

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: P367036

Luminaire Tested: **MSA-SA1D-730-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367036  
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-SA1D-730-U-T4FT  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) 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: 6260 lumens  
Efficiency: N/A  
Efficacy: 93.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

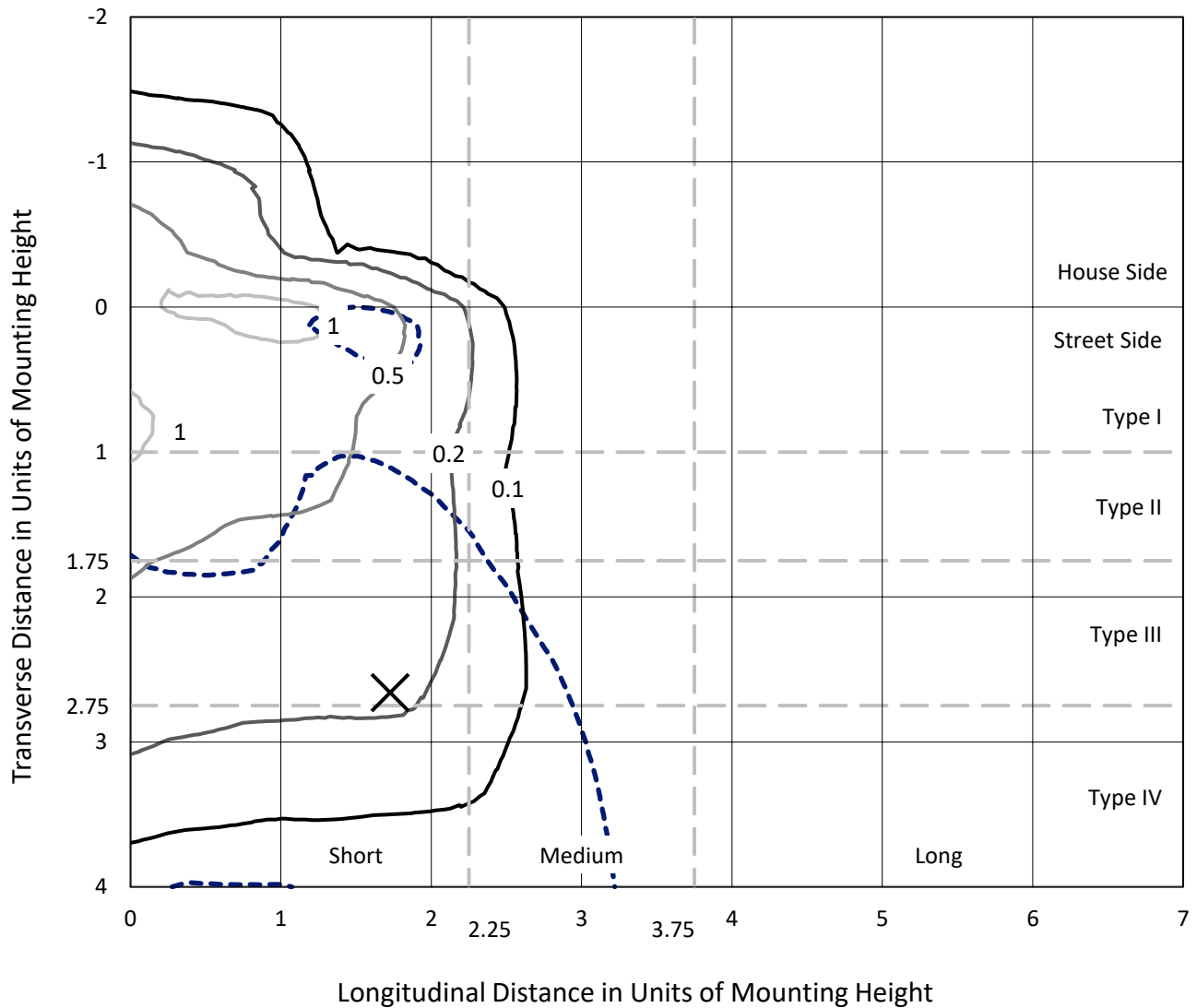
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

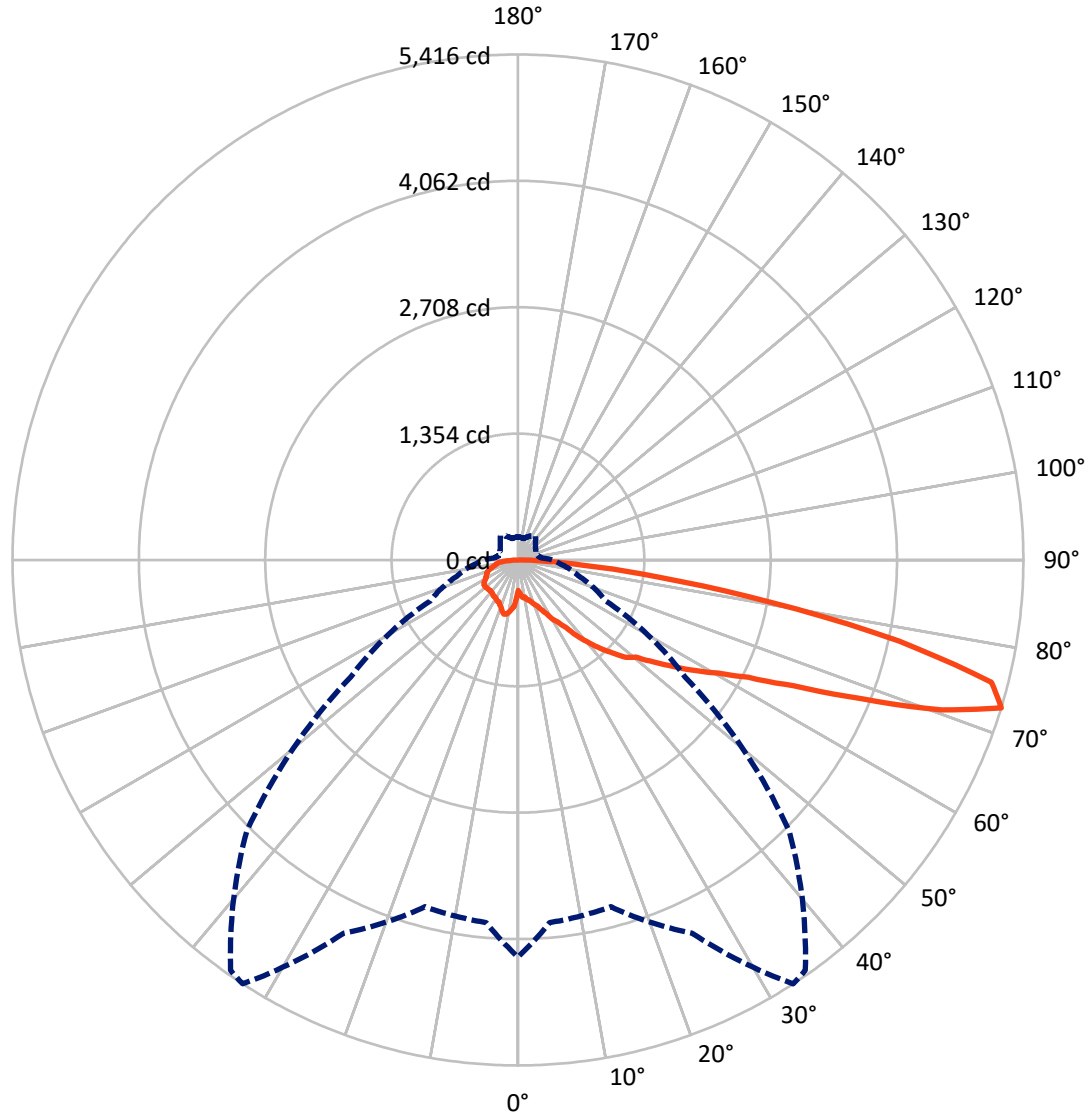
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.3 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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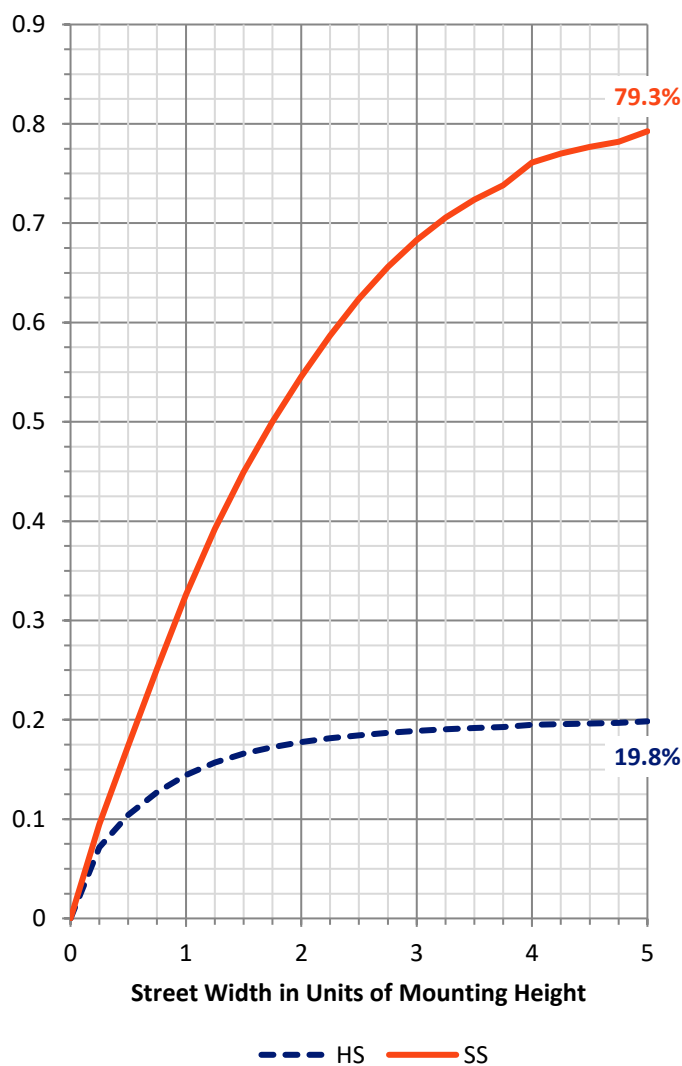
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1266.4	0.0	1266.4
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	4993.6	0.0	4993.6
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	6260.0	0.0	6260.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.1	0.7
10°-20°	166.8	2.7
20°-30°	304.1	4.9
30°-40°	514.5	8.2
40°-50°	856.0	13.7
50°-60°	1256.3	20.1
60°-70°	1607.1	25.7
70°-80°	1307.5	20.9
