

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: P368463

Luminaire Tested: **MSA-SA4C-727-U-T3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368463  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4C-727-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14861 lumens  
Efficiency: N/A  
Efficacy: 66.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G3

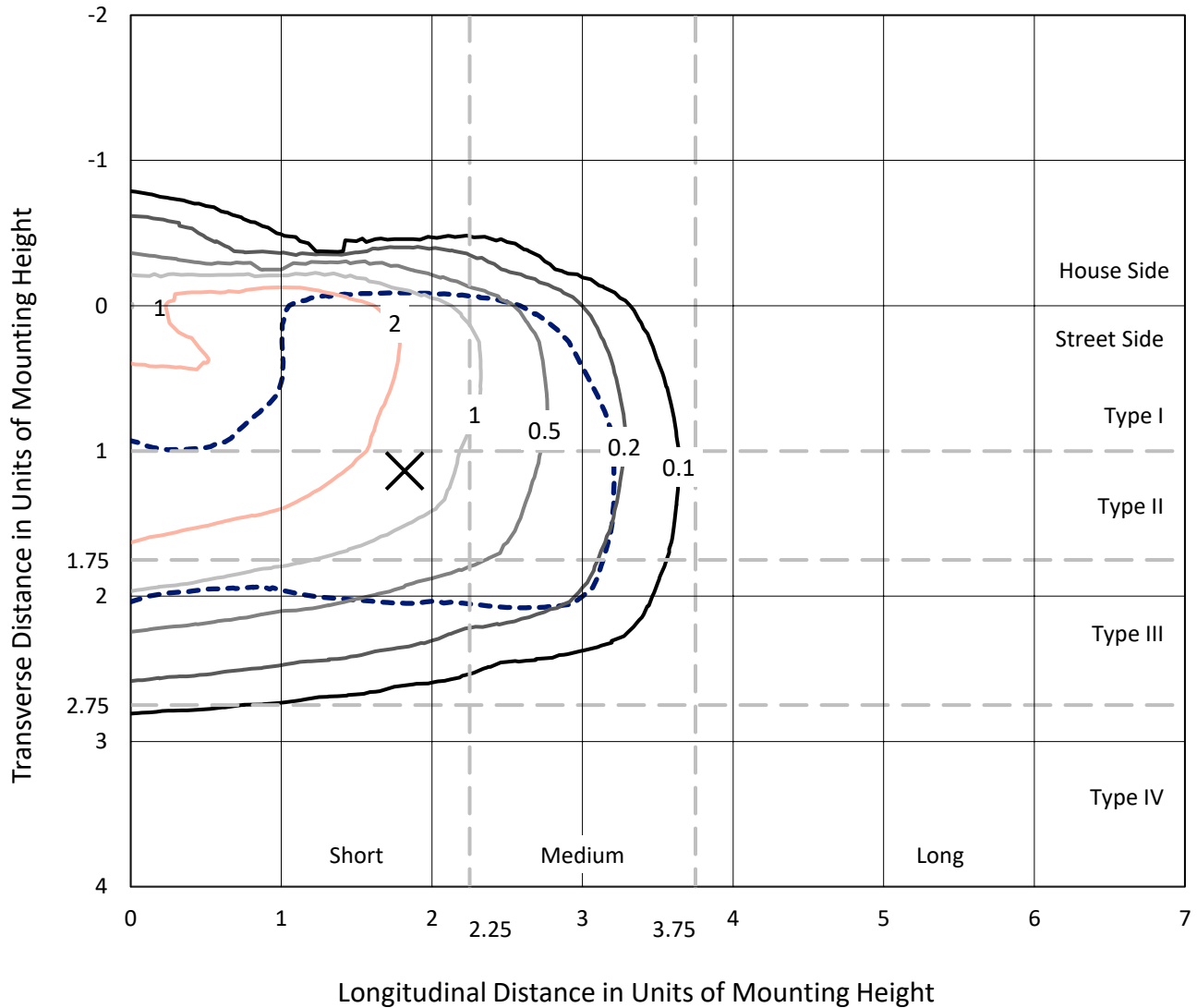
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

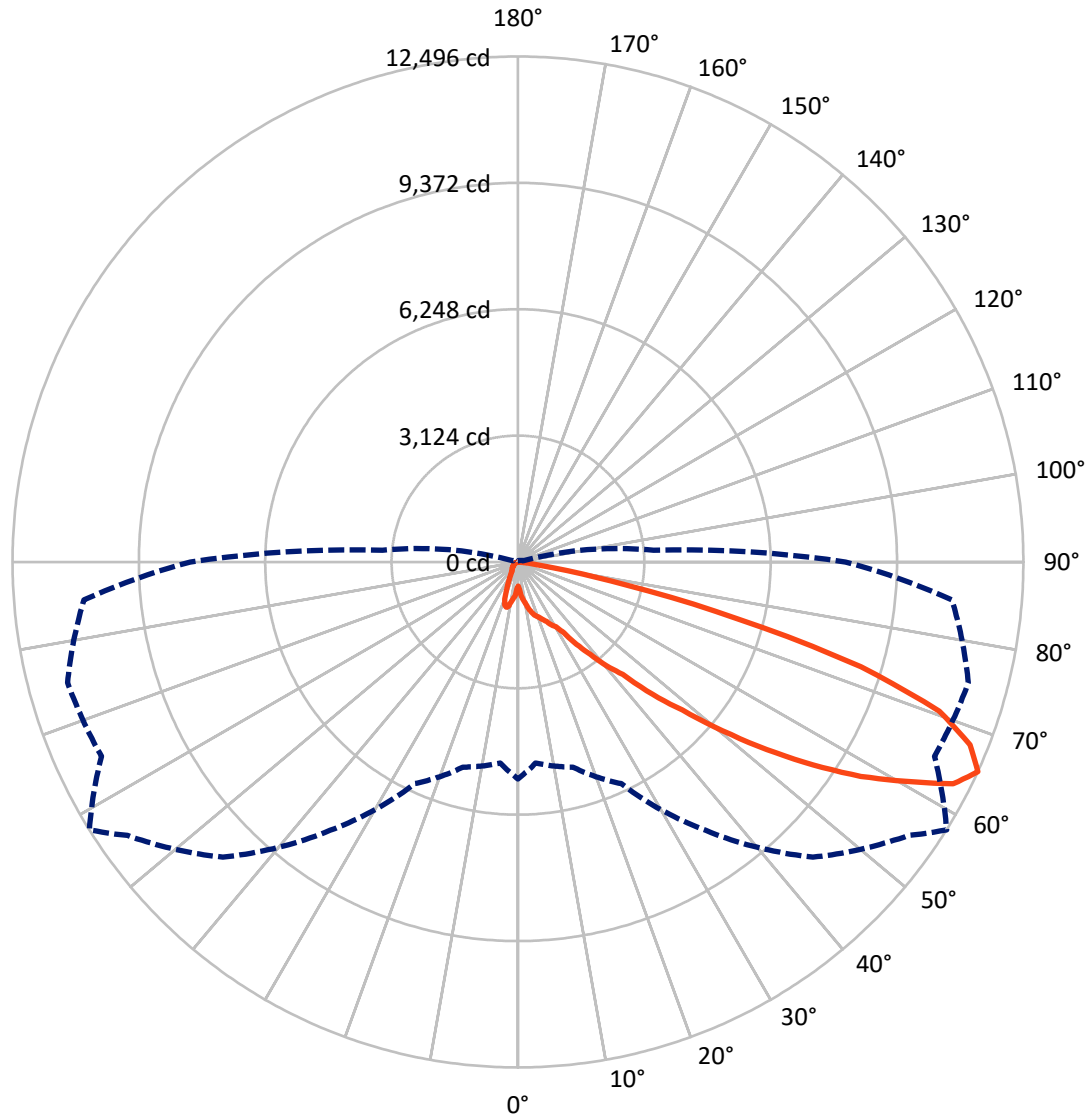
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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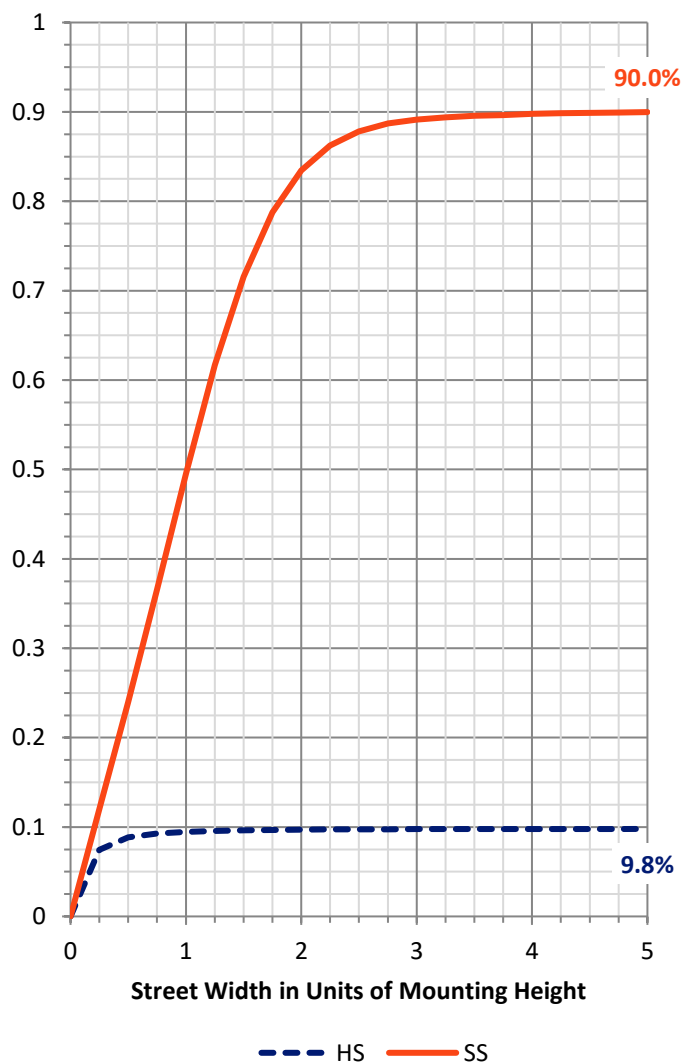
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1466.4	0.0	1466.4
	% Fixture	9.9	0.0	9.9
<b>Street Side</b>	Lumens	13394.6	0.0	13394.6
	% Fixture	90.1	0.0	90.1
<b>Total</b>	Lumens	14861.0	0.0	14861.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.6	0.6
10°-20°	305.0	2.1
20°-30°	590.5	4.0
30°-40°	1178.1	7.9
40°-50°	2408.4	16.2
50°-60°	4271.8	28.7
60°-70°	4503.7	30.3
70°-80°	1460.1	9.8
80°-90°	59.7	0.4
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°	14861.0	100.0
0°-180°	14861.0	100.0

