

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: P368709

Luminaire Tested: **MSA-SA4D-830-U-T4W-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368709
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-15)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-830-U-T4W-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15760 lumens
Efficiency: N/A
Efficacy: 60.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

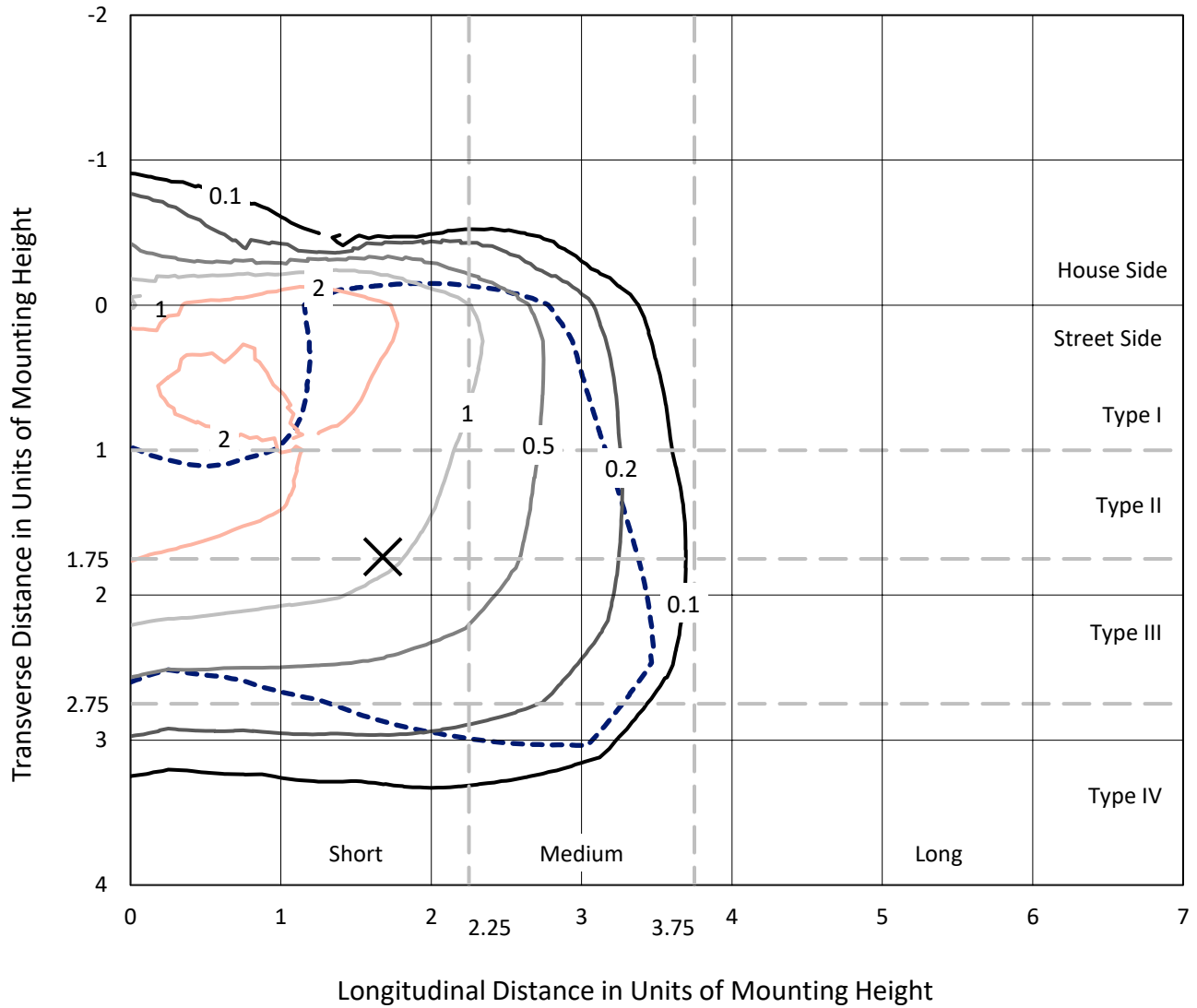
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

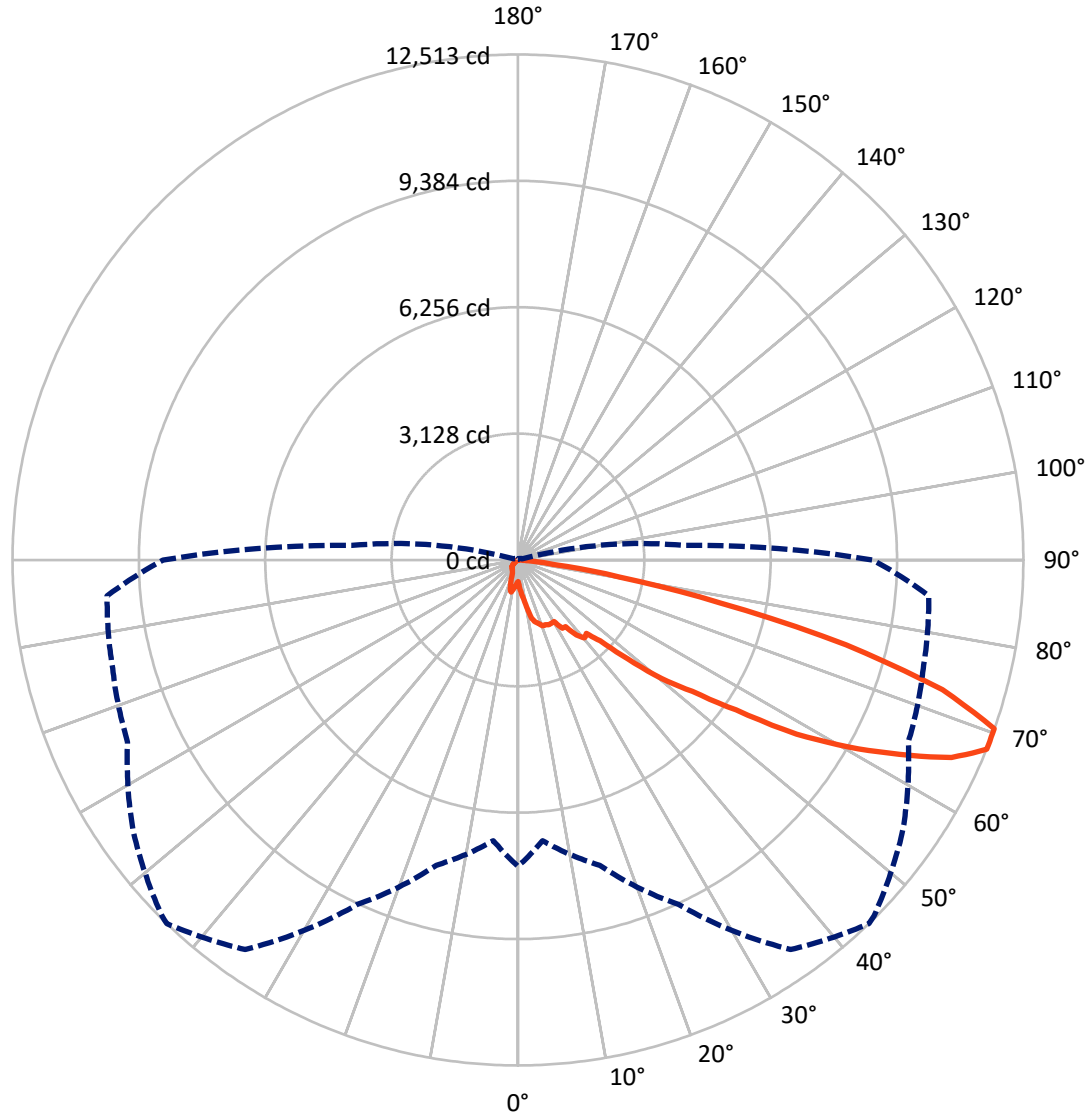
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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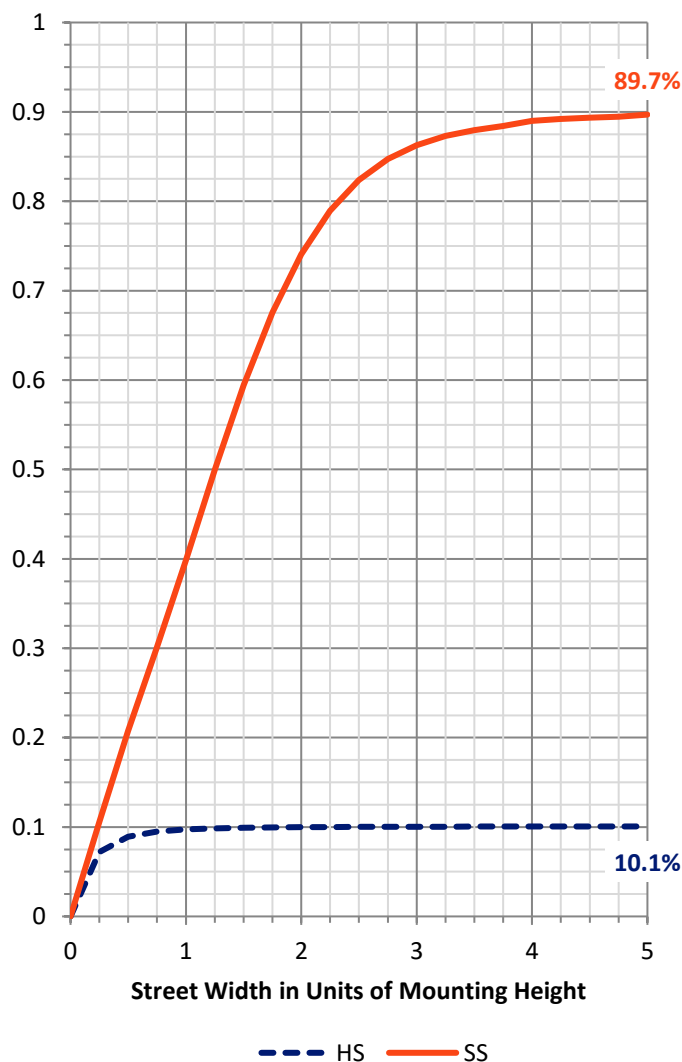
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1600.9	0.0	1600.9
	% Fixture	10.2	0.0	10.2
Street Side	Lumens	14159.1	0.0	14159.1
	% Fixture	89.8	0.0	89.8
Total	Lumens	15760.0	0.0	15760.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.7	0.5
10°-20°	329.5	2.1
20°-30°	583.7	3.7
30°-40°	948.7	6.0
40°-50°	1898.5	12.0
50°-60°	3894.8	24.7
60°-70°	5350.3	33.9
70°-80°	2514.7	16.0
80°-90°	161.1	1.0
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°	15760.0	100.0
