

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: P366716

Luminaire Tested: **MSA-SA1A-830-U-SL3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366716  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-830-U-SL3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

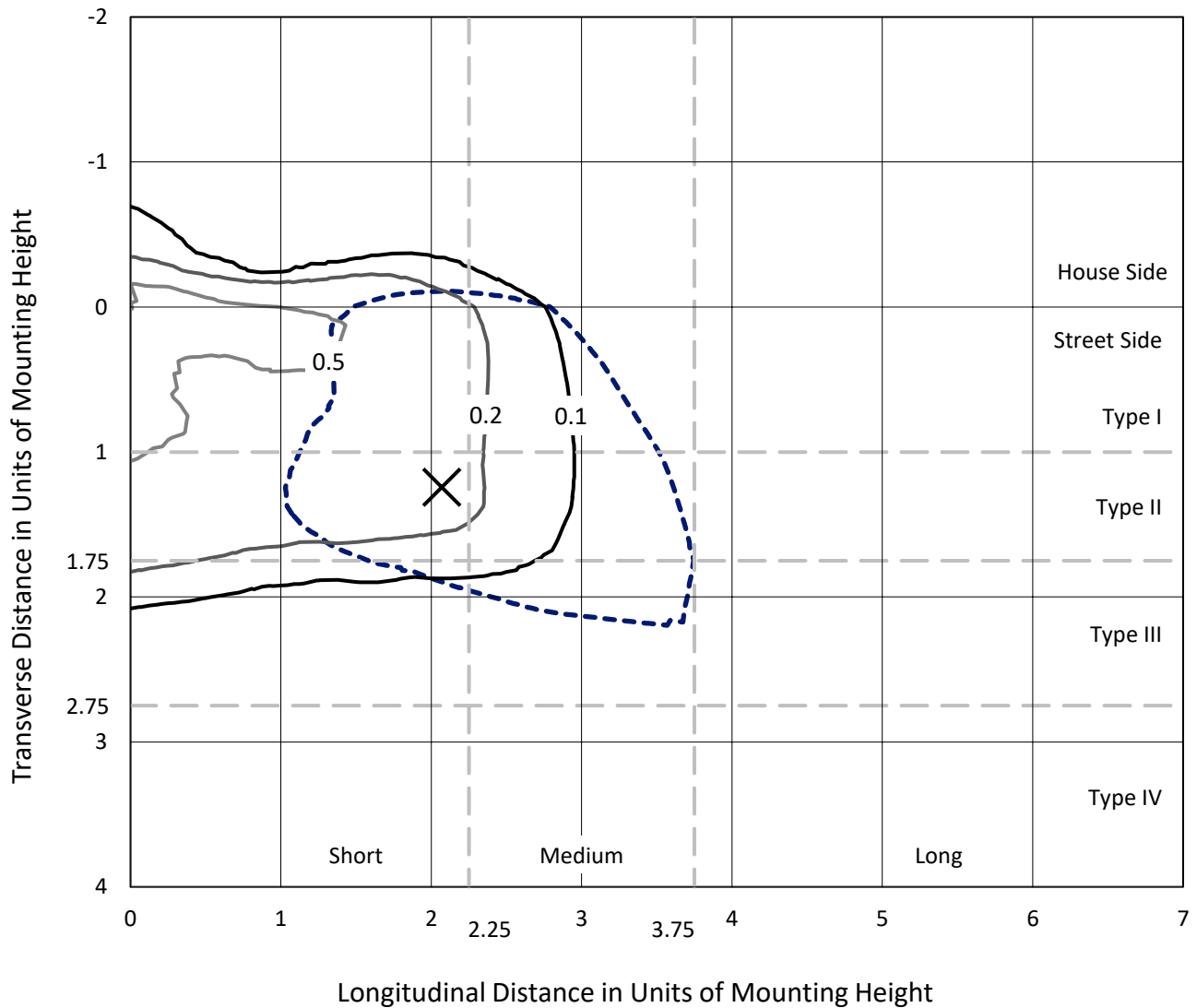
Lumens per Lamp: N/A  
Luminaire Lumens: 3151 lumens  
Efficiency: N/A  
Efficacy: 92.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

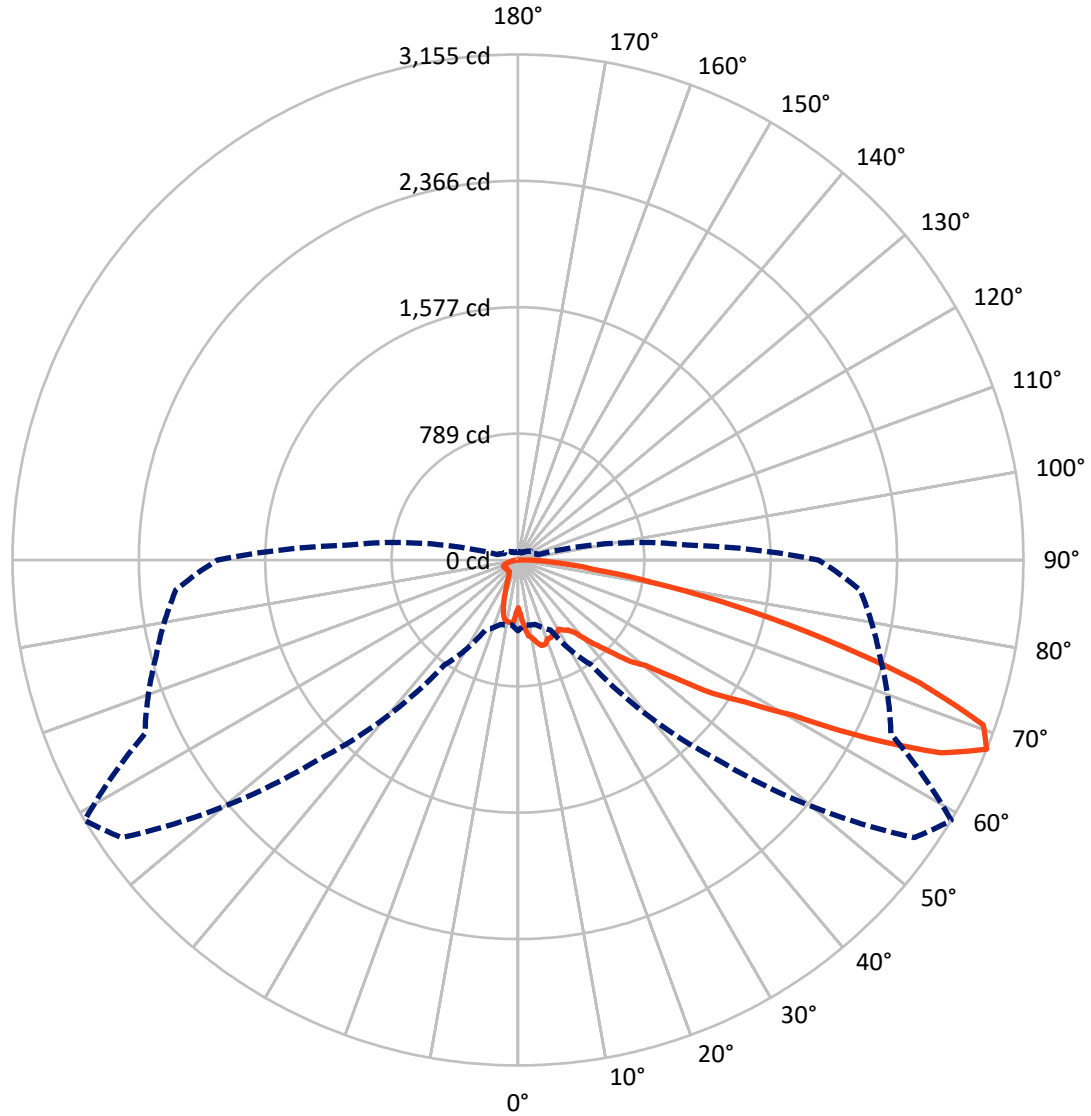
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.8 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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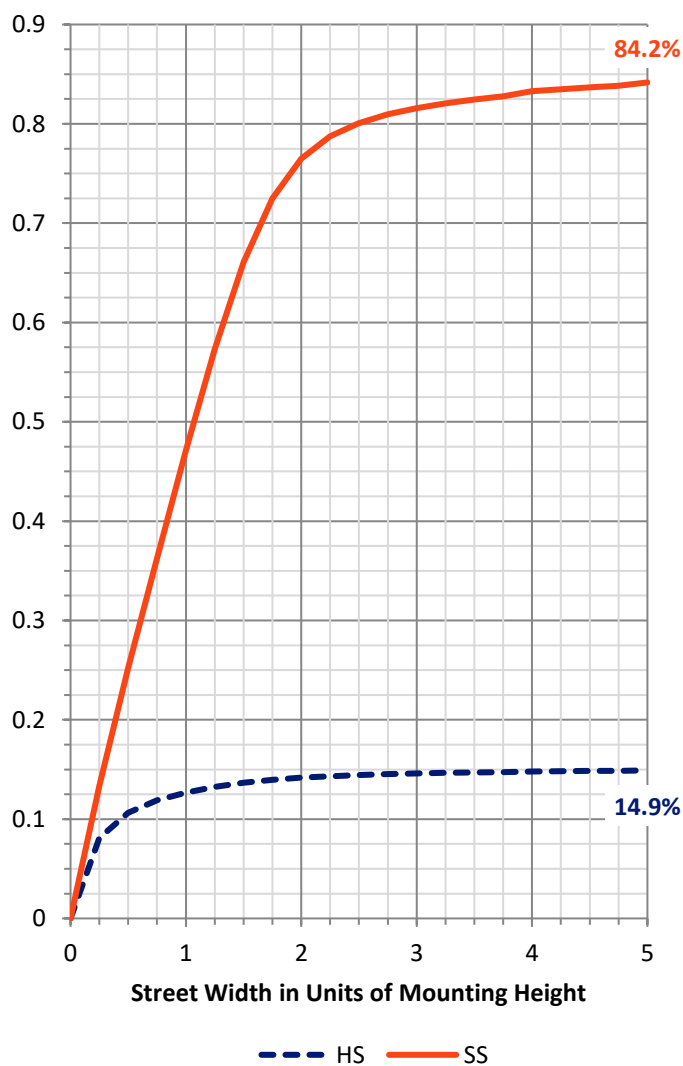
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	474.3	0.0	474.3
	% Fixture	15.1	0.0	15.1
<b>Street Side</b>	Lumens	2676.7	0.0	2676.7
	% Fixture	84.9	0.0	84.9
<b>Total</b>	Lumens	3151.0	0.0	3151.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.9	1.2
10°-20°	115.2	3.7
20°-30°	164.6	5.2
30°-40°	242.5	7.7
40°-50°	409.7	13.0
50°-60°	713.0	22.6
60°-70°	908.6	28.8
70°-80°	481.1	15.3
80°-90°	77.4	2.5
