

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: P368600

Luminaire Tested: **MSA-SA4D-727-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368600  
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-SA4D-727-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 22308 lumens  
Efficiency: N/A  
Efficacy: 86.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G4

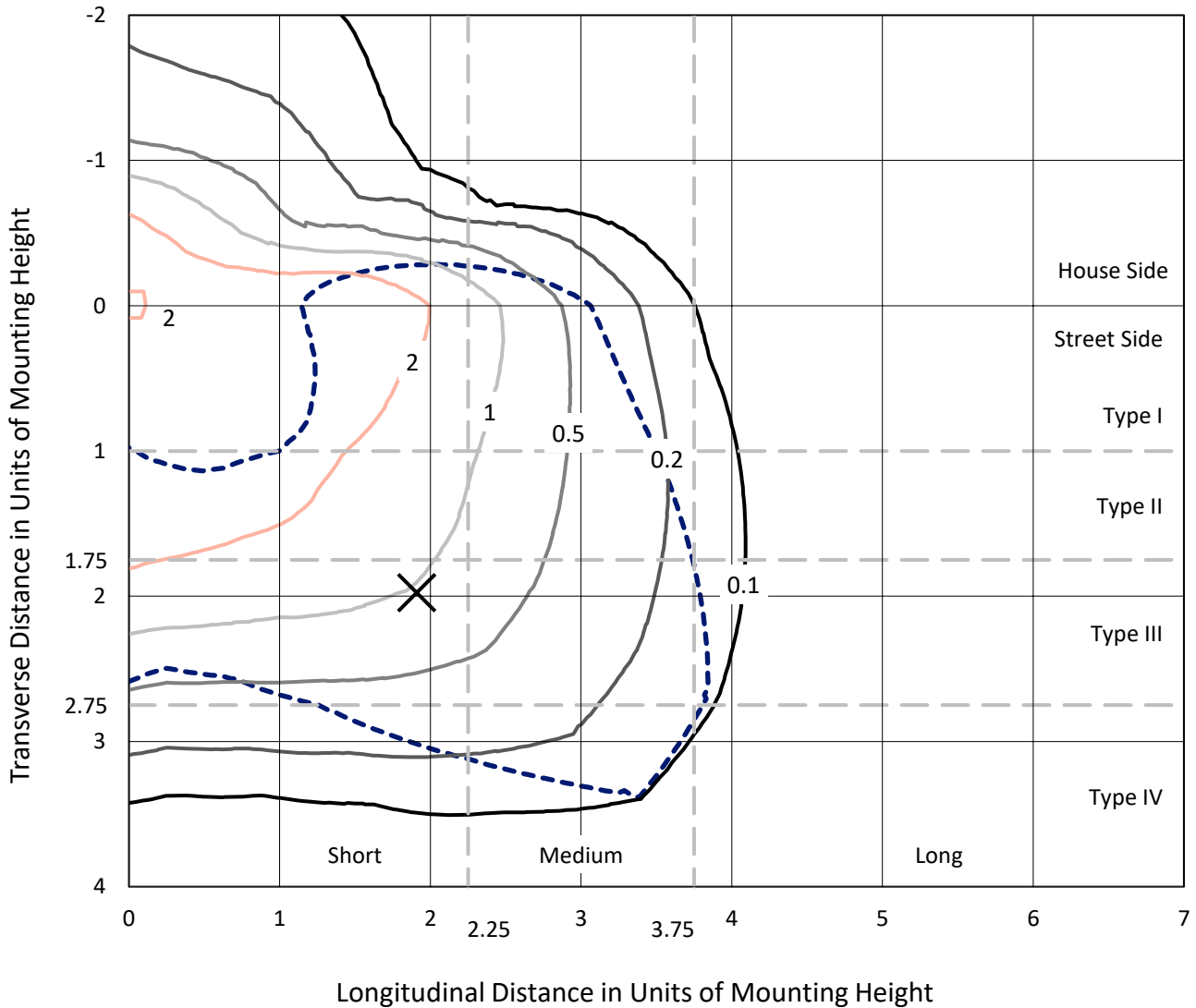
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

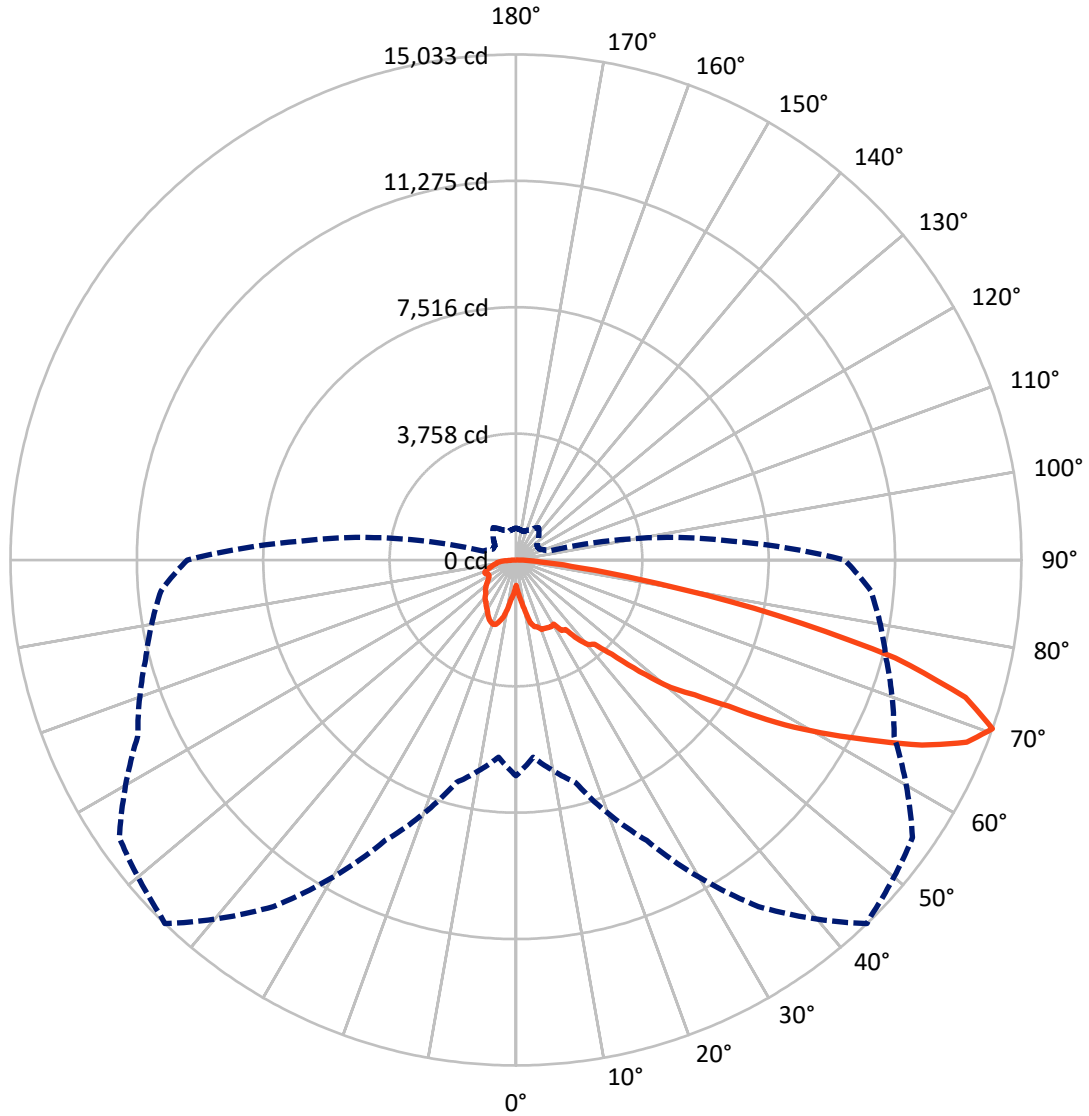
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 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	4922.0	0.0	4922.0
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	17386.0	0.0	17386.0
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	22308.0	0.0	22308.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.9	0.5
10°-20°	547.5	2.5
20°-30°	1023.1	4.6
30°-40°	1642.2	7.4
40°-50°	2771.9	12.4
50°-60°	4939.5	22.1
60°-70°	6756.6	30.3
70°-80°	3973.3	17.8
80°-90°	535.0	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°	22308.0	100.0
0°-180°	22308.0	100.0

**Coefficient of Utilization**



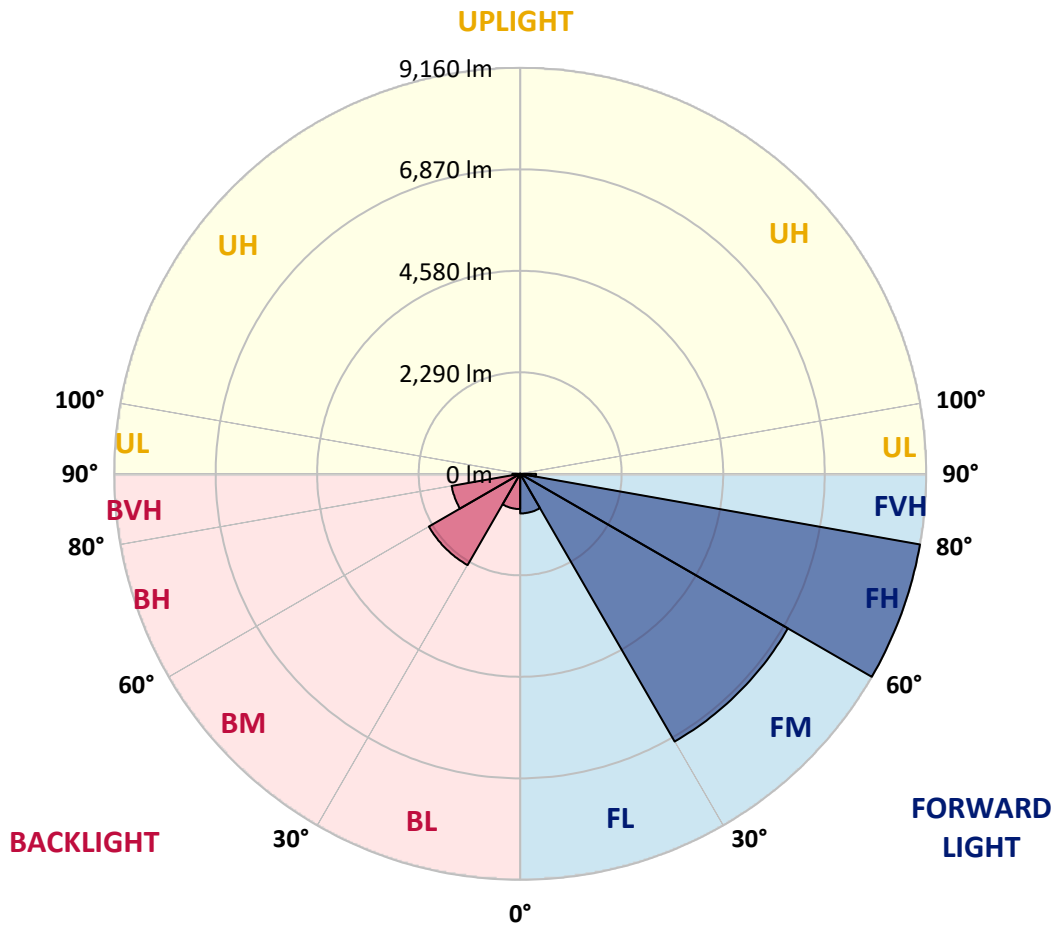
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	894.0	4.0			
FM (30°-60°)	6975.1	31.3			
FH (60°-80°)	9160.4	41.1			G4/12000
FVH (80°-90°)	356.6	1.6			G3/500
BL (0°-30°)	795.5	3.6	B2/1000		
BM (30°-60°)	2378.6	10.7	B2/2500		
BH (60°-80°)	1569.5	7.0	B3/2500		G3/2500
