

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: P368456

Luminaire Tested: **MSA-SA4C-727-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368456  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4C-727-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 19601 lumens  
Efficiency: N/A  
Efficacy: 87.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G4

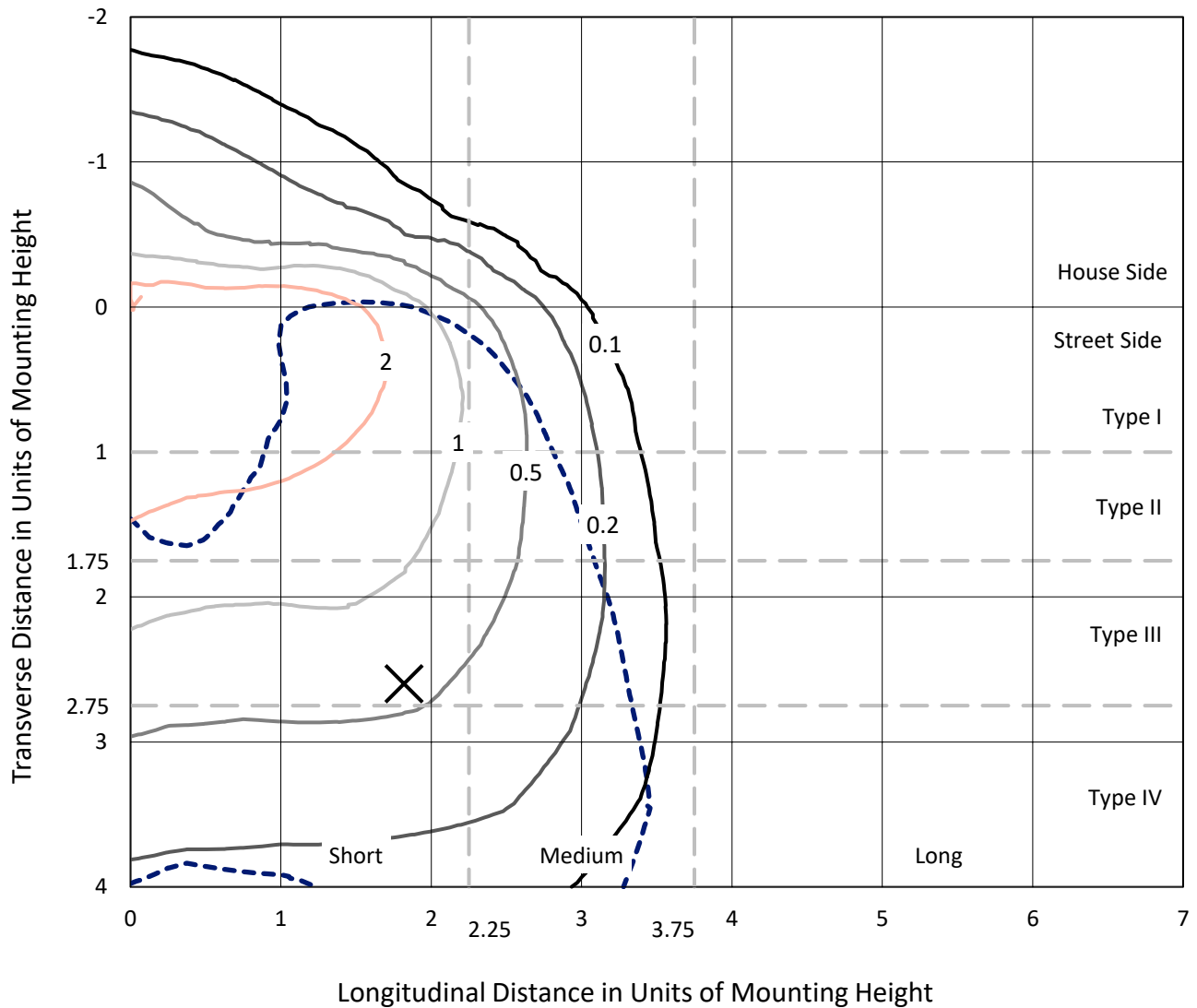
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P368456  
 CATALOG NUMBER: MSA-SA4C-727-U-SL4

