

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: P366714

Luminaire Tested: **MSA-SA1A-830-U-SL2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366714  
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-830-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: 3190 lumens  
Efficiency: N/A  
Efficacy: 93.8 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

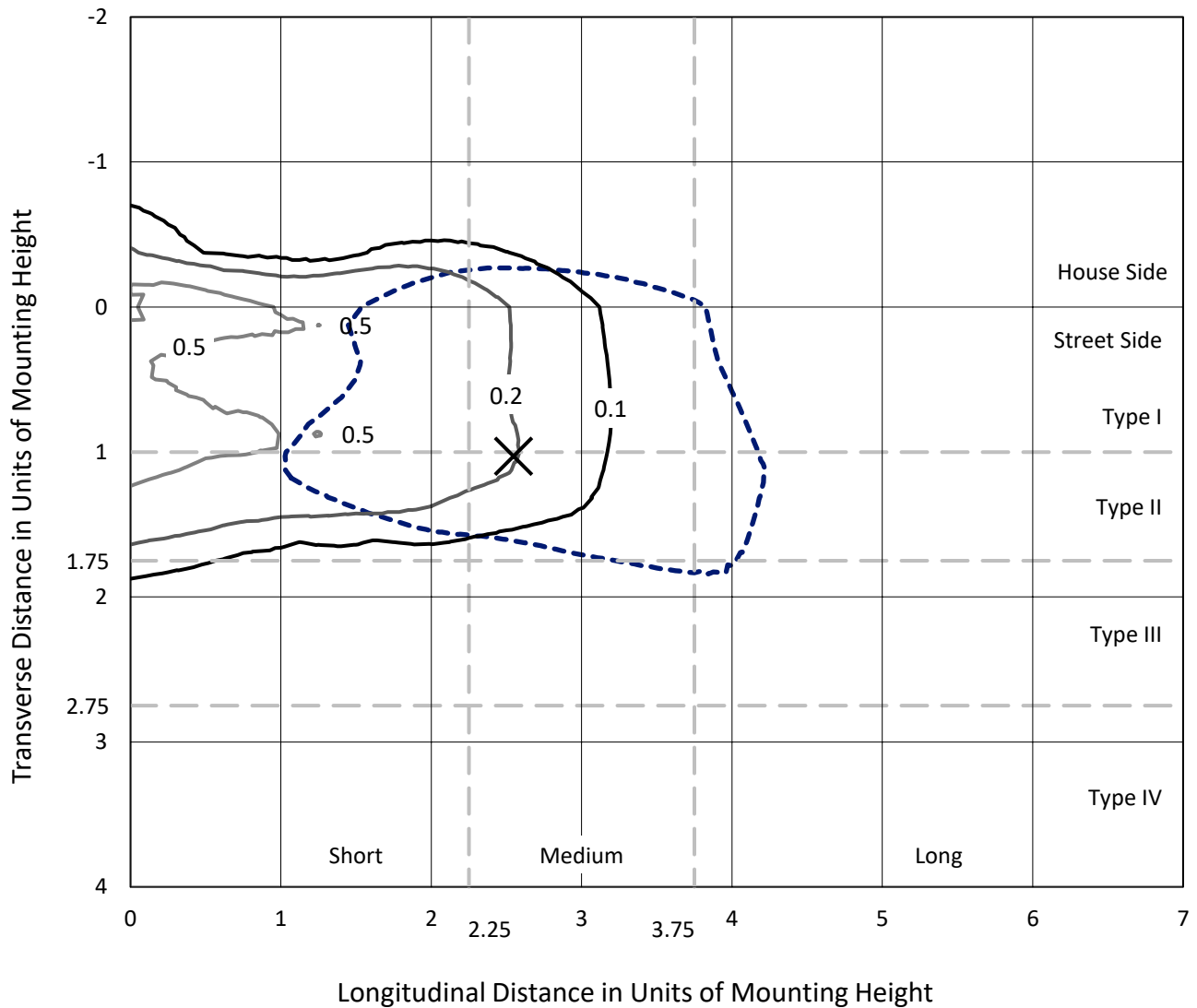
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

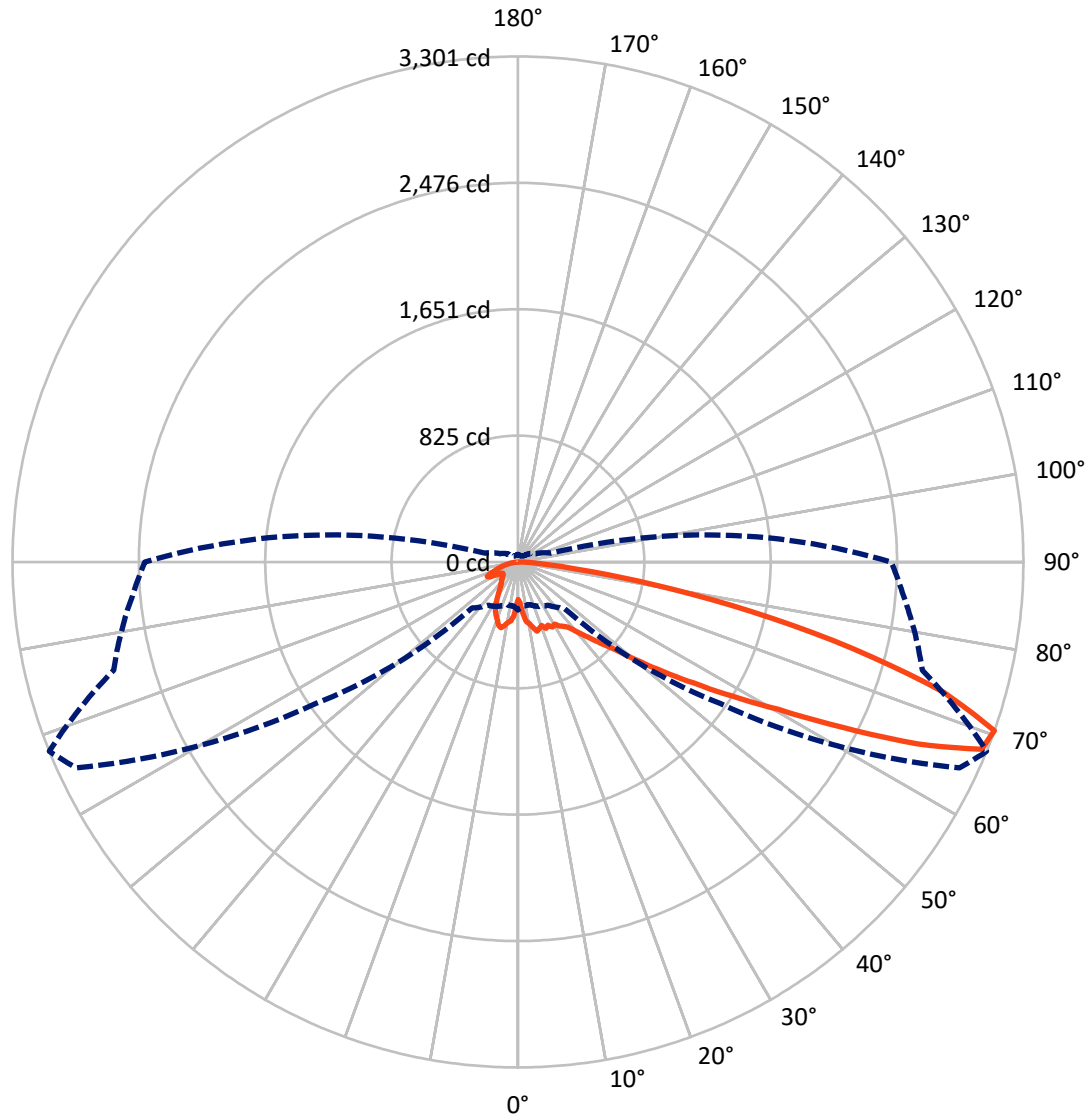
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.8 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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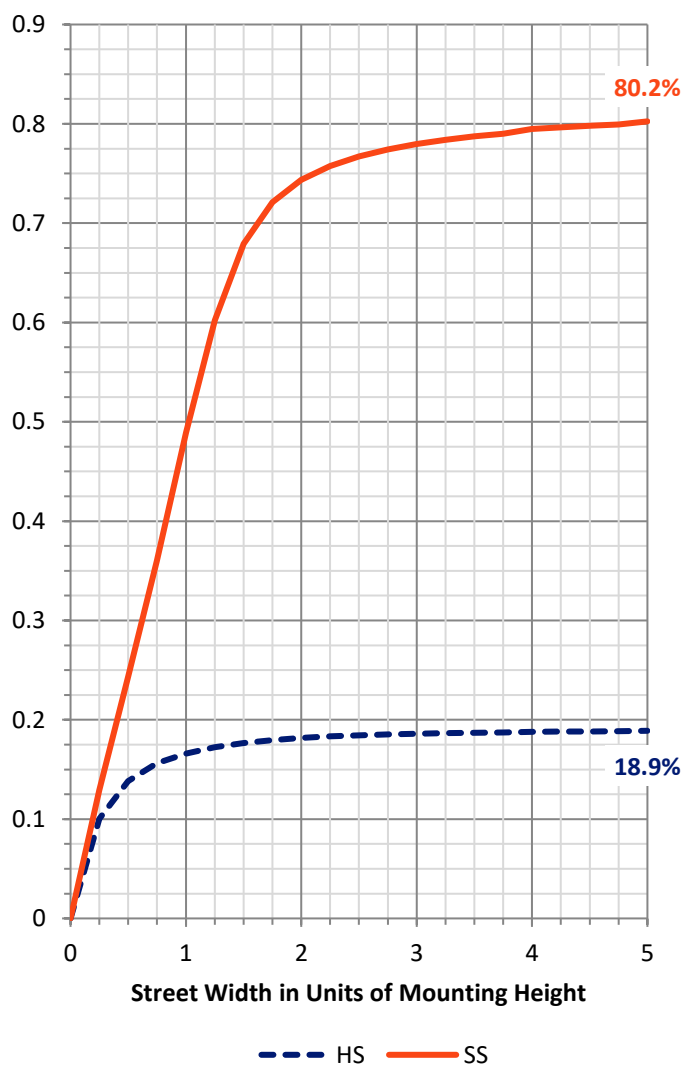
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	609.0	0.0	609.0
	% Fixture	19.1	0.0	19.1
<b>Street Side</b>	Lumens	2581.0	0.0	2581.0
	% Fixture	80.9	0.0	80.9
<b>Total</b>	Lumens	3190.0	0.0	3190.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.7	1.0
10°-20°	106.5	3.3
20°-30°	162.0	5.1
30°-40°	247.4	7.8
40°-50°	425.4	13.3
50°-60°	704.1	22.1
60°-70°	868.0	27.2
70°-80°	557.6	17.5
