

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: P367696

Luminaire Tested: **MSA-SA3A-730-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367696  
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-SA3A-730-U-T4FT  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 10708 lumens  
Efficiency: N/A  
Efficacy: 111.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

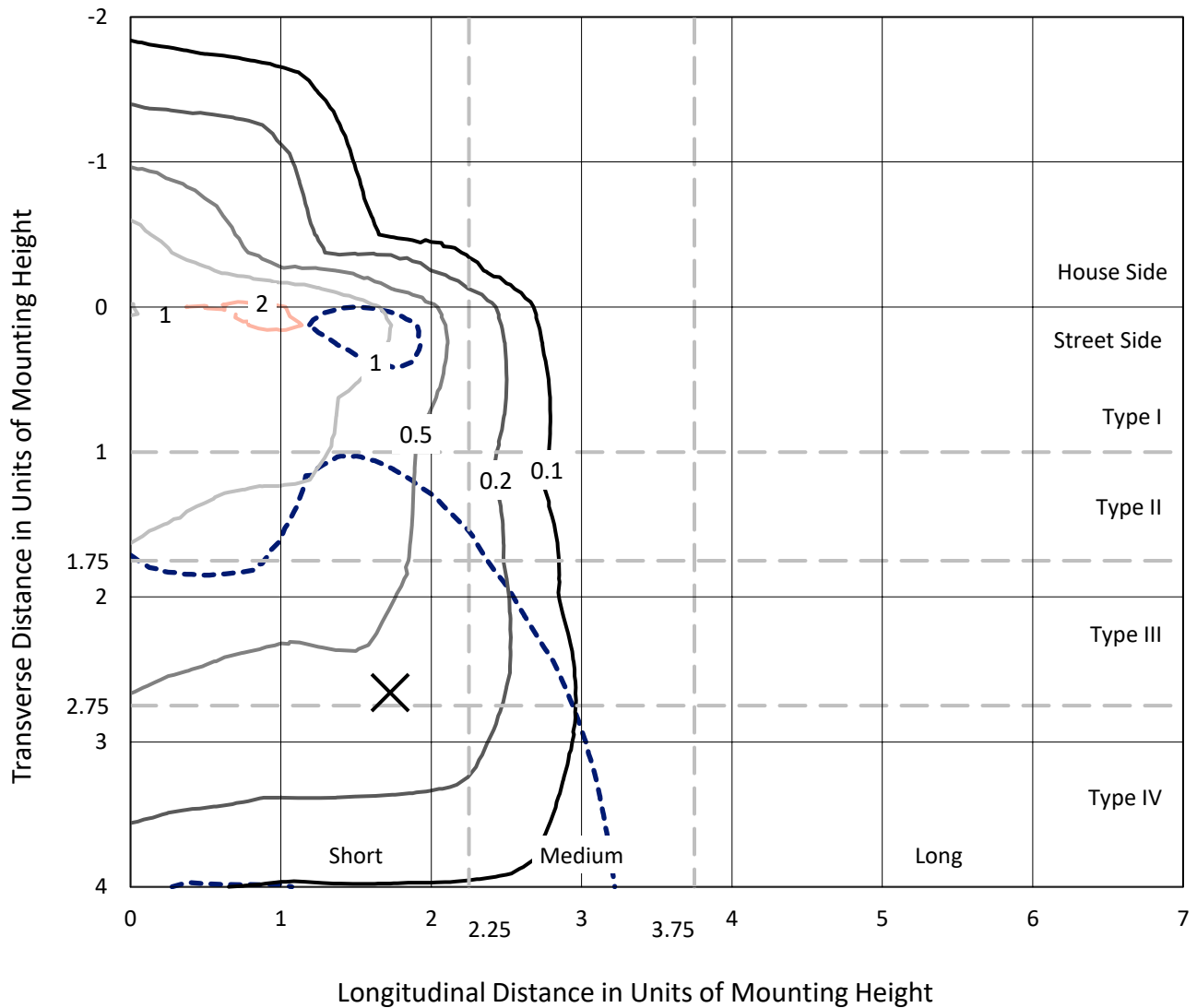
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

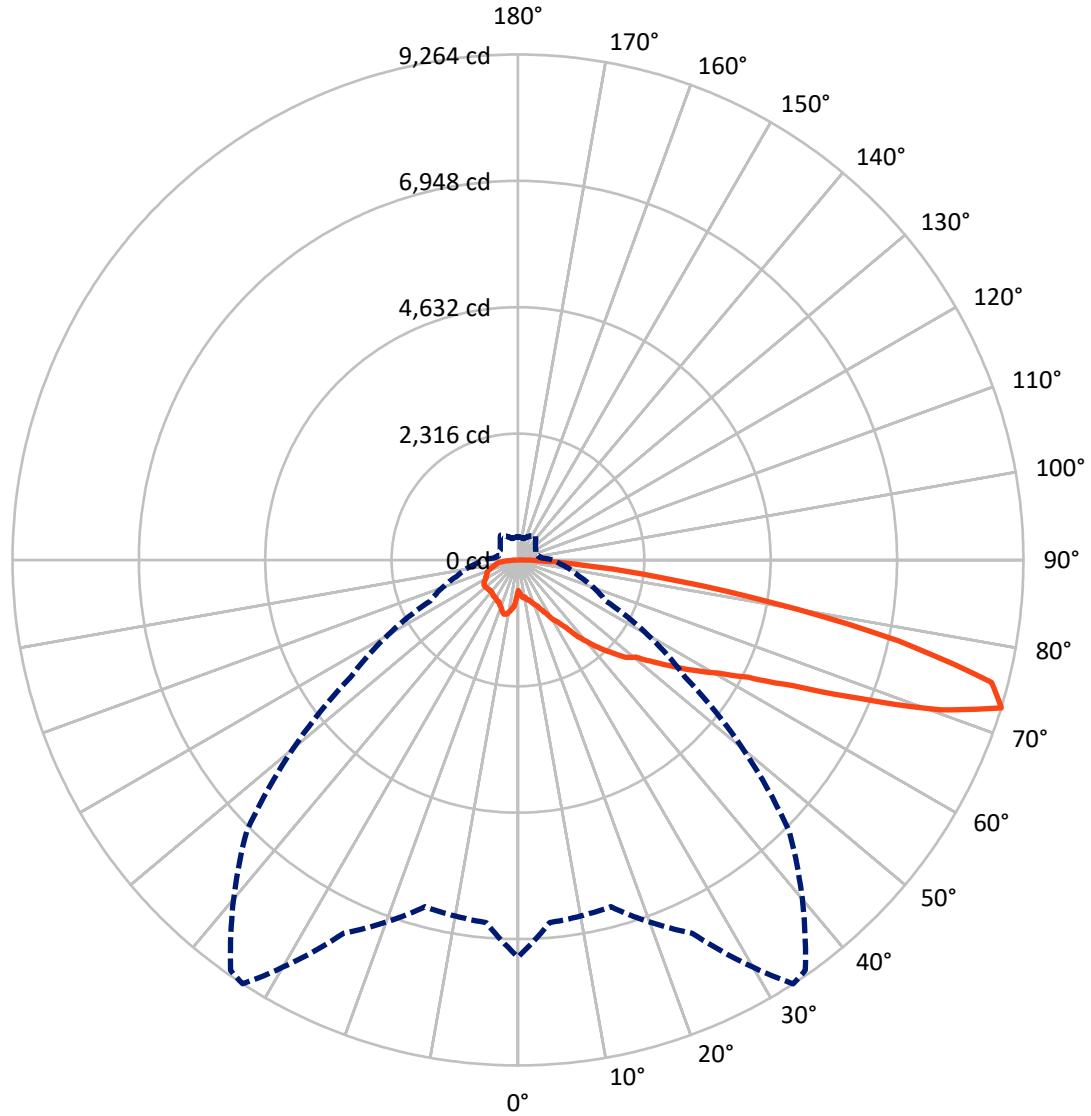
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.2 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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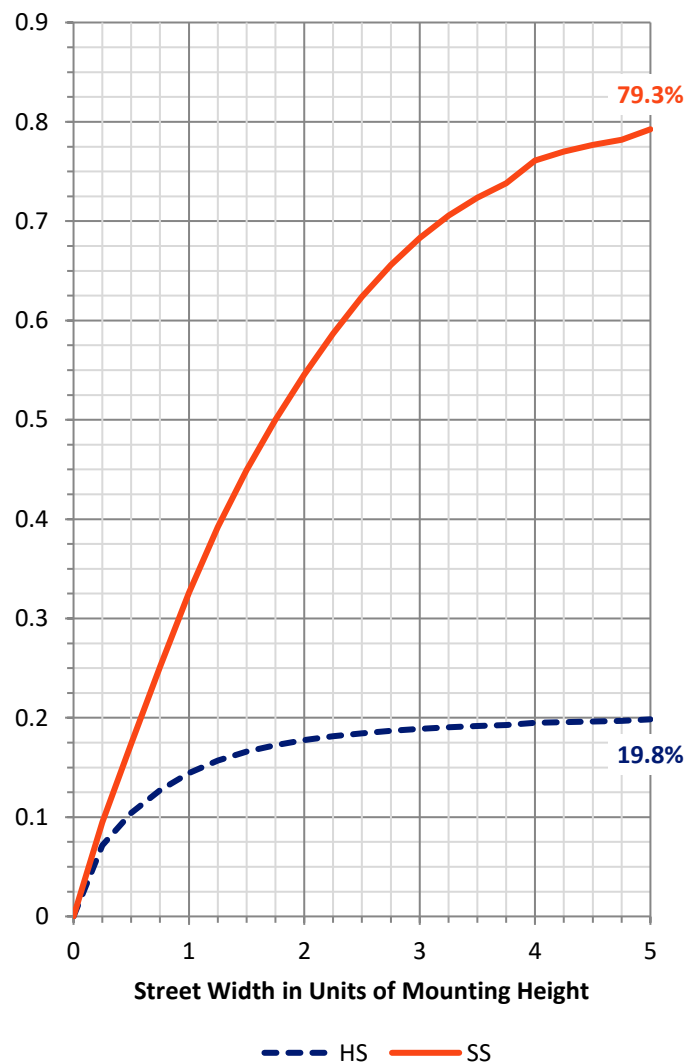
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2166.2	0.0	2166.2
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	8541.8	0.0	8541.8
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	10708.0	0.0	10708.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.2	0.7
10°-20°	285.3	2.7
20°-30°	520.3	4.9
30°-40°	880.1	8.2
40°-50°	1464.3	13.7
50°-60°	2148.9	20.1
60°-70°	2749.0	25.7
70°-80°	2236.5	20.9
80°-90°	346.4	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°	10708.0	100.0
