

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: P597171

Luminaire Tested: **MSA-SA4D-835-U-T2-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P597171  
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-SA4D-835-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: 16357 lumens  
Efficiency: N/A  
Efficacy: 63.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G3

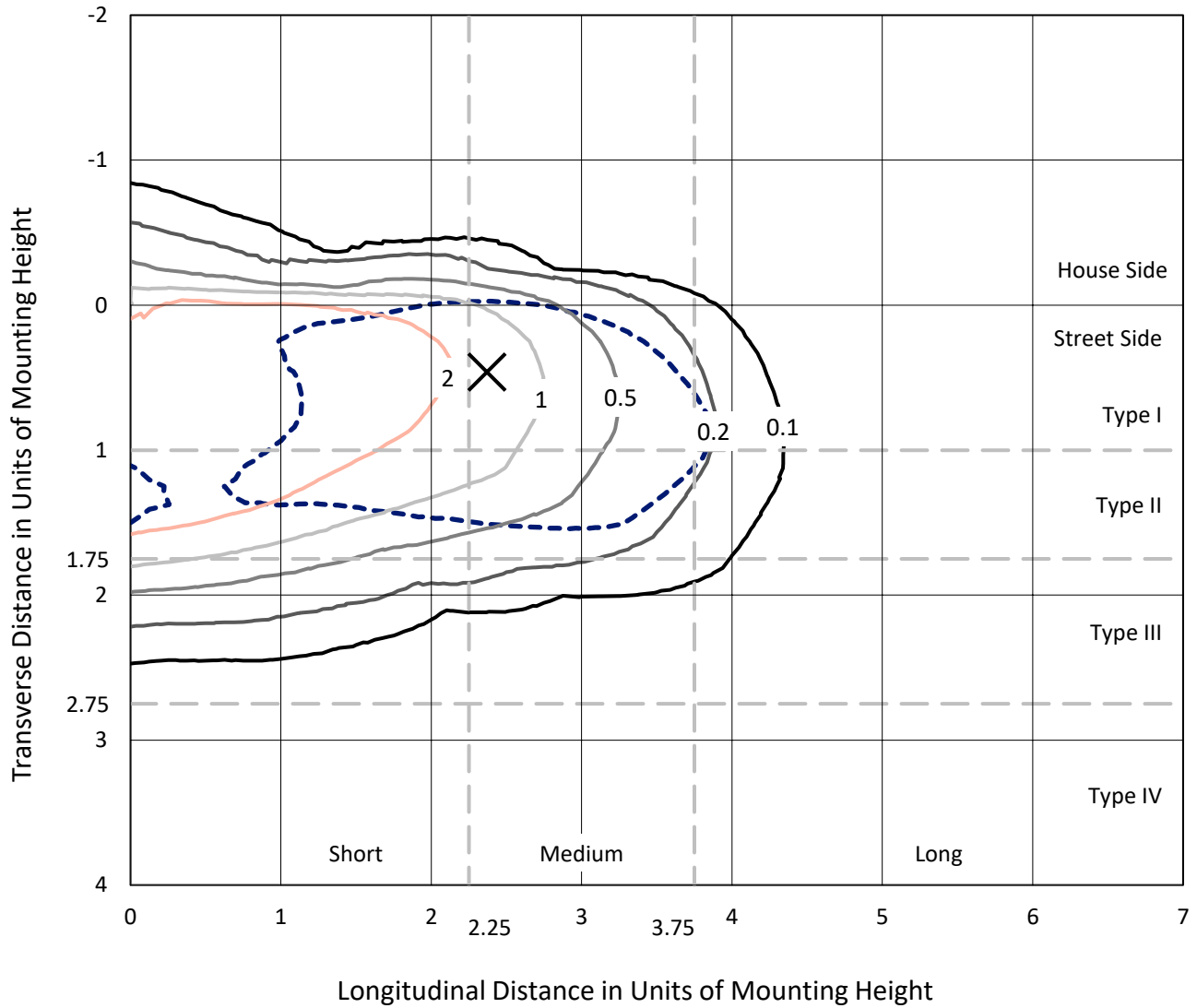
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

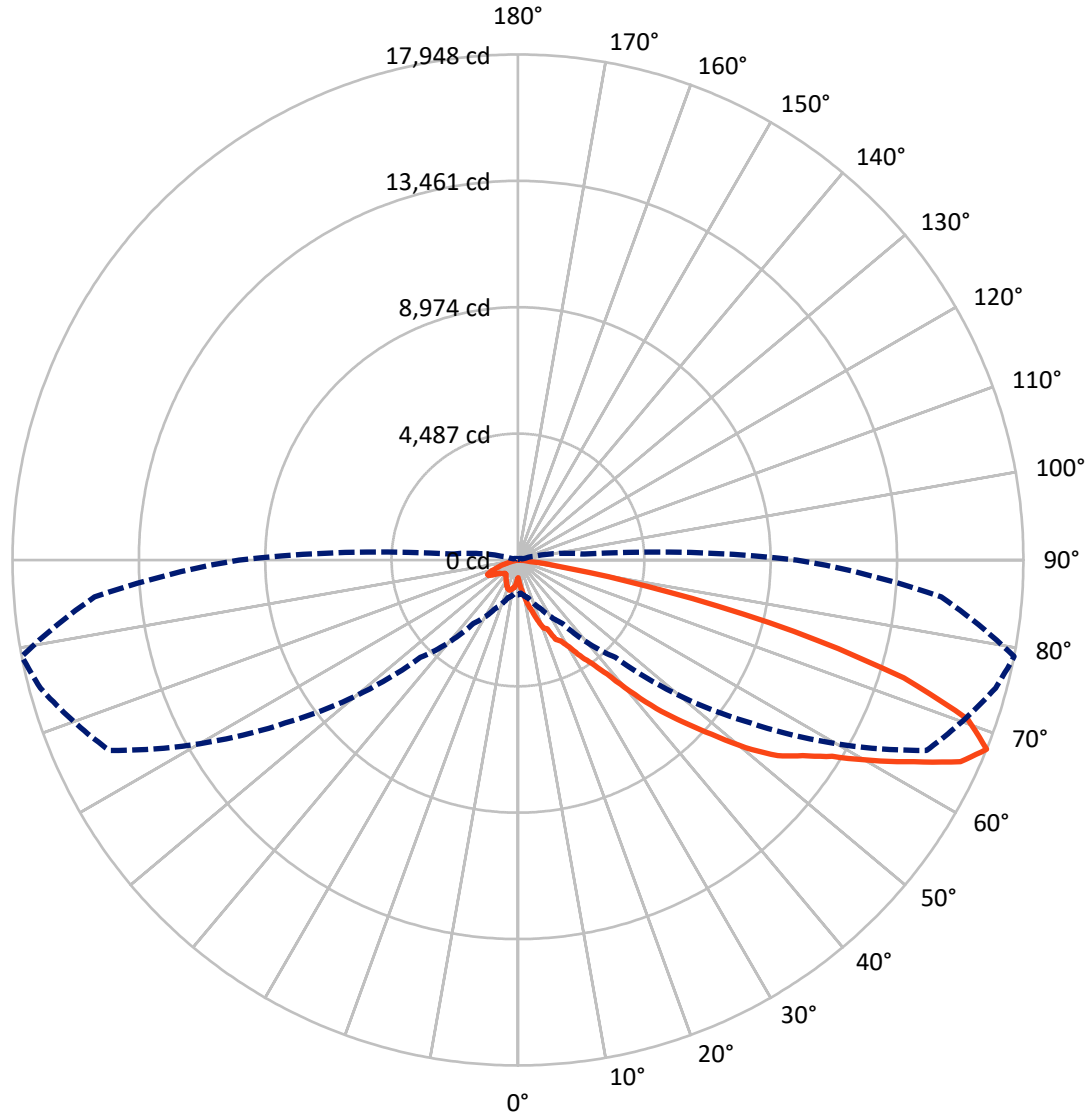
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.9 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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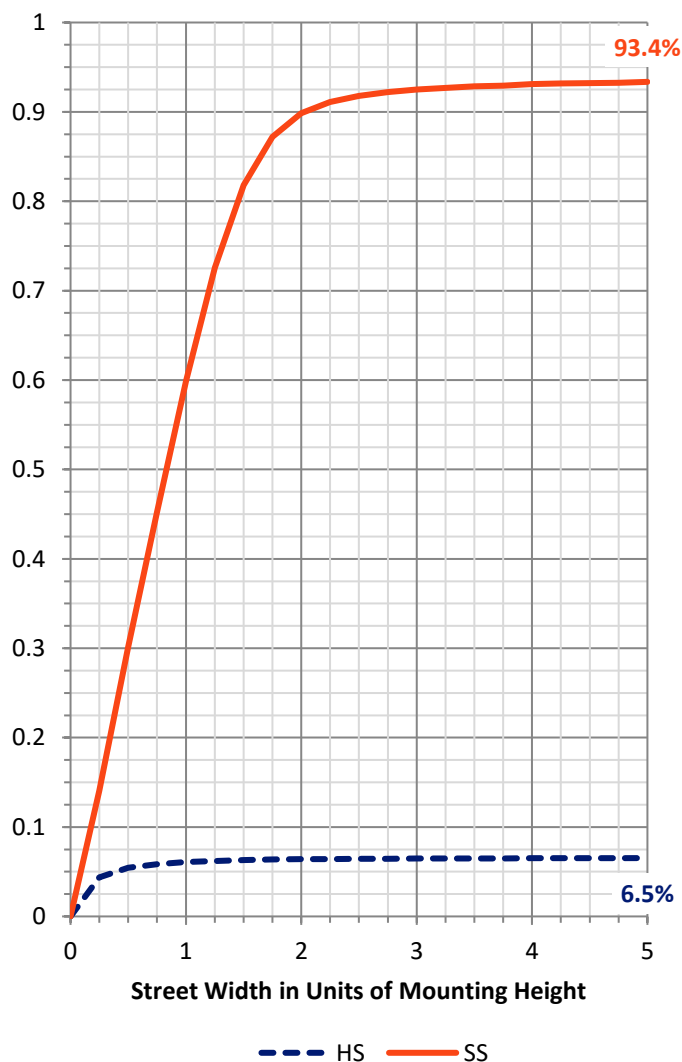
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1074.8	0.0	1074.8
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	15282.2	0.0	15282.2
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	16357.0	0.0	16357.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.7	0.6
10°-20°	365.5	2.2
20°-30°	705.1	4.3
30°-40°	1385.1	8.5
40°-50°	2774.7	17.0
50°-60°	4435.0	27.1
60°-70°	4462.3	27.3
70°-80°	2013.1	12.3
80°-90°	124.6	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°	16357.0	100.0
