

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: P366662

Luminaire Tested: **MSA-SA1A-740-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366662  
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-SA1A-740-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: 4051 lumens  
Efficiency: N/A  
Efficacy: 119.1 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

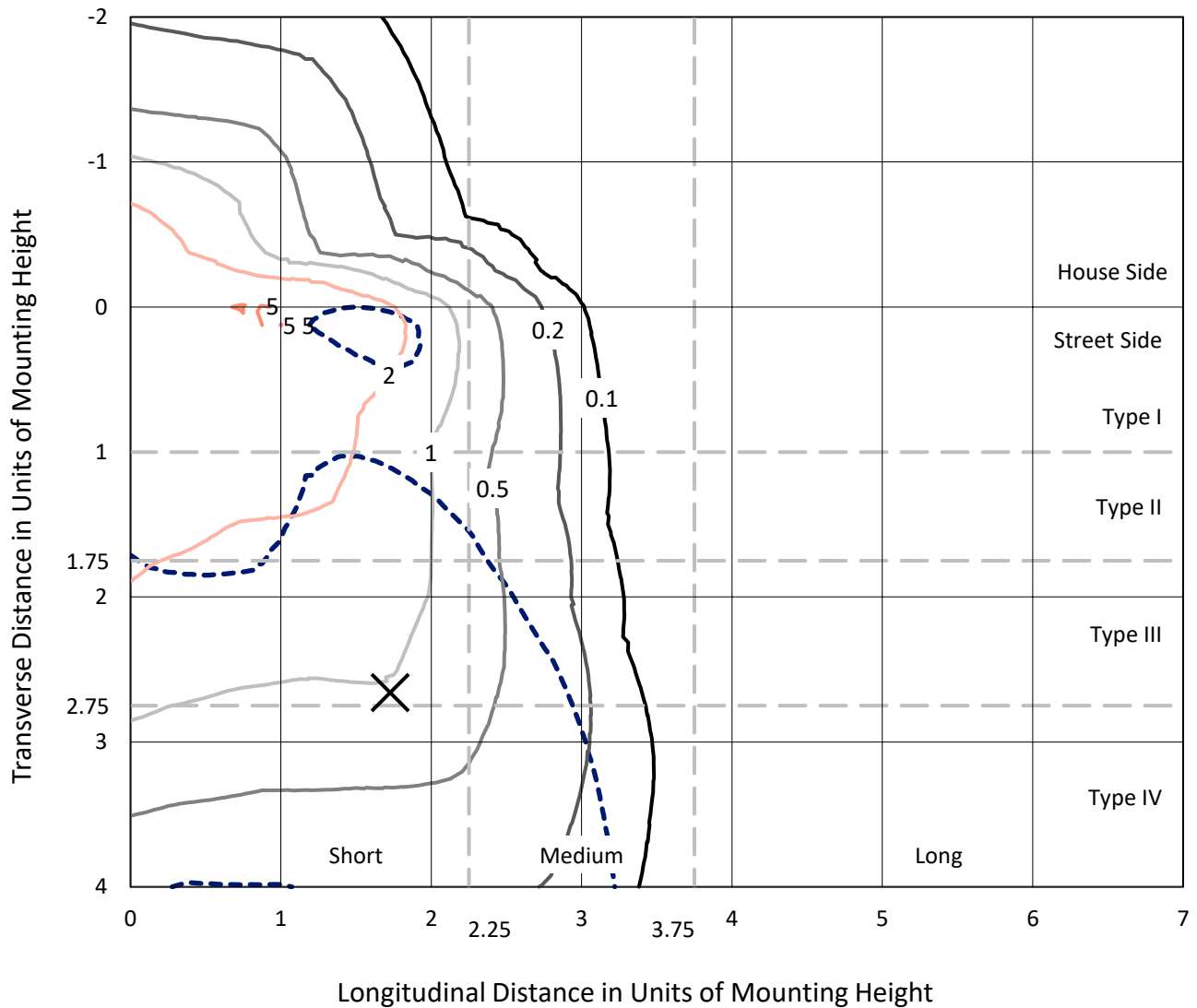
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

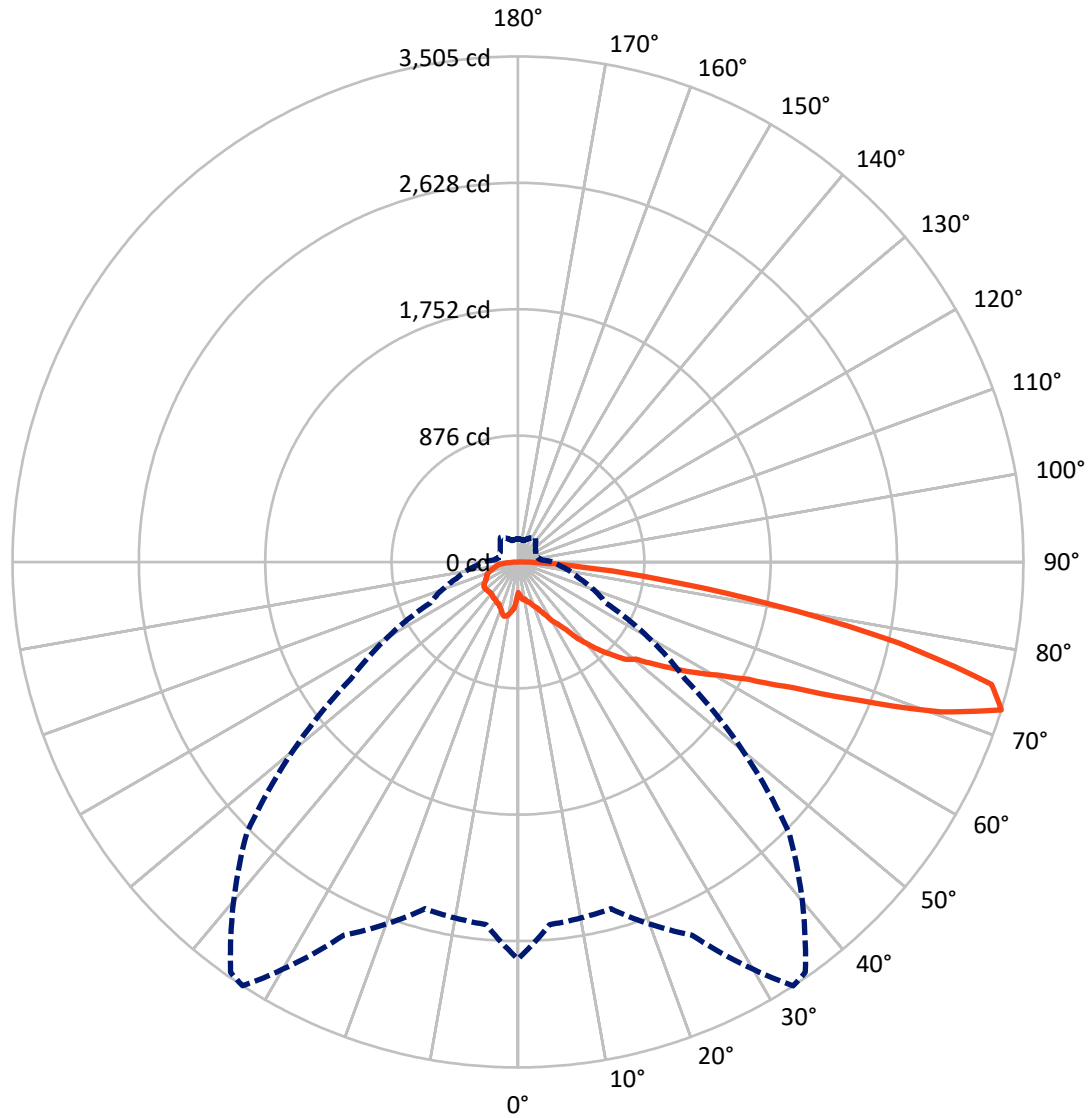
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.2 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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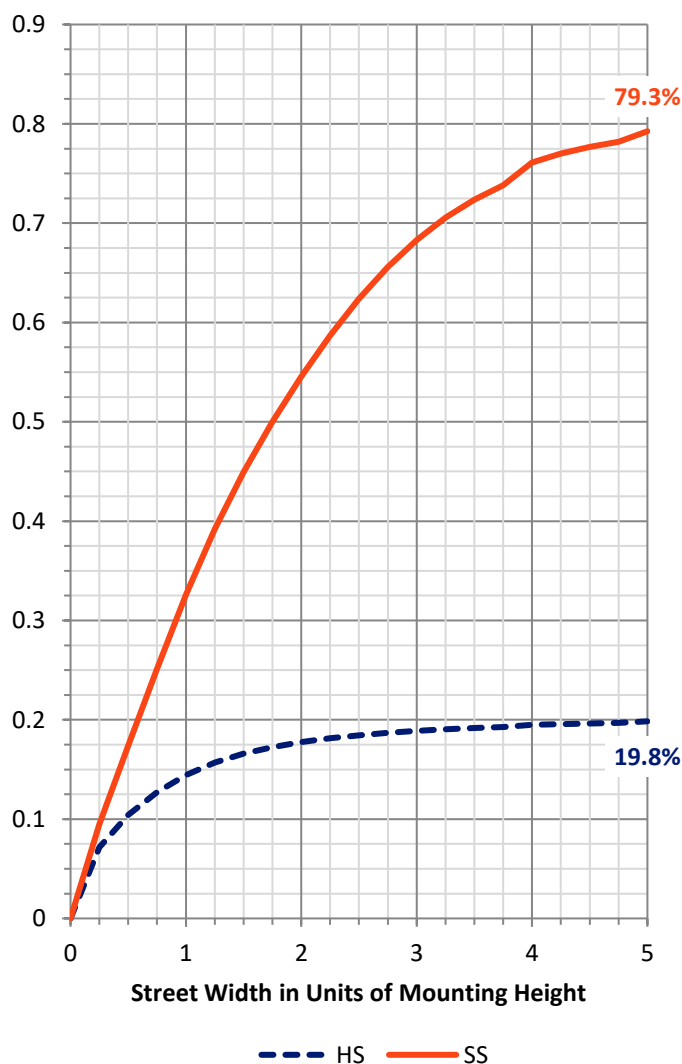
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	819.5	0.0	819.5
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	3231.5	0.0	3231.5
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	4051.0	0.0	4051.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	29.2	0.7
10°-20°	107.9	2.7
20°-30°	196.8	4.9
30°-40°	333.0	8.2
40°-50°	554.0	13.7
50°-60°	813.0	20.1
60°-70°	1040.0	25.7
70°-80°	846.1	20.9
