

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: P596489

Luminaire Tested: **MSA-SA1A-827-U-T2-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596489  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-827-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2241 lumens  
Efficiency: N/A  
Efficacy: 65.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B0 - U0 - G1

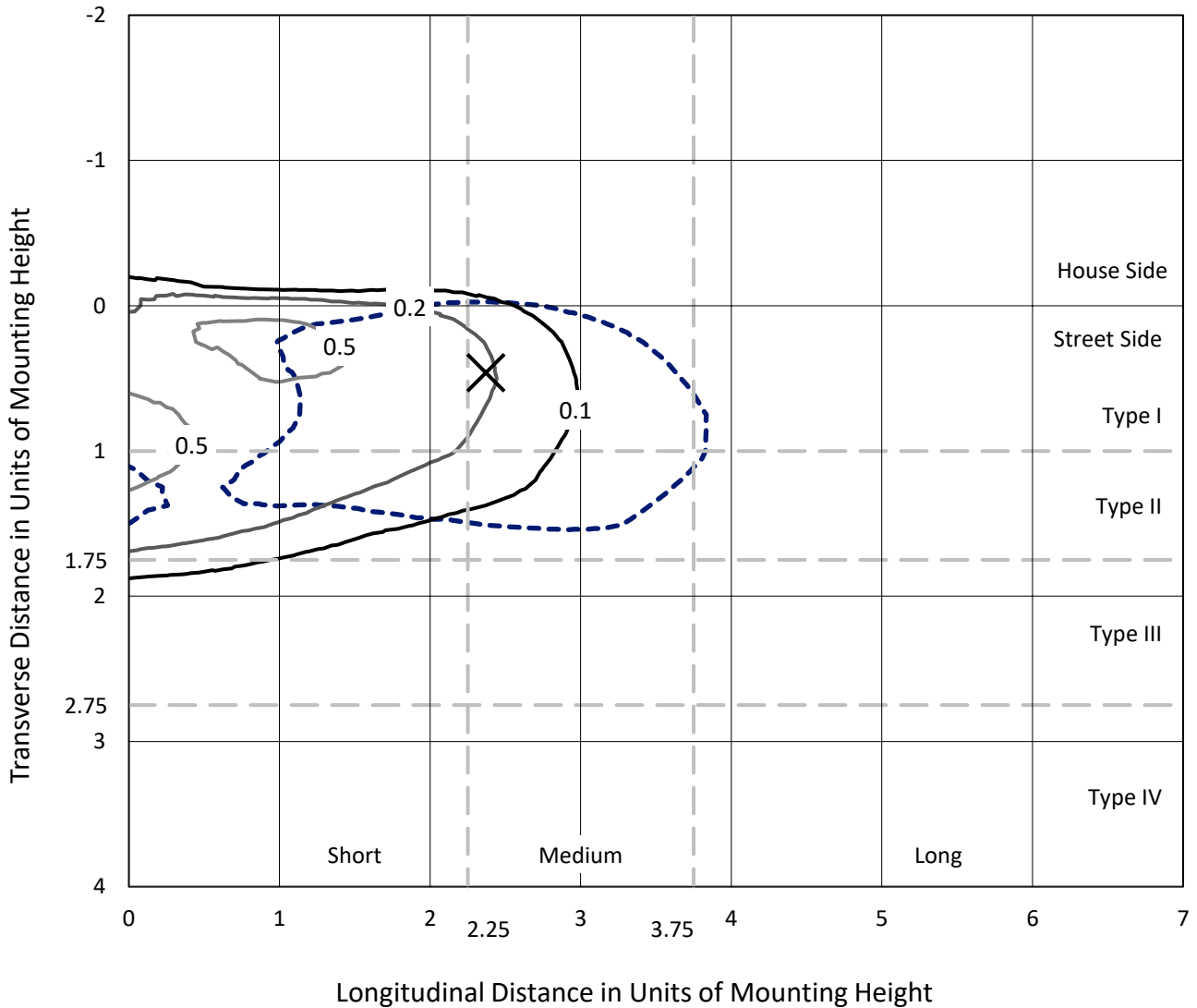
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

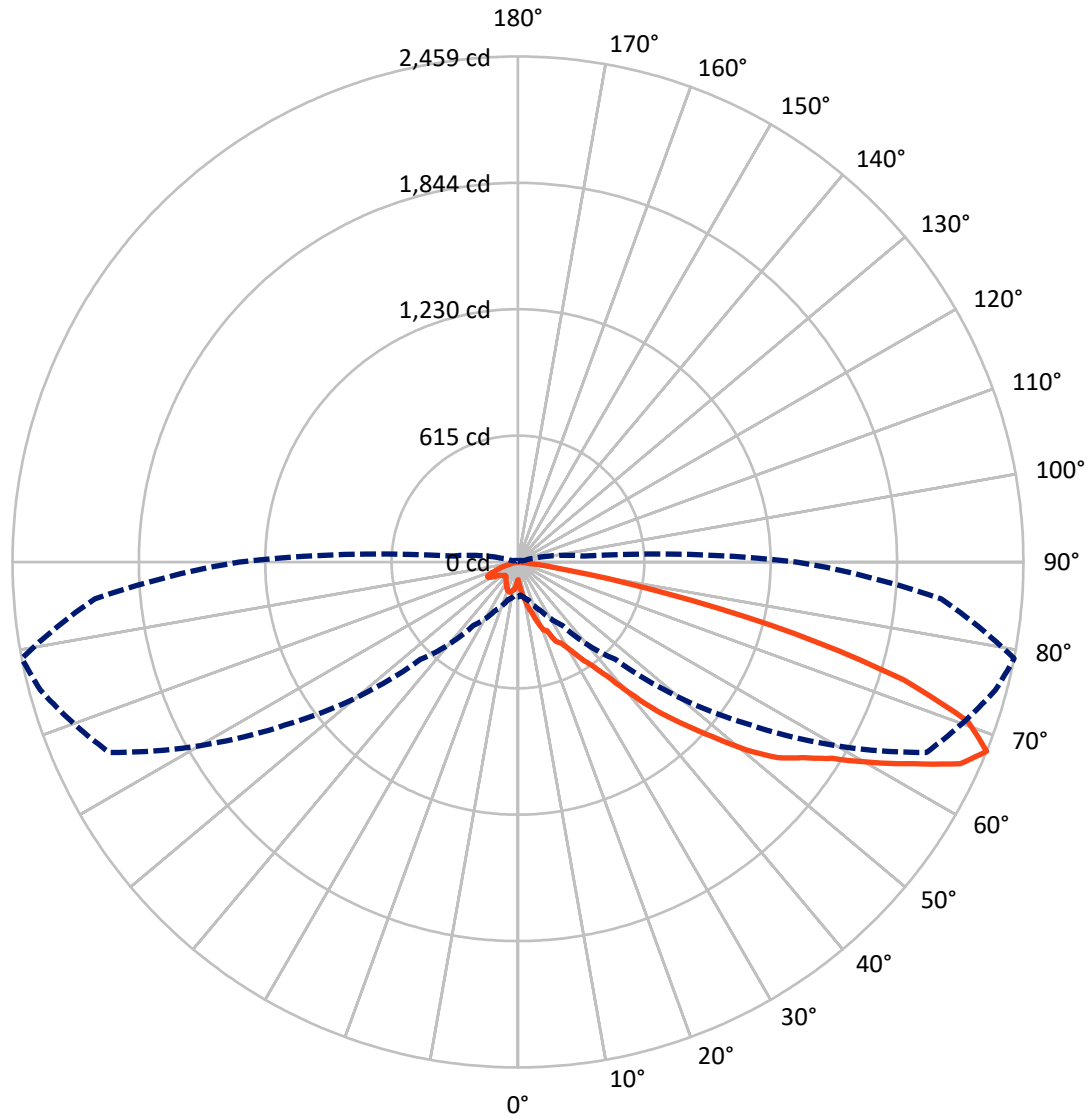
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.7 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical



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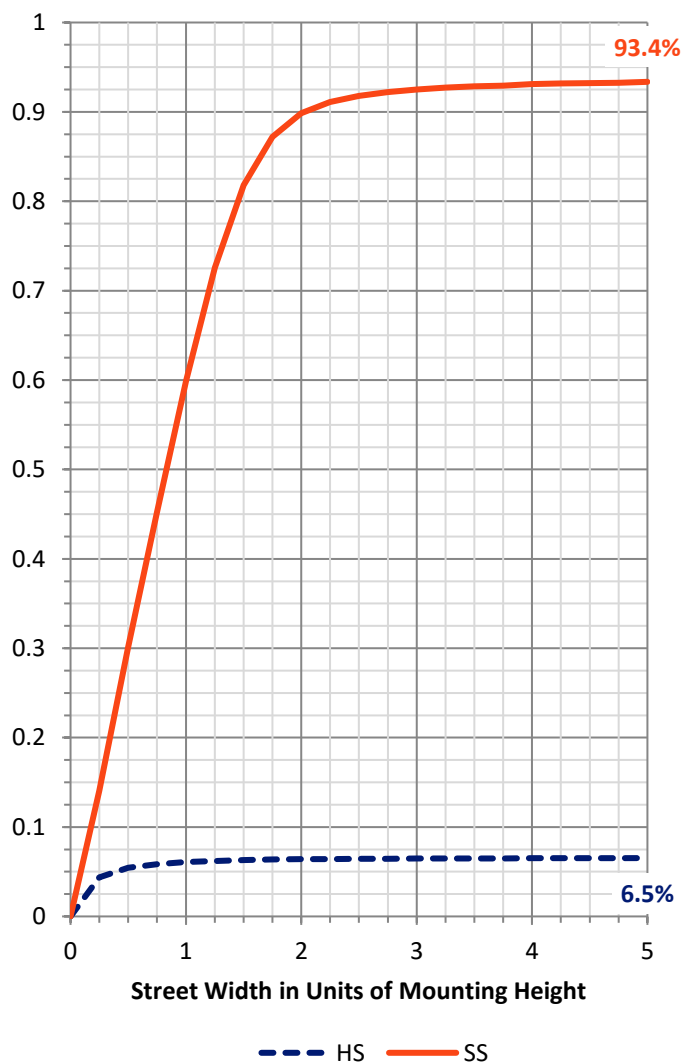
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	147.2	0.0	147.2
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	2093.8	0.0	2093.8
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	2241.0	0.0	2241.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	12.6	0.6
10°-20°	50.1	2.2
20°-30°	96.6	4.3
30°-40°	189.8	8.5
40°-50°	380.1	17.0
