

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: P368308

Luminaire Tested: **MSA-SA4A-830-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368308  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-830-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12288 lumens  
Efficiency: N/A  
Efficacy: 95.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B2 - U0 - G2

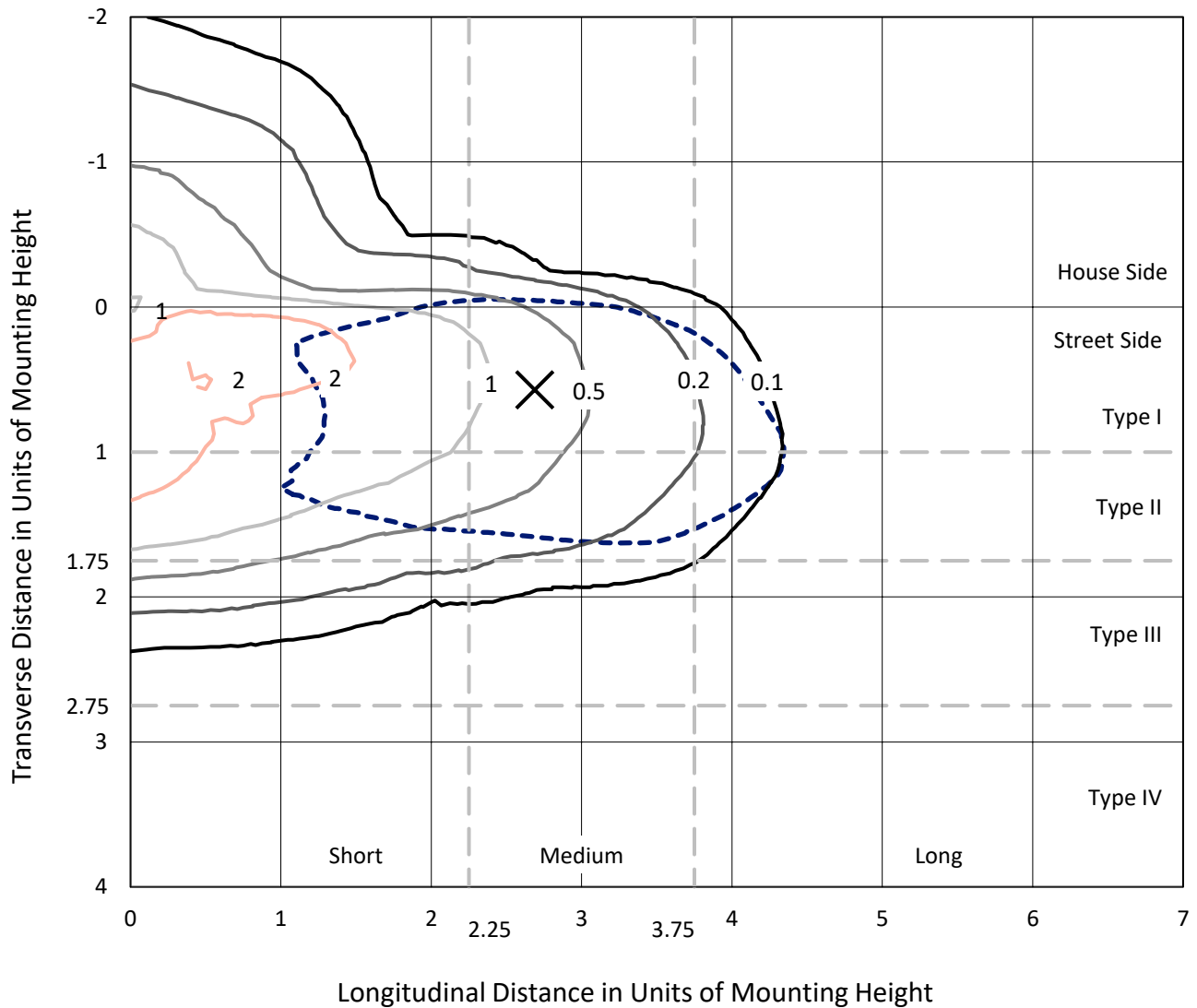
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

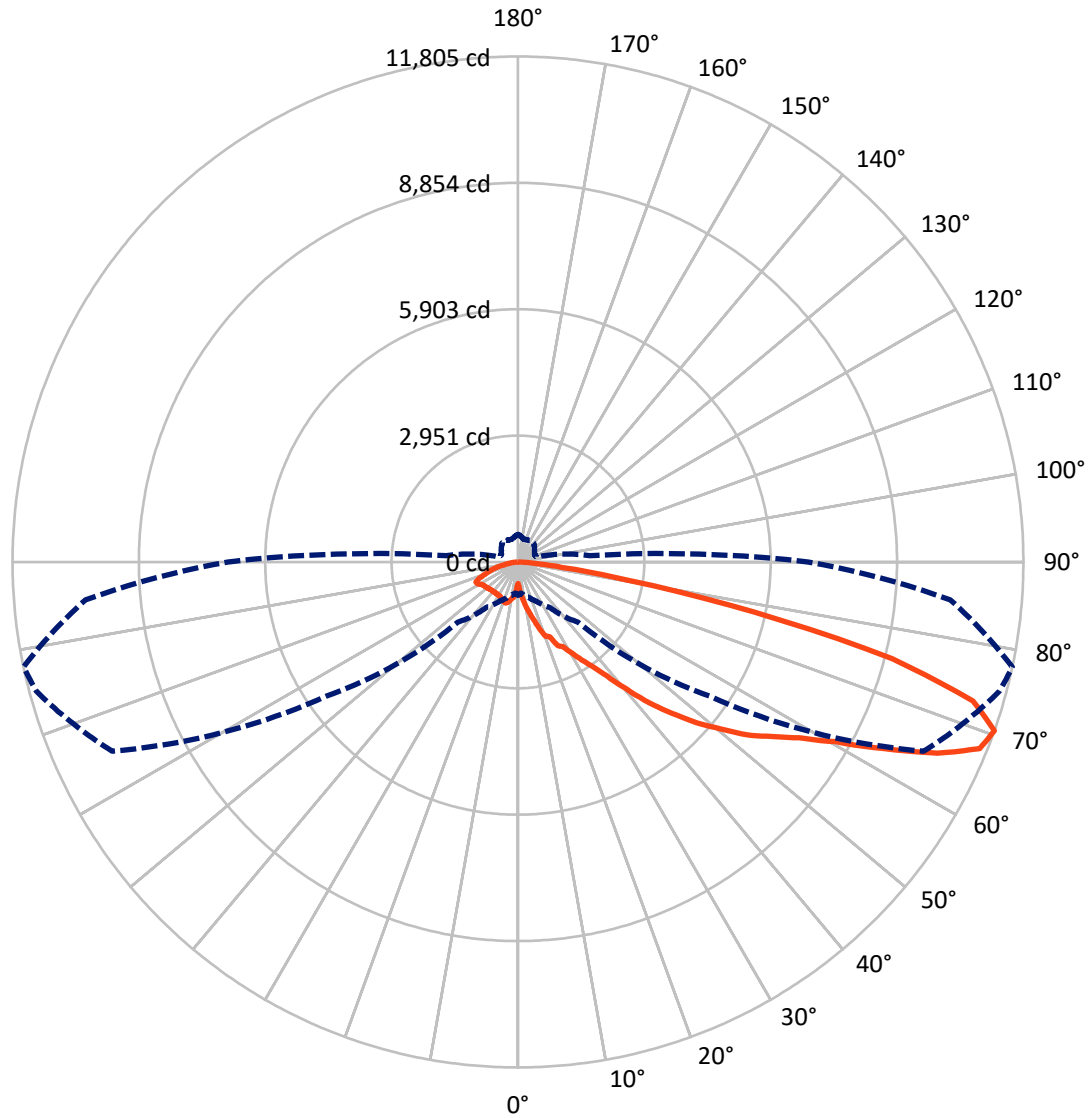
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.9 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2193.2	0.0	2193.2
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	10094.8	0.0	10094.8
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	12288.0	0.0	12288.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.4	0.6
10°-20°	341.1	2.8
20°-30°	656.6	5.3
30°-40°	1106.0	9.0
40°-50°	1913.6	15.6
50°-60°	2889.3	23.5
60°-70°	3200.2	26.0
70°-80°	1845.1	15.0
80°-90°	258.8	2.1
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°	12288.0	100.0
0°-180°	12288.0	100.0

**Coefficient of Utilization**

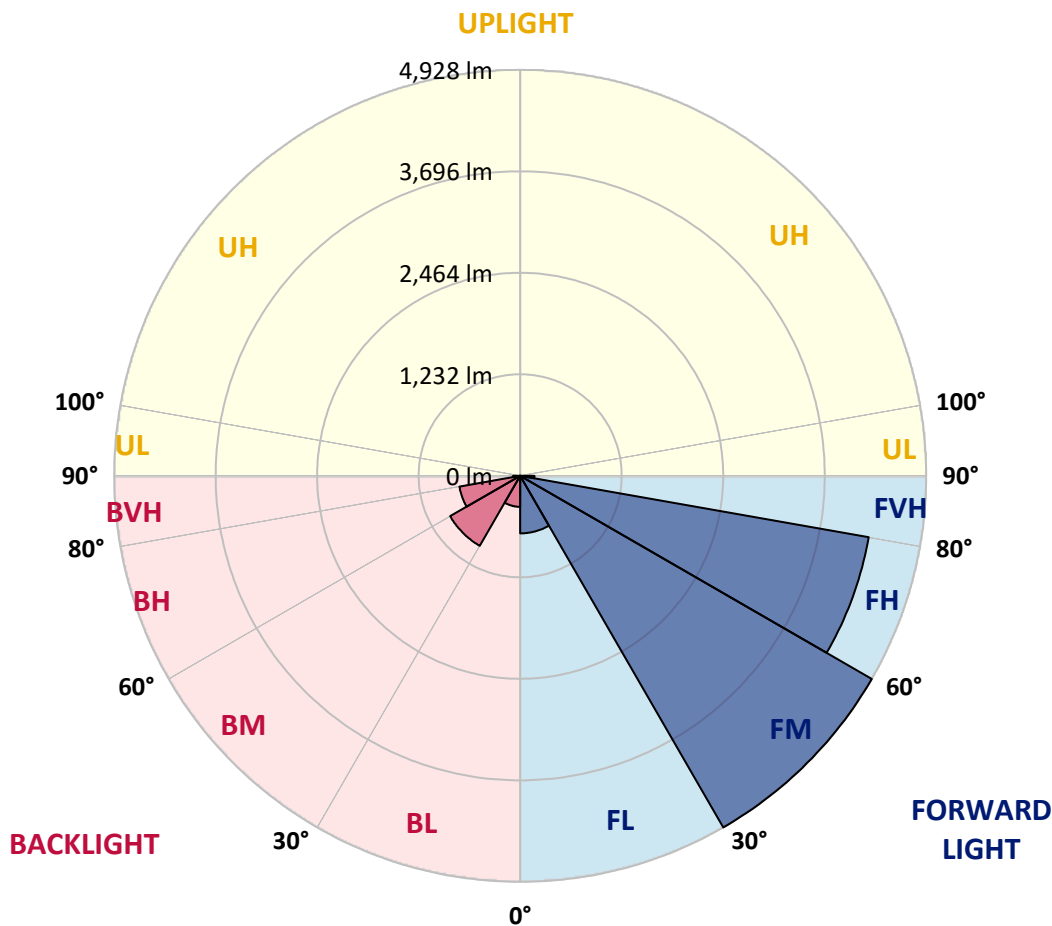


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	698.5	5.7			
FM (30°-60°)	4927.9	40.1			
FH (60°-80°)	4295.7	35.0			G2/5000
FVH (80°-90°)	172.6	1.4			G2/225
BL (0°-30°)	376.6	3.1	B1/500		
BM (30°-60°)	981.0	8.0	B1/1000		
BH (60°-80°)	749.5	6.1	B2/1000		G2/1000