0°-180°	15760.0	100.0

Coefficient of Utilization

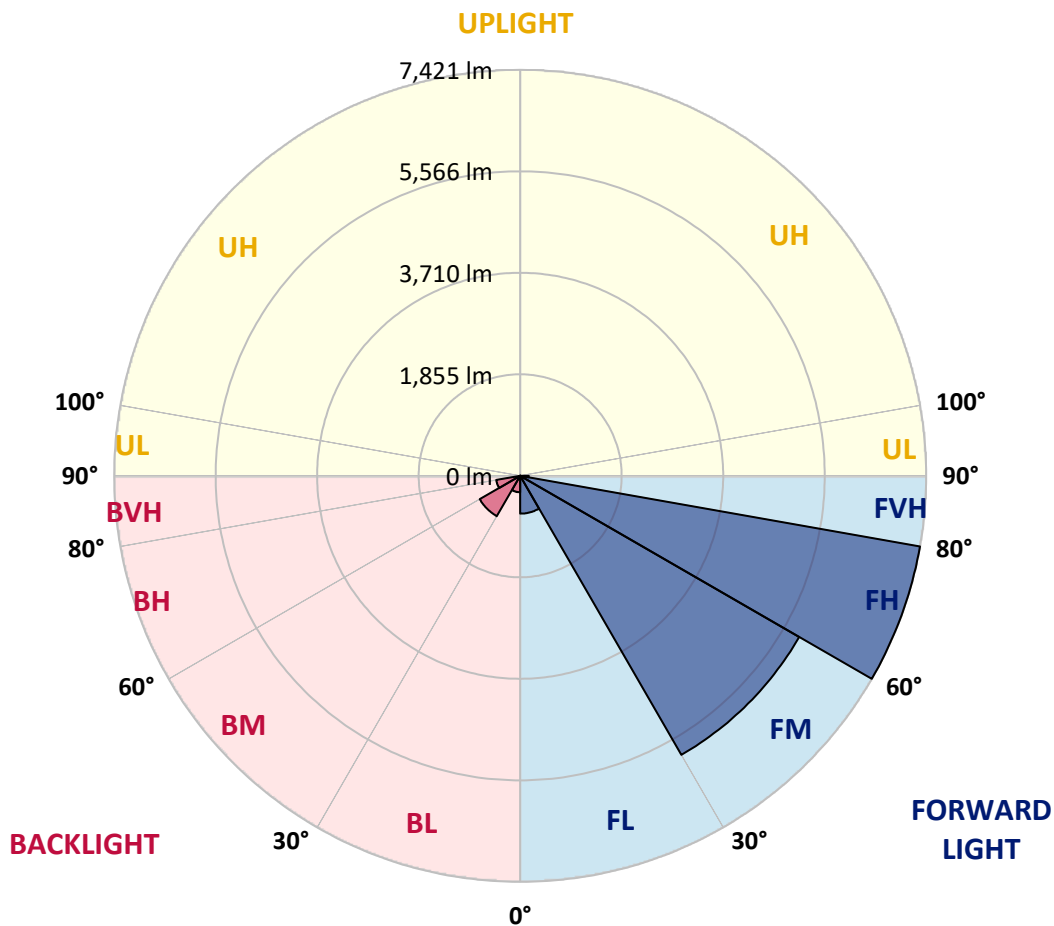


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	691.3	4.4			
FM (30°-60°)	5889.3	37.4			
FH (60°-80°)	7420.8	47.1			G3/7500
FVH (80°-90°)	157.8	1.0			G2/225
BL (0°-30°)	300.6	1.9	B1/500		
BM (30°-60°)	852.8	5.4	B1/1000		
BH (60°-80°)	444.2	2.8	B1/500		G1/500
BVH (80°-90°)	3.3	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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	531.0	531.0	531.0	531.0	531.0	531.0	531.0	531.0	531.0	531.0	531.0
2.5°	675.2	653.5	622.2	629.2	632.7	642.2	643.1	630.9	596.2	586.6	629.2
5°	946.4	893.4	883.8	863.8	823.9	802.1	796.9	818.6	790.8	782.1	793.4
7.5°	1208.8	1163.6	1114.1	1087.2	1003.7	952.5	949.9	958.6	963.8	933.4	949.0
10°	1383.5	1334.0	1323.6	1260.1	1188.0	1175.8	1170.6	1137.6	1110.6	1088.0	1012.4
12.5°	1541.7	1540.8	1559.9	1468.7	1457.4	1469.6	1465.2	1347.0	1320.1	1225.4	1203.6
15°	1752.0	1804.1	1721.6	1645.1	1547.8	1589.5	1578.2	1502.6	1484.3	1420.0	1327.0
17.5°	1970.1	1984.0	1845.8	1728.5	1703.3	1648.6	1659.9	1632.9	1540.8	1592.1	1500.0
20°	1975.3	2005.8	1858.0	1664.2	1741.6	1739.0	1739.8	1713.8	1592.1	1712.0	1627.7
