

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: P368637

Luminaire Tested: **MSA-SA4D-740-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368637  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-740-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS  
EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

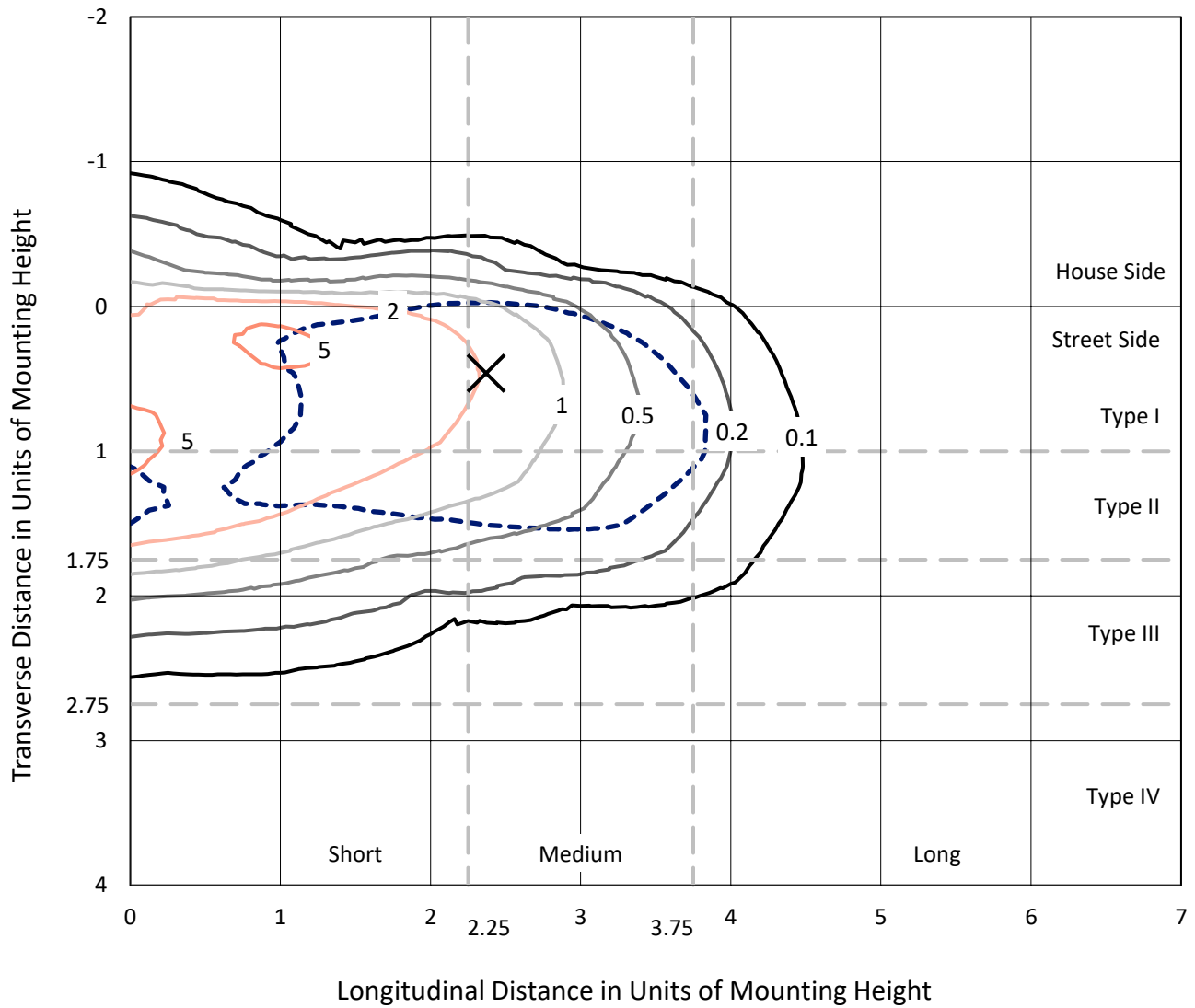
Lumens per Lamp: N/A  
Luminaire Lumens: 19842 lumens  
Efficiency: N/A  
Efficacy: 76.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G3  
  
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

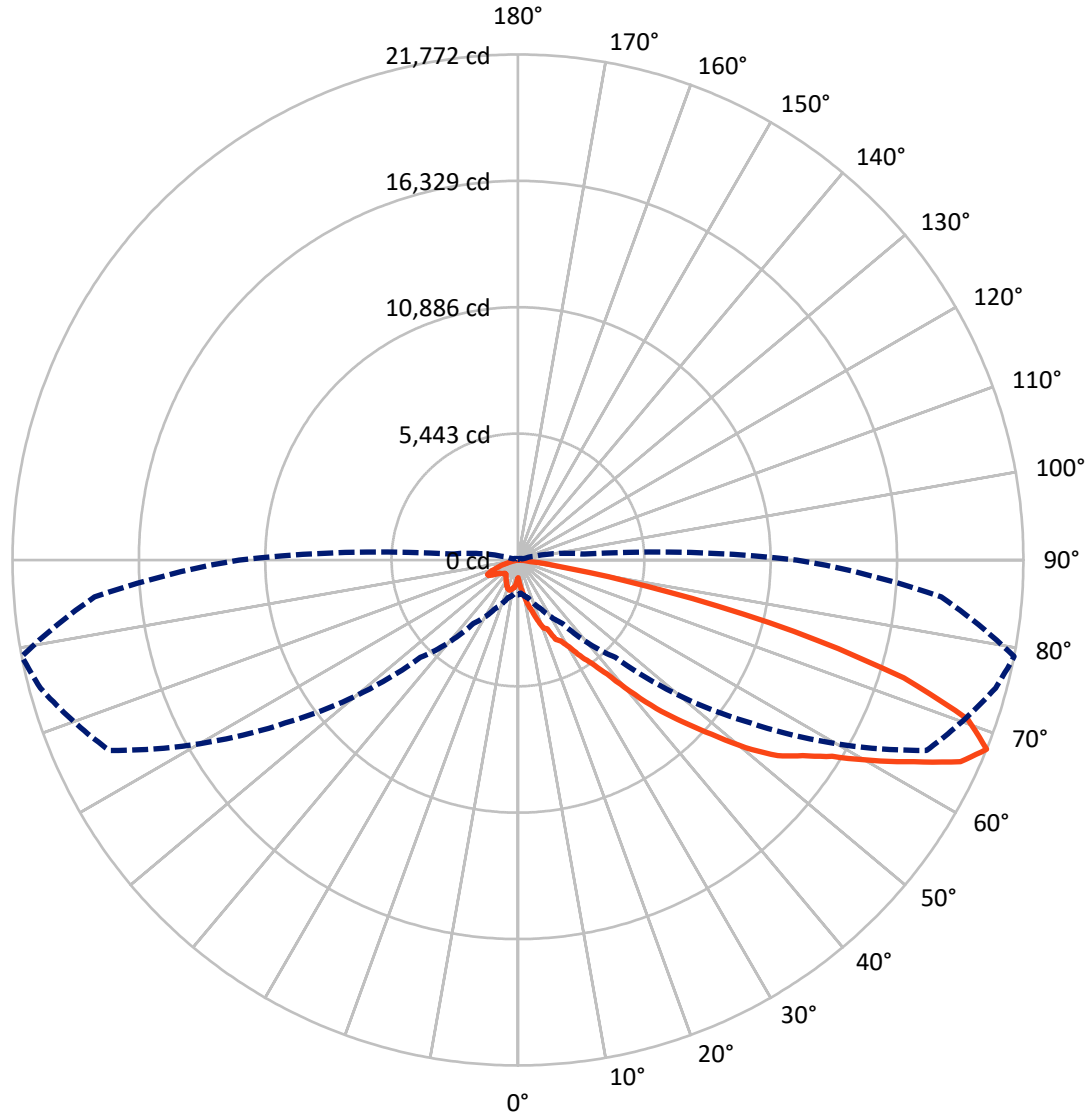
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6 fc  
 Type II - Medium - N/A

REPORT NUMBER: P368637  
CATALOG NUMBER: MSA-SA4D-740-U-T2-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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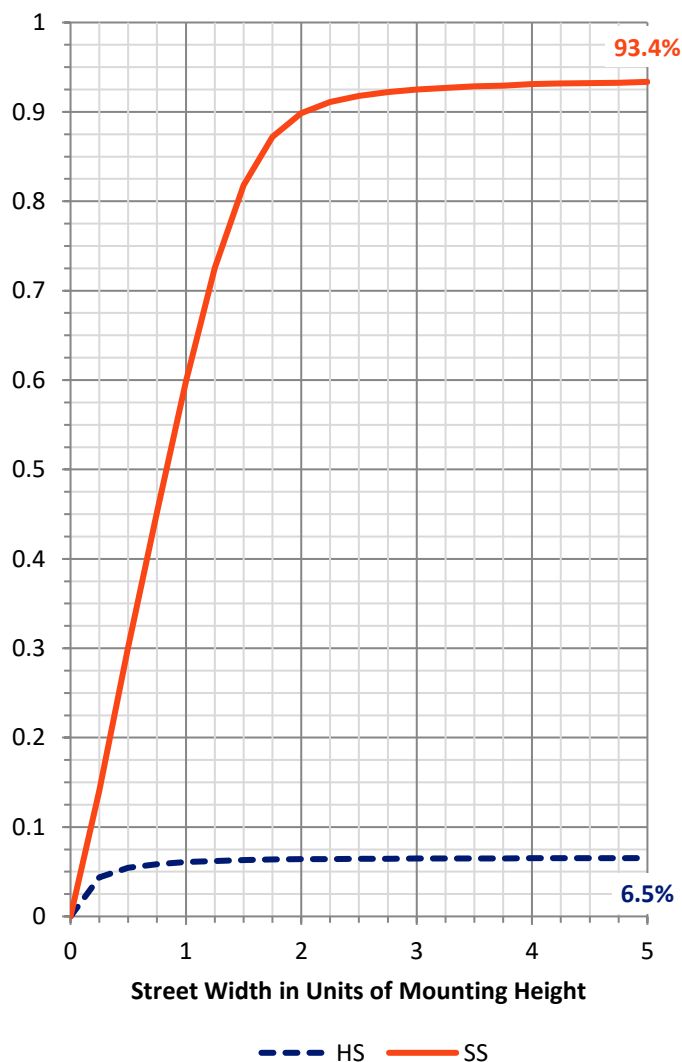
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1303.8	0.0	1303.8
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	18538.2	0.0	18538.2
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	19842.0	0.0	19842.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.2	0.6
10°-20°	443.4	2.2
20°-30°	855.3	4.3
30°-40°	1680.2	8.5
40°-50°	3365.9	17.0
50°-60°	5379.9	27.1