80°-90°	86.5	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°	3190.0	100.0
0°-180°	3190.0	100.0

**Coefficient of Utilization**



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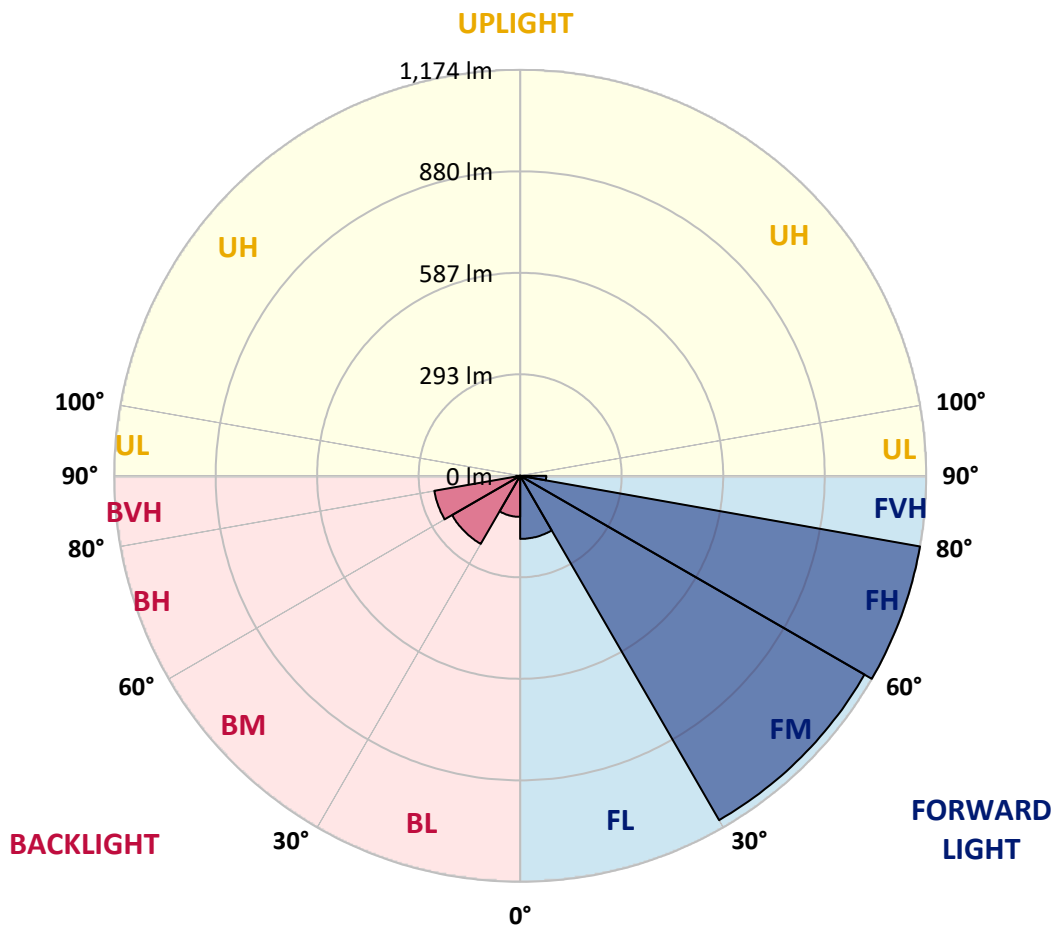
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	182.4	5.7			
FM (30°-60°)	1149.5	36.0			
FH (60°-80°)	1173.7	36.8			G1/1800
FVH (80°-90°)	75.4	2.4			G1/100
BL (0°-30°)	118.7	3.7	B1/500		
BM (30°-60°)	227.3	7.1	B1/1000		
BH (60°-80°)	251.9	7.9	B1/500		G1/500
BVH (80°-90°)	11.1	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°	244.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6
2.5°	281.0	269.7	258.2	263.8	272.8	280.6	279.0	280.0	269.2	267.7	296.1
5°	331.1	311.6	311.2	311.5	312.3	303.2	325.4	336.8	339.4	351.1	379.0
7.5°	348.5	340.6	332.6	336.6	326.4	327.4	354.6	384.5	391.6	400.1	438.3
10°	344.9	337.4	339.8	340.4	342.3	357.4	374.9	403.6	409.6	436.8	446.7
12.5°	345.4	344.1	355.3	355.7	375.7	402.8	409.7	436.2	438.6	458.6	499.9
15°	363.7	372.9	366.6	370.0	373.8	406.3	416.3	454.2	468.6	494.4	525.4
17.5°	399.3	402.0	383.2	378.2	390.9	400.8	423.6	440.0	455.1	527.1	569.8
