

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: P368060

Luminaire Tested: **MSA-SA3D-727-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368060  
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-SA3D-727-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 16215 lumens  
Efficiency: N/A  
Efficacy: 84.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

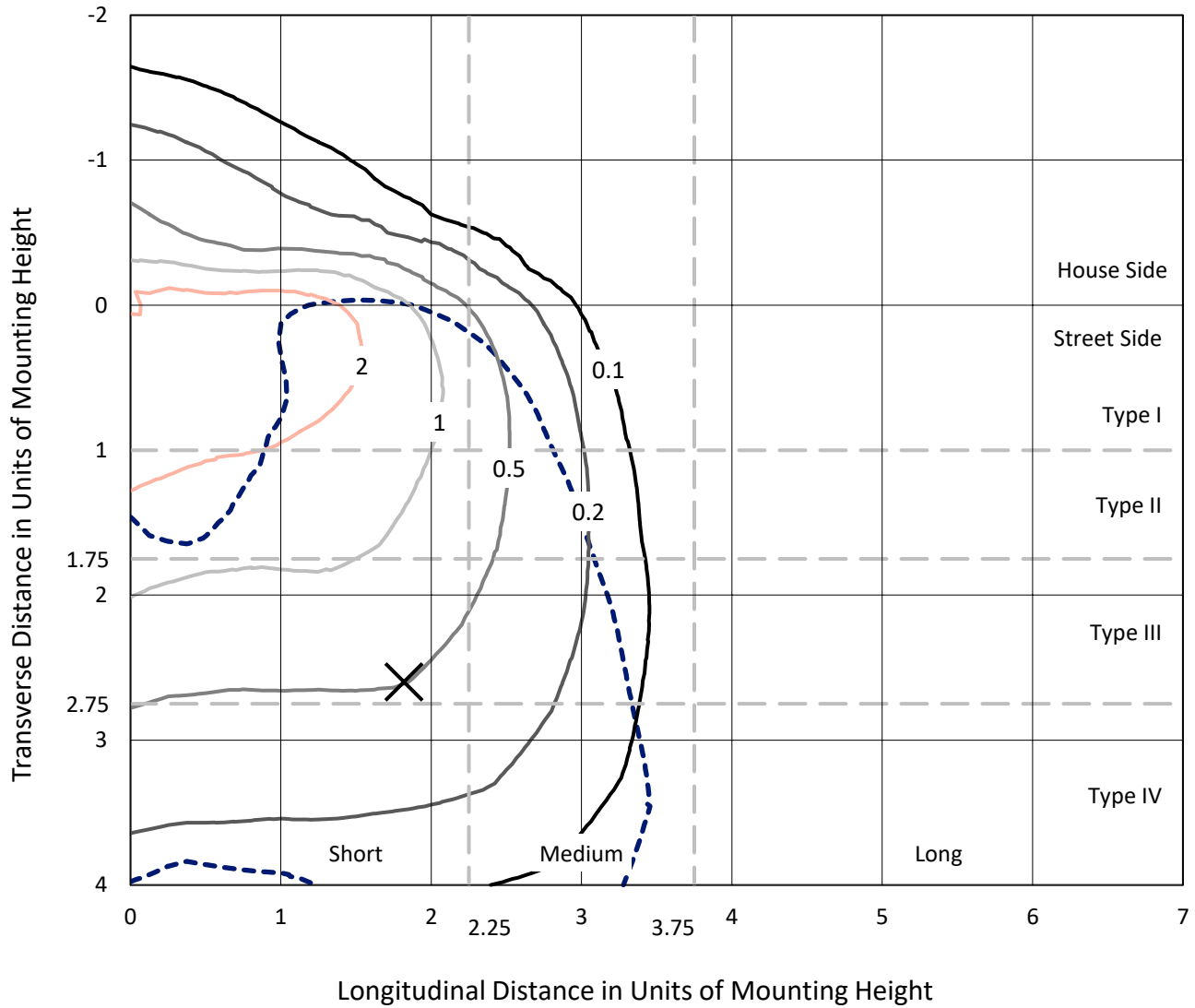
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P368060  
 CATALOG NUMBER: MSA-SA3D-727-U-SL4