80°-90°	131.1	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°	4051.0	100.0
0°-180°	4051.0	100.0

**Coefficient of Utilization**



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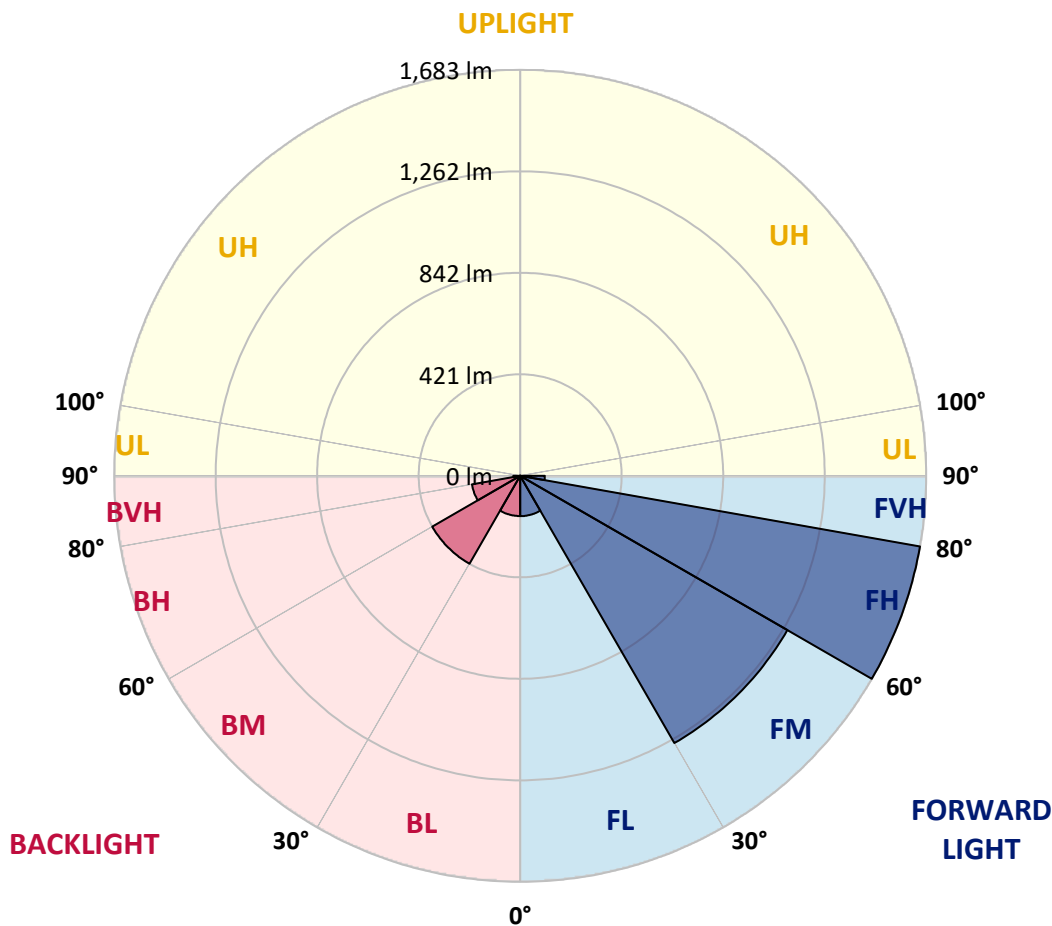
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	167.2	4.1			
FM (30°-60°)	1279.0	31.6			
FH (60°-80°)	1683.0	41.5			G1/1800
FVH (80°-90°)	102.3	2.5			G2/225
BL (0°-30°)	166.8	4.1	B1/500		
BM (30°-60°)	420.9	10.4	B1/1000		
BH (60°-80°)	203.1	5.0	B1/500		G1/500
BVH (80°-90°)	28.8	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°	212.4	212.4	212.4	212.4	212.4	212.4	212.4	212.4	212.4	212.4	212.4
2.5°	240.8	233.3	220.8	220.5	227.4	228.9	233.4	233.8	235.4	232.8	251.9
5°	265.7	257.6	252.8	254.4	251.2	255.1	255.1	266.2	281.0	298.1	322.5
7.5°	271.6	265.7	260.1	264.3	265.0	261.3	264.9	290.9	317.6	334.8	373.7
10°	259.8	253.9	258.1	259.5	259.3	267.7	286.0	306.9	336.6	368.2	389.2
12.5°	257.6	261.8	263.8	266.2	282.2	284.7	312.4	333.9	363.8	391.6	446.2
15°	290.1	295.6	283.2	282.3	287.5	289.9	318.6	340.3	384.0	430.6	479.6
17.5°	336.3	338.3	315.9	304.5	308.4	310.2	322.8	350.1	376.9	463.0	524.2
20°	381.0	382.3	340.3	314.8	328.4	330.4	342.2	357.8	379.0	481.1	554.2