22.5°	2048.3	1973.6	1836.3	1712.9	1726.8	1739.8	1753.7	1721.6	1695.5	1725.1	1740.7
25°	2018.8	1989.2	1857.1	1775.5	1762.4	1772.8	1776.3	1817.2	1800.7	1871.9	1832.8
27.5°	2095.3	2052.7	1816.3	1831.1	1785.0	1772.8	1752.0	1888.4	1937.1	1880.6	1984.9
30°	2226.5	2220.4	1886.7	1908.4	1872.8	1765.9	1821.5	1999.7	2060.5	2025.7	2152.6
32.5°	2431.6	2452.4	2092.7	1951.9	1970.1	2017.9	1997.1	1999.7	2153.5	2230.8	2331.6
35°	2722.7	2711.4	2293.4	2117.0	2021.4	2029.2	2058.8	2200.4	2399.4	2394.2	2501.1
37.5°	3294.5	3171.1	2648.8	2285.6	2314.3	2353.4	2331.6	2522.0	2541.1	2548.0	2803.5
40°	4137.5	3973.3	3209.4	2641.0	2364.7	2537.6	2527.2	2574.1	2701.9	2749.7	3122.5
42.5°	5248.2	5027.4	4195.7	3294.5	2608.0	2488.9	2553.2	2641.9	3071.2	3207.6	3616.1
45°	6475.2	6028.6	5179.5	4226.2	3218.1	2848.7	2897.4	3062.5	3657.8	3883.8	4334.8
47.5°	7270.4	6877.6	6153.7	5051.7	3854.2	3660.4	3664.8	3700.4	4347.0	4765.8	5370.7
50°	7961.3	7543.3	6871.5	5914.7	4979.6	4612.9	4529.5	4365.2	5224.7	5797.4	6468.3
52.5°	8936.4	8448.0	7589.4	6927.1	6263.2	5399.4	5369.8	5425.4	6259.7	6862.0	7593.7
55°	9815.8	9222.3	8402.8	7985.6	7726.7	6555.2	6580.4	6673.4	7588.5	7907.4	8594.8
