

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: P367234

Luminaire Tested: **MSA-SA2A-760-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367234  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2A-760-U-T4FT  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7967 lumens  
Efficiency: N/A  
Efficacy: 120.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

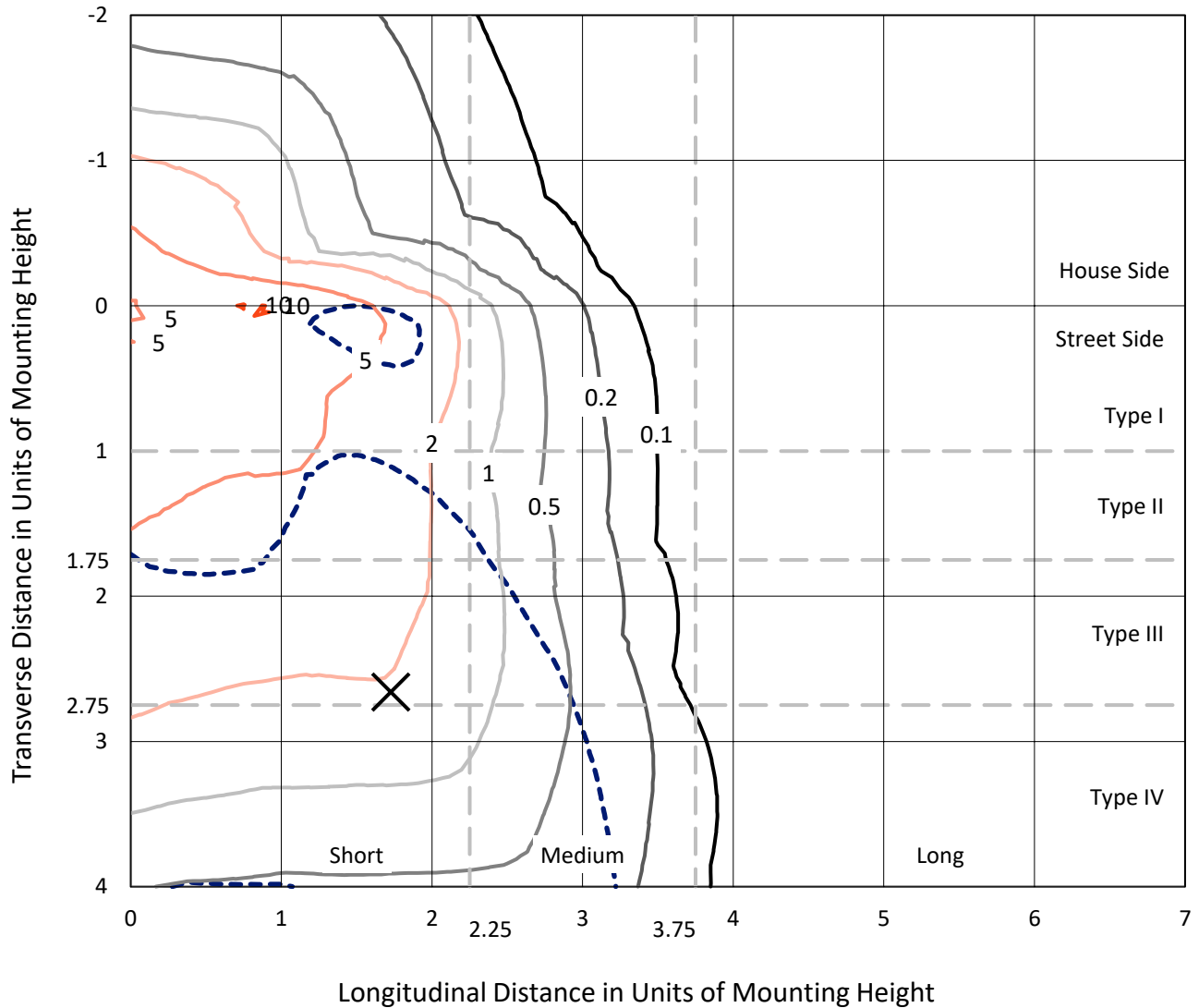
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

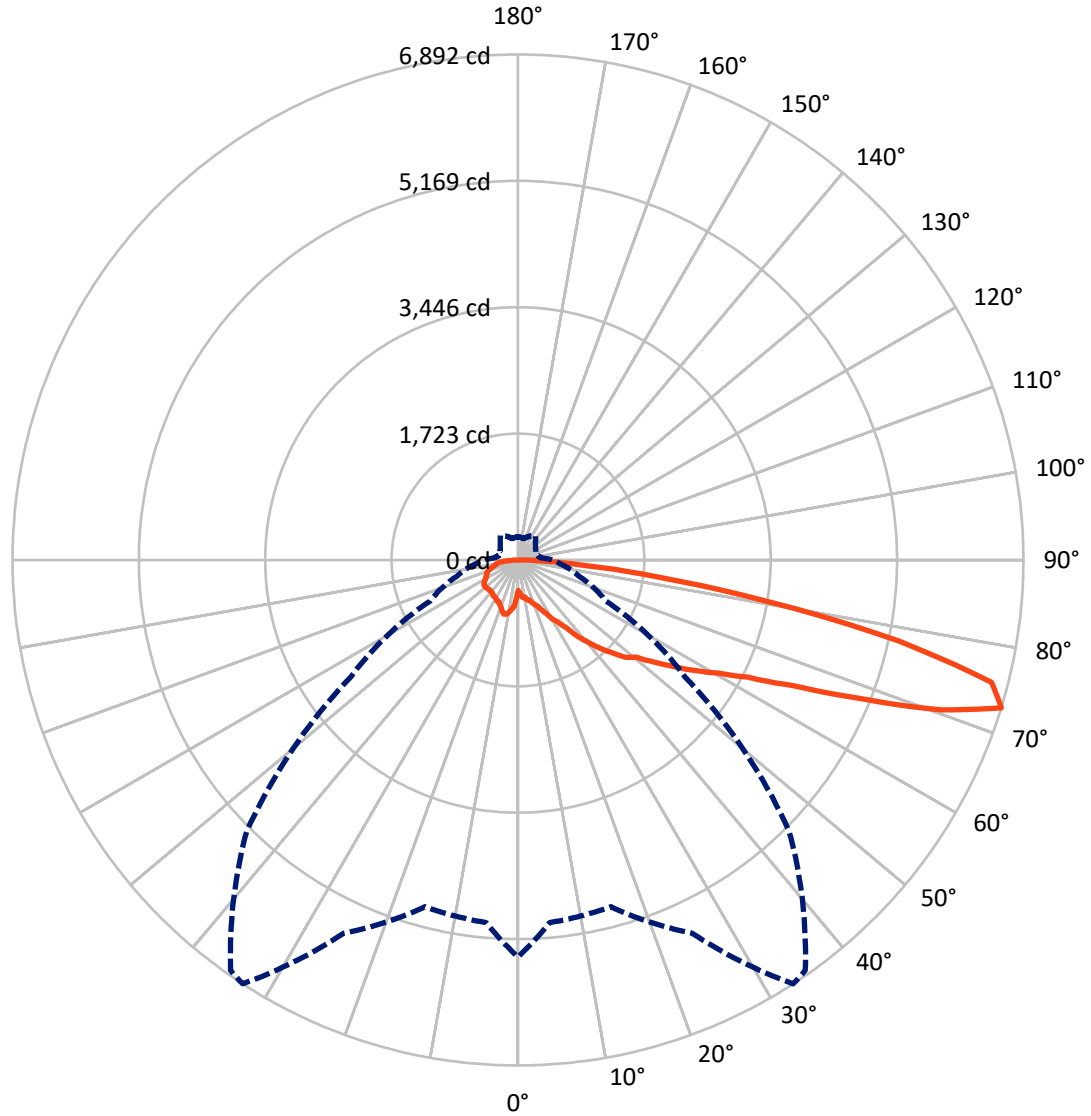
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.2 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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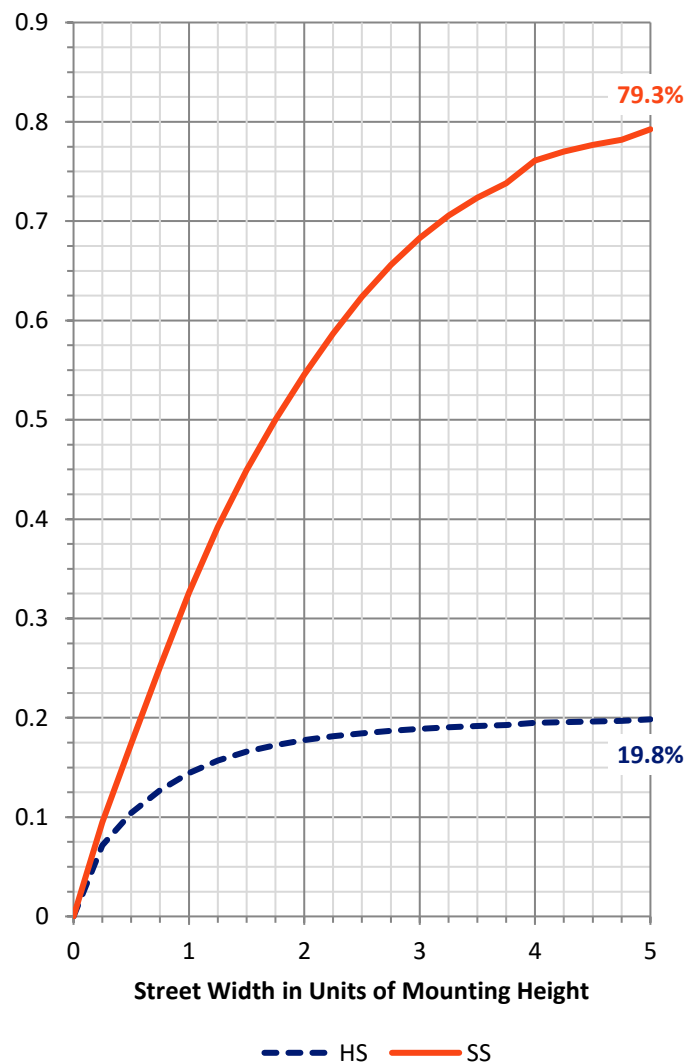
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1611.7	0.0	1611.7
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	6355.3	0.0	6355.3
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	7967.0	0.0	7967.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.4	0.7
10°-20°	212.3	2.7
20°-30°	387.1	4.9
30°-40°	654.9	8.2
40°-50°	1089.4	13.7
50°-60°	1598.8	20.1
60°-70°	2045.3	25.7
70°-80°	1664.0	20.9
80°-90°	257.7	3.2
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°	7967.0	100.0