**Coefficient of Utilization**

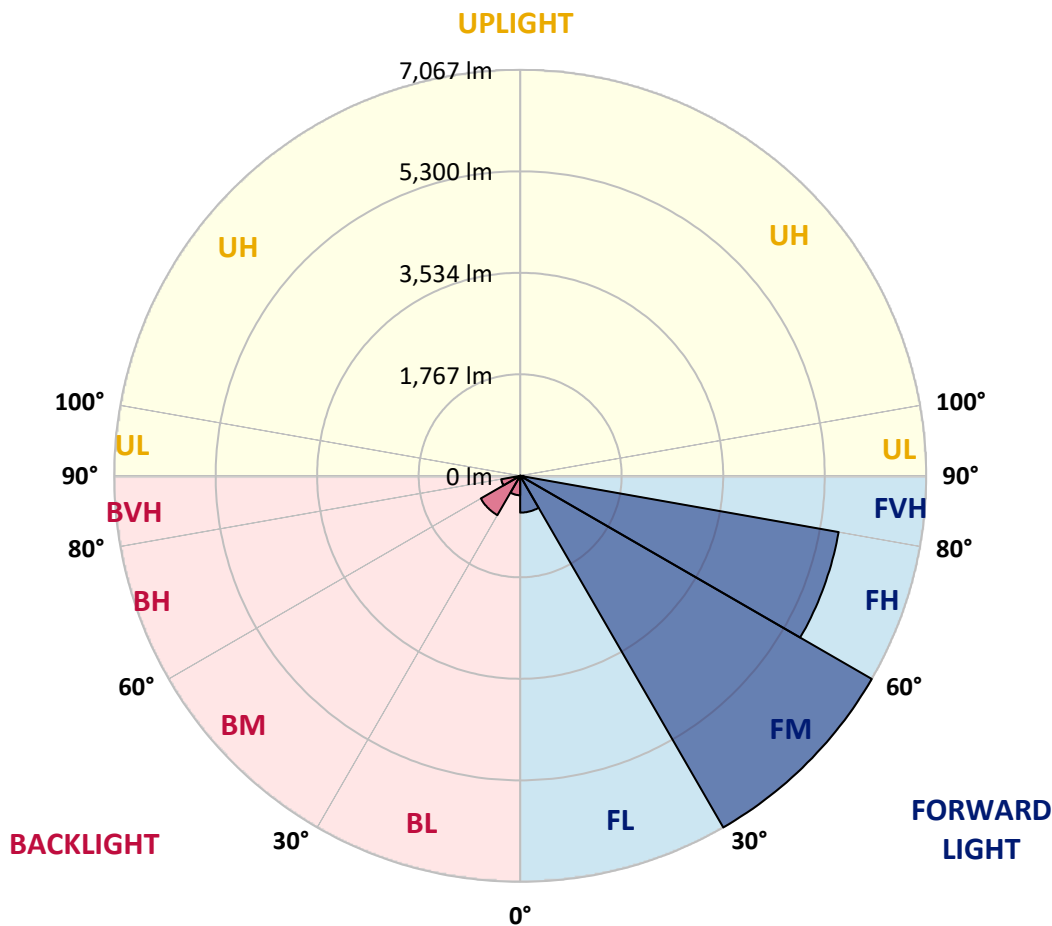


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	641.1	4.3			
FM (30°-60°)	7067.2	47.6			
FH (60°-80°)	5629.1	37.9			G3/7500
FVH (80°-90°)	57.2	0.4			G1/100
BL (0°-30°)	338.0	2.3	B1/500		
BM (30°-60°)	791.2	5.3	B1/1000		
BH (60°-80°)	334.7	2.3	B1/500		G1/500
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-G3**  
 Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	594.9	594.9	594.9	594.9	594.9	594.9	594.9	594.9	594.9	594.9	594.9
2.5°	726.3	704.5	670.2	676.1	682.8	696.2	685.3	675.2	664.4	650.1	704.5
5°	876.9	840.9	837.6	830.0	824.2	823.3	836.7	832.5	838.4	865.2	892.8
7.5°	932.1	917.0	888.6	900.3	881.9	867.7	927.1	946.3	983.1	995.7	1067.7
10°	926.3	904.5	916.2	922.1	934.6	986.5	1024.1	1045.1	1076.9	1145.5	1131.2
12.5°	953.0	972.3	984.8	985.7	1050.1	1145.5	1172.2	1189.8	1246.7	1273.5	1343.8
15°	1042.6	1074.4	1054.3	1062.6	1083.6	1199.9	1262.6	1301.1	1381.4	1468.4	1486.0
17.5°	1170.6	1190.7	1148.8	1118.7	1176.4	1240.0	1353.8	1394.0	1445.0	1648.3	1686.0
20°	1332.1	1366.4	1276.0	1156.3	1232.5	1307.8	1431.6	1450.9	1505.3	1770.5	1829.9
