

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: P366928

Luminaire Tested: **MSA-SA1C-740-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366928  
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-SA1C-740-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

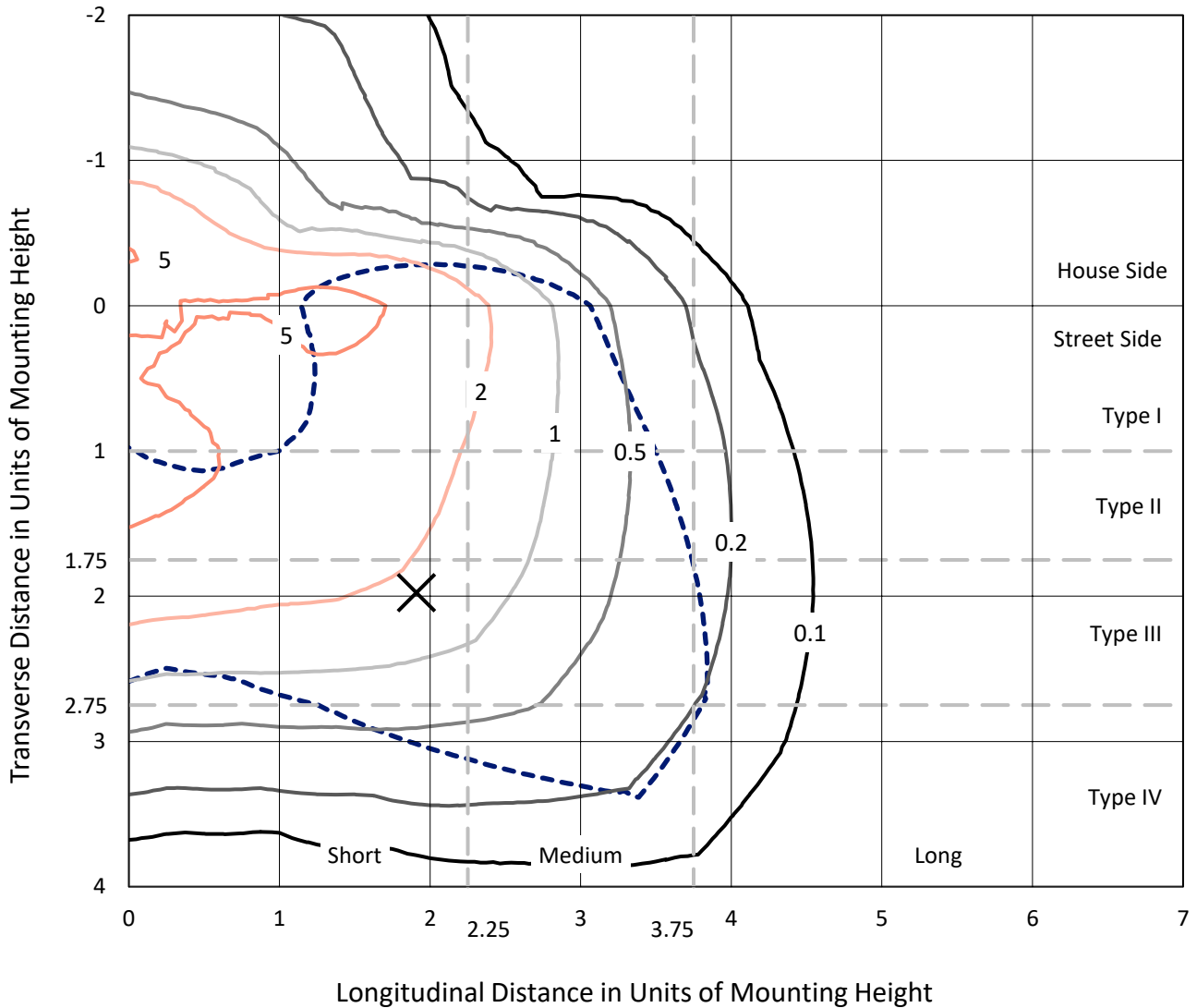
Lumens per Lamp: N/A  
Luminaire Lumens: 6359 lumens  
Efficiency: N/A  
Efficacy: 107.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

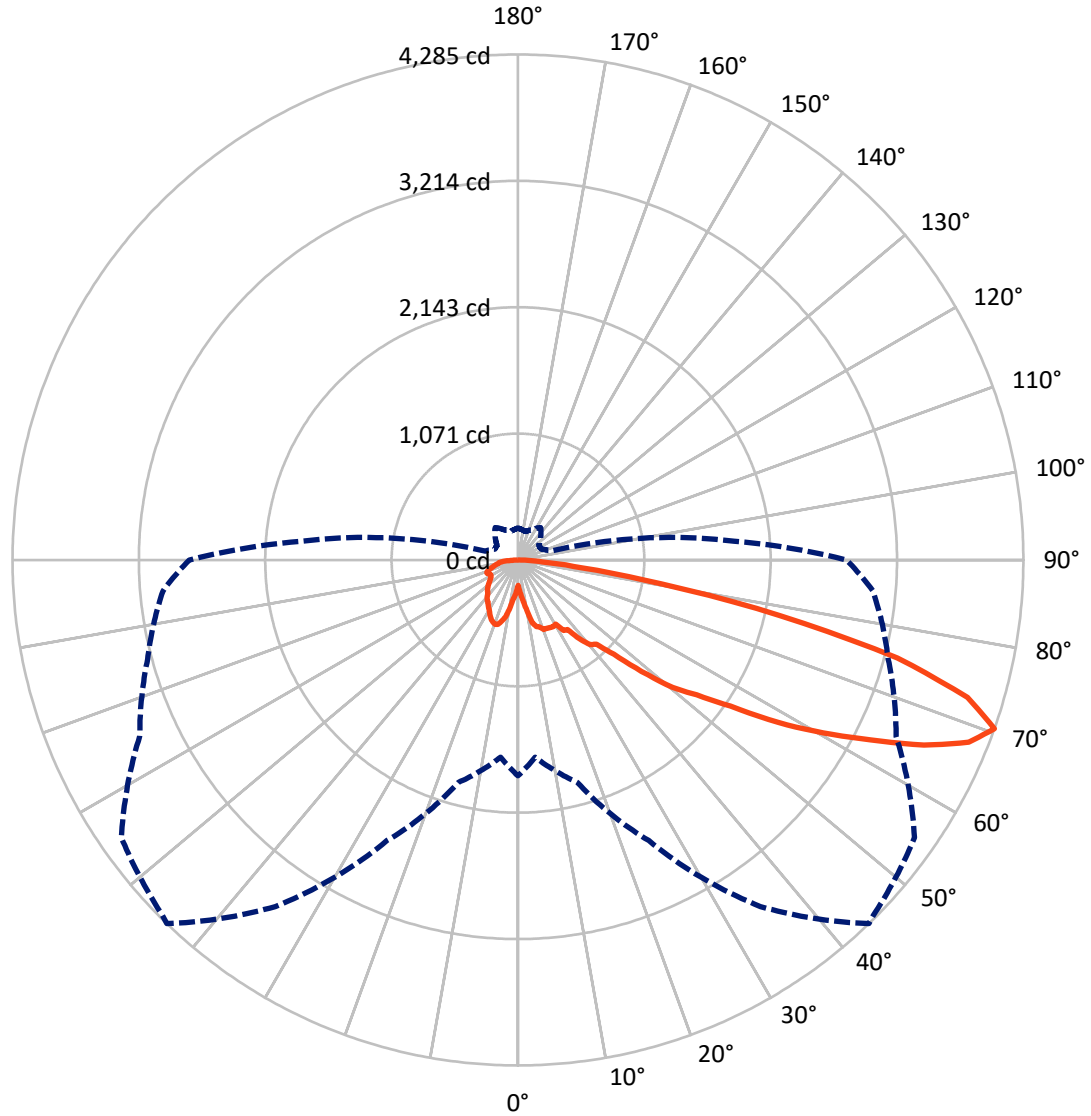
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.7 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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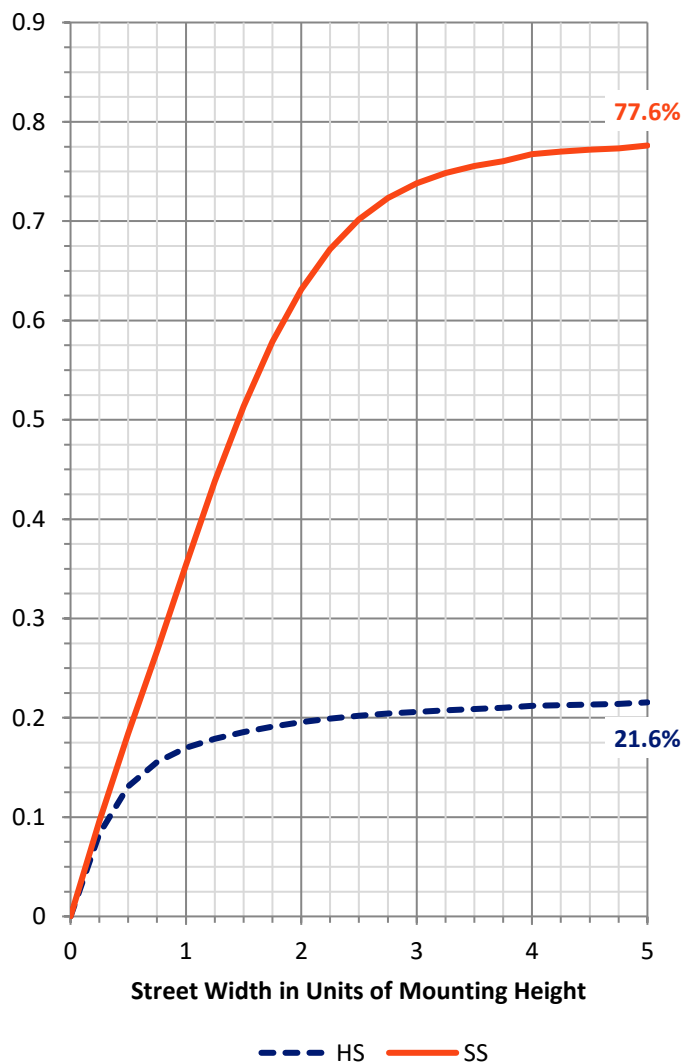
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1403.0	0.0	1403.0
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	4956.0	0.0	4956.0
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	6359.0	0.0	6359.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.9	0.5
10°-20°	156.1	2.5
20°-30°	291.6	4.6
30°-40°	468.1	7.4
40°-50°	790.1	12.4
50°-60°	1408.0	22.1
60°-70°	1926.0	30.3
70°-80°	1132.6	17.8
80°-90°	152.5	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°	6359.0	100.0
