

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: P367698

Luminaire Tested: **MSA-SA3A-730-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367698  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3A-730-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10832 lumens  
Efficiency: N/A  
Efficacy: 112.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G2

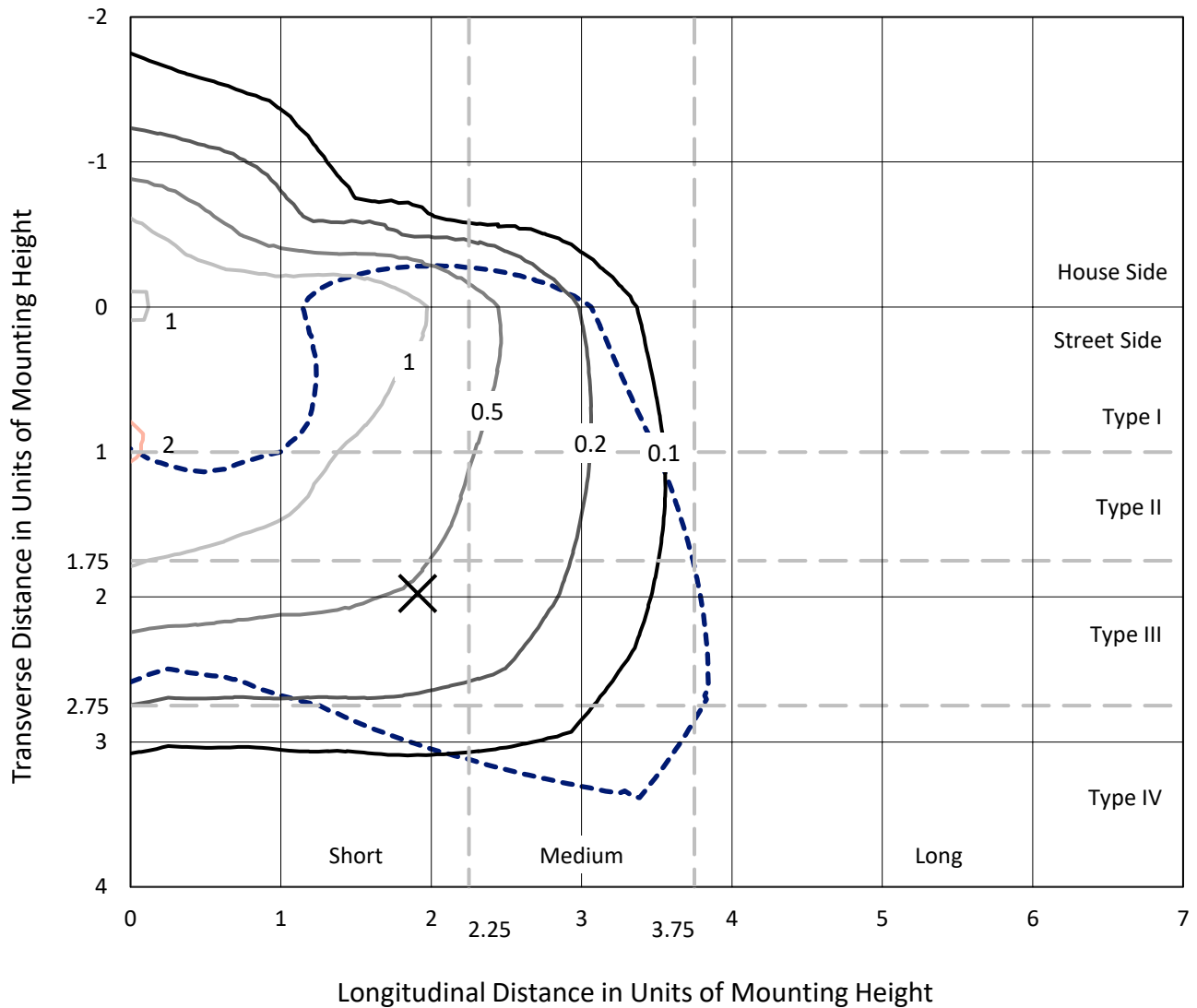
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

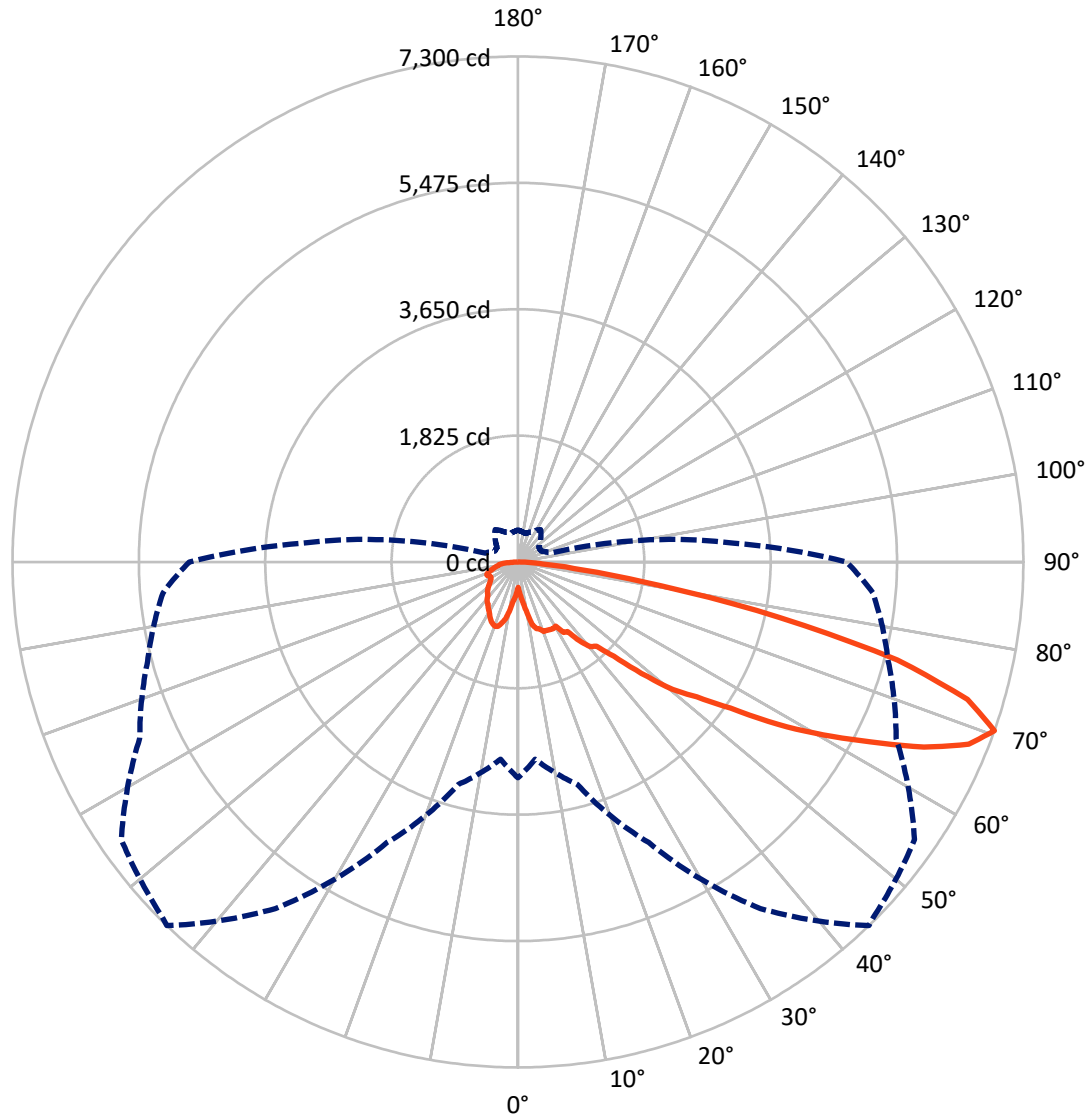
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2390.0	0.0	2390.0
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	8442.0	0.0	8442.0
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	10832.0	0.0	10832.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.7	0.5
10°-20°	265.8	2.5
20°-30°	496.8	4.6
30°-40°	797.4	7.4
40°-50°	1346.0	12.4
50°-60°	2398.5	22.1
60°-70°	3280.8	30.3
70°-80°	1929.3	17.8
80°-90°	259.8	2.4
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°	10832.0	100.0
0°-180°	10832.0	100.0

**Coefficient of Utilization**



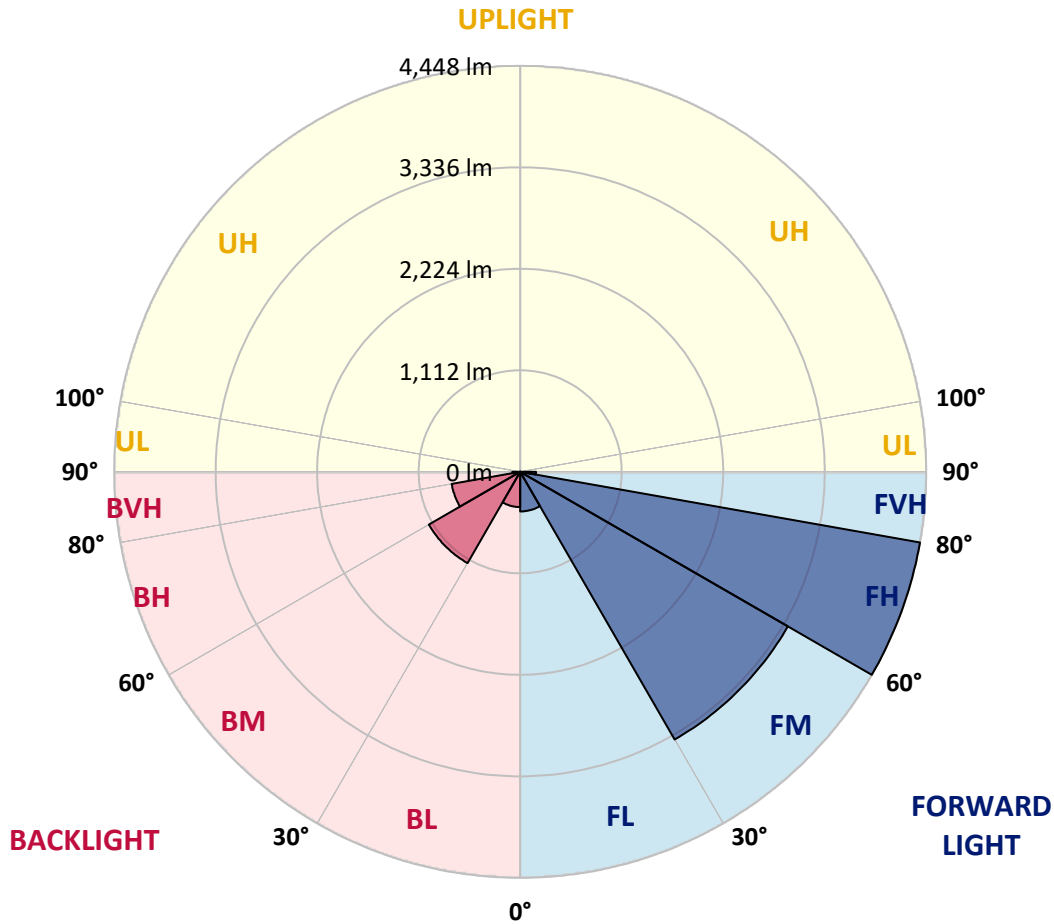
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	434.1	4.0			
FM (30°-60°)	3386.9	31.3			
FH (60°-80°)	4448.0	41.1			G2/5000
FVH (80°-90°)	173.1	1.6			G2/225
BL (0°-30°)	386.3	3.6	B1/500		
BM (30°-60°)	1154.9	10.7	B2/2500		
BH (60°-80°)	762.1	7.0	B2/1000		G2/1000