0°-180°	7967.0	100.0



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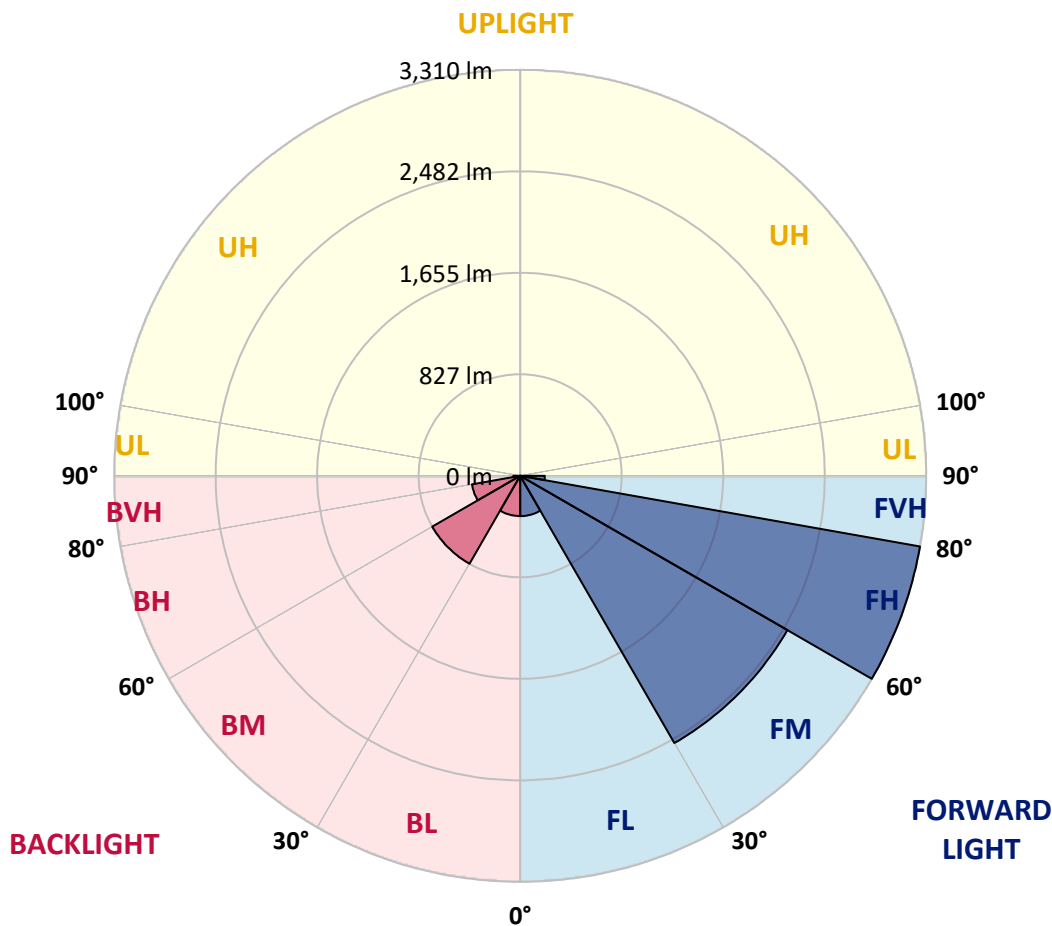
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	328.8	4.1			
FM (30°-60°)	2515.4	31.6			
FH (60°-80°)	3310.0	41.5			G2/5000
FVH (80°-90°)	201.2	2.5			G2/225
BL (0°-30°)	328.0	4.1	B1/500		
BM (30°-60°)	827.8	10.4	B1/1000		
BH (60°-80°)	399.4	5.0	B1/500		G1/500
BVH (80°-90°)	56.6	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	417.8	417.8	417.8	417.8	417.8	417.8	417.8	417.8	417.8	417.8	417.8
2.5°	473.6	458.7	434.3	433.6	447.2	450.1	459.1	459.7	463.0	457.7	495.4
5°	522.5	506.7	497.1	500.4	494.1	501.7	501.7	523.5	552.6	586.3	634.2
7.5°	534.1	522.5	511.6	519.9	521.2	513.9	520.9	572.1	624.7	658.4	735.0
10°	511.0	499.4	507.7	510.3	510.0	526.5	562.5	603.5	662.0	724.1	765.4
12.5°	506.7	514.9	518.9	523.5	554.9	559.9	614.4	656.7	715.5	770.1	877.5
15°	570.5	581.4	556.9	555.2	565.5	570.1	626.6	669.3	755.2	846.8	943.3
17.5°	661.3	665.3	621.3	598.9	606.5	610.1	634.9	688.4	741.3	910.5	1030.8
20°	749.3	751.9	669.3	619.0	645.8	649.8	672.9	703.6	745.3	946.2	1090.0
22.5°	841.5	824.6	734.1	670.6	686.1	687.1	700.7	717.5	776.7	940.6	1162.1