### Iso-Footcandle Lines of Horizontal Illumination

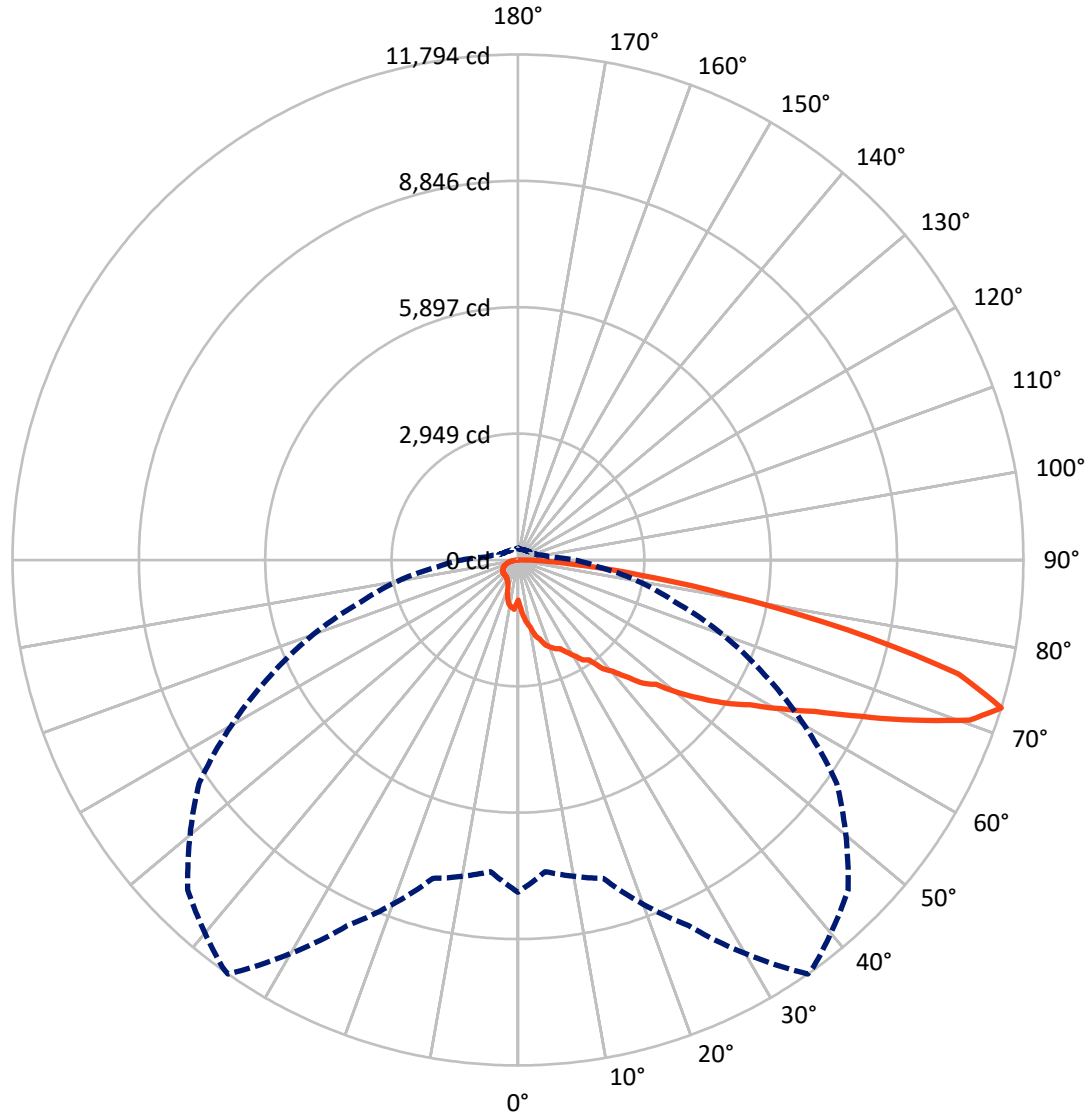
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.3 fc  
 Type IV - Short - N/A

REPORT NUMBER: P368060  
CATALOG NUMBER: MSA-SA3D-727-U-SL4

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P368060

CATALOG NUMBER: MSA-SA3D-727-U-SL4

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2176.0	0.0	2176.0
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	14039.0	0.0	14039.0
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	16215.0	0.0	16215.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.5	0.8
10°-20°	438.7	2.7
20°-30°	762.3	4.7
30°-40°	1274.0	7.9
40°-50°	2211.2	13.6
50°-60°	3342.8	20.6
60°-70°	4330.5	26.7
70°-80°	3195.5	19.7
80°-90°	535.5	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°	16215.0	100.0
0°-180°	16215.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P368060

