

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: P368556

Luminaire Tested: **MSA-SA4C-760-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368556  
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-SA4C-760-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: 24397 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G4

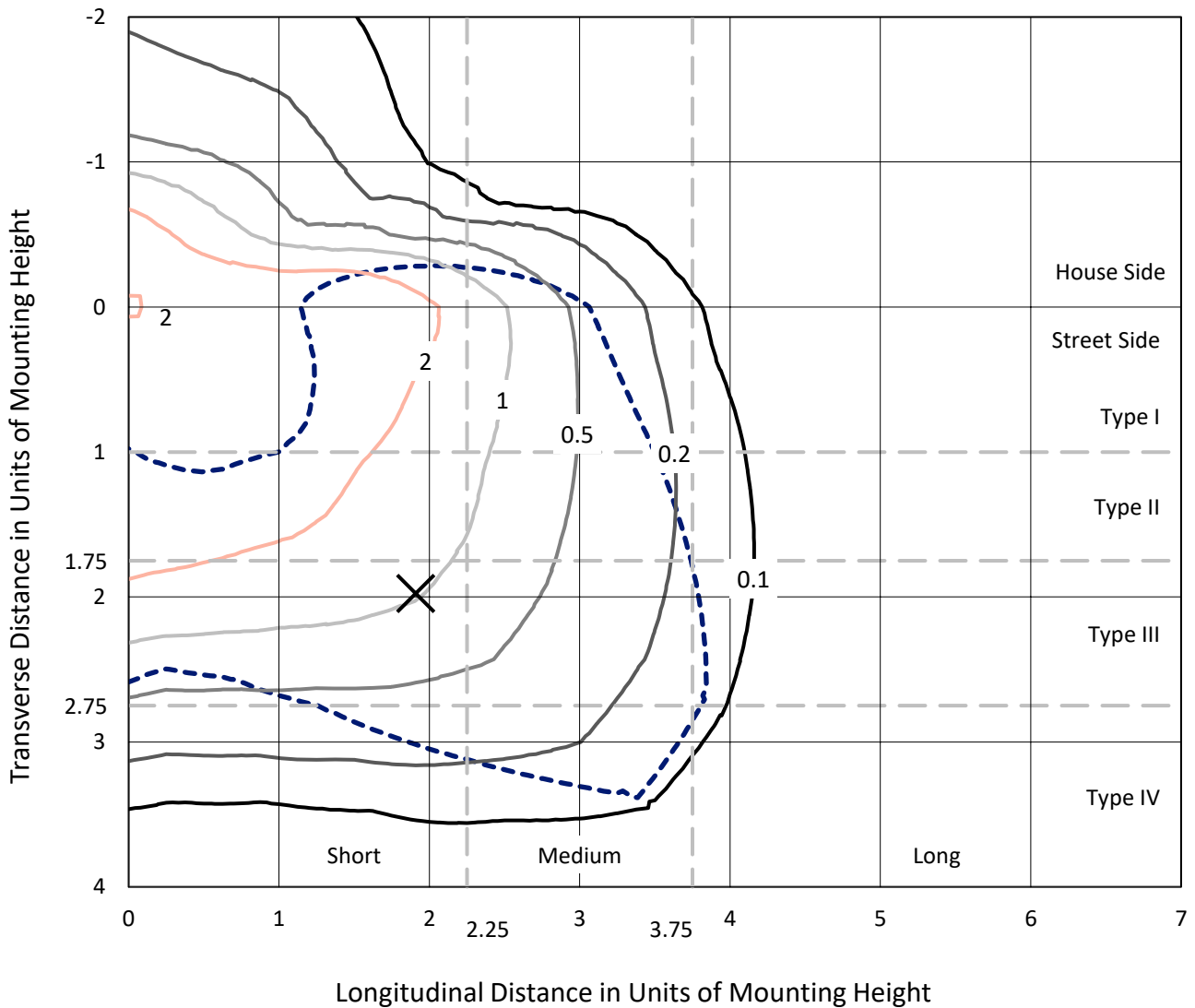
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

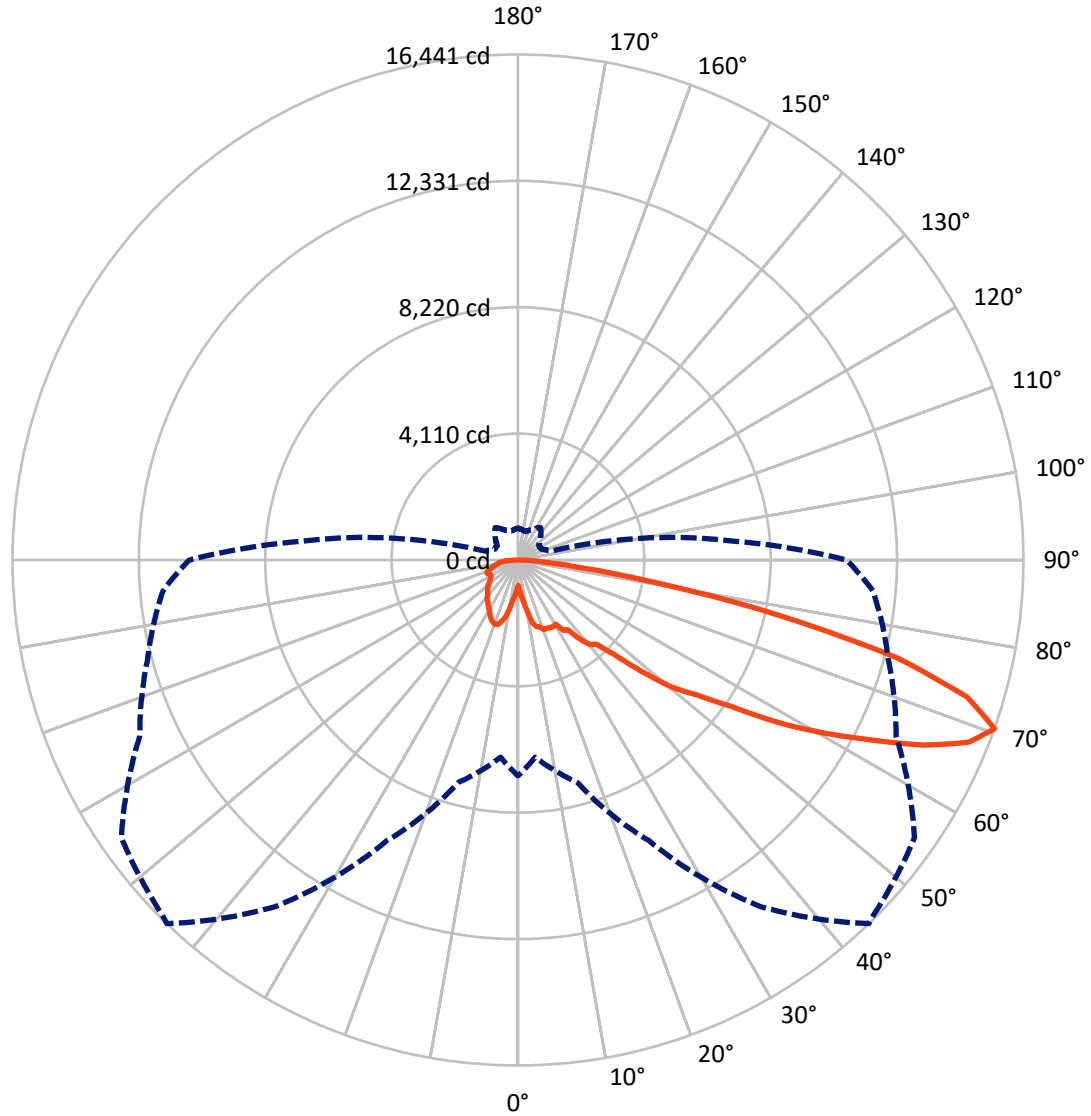
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 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	5382.9	0.0	5382.9
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	19014.1	0.0	19014.1
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	24397.0	0.0	24397.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.0	0.5
10°-20°	598.8	2.5
20°-30°	1118.9	4.6
30°-40°	1796.0	7.4
40°-50°	3031.5	12.4
50°-60°	5402.1	22.1
60°-70°	7389.3	30.3
70°-80°	4345.3	17.8
80°-90°	585.1	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°	24397.0	100.0
0°-180°	24397.0	100.0

**Coefficient of Utilization**



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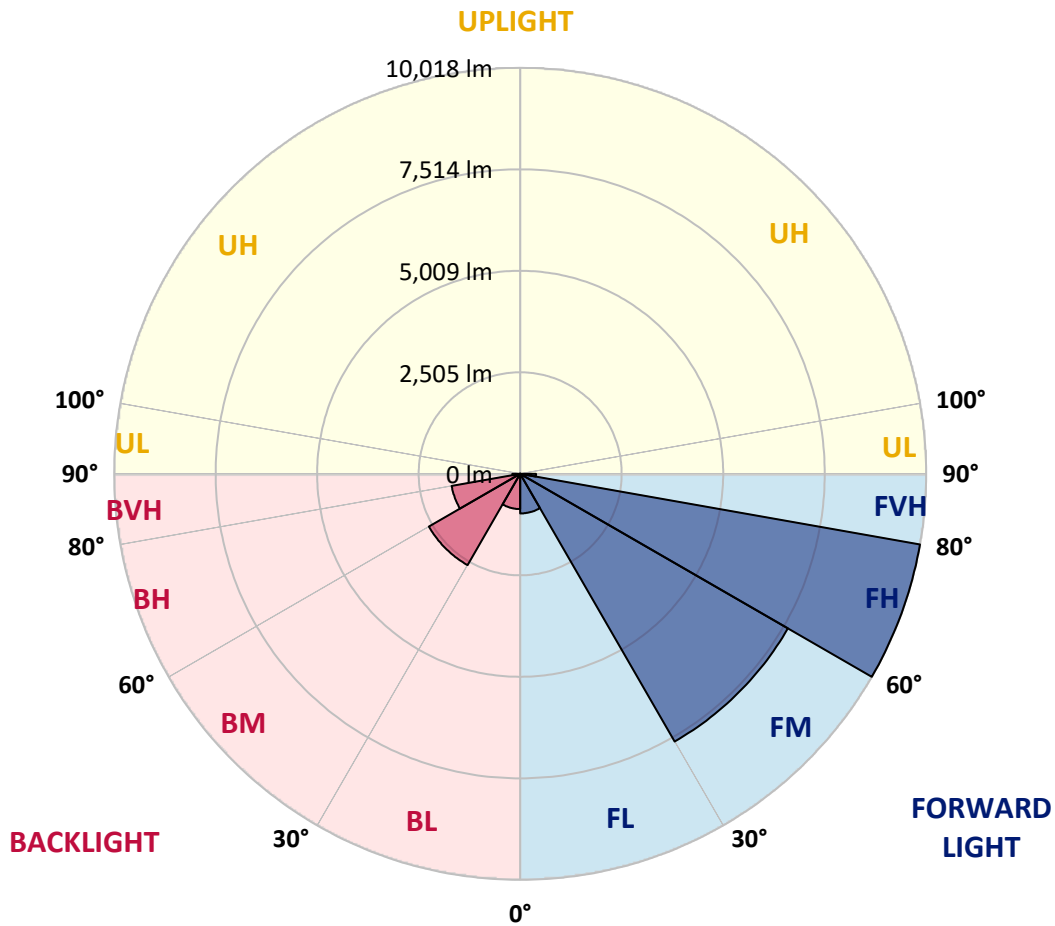
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	977.7	4.0			
FM (30°-60°)	7628.3	31.3			
FH (60°-80°)	10018.2	41.1			G4/12000
FVH (80°-90°)	389.9	1.6			G3/500
BL (0°-30°)	870.0	3.6	B2/1000		
BM (30°-60°)	2601.3	10.7	B3/5000		
BH (60°-80°)	1716.5	7.0	B3/2500		G3/2500
