

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: P368197

Luminaire Tested: **MSA-SA4A-727-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368197  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-727-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 9779 lumens  
Efficiency: N/A  
Efficacy: 75.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G2

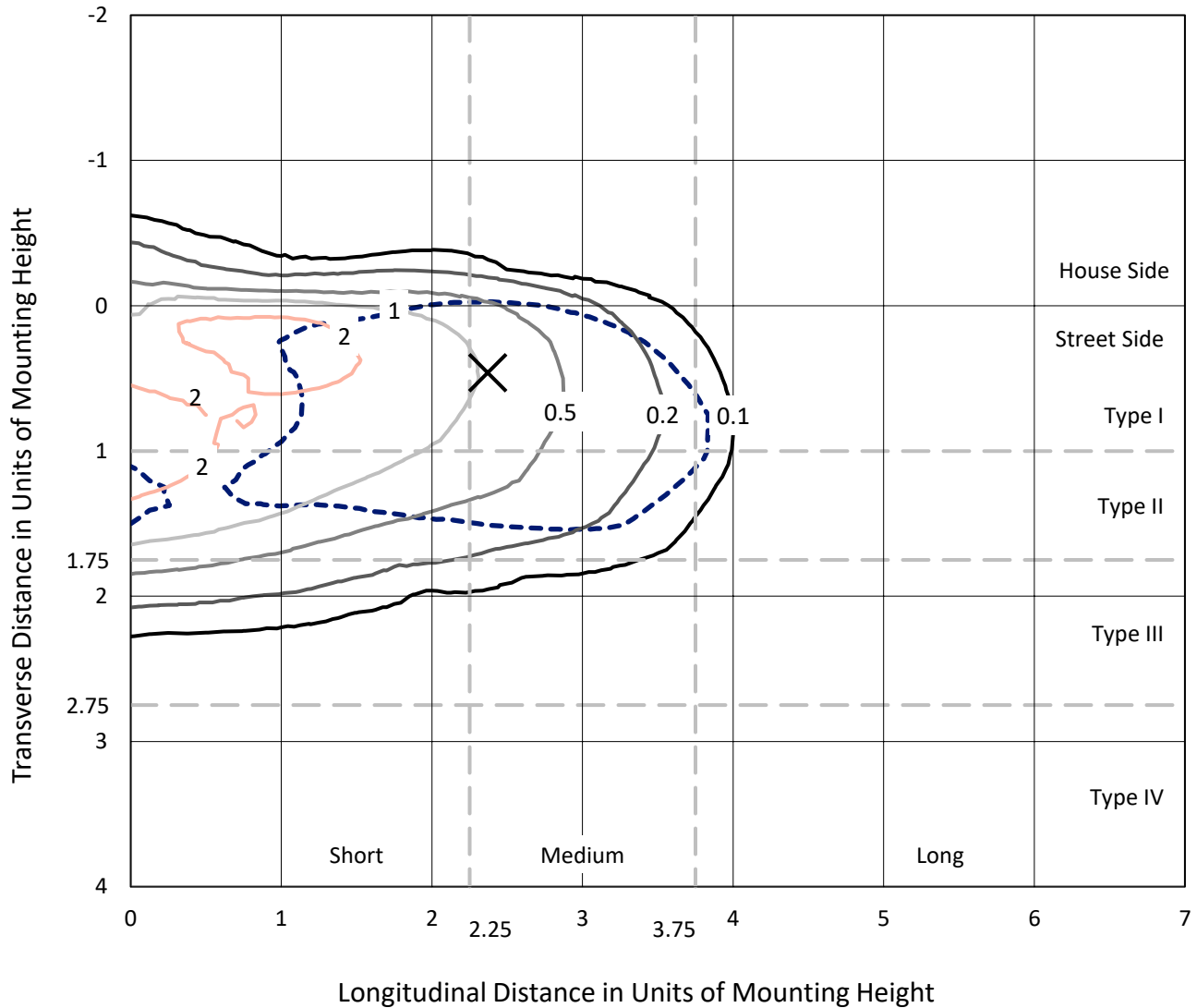
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

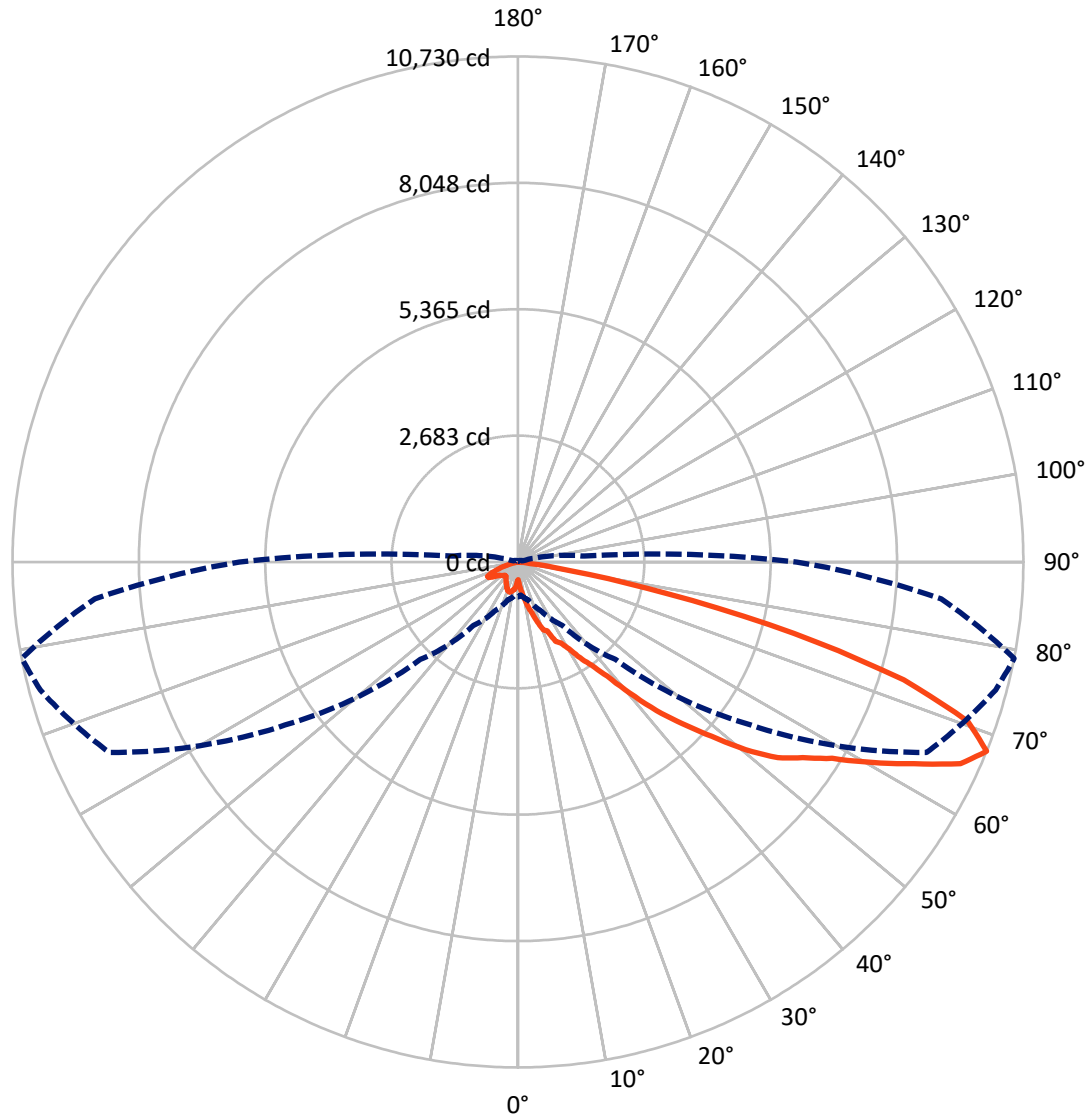
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.9 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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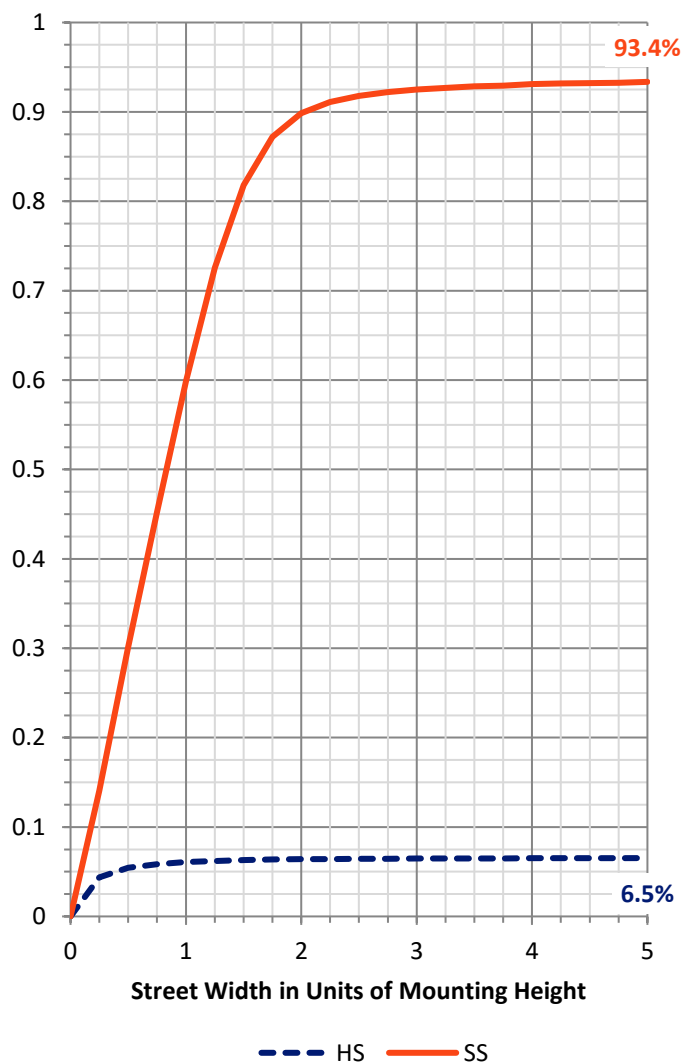
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	642.6	0.0	642.6
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	9136.5	0.0	9136.5
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	9779.0	0.0	9779.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.8	0.6
10°-20°	218.5	2.2
20°-30°	421.6	4.3
30°-40°	828.1	8.5
40°-50°	1658.8	17.0
50°-60°	2651.4	27.1
60°-70°	2667.8	27.3
70°-80°	1203.5	12.3