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°	3151.0	100.0
0°-180°	3151.0	100.0

**Coefficient of Utilization**



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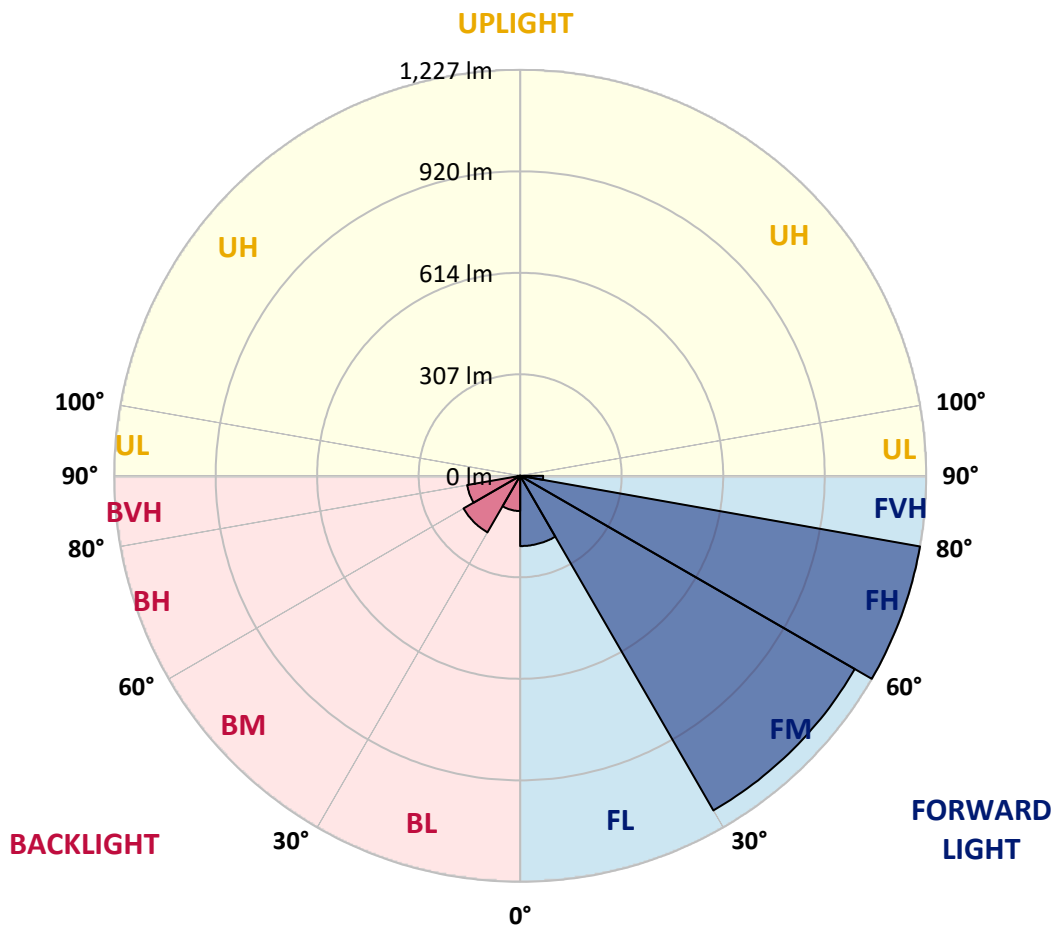
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	212.4	6.7			
FM (30°-60°)	1167.7	37.1			
FH (60°-80°)	1227.1	38.9			G1/1800
FVH (80°-90°)	69.5	2.2			G1/100
BL (0°-30°)	106.4	3.4	B0/110		
BM (30°-60°)	197.5	6.3	B0/220		
BH (60°-80°)	162.6	5.2	B1/500		G1/500
BVH (80°-90°)	7.9	0.3			G0/10
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 Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2
2.5°	372.3	354.9	336.5	341.7	352.2	357.1	351.8	346.8	340.2	332.5	358.9
5°	451.5	425.7	421.9	421.8	418.1	403.1	422.3	421.0	428.8	436.8	457.3
7.5°	474.0	464.4	454.0	458.9	440.1	439.3	469.2	477.8	492.7	487.8	515.4
10°	462.4	451.6	457.1	455.1	456.8	476.6	494.9	495.4	511.4	527.2	509.4
12.5°	442.0	442.8	464.5	463.7	491.8	528.5	534.0	529.7	555.9	545.2	560.4
15°	456.5	466.3	460.8	465.5	476.6	523.3	538.5	554.0	578.8	588.5	573.2
17.5°	479.8	485.0	460.4	457.9	480.7	502.9	540.7	553.9	557.7	626.2	604.7