80°-90°	202.5	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°	6260.0	100.0
0°-180°	6260.0	100.0

**Coefficient of Utilization**



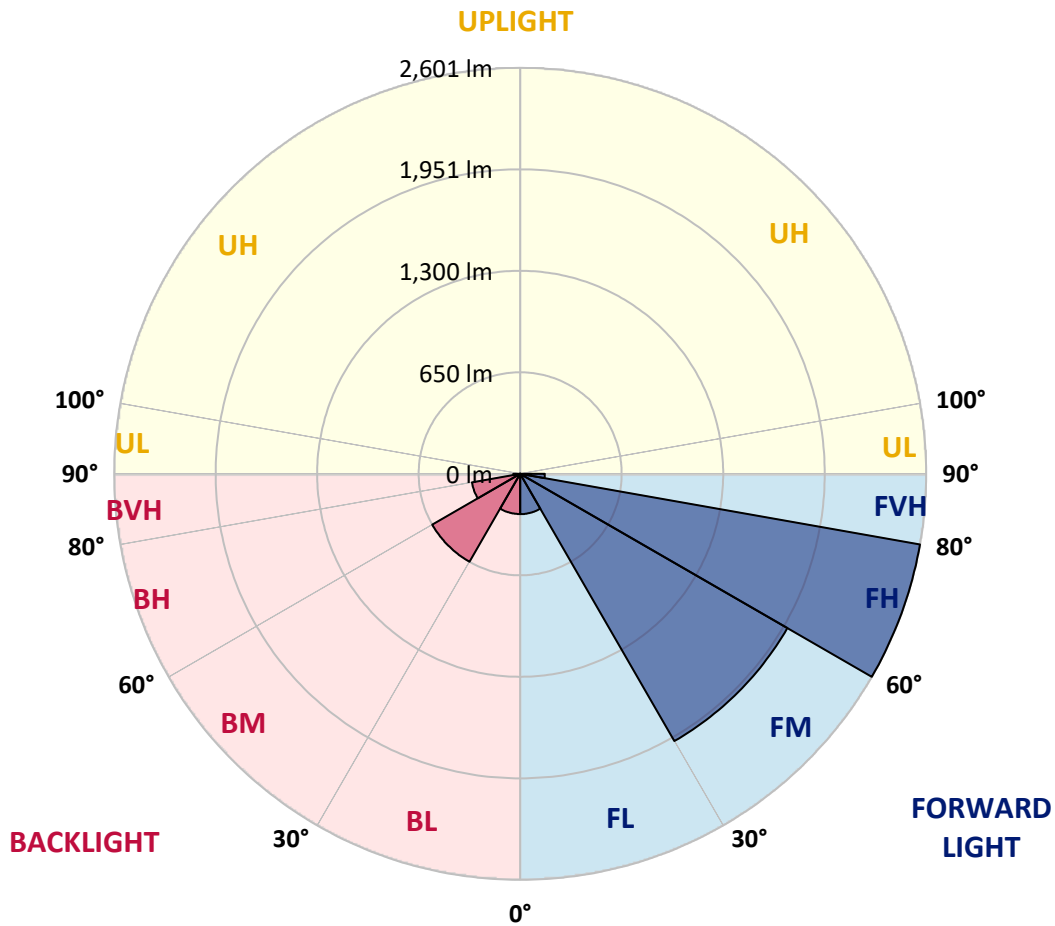
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	258.4	4.1			
FM (30°-60°)	1976.4	31.6			
FH (60°-80°)	2600.8	41.5			G2/5000
FVH (80°-90°)	158.0	2.5			G2/225
BL (0°-30°)	257.7	4.1	B1/500		
BM (30°-60°)	650.4	10.4	B1/1000		
BH (60°-80°)	313.8	5.0	B1/500		G1/500
BVH (80°-90°)	44.5	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°	328.3	328.3	328.3	328.3	328.3	328.3	328.3	328.3	328.3	328.3	328.3
2.5°	372.1	360.5	341.2	340.7	351.4	353.7	360.7	361.2	363.8	359.7	389.3
5°	410.6	398.1	390.6	393.2	388.2	394.2	394.2	411.4	434.2	460.7	498.3
7.5°	419.7	410.6	402.0	408.5	409.5	403.8	409.3	449.5	490.8	517.3	577.6
10°	401.5	392.4	398.9	401.0	400.7	413.7	442.0	474.2	520.2	569.0	601.4
12.5°	398.1	404.6	407.7	411.4	436.0	439.9	482.8	516.0	562.2	605.1	689.5
15°	448.2	456.8	437.6	436.3	444.3	448.0	492.4	525.9	593.4	665.3	741.2
17.5°	519.6	522.8	488.2	470.6	476.5	479.4	498.9	540.9	582.5	715.5	810.0
20°	588.7	590.8	525.9	486.4	507.4	510.6	528.7	552.9	585.6	743.5	856.5
