

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: P367673

Luminaire Tested: **MSA-SA3A-727-U-T4FT-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367673  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3A-727-U-T4FT-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7346 lumens  
Efficiency: N/A  
Efficacy: 76.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

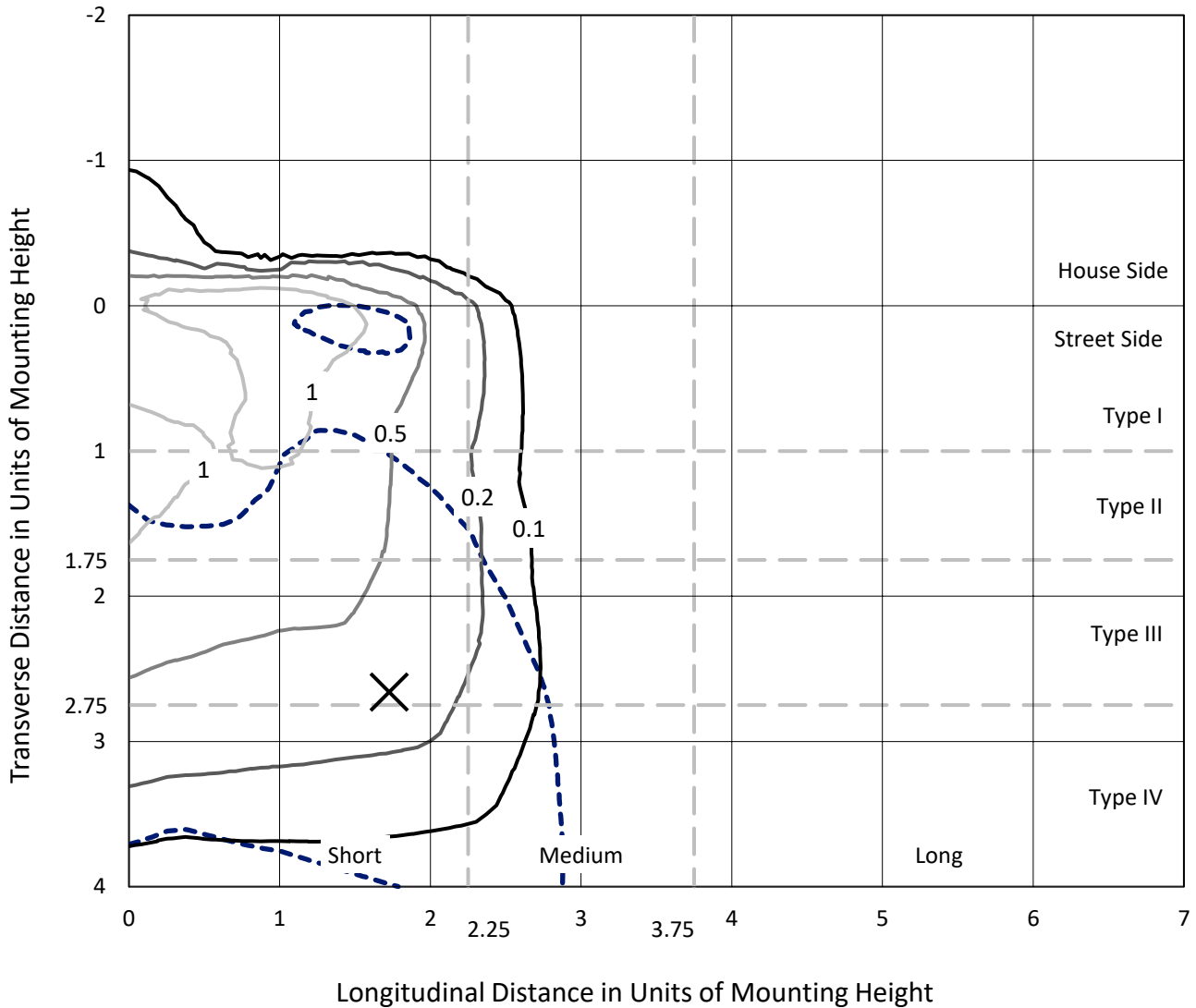
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

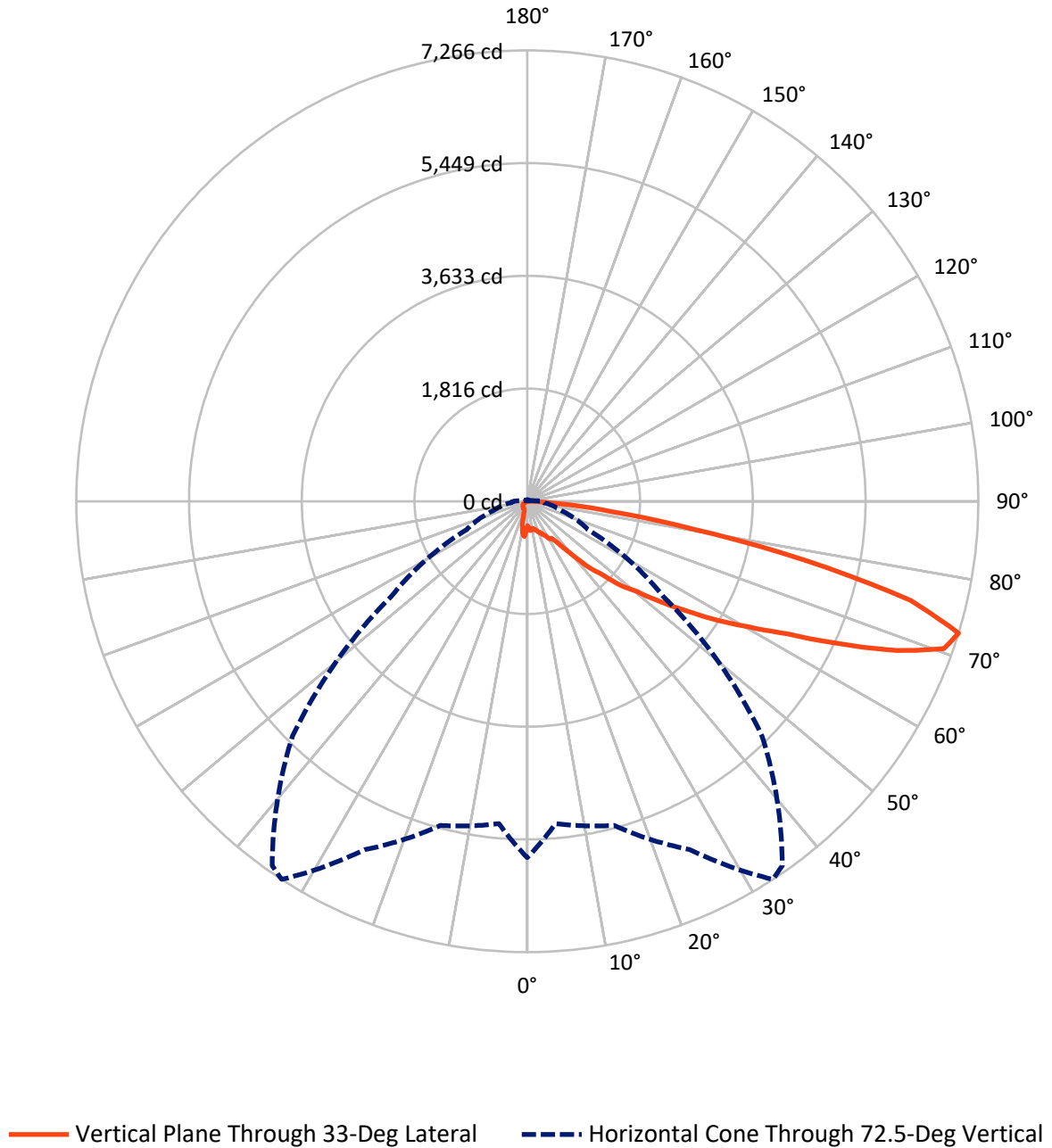
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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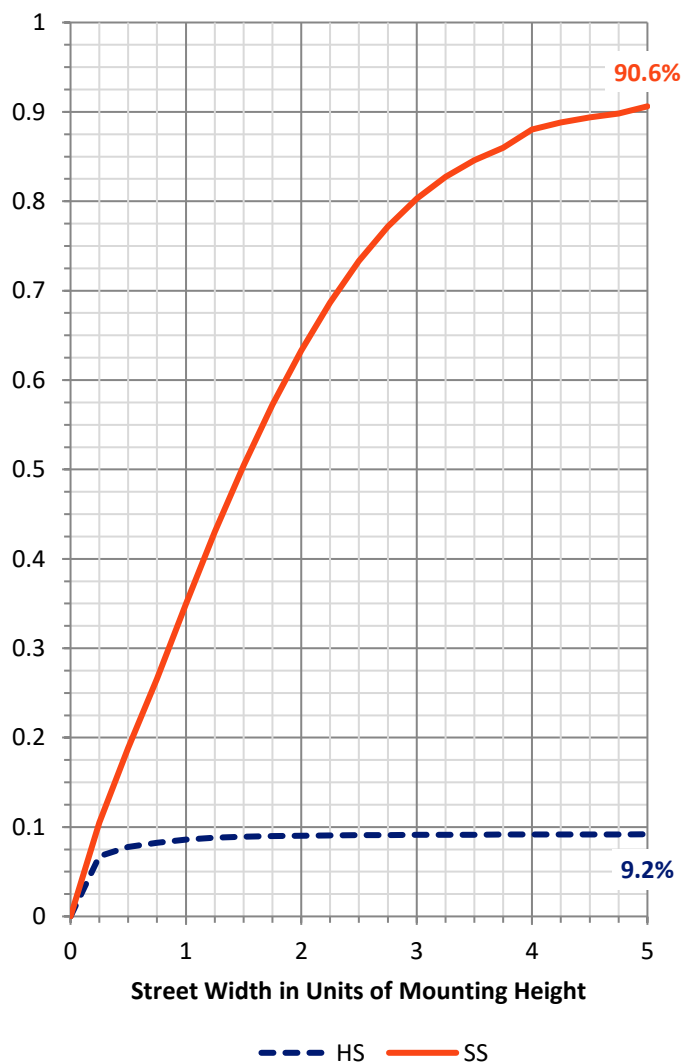
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	679.2	0.0	679.2
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	6666.8	0.0	6666.8
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	7346.0	0.0	7346.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.6	0.7
10°-20°	150.7	2.1
20°-30°	255.6	3.5
30°-40°	467.7	6.4
40°-50°	987.1	13.4
50°-60°	1651.6	22.5
60°-70°	2210.7	30.1
70°-80°	1444.0	19.7
80°-90°	128.0	1.7
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°	7346.0	100.0