50°-60°	607.6	27.1
60°-70°	611.4	27.3
70°-80°	275.8	12.3
80°-90°	17.1	0.8
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°	2241.0	100.0
0°-180°	2241.0	100.0

**Coefficient of Utilization**



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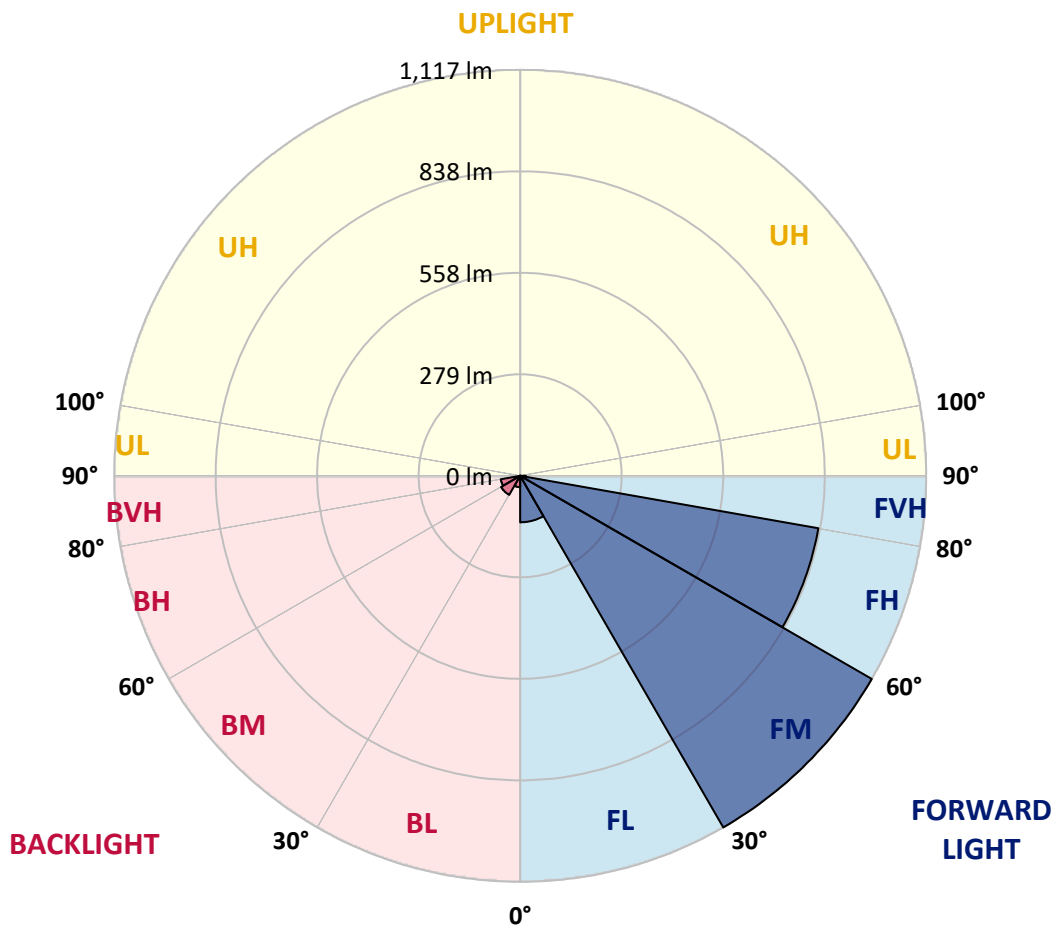
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	127.9	5.7			
FM (30°-60°)	1116.9	49.8			
FH (60°-80°)	832.9	37.2			G1/1800
FVH (80°-90°)	16.0	0.7			G1/100
BL (0°-30°)	31.3	1.4	B0/110		
BM (30°-60°)	60.6	2.7	B0/220		
BH (60°-80°)	54.3	2.4	B0/110		G0/110
BVH (80°-90°)	1.1	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4
2.5°	116.6	112.4	105.6	109.5	109.2	111.2	107.5	103.4	96.9	103.4	103.9
5°	167.9	160.1	155.2	154.2	148.7	143.7	142.6	138.4	135.1	129.3	134.5
7.5°	209.1	205.6	196.8	195.8	182.5	175.1	177.4	175.5	163.3	157.3	162.3
10°	226.7	220.5	221.7	220.5	214.8	216.9	212.1	206.6	196.8	186.8	174.2
12.5°	233.5	232.5	242.7	241.5	254.9	270.9	260.2	250.9	228.3	225.8	208.7
15°	248.1	254.2	252.8	257.9	266.5	293.8	293.5	295.7	271.8	258.9	234.1
