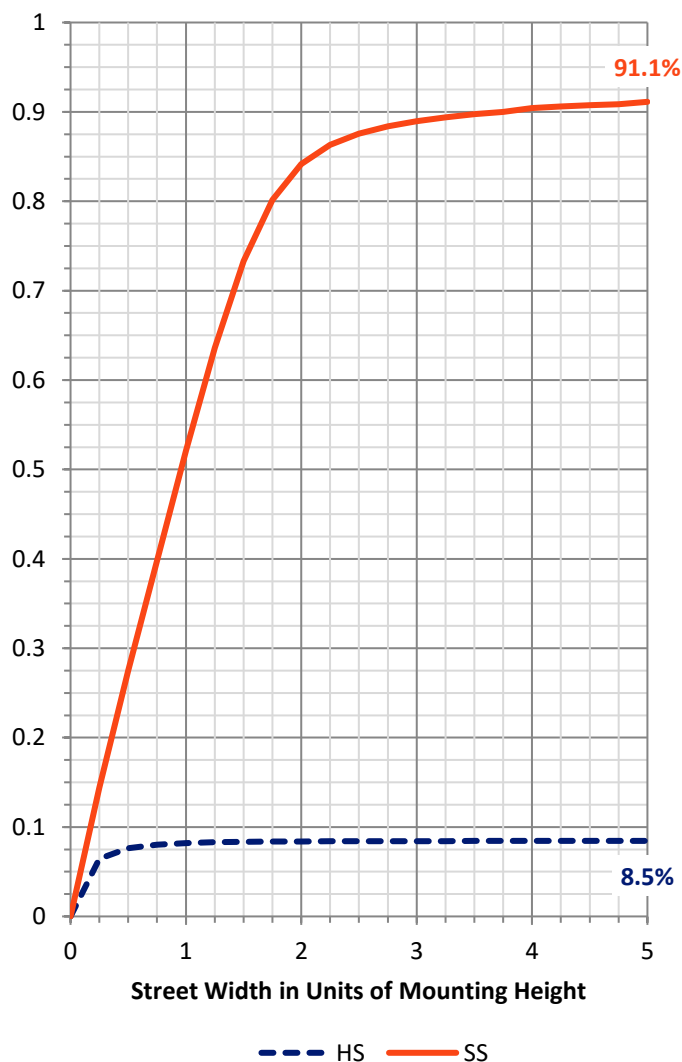
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1837.2	0.0	1837.2
	% Fixture	8.5	0.0	8.5
<b>Street Side</b>	Lumens	19765.8	0.0	19765.8
	% Fixture	91.5	0.0	91.5
<b>Total</b>	Lumens	21603.0	0.0	21603.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	262.8	1.2
10°-20°	740.0	3.4
20°-30°	1100.7	5.1
30°-40°	1698.1	7.9
40°-50°	3030.6	14.0
50°-60°	5393.1	25.0
60°-70°	6281.0	29.1
70°-80°	2793.3	12.9
80°-90°	303.4	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°	21603.0	100.0
0°-180°	21603.0	100.0

**Coefficient of Utilization**



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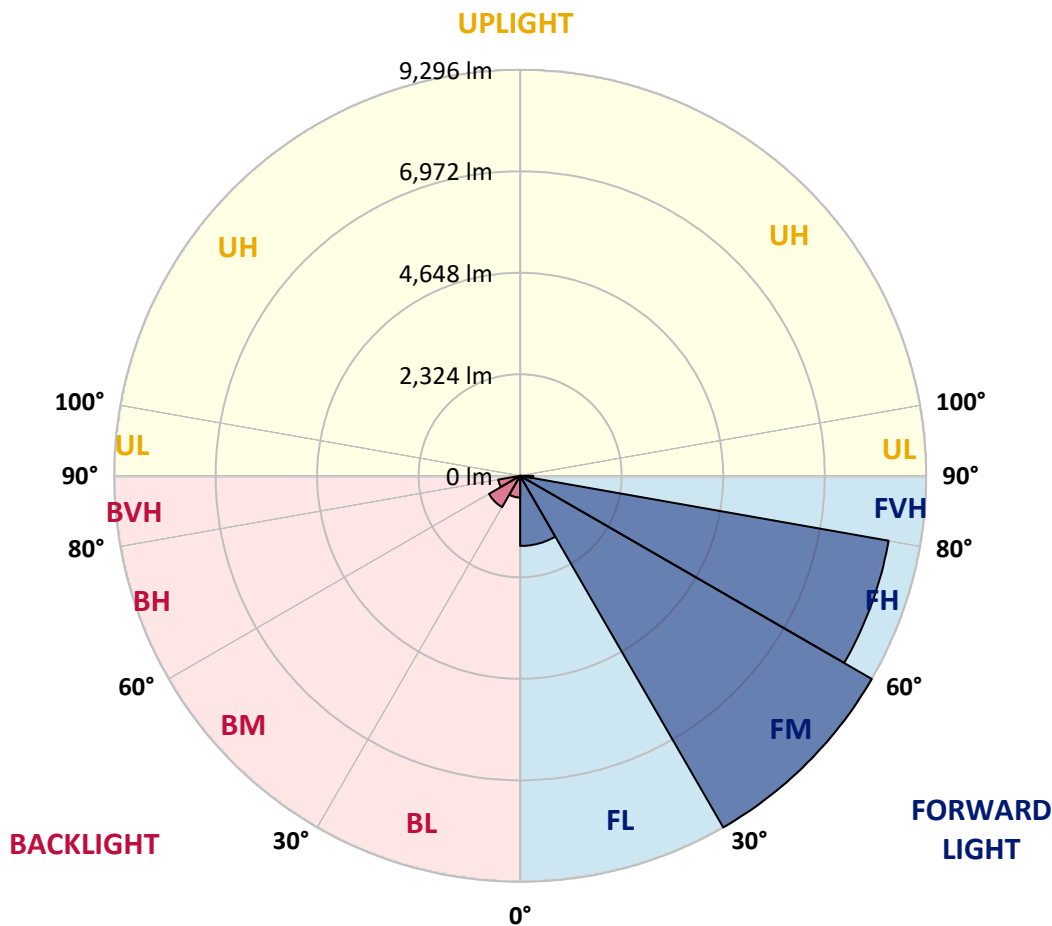
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1606.7	7.4			
FM (30°-60°)	9295.8	43.0			
FH (60°-80°)	8565.4	39.6			G4/12000
FVH (80°-90°)	298.0	1.4			G3/500
BL (0°-30°)	496.8	2.3	B1/500		
BM (30°-60°)	826.0	3.8	B1/1000		
BH (60°-80°)	508.9	2.4	B2/1000		G2/1000
BVH (80°-90°)	5.4	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G4**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4
2.5°	2817.8	2711.7	2560.7	2605.6	2646.0	2684.3	2620.9	2584.8	2567.3	2411.9	2606.6
5°	3459.9	3327.5	3258.6	3241.1	3197.3	3100.0	3261.9	3189.7	3213.7	3244.4	3307.8
7.5°	3655.6	3595.5	3495.9	3533.1	3366.9	3352.7	3576.9	3639.2	3721.3	3665.5	3742.1
10°	3555.0	3451.1	3498.1	3485.0	3478.4	3625.0	3782.5	3785.8	3908.3	3967.4	3708.2
12.5°	3355.9	3368.0	3536.4	3523.3	3742.1	4035.2	4071.3	4033.0	4233.2	4130.4	4091.0
15°	3488.3	3586.7	3493.8	3525.5	3603.1	3969.6	4097.6	4215.7	4404.9	4466.2	4200.4
17.5°	3648.0	3657.8	3488.3	3448.9	3644.7	3815.4	4117.3	4214.6	4233.2	4770.3	4446.5