60°-70°	5413.1	27.3
70°-80°	2442.0	12.3
80°-90°	151.1	0.8
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°	19842.0	100.0
0°-180°	19842.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P368637

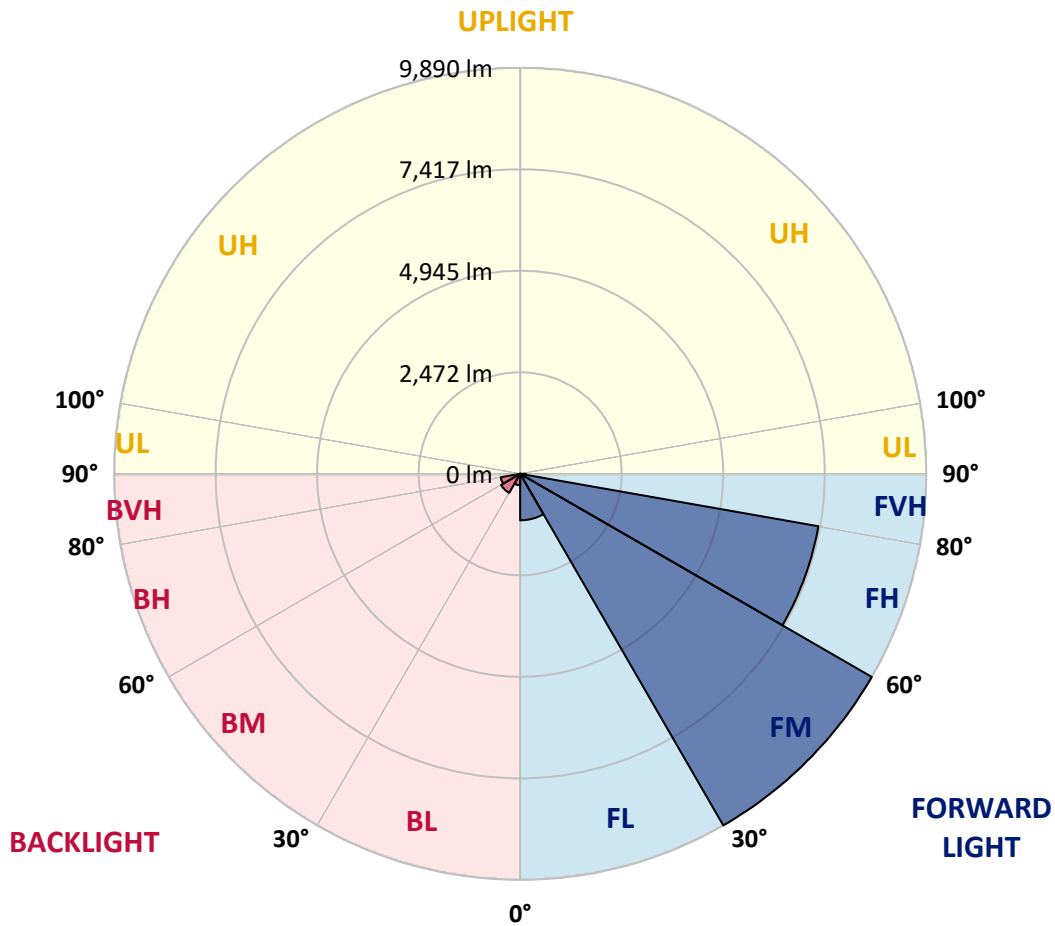
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1132.8	5.7			
FM (30°-60°)	9889.5	49.8			
FH (60°-80°)	7374.5	37.2			G3/7500
FVH (80°-90°)	141.5	0.7			G2/225
BL (0°-30°)	277.1	1.4	B1/500		
BM (30°-60°)	536.4	2.7	B1/1000		
BH (60°-80°)	480.6	2.4	B1/500		G1/500
BVH (80°-90°)	9.6	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 II Medium





REPORT NUMBER: P368637

CATALOG NUMBER: MSA-SA4D-740-U-T2-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	764.6	764.6	764.6	764.6	764.6	764.6	764.6	764.6	764.6	764.6	764.6
2.5°	1032.5	995.4	935.2	969.1	966.9	984.4	951.6	915.5	857.5	915.5	919.9
5°	1486.5	1417.6	1373.8	1365.1	1316.9	1272.1	1262.2	1225.1	1196.6	1145.2	1191.1
7.5°	1851.8	1820.1	1742.4	1733.7	1615.5	1549.9	1570.7	1554.3	1446.0	1392.4	1437.2
10°	2007.1	1952.4	1963.4	1952.4	1902.1	1920.7	1878.0	1828.8	1742.4	1653.8	1542.3
12.5°	2067.3	2058.5	2149.3	2138.4	2256.5	2398.7	2303.5	2221.5	2021.3	1999.5	1847.4
15°	2196.3	2251.0	2237.9	2283.8	2359.3	2601.0	2598.9	2618.5	2406.4	2292.6	2072.7