BVH (80°-90°)	178.4	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	758.3	758.3	758.3	758.3	758.3	758.3	758.3	758.3	758.3	758.3	758.3
2.5°	920.2	901.9	858.0	872.6	890.9	898.2	896.4	894.6	866.2	856.2	906.5
5°	1250.4	1210.1	1178.1	1165.3	1123.2	1090.3	1070.2	1123.2	1115.0	1128.7	1163.5
7.5°	1561.4	1535.8	1463.5	1437.9	1351.9	1295.2	1288.8	1330.9	1341.9	1319.9	1379.4
10°	1761.7	1717.8	1703.2	1641.9	1582.4	1573.3	1567.8	1548.6	1522.0	1520.2	1467.2
12.5°	1917.2	1940.1	1951.9	1881.5	1883.3	1916.3	1898.9	1821.1	1776.3	1697.7	1704.1
15°	2196.2	2229.1	2134.9	2090.1	2004.1	2053.5	2047.1	1982.1	1975.7	1924.5	1865.1
17.5°	2439.5	2454.1	2296.8	2194.3	2165.1	2093.7	2112.9	2114.8	2030.6	2122.1	2069.0
20°	2459.6	2511.7	2330.6	2126.7	2214.5	2205.3	2208.1	2189.8	2079.1	2230.0	2209.9
22.5°	2558.4	2478.8	2316.0	2166.9	2189.8	2203.5	2216.3	2194.3	2187.9	2272.1	2333.4
25°	2540.1	2514.5	2349.8	2223.6	2226.4	2229.1	2235.5	2301.4	2294.0	2408.4	2440.4
27.5°	2711.1	2671.8	2359.9	2328.8	2257.5	2241.9	2198.0	2335.2	2442.2	2439.5	2616.0
30°	3036.8	2996.5	2594.1	2503.5	2374.5	2215.4	2299.5	2482.5	2566.6	2595.0	2819.1
32.5°	3545.3	3611.2	3055.1	2690.1	2530.0	2495.3	2486.1	2467.8	2676.4	2816.3	3020.3
35°	4275.3	4223.1	3598.4	3089.8	2693.8	2544.7	2564.8	2676.4	2924.3	3014.8	3203.2
37.5°	5111.3	5003.4	4294.5	3542.6	3165.7	2979.1	2912.4	3020.3	3075.2	3146.5	3531.6
40°	5961.0	5697.6	4977.7	4138.1	3449.3	3308.4	3249.9	3117.3	3246.2	3390.8	3880.1
42.5°	6781.5	6577.5	5721.4	4848.8	3926.8	3424.6	3392.6	3262.7	3662.4	3815.2	4383.2