22.5°	661.2	647.9	576.8	526.9	539.1	539.9	550.5	563.8	610.3	739.1	913.1
25°	740.4	732.1	642.5	594.7	594.2	583.5	584.0	603.0	636.5	786.3	950.2
27.5°	845.6	846.6	716.5	690.8	650.5	643.5	608.5	643.8	681.9	786.9	1030.5
30°	981.9	956.7	819.6	778.0	738.3	723.5	676.0	706.1	722.7	831.8	1117.7
32.5°	1092.8	1085.5	927.1	864.3	799.3	816.5	764.0	737.5	767.4	909.2	1249.9
35°	1199.0	1175.1	1040.8	959.0	890.7	880.4	846.3	850.7	868.9	1007.1	1422.6
37.5°	1357.4	1344.4	1201.9	1071.0	1039.0	996.7	975.1	988.9	974.6	1132.5	1681.5
40°	1534.5	1459.2	1336.4	1219.8	1160.0	1130.2	1137.7	1124.7	1113.8	1273.3	1913.7
42.5°	1704.1	1635.5	1425.7	1373.2	1295.3	1307.8	1266.5	1275.6	1306.5	1473.0	2128.4
45°	1888.7	1740.5	1520.5	1474.3	1418.4	1434.3	1467.3	1457.4	1508.0	1708.5	2330.7
47.5°	1980.9	1839.9	1636.8	1561.5	1560.7	1527.8	1728.5	1750.3	1671.1	1883.0	2536.1
50°	2069.7	1931.1	1723.3	1672.4	1635.5	1706.2	1979.1	1929.0	1818.6	2083.2	2762.1
52.5°	2193.4	2035.2	1822.5	1768.2	1813.9	1879.4	2179.1	2169.2	1963.3	2289.2	2958.4
55°	2287.6	2127.9	1971.8	1921.5	2008.7	2072.9	2382.7	2323.2	2087.1	2440.3	3082.8
57.5°	2452.8	2288.9	2192.3	2080.4	2237.2	2236.2	2579.0	2533.0	2219.6	2564.5	3132.9