80°-90°	74.5	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°	9779.0	100.0
0°-180°	9779.0	100.0

**Coefficient of Utilization**



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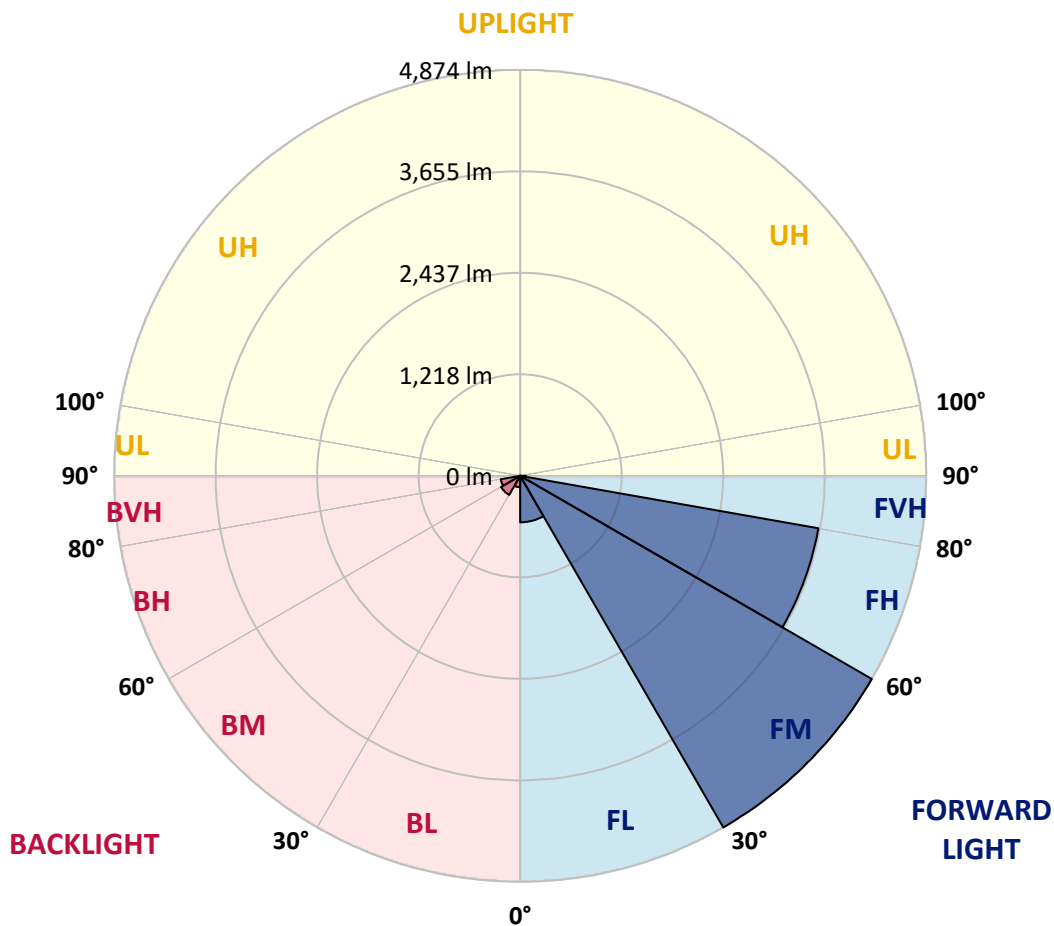
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	558.3	5.7			
FM (30°-60°)	4874.0	49.8			
FH (60°-80°)	3634.5	37.2			G2/5000
FVH (80°-90°)	69.7	0.7			G1/100
BL (0°-30°)	136.6	1.4	B1/500		
BM (30°-60°)	264.4	2.7	B1/1000		
BH (60°-80°)	236.9	2.4	B1/500		G1/500
BVH (80°-90°)	4.7	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8
2.5°	508.9	490.6	460.9	477.6	476.5	485.2	469.0	451.2	422.6	451.2	453.4
5°	732.6	698.6	677.1	672.8	649.0	626.9	622.1	603.8	589.7	564.4	587.0
7.5°	912.6	897.0	858.7	854.4	796.2	763.9	774.1	766.0	712.7	686.2	708.3
10°	989.2	962.2	967.6	962.2	937.4	946.6	925.6	901.3	858.7	815.1	760.1
12.5°	1018.8	1014.5	1059.3	1053.9	1112.1	1182.2	1135.3	1094.9	996.2	985.4	910.5
15°	1082.5	1109.4	1102.9	1125.6	1162.8	1281.9	1280.8	1290.5	1186.0	1129.9	1021.5
17.5°	1139.1	1159.0	1126.7	1152.5	1253.9	1326.1	1422.6	1384.9	1396.7	1339.6	1171.9
20°	1114.8	1137.4	1105.1	1089.5	1267.9	1404.8	1533.7	1506.2	1577.3	1541.7	1310.5