0°-180°	7346.0	100.0

**Coefficient of Utilization**

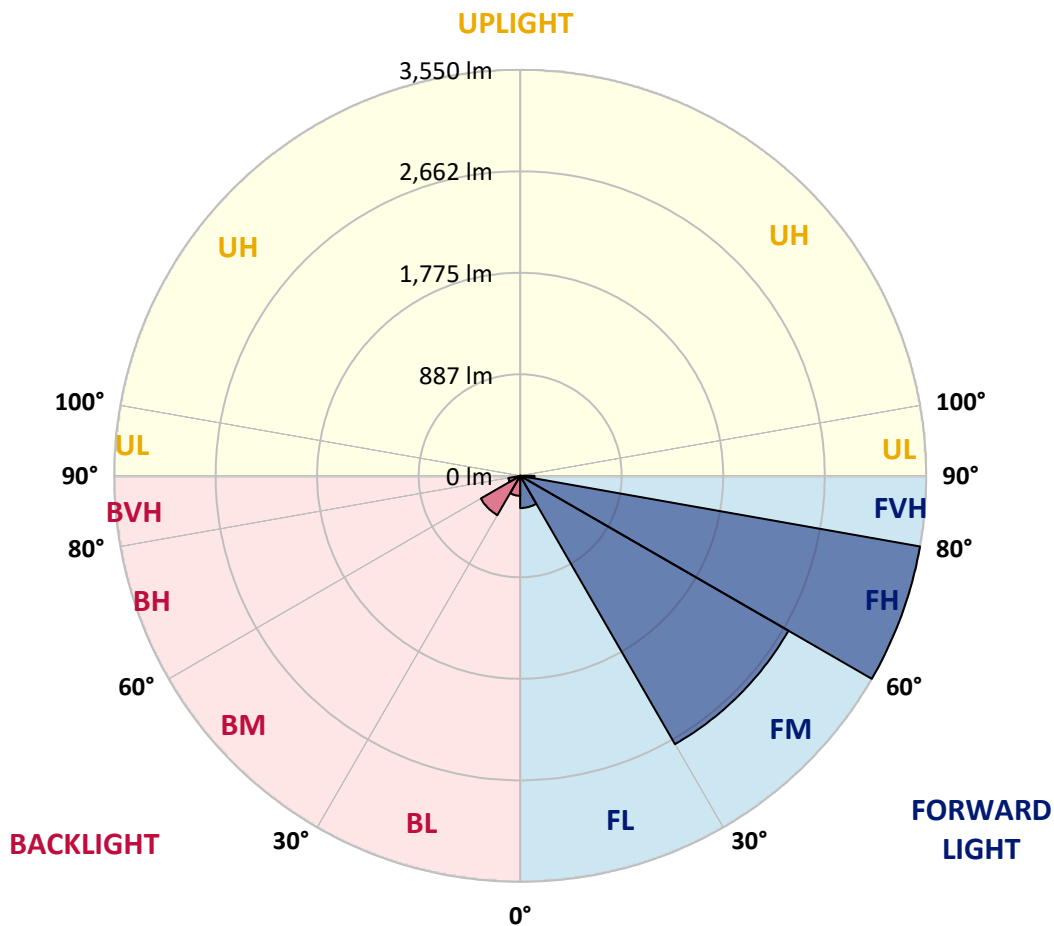


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	282.0	3.8			
FM (30°-60°)	2709.3	36.9			
FH (60°-80°)	3549.9	48.3			G2/5000
FVH (80°-90°)	125.5	1.7			G2/225
BL (0°-30°)	174.8	2.4	B1/500		
BM (30°-60°)	397.1	5.4	B1/1000		
BH (60°-80°)	104.8	1.4	B0/110		G0/110
BVH (80°-90°)	2.5	0.0			G0/10
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°	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7
2.5°	465.8	447.8	421.7	423.4	427.8	431.5	441.3	437.2	429.5	429.1	465.8
5°	493.5	473.5	471.9	474.3	473.1	479.6	471.5	498.0	520.4	547.3	590.6
7.5°	480.0	470.7	458.8	471.1	470.7	467.4	472.7	526.5	580.8	615.0	686.4
10°	441.3	430.7	439.7	443.7	440.9	455.2	490.6	534.7	599.5	671.3	706.0
12.5°	430.3	436.8	440.1	440.1	467.4	474.7	529.0	570.6	647.7	704.4	805.1
15°	473.1	485.8	463.3	458.4	467.0	471.1	531.4	581.6	680.3	783.9	868.3
17.5°	541.2	540.4	505.7	486.6	500.0	509.8	543.3	602.0	659.9	846.3	968.6
20°	588.1	588.9	526.5	486.6	531.0	536.7	573.8	620.8	666.4	877.7	1034.3