45°	7641.3	7168.4	6483.3	5651.0	4624.7	3994.5	3946.9	3713.6	4225.9	4544.2	5093.0
47.5°	8219.4	7781.3	7181.2	6302.2	5209.2	4947.6	4857.0	4458.2	4922.9	5336.3	6189.7
50°	8766.4	8315.5	7685.2	7014.8	6267.5	5966.5	5773.5	5109.5	5790.9	6464.1	7595.6
52.5°	9549.4	9146.0	8270.6	7732.8	7404.4	6664.4	6520.8	6155.9	6806.2	7714.5	9132.3
55°	10386.3	9836.6	9043.5	8745.4	8612.7	7665.1	7548.0	7315.7	8158.1	8994.2	10626.0
57.5°	10755.8	10182.3	9745.1	9566.7	9555.8	9119.5	8985.0	8823.1	9540.2	10091.8	12031.8
60°	11049.5	10433.9	10259.2	10358.9	10721.1	10433.9	10259.2	10116.5	10665.3	11176.6	13178.9
62.5°	10995.5	10378.1	10467.7	10771.4	11696.1	11780.3	11645.8	11300.1	11780.3	12065.7	13836.5
65°	10124.7	9553.9	10076.2	10797.0	12602.6	13274.9	13267.6	12363.0	12529.4	12529.4	13767.0
67.5°	8599.0	8008.1	8863.4	10571.1	13229.2	14459.4	14461.3	13489.9	12598.0	12482.8	12691.3
70°	6421.1	5886.0	6847.4	9206.4	12582.5	15032.9	14949.7	14399.1	12409.6	11402.5	10601.3
72.5°	3835.3	3489.5	4374.0	6701.9	10733.0	13978.3	14199.7	13351.7	11360.5	9482.6	7578.2
75°	1741.6	1591.6	2055.3	3849.9	7662.4	11659.6	11900.1	11268.1	9023.4	6819.9	4379.5
77.5°	745.5	705.2	897.3	1707.7	4225.0	7973.4	8466.4	8052.9	6113.8	3963.4	1937.3
80°	479.3	453.7	551.6	821.4	1962.0	4308.2	4732.6	4578.0	3114.5	1541.3	682.4
82.5°	286.3	278.1	368.6	515.9	1070.2	1896.2	2136.7	2193.4	1293.4	691.5	390.6
85°	156.4	158.2	202.1	312.8	642.1	738.2	790.3	859.8	609.2	400.6	189.3
87.5°	52.1	60.4	81.4	127.1	228.7	208.5	209.5	243.3	257.0	166.5	60.4