25°	942.3	931.7	817.7	756.9	756.2	742.6	743.3	767.4	810.1	1000.8	1209.3
27.5°	1076.1	1077.4	911.9	879.1	827.9	819.0	774.4	819.3	867.9	1001.4	1311.4
30°	1249.6	1217.6	1043.1	990.2	939.6	920.8	860.3	898.6	919.8	1058.6	1422.5
32.5°	1390.8	1381.5	1179.9	1099.9	1017.3	1039.1	972.3	938.6	976.6	1157.1	1590.7
35°	1525.9	1495.5	1324.7	1220.6	1133.6	1120.4	1077.1	1082.7	1105.9	1281.7	1810.5
37.5°	1727.6	1711.0	1529.6	1363.0	1322.4	1268.5	1241.0	1258.6	1240.4	1441.3	2140.0
40°	1953.0	1857.1	1700.8	1552.4	1476.4	1438.4	1447.9	1431.4	1417.5	1620.5	2435.5
42.5°	2168.8	2081.5	1814.5	1747.7	1648.6	1664.4	1611.9	1623.4	1662.8	1874.6	2708.8
45°	2403.8	2215.0	1935.1	1876.3	1805.2	1825.4	1867.4	1854.8	1919.2	2174.4	2966.3
47.5°	2521.1	2341.6	2083.2	1987.3	1986.3	1944.4	2199.8	2227.6	2126.8	2396.5	3227.7
50°	2634.1	2457.6	2193.2	2128.5	2081.5	2171.4	2518.8	2455.0	2314.5	2651.3	3515.3
52.5°	2791.4	2590.2	2319.5	2250.4	2308.6	2391.9	2773.3	2760.7	2498.6	2913.4	3765.1
55°	2911.4	2708.2	2509.5	2445.4	2556.5	2638.1	3032.4	2956.7	2656.3	3105.8	3923.4
57.5°	3121.6	2913.1	2790.1	2647.7	2847.3	2846.0	3282.2	3223.7	2824.8	3263.7	3987.2
60°	3455.8	3210.9	3082.3	2918.0	3131.9	3208.2	3567.8	3399.2	2944.1	3363.6	3872.2
