

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: P596797

Luminaire Tested: **MSA-SA4C-827-U-T2-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596797  
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-SA4C-827-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: 13341 lumens  
Efficiency: N/A  
Efficacy: 59.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G2

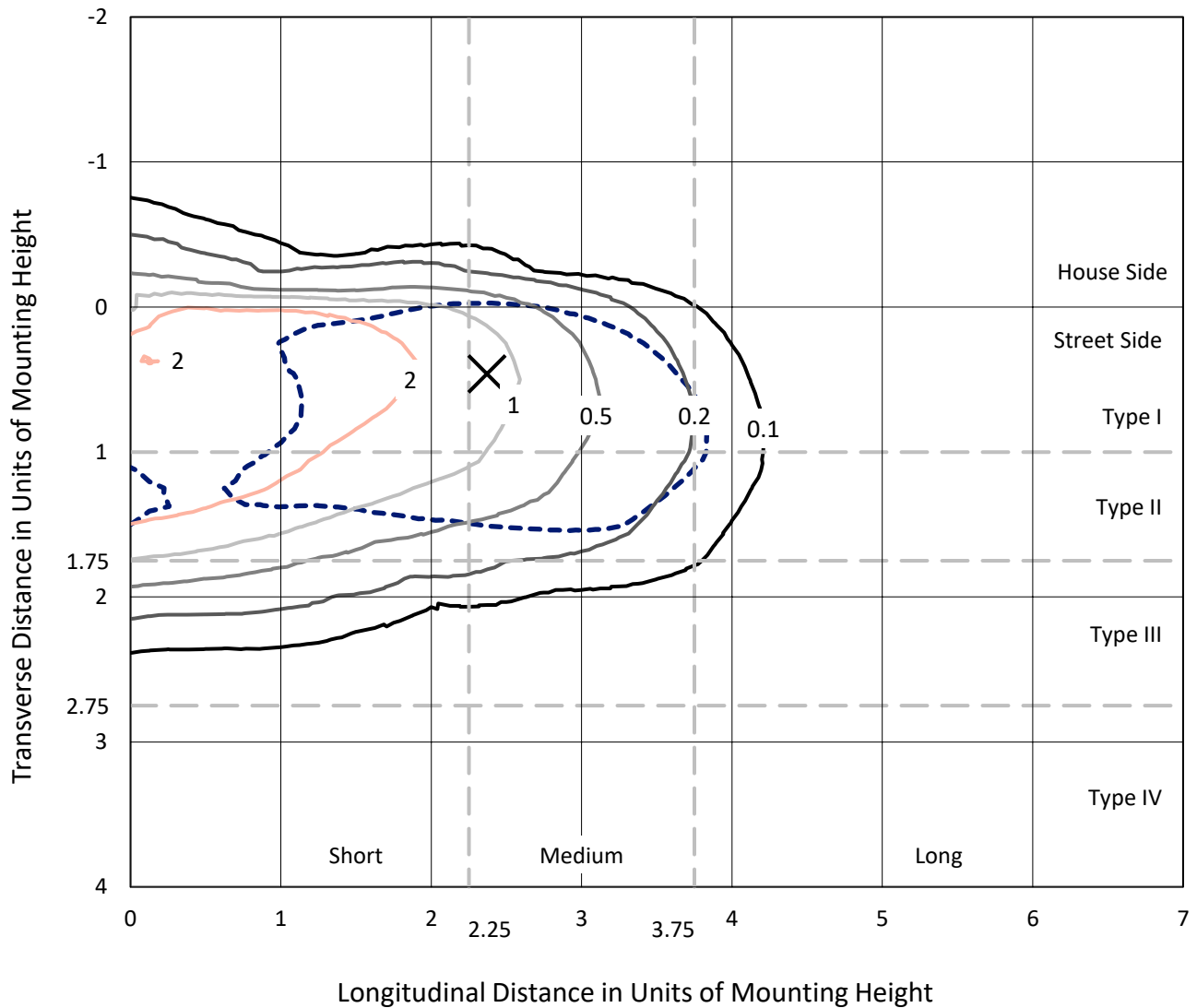
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

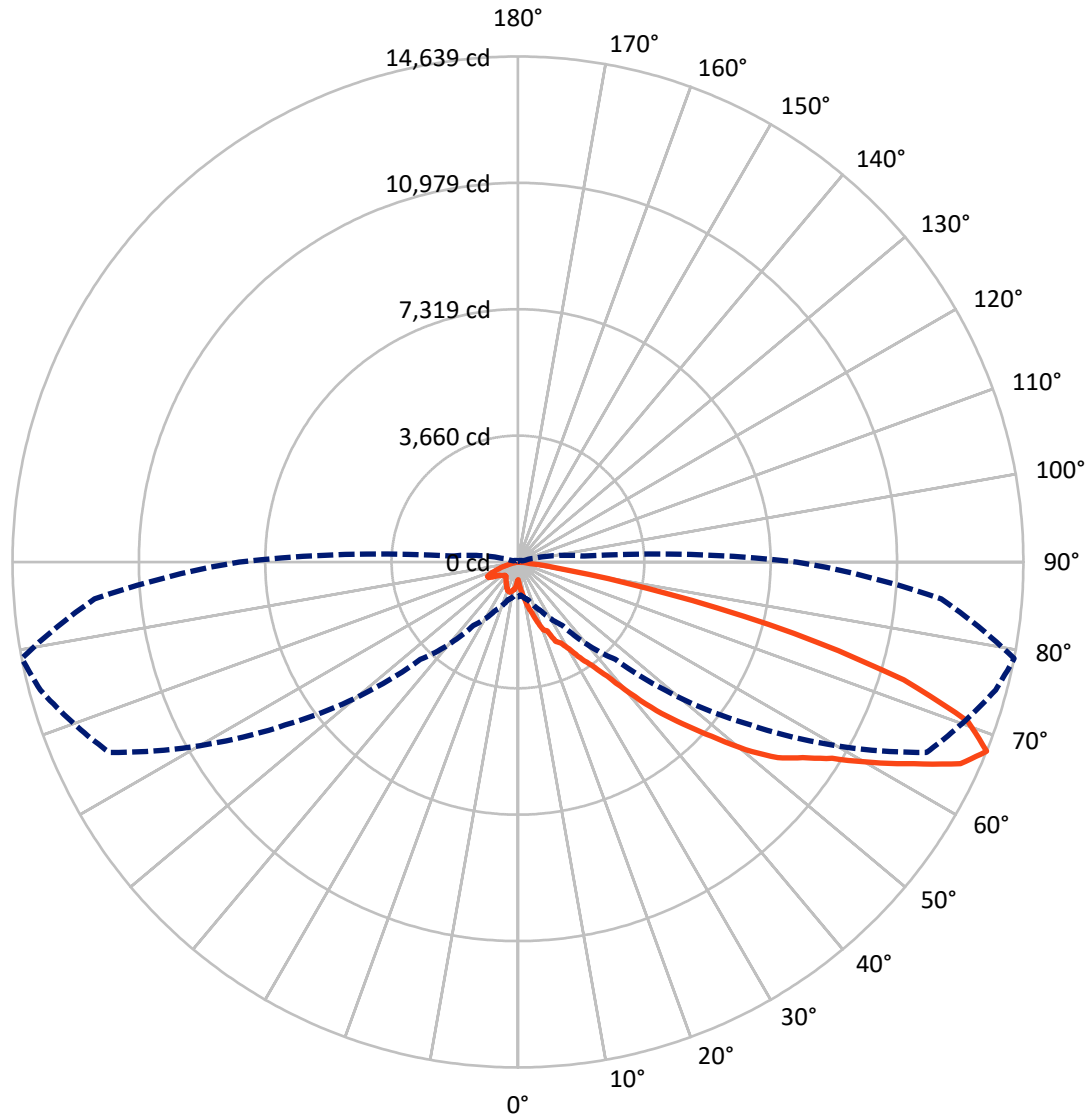
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 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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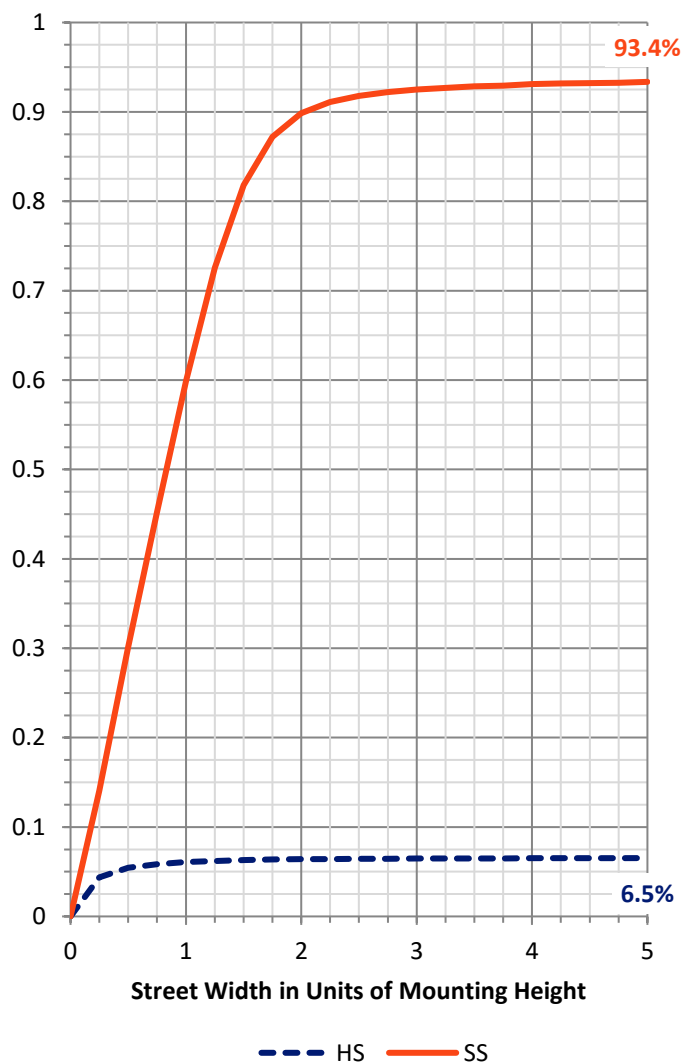
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	876.6	0.0	876.6
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	12464.4	0.0	12464.4
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	13341.0	0.0	13341.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.8	0.6
10°-20°	298.1	2.2
20°-30°	575.1	4.3
30°-40°	1129.7	8.5
40°-50°	2263.1	17.0
50°-60°	3617.2	27.1
60°-70°	3639.5	27.3
70°-80°	1641.9	12.3
80°-90°	101.6	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°	13341.0	100.0