17.5°	261.0	265.6	258.2	264.1	287.3	303.9	326.0	317.4	320.1	307.0	268.6
20°	255.5	260.7	253.2	249.7	290.6	321.9	351.5	345.2	361.5	353.3	300.3
22.5°	290.2	280.4	261.8	250.2	280.7	321.6	360.5	386.8	383.9	363.9	329.8
25°	333.1	327.1	304.8	284.3	287.0	319.3	388.9	427.6	436.0	427.4	357.9
27.5°	390.9	389.5	343.8	334.9	308.5	309.6	393.3	478.9	459.8	446.5	390.6
30°	466.3	455.6	401.4	389.8	350.7	331.6	420.5	523.3	509.2	491.1	421.4
32.5°	547.5	549.1	479.9	441.6	410.3	387.5	409.8	544.1	570.4	555.7	459.8
35°	639.7	646.8	562.2	517.2	456.2	422.7	456.0	607.8	655.0	616.3	511.3
37.5°	781.6	781.4	682.5	593.0	548.6	512.3	532.9	665.7	759.0	704.6	603.7
40°	906.5	879.3	787.4	684.5	615.3	605.4	590.5	745.0	870.1	837.3	685.9
42.5°	999.8	980.6	869.6	789.5	703.8	672.4	667.1	861.3	1034.0	988.2	803.1
45°	1111.3	1048.6	966.8	894.6	807.3	798.2	785.7	979.3	1224.7	1121.5	905.0
47.5°	1211.3	1152.2	1074.9	982.2	881.9	957.3	909.3	1082.9	1363.5	1266.5	1017.4
50°	1295.4	1232.6	1146.0	1075.5	1032.5	1083.7	1003.7	1168.3	1513.3	1434.7	1122.6
52.5°	1338.3	1267.2	1200.3	1156.7	1183.0	1171.5	1131.7	1271.7	1641.1	1582.2	1215.7