20°	3561.6	3645.8	3443.4	3195.1	3499.2	3731.1	4037.4	4006.8	4131.5	4860.0	4502.3
22.5°	3791.3	3671.0	3411.7	3224.7	3327.5	3538.6	3797.9	3998.0	4185.1	4645.6	4574.5
25°	3813.2	3769.4	3538.6	3372.3	3354.8	3408.4	3769.4	3898.5	4191.6	4838.1	4513.2
27.5°	4059.3	4009.0	3536.4	3552.8	3388.8	3223.6	3631.6	3934.6	4310.9	4721.1	4643.4
30°	4376.5	4380.9	3771.6	3823.0	3588.9	3323.1	3744.3	3827.4	4391.8	4908.1	4739.7
32.5°	4698.1	4830.4	4236.5	3964.1	3890.8	3700.5	3604.2	3988.2	4303.2	5227.5	4980.3
35°	5187.0	5276.7	4619.3	4375.4	4087.7	3871.1	3984.9	4122.7	4621.5	5650.8	5296.4
37.5°	6015.1	5853.2	5306.3	4881.9	4812.9	4493.5	4550.4	4426.8	4946.4	6149.6	5922.1
40°	6481.1	6334.5	5765.7	5559.0	5119.2	5168.4	4989.1	5061.2	5417.8	6669.2	6492.0
42.5°	6966.7	6826.7	6327.9	6181.4	5762.4	5559.0	5478.0	5737.2	6140.9	7534.4	7309.1
45°	7454.6	7099.1	6888.0	6961.3	6773.1	6370.6	6276.5	6507.3	6930.6	8597.7	8171.1
47.5°	7865.9	7566.2	7407.6	7373.6	7300.4	7859.3	7476.5	7578.2	7765.2	9538.4	9245.2
50°	8607.5	8312.2	8063.9	7995.0	8351.6	9144.6	8553.9	8357.0	8731.1	10674.9	10490.0
52.5°	9678.4	9302.1	8907.2	8908.3	9581.0	10016.4	10296.4	9950.8	10020.8	11925.2	11843.1
55°	10539.3	10061.2	9734.2	9992.3	10995.4	11239.3	12308.0	12005.0	11914.2	13084.6	12984.0
57.5°	10657.4	10084.2	9928.9	10381.7	11754.5	13312.2	14461.8	13704.9	13565.9	14054.9	14255.1
60°	9554.8	8946.6	9063.6	9792.2	12001.7	14575.6	16439.5	15821.5	14938.7	15191.4	15329.2
62.5°	7126.4	6640.8	6968.9	7933.7	11049.0	15422.2	18728.9	19015.5	16531.4	16044.6	16015.1
65°	4623.7	4319.6	4535.1	5326.0	8361.4	15325.9	20774.4	22017.0	17786.0	16740.3	16230.6