0°-180°	10708.0	100.0



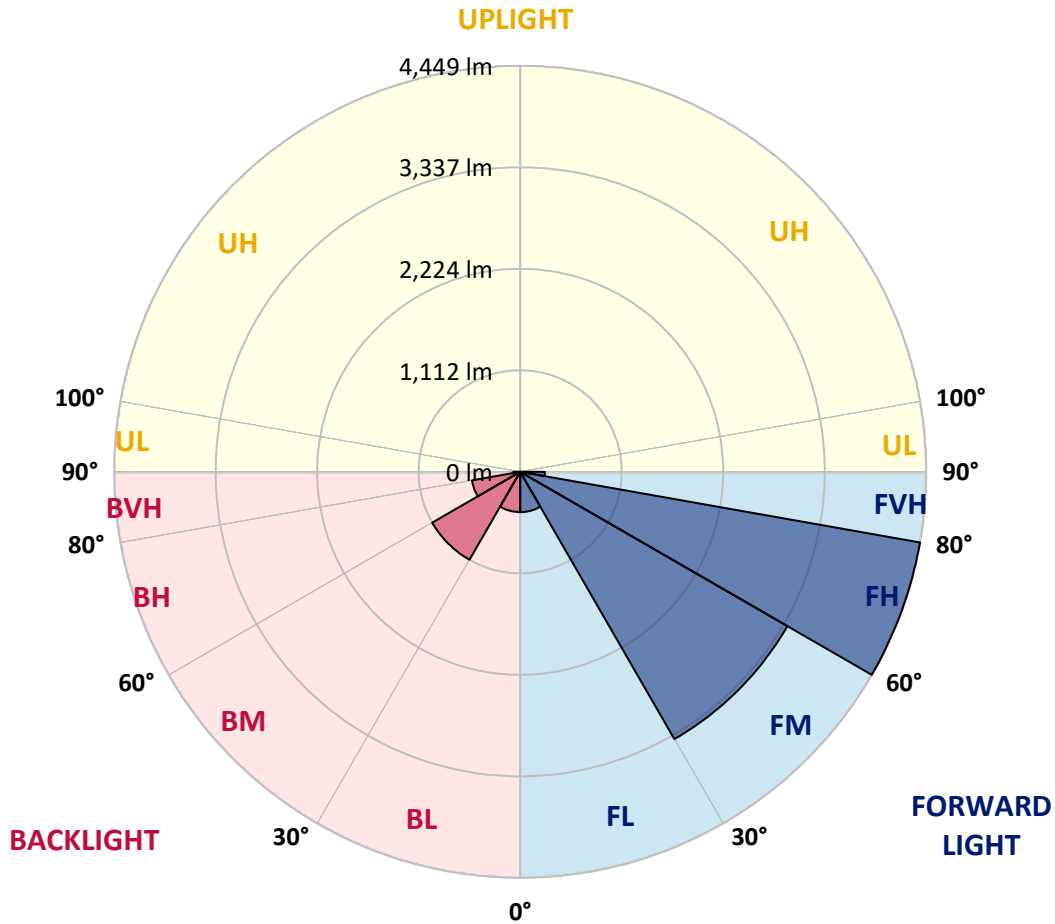
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	441.9	4.1			
FM (30°-60°)	3380.8	31.6			
FH (60°-80°)	4448.8	41.5			G2/5000
FVH (80°-90°)	270.3	2.5			G3/500
BL (0°-30°)	440.9	4.1	B1/500		
BM (30°-60°)	1112.6	10.4	B2/2500		
BH (60°-80°)	536.7	5.0	B2/1000		G2/1000
BVH (80°-90°)	76.0	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-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	561.5	561.5	561.5	561.5	561.5	561.5	561.5	561.5	561.5	561.5	561.5
2.5°	636.6	616.6	583.7	582.8	601.0	605.0	617.0	617.9	622.3	615.2	665.9
5°	702.3	681.0	668.1	672.5	664.1	674.3	674.3	703.6	742.7	788.0	852.4
7.5°	717.8	702.3	687.6	698.7	700.5	690.8	700.1	768.9	839.6	884.9	987.9
10°	686.8	671.2	682.3	685.9	685.4	707.6	756.1	811.1	889.8	973.3	1028.8
12.5°	681.0	692.1	697.4	703.6	745.8	752.5	825.8	882.7	961.7	1035.0	1179.4
15°	766.7	781.4	748.5	746.3	760.0	766.3	842.2	899.5	1015.0	1138.1	1267.8
17.5°	888.9	894.2	835.1	804.9	815.1	820.0	853.3	925.3	996.4	1223.8	1385.5
20°	1007.0	1010.6	899.5	832.0	868.0	873.3	904.4	945.7	1001.7	1271.8	1465.0
22.5°	1131.0	1108.3	986.6	901.3	922.2	923.5	941.7	964.4	1043.9	1264.2	1561.9