55°	1303.1	1233.6	1205.6	1227.2	1307.1	1273.9	1277.1	1431.9	1761.6	1680.6	1296.8
57.5°	1146.9	1083.5	1096.0	1155.2	1308.4	1395.3	1442.9	1587.6	1858.3	1803.1	1421.8
60°	867.6	816.6	862.8	967.8	1185.3	1371.1	1560.5	1743.2	1996.6	1979.3	1611.0
62.5°	529.8	502.2	567.6	698.6	944.6	1252.4	1629.1	1950.8	2144.5	2162.9	1811.8
65°	270.3	257.8	312.4	427.6	638.2	1028.8	1579.5	2079.7	2297.3	2365.2	2003.1
67.5°	170.2	162.2	191.4	260.8	376.5	671.0	1383.0	2192.5	2405.2	2459.0	2067.0
70°	118.0	112.9	138.1	179.0	237.6	361.5	1026.8	2087.3	2319.6	2322.1	1912.5
72.5°	74.9	70.9	95.5	132.6	175.3	186.7	588.6	1637.8	1985.6	1962.7	1548.8
75°	48.5	46.6	60.7	97.1	134.7	115.1	290.9	1105.2	1423.8	1387.9	1028.7
77.5°	34.8	33.6	40.6	64.9	95.9	80.5	130.5	658.7	816.3	738.0	499.3
80°	21.0	20.9	29.4	40.6	68.2	56.8	60.3	299.1	316.5	258.1	152.6
82.5°	10.5	10.9	16.4	26.2	43.9	37.2	27.5	99.6	85.0	62.6	30.9
85°	2.5	3.1	8.6	18.0	22.0	14.8	13.1	26.1	23.3	17.7	9.0
87.5°	0.0	0.0	2.7	4.3	5.9	2.5	4.4	4.9	6.3	4.9	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



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4