22.5°	427.9	419.3	373.2	341.0	348.9	349.4	356.3	364.8	394.9	478.3	590.9
25°	479.1	473.7	415.8	384.8	384.5	377.6	378.0	390.2	411.9	508.9	614.9
27.5°	547.2	547.9	463.7	447.0	421.0	416.4	393.7	416.6	441.3	509.2	666.8
30°	635.4	619.1	530.4	503.5	477.8	468.2	437.4	456.9	467.7	538.3	723.3
32.5°	707.2	702.5	599.9	559.3	517.3	528.4	494.4	477.3	496.6	588.4	808.8
35°	775.9	760.4	673.6	620.6	576.4	569.7	547.7	550.5	562.3	651.7	920.6
37.5°	878.4	870.0	777.7	693.0	672.4	645.0	631.0	639.9	630.7	732.9	1088.1
40°	993.0	944.3	864.8	789.3	750.7	731.4	736.2	727.8	720.8	824.0	1238.4
42.5°	1102.8	1058.4	922.6	888.7	838.2	846.3	819.6	825.5	845.5	953.2	1377.4
45°	1222.2	1126.3	983.9	954.0	917.9	928.2	949.5	943.1	975.9	1105.6	1508.3
47.5°	1281.9	1190.7	1059.2	1010.5	1010.0	988.7	1118.6	1132.7	1081.4	1218.6	1641.2
50°	1339.4	1249.6	1115.2	1082.3	1058.4	1104.1	1280.7	1248.3	1176.9	1348.1	1787.4
52.5°	1419.4	1317.0	1179.4	1144.3	1173.8	1216.2	1410.1	1403.7	1270.5	1481.4	1914.5
55°	1480.4	1377.0	1276.0	1243.4	1299.9	1341.4	1541.9	1503.4	1350.6	1579.2	1995.0
57.5°	1587.3	1481.2	1418.7	1346.3	1447.8	1447.1	1668.9	1639.2	1436.3	1659.5	2027.4
60°	1757.2	1632.6	1567.3	1483.7	1592.5	1631.3	1814.1	1728.4	1497.0	1710.3	1968.9