BVH (80°-90°)	195.1	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°	829.3	829.3	829.3	829.3	829.3	829.3	829.3	829.3	829.3	829.3	829.3
2.5°	1006.3	986.3	938.3	954.3	974.3	982.3	980.3	978.3	947.3	936.3	991.3
5°	1367.5	1323.5	1288.4	1274.4	1228.4	1192.4	1170.4	1228.4	1219.4	1234.4	1272.4
7.5°	1707.6	1679.6	1600.6	1572.5	1478.5	1416.5	1409.5	1455.5	1467.5	1443.5	1508.5
10°	1926.7	1878.6	1862.6	1795.6	1730.6	1720.6	1714.6	1693.6	1664.6	1662.6	1604.6
12.5°	2096.7	2121.7	2134.7	2057.7	2059.7	2095.7	2076.7	1991.7	1942.7	1856.6	1863.6
15°	2401.8	2437.8	2334.8	2285.8	2191.8	2245.8	2238.8	2167.7	2160.7	2104.7	2039.7
17.5°	2667.9	2683.9	2511.9	2399.8	2367.8	2289.8	2310.8	2312.8	2220.8	2320.8	2262.8
20°	2689.9	2746.9	2548.9	2325.8	2421.8	2411.8	2414.8	2394.8	2273.8	2438.8	2416.8
22.5°	2798.0	2710.9	2532.9	2369.8	2394.8	2409.8	2423.8	2399.8	2392.8	2484.9	2551.9
25°	2778.0	2749.9	2569.9	2431.8	2434.8	2437.8	2444.8	2516.9	2508.9	2633.9	2668.9
27.5°	2965.0	2922.0	2580.9	2546.9	2468.9	2451.8	2403.8	2553.9	2670.9	2667.9	2861.0
30°	3321.1	3277.1	2837.0	2737.9	2596.9	2422.8	2514.9	2714.9	2807.0	2838.0	3083.1
32.5°	3877.3	3949.4	3341.2	2942.0	2767.0	2728.9	2718.9	2698.9	2927.0	3080.1	3303.1
35°	4675.6	4618.6	3935.4	3379.2	2946.0	2783.0	2805.0	2927.0	3198.1	3297.1	3503.2
37.5°	5589.9	5471.9	4696.6	3874.3	3462.2	3258.1	3185.1	3303.1	3363.2	3441.2	3862.3
40°	6519.3	6231.2	5443.9	4525.6	3772.3	3618.2	3554.2	3409.2	3550.2	3708.3	4243.5
42.5°	7416.6	7193.5	6257.2	5302.8	4294.5	3745.3	3710.3	3568.2	4005.4	4172.4	4793.7