22.5°	1709.4	1658.4	1520.3	1333.7	1311.1	1344.6	1462.6	1537.9	1629.9	1839.1	1977.2
25°	2081.8	2064.2	1860.9	1652.5	1501.9	1426.6	1583.1	1624.9	1775.5	2002.3	2078.4
27.5°	2495.9	2531.1	2191.4	2065.0	1769.7	1523.7	1658.4	1763.0	1941.2	2061.7	2244.9
30°	3042.3	2986.3	2588.0	2461.6	2124.4	1790.6	1853.3	1860.0	2121.9	2257.5	2431.5
32.5°	3470.7	3506.7	3006.3	2812.2	2542.8	2201.4	1999.8	2086.8	2274.2	2576.3	2741.1
35°	3934.3	3930.9	3443.1	3182.1	2829.8	2536.9	2434.0	2497.6	2732.7	3075.0	3118.5
37.5°	4627.1	4567.7	3992.0	3609.6	3310.1	3059.9	2981.2	2896.7	3139.4	3465.7	3628.9
40°	5280.5	5075.6	4543.4	4089.9	3706.7	3604.6	3320.1	3372.0	3443.9	3874.9	4325.8
42.5°	5940.7	5813.5	5102.3	4722.5	4251.4	4008.7	3823.0	3798.7	4140.9	4651.3	5117.4
45°	6811.7	6422.7	5853.7	5519.9	4974.3	4730.8	4581.0	4670.6	4978.5	5724.0	6034.4
47.5°	7543.0	7184.9	6696.3	6189.2	5616.9	5890.5	5609.4	5468.0	5890.5	6661.1	7073.6
50°	8171.4	7772.3	7277.8	6902.1	6809.2	7072.0	6503.0	6554.9	6829.3	7734.7	7967.3
52.5°	8628.3	8208.2	7776.5	7594.9	7975.6	8107.8	7822.5	7707.9	7957.2	8650.0	8763.0
55°	8972.2	8542.1	8204.9	8455.1	9191.4	9147.9	9248.3	8856.7	9095.2	9604.7	9551.2
57.5°	8993.1	8483.5	8286.1	8688.5	9699.3	10372.8	10666.5	10000.5	10136.0	10351.1	10230.6