25°	1266.5	1252.2	1099.0	1017.2	1016.4	998.1	999.0	1031.5	1088.8	1345.1	1625.4
27.5°	1446.4	1448.1	1225.6	1181.6	1112.8	1100.8	1040.8	1101.2	1166.5	1346.0	1762.6
30°	1679.6	1636.5	1401.9	1330.9	1262.9	1237.6	1156.3	1207.8	1236.2	1422.8	1911.9
32.5°	1869.3	1856.8	1585.8	1478.3	1367.3	1396.6	1306.9	1261.6	1312.7	1555.2	2138.0
35°	2050.9	2010.1	1780.4	1640.5	1523.7	1505.9	1447.7	1455.2	1486.3	1722.7	2433.4
37.5°	2321.9	2299.7	2055.8	1831.9	1777.3	1704.9	1668.0	1691.6	1667.1	1937.2	2876.3
40°	2624.9	2496.0	2285.9	2086.5	1984.3	1933.2	1946.1	1923.9	1905.2	2178.0	3273.4
42.5°	2914.9	2797.7	2438.7	2349.0	2215.7	2237.1	2166.4	2182.0	2234.8	2519.6	3640.8
45°	3230.8	2977.1	2600.9	2521.8	2426.3	2453.4	2509.8	2492.9	2579.5	2922.5	3986.8
47.5°	3388.5	3147.3	2799.9	2671.1	2669.7	2613.3	2956.7	2994.0	2858.5	3221.0	4338.2
50°	3540.4	3303.2	2947.8	2860.7	2797.7	2918.5	3385.4	3299.6	3110.8	3563.5	4724.7
52.5°	3751.8	3481.3	3117.5	3024.6	3102.8	3214.8	3727.4	3710.5	3358.3	3915.7	5060.5
55°	3913.1	3639.9	3372.9	3286.7	3436.0	3545.7	4075.7	3973.9	3570.1	4174.3	5273.3
57.5°	4195.6	3915.3	3750.1	3558.6	3826.9	3825.1	4411.5	4332.9	3796.7	4386.6	5359.0
60°	4644.7	4315.5	4142.7	3922.0	4209.4	4312.0	4795.3	4568.7	3957.1	4520.8	5204.4