0°-180°	16357.0	100.0

**Coefficient of Utilization**



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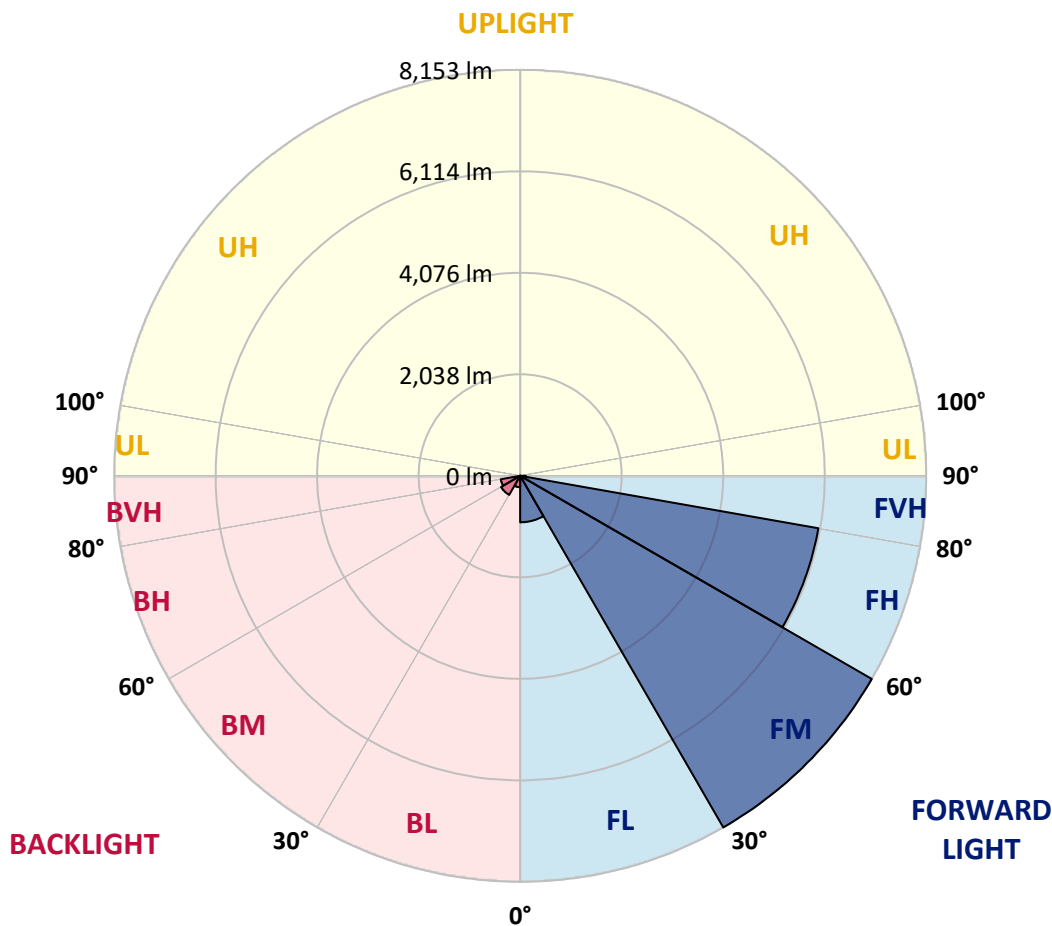
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	933.8	5.7			
FM (30°-60°)	8152.6	49.8			
FH (60°-80°)	6079.2	37.2			G3/7500
FVH (80°-90°)	116.6	0.7			G2/225
BL (0°-30°)	228.5	1.4	B1/500		
BM (30°-60°)	442.2	2.7	B1/1000		
BH (60°-80°)	396.2	2.4	B1/500		G1/500
BVH (80°-90°)	7.9	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	630.3	630.3	630.3	630.3	630.3	630.3	630.3	630.3	630.3	630.3	630.3
2.5°	851.2	820.5	770.9	798.9	797.1	811.5	784.5	754.7	706.9	754.7	758.3
5°	1225.4	1168.6	1132.5	1125.3	1085.6	1048.7	1040.5	1009.9	986.4	944.1	981.9
7.5°	1526.6	1500.4	1436.4	1429.2	1331.8	1277.7	1294.8	1281.3	1192.0	1147.8	1184.8
10°	1654.6	1609.5	1618.5	1609.5	1568.0	1583.4	1548.2	1507.6	1436.4	1363.3	1271.4
12.5°	1704.2	1697.0	1771.8	1762.8	1860.2	1977.4	1898.9	1831.3	1666.3	1648.3	1522.9
15°	1810.6	1855.7	1844.8	1882.7	1944.9	2144.2	2142.4	2158.6	1983.7	1889.9	1708.7
17.5°	1905.3	1938.6	1884.5	1927.8	2097.3	2218.1	2379.5	2316.4	2336.3	2240.7	1960.3
20°	1864.7	1902.6	1848.5	1822.3	2120.8	2349.8	2565.3	2519.3	2638.3	2578.8	2192.0