22.5°	1266.3	1223.7	1142.3	1091.6	1224.8	1403.2	1573.0	1687.8	1675.4	1588.1	1439.3
25°	1453.3	1427.5	1329.9	1240.4	1252.3	1393.5	1697.0	1865.7	1902.4	1865.2	1561.7
27.5°	1705.6	1699.7	1500.2	1461.4	1346.1	1350.9	1716.4	2090.0	2006.4	1948.2	1704.5
30°	2035.0	1988.1	1751.4	1700.8	1530.4	1446.9	1835.0	2283.5	2222.0	2142.8	1838.8
32.5°	2389.2	2396.2	2094.3	1927.2	1790.3	1691.1	1788.1	2374.1	2488.9	2424.7	2006.4
35°	2791.3	2822.6	2453.3	2257.1	1990.8	1844.7	1989.7	2652.2	2858.2	2689.4	2231.2
37.5°	3410.7	3409.6	2978.4	2587.5	2394.0	2235.5	2325.6	2905.1	3312.0	3074.9	2634.4
40°	3955.7	3837.1	3436.0	2987.0	2685.1	2642.0	2576.8	3251.1	3796.7	3653.8	2992.9
42.5°	4362.7	4279.1	3794.5	3445.2	3071.1	2934.2	2911.0	3758.4	4512.0	4312.0	3504.5
45°	4849.5	4575.6	4218.8	3903.9	3522.8	3482.9	3428.5	4273.2	5344.3	4893.7	3949.2
47.5°	5285.6	5027.9	4690.5	4286.2	3848.4	4177.3	3968.1	4725.5	5949.7	5526.6	4439.8
50°	5652.7	5378.8	5001.0	4693.1	4505.6	4728.7	4379.9	5098.0	6603.6	6260.8	4898.5
52.5°	5839.8	5529.8	5237.6	5047.3	5162.1	5112.0	4938.4	5549.2	7161.0	6904.4	5305.0
55°	5686.1	5383.2	5260.8	5355.1	5703.9	5558.9	5572.9	6248.4	7687.1	7333.5	5658.6