0°-180°	13341.0	100.0

**Coefficient of Utilization**



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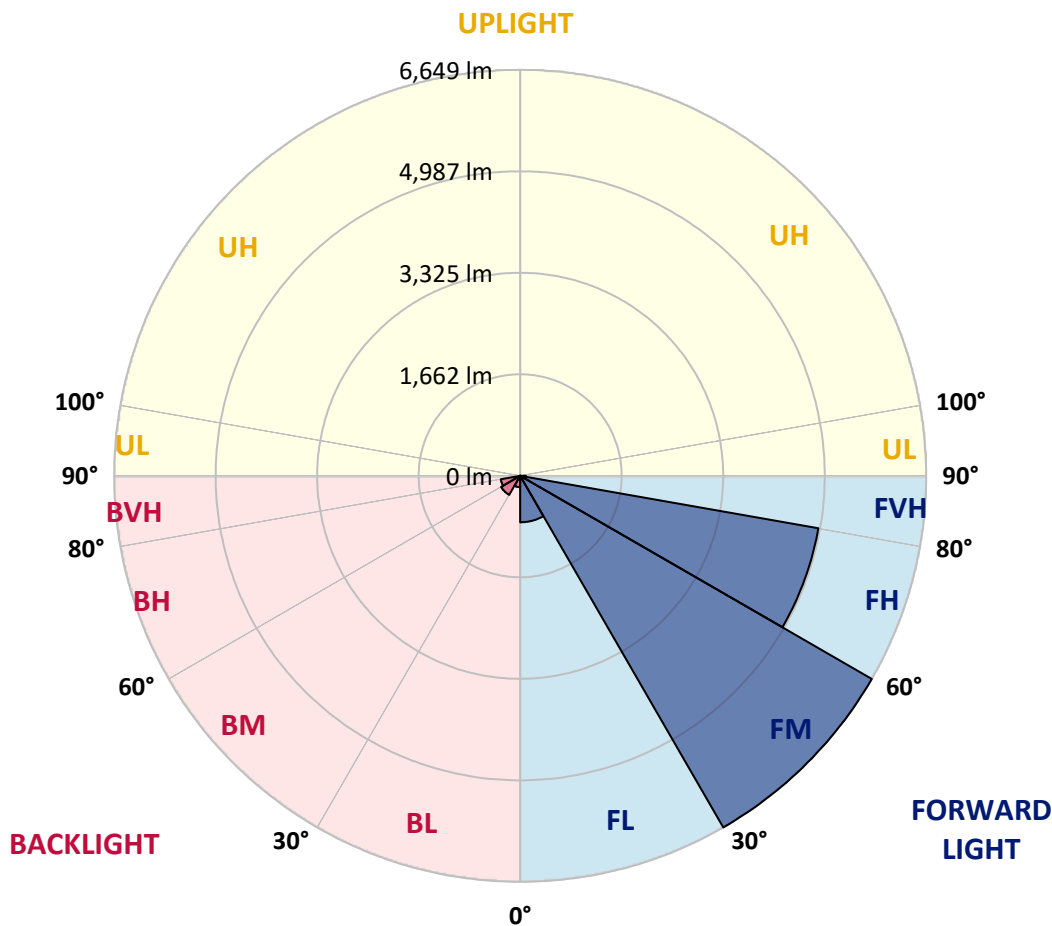
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	761.6	5.7			
FM (30°-60°)	6649.3	49.8			
FH (60°-80°)	4958.3	37.2			G2/5000
FVH (80°-90°)	95.1	0.7			G1/100
BL (0°-30°)	186.3	1.4	B1/500		
BM (30°-60°)	360.7	2.7	B1/1000		
BH (60°-80°)	323.1	2.4	B1/500		G1/500
BVH (80°-90°)	6.5	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	514.1	514.1	514.1	514.1	514.1	514.1	514.1	514.1	514.1	514.1	514.1
2.5°	694.2	669.2	628.8	651.6	650.1	661.9	639.8	615.6	576.6	615.6	618.5
5°	999.4	953.1	923.7	917.8	885.5	855.3	848.7	823.7	804.6	770.0	800.9
7.5°	1245.1	1223.8	1171.5	1165.7	1086.2	1042.1	1056.1	1045.0	972.2	936.2	966.4
10°	1349.5	1312.7	1320.1	1312.7	1278.9	1291.4	1262.7	1229.6	1171.5	1112.0	1037.0
12.5°	1390.0	1384.1	1445.1	1437.8	1517.2	1612.8	1548.8	1493.7	1359.1	1344.4	1242.1
15°	1476.7	1513.5	1504.7	1535.6	1586.3	1748.8	1747.4	1760.6	1617.9	1541.5	1393.6
17.5°	1554.0	1581.2	1537.0	1572.3	1710.6	1809.2	1940.8	1889.3	1905.5	1827.5	1598.8
20°	1520.9	1551.8	1507.6	1486.3	1729.7	1916.5	2092.3	2054.8	2151.9	2103.3	1787.8