20°	407.6	414.8	392.4	366.9	393.7	407.5	423.4	430.8	442.6	531.9	592.5
22.5°	443.1	428.2	401.1	378.9	387.7	401.1	412.5	440.7	471.6	518.1	615.2
25°	463.3	454.6	430.4	406.7	399.2	399.6	421.8	447.0	457.7	538.3	619.7
27.5°	512.0	498.1	443.8	439.2	411.1	389.2	423.2	462.5	481.2	522.6	641.9
30°	573.0	562.5	491.2	485.2	442.2	404.0	441.9	474.0	471.3	532.8	657.3
32.5°	622.4	640.0	568.1	520.7	490.1	453.5	436.0	472.0	498.5	556.7	683.3
35°	692.9	709.5	628.0	596.0	529.6	476.5	477.0	499.5	515.9	584.6	712.4
37.5°	814.9	800.4	734.8	684.2	641.8	562.5	538.7	530.8	544.0	618.8	769.4
40°	902.9	890.6	813.5	784.6	702.0	655.9	590.8	583.3	606.7	654.1	816.0
42.5°	1007.2	985.3	913.5	889.7	803.3	720.3	654.6	658.9	670.2	720.5	879.0
45°	1113.3	1060.2	1019.5	1017.6	959.9	845.2	757.0	753.5	753.9	818.4	949.8
47.5°	1197.6	1149.8	1103.2	1081.0	1051.9	1061.4	905.7	865.0	852.7	916.9	1055.9
50°	1254.6	1199.6	1146.8	1141.6	1219.3	1270.5	1045.4	1001.9	1009.5	1057.9	1197.4
52.5°	1255.8	1190.5	1135.5	1171.9	1355.0	1428.1	1286.0	1164.3	1188.6	1221.6	1382.1
55°	1168.5	1100.8	1065.0	1148.0	1408.0	1615.2	1624.0	1424.7	1396.6	1408.8	1602.8
57.5°	984.4	916.0	895.2	994.6	1307.5	1795.6	2032.3	1735.8	1653.5	1602.8	1828.9
