

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: P368187

Luminaire Tested: **MSA-SA4A-727-U-SL2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368187  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-727-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: 10627 lumens  
Efficiency: N/A  
Efficacy: 82.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G2

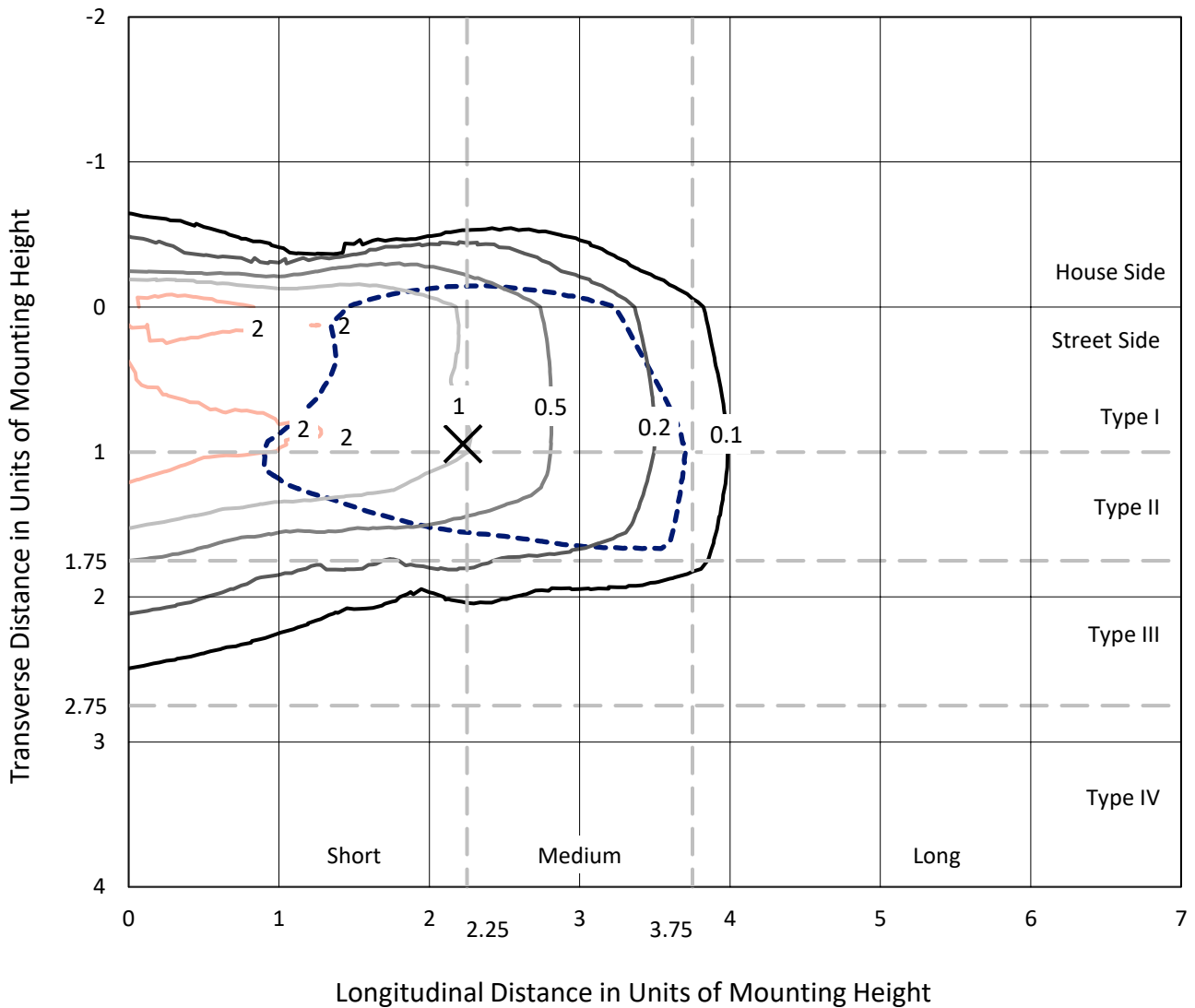
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

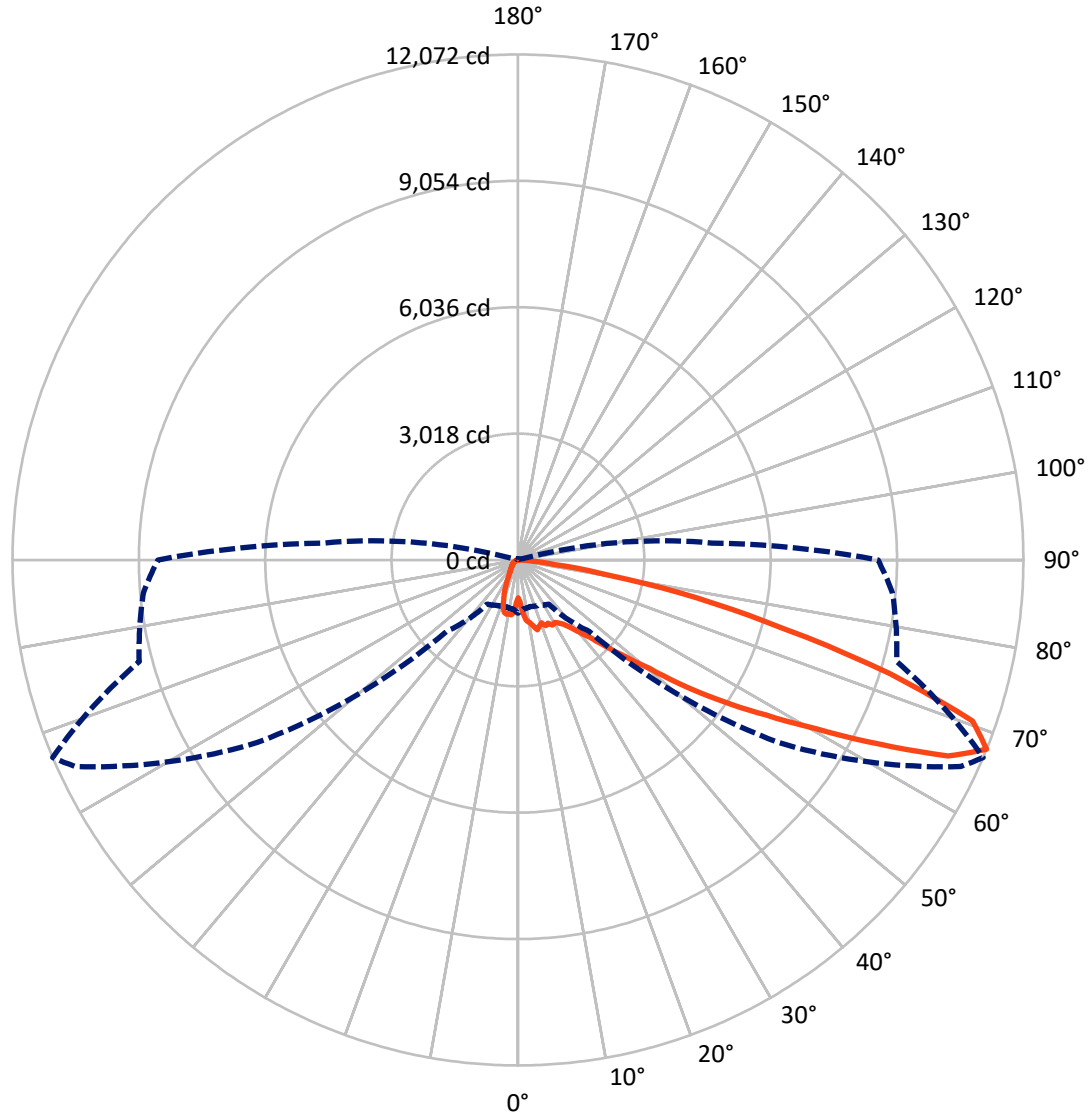
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.8 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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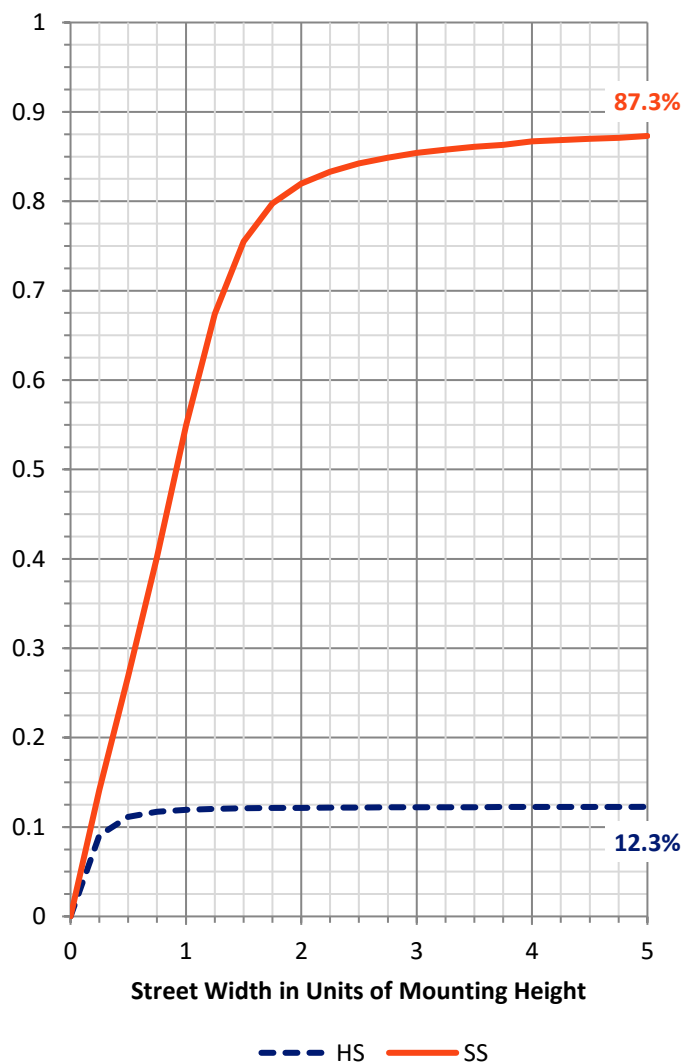
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1314.3	0.0	1314.3
	% Fixture	12.4	0.0	12.4
<b>Street Side</b>	Lumens	9312.7	0.0	9312.7
	% Fixture	87.6	0.0	87.6
<b>Total</b>	Lumens	10627.0	0.0	10627.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.6	1.1
10°-20°	336.2	3.2
20°-30°	526.8	5.0
30°-40°	849.5	8.0
40°-50°	1561.0	14.7
50°-60°	2636.2	24.8
60°-70°	2914.5	27.4
70°-80°	1525.4	14.4
80°-90°	163.8	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°	10627.0	100.0