62.5°	1995.6	1847.7	1741.7	1659.0	1791.6	1861.9	1993.4	1793.5	1500.9	1695.8	1815.1
65°	2290.6	2110.7	1971.8	1884.4	2103.2	2203.5	2210.2	1833.6	1465.3	1546.4	1491.8
67.5°	2578.3	2376.1	2231.1	2247.7	2567.2	2614.7	2445.2	1867.2	1273.8	1241.7	1035.9
70°	2767.7	2548.5	2451.9	2628.3	3113.7	3064.9	2635.6	1778.7	1003.1	805.0	583.3
72.5°	2753.4	2524.0	2489.2	2854.5	3504.6	3474.2	2658.8	1414.5	671.9	440.1	290.9
75°	2243.2	2064.9	2143.8	2702.3	3392.0	3390.5	2308.4	875.6	344.7	226.0	183.8
77.5°	1240.2	1171.0	1403.1	2046.0	2700.8	2714.6	1559.7	397.1	185.9	160.2	138.5
80°	434.4	428.0	608.0	1104.1	1776.7	1780.0	725.3	181.7	135.1	121.2	101.7
82.5°	158.8	157.5	252.1	512.9	978.2	976.1	275.1	113.1	100.2	85.7	67.1
85°	63.4	62.0	115.3	227.7	449.4	442.1	106.9	64.2	65.5	51.1	32.9
87.5°	17.5	18.1	39.2	71.3	137.6	127.6	26.9	21.7	26.6	20.8	10.4
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°	212.4	212.4	212.4	212.4	212.4	212.4	212.4	212.4	212.4	212.4	212.4
2.5°	255.3	257.0	240.3	246.2	253.8	257.8	259.8	251.2	254.1	266.2	265.7
5°	327.5	320.8	314.4	321.0	316.6	310.4	320.5	320.0	326.5	333.1	334.6
7.5°	381.5	372.7	369.7	354.9	340.1	325.2	338.1	346.2	347.9	364.2	371.1