60°	8335.4	7828.4	7812.5	8383.9	9846.5	10690.0	11332.6	11007.9	10826.3	10986.2	10757.7
62.5°	7025.1	6670.3	6836.0	7467.7	9298.5	10515.1	11687.3	12078.1	11371.0	11407.0	11082.4
65°	5364.2	4991.9	5251.3	6047.0	8100.3	10319.3	11787.7	12496.4	11361.0	11526.7	10771.1
67.5°	3552.7	3336.8	3630.5	4507.4	6440.2	9109.4	11735.9	12057.2	11000.4	11058.9	9615.6
70°	1834.1	1781.4	2019.0	2711.0	4330.0	6998.3	11226.3	11050.6	10268.2	9526.9	7416.7
72.5°	587.4	589.9	818.3	1238.3	2334.5	4260.6	8629.1	8870.1	8216.6	6969.1	4528.3
75°	260.2	256.0	342.2	519.6	973.1	1910.2	5360.9	5621.1	5115.7	3833.9	1903.5
77.5°	187.4	181.6	219.2	303.7	482.0	647.6	2513.5	2712.7	2319.4	1328.7	435.9
80°	132.2	131.4	159.0	213.4	301.2	287.8	794.0	890.3	712.9	322.1	128.0
82.5°	74.5	77.0	110.4	150.6	183.2	143.9	223.4	246.0	240.1	171.5	56.1
85°	36.0	40.2	72.0	108.8	96.2	56.1	79.5	86.2	100.4	99.6	28.4
87.5°	0.0	0.0	29.3	49.4	25.9	8.4	24.3	27.6	26.8	31.8	6.7
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°	594.9	594.9	594.9	594.9	594.9	594.9	594.9	594.9	594.9	594.9	594.9
2.5°	715.4	710.4	646.8	651.8	666.0	660.2	665.2	653.5	640.1	694.5	693.6