60°	741.0	681.8	668.9	732.3	1084.0	1742.6	2362.8	2122.9	1955.4	1819.5	2055.8
62.5°	555.7	513.2	493.7	502.8	750.1	1570.2	2579.9	2612.1	2374.9	2056.0	2277.4
65°	451.5	417.2	399.9	388.1	466.5	1214.1	2540.7	3023.8	2864.8	2304.5	2449.9
67.5°	377.2	346.7	338.7	350.2	368.8	704.4	2233.6	3254.1	3265.0	2549.6	2550.7
70°	313.1	290.5	287.6	320.2	344.6	425.1	1613.3	3181.8	3301.1	2733.5	2527.1
72.5°	241.9	229.8	229.4	280.5	342.3	362.3	960.7	2748.7	2909.0	2674.7	2295.8
75°	167.8	159.4	165.8	230.6	334.4	367.6	548.3	2141.0	2261.0	2276.1	1839.1
77.5°	115.5	108.4	115.4	166.8	298.7	376.4	383.6	1548.0	1561.4	1526.3	1053.4
80°	80.4	75.4	80.8	118.0	232.4	372.5	326.6	974.6	894.2	681.2	337.2
82.5°	49.8	48.3	54.2	84.1	163.7	338.8	309.5	502.9	384.0	188.0	120.4
85°	26.2	24.0	31.5	54.9	102.4	266.0	290.0	229.5	148.2	66.8	48.3
87.5°	7.7	6.9	12.1	22.2	43.4	119.2	166.0	97.3	55.3	19.6	15.1
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°	244.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6
2.5°	298.1	296.7	276.9	279.4	283.7	284.8	284.6	277.4	269.8	291.0	290.4
5°	379.7	366.5	356.6	354.5	342.3	330.2	334.4	333.0	331.1	340.7	341.9