22.5°	2118.1	2046.8	1910.7	1825.9	2048.6	2347.1	2631.1	2823.2	2802.4	2656.4	2407.5
25°	2430.9	2387.7	2224.5	2074.8	2094.6	2330.9	2838.5	3120.7	3182.0	3119.8	2612.2
27.5°	2852.9	2843.0	2509.4	2444.5	2251.5	2259.6	2871.0	3495.8	3356.1	3258.7	2851.1
30°	3403.9	3325.4	2929.6	2844.8	2559.9	2420.1	3069.3	3819.5	3716.7	3584.2	3075.6
32.5°	3996.3	4008.0	3503.0	3223.5	2994.5	2828.6	2990.9	3971.0	4163.1	4055.8	3356.1
35°	4668.9	4721.2	4103.6	3775.4	3329.9	3085.6	3328.1	4436.3	4780.7	4498.5	3732.1
37.5°	5705.0	5703.2	4981.8	4328.1	4004.4	3739.3	3889.9	4859.2	5540.0	5143.2	4406.5
40°	6616.6	6418.2	5747.3	4996.2	4491.3	4419.2	4310.1	5438.1	6350.6	6111.6	5006.2
42.5°	7297.3	7157.6	6347.0	5762.7	5136.9	4907.9	4869.1	6286.5	7547.1	7212.6	5861.9
45°	8111.6	7653.5	7056.6	6530.0	5892.5	5825.8	5734.7	7147.7	8939.3	8185.5	6605.7
47.5°	8841.0	8410.0	7845.6	7169.3	6437.1	6987.2	6637.3	7904.2	9951.9	9244.1	7426.3
50°	9455.1	8997.0	8364.9	7850.1	7536.3	7909.6	7326.2	8527.2	11045.6	10472.2	8193.6
52.5°	9768.0	9249.5	8760.8	8442.5	8634.5	8550.7	8260.3	9281.9	11978.0	11548.8	8873.5
55°	9511.0	9004.2	8799.5	8957.3	9540.7	9298.2	9321.6	10451.4	12858.0	12266.5	9465.0
