

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: P368692

Luminaire Tested: **MSA-SA4D-830-U-RW**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368692
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-830-U-RW
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21469 lumens
Efficiency: N/A
Efficacy: 82.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B4 - U0 - G4

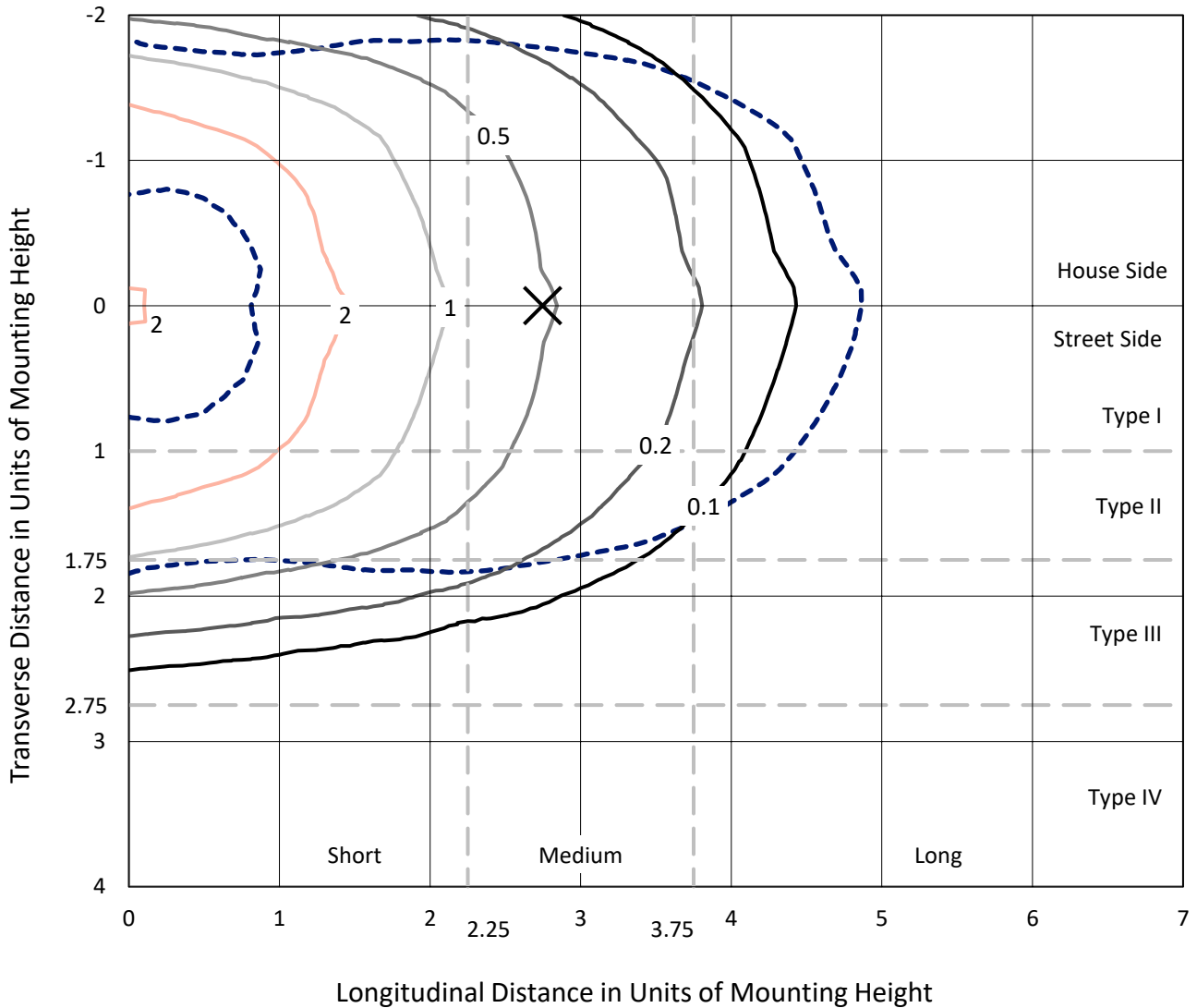
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

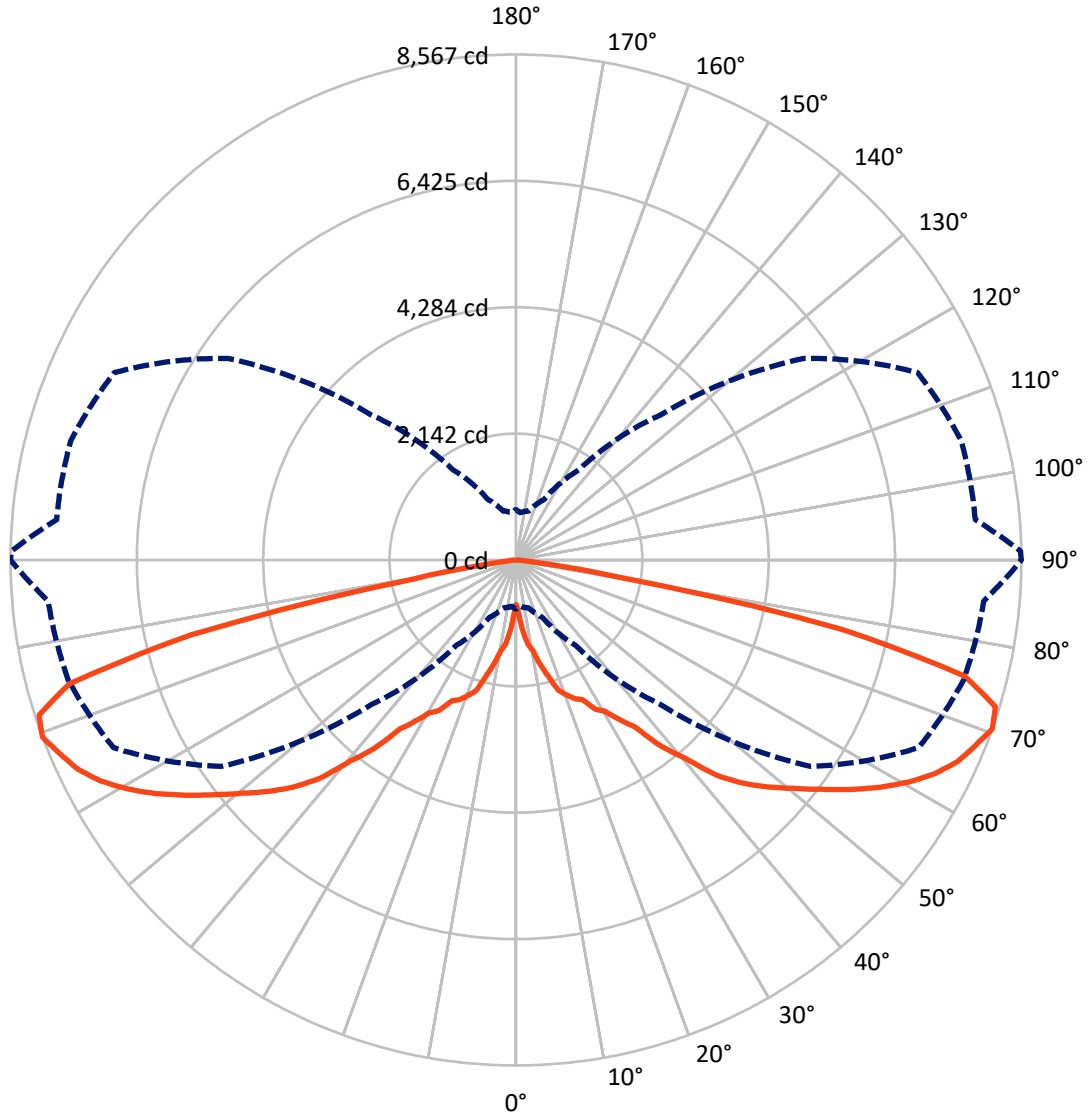
✕ Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10694.7	0.0	10694.7
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	10774.3	0.0	10774.3
	% Fixture	50.2	0.0	50.2
Total	Lumens	21469.0	0.0	21469.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.7	0.5
10°-20°	521.0	2.4
20°-30°	1126.4	5.2
30°-40°	2149.1	10.0
40°-50°	3904.2	18.2
50°-60°	5484.4	25.5
60°-70°	5236.5	24.4
70°-80°	2687.4	12.5
80°-90°	246.4	1.1
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°	21469.0	100.0
0°-180°	21469.0	100.0

Coefficient of Utilization



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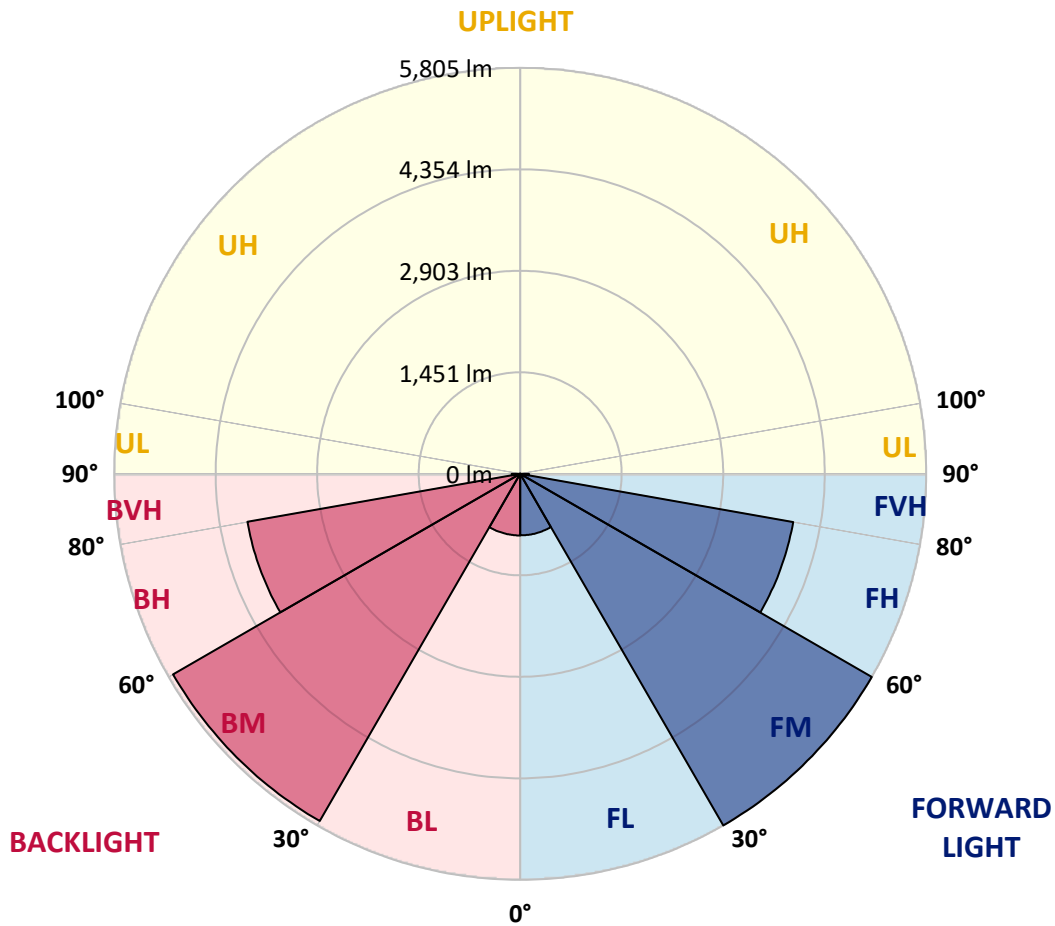
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	879.7	4.1			
FM (30°-60°)	5805.5	27.0			
FH (60°-80°)	3964.1	18.5			G2/5000
FVH (80°-90°)	125.0	0.6			G2/225
BL (0°-30°)	881.4	4.1	B2/1000		
BM (30°-60°)	5732.2	26.7	B4/8500		
BH (60°-80°)	3959.8	18.4	B4/5000		G4/5000