BVH (80°-90°)	86.6	0.8			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	446.8	437.9	416.6	423.7	432.6	436.1	435.3	434.4	420.6	415.7	440.1
5°	607.1	587.6	572.1	565.8	545.4	529.4	519.6	545.4	541.4	548.1	564.9
7.5°	758.2	745.7	710.6	698.2	656.4	628.9	625.8	646.2	651.6	640.9	669.8
10°	855.4	834.1	827.0	797.2	768.4	763.9	761.3	751.9	739.1	738.2	712.4
12.5°	930.9	942.0	947.8	913.6	914.5	930.5	922.0	884.3	862.5	824.3	827.4
15°	1066.4	1082.4	1036.6	1014.9	973.1	997.1	994.0	962.5	959.3	934.5	905.6
17.5°	1184.5	1191.6	1115.2	1065.5	1051.3	1016.6	1026.0	1026.9	986.0	1030.4	1004.6
20°	1194.3	1219.6	1131.7	1032.6	1075.3	1070.8	1072.2	1063.3	1009.5	1082.8	1073.0
22.5°	1242.3	1203.6	1124.6	1052.2	1063.3	1069.9	1076.2	1065.5	1062.4	1103.2	1133.0
25°	1233.4	1220.9	1141.0	1079.7	1081.0	1082.4	1085.5	1117.5	1113.9	1169.4	1185.0
27.5°	1316.4	1297.3	1145.9	1130.8	1096.1	1088.6	1067.3	1133.9	1185.9	1184.5	1270.2
30°	1474.6	1455.0	1259.6	1215.6	1153.0	1075.7	1116.6	1205.4	1246.3	1260.0	1368.8
32.5°	1721.5	1753.5	1483.4	1306.2	1228.5	1211.6	1207.2	1198.3	1299.6	1367.5	1466.6
35°	2075.9	2050.6	1747.3	1500.3	1308.0	1235.6	1245.4	1299.6	1419.9	1463.9	1555.4
37.5°	2481.9	2429.5	2085.2	1720.2	1537.2	1446.6	1414.1	1466.6	1493.2	1527.8	1714.8
40°	2894.5	2766.6	2417.0	2009.3	1674.9	1606.5	1578.0	1513.6	1576.3	1646.4	1884.1
42.5°	3292.9	3193.8	2778.1	2354.4	1906.7	1662.9	1647.3	1584.3	1778.3	1852.5	2128.3