57.5°	8371.2	7908.7	7999.7	8431.7	9549.7	10184.5	10531.7	11587.6	13564.0	13161.0	10377.5
60°	6332.5	5960.1	6297.4	7063.8	8651.7	10007.8	11390.1	12723.7	14573.0	14446.8	11758.9
62.5°	3867.3	3665.3	4143.2	5099.0	6894.3	9141.3	11890.5	14238.5	15652.3	15786.7	13224.1
65°	1972.9	1881.8	2280.4	3120.7	4658.1	7509.2	11528.9	15179.9	16767.7	17263.7	14620.8
67.5°	1242.5	1183.9	1396.7	1903.5	2748.3	4898.0	10094.4	16003.1	17555.8	17948.0	15087.0
70°	861.1	824.1	1008.1	1306.5	1733.9	2638.3	7494.8	15234.9	16930.9	16949.0	13959.0
72.5°	546.4	517.6	697.0	967.5	1279.5	1362.4	4296.5	11954.5	14492.8	14326.0	11304.4
75°	354.4	339.9	442.7	708.7	982.8	840.4	2123.5	8066.5	10391.9	10130.4	7508.3
77.5°	254.3	245.3	296.7	473.4	699.7	587.9	952.2	4807.8	5958.3	5386.7	3644.6
80°	153.3	152.4	214.6	296.7	497.7	414.8	440.0	2183.0	2310.1	1883.6	1113.6
82.5°	76.6	79.3	119.9	191.2	320.1	271.4	201.1	726.8	620.4	457.2	225.4
85°	18.0	22.5	63.1	131.6	160.5	108.2	95.6	190.3	170.4	128.9	65.8
87.5°	0.0	0.0	19.8	31.6	43.3	18.0	32.5	36.1	46.0	36.1	13.5
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°	630.3	630.3	630.3	630.3	630.3	630.3	630.3	630.3	630.3	630.3	630.3
2.5°	759.2	748.4	682.6	665.4	663.6	644.7	649.2	631.2	632.1	672.7	672.7