### Iso-Footcandle Lines of Horizontal Illumination

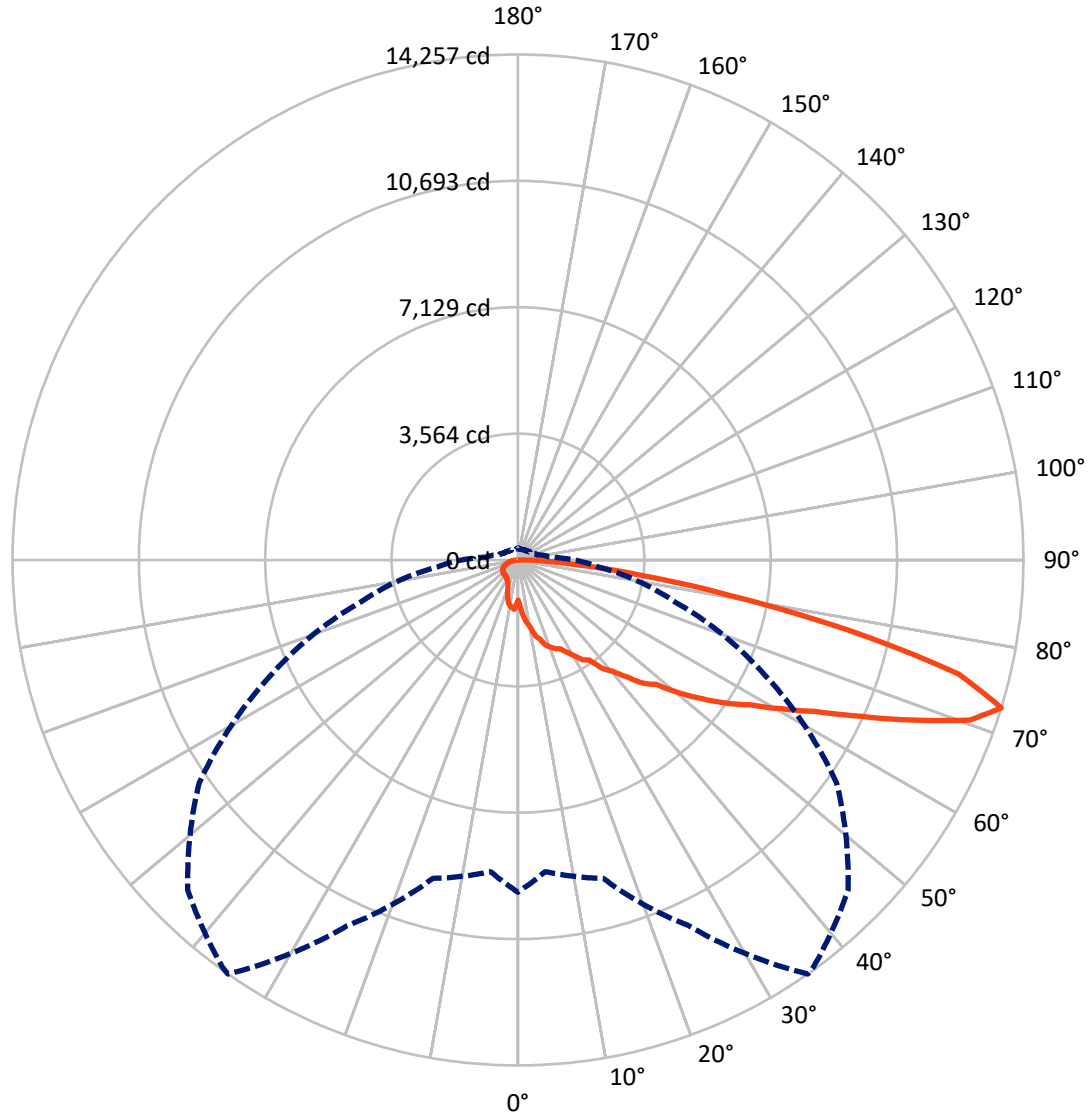
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 fc  
 Type IV - Short - N/A

REPORT NUMBER: P368456  
CATALOG NUMBER: MSA-SA4C-727-U-SL4

### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

REPORT NUMBER: P368456

CATALOG NUMBER: MSA-SA4C-727-U-SL4

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2630.4	0.0	2630.4
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	16970.6	0.0	16970.6
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	19601.0	0.0	19601.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.6	0.8
10°-20°	530.3	2.7
20°-30°	921.4	4.7
30°-40°	1540.0	7.9
40°-50°	2672.9	13.6
50°-60°	4040.8	20.6
60°-70°	5234.8	26.7
70°-80°	3862.7	19.7
80°-90°	647.4	3.3
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°	19601.0	100.0
0°-180°	19601.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P368456

