

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: P368082

Luminaire Tested: **MSA-SA3D-730-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368082
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-730-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: 17657 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

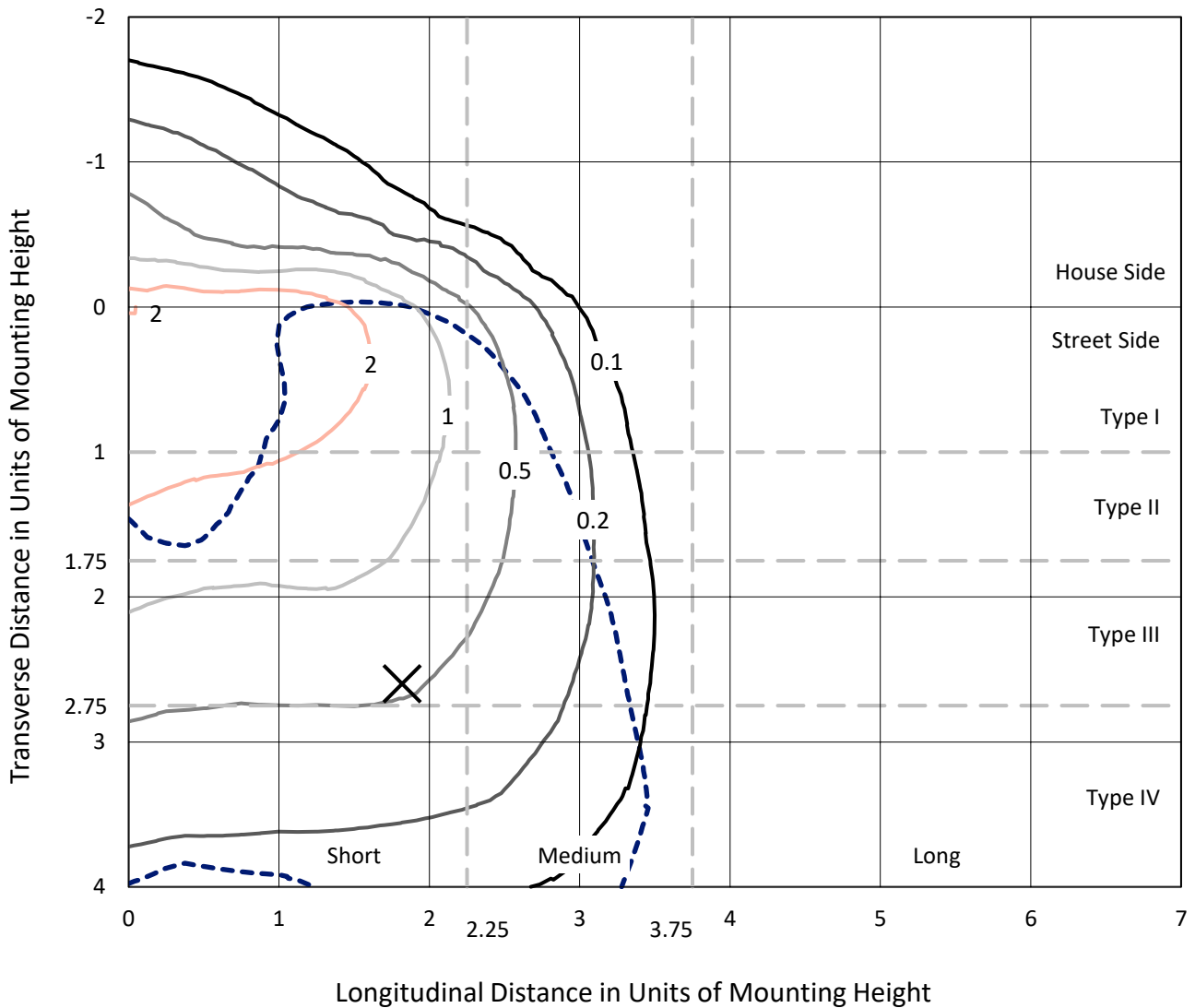
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

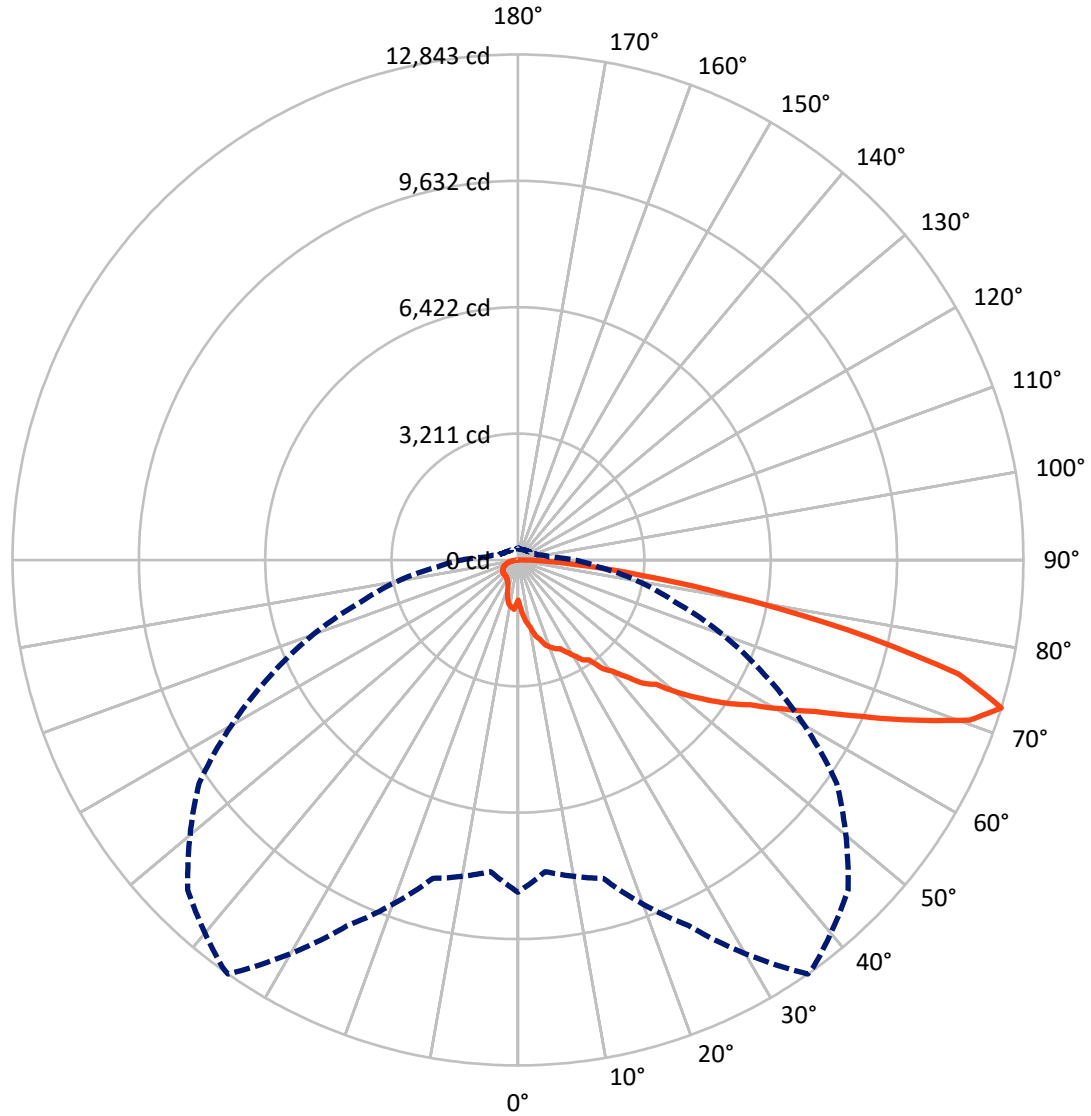
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.5 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2369.5	0.0	2369.5
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	15287.5	0.0	15287.5
	% Fixture	86.6	0.0	86.6
Total	Lumens	17657.0	0.0	17657.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.6	0.8
10°-20°	477.7	2.7
20°-30°	830.0	4.7
30°-40°	1387.3	7.9
40°-50°	2407.8	13.6
50°-60°	3640.0	20.6
60°-70°	4715.6	26.7
70°-80°	3479.6	19.7
80°-90°	583.2	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°	17657.0	100.0
0°-180°	17657.0	100.0

Coefficient of Utilization



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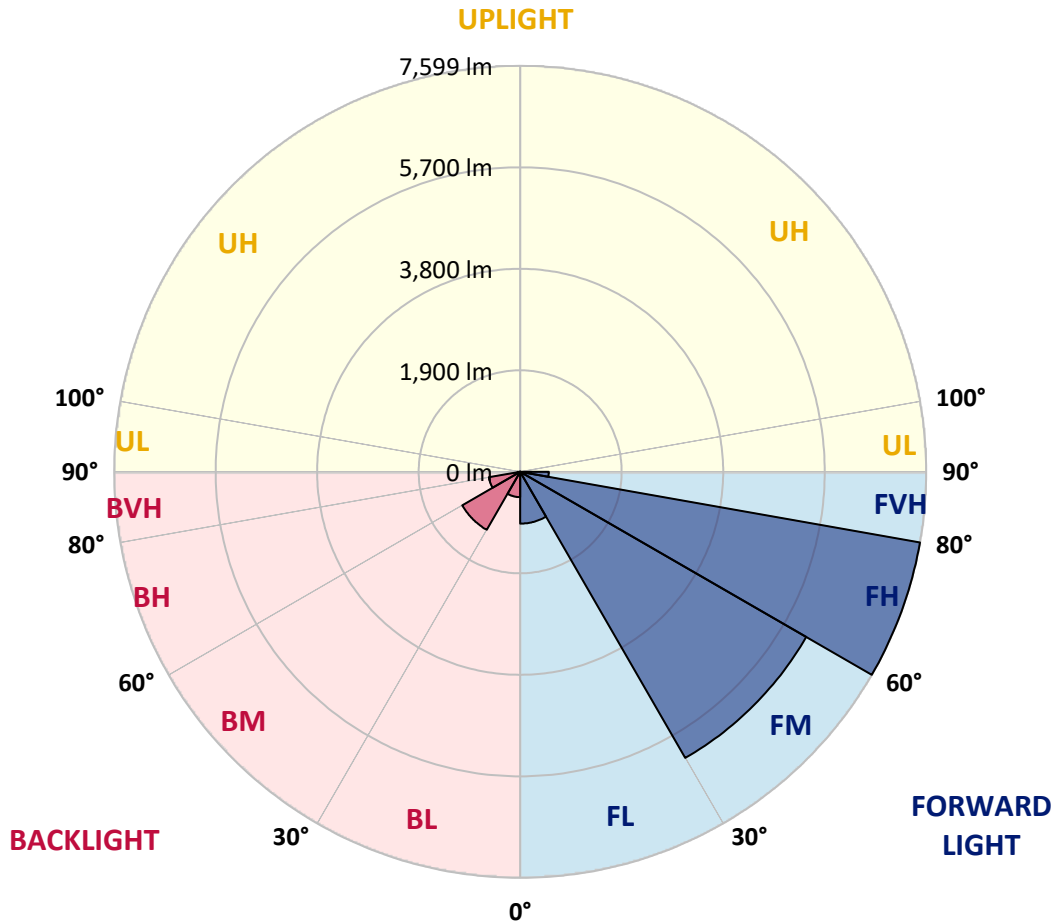
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	969.8	5.5			
FM (30°-60°)	6182.9	35.0			
FH (60°-80°)	7599.4	43.0			G4/12000
FVH (80°-90°)	535.4	3.0			G4/750
BL (0°-30°)	473.6	2.7	B1/500		
BM (30°-60°)	1252.3	7.1	B2/2500		
BH (60°-80°)	595.8	3.4	B2/1000		G2/1000
