

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: P366648

Luminaire Tested: **MSA-SA1A-740-U-SL2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366648  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-740-U-SL2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4015 lumens  
Efficiency: N/A  
Efficacy: 118.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G1

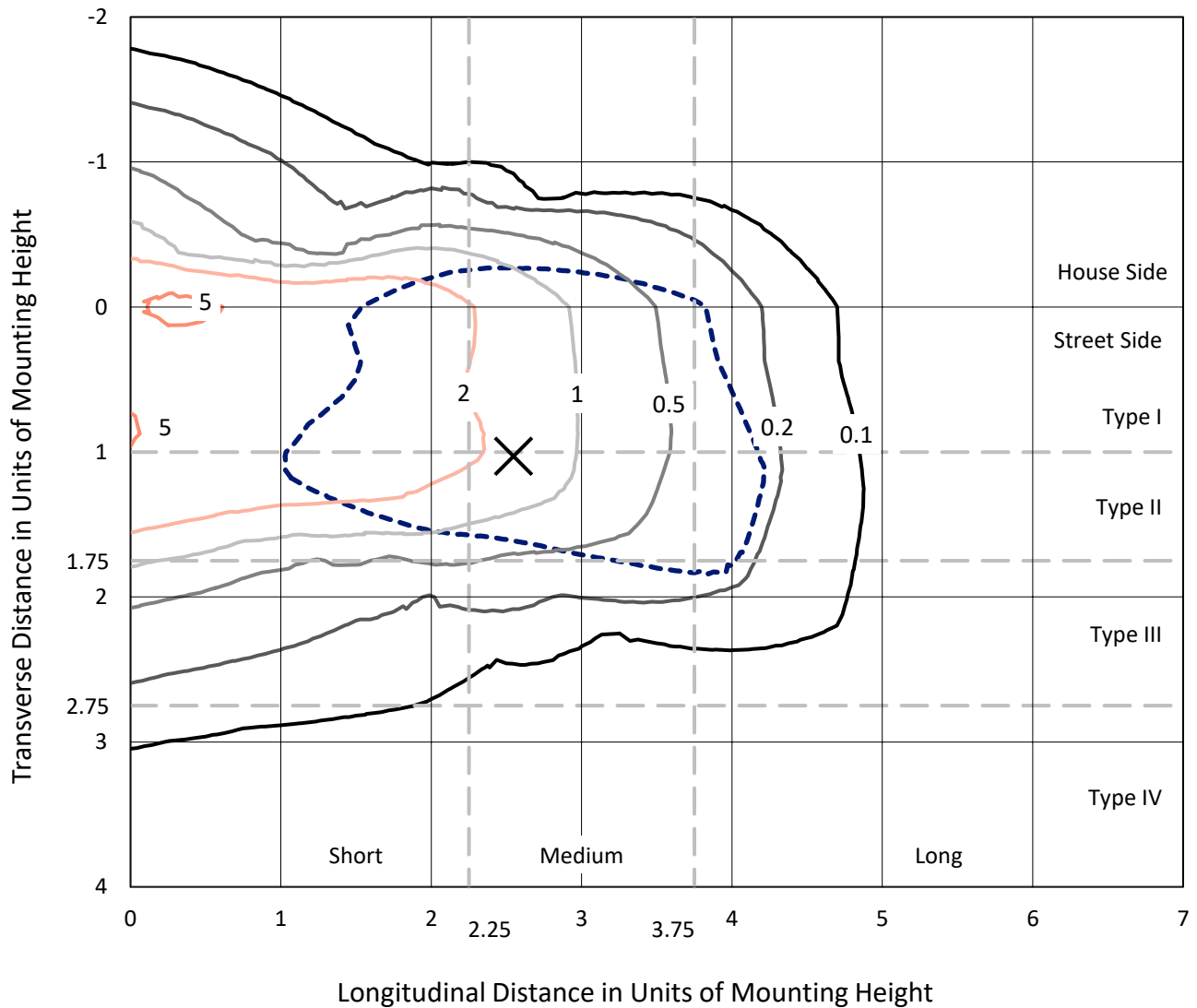
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

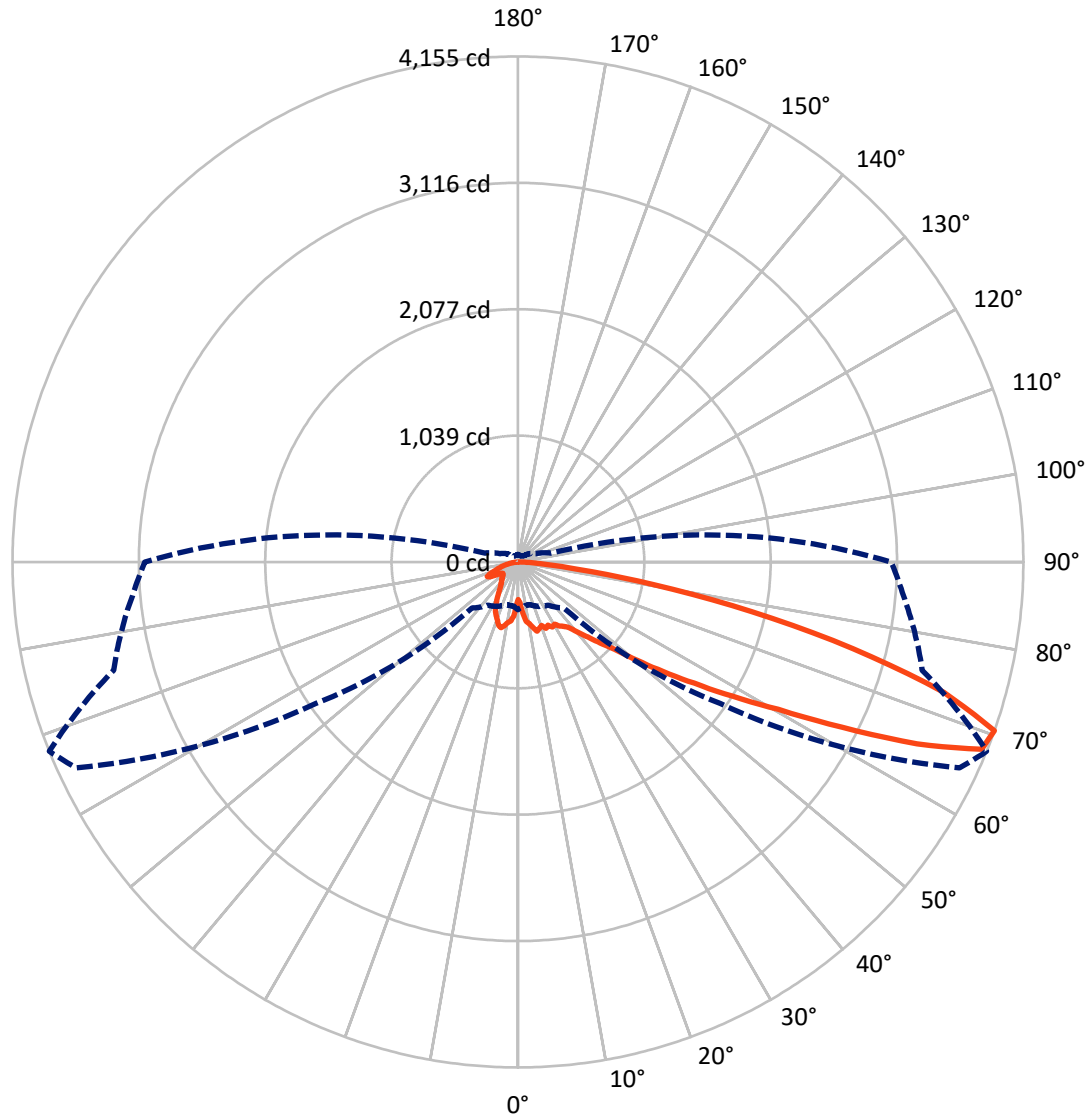
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.1 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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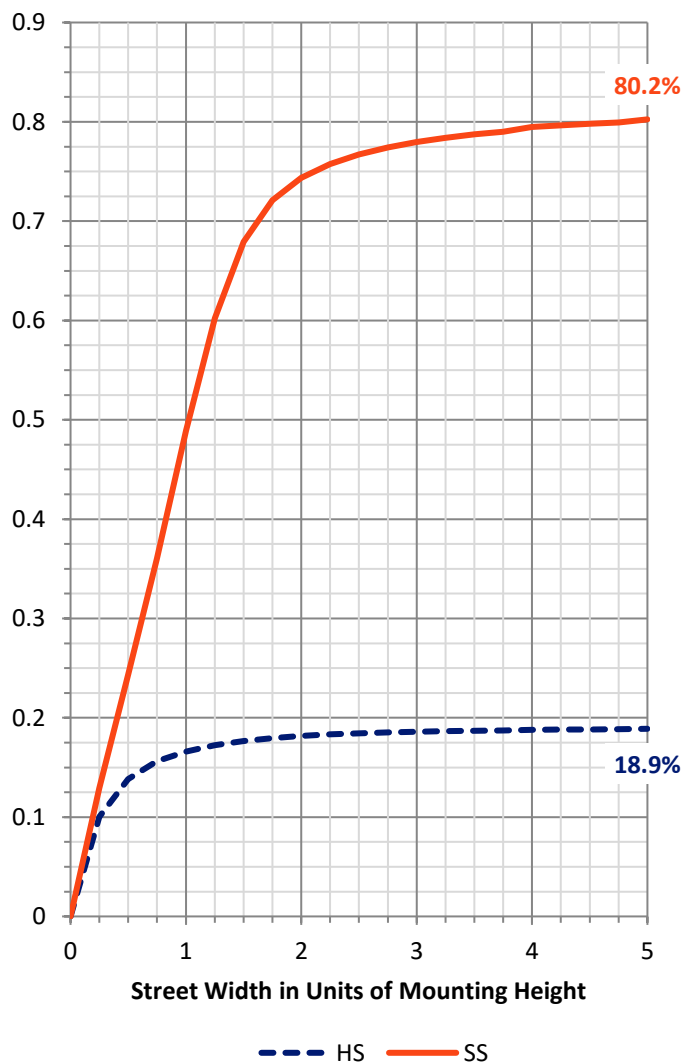
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	766.6	0.0	766.6
	% Fixture	19.1	0.0	19.1
<b>Street Side</b>	Lumens	3248.4	0.0	3248.4
	% Fixture	80.9	0.0	80.9
<b>Total</b>	Lumens	4015.0	0.0	4015.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.1	1.0
10°-20°	134.0	3.3
20°-30°	203.8	5.1
30°-40°	311.4	7.8
40°-50°	535.4	13.3
50°-60°	886.1	22.1
60°-70°	1092.5	27.2
70°-80°	701.8	17.5
80°-90°	108.9	2.7