17.5°	2311.2	2351.7	2286.0	2338.5	2544.2	2690.7	2886.5	2810.0	2834.0	2718.1	2377.9
20°	2262.0	2307.9	2242.3	2210.6	2572.6	2850.4	3111.9	3056.1	3200.4	3128.3	2659.0
22.5°	2569.3	2482.9	2317.8	2214.9	2485.1	2847.2	3191.7	3424.7	3399.5	3222.3	2920.4
25°	2948.9	2896.4	2698.4	2516.8	2540.9	2827.5	3443.3	3785.6	3860.0	3784.5	3168.7
27.5°	3460.8	3448.7	3044.0	2965.3	2731.2	2741.1	3482.6	4240.6	4071.1	3953.0	3458.6
30°	4129.1	4033.9	3553.7	3450.9	3105.3	2935.8	3723.3	4633.3	4508.6	4347.8	3730.9
32.5°	4847.7	4861.9	4249.4	3910.3	3632.5	3431.2	3628.1	4817.1	5050.1	4919.9	4071.1
35°	5663.7	5727.1	4977.9	4579.7	4039.4	3743.0	4037.2	5381.5	5799.3	5457.0	4527.2
37.5°	6920.5	6918.3	6043.2	5250.2	4857.6	4536.0	4718.6	5894.5	6720.3	6239.0	5345.4
40°	8026.3	7785.6	6971.9	6060.7	5448.2	5360.7	5228.3	6596.7	7703.6	7413.8	6072.8
42.5°	8852.1	8682.6	7699.2	6990.5	6231.4	5953.5	5906.5	7626.0	9155.1	8749.3	7110.8
45°	9839.8	9284.1	8560.1	7921.3	7148.0	7067.0	6956.5	8670.5	10843.9	9929.5	8013.2
47.5°	10724.7	10201.8	9517.1	8696.8	7808.6	8475.8	8051.4	9588.2	12072.2	11213.6	9008.5
50°	11469.6	10913.9	10147.2	9522.6	9142.0	9594.8	8887.1	10344.0	13399.0	12703.4	9939.3
52.5°	11849.1	11220.2	10627.3	10241.2	10474.2	10372.5	10020.3	11259.5	14530.0	14009.3	10764.1