2.5°	104.0	102.5	93.5	91.2	90.9	88.3	88.9	86.5	86.6	92.2	92.2
5°	132.6	123.9	115.3	107.6	102.4	95.0	92.3	91.2	90.2	92.4	93.8
7.5°	155.7	142.9	127.4	110.7	95.2	84.6	83.1	80.4	79.4	81.7	83.4
10°	165.9	150.1	128.7	104.4	89.9	81.3	74.1	70.3	69.6	69.4	70.0
12.5°	187.7	168.0	130.2	102.0	86.4	76.8	68.7	62.3	56.3	57.0	56.3
15°	205.1	181.8	130.2	96.4	77.7	68.2	53.9	50.6	49.8	51.1	50.0
17.5°	231.4	195.6	123.7	86.2	70.3	53.0	47.6	47.3	49.0	51.0	49.8
20°	247.2	197.4	112.7	74.6	57.7	46.0	44.0	42.0	44.5	46.1	45.5
22.5°	263.6	197.5	101.7	68.4	46.4	41.9	38.7	37.1	37.4	38.9	39.2
25°	270.7	192.7	91.4	60.3	42.1	37.4	34.1	32.4	31.7	32.5	32.2
27.5°	289.8	183.5	80.3	51.4	40.0	33.2	30.1	28.0	26.2	27.4	27.7
30°	292.5	180.5	74.2	45.7	37.3	29.4	26.7	24.5	23.1	24.8	24.8
32.5°	301.2	164.2	71.2	43.4	34.5	27.2	23.5	21.9	21.6	22.7	22.9
35°	314.5	157.0	66.6	41.5	31.9	24.6	21.1	20.4	20.1	21.0	21.0
37.5°	359.7	148.1	61.5	39.9	29.6	23.2	20.5	19.3	19.4	20.1	20.6
40°	389.8	149.2	54.0	37.9	27.1	22.0	19.3	18.4	18.3	18.7	19.0
42.5°	445.5	150.1	50.6	35.8	25.1	20.5	18.0	17.4	16.9	17.3	17.7