20°	469.9	480.4	456.4	425.6	463.5	492.9	530.1	526.1	544.9	629.2	611.3
22.5°	497.9	480.4	449.9	428.0	441.3	468.3	499.9	526.2	548.5	612.0	620.8
25°	503.3	495.0	466.4	444.6	440.1	449.7	494.9	512.1	549.7	635.5	615.7
27.5°	535.8	523.4	465.2	465.9	443.3	426.4	478.8	515.0	563.4	620.9	628.1
30°	576.3	566.8	493.8	496.5	465.2	434.0	489.8	500.7	571.2	643.6	643.7
32.5°	606.6	623.3	550.0	513.7	502.6	479.2	473.0	522.2	562.0	684.7	670.4
35°	661.2	674.2	593.3	564.2	526.6	500.3	518.6	536.4	600.3	738.8	710.1
37.5°	762.3	747.4	673.6	627.8	613.8	575.9	586.1	573.6	642.0	799.6	787.8
40°	820.8	807.8	730.3	704.9	649.3	654.2	641.5	650.5	697.7	864.2	860.5
42.5°	878.5	861.1	795.6	777.9	722.5	699.0	701.3	730.7	783.5	968.6	956.2
45°	935.5	891.0	862.3	867.0	840.3	792.1	795.4	823.1	877.3	1088.0	1059.4
47.5°	979.2	942.4	920.0	914.3	901.0	965.5	936.7	947.9	971.8	1194.3	1183.5
50°	1061.8	1019.0	989.7	981.4	1026.3	1116.0	1057.3	1033.1	1084.0	1331.7	1326.1
52.5°	1194.1	1140.7	1092.0	1091.5	1156.4	1214.6	1256.0	1214.3	1233.0	1472.4	1488.4
55°	1309.6	1247.8	1204.0	1228.2	1320.6	1356.2	1496.8	1464.3	1448.5	1614.5	1660.3
57.5°	1352.8	1280.5	1252.0	1287.6	1423.8	1607.0	1755.6	1669.9	1654.5	1775.3	1871.3