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°	758.3	758.3	758.3	758.3	758.3	758.3	758.3	758.3	758.3	758.3	758.3
2.5°	914.7	898.2	856.2	858.9	874.4	878.1	882.7	856.2	850.7	901.0	905.5
5°	1169.0	1115.0	1090.3	1082.1	1058.3	1050.1	1094.0	1114.1	1134.2	1173.5	1192.8
7.5°	1373.0	1312.6	1267.8	1226.6	1191.8	1171.7	1245.8	1302.5	1337.3	1417.8	1454.4
10°	1466.2	1414.1	1397.6	1364.7	1391.2	1451.6	1465.3	1467.2	1544.0	1542.2	1557.7
12.5°	1651.9	1618.1	1564.1	1576.0	1645.5	1707.7	1690.3	1716.9	1744.3	1810.2	1780.0
15°	1821.1	1812.0	1761.7	1769.9	1783.6	1861.4	1871.5	1898.0	1940.1	1992.2	1956.5
17.5°	2029.7	2026.0	1903.5	1892.5	1924.5	2000.4	1976.6	1930.0	2069.0	2124.8	2110.2
20°	2171.5	2144.0	1986.7	1940.1	2021.5	2031.5	2004.1	1930.0	2050.7	2172.4	2205.3
22.5°	2289.5	2257.5	2095.6	2004.1	1987.6	1992.2	1992.2	1978.5	2037.9	2137.6	2136.7
25°	2384.6	2414.8	2209.0	2121.2	2033.4	1923.6	1909.9	1921.8	1955.6	2147.7	2141.3
27.5°	2623.3	2540.1	2247.4	2181.5	2001.3	1828.5	1866.0	1884.3	1895.2	2105.6	2140.4
30°	2778.8	2804.4	2384.6	2217.2	1954.7	1722.4	1735.2	1788.2	1852.2	2101.0	2111.1
32.5°	2988.3	2933.4	2598.6	2157.8	1830.3	1658.3	1634.6	1705.9	1801.0	2027.0	2054.4
35°	3183.1	3248.1	2689.2	2146.8	1743.4	1562.3	1587.9	1612.6	1711.4	1944.6	1976.6
37.5°	3640.5	3492.3	2943.5	2093.7	1671.1	1513.8	1486.4	1523.9	1608.0	1788.2	1862.3
40°	3988.1	3997.2	2998.4	2027.0	1533.0	1444.3	1385.8	1423.3	1458.9	1602.5	1634.6