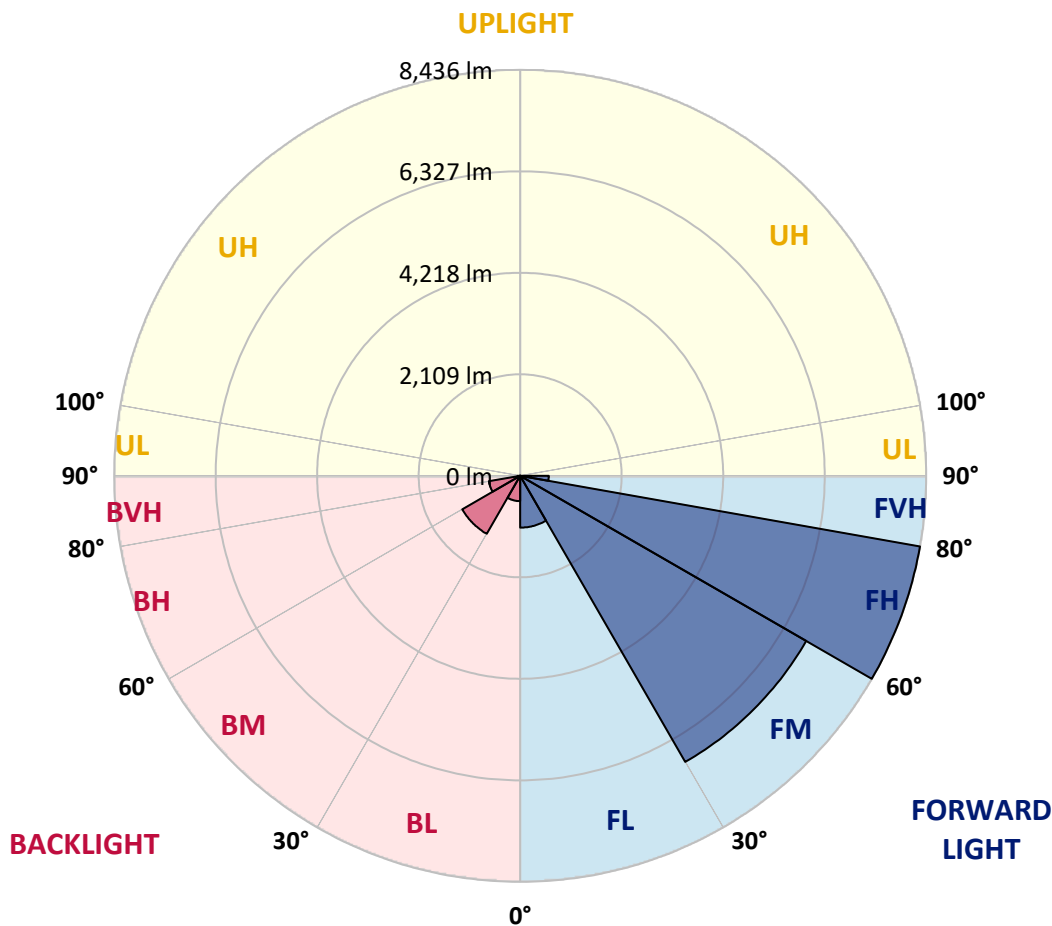
CATALOG NUMBER: MSA-SA4C-727-U-SL4

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1076.5	5.5			
FM (30°-60°)	6863.6	35.0			
FH (60°-80°)	8436.1	43.0			G4/12000
FVH (80°-90°)	594.4	3.0			G4/750
BL (0°-30°)	525.8	2.7	B2/1000		
BM (30°-60°)	1390.2	7.1	B2/2500		
BH (60°-80°)	661.4	3.4	B2/1000		G2/1000
BVH (80°-90°)	53.0	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