22.5°	1727.5	1669.4	1558.4	1489.2	1670.9	1914.3	2146.0	2302.6	2285.7	2166.6	1963.6
25°	1982.7	1947.4	1814.3	1692.2	1708.4	1901.1	2315.1	2545.3	2595.3	2544.6	2130.5
27.5°	2326.9	2318.8	2046.7	1993.7	1836.4	1843.0	2341.6	2851.3	2737.3	2657.8	2325.4
30°	2776.2	2712.3	2389.4	2320.3	2087.9	1973.9	2503.4	3115.3	3031.4	2923.3	2508.5
32.5°	3259.4	3269.0	2857.1	2629.2	2442.4	2307.0	2439.4	3238.8	3395.5	3308.0	2737.3
35°	3808.0	3850.7	3346.9	3079.2	2715.9	2516.6	2714.5	3618.3	3899.2	3669.0	3043.9
37.5°	4653.0	4651.6	4063.2	3530.0	3266.0	3049.8	3172.6	3963.2	4518.5	4194.9	3594.0
40°	5396.6	5234.8	4687.6	4075.0	3663.2	3604.3	3515.3	4435.4	5179.6	4984.7	4083.1
42.5°	5951.8	5837.8	5176.7	4700.1	4189.7	4002.9	3971.3	5127.4	6155.5	5882.7	4781.0
45°	6615.9	6242.3	5755.5	5326.0	4806.0	4751.6	4677.3	5829.7	7291.0	6676.2	5387.7
47.5°	7210.9	6859.3	6399.0	5847.4	5250.2	5698.8	5413.5	6446.8	8116.9	7539.6	6057.0
50°	7711.7	7338.1	6822.6	6402.6	6146.7	6451.2	5975.3	6954.9	9009.0	8541.2	6682.8
52.5°	7966.9	7544.0	7145.4	6885.8	7042.4	6974.1	6737.2	7570.5	9769.4	9419.3	7237.3
55°	7757.3	7344.0	7177.0	7305.7	7781.6	7583.7	7602.8	8524.3	10487.2	10004.7	7719.8