60°	1258.1	1181.7	1183.5	1250.6	1486.6	1791.1	2038.6	1965.8	1875.8	1975.4	2069.1
62.5°	988.4	919.3	964.3	1066.5	1434.0	1970.1	2417.8	2448.5	2128.6	2141.4	2178.9
65°	671.8	624.0	664.6	764.6	1163.0	2067.7	2779.0	2902.1	2358.8	2250.1	2226.3
67.5°	442.1	408.3	416.2	482.7	800.6	1762.7	3020.5	3154.7	2569.2	2339.3	2142.7
70°	342.4	315.1	311.7	346.5	474.8	1224.6	2877.4	3081.4	2697.4	2255.7	1867.7
72.5°	268.7	248.0	249.8	283.3	367.7	679.4	2226.6	2620.4	2504.3	1945.4	1434.9
75°	209.5	192.5	202.0	240.4	340.1	422.2	1536.2	1988.8	1936.2	1440.5	818.4
77.5°	152.1	141.1	154.6	204.7	319.7	362.3	956.3	1387.5	1240.3	739.6	280.8
80°	99.7	93.6	104.7	166.9	289.9	348.6	591.0	850.2	612.9	207.8	106.3
82.5°	58.8	56.1	65.3	113.0	233.0	326.7	394.2	472.4	250.8	87.9	56.5
85°	30.8	28.8	38.7	64.9	160.6	298.3	310.3	282.8	121.1	38.2	27.0
87.5°	10.3	10.0	16.4	25.1	60.8	158.4	165.6	134.3	49.9	11.1	5.9
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°	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2
2.5°	362.5	357.2	326.5	330.7	334.8	332.8	331.5	317.7	316.3	336.1	334.5