45°	3710.4	3480.7	3148.1	2743.9	2245.6	1939.6	1916.5	1803.2	2051.9	2206.5	2473.0
47.5°	3991.1	3778.3	3487.0	3060.1	2529.4	2402.4	2358.4	2164.7	2390.4	2591.1	3005.5
50°	4256.7	4037.7	3731.7	3406.1	3043.3	2897.1	2803.4	2481.0	2811.9	3138.8	3688.2
52.5°	4636.8	4441.0	4015.9	3754.8	3595.3	3236.0	3166.3	2989.1	3304.9	3745.9	4434.3
55°	5043.2	4776.3	4391.2	4246.4	4182.0	3721.9	3665.1	3552.3	3961.3	4367.3	5159.6
57.5°	5222.7	4944.2	4731.9	4645.3	4640.0	4428.1	4362.8	4284.2	4632.4	4900.2	5842.2
60°	5365.2	5066.3	4981.5	5029.9	5205.8	5066.3	4981.5	4912.2	5178.7	5427.0	6399.2
62.5°	5339.0	5039.2	5082.8	5230.2	5679.2	5720.1	5654.8	5486.9	5720.1	5858.7	6718.5
65°	4916.2	4639.1	4892.7	5242.7	6119.4	6445.8	6442.3	6003.0	6083.9	6083.9	6684.8
67.5°	4175.4	3888.5	4303.7	5133.0	6423.6	7021.0	7021.9	6550.2	6117.2	6061.2	6162.5
70°	3117.9	2858.1	3324.8	4470.3	6109.6	7299.5	7259.1	6991.7	6025.7	5536.7	5147.6
72.5°	1862.3	1694.4	2123.9	3254.2	5211.6	6787.4	6894.9	6483.1	5516.2	4604.4	3679.7
75°	845.6	772.8	998.0	1869.4	3720.6	5661.5	5778.3	5471.4	4381.5	3311.5	2126.6
77.5°	362.0	342.4	435.7	829.2	2051.5	3871.6	4111.0	3910.2	2968.6	1924.5	940.7
80°	232.7	220.3	267.8	398.8	952.7	2091.9	2298.0	2222.9	1512.3	748.4	331.3
82.5°	139.0	135.0	179.0	250.5	519.6	920.7	1037.5	1065.1	628.0	335.8	189.6
85°	75.9	76.8	98.2	151.9	311.8	358.4	383.7	417.5	295.8	194.5	91.9