5°	904.5	866.8	846.8	828.4	831.7	794.0	815.8	825.8	824.2	855.1	863.5
7.5°	1070.2	1020.0	979.8	941.3	882.7	830.0	862.7	883.6	897.8	951.4	972.3
10°	1148.0	1107.0	1091.1	1015.8	973.9	941.3	902.0	873.5	885.3	871.0	885.3
12.5°	1318.7	1291.1	1230.0	1153.8	1103.6	1036.7	890.3	768.1	692.8	693.6	688.6
15°	1474.3	1472.6	1381.4	1255.1	1109.5	918.7	690.3	536.3	465.2	445.1	438.4
17.5°	1677.6	1652.5	1486.0	1299.4	1037.5	711.2	470.2	367.3	360.6	372.3	367.3
20°	1807.3	1770.5	1537.9	1235.0	855.1	481.1	354.8	325.5	345.6	362.3	358.1
22.5°	1937.0	1881.8	1577.2	1156.3	608.3	352.3	320.5	315.4	328.0	348.9	352.3
25°	2008.1	1997.3	1654.2	1009.1	416.7	308.8	308.8	307.1	311.3	326.3	323.8
27.5°	2214.8	2067.5	1596.5	787.4	322.1	283.6	287.8	286.2	271.1	286.2	287.0
30°	2343.7	2275.9	1600.6	560.6	283.6	251.0	261.9	248.5	225.9	238.5	236.0
32.5°	2603.0	2434.0	1588.1	378.2	258.5	239.3	222.6	203.3	186.6	191.6	187.4
35°	2905.1	2776.2	1418.2	303.7	241.0	211.7	184.9	165.7	148.1	152.3	151.4
37.5°	3505.9	3096.7	1277.7	273.6	229.3	194.1	163.2	136.4	127.2	129.7	132.2
40°	4062.3	3631.4	1015.8	260.2	209.2	173.2	134.7	115.5	109.6	111.3	113.8
42.5°	4894.0	4056.4	767.3	246.8	189.1	146.4	112.1	99.6	93.7	97.1	98.7