60°	2715.3	2522.9	2421.9	2292.8	2460.8	2520.8	2803.4	2670.9	2313.3	2642.9	3042.5
62.5°	3083.8	2855.3	2691.4	2563.7	2768.6	2877.1	3080.5	2771.4	2319.3	2620.5	2804.9
65°	3539.6	3261.7	3047.0	2911.9	3250.0	3405.1	3415.5	2833.5	2264.3	2389.7	2305.3
67.5°	3984.2	3671.8	3447.7	3473.4	3967.0	4040.5	3778.5	2885.4	1968.5	1918.9	1600.7
70°	4276.9	3938.2	3788.9	4061.6	4811.6	4736.3	4072.7	2748.6	1550.1	1243.9	901.4
72.5°	4254.8	3900.3	3846.6	4411.1	5415.6	5368.6	4108.6	2185.8	1038.2	680.1	449.5
75°	3466.4	3190.8	3312.9	4175.8	5241.6	5239.3	3567.1	1353.0	532.6	349.3	284.1
77.5°	1916.5	1809.5	2168.2	3161.7	4173.5	4194.8	2410.2	613.7	287.2	247.5	214.0
80°	671.3	661.4	939.6	1706.2	2745.5	2750.7	1120.8	280.7	208.8	187.2	157.1
82.5°	245.4	243.3	389.5	792.6	1511.7	1508.3	425.1	174.8	154.8	132.4	103.6
85°	97.9	95.8	178.1	351.9	694.4	683.2	165.2	99.2	101.3	78.9	50.9
87.5°	27.0	28.0	60.5	110.1	212.7	197.1	41.6	33.5	41.0	32.2	16.1
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°	328.3	328.3	328.3	328.3	328.3	328.3	328.3	328.3	328.3	328.3	328.3
2.5°	394.5	397.1	371.4	380.4	392.1	398.4	401.5	388.2	392.7	411.4	410.6
5°	506.1	495.8	485.9	496.0	489.3	479.7	495.2	494.5	504.6	514.7	517.0
7.5°	589.5	576.0	571.3	548.5	525.6	502.5	522.5	535.0	537.6	562.8	573.4