57.5°	10204.3	9561.2	9139.7	8952.0	8813.8	8134.2	8049.1	7993.5	8636.6	8758.2	9643.8
60°	10458.9	9847.1	9655.9	9699.4	10118.3	9397.0	9319.6	8996.3	9503.9	9603.8	10584.1
62.5°	10298.2	9740.2	9781.1	10143.5	11073.3	10598.9	10375.5	9835.0	10213.0	10293.8	11259.3
65°	9285.7	8704.3	9229.2	10106.1	11801.6	11790.3	11686.9	10609.3	10605.8	10709.2	11311.5
67.5°	7585.0	6974.9	7824.0	9405.7	11771.2	12512.5	12463.8	11636.5	10662.3	10385.9	10207.8
70°	5273.4	4744.1	5707.0	7767.5	10722.3	12507.3	12429.1	12326.5	10215.6	8939.8	7914.4
72.5°	2740.1	2449.0	3345.8	5352.4	8547.0	10989.1	11247.2	11078.6	8722.6	6495.2	4660.7
75°	930.7	835.2	1380.0	2840.9	5681.8	8391.5	8693.9	8522.7	5924.3	3484.9	1843.2
77.5°	360.7	335.5	494.5	1153.2	2850.5	5113.5	5441.9	5267.3	3177.2	1276.6	433.7
80°	205.1	198.1	272.9	519.7	1256.6	2543.7	2774.9	2516.7	1145.4	430.2	113.0
82.5°	86.9	89.5	152.1	280.7	631.8	897.7	1001.1	913.4	479.7	294.6	41.7
85°	19.1	23.5	72.1	156.4	265.1	256.4	268.5	298.1	294.6	216.4	18.2
87.5°	0.0	0.0	22.6	42.6	63.4	41.7	33.0	58.2	90.4	86.9	7.8
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°	531.0	531.0	531.0	531.0	531.0	531.0	531.0	531.0	531.0	531.0	531.0
2.5°	637.0	628.3	573.6	570.1	573.6	564.0	563.1	543.2	544.9	590.1	593.6