0°-180°	6359.0	100.0

**Coefficient of Utilization**



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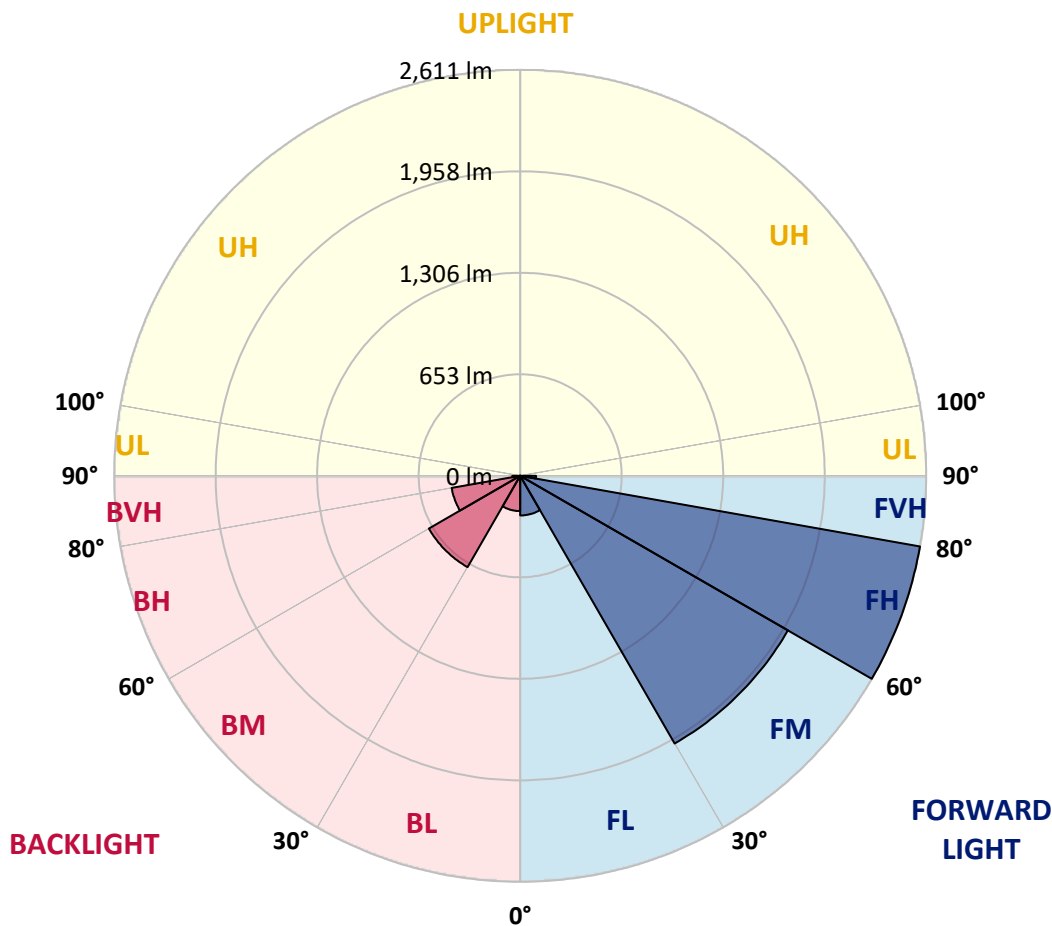
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	254.8	4.0			
FM (30°-60°)	1988.3	31.3			
FH (60°-80°)	2611.2	41.1			G2/5000
FVH (80°-90°)	101.6	1.6			G2/225
BL (0°-30°)	226.8	3.6	B1/500		
BM (30°-60°)	678.0	10.7	B1/1000		
BH (60°-80°)	447.4	7.0	B1/500		G1/500
BVH (80°-90°)	50.9	0.8			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°	35°	44°	45°	55°	65°	75°	85°
0°	216.2	216.2	216.2	216.2	216.2	216.2	216.2	216.2	216.2	216.2	216.2
2.5°	262.3	257.1	244.6	248.7	254.0	256.0	255.5	255.0	246.9	244.0	258.4
5°	356.4	345.0	335.8	332.2	320.2	310.8	305.1	320.2	317.8	321.7	331.7
7.5°	445.1	437.8	417.2	409.9	385.4	369.2	367.4	379.4	382.5	376.2	393.2
10°	502.2	489.7	485.5	468.0	451.1	448.5	446.9	441.4	433.9	433.3	418.2
12.5°	546.5	553.0	556.4	536.3	536.9	546.2	541.3	519.1	506.4	483.9	485.8
15°	626.0	635.4	608.6	595.8	571.3	585.4	583.5	565.0	563.2	548.6	531.6
17.5°	695.4	699.6	654.7	625.5	617.2	596.8	602.3	602.8	578.8	604.9	589.8
20°	701.1	716.0	664.4	606.2	631.2	628.6	629.4	624.2	592.7	635.7	629.9