0°-180°	10627.0	100.0

**Coefficient of Utilization**

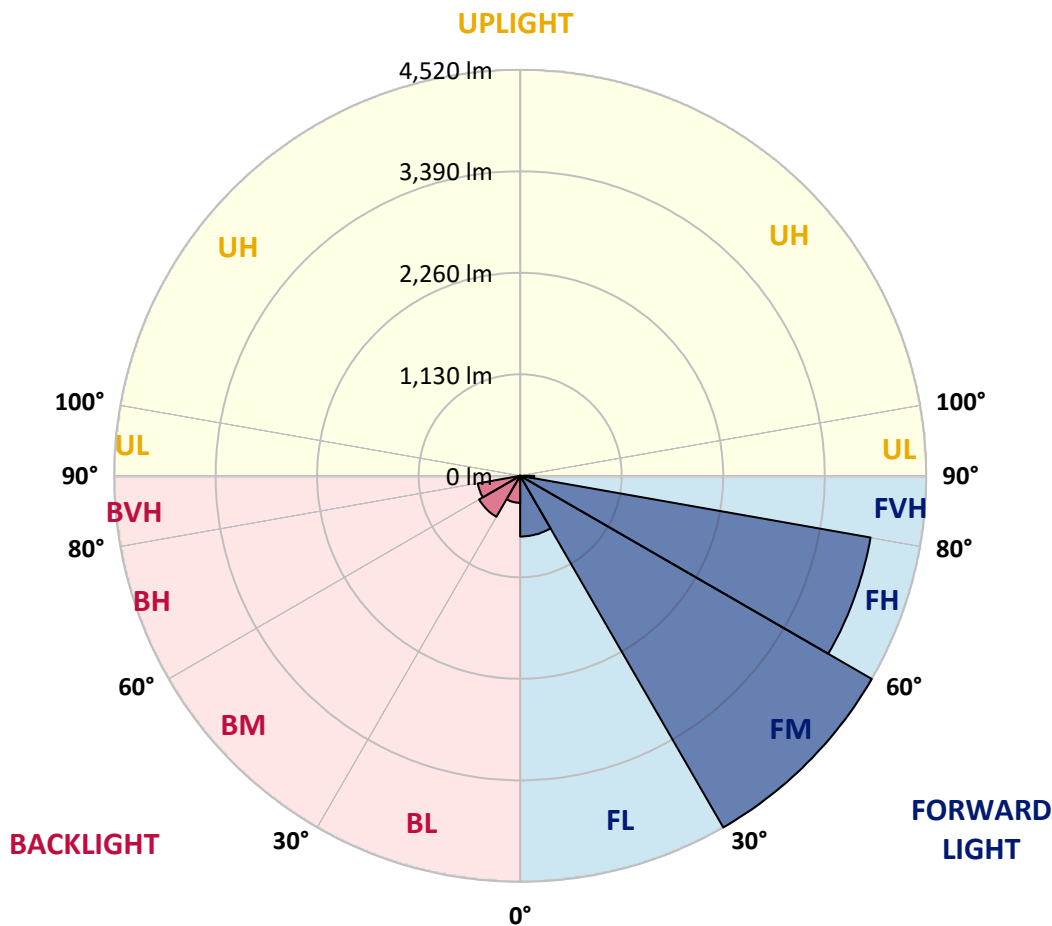


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	675.7	6.4			
FM (30°-60°)	4519.7	42.5			
FH (60°-80°)	3960.5	37.3			G2/5000
FVH (80°-90°)	156.8	1.5			G2/225
BL (0°-30°)	300.9	2.8	B1/500		
BM (30°-60°)	527.0	5.0	B1/1000		
BH (60°-80°)	479.4	4.5	B1/500		G1/500
BVH (80°-90°)	7.0	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	905.1	905.1	905.1	905.1	905.1	905.1	905.1	905.1	905.1	905.1	905.1
2.5°	1068.5	1032.3	970.9	988.7	1024.3	1053.9	1039.9	1012.4	1012.9	984.9	1085.7
5°	1243.1	1194.6	1159.0	1171.4	1169.8	1168.7	1235.0	1260.4	1271.2	1317.5	1386.0
7.5°	1293.3	1276.0	1238.8	1250.1	1212.9	1215.6	1332.1	1442.1	1459.3	1487.9	1609.7
10°	1273.9	1240.4	1253.9	1253.9	1254.4	1314.8	1393.0	1498.1	1519.1	1629.1	1642.1
12.5°	1252.8	1254.4	1307.8	1298.1	1371.4	1479.8	1506.2	1624.3	1614.0	1709.4	1851.2
15°	1331.0	1372.0	1337.5	1350.9	1358.0	1485.2	1527.8	1684.6	1729.9	1850.7	1942.9
17.5°	1465.2	1470.6	1398.9	1379.5	1430.2	1466.3	1552.0	1627.5	1657.7	1974.7	2105.1
20°	1489.5	1524.0	1451.2	1339.1	1446.4	1496.0	1555.8	1591.9	1604.9	2012.9	2196.8