55°	11537.4	10922.7	10674.4	10865.8	11573.5	11279.2	11307.7	12678.2	15597.5	14880.0	11481.6
57.5°	10154.8	9593.7	9704.2	10228.1	11584.4	12354.4	12775.5	14056.4	16454.0	15965.1	12588.5
60°	7681.7	7230.0	7639.1	8568.8	10495.0	12140.0	13816.8	15434.6	17677.9	17524.8	14264.2
62.5°	4691.3	4446.3	5026.0	6185.4	8363.2	11088.9	14423.9	17272.1	18987.2	19150.2	16041.6
65°	2393.2	2282.8	2766.2	3785.6	5650.6	9109.1	13985.3	18414.1	20340.2	20941.8	17735.9
67.5°	1507.3	1436.2	1694.3	2309.0	3333.9	5941.5	12245.1	19412.7	21296.2	21772.0	18301.4
70°	1044.6	999.7	1222.9	1584.9	2103.4	3200.4	9091.6	18480.8	20538.2	20560.1	16933.1
72.5°	662.8	627.8	845.5	1173.6	1552.1	1652.7	5211.9	14501.6	17580.6	17378.2	13712.9
75°	429.9	412.4	537.1	859.7	1192.2	1019.4	2575.9	9785.1	12606.0	12288.8	9108.0
77.5°	308.5	297.5	359.9	574.2	848.8	713.2	1155.0	5832.1	7227.8	6534.3	4421.1
80°	185.9	184.9	260.3	359.9	603.8	503.1	533.8	2648.1	2802.3	2284.9	1350.8
82.5°	93.0	96.3	145.5	231.9	388.3	329.2	243.9	881.6	752.5	554.6	273.4
85°	21.9	27.3	76.6	159.7	194.7	131.3	115.9	230.8	206.7	156.4	79.8
87.5°	0.0	0.0	24.1	38.3	52.5	21.9	39.4	43.8	55.8	43.8	16.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P368637  
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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	764.6	764.6	764.6	764.6	764.6	764.6	764.6	764.6	764.6	764.6	764.6