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°	4015.0	100.0
0°-180°	4015.0	100.0

**Coefficient of Utilization**

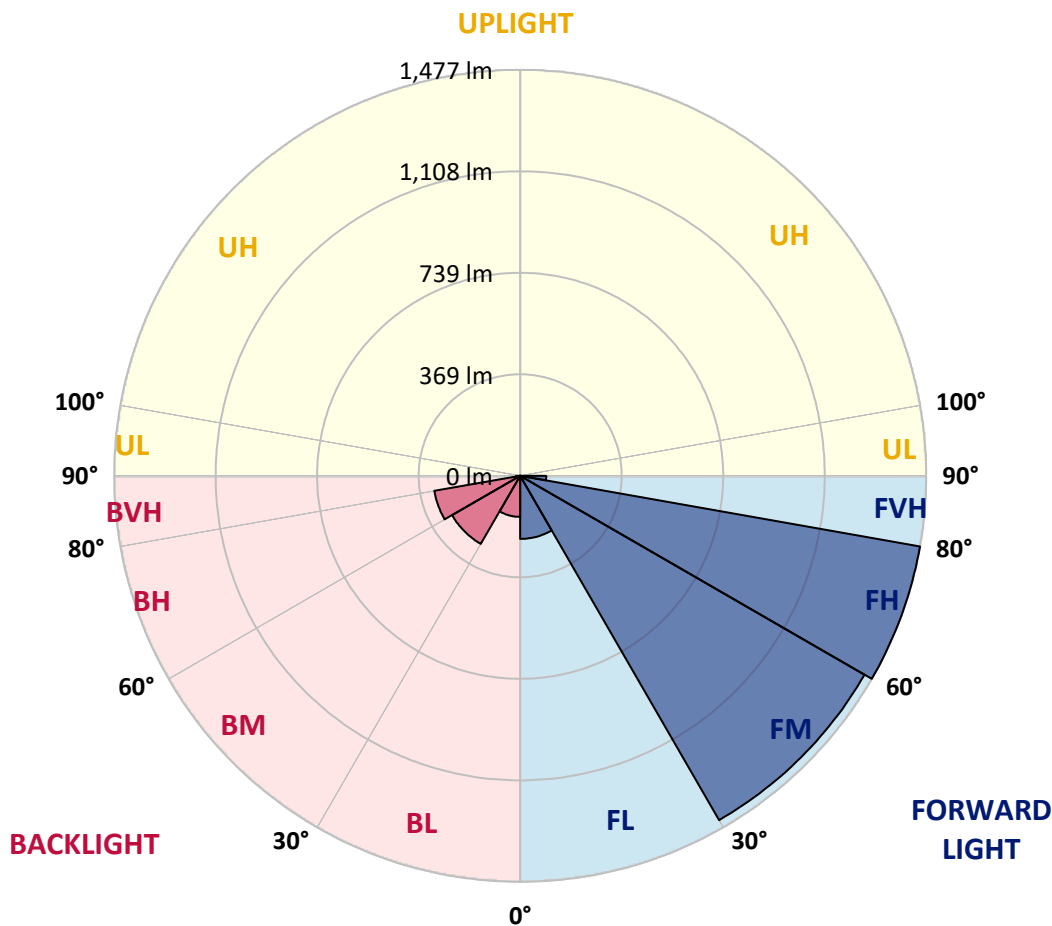


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	229.6	5.7			
FM (30°-60°)	1446.8	36.0			
FH (60°-80°)	1477.2	36.8			G1/1800
FVH (80°-90°)	94.9	2.4			G1/100
BL (0°-30°)	149.4	3.7	B1/500		
BM (30°-60°)	286.1	7.1	B1/1000		
BH (60°-80°)	317.1	7.9	B1/500		G1/500
BVH (80°-90°)	14.0	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**  
 Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8
2.5°	353.7	339.4	325.0	332.0	343.3	353.2	351.2	352.4	338.8	336.9	372.7
5°	416.7	392.2	391.7	392.0	393.0	381.6	409.5	424.0	427.2	441.9	477.1
7.5°	438.6	428.7	418.6	423.6	410.9	412.0	446.3	483.9	492.9	503.6	551.7
10°	434.0	424.6	427.7	428.5	430.8	449.8	471.8	508.0	515.5	549.8	562.3
12.5°	434.7	433.0	447.1	447.7	472.9	507.0	515.7	549.0	552.0	577.2	629.1
15°	457.7	469.3	461.4	465.6	470.5	511.3	523.9	571.7	589.8	622.2	661.2
17.5°	502.6	506.0	482.3	476.0	492.0	504.4	533.2	553.9	572.8	663.4	717.2
20°	513.0	522.1	493.9	461.8	495.5	512.8	532.8	542.3	557.0	669.5	745.7