7.5°	438.4	420.2	408.7	379.2	351.1	326.8	334.6	337.0	332.2	349.5	354.7
10°	453.9	439.5	427.1	389.2	373.7	359.5	338.6	314.7	311.5	301.5	302.7
12.5°	493.9	491.8	449.5	416.1	396.0	367.8	322.6	293.6	268.8	270.0	262.7
15°	525.4	526.4	475.6	428.8	374.8	331.8	278.5	242.5	217.0	211.9	206.7
17.5°	567.7	565.5	477.7	413.6	345.1	282.1	216.8	181.0	176.8	179.7	175.2
20°	586.1	567.3	464.1	375.8	298.8	214.3	163.8	144.9	153.1	164.9	165.2
22.5°	602.7	570.5	457.0	345.4	237.1	155.8	131.5	128.0	137.8	153.7	155.0
25°	602.0	585.3	444.3	314.7	183.8	121.6	114.3	116.8	128.4	145.0	145.9
27.5°	632.3	574.0	411.3	274.4	138.4	104.1	106.0	110.7	116.2	131.9	135.0
30°	632.0	595.0	394.8	225.4	111.2	95.5	100.3	104.3	108.8	123.2	125.0
32.5°	647.0	581.3	384.8	175.3	99.7	93.3	94.5	98.5	105.1	114.8	116.0
35°	665.0	596.9	352.7	139.2	95.5	91.5	92.4	94.7	100.7	109.6	110.8
37.5°	722.8	599.9	340.0	117.4	95.2	90.7	90.5	91.7	98.5	106.7	110.3
40°	745.4	626.7	303.1	109.6	94.3	90.7	88.8	89.5	95.1	105.5	108.3
42.5°	799.5	635.6	275.7	106.9	94.3	89.1	86.1	87.2	93.7	102.9	107.3
45°	855.1	648.3	243.1	106.4	94.1	88.9	83.3	85.7	91.1	98.8	103.6