BVH (80°-90°)	47.7	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4
2.5°	1272.9	1211.8	1159.1	1156.8	1205.8	1224.6	1217.1	1200.5	1180.9	1139.5	1229.9
5°	1594.7	1507.2	1490.7	1471.1	1426.6	1438.7	1366.3	1421.3	1438.7	1478.6	1538.9
7.5°	1784.6	1733.3	1693.4	1676.8	1599.9	1590.9	1537.4	1615.8	1648.9	1643.7	1733.3
10°	1859.2	1812.5	1815.5	1761.2	1736.3	1746.9	1752.9	1754.4	1774.8	1791.4	1746.1
12.5°	1897.6	1915.7	1982.0	1945.1	1976.8	1989.6	2052.9	1988.1	1990.3	1905.2	1951.9
15°	2091.3	2136.5	2098.1	2096.6	2086.8	2107.9	2162.1	2118.4	2152.3	2125.2	2064.9
17.5°	2324.9	2338.5	2264.6	2234.5	2273.7	2266.9	2253.3	2260.1	2175.7	2332.5	2258.6
20°	2396.5	2450.0	2352.8	2234.5	2364.1	2381.4	2378.4	2349.0	2204.3	2430.4	2358.8
22.5°	2604.5	2532.2	2455.3	2379.9	2446.3	2456.1	2439.5	2369.4	2321.2	2407.1	2463.6
25°	2698.7	2681.4	2583.4	2574.4	2501.3	2466.6	2495.2	2474.9	2427.4	2580.4	2517.9
27.5°	2914.3	2893.9	2668.6	2761.3	2655.0	2646.0	2494.5	2562.3	2609.8	2598.5	2691.9
30°	3158.4	3181.8	2852.5	2945.2	2822.3	2805.7	2653.5	2739.4	2771.8	2782.4	2899.2
32.5°	3429.7	3493.8	3166.7	3090.6	3025.0	3036.3	2907.5	2750.7	2876.6	3123.0	3173.5
35°	3723.7	3750.0	3407.1	3292.6	3121.5	3109.4	3111.7	3131.3	3258.7	3539.8	3579.0
37.5°	4267.0	4144.9	3844.2	3554.1	3496.8	3384.5	3460.6	3520.9	3648.3	4079.4	4243.7
40°	4601.6	4511.2	4053.0	3884.9	3726.7	3737.2	3879.7	3878.9	4179.6	4624.2	4875.2
42.5°	4911.4	4812.6	4380.8	4212.0	4062.0	4099.0	4139.7	4211.2	4787.8	5504.5	5619.0