62.5°	3924.7	3633.9	3425.4	3262.7	3523.5	3661.7	3920.5	3527.2	2951.7	3335.1	3569.8
65°	4504.8	4151.1	3877.8	3706.0	4136.3	4333.6	4346.8	3606.1	2881.7	3041.3	2933.9
67.5°	5070.6	4673.0	4387.8	4420.5	5048.8	5142.3	4808.8	3672.2	2505.2	2442.1	2037.2
70°	5443.1	5012.1	4822.1	5169.1	6123.6	6027.8	5183.3	3498.1	1972.8	1583.1	1147.2
72.5°	5415.0	4963.9	4895.4	5614.0	6892.4	6832.5	5228.9	2781.9	1321.4	865.6	572.1
75°	4411.6	4060.9	4216.3	5314.5	6670.9	6667.9	4539.8	1721.9	677.9	444.5	361.6
77.5°	2439.1	2303.0	2759.4	4023.9	5311.5	5338.6	3067.4	781.0	365.5	315.0	272.3
80°	854.4	841.8	1195.8	2171.4	3494.1	3500.7	1426.5	357.3	265.7	238.3	200.0
82.5°	312.3	309.7	495.8	1008.7	1923.9	1919.6	541.0	222.4	197.0	168.6	131.9
85°	124.6	122.0	226.7	447.8	883.8	869.6	210.2	126.3	128.9	100.5	64.8
87.5°	34.4	35.7	77.0	140.1	270.7	250.9	52.9	42.6	52.2	41.0	20.5
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°	417.8	417.8	417.8	417.8	417.8	417.8	417.8	417.8	417.8	417.8	417.8
2.5°	502.0	505.3	472.6	484.2	499.1	507.0	511.0	494.1	499.7	523.5	522.5
5°	644.2	630.9	618.4	631.3	622.7	610.4	630.3	629.3	642.2	655.1	658.0
7.5°	750.2	733.1	727.1	698.0	668.9	639.5	665.0	680.8	684.1	716.2	729.8