22.5°	648.5	626.9	557.9	519.2	549.4	554.7	595.5	632.6	699.9	874.0	1118.3
25°	697.8	684.0	597.1	570.2	597.1	589.8	626.9	682.7	735.8	932.3	1167.7
27.5°	774.5	750.9	624.8	629.7	628.1	633.4	642.0	727.6	799.0	935.2	1281.9
30°	845.9	832.0	686.8	686.8	702.7	692.5	698.6	802.2	860.2	1001.3	1410.4
32.5°	919.7	920.5	759.8	721.1	708.4	750.4	791.6	838.5	934.0	1114.7	1606.9
35°	1115.1	1098.8	899.7	803.1	792.9	790.4	856.5	983.3	1064.9	1262.3	1871.6
37.5°	1508.6	1452.0	1200.7	989.0	950.7	937.7	1012.7	1142.8	1224.0	1479.3	2309.3
40°	1912.4	1808.4	1529.4	1290.9	1166.5	1110.2	1197.5	1308.0	1452.4	1719.1	2714.3
42.5°	2266.8	2138.4	1777.0	1616.3	1454.4	1429.9	1347.9	1527.8	1778.6	2068.2	3111.1
45°	2612.3	2359.4	1997.2	1870.0	1673.4	1687.3	1659.5	1815.3	2117.6	2450.8	3463.1
47.5°	2850.1	2622.9	2267.2	2102.1	2023.4	1942.2	2162.4	2324.3	2419.4	2693.9	3767.3
50°	3106.2	2876.2	2499.3	2383.9	2280.3	2362.3	2648.2	2669.8	2662.0	2920.6	3974.5
52.5°	3437.0	3165.7	2765.6	2635.1	2693.9	2775.4	3105.4	3109.5	2877.8	3111.5	4123.8
55°	3742.9	3442.3	3120.5	2997.3	3120.1	3189.0	3554.8	3420.7	3003.4	3241.2	4197.2
57.5°	4174.0	3826.1	3592.4	3375.4	3624.2	3558.1	3950.0	3750.6	3144.5	3327.3	4170.3