22.5°	1635.6	1597.3	1480.9	1395.7	1426.4	1480.3	1517.5	1626.4	1704.0	1940.7	2284.6
25°	1710.5	1700.3	1589.2	1516.4	1485.2	1480.9	1566.0	1648.5	1673.3	2015.6	2306.2
27.5°	1890.0	1866.8	1651.8	1642.6	1539.6	1449.1	1567.7	1715.9	1762.3	1945.0	2387.1
30°	2134.2	2125.6	1839.4	1833.4	1669.5	1506.7	1655.0	1757.4	1729.4	1981.1	2441.0
32.5°	2380.1	2450.1	2157.4	1990.3	1867.4	1718.6	1630.2	1744.5	1794.6	2069.0	2540.2
35°	2677.1	2727.8	2429.7	2308.4	2035.0	1817.8	1794.6	1867.9	1889.5	2173.6	2652.8
37.5°	3196.8	3120.2	2866.3	2659.8	2516.4	2172.0	2057.7	1999.5	2049.6	2315.4	2883.0
40°	3580.6	3532.1	3219.4	3096.0	2766.0	2564.4	2265.8	2211.3	2267.4	2460.9	3043.1
42.5°	4043.7	3942.9	3648.5	3565.0	3225.3	2836.7	2533.7	2552.6	2517.5	2748.3	3324.0
45°	4462.5	4235.0	4071.2	4090.0	3908.9	3383.8	2980.6	2971.4	2942.3	3164.4	3619.4
47.5°	4744.5	4545.6	4386.0	4333.7	4312.1	4346.1	3626.4	3463.6	3442.1	3601.6	4084.6
50°	4896.0	4678.2	4480.9	4491.6	4929.4	5258.8	4292.7	4061.5	4069.5	4236.1	4720.8
52.5°	4794.1	4547.7	4339.6	4541.8	5408.1	5867.4	5395.7	4842.6	5030.2	4987.6	5574.1
55°	4323.5	4109.4	3961.7	4323.5	5460.4	6522.4	6753.6	6018.3	5976.3	5879.3	6444.2