BVH (80°-90°)	121.4	0.6			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	753.5	753.5	753.5	753.5	753.5	753.5	753.5	753.5	753.5	753.5	753.5
2.5°	912.7	878.8	836.2	861.4	871.8	890.1	887.5	878.8	841.4	904.0	911.0
5°	1142.5	1088.5	1068.5	1065.0	1070.2	1052.8	1109.4	1092.9	1123.3	1179.9	1192.9
7.5°	1300.8	1260.8	1218.2	1231.2	1177.3	1169.4	1242.5	1307.8	1324.3	1427.8	1434.8
10°	1375.6	1336.5	1347.8	1340.0	1333.9	1384.3	1418.3	1466.1	1534.9	1544.4	1559.2
12.5°	1439.2	1454.8	1504.4	1502.7	1584.5	1674.1	1661.0	1710.6	1721.9	1842.0	1805.5
15°	1600.1	1632.3	1628.8	1659.3	1695.0	1842.0	1842.9	1927.3	2004.7	2051.7	2039.5
17.5°	1835.9	1847.2	1800.3	1802.0	1905.5	1965.6	2032.6	2017.8	2219.6	2311.9	2318.0
20°	1976.9	2005.6	1951.7	1880.3	2063.9	2146.6	2184.0	2097.8	2313.6	2438.0	2438.0
22.5°	2223.1	2149.2	2067.4	2019.5	2181.4	2269.2	2264.9	2240.5	2355.4	2575.5	2554.6
25°	2358.9	2317.1	2276.2	2288.4	2370.2	2415.4	2475.5	2418.9	2526.8	2690.4	2621.6
27.5°	2616.4	2539.0	2338.0	2498.1	2498.1	2464.1	2591.2	2618.2	2547.7	2813.9	2865.3
30°	2907.9	2880.9	2596.4	2766.1	2713.9	2618.2	2861.8	2844.4	2726.0	2997.5	2974.0
32.5°	3183.7	3272.5	3002.7	2909.6	2987.9	3024.5	2896.6	2948.8	2971.4	3233.3	3222.0
35°	3606.6	3681.4	3323.8	3300.3	3169.8	3135.9	3233.3	3250.7	3252.5	3528.3	3477.8
37.5°	4338.4	4230.5	3877.2	3711.0	3725.8	3684.9	3704.0	3566.6	3585.7	3986.0	4011.2
40°	4873.5	4751.7	4358.4	4239.2	3946.8	4121.7	3966.8	3952.9	3914.6	4433.2	4419.3
42.5°	5464.3	5297.2	4862.2	4702.9	4392.3	4321.0	4249.6	4410.6	4400.1	4880.4	4986.6