2.5°	921.0	907.9	828.0	807.2	805.0	782.1	787.5	765.7	766.8	816.0	816.0
5°	1173.6	1097.1	1020.5	952.7	906.8	841.1	817.1	807.2	798.5	818.2	830.2
7.5°	1378.2	1265.5	1127.7	980.0	843.3	749.3	736.1	712.1	703.3	723.0	738.3
10°	1469.0	1329.0	1139.7	924.3	796.3	719.7	656.3	622.4	615.8	614.7	620.2
12.5°	1661.5	1487.6	1152.9	903.5	764.6	680.3	608.2	551.3	498.8	504.2	498.8
15°	1815.7	1610.1	1152.9	853.2	688.0	603.8	476.9	448.5	440.8	452.8	443.0
17.5°	2048.7	1731.5	1094.9	763.5	622.4	469.2	421.1	418.9	434.2	451.7	440.8
20°	2188.7	1747.9	997.5	660.7	510.8	406.9	389.4	371.9	393.8	408.0	402.5
22.5°	2334.2	1749.0	900.2	606.0	411.3	370.8	342.4	328.1	331.4	344.5	346.7
25°	2396.5	1706.3	809.4	533.8	373.0	331.4	301.9	286.6	281.1	287.7	285.5
27.5°	2566.0	1624.3	711.0	455.0	354.4	294.2	266.9	248.3	231.9	242.8	245.0
30°	2590.1	1598.0	657.4	404.7	330.3	260.3	236.3	216.6	204.5	219.9	219.9
32.5°	2666.7	1453.7	630.0	383.9	305.2	240.6	207.8	193.6	191.4	201.3	202.4
35°	2784.8	1390.2	589.6	367.5	282.2	217.7	187.0	180.5	178.3	185.9	185.9
37.5°	3185.1	1311.5	544.7	353.3	262.5	205.6	181.6	170.6	171.7	178.3	182.7
40°	3450.9	1321.3	478.0	335.8	239.5	194.7	170.6	163.0	161.9	165.2	168.4
42.5°	3944.2	1329.0	448.5	317.2	222.0	181.6	159.7	154.2	149.9	153.1	156.4