5°	793.4	750.0	703.1	688.3	674.4	643.1	660.5	660.5	660.5	689.2	697.8
7.5°	935.1	876.9	810.8	755.2	701.3	662.2	689.2	708.3	719.6	756.9	774.3
10°	999.4	942.0	882.9	803.9	762.2	747.4	716.1	699.6	719.6	711.7	721.3
12.5°	1136.7	1084.6	982.9	901.2	869.9	819.5	727.4	663.1	620.5	613.5	611.8
15°	1270.5	1238.4	1101.9	992.4	883.8	767.4	610.1	524.9	479.7	471.9	472.8
17.5°	1440.0	1393.9	1193.2	1035.9	851.7	642.2	471.0	398.0	394.5	413.7	415.4
20°	1553.0	1477.4	1239.3	1000.3	745.6	485.8	368.5	351.1	378.9	413.7	410.2
22.5°	1660.7	1579.1	1300.1	969.0	577.9	368.5	338.9	340.7	364.1	401.5	411.1
25°	1732.0	1702.5	1374.8	896.0	440.6	318.9	324.2	337.2	357.2	392.8	392.8
27.5°	1946.7	1808.5	1366.1	754.3	338.9	297.2	309.4	325.9	336.3	378.9	383.2
30°	2077.0	2031.8	1411.3	610.1	297.2	269.4	292.9	307.6	314.6	363.3	365.0
32.5°	2236.9	2137.0	1466.1	450.2	276.4	267.7	262.5	273.7	293.7	336.3	338.9
35°	2431.6	2402.0	1387.9	353.7	269.4	250.3	239.9	245.9	259.0	287.7	293.7
37.5°	2828.7	2653.2	1340.9	303.3	269.4	244.2	232.9	217.3	219.0	239.0	250.3
40°	3163.3	3109.4	1209.7	294.6	257.2	235.5	207.7	188.6	175.5	181.6	186.0
42.5°	3777.7	3528.3	1040.2	290.3	245.9	212.9	176.4	156.4	136.4	138.2	145.1