22.5°	557.7	538.9	504.8	476.9	488.0	504.8	519.2	554.7	593.5	652.2	774.3
25°	583.1	572.2	541.8	511.8	502.4	502.9	530.8	562.6	576.0	677.5	780.0
27.5°	644.4	626.9	558.6	552.8	517.4	489.8	532.7	582.1	605.6	657.7	807.9
30°	721.2	707.9	618.2	610.6	556.5	508.5	556.2	596.5	593.2	670.6	827.2
32.5°	783.4	805.6	715.0	655.3	616.9	570.8	548.8	594.0	627.5	700.7	860.0
35°	872.1	893.0	790.4	750.1	666.6	599.7	600.4	628.6	649.3	735.8	896.6
37.5°	1025.7	1007.4	924.9	861.2	807.8	707.9	678.0	668.1	684.8	778.9	968.4
40°	1136.4	1121.0	1023.9	987.6	883.5	825.6	743.6	734.2	763.6	823.2	1027.0
42.5°	1267.7	1240.1	1149.7	1119.8	1011.1	906.6	823.9	829.3	843.5	906.9	1106.4
45°	1401.3	1334.4	1283.1	1280.8	1208.2	1063.8	952.8	948.4	948.9	1030.1	1195.4
47.5°	1507.3	1447.1	1388.5	1360.6	1324.0	1335.9	1140.0	1088.7	1073.3	1154.1	1329.0
50°	1579.0	1509.8	1443.4	1436.9	1534.7	1599.0	1315.7	1261.0	1270.5	1331.5	1507.1
52.5°	1580.6	1498.4	1429.2	1475.0	1705.4	1797.5	1618.5	1465.5	1496.0	1537.5	1739.5
55°	1470.7	1385.5	1340.4	1445.0	1772.1	2032.9	2044.0	1793.1	1757.8	1773.1	2017.3
57.5°	1238.9	1152.9	1126.7	1251.9	1645.6	2259.9	2557.9	2184.7	2081.1	2017.3	2301.9