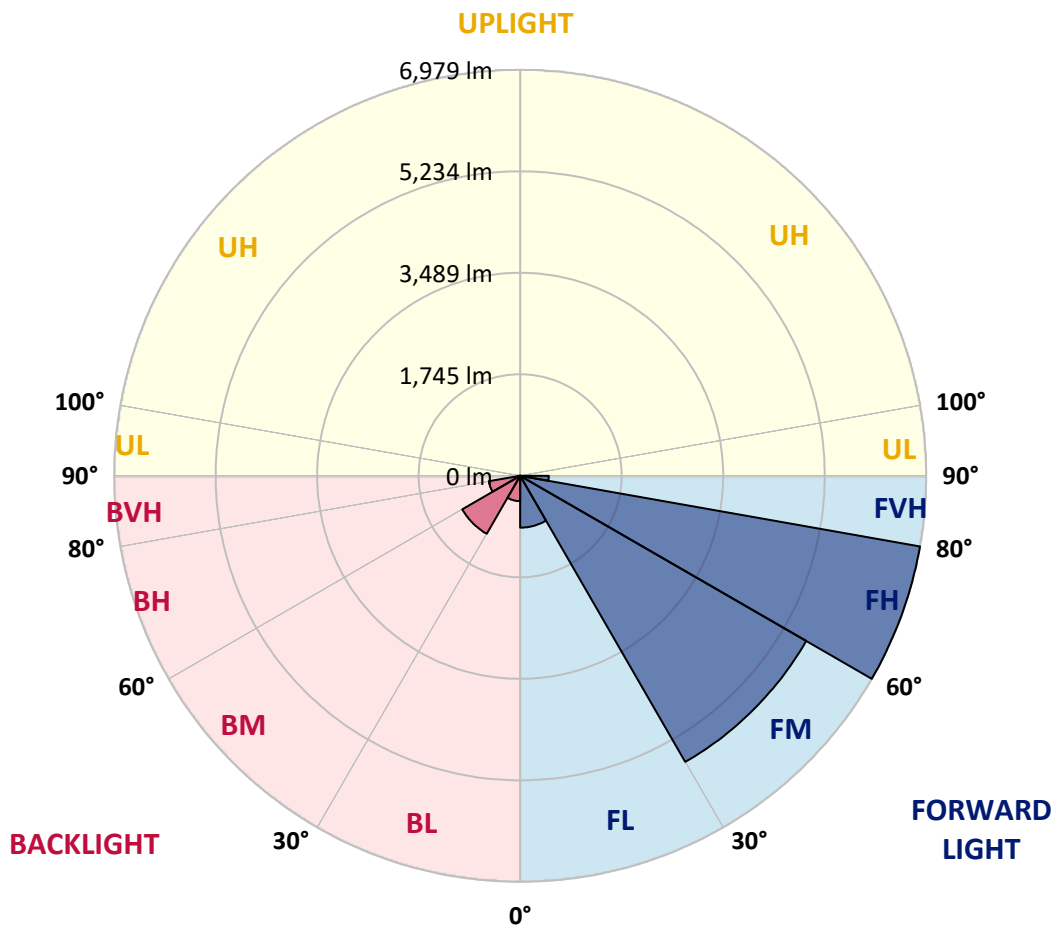
CATALOG NUMBER: MSA-SA3D-727-U-SL4

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	890.6	5.5			
FM (30°-60°)	5677.9	35.0			
FH (60°-80°)	6978.8	43.0			G3/7500
FVH (80°-90°)	491.7	3.0			G3/500
BL (0°-30°)	434.9	2.7	B1/500		
BM (30°-60°)	1150.1	7.1	B2/2500		
BH (60°-80°)	547.2	3.4	B2/1000		G2/1000
BVH (80°-90°)	43.8	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-G3**