57.5°	3531.5	3347.2	3256.1	3637.7	4888.4	7050.1	8117.5	7347.2	6988.7	6582.2	7166.6
60°	2631.3	2495.4	2400.5	2602.2	3851.8	6537.5	9010.8	8599.5	8184.4	7259.8	7815.6
62.5°	1948.8	1838.3	1737.5	1755.8	2652.3	5622.6	9353.6	9926.2	9687.9	7975.2	8428.0
65°	1555.3	1454.4	1383.8	1343.4	1642.6	4230.2	8876.6	11013.5	11288.4	8649.1	8870.1
67.5°	1270.1	1184.9	1149.9	1196.2	1288.4	2411.3	7602.2	11673.3	12072.3	9363.9	8979.0
70°	1033.4	963.3	959.6	1084.6	1186.5	1470.1	5591.9	11217.8	11518.1	9485.7	8326.2
72.5°	720.2	689.5	738.5	915.9	1175.7	1224.3	3211.3	9283.0	9293.8	8377.9	6848.5
75°	407.5	402.7	480.3	730.5	1145.0	1211.9	1790.3	6560.1	6565.0	6336.4	4744.5
77.5°	224.3	209.7	279.8	493.8	983.3	1183.8	1154.7	4479.3	4364.4	3526.1	2167.1
80°	103.5	97.6	151.5	316.4	719.1	1119.7	925.6	2462.0	2219.9	1148.8	528.8
82.5°	42.6	40.4	69.5	203.2	454.4	901.9	780.1	1092.2	876.6	218.3	163.3
85°	7.5	8.1	28.6	122.9	254.4	415.6	632.3	518.6	381.1	60.4	89.5
87.5°	0.0	0.0	5.9	29.6	61.5	113.7	256.6	145.0	99.7	17.8	26.4
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°	905.1	905.1	905.1	905.1	905.1	905.1	905.1	905.1	905.1	905.1	905.1
2.5°	1105.7	1096.5	1003.8	1008.1	1014.6	1008.6	1007.5	981.7	958.0	1036.1	1035.0