60°	932.6	858.2	841.9	921.7	1364.3	2193.2	2973.9	2672.0	2461.1	2290.0	2587.4
62.5°	699.4	645.9	621.4	632.8	944.0	1976.3	3247.2	3287.6	2989.0	2587.8	2866.4
65°	568.3	525.1	503.3	488.5	587.1	1528.1	3197.7	3805.9	3605.7	2900.5	3083.5
67.5°	474.7	436.4	426.3	440.8	464.1	886.6	2811.3	4095.7	4109.4	3209.0	3210.4
70°	394.0	365.6	362.0	403.0	433.7	535.0	2030.6	4004.7	4154.9	3440.4	3180.6
72.5°	304.5	289.2	288.7	353.0	430.8	456.1	1209.2	3459.6	3661.4	3366.5	2889.6
75°	211.2	200.6	208.7	290.2	420.9	462.6	690.1	2694.6	2845.7	2864.7	2314.7
77.5°	145.4	136.4	145.2	209.9	375.9	473.7	482.8	1948.4	1965.2	1921.0	1325.8
80°	101.2	94.9	101.7	148.5	292.6	468.8	411.0	1226.7	1125.5	857.3	424.5
82.5°	62.7	60.8	68.2	105.9	206.0	426.5	389.5	633.0	483.3	236.6	151.6
85°	32.9	30.2	39.7	69.1	128.9	334.7	365.0	288.9	186.5	84.0	60.8
87.5°	9.7	8.7	15.3	27.9	54.6	150.1	208.9	122.5	69.6	24.7	19.0
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°	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8
2.5°	375.2	373.4	348.5	351.7	357.1	358.4	358.3	349.2	339.6	366.3	365.5
5°	477.9	461.3	448.8	446.1	430.8	415.6	420.9	419.1	416.7	428.8	430.3