10°	619.6	614.4	616.2	586.1	583.3	585.6	567.2	547.2	559.4	549.0	556.8
12.5°	689.2	702.2	670.0	649.5	647.7	633.4	596.5	583.5	569.8	584.0	576.8
15°	745.1	769.2	734.7	698.6	657.8	635.7	604.3	584.6	575.5	578.6	569.8
17.5°	826.9	849.5	761.7	706.4	664.3	631.8	583.8	541.7	564.0	565.9	555.7
20°	881.1	882.7	770.8	687.1	649.2	592.9	546.1	509.3	535.0	561.2	572.6
22.5°	934.1	922.4	781.9	671.8	594.4	539.9	517.0	514.7	533.9	556.0	558.6
25°	973.8	975.7	788.4	666.1	562.2	488.0	488.0	504.8	521.7	574.2	571.6
27.5°	1070.2	999.3	763.2	639.9	517.6	457.6	488.2	510.8	518.9	575.7	581.4
30°	1140.3	1094.1	768.4	595.0	472.4	443.3	468.5	496.8	519.1	584.8	582.7
32.5°	1257.9	1133.6	780.6	531.8	438.6	437.8	460.2	490.0	516.8	575.0	578.1
35°	1388.1	1249.9	746.6	483.8	430.6	434.7	463.5	475.5	506.9	571.1	573.9
37.5°	1628.8	1310.7	725.1	446.7	425.4	437.3	448.2	466.7	498.3	551.6	570.3
40°	1770.1	1435.8	645.1	425.1	414.5	435.2	440.7	456.3	473.4	528.2	540.2
42.5°	1956.0	1475.3	576.8	401.2	409.0	426.7	443.0	446.9	458.4	491.3	513.2
45°	2111.0	1504.9	504.3	382.0	390.6	445.6	446.7	444.9	442.8	455.0	472.9
47.5°	2271.5	1584.4	437.6	360.7	383.6	461.2	448.5	431.9	423.3	424.9	441.5