45°	8356.9	7839.7	7090.4	6180.1	5057.7	4368.5	4316.5	4061.4	4621.6	4969.7	5569.9
47.5°	8989.1	8509.9	7853.7	6892.4	5697.0	5410.9	5311.8	4875.7	5383.9	5836.0	6769.3
50°	9587.3	9094.1	8404.9	7671.6	6854.4	6525.3	6314.2	5587.9	6333.2	7069.4	8306.9
52.5°	10443.6	10002.5	9045.1	8456.9	8097.8	7288.5	7131.5	6732.3	7443.6	8436.9	9987.4
55°	11358.9	10757.7	9890.4	9564.3	9419.3	8382.9	8254.8	8000.8	8922.1	9836.4	11621.0
57.5°	11763.1	11135.8	10657.7	10462.6	10450.6	9973.4	9826.4	9649.3	10433.6	11036.8	13158.5
60°	12084.2	11410.9	11219.9	11328.9	11725.0	11410.9	11219.9	11063.8	11664.0	12223.2	14413.0
62.5°	12025.2	11349.9	11448.0	11780.1	12791.4	12883.4	12736.4	12358.3	12883.4	13195.6	15132.2
65°	11072.8	10448.6	11019.8	11808.1	13782.8	14518.0	14510.0	13520.7	13702.7	13702.7	15056.2
67.5°	9404.2	8758.0	9693.3	11561.0	14468.0	15813.5	15815.5	14753.1	13777.8	13651.7	13879.8
70°	7022.4	6437.2	7488.6	10068.5	13760.7	16440.7	16349.6	15747.4	13571.7	12470.3	11594.0
72.5°	4194.4	3816.3	4783.7	7329.5	11738.1	15287.3	15529.4	14602.0	12424.3	10370.6	8287.9
75°	1904.7	1740.6	2247.8	4210.5	8379.9	12751.4	13014.5	12323.3	9868.4	7458.6	4789.7
77.5°	815.3	771.3	981.3	1867.6	4620.6	8720.0	9259.2	8807.0	6686.3	4334.5	2118.7
80°	524.2	496.2	603.2	898.3	2145.7	4711.6	5175.8	5006.7	3406.2	1685.6	746.3
82.5°	313.1	304.1	403.1	564.2	1170.4	2073.7	2336.8	2398.8	1414.5	756.3	427.1
85°	171.1	173.1	221.1	342.1	702.2	807.3	864.3	940.3	666.2	438.2	207.1
87.5°	57.0	66.0	89.0	139.0	250.1	228.1	229.1	266.1	281.1	182.1	66.0