7.5°	551.8	528.8	514.4	477.2	441.9	411.4	421.1	424.1	418.1	439.9	446.5
10°	571.3	553.2	537.6	489.8	470.3	452.5	426.1	396.1	392.0	379.4	380.9
12.5°	621.6	619.0	565.8	523.8	498.4	462.9	406.0	369.5	338.3	339.8	330.7
15°	661.2	662.6	598.5	539.7	471.7	417.6	350.5	305.2	273.1	266.7	260.1
17.5°	714.5	711.8	601.2	520.6	434.4	355.1	272.9	227.9	222.5	226.2	220.5
20°	737.7	714.0	584.1	473.0	376.1	269.7	206.2	182.3	192.7	207.5	207.9
22.5°	758.5	718.0	575.2	434.7	298.4	196.1	165.5	161.1	173.4	193.4	195.1
25°	757.7	736.7	559.2	396.1	231.4	153.1	143.8	147.0	161.7	182.5	183.7
27.5°	795.8	722.4	517.7	345.3	174.3	131.1	133.4	139.3	146.2	166.0	169.9
30°	795.5	748.9	496.9	283.6	140.0	120.1	126.2	131.2	137.0	155.1	157.3
32.5°	814.3	731.6	484.3	220.6	125.5	117.5	119.0	124.0	132.2	144.5	146.0
35°	837.0	751.3	444.0	175.3	120.1	115.1	116.3	119.1	126.7	138.0	139.5
37.5°	909.8	755.0	428.0	147.7	119.8	114.1	113.9	115.4	124.0	134.3	138.8
40°	938.2	788.8	381.4	138.0	118.6	114.1	111.7	112.6	119.6	132.7	136.3
42.5°	1006.2	800.0	347.0	134.6	118.6	112.1	108.4	109.7	118.0	129.6	135.1
45°	1076.3	816.0	306.0	133.9	118.5	111.9	104.9	107.9	114.6	124.3	130.4