62.5°	5275.0	4884.1	4603.8	4385.3	4735.8	4921.4	5269.3	4740.6	3967.3	4482.6	4797.9
65°	6054.6	5579.3	5212.0	4981.0	5559.3	5824.5	5842.3	4846.8	3873.1	4087.7	3943.3
67.5°	6815.1	6280.7	5897.4	5941.4	6785.8	6911.5	6463.3	4935.7	3367.1	3282.3	2738.1
70°	7315.8	6736.5	6481.1	6947.5	8230.4	8101.6	6966.6	4701.6	2651.5	2127.8	1541.9
72.5°	7278.0	6671.6	6579.7	7545.4	9263.6	9183.2	7027.9	3738.9	1776.0	1163.4	768.9
75°	5929.4	5458.1	5666.8	7143.0	8966.0	8962.0	6101.7	2314.4	911.1	597.5	486.0
77.5°	3278.3	3095.3	3708.7	5408.3	7139.0	7175.4	4122.7	1049.7	491.3	423.3	366.0
80°	1148.3	1131.4	1607.2	2918.5	4696.2	4705.1	1917.2	480.2	357.1	320.3	268.7
82.5°	419.8	416.2	666.3	1355.7	2585.8	2580.0	727.2	299.0	264.8	226.5	177.2
85°	167.5	163.9	304.7	601.9	1187.8	1168.7	282.5	169.7	173.2	135.0	87.1
87.5°	46.2	48.0	103.5	188.3	363.8	337.2	71.1	57.3	70.2	55.1	27.5
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°	561.5	561.5	561.5	561.5	561.5	561.5	561.5	561.5	561.5	561.5	561.5
2.5°	674.8	679.2	635.2	650.8	670.8	681.4	686.8	664.1	671.7	703.6	702.3
5°	865.8	848.0	831.1	848.4	836.9	820.5	847.1	845.8	863.1	880.4	884.4
7.5°	1008.4	985.3	977.3	938.2	899.1	859.6	893.8	915.1	919.5	962.6	980.8