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

Type IV Short





REPORT NUMBER: P368456

CATALOG NUMBER: MSA-SA4C-727-U-SL4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8
2.5°	1413.0	1345.2	1286.7	1284.2	1338.6	1359.5	1351.1	1332.7	1310.9	1264.9	1365.3
5°	1770.2	1673.2	1654.8	1633.0	1583.7	1597.1	1516.7	1577.8	1597.1	1641.4	1708.3
7.5°	1981.1	1924.2	1879.8	1861.4	1776.1	1766.1	1706.7	1793.7	1830.5	1824.6	1924.2
10°	2063.9	2012.0	2015.4	1955.1	1927.5	1939.2	1945.9	1947.6	1970.2	1988.6	1938.4
12.5°	2106.5	2126.6	2200.2	2159.3	2194.4	2208.6	2278.9	2206.9	2209.4	2114.9	2166.8
15°	2321.6	2371.7	2329.1	2327.4	2316.5	2340.0	2400.2	2351.7	2389.3	2359.2	2292.3
17.5°	2580.9	2596.0	2514.0	2480.5	2524.0	2516.5	2501.4	2508.9	2415.3	2589.3	2507.3
20°	2660.4	2719.8	2611.9	2480.5	2624.4	2643.6	2640.3	2607.7	2447.0	2698.0	2618.5
22.5°	2891.3	2811.0	2725.6	2642.0	2715.6	2726.5	2708.1	2630.3	2576.7	2672.1	2734.8
25°	2995.8	2976.6	2867.8	2857.8	2776.7	2738.2	2770.0	2747.4	2694.7	2864.5	2795.1
27.5°	3235.1	3212.5	2962.4	3065.3	2947.3	2937.3	2769.1	2844.4	2897.1	2884.6	2988.3
30°	3506.2	3532.1	3166.5	3269.4	3133.1	3114.6	2945.7	3041.0	3077.0	3088.7	3218.4
32.5°	3807.3	3878.5	3515.4	3430.9	3358.1	3370.6	3227.6	3053.6	3193.3	3466.9	3522.9
35°	4133.6	4162.9	3782.2	3655.1	3465.2	3451.8	3454.3	3476.1	3617.4	3929.5	3973.0
37.5°	4736.8	4601.3	4267.5	3945.4	3881.8	3757.2	3841.6	3908.6	4050.0	4528.5	4710.9
40°	5108.3	5007.9	4499.2	4312.6	4137.0	4148.7	4306.8	4306.0	4639.8	5133.3	5411.9
42.5°	5452.1	5342.5	4863.1	4675.7	4509.2	4550.2	4595.4	4674.9	5314.9	6110.5	6237.7
45°	5729.0	5488.9	5144.2	5102.4	4965.2	4910.8	5102.4	5229.6	6122.2	6901.1	6974.7
47.5°	5917.2	5719.8	5382.7	5345.8	5244.6	5377.6	5900.5	5982.5	6748.0	7695.0	7689.1
50°	6203.4	5933.1	5628.6	5609.4	5894.7	5965.8	6603.2	6594.9	7357.0	8354.2	8216.2
52.5°	6533.0	6192.5	5862.0	6068.7	6503.7	6538.8	7091.8	7316.9	8022.1	8990.1	8629.5
55°	6912.0	6531.3	6211.7	6487.8	7135.3	7031.6	7591.3	8140.9	8854.5	9660.2	8928.1
57.5°	7381.3	6919.5	6661.0	7080.9	7711.7	7803.8	8306.6	8998.4	9524.6	10076.8	9145.7
60°	7876.5	7334.4	7097.7	7497.6	8519.1	8624.5	9116.4	9711.2	10275.9	10469.2	9104.7
62.5°	8349.2	7762.8	7548.6	8042.2	9414.2	9675.2	10038.3	10417.3	10900.8	10564.5	8608.6
65°	8875.4	8288.2	8153.5	8893.8	10628.1	10887.5	11361.8	11248.0	11115.0	10226.5	7787.9
67.5°	9432.6	8836.1	8861.2	9881.9	12059.5	12103.9	12832.5	12076.3	10863.2	9331.4	6410.0
70°	9732.1	9121.4	9379.9	10935.1	13516.0	13452.5	13601.4	12298.8	9836.7	7376.3	4418.1
72.5°	9369.0	8824.4	9297.9	11378.5	14257.3	14188.7	13169.7	10977.8	7690.8	4587.1	2290.6
75°	7932.6	7407.2	8131.7	10142.9	12835.0	12898.6	11207.9	8163.5	4403.0	1844.7	951.2
77.5°	5390.2	5119.1	5739.9	7560.3	9533.8	9753.9	8315.8	4773.6	1848.9	763.8	575.6
80°	2848.6	2719.8	3178.2	4355.3	6036.9	6200.8	4889.9	2377.6	947.0	494.4	410.8
82.5°	1547.7	1493.3	1739.3	2239.6	3430.0	3573.1	2535.7	1579.5	638.3	309.5	251.0