57.5°	6827.7	6450.4	6524.7	6877.0	7788.9	8306.6	8589.8	9451.0	11063.0	10734.3	8464.0
60°	5164.9	4861.2	5136.2	5761.3	7056.4	8162.5	9289.9	10377.6	11886.0	11783.0	9590.7
62.5°	3154.2	2989.5	3379.3	4158.8	5623.1	7455.8	9698.1	11613.1	12766.3	12875.9	10785.8
65°	1609.1	1534.8	1859.9	2545.3	3799.2	6124.6	9403.2	12380.9	13676.0	14080.5	11924.9
67.5°	1013.4	965.6	1139.2	1552.5	2241.6	3994.8	8233.1	13052.4	14318.8	14638.7	12305.2
70°	702.3	672.2	822.2	1065.6	1414.2	2151.9	6112.9	12425.8	13809.1	13823.8	11385.1
72.5°	445.7	422.1	568.5	789.1	1043.6	1111.2	3504.3	9750.3	11820.5	11684.5	9220.0
75°	289.0	277.3	361.1	578.0	801.6	685.4	1731.9	6579.1	8475.8	8262.5	6123.9
77.5°	207.4	200.0	242.0	386.1	570.7	479.5	776.6	3921.3	4859.7	4393.4	2972.6
80°	125.0	124.3	175.0	242.0	406.0	338.3	358.9	1780.5	1884.2	1536.3	908.3
82.5°	62.5	64.7	97.8	155.9	261.1	221.4	164.0	592.8	506.0	372.9	183.9
85°	14.7	18.4	51.5	107.4	130.9	88.3	78.0	155.2	139.0	105.2	53.7
87.5°	0.0	0.0	16.2	25.7	35.3	14.7	26.5	29.4	37.5	29.4	11.0
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°	514.1	514.1	514.1	514.1	514.1	514.1	514.1	514.1	514.1	514.1	514.1
2.5°	619.2	610.4	556.7	542.7	541.3	525.8	529.5	514.8	515.5	548.6	548.6