BVH (80°-90°)	86.1	0.7			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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	501.0	501.0	501.0	501.0	501.0	501.0	501.0	501.0	501.0	501.0	501.0
2.5°	644.9	621.9	587.0	601.4	618.8	620.9	615.2	583.5	572.7	596.8	604.0
5°	903.6	864.7	841.1	833.4	807.3	753.0	791.9	772.0	776.1	764.3	787.3
7.5°	1121.3	1095.2	1060.4	1050.6	990.7	948.2	974.8	966.1	924.1	907.7	933.8
10°	1232.0	1203.3	1204.8	1183.8	1167.9	1172.0	1158.7	1120.3	1089.1	1067.0	1004.0
12.5°	1298.6	1305.7	1344.2	1333.4	1393.3	1442.5	1405.1	1348.3	1249.4	1229.4	1166.9
15°	1456.9	1483.5	1447.6	1464.0	1489.6	1583.9	1568.5	1556.2	1451.7	1412.8	1297.5
17.5°	1619.8	1624.9	1570.6	1561.9	1623.3	1671.0	1730.9	1661.8	1674.6	1647.4	1461.0
20°	1654.6	1689.9	1612.1	1558.3	1684.8	1779.1	1853.3	1780.1	1847.7	1854.9	1595.7
22.5°	1782.1	1739.6	1637.2	1584.4	1695.1	1810.8	1931.7	1972.7	1951.2	1890.7	1725.8
25°	1870.8	1848.2	1743.7	1685.3	1727.3	1833.9	2046.0	2153.0	2172.0	2163.8	1849.8
27.5°	2035.2	2046.5	1831.3	1847.7	1789.3	1799.0	2114.6	2392.2	2273.9	2241.1	2003.4
30°	2294.9	2244.7	2003.4	2016.8	1919.9	1903.5	2259.6	2598.7	2492.6	2453.2	2130.0
32.5°	2565.9	2570.5	2277.5	2163.8	2112.0	2095.6	2230.9	2706.8	2769.3	2718.0	2321.0
35°	2948.0	2921.4	2574.6	2425.0	2238.1	2209.4	2435.3	3020.3	3135.0	2991.6	2548.0
37.5°	3530.0	3449.5	3045.9	2700.1	2561.8	2529.0	2727.3	3301.5	3559.7	3381.4	2918.8