45°	4523.4	3985.4	889.0	285.9	238.1	190.3	148.6	125.1	104.3	105.2	112.1
47.5°	5519.3	4652.0	705.7	272.9	224.2	169.5	119.9	95.6	83.4	86.0	92.1
50°	6650.8	5236.9	557.9	252.9	207.7	149.5	97.3	77.3	73.0	75.6	82.6
52.5°	7661.5	5667.9	460.6	234.6	184.2	121.7	81.7	68.7	66.9	68.7	73.9
55°	8560.1	5918.2	385.0	213.8	158.2	98.2	73.9	63.4	62.6	61.7	65.2
57.5°	9403.0	5990.3	300.7	180.8	128.6	85.2	68.7	59.1	57.4	54.7	57.4
60°	10017.5	5866.9	220.7	145.1	105.2	77.3	64.3	53.0	50.4	46.1	47.8
62.5°	10313.8	5528.9	166.9	116.5	89.5	70.4	57.4	46.1	42.6	37.4	38.2
65°	10032.2	4971.8	131.2	98.2	76.5	59.1	48.7	39.1	34.8	29.5	29.5
67.5°	8785.2	4124.5	111.2	85.2	64.3	50.4	40.0	35.6	28.7	24.3	23.5
70°	6448.3	2966.9	95.6	74.7	55.6	43.5	33.9	32.2	27.8	23.5	21.7
72.5°	3639.6	1679.0	81.7	66.0	46.9	36.5	28.7	29.5	26.9	21.7	20.0
75°	1388.7	565.7	67.8	54.7	38.2	27.8	24.3	24.3	24.3	18.2	15.6
77.5°	344.1	144.3	53.9	44.3	30.4	18.2	20.0	20.9	20.9	15.6	11.3
80°	94.7	48.7	32.2	32.2	21.7	10.4	13.9	13.9	11.3	5.2	0.0
82.5°	34.8	18.2	11.3	13.9	9.6	3.5	5.2	3.5	2.6	0.0	0.0
85°	14.8	9.6	7.0	7.8	4.3	0.0	0.9	1.7	0.0	0.0	0.0
87.5°	6.1	4.3	3.5	3.5	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)