45°	5910.6	5573.0	5345.9	5246.7	5060.5	4885.7	4817.8	4890.0	4856.9	5213.7	5399.0
47.5°	6192.6	5899.3	5638.3	5429.5	5251.1	5680.1	5336.4	5239.8	5172.8	5572.2	5750.5
50°	6417.0	6078.6	5770.6	5700.9	5841.9	6221.3	5679.2	5466.0	5547.8	5841.9	6084.7
52.5°	6478.0	6119.5	5842.8	5798.4	6179.5	6248.2	6160.4	5801.9	5780.1	6165.6	6458.8
55°	6291.7	5948.1	5816.7	6059.4	6480.6	6423.1	6557.1	6328.3	6174.3	6496.2	6865.1
57.5°	5812.3	5471.2	5439.9	5789.7	6320.5	6809.5	6875.6	6694.6	6492.7	6833.8	7268.9
60°	5024.9	4713.4	4792.6	5178.9	5979.4	6675.5	7027.0	6861.7	6799.0	7138.4	7643.0
62.5°	3798.9	3556.1	3767.6	4306.2	5356.4	6502.3	7235.8	7209.7	7119.2	7462.0	7973.7
65°	2422.4	2294.5	2510.3	3057.6	4389.7	6187.3	7335.9	7370.7	7454.2	7711.8	8229.5
67.5°	1407.8	1340.0	1471.4	1919.5	3126.3	5080.6	7149.7	7649.1	7692.6	7840.5	8397.4
70°	832.7	788.3	842.3	1078.1	1769.8	3461.3	6098.6	7527.3	7856.2	7958.9	8567.1
72.5°	635.2	593.4	569.9	637.8	924.1	1788.1	4123.4	6380.5	7724.8	7880.6	8495.7
75°	549.0	509.0	481.2	487.3	549.9	849.2	2235.3	4563.7	6582.4	7175.8	7847.5
77.5°	471.6	435.9	415.9	414.2	422.0	466.4	934.5	2474.6	4122.6	5158.0	5657.4
80°	377.6	349.8	345.4	345.4	334.1	330.6	464.6	941.5	1568.8	1860.3	1783.7
82.5°	275.8	248.0	275.8	272.3	254.9	241.0	295.8	407.2	483.8	382.0	301.9
85°	186.2	161.0	181.9	185.3	168.8	125.3	177.5	203.6	208.8	130.5	107.9
87.5°	65.3	63.5	102.7	89.6	73.1	42.6	65.3	70.5	74.0	46.1	31.3
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):