67.5°	3058.4	2827.6	2858.2	3326.4	5406.9	12464.4	21997.3	23499.2	19197.1	17135.2	14995.6
70°	2279.6	2098.0	2108.9	2362.7	3209.4	8220.3	20292.0	22329.9	19712.3	15766.8	12103.5
72.5°	1644.1	1522.6	1624.4	1906.6	2557.4	4347.0	15124.7	18389.8	17188.8	12436.0	8154.7
75°	1138.7	1058.8	1225.1	1594.8	2334.3	2698.5	9994.5	13237.8	12047.7	7802.4	3686.3
77.5°	631.2	607.1	846.6	1299.5	2118.8	2211.8	6122.3	8698.3	6682.3	2797.0	877.3
80°	275.7	266.9	410.2	975.7	1780.8	1998.5	3446.7	4822.8	2628.5	498.8	283.3
82.5°	118.1	113.8	175.0	587.4	1294.0	1671.4	2125.4	2321.2	904.6	154.2	160.8
85°	20.8	23.0	70.0	309.6	787.6	848.8	1539.0	1373.9	455.0	73.3	114.9
87.5°	0.0	0.0	10.9	60.2	147.7	242.8	667.2	481.3	86.4	24.1	19.7
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°	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4	2161.4
2.5°	2634.0	2572.7	2339.7	2310.2	2278.5	2231.5	2214.0	2113.3	2100.2	2229.3	2229.3
5°	3278.3	3059.5	2837.4	2662.4	2506.0	2289.4	2228.2	2164.7	2113.3	2100.2	2140.7
7.5°	3618.5	3351.6	3002.6	2557.4	2196.5	1882.5	1751.3	1659.4	1556.5	1587.2	1603.6
10°	3599.9	3316.6	2871.4	2299.3	1898.9	1552.2	1218.5	1023.8	915.6	862.0	855.4
12.5°	3782.5	3515.6	2782.8	2093.6	1582.8	1103.7	766.8	627.9	548.0	549.1	542.6
15°	3888.6	3597.7	2679.9	1833.3	1114.6	709.9	531.6	501.0	490.0	502.1	495.5
17.5°	4075.7	3684.1	2446.9	1445.0	766.8	536.0	489.0	476.9	491.1	516.3	509.7
20°	4061.5	3534.2	2115.5	1018.4	566.6	482.4	462.7	444.1	473.6	499.9	495.5
22.5°	4048.3	3387.7	1803.8	751.5	473.6	439.7	423.3	415.7	431.0	461.6	468.2
25°	3932.4	3315.5	1487.6	564.4	428.8	399.3	391.6	385.0	390.5	415.7	414.6
27.5°	4074.6	3132.8	1148.5	473.6	397.1	362.1	355.5	344.6	333.6	355.5	358.8