60°	4718.8	4309.4	4075.3	3845.6	4112.4	4157.2	4335.9	3915.4	3199.2	3355.4	4008.4
62.5°	5273.1	4861.2	4553.3	4397.5	4700.1	4847.7	4693.1	3997.4	3133.5	3300.3	3641.7
65°	5960.8	5433.4	5073.7	4982.3	5543.1	5760.1	5115.7	4017.3	3006.7	2997.3	2928.0
67.5°	6431.8	5918.3	5588.4	5741.3	6418.8	6436.3	5495.0	4023.5	2579.7	2346.8	1921.8
70°	6543.6	5993.8	5846.1	6296.4	7117.4	6896.8	5617.3	3713.5	1913.2	1392.8	878.5
72.5°	5744.2	5214.8	5406.9	6191.6	7265.9	7164.7	5346.9	2679.2	1077.1	557.1	269.6
75°	3523.4	3203.3	4056.1	5249.5	6378.0	6312.7	4171.5	1384.2	434.0	222.7	100.7
77.5°	1532.3	1423.0	2116.8	3483.1	4583.0	4524.7	2444.3	509.8	224.3	156.6	51.0
80°	507.0	491.9	801.8	1649.4	2684.5	2633.1	1029.8	212.1	159.9	125.6	28.5
82.5°	120.3	119.5	279.8	759.0	1367.5	1324.7	316.1	117.1	115.8	99.1	15.1
85°	30.2	31.0	77.5	310.4	555.5	489.8	82.4	58.3	81.6	67.3	7.7
87.5°	0.0	0.0	20.0	44.5	84.0	52.6	9.0	15.5	22.8	24.1	4.1
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°	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7
2.5°	473.9	469.4	432.7	441.7	455.6	454.3	463.3	456.4	450.3	480.4	477.6
5°	602.8	578.3	566.9	582.8	574.3	554.3	571.0	568.1	563.2	573.4	581.2