57.5°	5004.7	4728.2	4782.6	5040.8	5709.3	6088.8	6296.3	6927.6	8109.2	7868.3	6204.2
60°	3785.9	3563.3	3764.9	4223.1	5172.4	5983.1	6809.5	7606.8	8712.5	8637.0	7030.0
62.5°	2312.1	2191.3	2477.0	3048.4	4121.7	5465.1	7108.7	8512.5	9357.7	9438.0	7906.0
65°	1179.5	1125.0	1363.3	1865.7	2784.8	4489.4	6892.6	9075.3	10024.6	10321.0	8741.0
67.5°	742.8	707.8	835.0	1138.0	1643.1	2928.2	6034.9	9567.4	10495.7	10730.2	9019.7
70°	514.8	492.7	602.7	781.1	1036.6	1577.3	4480.8	9108.1	10122.1	10132.9	8345.4
72.5°	326.7	309.4	416.7	578.4	764.9	814.5	2568.7	7147.0	8664.5	8564.8	6758.3
75°	211.9	203.2	264.7	423.7	587.6	502.4	1269.5	4822.5	6212.8	6056.5	4488.8
77.5°	152.0	146.6	177.4	283.0	418.3	351.5	569.3	2874.3	3562.2	3220.4	2178.9
80°	91.6	91.1	128.3	177.4	297.6	248.0	263.1	1305.1	1381.1	1126.1	665.8
82.5°	45.8	47.4	71.7	114.3	191.4	162.3	120.2	434.5	370.9	273.3	134.8
85°	10.8	13.5	37.7	78.7	96.0	64.7	57.1	113.7	101.9	77.1	39.4
87.5°	0.0	0.0	11.9	18.9	25.9	10.8	19.4	21.6	27.5	21.6	8.1
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°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8
2.5°	453.9	447.4	408.1	397.8	396.8	385.4	388.1	377.3	377.9	402.1	402.1