Type IV Short





REPORT NUMBER: P368060  
 CATALOG NUMBER: MSA-SA3D-727-U-SL4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	937.1	937.1	937.1	937.1	937.1	937.1	937.1	937.1	937.1	937.1	937.1
2.5°	1168.9	1112.9	1064.4	1062.3	1107.3	1124.6	1117.7	1102.5	1084.5	1046.4	1129.5
5°	1464.4	1384.2	1368.9	1350.9	1310.1	1321.2	1254.7	1305.3	1321.2	1357.9	1413.2
7.5°	1638.8	1591.8	1555.1	1539.9	1469.3	1461.0	1411.8	1483.8	1514.3	1509.4	1591.8
10°	1707.4	1664.4	1667.2	1617.4	1594.5	1604.2	1609.8	1611.2	1629.8	1645.1	1603.5
12.5°	1742.6	1759.3	1820.2	1786.3	1815.3	1827.1	1885.2	1825.7	1827.8	1749.6	1792.5
15°	1920.5	1962.0	1926.7	1925.4	1916.4	1935.7	1985.6	1945.4	1976.6	1951.7	1896.3
17.5°	2135.1	2147.5	2079.7	2052.0	2088.0	2081.8	2069.3	2075.5	1998.0	2142.0	2074.2
20°	2200.8	2249.9	2160.7	2052.0	2171.0	2187.0	2184.2	2157.2	2024.3	2231.9	2166.2
22.5°	2391.8	2325.4	2254.8	2185.6	2246.5	2255.5	2240.3	2175.9	2131.6	2210.5	2262.4
25°	2478.3	2462.4	2372.4	2364.1	2297.0	2265.2	2291.5	2272.8	2229.2	2369.7	2312.2
27.5°	2676.3	2657.6	2450.6	2535.8	2438.2	2429.9	2290.8	2353.1	2396.7	2386.3	2472.1
30°	2900.5	2921.9	2619.5	2704.6	2591.8	2576.6	2436.8	2515.7	2545.5	2555.1	2662.4
32.5°	3149.6	3208.5	2908.1	2838.2	2778.0	2788.4	2670.0	2526.1	2641.7	2868.0	2914.3
35°	3419.6	3443.8	3128.9	3023.7	2866.6	2855.5	2857.6	2875.6	2992.5	3250.7	3286.7
37.5°	3918.5	3806.4	3530.3	3263.8	3211.2	3108.1	3178.0	3233.4	3350.3	3746.2	3897.1
40°	4225.8	4142.8	3722.0	3567.7	3422.3	3432.0	3562.8	3562.1	3838.3	4246.6	4477.0
42.5°	4510.3	4419.6	4023.0	3868.0	3730.3	3764.2	3801.6	3867.3	4396.8	5054.9	5160.1
45°	4739.3	4540.7	4255.6	4221.0	4107.5	4062.5	4221.0	4326.2	5064.6	5708.9	5769.8
47.5°	4895.1	4731.7	4452.8	4422.4	4338.6	4448.7	4881.2	4949.0	5582.3	6365.7	6360.9
50°	5131.7	4908.2	4656.3	4640.4	4876.4	4935.2	5462.6	5455.6	6086.1	6911.1	6796.9
52.5°	5404.4	5122.8	4849.4	5020.3	5380.2	5409.3	5866.7	6052.9	6636.3	7437.1	7138.8
55°	5717.9	5403.0	5138.7	5367.1	5902.7	5816.9	6279.9	6734.6	7324.9	7991.4	7385.8
57.5°	6106.2	5724.2	5510.3	5857.7	6379.6	6455.7	6871.6	7444.0	7879.3	8336.1	7565.8
60°	6515.9	6067.4	5871.6	6202.4	7047.4	7134.6	7541.6	8033.6	8500.8	8660.6	7531.9
62.5°	6906.9	6421.8	6244.6	6652.9	7787.9	8003.9	8304.2	8617.7	9017.8	8739.5	7121.5
65°	7342.2	6856.4	6745.0	7357.5	8792.1	9006.7	9399.1	9305.0	9194.9	8459.9	6442.5
67.5°	7803.2	7309.7	7330.5	8174.8	9976.3	10013.0	10615.8	9990.1	8986.6	7719.4	5302.7
70°	8050.9	7545.7	7759.6	9046.1	11181.2	11128.6	11251.8	10174.2	8137.4	6102.0	3654.9
72.5°	7750.6	7300.0	7691.7	9412.9	11794.4	11737.6	10894.7	9081.4	6362.3	3794.7	1894.9
75°	6562.3	6127.6	6727.0	8390.7	10617.8	10670.4	9271.8	6753.3	3642.4	1526.0	786.9
77.5°	4459.1	4234.8	4748.3	6254.3	7886.9	8068.9	6879.2	3949.0	1529.5	631.9	476.1
80°	2356.5	2249.9	2629.2	3603.0	4994.0	5129.7	4045.2	1966.9	783.4	409.0	339.8
82.5°	1280.3	1235.4	1438.8	1852.7	2837.5	2955.9	2097.7	1306.6	528.1	256.1	207.6
85°	860.3	842.9	977.9	995.2	1341.9	1380.7	1099.0	1006.3	317.0	125.3	137.0
87.5°	430.5	413.2	514.9	454.7	512.1	512.8	503.8	642.2	80.3	41.5	24.9
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: P368060  
 CATALOG NUMBER: MSA-SA3D-727-U-SL4