42.5°	4640.2	4440.8	3132.8	1880.6	1446.1	1340.0	1307.1	1323.6	1329.0	1389.4	1442.5
45°	5469.8	5002.4	3185.9	1683.9	1331.8	1297.0	1230.3	1222.0	1191.8	1200.1	1246.7
47.5°	6617.8	5878.7	3147.4	1474.5	1230.3	1241.2	1145.2	1107.7	1065.6	1075.7	1119.6
50°	8102.3	6998.3	3144.7	1297.0	1160.7	1168.1	1089.4	1021.7	979.6	1000.7	1039.1
52.5°	9768.0	8121.5	3157.5	1175.4	1084.8	1081.2	1052.8	970.5	936.6	958.6	1002.5
55°	11361.4	9087.4	3252.6	1098.5	1006.2	1012.6	1023.5	954.0	916.5	936.6	982.4
57.5°	12748.0	9850.3	3217.0	1017.1	933.0	962.3	991.5	931.2	902.8	932.1	977.8
60°	13717.6	10204.3	2935.2	939.4	879.0	919.3	976.0	928.4	924.8	987.9	1042.7
62.5°	14071.6	10073.5	2386.4	878.1	847.0	913.8	1011.6	988.8	992.4	1070.2	1146.1
65°	13554.8	9385.6	1780.0	838.8	822.3	940.3	1094.0	1024.5	974.1	1038.2	1107.7
67.5°	12084.9	8162.7	1300.7	804.9	794.0	982.4	1169.9	1020.8	927.5	992.4	1049.1
70°	9777.1	6443.1	1007.1	761.9	756.4	954.0	1177.2	993.4	877.2	919.3	951.3
72.5°	6699.2	4411.6	834.2	720.8	691.5	845.2	1117.8	932.1	816.8	841.5	868.0
75°	3743.8	2476.1	701.6	669.6	605.5	752.8	1048.2	895.5	772.0	779.3	815.9
77.5°	1680.3	1071.1	595.5	601.9	527.8	665.9	957.7	836.9	703.4	686.9	723.5
80°	635.7	522.3	483.0	508.6	443.6	577.2	863.5	783.9	631.1	610.1	631.1
82.5°	368.6	316.5	358.6	391.5	352.2	530.5	824.1	735.4	556.1	503.1	521.4
85°	171.0	163.7	215.0	254.3	246.1	413.4	705.2	553.4	396.1	334.8	370.4
87.5°	44.8	50.3	75.9	89.6	91.5	141.8	271.7	205.8	154.6	117.1	112.5
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)