5°	1398.4	1333.2	1269.0	1244.2	1190.8	1120.8	1121.3	1099.2	1076.6	1108.4	1108.4
7.5°	1607.0	1517.0	1435.6	1290.6	1149.3	1021.6	1010.2	980.1	945.6	987.1	995.1
10°	1655.5	1577.4	1472.2	1259.3	1125.6	1001.1	864.2	751.5	699.2	674.9	670.6
12.5°	1804.9	1746.6	1511.6	1276.0	1083.6	872.8	648.5	514.8	423.7	416.7	407.0
15°	1904.6	1863.6	1550.4	1234.5	905.7	627.5	407.5	312.7	276.0	272.8	267.9
17.5°	2059.3	1988.1	1513.2	1102.4	708.4	414.0	273.9	246.9	251.2	260.9	253.4
20°	2122.4	1983.3	1432.3	911.1	497.6	277.6	237.7	223.2	234.5	243.7	239.4
22.5°	2187.1	1997.3	1360.6	750.9	325.1	229.6	211.9	204.3	205.4	214.6	215.1
25°	2186.5	2036.1	1277.6	584.9	242.0	204.3	191.4	181.7	177.9	184.4	182.7
27.5°	2292.7	1991.4	1126.1	434.0	212.9	182.7	170.4	158.5	145.0	151.5	151.5
30°	2293.3	2064.2	1020.5	311.6	195.1	162.8	152.0	133.7	118.1	123.5	124.0
32.5°	2354.2	2001.1	922.9	238.3	181.1	150.9	127.2	110.5	101.3	104.6	104.6
35°	2423.7	2055.0	773.0	210.2	167.1	134.2	108.9	95.4	88.4	91.1	91.1
37.5°	2653.4	2043.7	669.0	195.7	158.0	121.3	99.2	84.1	80.9	82.5	84.6
40°	2736.4	2124.0	527.8	187.1	142.9	109.4	87.3	76.0	71.7	72.8	73.3
42.5°	2947.7	2141.8	421.6	180.1	129.4	94.9	77.6	69.5	64.2	64.2	65.8