5°	456.8	434.6	408.5	407.3	390.0	372.4	375.9	370.3	371.9	380.0	380.8
7.5°	506.6	479.0	454.0	413.4	379.0	351.0	355.5	354.1	350.5	368.9	373.9
10°	505.7	481.1	452.9	403.8	380.6	357.9	330.6	304.8	297.2	288.2	289.0
12.5°	539.1	517.3	455.9	405.8	374.3	335.2	284.1	256.0	229.0	228.5	221.7
15°	549.5	533.4	462.1	394.3	330.3	274.3	221.5	190.9	171.4	167.6	161.8
17.5°	575.8	550.7	443.0	357.2	279.3	214.4	166.5	145.1	143.5	146.2	143.3
20°	577.5	536.8	408.6	302.3	224.5	162.5	135.8	125.1	130.9	137.4	137.1
22.5°	576.0	519.3	378.8	255.6	168.6	130.6	119.0	116.6	121.9	131.7	132.9
25°	561.1	513.5	341.6	209.9	136.9	111.9	108.7	110.2	116.8	128.3	128.3
27.5°	576.7	490.2	294.8	170.8	115.1	99.6	101.9	105.6	110.6	123.6	126.1
30°	571.6	497.9	257.2	137.5	101.5	91.1	96.1	99.9	105.5	119.1	120.3
32.5°	585.3	477.2	225.5	115.6	92.5	87.7	88.9	94.0	101.3	112.0	114.2
35°	606.1	484.8	189.2	104.0	88.1	83.9	86.1	90.1	97.5	107.9	109.6
37.5°	672.6	484.4	164.1	97.6	87.3	83.1	84.1	86.9	95.5	105.0	109.0
40°	715.3	512.2	141.3	96.1	86.4	82.7	81.7	84.8	91.6	102.8	105.6
42.5°	795.6	529.2	131.4	95.6	86.3	80.4	79.4	83.1	89.7	100.1	104.4
45°	880.3	553.3	123.5	95.3	85.9	80.0	77.2	81.7	87.3	97.3	102.3