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	753.5	753.5	753.5	753.5	753.5	753.5	753.5	753.5	753.5	753.5	753.5
2.5°	913.6	903.2	851.0	858.8	878.8	888.4	898.0	858.8	839.7	900.6	894.5
5°	1196.4	1158.1	1115.5	1109.4	1112.0	1074.6	1096.3	1086.8	1091.1	1130.3	1138.1
7.5°	1433.1	1387.0	1330.4	1286.0	1209.4	1148.5	1199.9	1226.0	1233.8	1303.4	1329.5
10°	1561.0	1521.8	1505.3	1421.8	1396.5	1388.7	1376.5	1334.7	1380.9	1364.3	1377.4
12.5°	1811.6	1803.7	1717.6	1662.8	1668.0	1682.8	1606.2	1564.5	1504.4	1598.4	1564.5
15°	2024.7	2058.7	1972.5	1872.5	1822.9	1848.1	1789.8	1728.9	1675.0	1703.7	1667.1
17.5°	2297.1	2296.2	2128.3	2021.3	2016.9	2015.2	1929.0	1795.0	1859.4	1839.4	1841.1
20°	2441.5	2418.0	2209.2	2085.6	2190.9	2153.5	2076.1	1903.8	1978.6	2003.0	2018.6
22.5°	2562.5	2549.4	2296.2	2205.7	2273.6	2274.5	2197.0	2106.5	2097.0	2172.7	2131.8
25°	2646.9	2699.1	2460.7	2438.9	2468.5	2438.9	2363.2	2304.0	2265.8	2378.9	2265.8
27.5°	2847.0	2773.0	2485.9	2609.5	2627.7	2478.9	2573.8	2504.2	2398.0	2538.1	2584.2
30°	2989.7	3033.2	2663.4	2849.6	2827.9	2690.4	2729.5	2726.9	2599.9	2873.1	2840.9
32.5°	3235.1	3182.9	2953.1	2938.4	2990.6	2984.5	2918.3	2950.5	2981.9	3180.2	3228.1
35°	3486.5	3542.2	3138.5	3238.5	3223.7	3129.8	3302.9	3282.9	3376.0	3783.2	3648.4
37.5°	4053.8	3788.4	3554.4	3541.3	3640.5	3655.3	3599.6	3687.5	3888.5	4201.8	4346.2
40°	4425.4	4304.4	3906.8	3922.4	3785.0	4021.6	3865.0	4147.8	4300.9	4829.1	4777.8
42.5°	4987.5	4692.5	4310.5	4362.7	4334.9	4220.9	4427.1	4572.4	4791.7	5194.5	5454.7