47.5°	934.4	694.0	210.5	104.8	93.1	89.6	82.6	82.5	87.2	93.9	98.4
50°	1063.8	765.3	185.3	102.8	93.2	89.1	81.3	79.4	82.5	88.4	92.8
52.5°	1243.9	886.8	175.4	101.7	92.1	86.9	79.0	76.1	77.8	82.5	86.8
55°	1453.0	1050.8	185.2	101.7	90.0	83.6	75.8	72.4	73.3	76.5	80.6
57.5°	1697.3	1254.7	232.3	100.3	87.3	79.6	72.0	68.0	68.2	71.0	74.8
60°	1952.4	1482.5	337.9	99.1	85.4	75.2	67.4	63.3	62.9	65.6	68.9
62.5°	2208.0	1692.6	449.0	101.9	84.9	71.4	62.6	58.5	58.3	60.7	63.6
65°	2411.2	1836.3	476.6	113.2	88.4	67.2	57.7	53.8	53.5	55.5	58.6
67.5°	2510.9	1857.1	362.1	127.4	95.7	63.1	52.9	49.3	49.0	51.1	53.8
70°	2437.1	1714.8	223.5	128.8	95.3	58.5	47.9	44.9	44.3	46.6	48.6
72.5°	2163.9	1500.0	169.8	114.0	82.5	51.8	43.0	40.3	39.5	41.5	43.4
75°	1736.8	1190.9	136.0	92.0	65.0	43.7	38.1	35.5	34.6	36.4	38.1
77.5°	1011.7	669.9	99.5	71.8	49.1	35.6	32.4	30.2	29.1	31.1	32.3
80°	329.0	223.2	62.5	51.5	35.9	27.9	26.3	24.7	23.6	25.0	25.4
82.5°	118.2	83.0	34.6	31.6	23.9	20.0	19.9	19.0	17.6	18.2	18.2
85°	52.3	37.9	20.6	17.0	14.3	10.7	12.5	11.9	10.5	10.3	9.9
87.5°	14.7	12.5	7.5	5.7	4.7	1.7	4.0	3.6	2.9	2.7	1.9
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)