40°	3997.1	3833.7	3467.0	3045.9	2811.8	2852.2	2934.7	3642.7	4000.2	3899.8	3262.1
42.5°	4369.6	4224.6	3765.1	3469.0	3150.9	3100.7	3190.8	4065.3	4599.6	4501.2	3690.3
45°	4726.6	4431.5	4100.1	3833.7	3527.9	3588.9	3575.6	4496.6	5334.6	5031.9	4068.9
47.5°	5079.0	4801.9	4455.1	4097.0	3789.2	4168.7	4026.9	4817.3	5830.5	5606.1	4467.4
50°	5531.9	5227.1	4832.1	4472.0	4287.6	4565.2	4327.0	5088.8	6385.8	6122.5	4843.4
52.5°	5832.6	5536.0	5189.7	4932.5	4915.6	4808.6	4747.6	5432.5	6872.4	6712.6	5241.9
55°	5797.2	5511.4	5354.6	5382.8	5591.8	5230.7	5181.0	5941.2	7380.1	7195.2	5672.2
57.5°	5354.1	5042.1	5075.4	5242.4	5803.9	5971.9	5887.4	6484.7	7832.9	7748.9	6204.5
60°	4170.8	4010.5	4281.4	4586.7	5520.1	6189.1	6783.3	7147.5	8390.3	8524.5	7040.5
62.5°	2709.3	2495.2	2923.5	3441.9	4673.3	6045.7	7695.6	8404.6	9303.1	9607.9	8310.9
65°	1403.6	1369.3	1668.9	2145.3	3253.3	5154.8	8017.3	9723.2	10412.6	10767.6	9524.4
67.5°	1020.4	956.9	1095.7	1375.9	1986.0	3515.1	7407.7	10731.8	11303.5	11628.7	10229.8
70°	777.1	730.0	836.0	1009.7	1297.0	1985.5	5468.3	10456.7	11647.2	11805.0	10136.0
72.5°	581.9	541.5	634.2	796.0	999.4	1117.7	3232.3	8597.7	11060.7	11114.4	9097.2
75°	464.6	433.4	473.3	628.5	814.5	760.7	1717.1	6229.0	8986.5	9032.6	6948.8
77.5°	381.1	354.5	370.9	471.3	633.7	572.2	851.9	3962.3	5705.5	5634.8	3909.5
80°	310.9	287.9	295.6	340.7	482.5	427.2	478.4	2067.0	2721.6	2612.0	1625.9
82.5°	239.2	219.8	235.1	250.5	349.4	306.8	279.2	940.5	1114.7	1038.3	596.3