7.5°	699.5	677.0	666.8	633.4	584.9	546.5	552.6	538.4	524.9	540.8	557.1
10°	731.3	719.0	717.8	652.6	606.9	551.4	485.8	429.1	414.0	394.0	403.0
12.5°	817.7	825.1	779.0	702.7	614.6	508.2	391.5	311.2	278.6	257.4	258.6
15°	888.7	914.4	847.5	710.5	540.8	387.5	260.6	188.4	168.0	162.7	161.1
17.5°	994.3	1019.2	868.7	655.4	436.0	262.7	167.6	146.8	148.1	151.7	150.9
20°	1072.6	1069.0	850.4	557.9	321.4	172.1	140.3	137.4	144.0	154.6	152.1
22.5°	1148.1	1122.8	839.0	467.8	208.0	138.3	135.4	135.0	141.1	151.3	154.2
25°	1201.9	1206.0	819.8	366.3	151.3	128.5	130.9	134.6	140.7	151.7	150.1
27.5°	1356.1	1241.9	739.8	265.9	127.7	123.2	129.3	136.6	138.7	152.5	152.9
30°	1456.0	1377.3	687.6	179.0	117.9	113.8	126.0	135.8	138.3	156.2	157.4
32.5°	1630.2	1435.6	627.3	133.0	109.7	110.9	118.7	131.7	143.2	162.3	163.1
35°	1846.8	1622.8	518.0	119.5	106.9	104.8	108.5	123.6	142.3	163.1	167.2
37.5°	2259.1	1735.0	410.7	115.8	106.9	103.2	106.9	115.8	139.9	171.3	179.9
40°	2535.2	1963.4	296.1	115.0	104.8	101.6	102.8	111.8	133.0	166.4	179.0
42.5°	2875.4	2059.7	218.2	113.0	102.8	97.9	98.7	110.1	126.0	156.2	165.6