22.5°	729.3	706.6	660.2	617.7	624.2	628.1	631.8	625.5	623.7	647.7	665.1
25°	724.1	716.8	669.8	633.9	634.6	635.4	637.2	656.0	653.9	686.5	695.6
27.5°	772.8	761.6	672.7	663.8	643.5	639.1	626.6	665.7	696.2	695.4	745.7
30°	865.6	854.2	739.4	713.6	676.9	631.5	655.5	707.6	731.6	739.7	803.6
32.5°	1010.6	1029.4	870.9	766.8	721.2	711.3	708.7	703.5	762.9	802.8	861.0
35°	1218.7	1203.8	1025.7	880.8	767.9	725.4	731.1	762.9	833.6	859.4	913.1
37.5°	1457.0	1426.2	1224.2	1009.8	902.4	849.2	830.2	861.0	876.6	896.9	1006.7
40°	1699.2	1624.1	1418.9	1179.6	983.2	943.1	926.4	888.6	925.4	966.6	1106.0
42.5°	1933.1	1875.0	1630.9	1382.2	1119.3	976.2	967.1	930.0	1044.0	1087.5	1249.5
45°	2178.2	2043.4	1848.1	1610.8	1318.3	1138.6	1125.1	1058.6	1204.6	1295.3	1451.8
47.5°	2343.0	2218.1	2047.0	1796.5	1484.9	1410.3	1384.5	1270.8	1403.3	1521.1	1764.4
50°	2498.9	2370.4	2190.7	1999.6	1786.6	1700.8	1645.8	1456.5	1650.7	1842.6	2165.2
52.5°	2722.1	2607.1	2357.6	2204.3	2110.7	1899.7	1858.8	1754.8	1940.1	2199.1	2603.2
55°	2960.7	2804.0	2577.9	2492.9	2455.1	2185.0	2151.6	2085.4	2325.5	2563.8	3029.0
57.5°	3066.0	2902.5	2777.9	2727.0	2723.9	2599.5	2561.2	2515.1	2719.5	2876.7	3429.7