5°	967.5	904.4	841.3	785.4	747.5	693.4	673.6	665.4	658.2	674.5	684.4
7.5°	1136.1	1043.2	929.6	807.9	695.2	617.7	606.8	587.0	579.8	596.0	608.6
10°	1211.0	1095.5	939.6	761.9	656.4	593.3	541.0	513.1	507.6	506.7	511.3
12.5°	1369.7	1226.3	950.4	744.8	630.3	560.8	501.3	454.4	411.2	415.7	411.2
15°	1496.8	1327.3	950.4	703.3	567.2	497.7	393.1	369.7	363.4	373.3	365.2
17.5°	1688.9	1427.4	902.6	629.4	513.1	386.8	347.1	345.3	358.0	372.4	363.4
20°	1804.3	1440.9	822.3	544.6	421.1	335.4	321.0	306.6	324.6	336.3	331.8
22.5°	1924.2	1441.8	742.1	499.5	339.0	305.7	282.2	270.5	273.2	284.0	285.8
25°	1975.6	1406.6	667.2	440.0	307.5	273.2	248.9	236.2	231.7	237.1	235.3
27.5°	2115.4	1339.0	586.1	375.1	292.1	242.6	220.0	204.7	191.2	200.2	202.0
30°	2135.2	1317.4	541.9	333.6	272.3	214.6	194.8	178.5	168.6	181.2	181.2
32.5°	2198.3	1198.3	519.4	316.5	251.6	198.4	171.3	159.6	157.8	165.9	166.8
35°	2295.7	1146.0	486.0	303.0	232.6	179.4	154.2	148.8	147.0	153.3	153.3
37.5°	2625.7	1081.1	449.0	291.2	216.4	169.5	149.7	140.7	141.6	147.0	150.6
40°	2844.8	1089.2	394.0	276.8	197.5	160.5	140.7	134.4	133.4	136.2	138.9
42.5°	3251.5	1095.5	369.7	261.5	183.0	149.7	131.6	127.1	123.5	126.2	128.9