47.5°	1176.1	873.5	265.0	131.9	117.1	112.8	104.0	103.8	109.7	118.1	123.8
50°	1338.9	963.2	233.2	129.4	117.3	112.1	102.3	100.0	103.8	111.2	116.8
52.5°	1565.6	1116.1	220.8	128.0	115.9	109.4	99.5	95.8	98.0	103.8	109.2
55°	1828.7	1322.6	233.1	128.0	113.3	105.2	95.4	91.1	92.3	96.3	101.5
57.5°	2136.3	1579.2	292.4	126.2	109.9	100.2	90.6	85.5	85.9	89.4	94.1
60°	2457.4	1865.9	425.3	124.7	107.5	94.6	84.9	79.6	79.1	82.5	86.7
62.5°	2779.0	2130.4	565.1	128.2	106.9	89.9	78.8	73.6	73.4	76.5	80.0
65°	3034.8	2311.2	599.9	142.5	111.2	84.5	72.6	67.7	67.4	69.9	73.8
67.5°	3160.3	2337.4	455.7	160.3	120.5	79.5	66.5	62.0	61.7	64.4	67.7
70°	3067.4	2158.3	281.3	162.2	120.0	73.6	60.3	56.5	55.8	58.6	61.2
72.5°	2723.5	1887.9	213.7	143.5	103.8	65.2	54.1	50.7	49.7	52.3	54.6
75°	2186.0	1498.9	171.2	115.8	81.8	54.9	47.9	44.7	43.5	45.9	47.9
77.5°	1273.4	843.2	125.2	90.4	61.8	44.9	40.8	38.0	36.6	39.2	40.7
80°	414.0	281.0	78.6	64.9	45.2	35.1	33.1	31.1	29.7	31.4	31.9
82.5°	148.7	104.5	43.5	39.8	30.1	25.2	25.0	23.9	22.2	22.9	22.9
85°	65.9	47.7	25.9	21.3	18.0	13.4	15.8	15.0	13.3	12.9	12.4
87.5°	18.5	15.8	9.4	7.2	5.9	2.2	5.0	4.5	3.7	3.4	2.4
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)