60°	3149.7	2974.2	2924.4	2952.8	3056.1	2974.2	2924.4	2883.7	3040.2	3185.9	3756.7
62.5°	3134.3	2958.3	2983.9	3070.4	3334.0	3358.0	3319.7	3221.1	3358.0	3439.4	3944.2
65°	2886.1	2723.4	2872.3	3077.7	3592.4	3784.1	3782.0	3524.1	3571.6	3571.6	3924.3
67.5°	2451.2	2282.8	2526.5	3013.3	3771.0	4121.7	4122.2	3845.3	3591.1	3558.3	3617.7
70°	1830.4	1677.8	1951.9	2624.3	3586.7	4285.2	4261.5	4104.5	3537.4	3250.3	3021.9
72.5°	1093.3	994.7	1246.8	1910.4	3059.5	3984.6	4047.7	3806.0	3238.4	2703.1	2160.2
75°	496.4	453.7	585.9	1097.4	2184.2	3323.6	3392.2	3212.0	2572.2	1944.1	1248.4
77.5°	212.5	201.0	255.8	486.8	1204.3	2272.8	2413.4	2295.5	1742.8	1129.8	552.2
80°	136.6	129.3	157.2	234.1	559.3	1228.1	1349.1	1305.0	887.8	439.3	194.5
82.5°	81.6	79.3	105.1	147.1	305.1	540.5	609.1	625.2	368.7	197.1	111.3
85°	44.6	45.1	57.6	89.2	183.0	210.4	225.3	245.1	173.7	114.2	54.0
87.5°	14.9	17.2	23.2	36.2	65.2	59.4	59.7	69.4	73.3	47.5	17.2
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°	216.2	216.2	216.2	216.2	216.2	216.2	216.2	216.2	216.2	216.2	216.2
2.5°	260.7	256.0	244.0	244.8	249.3	250.3	251.6	244.0	242.5	256.8	258.1
5°	333.2	317.8	310.8	308.5	301.7	299.3	311.8	317.6	323.3	334.5	340.0
7.5°	391.4	374.2	361.4	349.6	339.7	334.0	355.1	371.3	381.2	404.1	414.6