45°	5160.8	4944.5	4634.0	4596.3	4472.8	4423.8	4596.3	4710.9	5515.0	6216.6	6283.0
47.5°	5330.4	5152.5	4848.8	4815.7	4724.5	4844.3	5315.3	5389.2	6078.7	6931.8	6926.5
50°	5588.1	5344.7	5070.4	5053.0	5310.0	5374.1	5948.3	5940.8	6627.4	7525.7	7401.3
52.5°	5885.0	5578.3	5280.6	5466.8	5858.7	5890.3	6388.5	6591.2	7226.5	8098.4	7773.6
55°	6226.4	5883.5	5595.7	5844.3	6427.7	6334.2	6838.4	7333.5	7976.3	8702.1	8042.7
57.5°	6649.2	6233.2	6000.3	6378.7	6946.9	7029.8	7482.7	8106.0	8580.0	9077.4	8238.6
60°	7095.4	6607.0	6393.7	6754.0	7674.1	7769.1	8212.2	8748.1	9256.8	9430.8	8201.7
62.5°	7521.2	6992.9	6799.9	7244.6	8480.5	8715.7	9042.7	9384.1	9819.7	9516.8	7754.8
65°	7995.2	7466.1	7344.8	8011.8	9574.0	9807.7	10235.0	10132.5	10012.6	9212.3	7015.5
67.5°	8497.1	7959.8	7982.4	8901.8	10863.5	10903.4	11559.8	10878.5	9785.8	8405.9	5774.3
70°	8766.9	8216.8	8449.6	9850.6	12175.5	12118.3	12252.4	11079.0	8861.1	6644.7	3979.9
72.5°	8439.8	7949.2	8375.8	10250.0	12843.2	12781.4	11863.5	9889.0	6928.1	4132.1	2063.4
75°	7145.9	6672.6	7325.2	9136.9	11562.1	11619.4	10096.3	7353.9	3966.3	1661.7	856.9
77.5°	4855.6	4611.4	5170.6	6810.5	8588.3	8786.5	7491.0	4300.2	1665.5	688.1	518.5
80°	2566.1	2450.0	2863.0	3923.4	5438.1	5585.9	4404.9	2141.8	853.1	445.4	370.0
82.5°	1394.2	1345.2	1566.8	2017.4	3089.9	3218.7	2284.2	1422.8	575.0	278.8	226.1
85°	936.8	917.9	1064.9	1083.7	1461.3	1503.5	1196.8	1095.8	345.2	136.4	149.2