45°	5406.0	5001.4	4820.4	4788.2	4784.7	4983.1	4957.0	5189.3	5267.6	5570.4	5786.2
47.5°	5723.6	5379.9	5111.9	5148.4	5042.3	5608.7	5306.8	5379.0	5537.4	5822.8	6074.2
50°	6100.3	5717.5	5412.9	5503.4	5761.9	5979.4	5706.2	5582.6	5660.1	5996.8	6277.0
52.5°	6449.2	6046.4	5711.4	5787.1	6209.1	6109.9	6080.3	5767.9	5758.4	6029.0	6347.4
55°	6857.3	6403.1	6107.3	6347.4	6497.1	6374.4	6327.4	5947.2	5712.3	5862.8	6163.0
57.5°	7257.6	6756.4	6462.3	6511.9	6701.6	6579.8	6227.4	5641.8	5348.6	5378.1	5681.8
60°	7632.6	7080.9	6838.2	6790.3	6941.7	6464.0	5847.1	5082.3	4693.4	4622.0	4884.8
62.5°	7953.7	7352.4	7122.7	6992.2	7136.6	6468.4	5254.6	4184.3	3757.1	3515.2	3719.7
65°	8208.6	7577.8	7414.2	7346.3	7398.5	6075.1	4331.4	3072.4	2548.5	2280.6	2399.8
67.5°	8378.3	7703.9	7629.1	7717.9	7021.8	5059.7	3209.0	1966.4	1481.8	1335.6	1410.4
70°	8554.0	7815.3	7812.7	7510.8	5954.1	3488.3	1874.2	1133.8	862.3	805.7	852.7
72.5°	8494.9	7683.1	7722.2	6568.4	4126.1	1864.6	989.3	641.3	583.8	603.9	645.6
75°	7866.6	6985.2	6796.4	4722.1	2340.6	866.6	569.9	485.5	482.0	512.5	553.4
77.5°	5706.2	4864.8	4365.3	2676.5	1003.2	469.0	419.4	405.5	405.5	429.8	466.4
80°	1881.2	1628.0	1696.7	1035.4	474.2	323.7	327.2	333.3	331.5	337.6	368.1
82.5°	308.9	320.2	495.1	422.9	286.3	221.0	247.1	259.3	262.8	234.9	267.1
85°	109.6	123.6	210.6	195.8	165.3	111.4	162.7	181.9	179.2	156.6	173.2
87.5°	33.9	43.5	76.6	59.2	49.6	30.5	60.9	71.3	89.6	36.5	33.1
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)