85°	160.3	142.4	204.4	188.0	228.5	188.5	152.7	374.5	415.4	387.3	209.5
87.5°	44.1	41.5	68.6	93.7	93.7	71.2	55.8	90.7	115.8	101.4	49.2
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°	501.0	501.0	501.0	501.0	501.0	501.0	501.0	501.0	501.0	501.0	501.0
2.5°	607.0	595.8	566.0	563.5	570.7	571.7	567.1	556.3	550.7	581.4	576.8
5°	781.7	741.7	717.7	695.6	664.9	642.9	648.5	663.9	669.0	692.1	694.6
7.5°	917.5	864.7	811.9	741.2	694.6	664.9	687.4	703.8	716.6	749.4	762.8
10°	976.4	919.0	844.2	769.9	757.1	762.2	749.4	753.5	773.5	775.0	781.7
12.5°	1086.0	1020.9	886.2	819.1	815.5	826.3	821.7	840.6	854.4	891.8	876.0
15°	1191.0	1108.0	918.0	849.3	834.5	856.0	881.1	912.8	942.6	977.9	960.0
17.5°	1318.5	1193.6	919.5	835.5	838.1	884.2	910.3	927.7	1016.3	1065.0	1040.4
20°	1399.0	1202.3	885.2	801.2	838.1	879.5	915.9	934.9	1034.2	1107.5	1124.4
22.5°	1471.7	1205.3	858.5	782.7	806.3	861.1	915.9	957.9	1021.4	1091.6	1094.2
25°	1511.7	1202.8	824.2	784.3	805.8	832.9	881.6	920.0	967.1	1065.0	1067.5
27.5°	1614.1	1169.5	790.4	790.4	801.7	802.7	864.7	887.2	893.9	983.0	998.9
30°	1643.8	1176.7	786.3	789.4	795.0	784.8	811.9	826.8	836.5	913.4	915.9
32.5°	1691.5	1119.3	798.6	780.2	773.0	771.5	778.1	791.4	795.5	842.7	851.4
35°	1749.4	1096.2	802.7	777.6	763.3	755.6	775.6	759.2	772.0	827.3	833.4
37.5°	1937.9	1064.5	823.7	777.6	759.2	750.5	740.7	748.4	794.0	847.3	880.1
40°	2058.2	1074.2	818.6	785.3	745.3	737.1	720.7	748.9	819.6	913.9	938.5