10°	1059.9	1051.0	1054.1	1002.6	997.7	1001.7	970.2	936.0	956.8	939.1	952.4
12.5°	1178.9	1201.2	1146.1	1111.0	1107.9	1083.4	1020.4	998.1	974.6	999.0	986.6
15°	1274.4	1315.8	1256.7	1194.9	1125.2	1087.4	1033.7	999.9	984.4	989.7	974.6
17.5°	1414.4	1453.0	1302.9	1208.3	1136.3	1080.8	998.6	926.6	964.8	967.9	950.6
20°	1507.2	1509.9	1318.4	1175.4	1110.5	1014.1	934.2	871.1	915.1	959.9	979.5
22.5°	1597.8	1577.8	1337.5	1149.2	1016.8	923.5	884.4	880.4	913.3	951.1	955.5
25°	1665.8	1668.9	1348.6	1139.4	961.7	834.7	834.7	863.6	892.4	982.2	977.7
27.5°	1830.6	1709.3	1305.5	1094.5	885.3	782.7	835.1	873.8	887.5	984.8	994.6
30°	1950.5	1871.5	1314.4	1017.7	808.0	758.3	801.4	849.8	888.0	1000.4	996.8
32.5°	2151.8	1939.0	1335.3	909.7	750.3	748.9	787.1	838.2	884.0	983.5	988.8
35°	2374.3	2138.0	1277.1	827.6	736.5	743.6	792.9	813.4	867.1	976.8	981.7
37.5°	2786.1	2241.9	1240.2	764.0	727.6	748.1	766.7	798.3	852.4	943.5	975.5
40°	3027.8	2456.1	1103.4	727.2	709.0	744.5	753.8	780.5	809.8	903.5	924.0
42.5°	3345.8	2523.6	986.6	686.3	699.6	729.8	757.8	764.5	784.0	840.5	877.8
45°	3611.0	2574.2	862.7	653.4	668.1	762.3	764.0	760.9	757.4	778.3	808.9
47.5°	3885.5	2710.1	748.5	617.0	656.1	788.9	767.2	738.7	724.1	726.7	755.2