85°	1039.9	1019.0	1182.1	1203.0	1622.2	1669.0	1328.5	1216.4	383.2	151.4	165.6
87.5°	520.4	499.4	622.4	549.6	619.1	619.9	609.0	776.4	97.0	50.2	30.1
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°	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8	1132.8
2.5°	1367.0	1337.7	1236.5	1235.7	1250.7	1240.7	1248.2	1207.2	1189.6	1270.0	1265.8
5°	1699.1	1611.3	1526.8	1497.5	1463.2	1388.7	1392.9	1393.8	1381.2	1428.9	1432.3
7.5°	1894.1	1788.6	1710.8	1555.2	1433.1	1337.7	1350.3	1364.5	1350.3	1413.8	1437.3
10°	1922.5	1838.8	1746.0	1572.8	1491.6	1405.5	1318.5	1241.5	1232.3	1203.0	1212.2
12.5°	2091.5	2022.1	1828.0	1638.1	1543.5	1411.3	1252.4	1164.5	1090.9	1103.5	1080.0
15°	2230.4	2181.0	1948.4	1700.0	1474.1	1310.1	1141.1	1020.6	954.6	947.0	923.6
17.5°	2418.6	2348.3	1959.3	1657.3	1384.6	1188.0	997.2	860.9	832.4	820.7	809.0
20°	2508.9	2382.6	1920.0	1523.4	1280.0	1042.4	855.0	737.9	729.5	750.4	746.2
22.5°	2587.6	2411.1	1884.8	1442.3	1116.9	895.2	758.0	681.0	671.8	698.6	703.6
25°	2633.6	2492.2	1846.4	1359.5	1015.6	785.6	685.2	641.7	643.3	678.5	674.3
27.5°	2841.1	2520.7	1749.3	1261.6	899.3	704.4	650.0	627.4	618.2	666.8	670.9
30°	2971.6	2706.4	1727.6	1157.8	813.2	645.0	618.2	609.0	607.4	665.9	670.1
32.5°	3214.2	2768.3	1737.6	1044.9	735.4	626.6	594.8	594.0	610.7	666.8	673.5
35°	3550.5	3029.3	1689.1	980.5	692.7	598.2	576.4	583.1	611.6	672.6	681.8
37.5°	4206.4	3275.3	1704.1	920.3	678.5	589.0	571.4	575.6	621.6	687.7	712.8
40°	4725.9	3721.2	1680.7	890.1	659.2	587.3	560.5	577.3	620.8	696.0	718.6
42.5°	5478.9	4076.7	1683.2	860.0	658.4	580.6	558.8	578.9	619.1	688.5	719.5
45°	6124.7	4395.5	1719.2	842.5	650.0	591.5	556.3	581.4	608.2	661.7	696.0
47.5°	6654.3	4751.0	1756.0	825.7	646.7	601.5	553.8	563.9	589.8	631.6	662.6
50°	7086.0	5001.2	1802.9	822.4	646.7	596.5	547.1	546.3	568.0	601.5	630.8
52.5°	7422.3	5177.7	1834.7	826.6	646.7	577.3	538.8	532.1	545.5	569.7	599.0
55°	7665.7	5232.1	1808.7	837.4	645.9	559.7	523.7	517.9	524.5	541.3	568.9
57.5°	7763.6	5089.0	1653.9	818.2	645.9	547.1	505.3	498.6	505.3	517.9	545.5
60°	7518.5	4628.9	1430.6	768.8	633.3	530.4	484.4	480.2	490.2	501.1	527.9
62.5°	6903.6	4017.3	1192.1	710.3	607.4	516.2	464.3	465.1	481.0	496.1	522.9
65°	5948.2	3277.8	993.9	650.9	574.7	493.6	443.4	449.3	471.8	491.9	518.7
67.5°	4680.8	2428.6	836.6	593.1	528.7	456.8	420.0	421.6	437.5	456.8	482.7
70°	3128.9	1545.2	687.7	525.4	468.5	409.1	384.0	378.1	374.0	390.7	413.3
72.5°	1587.0	912.7	564.7	449.3	403.2	357.2	338.0	322.9	311.2	321.3	338.8
75°	831.6	638.3	455.9	373.1	333.0	303.7	289.5	269.4	261.0	266.9	279.4
77.5°	588.1	499.4	368.9	295.3	271.1	240.9	243.4	222.5	215.8	219.2	232.6
80°	451.8	395.7	283.6	223.4	209.1	179.9	188.2	175.7	167.3	165.6	175.7
82.5°	307.9	297.8	201.6	156.4	146.4	125.5	137.2	132.2	121.3	114.6	119.6
85°	207.5	197.4	123.0	90.4	86.2	65.3	83.7	80.3	71.1	61.1	61.9
87.5°	36.0	66.1	35.1	22.6	20.9	7.5	19.2	18.4	16.7	8.4	6.7
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)