42.5°	2269.3	1079.8	824.7	781.7	749.9	718.2	728.9	759.7	834.0	887.7	925.6
45°	2487.5	1097.3	820.6	770.9	739.7	754.6	739.7	767.4	802.7	804.2	832.9
47.5°	2701.6	1167.4	811.9	748.9	737.1	776.1	738.2	742.8	745.3	754.6	788.4
50°	2953.2	1242.2	799.6	718.2	740.7	777.1	743.8	721.3	718.7	748.9	786.8
52.5°	3239.0	1326.7	783.8	688.5	719.7	767.4	763.3	722.8	700.8	730.0	767.9
55°	3575.6	1423.1	765.3	658.8	696.7	768.4	774.0	712.0	701.3	733.0	773.5
57.5°	4022.8	1562.4	729.5	615.7	668.5	752.5	746.4	699.7	689.5	723.3	765.3
60°	4786.0	1830.3	678.2	573.2	638.3	713.6	723.8	677.7	667.5	704.9	748.9
62.5°	5808.0	2152.5	616.2	531.7	601.4	671.6	695.6	646.0	644.9	692.6	738.7
65°	6759.2	2335.4	552.2	493.8	563.5	632.6	663.9	616.2	618.3	678.2	724.3
67.5°	7154.7	2120.2	494.8	460.0	519.9	588.1	637.8	593.2	586.5	658.8	701.3
70°	6783.3	1684.3	445.2	424.1	470.8	539.9	601.4	562.5	547.1	612.7	646.0
72.5°	6002.1	1404.1	398.5	382.1	427.7	489.2	552.2	521.0	501.0	551.2	580.9
75°	4691.8	1152.1	345.3	340.7	378.6	443.1	501.0	479.5	453.9	485.6	515.3
77.5°	2671.4	728.9	289.9	293.0	320.2	388.3	439.5	422.6	396.5	409.8	444.1
80°	1069.1	367.8	233.1	235.1	258.2	319.1	364.2	358.1	330.9	341.7	365.2
82.5°	399.6	201.8	172.1	173.1	196.2	252.5	310.9	307.9	282.3	274.6	287.9
85°	158.8	99.9	105.5	110.1	132.2	181.9	249.5	221.3	191.1	167.5	175.7
87.5°	37.9	31.8	36.9	38.9	43.0	56.9	91.2	73.3	75.3	60.4	45.1
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)