5°	789.1	737.6	686.2	640.6	609.7	565.5	549.4	542.7	536.9	550.1	558.2
7.5°	926.6	850.9	758.2	658.9	567.0	503.8	494.9	478.8	472.9	486.1	496.4
10°	987.7	893.5	766.3	621.4	535.4	483.9	441.3	418.5	414.0	413.3	417.0
12.5°	1117.1	1000.2	775.1	607.5	514.1	457.4	408.9	370.7	335.4	339.0	335.4
15°	1220.8	1082.5	775.1	573.6	462.6	406.0	320.6	301.5	296.4	304.5	297.8
17.5°	1377.5	1164.2	736.2	513.3	418.5	315.5	283.1	281.7	292.0	303.7	296.4
20°	1471.6	1175.2	670.7	444.2	343.4	273.6	261.8	250.0	264.8	274.3	270.6
22.5°	1569.4	1175.9	605.3	407.4	276.5	249.3	230.2	220.6	222.8	231.7	233.1
25°	1611.3	1147.3	544.2	358.9	250.8	222.8	203.0	192.7	189.0	193.4	191.9
27.5°	1725.3	1092.1	478.0	305.9	238.3	197.8	179.4	166.9	155.9	163.3	164.7
30°	1741.5	1074.5	442.0	272.1	222.1	175.0	158.9	145.6	137.5	147.8	147.8
32.5°	1793.0	977.4	423.6	258.1	205.2	161.8	139.7	130.2	128.7	135.3	136.1
35°	1872.4	934.7	396.4	247.1	189.7	146.3	125.8	121.3	119.9	125.0	125.0
37.5°	2141.6	881.8	366.2	237.5	176.5	138.3	122.1	114.7	115.5	119.9	122.8
40°	2320.3	888.4	321.4	225.8	161.1	130.9	114.7	109.6	108.8	111.0	113.3
42.5°	2651.9	893.5	301.5	213.3	149.3	122.1	107.4	103.7	100.8	103.0	105.2