45°	3153.9	2129.8	171.7	112.2	97.9	96.3	97.9	108.9	119.5	134.2	142.7
47.5°	3365.6	2211.4	137.9	106.9	96.7	96.3	94.2	102.0	108.5	112.2	117.9
50°	3520.6	2193.0	114.2	98.7	92.6	95.0	91.4	92.6	94.2	92.2	98.7
52.5°	3615.6	2126.9	95.0	88.9	87.7	89.7	85.2	81.6	78.7	77.1	81.2
55°	3650.3	1994.4	80.8	76.3	79.1	79.9	76.3	69.7	64.8	62.4	65.7
57.5°	3584.6	1792.5	70.2	63.2	69.7	69.7	64.8	57.9	52.2	48.1	51.4
60°	3418.2	1569.4	62.4	52.6	59.5	60.0	54.2	46.9	42.4	38.3	40.4
62.5°	3108.2	1326.3	54.7	45.7	51.4	51.8	44.9	37.9	34.7	30.2	31.8
65°	2488.3	1014.3	46.5	40.4	44.5	43.2	37.1	32.2	28.1	24.1	24.9
67.5°	1615.1	626.1	40.4	36.7	37.5	36.3	31.4	28.1	23.7	20.4	20.8
70°	723.1	269.6	35.5	33.0	32.6	30.6	26.5	26.1	23.2	20.4	20.4
72.5°	223.1	101.6	30.6	29.8	28.1	25.7	23.2	24.9	22.8	19.6	19.2
75°	88.1	46.5	25.3	25.3	24.5	21.2	20.8	22.4	21.2	17.9	17.1
77.5°	46.1	29.4	20.8	21.6	21.2	16.3	18.8	20.4	19.6	15.1	12.6
80°	27.3	17.9	15.5	17.5	17.1	11.4	14.3	13.1	9.4	4.5	1.2
82.5°	15.1	8.2	6.9	10.2	10.2	4.1	7.3	6.5	3.7	0.0	0.0
85°	7.3	5.7	5.3	5.7	4.1	1.2	3.7	3.7	2.0	0.0	0.0
87.5°	3.7	3.3	2.4	2.0	1.6	0.0	1.2	1.6	0.0	0.0	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)