5°	578.4	540.7	503.0	469.5	446.9	414.5	402.7	397.8	393.5	403.2	409.2
7.5°	679.2	623.7	555.8	483.0	415.6	369.3	362.8	350.9	346.6	356.3	363.9
10°	724.0	655.0	561.7	455.5	392.4	354.7	323.4	306.7	303.5	303.0	305.7
12.5°	818.8	733.1	568.2	445.3	376.8	335.3	299.7	271.7	245.8	248.5	245.8
15°	894.9	793.5	568.2	420.5	339.1	297.6	235.0	221.0	217.2	223.2	218.3
17.5°	1009.7	853.3	539.6	376.3	306.7	231.3	207.5	206.5	214.0	222.6	217.2
20°	1078.7	861.4	491.6	325.6	251.7	200.5	191.9	183.3	194.1	201.1	198.4
22.5°	1150.4	862.0	443.7	298.6	202.7	182.7	168.7	161.7	163.3	169.8	170.9
25°	1181.1	841.0	398.9	263.1	183.8	163.3	148.8	141.2	138.5	141.8	140.7
27.5°	1264.7	800.5	350.4	224.3	174.7	145.0	131.5	122.4	114.3	119.7	120.8
30°	1276.5	787.6	324.0	199.5	162.8	128.3	116.4	106.7	100.8	108.4	108.4
32.5°	1314.3	716.4	310.5	189.2	150.4	118.6	102.4	95.4	94.3	99.2	99.7
35°	1372.5	685.2	290.6	181.1	139.1	107.3	92.2	88.9	87.9	91.6	91.6
37.5°	1569.8	646.3	268.5	174.1	129.4	101.3	89.5	84.1	84.6	87.9	90.0
40°	1700.8	651.2	235.6	165.5	118.1	96.0	84.1	80.3	79.8	81.4	83.0
42.5°	1943.9	655.0	221.0	156.3	109.4	89.5	78.7	76.0	73.9	75.5	77.1