45°	507.7	154.7	48.9	34.1	24.0	19.6	16.9	16.6	15.4	15.7	16.2
47.5°	567.8	171.3	46.8	31.6	23.0	19.1	15.8	14.9	14.2	14.1	14.6
50°	636.0	187.5	44.5	28.9	22.0	18.4	14.7	13.3	12.8	12.8	13.2
52.5°	697.0	203.0	42.2	27.1	21.2	17.0	13.7	12.4	12.0	12.0	12.5
55°	761.2	219.2	40.3	25.3	20.3	15.7	12.8	11.6	11.5	11.2	11.6
57.5°	874.6	254.5	37.8	23.8	18.9	14.6	12.1	10.9	10.6	10.3	10.6
60°	1039.8	308.7	34.6	22.4	17.3	13.8	11.5	10.0	9.6	9.0	9.1
62.5°	1201.3	352.6	30.9	20.5	15.8	13.1	10.5	9.0	8.4	7.7	7.8
65°	1339.6	369.9	26.9	18.3	14.3	11.4	9.1	7.9	7.0	6.1	5.9
67.5°	1355.9	326.6	23.1	16.2	12.8	9.6	7.8	7.0	5.7	4.8	4.6
70°	1220.3	243.4	19.3	14.3	11.1	8.2	6.7	6.2	5.3	4.6	4.2
72.5°	971.7	179.6	16.2	12.7	9.8	6.9	5.7	5.8	5.3	4.4	4.0
75°	642.6	102.8	13.2	10.6	8.2	5.6	5.2	5.2	5.1	4.2	3.7
77.5°	309.2	44.3	10.1	8.4	6.5	4.2	4.7	4.7	4.8	3.8	3.1
80°	87.7	13.3	6.3	5.7	4.8	2.8	3.7	3.6	3.2	2.2	1.4
82.5°	15.7	5.2	2.8	3.0	2.7	1.1	2.1	2.0	1.6	0.9	0.1
85°	4.3	2.0	1.6	1.7	1.4	0.4	0.9	1.1	0.9	0.5	0.0
87.5°	1.1	0.9	1.1	1.2	1.0	0.1	0.4	0.1	0.4	0.1	0.0
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)