87.5°	25.3	29.3	39.5	61.7	111.0	101.3	101.7	118.1	124.8	80.8	29.3
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°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	444.1	436.1	415.7	417.0	424.6	426.4	428.6	415.7	413.1	437.5	439.7
5°	567.6	541.4	529.4	525.4	513.9	509.9	531.2	541.0	550.7	569.8	579.2
7.5°	666.7	637.3	615.6	595.6	578.7	568.9	604.9	632.5	649.3	688.4	706.2
10°	712.0	686.6	678.6	662.7	675.5	704.9	711.5	712.4	749.7	748.8	756.4
12.5°	802.1	785.7	759.5	765.3	799.0	829.2	820.8	833.7	847.0	879.0	864.3
15°	884.3	879.8	855.4	859.4	866.1	903.8	908.7	921.6	942.0	967.3	950.0
17.5°	985.6	983.8	924.3	918.9	934.5	971.3	959.8	937.1	1004.6	1031.7	1024.6
20°	1054.4	1041.1	964.7	942.0	981.6	986.4	973.1	937.1	995.8	1054.8	1070.8
22.5°	1111.7	1096.1	1017.5	973.1	965.1	967.3	967.3	960.7	989.5	1038.0	1037.5
25°	1157.9	1172.5	1072.6	1030.0	987.3	934.0	927.4	933.1	949.6	1042.8	1039.7
27.5°	1273.8	1233.4	1091.3	1059.3	971.8	887.8	906.1	914.9	920.3	1022.4	1039.3
30°	1349.3	1361.7	1157.9	1076.6	949.1	836.3	842.5	868.3	899.4	1020.2	1025.1
32.5°	1451.0	1424.4	1261.8	1047.7	888.7	805.2	793.7	828.3	874.5	984.2	997.5
35°	1545.6	1577.1	1305.8	1042.4	846.5	758.6	771.0	783.0	831.0	944.2	959.8
37.5°	1767.7	1695.7	1429.2	1016.6	811.4	735.1	721.7	739.9	780.8	868.3	904.3
40°	1936.5	1940.9	1455.9	984.2	744.4	701.3	672.9	691.1	708.4	778.1	793.7
42.5°	2253.1	2156.3	1521.2	913.2	702.2	650.7	634.7	642.7	645.3	674.7	700.4