45°	3181.1	2186.5	335.3	174.1	118.1	85.2	70.1	63.6	55.5	54.4	56.6
47.5°	3519.1	2358.0	273.3	162.3	104.6	79.2	64.7	55.0	48.5	46.4	48.5
50°	4084.6	2649.1	241.5	147.7	94.9	74.4	57.1	46.9	42.0	39.4	41.0
52.5°	4882.5	3152.0	224.8	134.2	86.3	66.8	51.2	41.0	36.1	34.0	35.0
55°	5768.7	3728.8	216.7	120.8	78.7	58.8	44.7	36.1	31.8	29.1	29.6
57.5°	6588.1	4271.2	208.6	107.8	71.2	52.3	39.4	31.8	27.5	24.8	25.3
60°	7395.7	4704.0	189.2	92.7	64.2	46.9	34.5	27.5	24.8	21.6	21.6
62.5°	8110.0	4962.8	161.2	80.3	57.7	41.5	30.7	24.8	22.6	19.4	19.4
65°	8596.2	4974.7	129.9	69.0	50.7	35.6	27.0	23.2	21.0	17.3	16.7
67.5°	8603.2	4651.2	104.0	61.5	44.7	31.3	24.3	22.1	19.4	16.2	15.1
70°	7700.3	3842.6	86.8	53.9	38.8	27.5	21.0	21.0	18.9	15.6	14.0
72.5°	6159.6	2936.4	72.8	46.9	34.5	23.7	19.4	19.9	18.3	15.6	14.0
75°	4140.2	1684.1	60.4	39.9	30.2	19.9	18.9	19.4	18.9	15.6	13.5
77.5°	1906.7	536.4	46.9	32.9	25.9	16.7	18.3	18.3	17.3	14.0	11.9
80°	429.7	132.1	34.0	24.3	21.0	12.4	16.7	15.1	13.5	9.7	7.0
82.5°	156.3	40.4	20.5	15.1	12.9	4.9	10.8	10.8	9.7	7.0	4.3
85°	89.5	21.0	11.3	9.7	7.0	2.2	5.9	6.5	5.4	4.9	2.2
87.5°	29.1	4.9	5.4	5.9	5.4	1.1	2.2	2.2	1.6	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)