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	937.1	937.1	937.1	937.1	937.1	937.1	937.1	937.1	937.1	937.1	937.1
2.5°	1130.9	1106.6	1022.9	1022.2	1034.7	1026.3	1032.6	998.7	984.1	1050.6	1047.1
5°	1405.6	1332.9	1263.0	1238.8	1210.4	1148.8	1152.3	1153.0	1142.6	1182.1	1184.8
7.5°	1566.9	1479.7	1415.3	1286.6	1185.5	1106.6	1117.0	1128.8	1117.0	1169.6	1189.0
10°	1590.4	1521.2	1444.4	1301.1	1234.0	1162.7	1090.7	1027.0	1019.4	995.2	1002.8
12.5°	1730.2	1672.7	1512.2	1355.1	1276.9	1167.5	1036.0	963.4	902.5	912.8	893.5
15°	1845.1	1804.2	1611.8	1406.3	1219.4	1083.8	944.0	844.3	789.7	783.4	764.1
17.5°	2000.8	1942.7	1620.8	1371.0	1145.4	982.7	825.0	712.1	688.6	678.9	669.2
20°	2075.5	1971.0	1588.3	1260.3	1058.9	862.3	707.3	610.4	603.5	620.8	617.3
22.5°	2140.6	1994.6	1559.2	1193.1	923.9	740.5	627.0	563.4	555.7	577.9	582.0
25°	2178.7	2061.7	1527.4	1124.6	840.2	649.9	566.8	530.8	532.2	561.3	557.8
27.5°	2350.3	2085.2	1447.1	1043.7	744.0	582.7	537.7	519.1	511.4	551.6	555.0
30°	2458.3	2238.9	1429.1	957.8	672.7	533.6	511.4	503.8	502.4	550.9	554.4
32.5°	2659.0	2290.1	1437.4	864.4	608.3	518.4	492.1	491.4	505.2	551.6	557.1
35°	2937.2	2506.0	1397.3	811.1	573.0	494.8	476.8	482.4	505.9	556.4	564.0
37.5°	3479.8	2709.5	1409.8	761.3	561.3	487.2	472.7	476.1	514.2	568.9	589.6
40°	3909.5	3078.4	1390.4	736.4	545.4	485.8	463.7	477.5	513.5	575.8	594.5
42.5°	4532.4	3372.5	1392.5	711.5	544.7	480.3	462.3	478.9	512.1	569.6	595.2
45°	5066.7	3636.2	1422.2	696.9	537.7	489.3	460.2	481.0	503.1	547.4	575.8
47.5°	5504.8	3930.3	1452.7	683.1	535.0	497.6	458.2	466.5	487.9	522.5	548.1
50°	5861.9	4137.2	1491.4	680.3	535.0	493.5	452.6	451.9	469.9	497.6	521.8
52.5°	6140.1	4283.3	1517.7	683.8	535.0	477.5	445.7	440.2	451.2	471.3	495.5
55°	6341.5	4328.2	1496.3	692.8	534.3	463.0	433.2	428.4	433.9	447.8	470.6
57.5°	6422.5	4209.9	1368.2	676.9	534.3	452.6	418.0	412.5	418.0	428.4	451.2
60°	6219.7	3829.3	1183.5	636.0	523.9	438.8	400.7	397.3	405.6	414.6	436.7
62.5°	5711.0	3323.4	986.2	587.6	502.4	427.0	384.1	384.8	397.9	410.4	432.5
65°	4920.7	2711.6	822.2	538.4	475.5	408.3	366.8	371.6	390.3	406.9	429.1
67.5°	3872.2	2009.1	692.1	490.7	437.4	377.9	347.4	348.8	362.0	377.9	399.3
70°	2588.4	1278.3	568.9	434.6	387.6	338.4	317.7	312.8	309.4	323.2	341.9
72.5°	1312.9	755.1	467.2	371.6	333.6	295.5	279.6	267.1	257.5	265.8	280.3
75°	687.9	528.1	377.2	308.7	275.4	251.2	239.5	222.8	215.9	220.8	231.2
77.5°	486.5	413.2	305.2	244.3	224.2	199.3	201.4	184.1	178.6	181.3	192.4
80°	373.7	327.4	234.6	184.8	173.0	148.8	155.7	145.3	138.4	137.0	145.3
82.5°	254.7	246.4	166.8	129.4	121.1	103.8	113.5	109.3	100.4	94.8	99.0
85°	171.6	163.3	101.7	74.7	71.3	54.0	69.2	66.4	58.8	50.5	51.2
87.5°	29.8	54.7	29.1	18.7	17.3	6.2	15.9	15.2	13.8	6.9	5.5
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)