45°	3705.9	1128.9	357.1	248.9	174.9	143.4	123.5	120.8	112.7	114.5	118.1
47.5°	4144.1	1250.6	341.7	230.8	167.7	139.8	115.4	109.1	103.7	102.8	106.4
50°	4641.9	1368.8	324.6	211.0	160.5	134.4	107.3	97.4	93.8	93.8	96.5
52.5°	5087.3	1481.5	308.4	197.5	155.1	124.4	100.1	90.2	87.5	87.5	91.1
55°	5556.2	1599.6	293.9	184.8	147.9	114.5	93.8	84.8	83.9	82.1	84.8
57.5°	6383.9	1857.5	275.9	174.0	138.0	106.4	88.4	79.3	77.5	74.8	77.5
60°	7589.5	2253.3	252.5	163.2	126.2	101.0	83.9	73.0	70.3	65.8	66.7
62.5°	8768.0	2573.4	225.4	149.7	115.4	95.6	76.6	65.8	61.3	55.9	56.8
65°	9777.9	2699.6	196.6	133.4	104.6	83.0	66.7	57.7	51.4	44.2	43.3
67.5°	9896.9	2384.1	168.6	118.1	93.8	70.3	56.8	51.4	41.5	35.2	33.4
70°	8906.8	1776.3	140.7	104.6	81.2	59.5	48.7	45.1	38.8	33.4	30.7
72.5°	7092.7	1311.0	118.1	92.9	71.2	50.5	41.5	42.4	38.8	32.5	28.9
75°	4690.6	750.2	96.5	77.5	59.5	40.6	37.9	37.9	37.0	30.7	27.1
77.5°	2256.9	323.7	73.9	61.3	47.8	30.7	34.3	34.3	35.2	28.0	22.5
80°	640.2	97.4	46.0	41.5	35.2	20.7	27.1	26.1	23.4	16.2	9.9
82.5°	114.5	37.9	20.7	21.6	19.8	8.1	15.3	14.4	11.7	6.3	0.9
85°	31.6	14.4	11.7	12.6	9.9	2.7	6.3	8.1	6.3	3.6	0.0
87.5°	8.1	6.3	8.1	9.0	7.2	0.9	2.7	0.9	2.7	0.9	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)