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°	829.3	829.3	829.3	829.3	829.3	829.3	829.3	829.3	829.3	829.3	829.3
2.5°	1000.3	982.3	936.3	939.3	956.3	960.3	965.3	936.3	930.3	985.3	990.3
5°	1278.4	1219.4	1192.4	1183.4	1157.4	1148.4	1196.4	1218.4	1240.4	1283.4	1304.5
7.5°	1501.5	1435.5	1386.5	1341.5	1303.4	1281.4	1362.5	1424.5	1462.5	1550.5	1590.5
10°	1603.6	1546.5	1528.5	1492.5	1521.5	1587.5	1602.6	1604.6	1688.6	1686.6	1703.6
12.5°	1806.6	1769.6	1710.6	1723.6	1799.6	1867.6	1848.6	1877.6	1907.7	1979.7	1946.7
15°	1991.7	1981.7	1926.7	1935.7	1950.7	2035.7	2046.7	2075.7	2121.7	2178.8	2139.7
17.5°	2219.8	2215.8	2081.7	2069.7	2104.7	2187.8	2161.7	2110.7	2262.8	2323.8	2307.8
20°	2374.8	2344.8	2172.7	2121.7	2210.8	2221.8	2191.8	2110.7	2242.8	2375.8	2411.8
22.5°	2503.9	2468.9	2291.8	2191.8	2173.8	2178.8	2178.8	2163.7	2228.8	2337.8	2336.8
25°	2607.9	2640.9	2415.8	2319.8	2223.8	2103.7	2088.7	2101.7	2138.7	2348.8	2341.8
27.5°	2869.0	2778.0	2457.8	2385.8	2188.8	1999.7	2040.7	2060.7	2072.7	2302.8	2340.8
30°	3039.0	3067.1	2607.9	2424.8	2137.7	1883.7	1897.7	1955.7	2025.7	2297.8	2308.8
32.5°	3268.1	3208.1	2842.0	2359.8	2001.7	1813.6	1787.6	1865.6	1969.7	2216.8	2246.8
35°	3481.2	3552.2	2941.0	2347.8	1906.7	1708.6	1736.6	1763.6	1871.6	2126.7	2161.7
37.5°	3981.4	3819.3	3219.1	2289.8	1827.6	1655.6	1625.6	1666.6	1758.6	1955.7	2036.7
40°	4361.5	4371.5	3279.1	2216.8	1676.6	1579.5	1515.5	1556.5	1595.6	1752.6	1787.6
42.5°	5074.8	4856.7	3426.2	2056.7	1581.5	1465.5	1429.5	1447.5	1453.5	1519.5	1577.5