45°	2215.6	674.9	213.5	148.8	104.6	85.7	73.9	72.2	67.4	68.5	70.6
47.5°	2477.6	747.7	204.3	138.0	100.3	83.6	69.0	65.2	62.0	61.5	63.6
50°	2775.1	818.3	194.1	126.1	96.0	80.3	64.1	58.2	56.1	56.1	57.7
52.5°	3041.4	885.7	184.4	118.1	92.7	74.4	59.8	53.9	52.3	52.3	54.4
55°	3321.8	956.3	175.7	110.5	88.4	68.5	56.1	50.7	50.1	49.1	50.7
57.5°	3816.6	1110.5	165.0	104.0	82.5	63.6	52.8	47.4	46.4	44.7	46.4
60°	4537.4	1347.1	150.9	97.6	75.5	60.4	50.1	43.7	42.0	39.4	39.9
62.5°	5241.9	1538.5	134.8	89.5	69.0	57.1	45.8	39.4	36.7	33.4	34.0
65°	5845.7	1614.0	117.5	79.8	62.5	49.6	39.9	34.5	30.7	26.4	25.9
67.5°	5916.8	1425.3	100.8	70.6	56.1	42.0	34.0	30.7	24.8	21.0	19.9
70°	5324.9	1062.0	84.1	62.5	48.5	35.6	29.1	27.0	23.2	19.9	18.3
72.5°	4240.3	783.8	70.6	55.5	42.6	30.2	24.8	25.3	23.2	19.4	17.3
75°	2804.2	448.5	57.7	46.4	35.6	24.3	22.6	22.6	22.1	18.3	16.2
77.5°	1349.3	193.5	44.2	36.7	28.6	18.3	20.5	20.5	21.0	16.7	13.5
80°	382.7	58.2	27.5	24.8	21.0	12.4	16.2	15.6	14.0	9.7	5.9
82.5°	68.5	22.6	12.4	12.9	11.9	4.9	9.2	8.6	7.0	3.8	0.5
85°	18.9	8.6	7.0	7.5	5.9	1.6	3.8	4.9	3.8	2.2	0.0
87.5°	4.9	3.8	4.9	5.4	4.3	0.5	1.6	0.5	1.6	0.5	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)