10°	401.0	397.6	398.8	379.3	377.4	379.0	367.0	354.1	362.0	355.3	360.3
12.5°	446.0	454.4	433.6	420.3	419.1	409.9	386.0	377.6	368.7	378.0	373.2
15°	482.1	497.8	475.4	452.1	425.7	411.4	391.1	378.3	372.4	374.4	368.7
17.5°	535.1	549.7	492.9	457.1	429.9	408.9	377.8	350.6	365.0	366.2	359.6
20°	570.2	571.2	498.8	444.7	420.1	383.7	353.4	329.6	346.2	363.2	370.6
22.5°	604.5	596.9	506.0	434.8	384.7	349.4	334.6	333.1	345.5	359.8	361.5
25°	630.2	631.4	510.2	431.1	363.8	315.8	315.8	326.7	337.6	371.6	369.9
27.5°	692.5	646.7	493.9	414.1	334.9	296.1	315.9	330.6	335.8	372.6	376.3
30°	737.9	708.0	497.3	385.0	305.7	286.9	303.2	321.5	335.9	378.5	377.1
32.5°	814.0	733.6	505.2	344.2	283.8	283.3	297.8	317.1	334.4	372.1	374.1
35°	898.2	808.8	483.2	313.1	278.6	281.3	300.0	307.7	328.0	369.5	371.4
37.5°	1054.0	848.2	469.2	289.1	275.3	283.0	290.1	302.0	322.5	356.9	369.0
40°	1145.4	929.2	417.4	275.1	268.2	281.7	285.2	295.3	306.4	341.8	349.5
42.5°	1265.8	954.7	373.2	259.6	264.7	276.1	286.7	289.2	296.6	318.0	332.1
45°	1366.1	973.9	326.4	247.2	252.8	288.4	289.1	287.9	286.5	294.4	306.0
47.5°	1470.0	1025.3	283.2	233.4	248.2	298.5	290.2	279.5	273.9	274.9	285.7