47.5°	980.1	604.5	119.1	94.4	85.1	80.5	76.4	78.6	84.9	94.9	99.9
50°	1110.7	672.2	120.0	93.1	86.3	80.7	75.2	76.2	82.0	91.7	96.8
52.5°	1269.4	777.0	126.1	93.6	87.1	80.0	74.6	74.1	79.0	87.6	92.7
55°	1460.8	925.7	144.1	96.1	87.1	79.8	73.8	71.4	75.2	82.1	87.1
57.5°	1691.7	1098.0	179.3	97.3	86.4	79.0	72.1	67.8	70.1	75.8	80.5
60°	1890.0	1237.0	215.6	98.1	87.7	77.2	68.6	63.3	64.8	69.2	73.3
62.5°	1991.0	1276.0	226.6	97.5	91.3	76.0	64.5	58.5	58.6	62.4	66.1
65°	2010.0	1224.0	182.7	96.8	96.0	75.8	61.6	54.3	53.4	56.1	59.3
67.5°	1874.9	1062.5	131.8	95.3	96.5	75.0	59.6	51.0	48.6	50.5	53.1
70°	1591.9	855.6	110.7	92.4	90.1	71.0	56.1	47.5	44.3	45.7	47.7
72.5°	1186.8	633.1	96.5	86.1	78.5	60.8	50.7	43.7	40.3	41.3	42.7
75°	659.4	337.7	80.8	74.9	64.1	49.1	43.3	38.7	35.8	36.2	37.8
77.5°	219.0	124.6	59.3	59.4	48.5	37.9	35.7	33.1	30.8	31.0	32.3
80°	99.2	68.9	42.5	42.7	33.8	27.5	27.4	26.6	25.1	24.7	25.6
82.5°	57.6	41.8	29.1	27.8	21.8	17.9	19.9	19.5	19.1	17.6	17.9
85°	28.3	22.4	15.2	14.4	12.0	8.9	10.7	11.1	10.7	9.1	8.9
87.5°	6.9	7.3	3.7	3.5	2.0	0.9	1.6	1.6	2.0	1.3	0.7
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)