45°	2656.0	2429.0	1546.9	817.7	646.7	629.8	597.4	593.4	578.7	582.7	605.4
47.5°	3213.4	2854.5	1528.3	716.0	597.4	602.7	556.1	537.9	517.4	522.3	543.6
50°	3934.2	3398.1	1527.0	629.8	563.6	567.2	529.0	496.1	475.7	485.9	504.5
52.5°	4743.0	3943.5	1533.2	570.7	526.8	525.0	511.2	471.2	454.8	465.5	486.8
55°	5516.7	4412.6	1579.4	533.4	488.6	491.7	497.0	463.2	445.0	454.8	477.0
57.5°	6190.0	4783.0	1562.0	493.9	453.0	467.2	481.5	452.1	438.4	452.6	474.8
60°	6660.8	4954.9	1425.3	456.1	426.8	446.4	473.9	450.8	449.0	479.7	506.3
62.5°	6832.7	4891.3	1158.8	426.4	411.3	443.7	491.2	480.1	481.9	519.6	556.5
65°	6581.7	4557.3	864.3	407.3	399.3	456.6	531.2	497.4	473.0	504.1	537.9
67.5°	5868.0	3963.5	631.6	390.8	385.5	477.0	568.1	495.7	450.4	481.9	509.4
70°	4747.4	3128.5	489.0	370.0	367.3	463.2	571.6	482.3	425.9	446.4	461.9
72.5°	3252.9	2142.1	405.1	350.0	335.8	410.4	542.7	452.6	396.6	408.6	421.5
75°	1817.9	1202.3	340.7	325.1	294.0	365.5	509.0	434.8	374.9	378.4	396.2
77.5°	815.9	520.1	289.1	292.2	256.3	323.3	465.0	406.4	341.5	333.6	351.3
80°	308.7	253.6	234.5	246.9	215.4	280.3	419.3	380.6	306.5	296.2	306.5
82.5°	179.0	153.7	174.1	190.1	171.0	257.6	400.2	357.1	270.0	244.3	253.2
85°	83.1	79.5	104.4	123.5	119.5	200.8	342.4	268.7	192.3	162.6	179.9
87.5°	21.8	24.4	36.9	43.5	44.4	68.8	131.9	99.9	75.1	56.9	54.6
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)