87.5°	468.8	449.9	560.7	495.1	557.7	558.4	548.6	699.4	87.4	45.2	27.1
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°	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4	1020.4
2.5°	1231.4	1205.0	1113.9	1113.1	1126.7	1117.6	1124.4	1087.5	1071.7	1144.0	1140.2
5°	1530.6	1451.5	1375.4	1349.0	1318.1	1251.0	1254.8	1255.5	1244.2	1287.2	1290.2
7.5°	1706.2	1611.2	1541.2	1401.0	1291.0	1205.0	1216.3	1229.2	1216.3	1273.6	1294.7
10°	1731.8	1656.5	1572.8	1416.8	1343.7	1266.1	1187.7	1118.4	1110.1	1083.7	1092.0
12.5°	1884.1	1821.5	1646.7	1475.6	1390.4	1271.4	1128.2	1049.0	982.7	994.0	972.9
15°	2009.2	1964.7	1755.2	1531.4	1327.9	1180.2	1027.9	919.4	859.9	853.1	832.0
17.5°	2178.7	2115.4	1765.0	1492.9	1247.2	1070.1	898.3	775.5	749.9	739.3	728.8
20°	2260.1	2146.3	1729.6	1372.3	1153.0	939.0	770.2	664.7	657.2	676.0	672.2
22.5°	2331.0	2171.9	1697.9	1299.2	1006.1	806.4	682.8	613.4	605.2	629.3	633.8
25°	2372.4	2245.0	1663.2	1224.6	914.9	707.7	617.2	578.0	579.5	611.2	607.4
27.5°	2559.3	2270.7	1575.8	1136.5	810.1	634.6	585.6	565.2	556.9	600.6	604.4
30°	2676.9	2438.0	1556.2	1043.0	732.5	581.0	556.9	548.6	547.1	599.9	603.7
32.5°	2895.4	2493.7	1565.3	941.3	662.4	564.5	535.8	535.1	550.1	600.6	606.7
35°	3198.4	2728.9	1521.6	883.2	624.0	538.8	519.2	525.3	550.9	605.9	614.2
37.5°	3789.2	2950.4	1535.1	829.0	611.2	530.6	514.7	518.5	559.9	619.5	642.1
40°	4257.2	3352.1	1514.0	801.9	593.9	529.0	504.9	520.0	559.2	627.0	647.4