45°	4495.5	1369.4	433.1	301.9	212.2	173.9	149.9	146.6	136.7	138.9	143.3
47.5°	5027.1	1517.1	414.5	280.0	203.4	169.5	140.0	132.3	125.8	124.7	129.1
50°	5630.9	1660.4	393.8	255.9	194.7	163.0	130.2	118.1	113.8	113.8	117.0
52.5°	6171.2	1797.1	374.1	239.5	188.1	150.9	121.4	109.4	106.1	106.1	110.5
55°	6740.0	1940.4	356.6	224.2	179.4	138.9	113.8	102.8	101.7	99.5	102.8
57.5°	7744.1	2253.2	334.7	211.1	167.4	129.1	107.2	96.3	94.1	90.8	94.1
60°	9206.5	2733.4	306.3	198.0	153.1	122.5	101.7	88.6	85.3	79.8	80.9
62.5°	10636.1	3121.7	273.4	181.6	140.0	115.9	93.0	79.8	74.4	67.8	68.9
65°	11861.1	3274.8	238.4	161.9	126.9	100.6	80.9	70.0	62.3	53.6	52.5
67.5°	12005.5	2892.0	204.5	143.3	113.8	85.3	68.9	62.3	50.3	42.7	40.5
70°	10804.5	2154.8	170.6	126.9	98.4	72.2	59.1	54.7	47.0	40.5	37.2
72.5°	8603.8	1590.4	143.3	112.7	86.4	61.3	50.3	51.4	47.0	39.4	35.0
75°	5689.9	910.0	117.0	94.1	72.2	49.2	45.9	45.9	44.8	37.2	32.8
77.5°	2737.8	392.7	89.7	74.4	58.0	37.2	41.6	41.6	42.7	33.9	27.3
80°	776.6	118.1	55.8	50.3	42.7	25.2	32.8	31.7	28.4	19.7	12.0
82.5°	138.9	45.9	25.2	26.3	24.1	9.8	18.6	17.5	14.2	7.7	1.1
85°	38.3	17.5	14.2	15.3	12.0	3.3	7.7	9.8	7.7	4.4	0.0
87.5°	9.8	7.7	9.8	10.9	8.8	1.1	3.3	1.1	3.3	1.1	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)