45°	3022.6	920.8	291.2	203.0	142.7	116.9	100.8	98.5	91.9	93.4	96.3
47.5°	3380.0	1020.0	278.7	188.3	136.8	114.0	94.1	89.0	84.6	83.8	86.8
50°	3786.0	1116.4	264.8	172.1	130.9	109.6	87.5	79.4	76.5	76.5	78.7
52.5°	4149.3	1208.3	251.5	161.1	126.5	101.5	81.6	73.5	71.3	71.3	74.3
55°	4531.7	1304.6	239.7	150.8	120.6	93.4	76.5	69.1	68.4	66.9	69.1
57.5°	5206.8	1515.0	225.0	141.9	112.5	86.8	72.1	64.7	63.2	61.0	63.2
60°	6190.1	1837.8	205.9	133.1	103.0	82.4	68.4	59.6	57.4	53.7	54.4
62.5°	7151.3	2098.9	183.9	122.1	94.1	78.0	62.5	53.7	50.0	45.6	46.3
65°	7975.0	2201.9	160.3	108.8	85.3	67.7	54.4	47.1	41.9	36.0	35.3
67.5°	8072.0	1944.5	137.5	96.3	76.5	57.4	46.3	41.9	33.8	28.7	27.2
70°	7264.5	1448.8	114.7	85.3	66.2	48.5	39.7	36.8	31.6	27.2	25.0
72.5°	5784.9	1069.3	96.3	75.7	58.1	41.2	33.8	34.6	31.6	26.5	23.5
75°	3825.7	611.9	78.7	63.2	48.5	33.1	30.9	30.9	30.2	25.0	22.1
77.5°	1840.8	264.0	60.3	50.0	39.0	25.0	27.9	27.9	28.7	22.8	18.4
80°	522.2	79.4	37.5	33.8	28.7	16.9	22.1	21.3	19.1	13.2	8.1
82.5°	93.4	30.9	16.9	17.7	16.2	6.6	12.5	11.8	9.6	5.1	0.7
85°	25.7	11.8	9.6	10.3	8.1	2.2	5.1	6.6	5.1	2.9	0.0
87.5°	6.6	5.1	6.6	7.4	5.9	0.7	2.2	0.7	2.2	0.7	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)