42.5°	4935.5	3672.4	1516.3	774.7	593.1	523.0	503.4	521.5	557.7	620.2	648.1
45°	5517.3	3959.5	1548.7	758.9	585.6	532.8	501.2	523.8	547.9	596.1	627.0
47.5°	5994.3	4279.8	1581.9	743.8	582.6	541.9	498.9	507.9	531.3	569.0	596.9
50°	6383.2	4505.2	1624.1	740.8	582.6	537.3	492.9	492.1	511.7	541.9	568.2
52.5°	6686.1	4664.2	1652.7	744.6	582.6	520.0	485.3	479.3	491.4	513.2	539.6
55°	6905.4	4713.2	1629.3	754.4	581.8	504.2	471.8	466.5	472.5	487.6	512.5
57.5°	6993.6	4584.3	1489.9	737.0	581.8	492.9	455.2	449.2	455.2	466.5	491.4
60°	6772.8	4169.8	1288.7	692.6	570.5	477.8	436.3	432.6	441.6	451.4	475.5
62.5°	6218.9	3618.9	1073.9	639.8	547.1	465.0	418.3	419.0	433.3	446.9	471.0
65°	5358.3	2952.7	895.3	586.3	517.7	444.6	399.4	404.7	425.0	443.1	467.2
67.5°	4216.5	2187.8	753.6	534.3	476.3	411.5	378.3	379.8	394.1	411.5	434.8
70°	2818.6	1391.9	619.5	473.3	422.0	368.5	345.9	340.6	336.9	351.9	372.3
72.5°	1429.6	822.2	508.7	404.7	363.2	321.8	304.5	290.9	280.3	289.4	305.2
75°	749.1	575.0	410.7	336.1	299.9	273.6	260.8	242.7	235.1	240.4	251.7
77.5°	529.8	449.9	332.3	266.0	244.2	217.0	219.3	200.5	194.4	197.4	209.5
80°	407.0	356.5	255.5	201.2	188.4	162.0	169.6	158.3	150.7	149.2	158.3
82.5°	277.3	268.3	181.6	140.9	131.9	113.0	123.6	119.1	109.3	103.2	107.8
85°	186.9	177.9	110.8	81.4	77.6	58.8	75.4	72.3	64.1	55.0	55.8
87.5°	32.4	59.5	31.7	20.3	18.8	6.8	17.3	16.6	15.1	7.5	6.0
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)