10°	788.6	782.0	784.3	746.0	742.3	745.3	721.8	696.4	711.9	698.7	708.6
12.5°	877.2	893.7	852.7	826.6	824.3	806.1	759.2	742.6	725.1	743.3	734.1
15°	948.2	979.0	935.0	889.1	837.2	809.1	769.1	744.0	732.4	736.4	725.1
17.5°	1052.3	1081.1	969.4	899.0	845.4	804.1	743.0	689.4	717.9	720.2	707.3
20°	1121.4	1123.4	980.9	874.5	826.3	754.5	695.1	648.1	680.8	714.2	728.8
22.5°	1188.8	1174.0	995.2	855.0	756.5	687.1	658.0	655.1	679.5	707.6	710.9
25°	1239.4	1241.7	1003.4	847.7	715.5	621.0	621.0	642.5	664.0	730.7	727.4
27.5°	1362.0	1271.8	971.4	814.4	658.7	582.4	621.3	650.1	660.3	732.7	740.0
30°	1451.2	1392.4	978.0	757.2	601.2	564.2	596.2	632.3	660.7	744.3	741.7
32.5°	1601.0	1442.7	993.5	676.9	558.2	557.2	585.7	623.7	657.7	731.7	735.7
35°	1766.5	1590.7	950.2	615.7	548.0	553.3	590.0	605.2	645.1	726.8	730.4
37.5°	2072.9	1668.1	922.8	568.5	541.4	556.6	570.5	593.9	634.2	702.0	725.8
40°	2252.7	1827.4	821.0	541.0	527.5	553.9	560.9	580.7	602.5	672.2	687.5
42.5°	2489.4	1877.6	734.1	510.6	520.5	543.0	563.8	568.8	583.3	625.3	653.1
45°	2686.7	1915.3	641.8	486.2	497.1	567.1	568.5	566.2	563.5	579.0	601.8
47.5°	2890.9	2016.4	556.9	459.1	488.2	587.0	570.8	549.6	538.7	540.7	561.9