45°	5982.1	5470.9	3484.2	1841.6	1456.5	1418.5	1345.5	1336.5	1303.4	1312.5	1363.5
47.5°	7237.5	6429.2	3442.2	1612.6	1345.5	1357.5	1252.4	1211.4	1165.4	1176.4	1224.4
50°	8861.1	7653.6	3439.2	1418.5	1269.4	1277.4	1191.4	1117.4	1071.4	1094.4	1136.4
52.5°	10682.7	8882.1	3453.2	1285.4	1186.4	1182.4	1151.4	1061.4	1024.4	1048.4	1096.4
55°	12425.3	9938.4	3557.2	1201.4	1100.4	1107.4	1119.4	1043.4	1002.3	1024.4	1074.4
57.5°	13941.8	10772.7	3518.2	1112.4	1020.4	1052.4	1084.4	1018.4	987.3	1019.4	1069.4
60°	15002.2	11159.9	3210.1	1027.4	961.3	1005.3	1067.4	1015.4	1011.3	1080.4	1140.4
62.5°	15389.3	11016.8	2609.9	960.3	926.3	999.3	1106.4	1081.4	1085.4	1170.4	1253.4
65°	14824.1	10264.5	1946.7	917.3	899.3	1028.4	1196.4	1120.4	1065.4	1135.4	1211.4
67.5°	13216.6	8927.1	1422.5	880.3	868.3	1074.4	1279.4	1116.4	1014.4	1085.4	1147.4
70°	10692.7	7046.4	1101.4	833.3	827.3	1043.4	1287.4	1086.4	959.3	1005.3	1040.4
72.5°	7326.5	4824.7	912.3	788.3	756.3	924.3	1222.4	1019.4	893.3	920.3	949.3
75°	4094.4	2707.9	767.3	732.3	662.2	823.3	1146.4	979.3	844.3	852.3	892.3
77.5°	1837.6	1171.4	651.2	658.2	577.2	728.3	1047.4	915.3	769.3	751.3	791.3
80°	695.2	571.2	528.2	556.2	485.2	631.2	944.3	857.3	690.2	667.2	690.2
82.5°	403.1	346.1	392.1	428.1	385.1	580.2	901.3	804.3	608.2	550.2	570.2
85°	187.1	179.1	235.1	278.1	269.1	452.2	771.3	605.2	433.1	366.1	405.1
87.5°	49.0	55.0	83.0	98.0	100.0	155.1	297.1	225.1	169.1	128.0	123.0
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)