10°	418.0	403.1	398.4	389.0	396.6	413.8	417.7	418.2	440.1	439.6	444.0
12.5°	470.9	461.2	445.9	449.2	469.1	486.8	481.8	489.4	497.2	516.0	507.4
15°	519.1	516.5	502.2	504.5	508.4	530.6	533.5	541.0	553.0	567.9	557.7
17.5°	578.6	577.5	542.6	539.5	548.6	570.2	563.5	550.2	589.8	605.7	601.5
20°	619.0	611.2	566.3	553.0	576.2	579.1	571.3	550.2	584.6	619.2	628.6
22.5°	652.6	643.5	597.3	571.3	566.6	567.9	567.9	564.0	580.9	609.3	609.1
25°	679.7	688.3	629.7	604.6	579.6	548.3	544.4	547.8	557.5	612.2	610.4
27.5°	747.8	724.1	640.6	621.9	570.5	521.2	531.9	537.1	540.2	600.2	610.1
30°	792.1	799.4	679.7	632.0	557.2	491.0	494.6	509.7	528.0	598.9	601.8
32.5°	851.8	836.2	740.8	615.1	521.7	472.7	465.9	486.3	513.4	577.8	585.6
35°	907.4	925.9	766.6	611.9	497.0	445.3	452.6	459.7	487.8	554.3	563.5
37.5°	1037.7	995.5	839.1	596.8	476.4	431.5	423.7	434.4	458.4	509.7	530.9
40°	1136.8	1139.4	854.7	577.8	437.0	411.7	395.0	405.7	415.9	456.8	465.9
42.5°	1322.7	1265.9	893.0	536.1	412.2	382.0	372.6	377.3	378.9	396.1	411.2
45°	1559.2	1426.0	908.1	480.0	379.6	369.7	350.7	348.3	339.7	342.1	355.4
47.5°	1886.4	1675.8	897.2	420.3	350.7	353.8	326.4	315.8	303.8	306.6	319.1