50°	4188.5	2808.8	667.7	587.3	658.8	788.9	782.3	716.1	686.8	679.2	709.0
52.5°	4455.0	2820.3	606.4	563.3	647.7	761.8	792.5	701.9	652.5	634.3	662.3
55°	4600.3	2674.2	561.9	541.5	619.2	737.4	787.1	693.9	611.2	597.5	622.3
57.5°	4597.2	2431.6	524.2	511.3	586.8	703.2	757.4	650.3	585.9	577.9	602.4
60°	4431.5	2147.3	495.3	486.4	553.5	653.4	704.1	621.9	561.5	557.5	584.1
62.5°	4055.7	1853.7	467.3	460.2	522.4	618.3	678.8	590.4	536.2	535.7	561.0
65°	3321.4	1488.1	441.1	439.3	493.5	583.7	654.8	563.7	510.0	518.8	544.6
67.5°	2288.6	1045.7	413.1	418.4	466.9	550.4	636.6	545.9	482.4	500.6	523.7
70°	1255.8	646.8	382.0	392.7	433.1	511.7	608.1	517.1	446.4	474.4	490.4
72.5°	638.8	431.3	343.4	360.3	391.8	454.9	554.8	475.3	407.8	418.4	426.9
75°	429.1	324.7	300.3	318.9	341.6	400.7	492.2	436.2	370.9	369.6	378.9
77.5°	324.3	253.6	255.0	276.3	291.0	352.3	442.4	403.3	339.8	336.7	350.5
80°	237.2	192.3	205.2	227.4	240.8	316.3	410.0	366.9	297.6	285.2	296.7
82.5°	157.3	136.4	151.9	174.1	184.8	264.3	372.3	311.4	242.5	211.0	212.8
85°	74.2	71.5	90.6	101.3	115.1	163.9	278.5	215.4	154.6	127.9	133.7
87.5°	16.9	22.7	29.8	29.3	34.2	44.0	86.6	60.4	44.9	30.7	20.4
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)