50°	2448.6	1642.0	390.3	343.3	385.1	461.2	457.3	418.6	401.5	397.1	414.5
52.5°	2604.4	1648.8	354.5	329.3	378.6	445.4	463.3	410.3	381.5	370.8	387.2
55°	2689.4	1563.3	328.5	316.6	362.0	431.1	460.2	405.6	357.3	349.3	363.8
57.5°	2687.5	1421.6	306.4	298.9	343.1	411.1	442.8	380.2	342.5	337.9	352.1
60°	2590.7	1255.3	289.6	284.4	323.6	382.0	411.6	363.6	328.3	325.9	341.5
62.5°	2371.0	1083.7	273.2	269.0	305.4	361.5	396.8	345.1	313.4	313.2	328.0
65°	1941.7	870.0	257.9	256.8	288.5	341.2	382.8	329.5	298.1	303.3	318.4
67.5°	1337.9	611.3	241.5	244.6	272.9	321.8	372.1	319.2	282.0	292.7	306.2
70°	734.1	378.1	223.3	229.6	253.2	299.2	355.5	302.3	261.0	277.4	286.7
72.5°	373.4	252.2	200.7	210.6	229.0	265.9	324.4	277.9	238.4	244.6	249.6
75°	250.9	189.8	175.6	186.5	199.7	234.2	287.7	255.0	216.8	216.1	221.5
77.5°	189.6	148.3	149.1	161.5	170.1	205.9	258.7	235.8	198.7	196.8	204.9
80°	138.7	112.4	120.0	133.0	140.8	184.9	239.7	214.5	174.0	166.7	173.5
82.5°	91.9	79.7	88.8	101.8	108.0	154.5	217.6	182.0	141.8	123.4	124.4
85°	43.4	41.8	53.0	59.2	67.3	95.8	162.8	126.0	90.4	74.8	78.2
87.5°	9.9	13.2	17.4	17.1	20.0	25.7	50.6	35.3	26.2	17.9	11.9
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)