50°	2309.6	1994.9	896.4	369.7	330.9	333.0	310.5	291.2	279.2	285.2	296.2
52.5°	2784.4	2315.1	900.1	335.0	309.2	308.2	300.1	276.6	267.0	273.3	285.8
55°	3238.6	2590.4	927.2	313.1	286.8	288.6	291.8	271.9	261.3	267.0	280.0
57.5°	3633.9	2807.9	917.0	289.9	266.0	274.3	282.6	265.4	257.3	265.7	278.7
60°	3910.3	2908.8	836.7	267.8	250.6	262.0	278.2	264.6	263.6	281.6	297.2
62.5°	4011.2	2871.5	680.3	250.3	241.4	260.5	288.4	281.9	282.9	305.1	326.7
65°	3863.9	2675.4	507.4	239.1	234.4	268.0	311.8	292.0	277.7	295.9	315.8
67.5°	3444.9	2326.8	370.8	229.4	226.3	280.0	333.5	291.0	264.4	282.9	299.1
70°	2787.0	1836.6	287.1	217.2	215.6	271.9	335.6	283.2	250.0	262.0	271.2
72.5°	1909.6	1257.5	237.8	205.5	197.1	240.9	318.6	265.7	232.8	239.9	247.4
75°	1067.2	705.8	200.0	190.9	172.6	214.6	298.8	255.3	220.1	222.1	232.6
77.5°	479.0	305.3	169.7	171.6	150.4	189.8	273.0	238.6	200.5	195.8	206.2
80°	181.2	148.9	137.7	145.0	126.5	164.5	246.1	223.5	179.9	173.9	179.9
82.5°	105.1	90.2	102.2	111.6	100.4	151.2	234.9	209.6	158.5	143.4	148.6
85°	48.8	46.7	61.3	72.5	70.1	117.9	201.0	157.7	112.9	95.4	105.6
87.5°	12.8	14.3	21.6	25.6	26.1	40.4	77.4	58.7	44.1	33.4	32.1
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)