50°	3116.3	2089.8	496.7	436.9	490.1	587.0	582.0	532.8	511.0	505.3	527.5
52.5°	3314.6	2098.4	451.1	419.1	481.9	566.8	589.6	522.2	485.5	472.0	492.8
55°	3422.7	1989.6	418.1	402.9	460.7	548.6	585.7	516.2	454.8	444.5	463.0
57.5°	3420.4	1809.2	390.0	380.4	436.6	523.2	563.5	483.9	435.9	430.0	448.2
60°	3297.1	1597.7	368.5	361.9	411.8	486.2	523.9	462.7	417.8	414.8	434.6
62.5°	3017.5	1379.2	347.7	342.4	388.7	460.1	505.0	439.2	398.9	398.6	417.4
65°	2471.2	1107.2	328.2	326.9	367.2	434.3	487.2	419.4	379.4	386.0	405.2
67.5°	1702.8	778.0	307.4	311.3	347.4	409.5	473.6	406.2	358.9	372.5	389.7
70°	934.3	481.2	284.2	292.2	322.2	380.7	452.5	384.7	332.2	353.0	364.9
72.5°	475.3	320.9	255.5	268.0	291.5	338.4	412.8	353.6	303.4	311.3	317.6
75°	319.3	241.6	223.4	237.3	254.2	298.1	366.2	324.6	276.0	275.0	281.9
77.5°	241.3	188.7	189.7	205.6	216.5	262.1	329.2	300.1	252.8	250.5	260.8
80°	176.5	143.1	152.7	169.2	179.1	235.3	305.1	273.0	221.4	212.2	220.8
82.5°	117.0	101.5	113.0	129.6	137.5	196.7	277.0	231.7	180.5	157.0	158.3
85°	55.2	53.2	67.4	75.4	85.6	122.0	207.2	160.3	115.0	95.2	99.5
87.5°	12.6	16.9	22.1	21.8	25.4	32.7	64.4	44.9	33.4	22.8	15.2
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)