30°	4045.1	3157.9	900.2	416.8	365.3	318.3	320.5	297.5	277.8	297.5	297.5
32.5°	4152.3	2974.2	720.8	378.5	333.6	299.7	272.4	248.3	234.1	246.1	248.3
35°	4308.7	2981.8	564.4	354.4	306.3	266.9	234.1	210.0	196.9	202.4	205.6
37.5°	4832.6	2929.3	471.4	335.8	296.4	247.2	213.3	181.6	172.8	179.4	182.7
40°	5173.9	3069.3	415.7	326.0	271.3	227.5	182.7	159.7	152.0	155.3	160.8
42.5°	5817.1	3147.0	388.3	315.0	248.3	194.7	156.4	143.3	132.4	136.7	141.1
45°	6505.1	3279.4	367.5	303.0	230.8	170.6	137.8	126.9	112.7	113.8	118.1
47.5°	7350.7	3594.4	343.5	282.2	206.7	155.3	122.5	106.1	93.0	91.9	97.4
50°	8486.1	4015.5	321.6	256.0	191.4	142.2	107.2	86.4	75.5	72.2	76.6
52.5°	9698.1	4560.3	298.6	237.4	172.8	124.7	91.9	70.0	60.2	58.0	61.3
55°	10899.1	5083.1	276.7	225.3	153.1	107.2	77.7	58.0	49.2	47.0	49.2
57.5°	12267.5	5648.6	248.3	201.3	134.5	93.0	64.5	48.1	40.5	38.3	39.4
60°	13297.9	5847.7	224.2	175.0	117.0	82.0	54.7	38.3	32.8	30.6	31.7
62.5°	13786.9	5522.9	201.3	152.0	102.8	71.1	45.9	31.7	27.3	25.2	25.2
65°	13660.0	4803.1	178.3	130.2	88.6	59.1	36.1	27.3	24.1	20.8	19.7
67.5°	12194.2	3758.5	152.0	109.4	74.4	48.1	30.6	26.3	21.9	19.7	16.4
70°	9670.7	2721.5	123.6	90.8	62.3	39.4	24.1	24.1	20.8	19.7	15.3
72.5°	6338.9	1713.0	100.6	73.3	51.4	30.6	18.6	21.9	19.7	19.7	14.2
75°	2746.7	612.6	80.9	59.1	42.7	20.8	16.4	19.7	20.8	19.7	16.4
77.5°	643.2	190.3	63.4	47.0	35.0	14.2	16.4	19.7	20.8	18.6	14.2
80°	241.7	80.9	41.6	30.6	27.3	8.8	14.2	12.0	10.9	7.7	2.2
82.5°	146.6	33.9	21.9	15.3	13.1	2.2	6.6	4.4	2.2	2.2	0.0
85°	103.9	16.4	12.0	10.9	6.6	0.0	1.1	0.0	0.0	1.1	0.0
87.5°	14.2	4.4	5.5	5.5	4.4	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)