45°	5698.9	4417.9	573.2	235.1	172.4	126.3	94.5	86.2	79.5	82.0	85.3
47.5°	6503.0	4819.5	427.6	216.7	154.0	108.8	81.2	75.3	71.1	72.0	76.1
50°	7222.6	5006.9	336.4	194.1	138.9	94.5	73.6	67.8	66.1	66.9	70.3
52.5°	7751.4	5008.6	283.6	174.0	124.7	83.7	69.4	62.8	61.9	63.6	66.9
55°	8229.2	4874.7	246.0	156.5	112.1	76.1	66.1	60.2	60.2	61.9	65.3
57.5°	8546.3	4628.7	213.4	138.1	101.2	72.0	63.6	57.7	56.9	56.1	58.6
60°	8701.1	4293.2	180.7	121.3	91.2	69.4	61.9	51.0	50.2	48.5	50.2
62.5°	8603.2	3873.2	151.4	104.6	81.2	66.1	54.4	44.3	42.7	39.3	41.8
65°	8102.8	3362.8	128.0	89.5	70.3	56.1	46.0	37.7	33.5	29.3	28.4
67.5°	7079.5	2731.9	107.1	77.0	60.2	46.0	37.7	33.5	25.9	22.6	21.8
70°	5305.6	1865.1	88.7	66.1	50.2	39.3	31.8	30.1	24.3	21.8	20.1
72.5°	3112.6	1006.6	74.5	57.7	42.7	32.6	25.9	27.6	24.3	20.1	18.4
75°	1243.4	334.7	59.4	46.0	34.3	23.4	21.8	22.6	21.8	18.4	15.1
77.5°	283.6	105.4	46.0	36.0	26.8	15.1	17.6	19.2	19.2	15.1	10.9
80°	88.7	41.8	26.8	22.6	19.2	8.4	12.6	13.4	9.2	4.2	0.0
82.5°	28.4	11.7	9.2	9.2	8.4	1.7	2.5	1.7	0.0	0.0	0.0
85°	10.9	7.5	5.9	5.9	3.3	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	4.2	3.3	2.5	3.3	1.7	0.0	0.0	0.0	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)