50°	1584.6	1062.6	252.6	222.2	249.2	298.5	295.9	270.9	259.8	257.0	268.2
52.5°	1685.4	1067.0	229.4	213.1	245.0	288.2	299.8	265.5	246.9	240.0	250.6
55°	1740.4	1011.7	212.6	204.9	234.3	279.0	297.8	262.5	231.2	226.0	235.4
57.5°	1739.2	919.9	198.3	193.4	222.0	266.0	286.5	246.0	221.7	218.6	227.9
60°	1676.5	812.4	187.4	184.0	209.4	247.2	266.4	235.3	212.4	210.9	221.0
62.5°	1534.3	701.3	176.8	174.1	197.6	233.9	256.8	223.3	202.8	202.7	212.3
65°	1256.5	563.0	166.9	166.2	186.7	220.8	247.7	213.3	192.9	196.3	206.0
67.5°	865.8	395.6	156.3	158.3	176.6	208.2	240.8	206.5	182.5	189.4	198.1
70°	475.1	244.7	144.5	148.6	163.9	193.6	230.1	195.6	168.9	179.5	185.5
72.5°	241.7	163.2	129.9	136.3	148.2	172.1	209.9	179.8	154.3	158.3	161.5
75°	162.3	122.8	113.6	120.7	129.2	151.6	186.2	165.0	140.3	139.8	143.3
77.5°	122.7	96.0	96.5	104.5	110.1	133.3	167.4	152.6	128.6	127.4	132.6
80°	89.7	72.8	77.6	86.0	91.1	119.7	155.1	138.8	112.6	107.9	112.3
82.5°	59.5	51.6	57.5	65.9	69.9	100.0	140.8	117.8	91.8	79.8	80.5
85°	28.1	27.1	34.3	38.3	43.5	62.0	105.4	81.5	58.5	48.4	50.6
87.5°	6.4	8.6	11.3	11.1	12.9	16.6	32.8	22.9	17.0	11.6	7.7
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)