

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: P368687

Luminaire Tested: **MSA-SA4D-760-U-T4W-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368687
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-760-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: 19833 lumens
Efficiency: N/A
Efficacy: 76.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

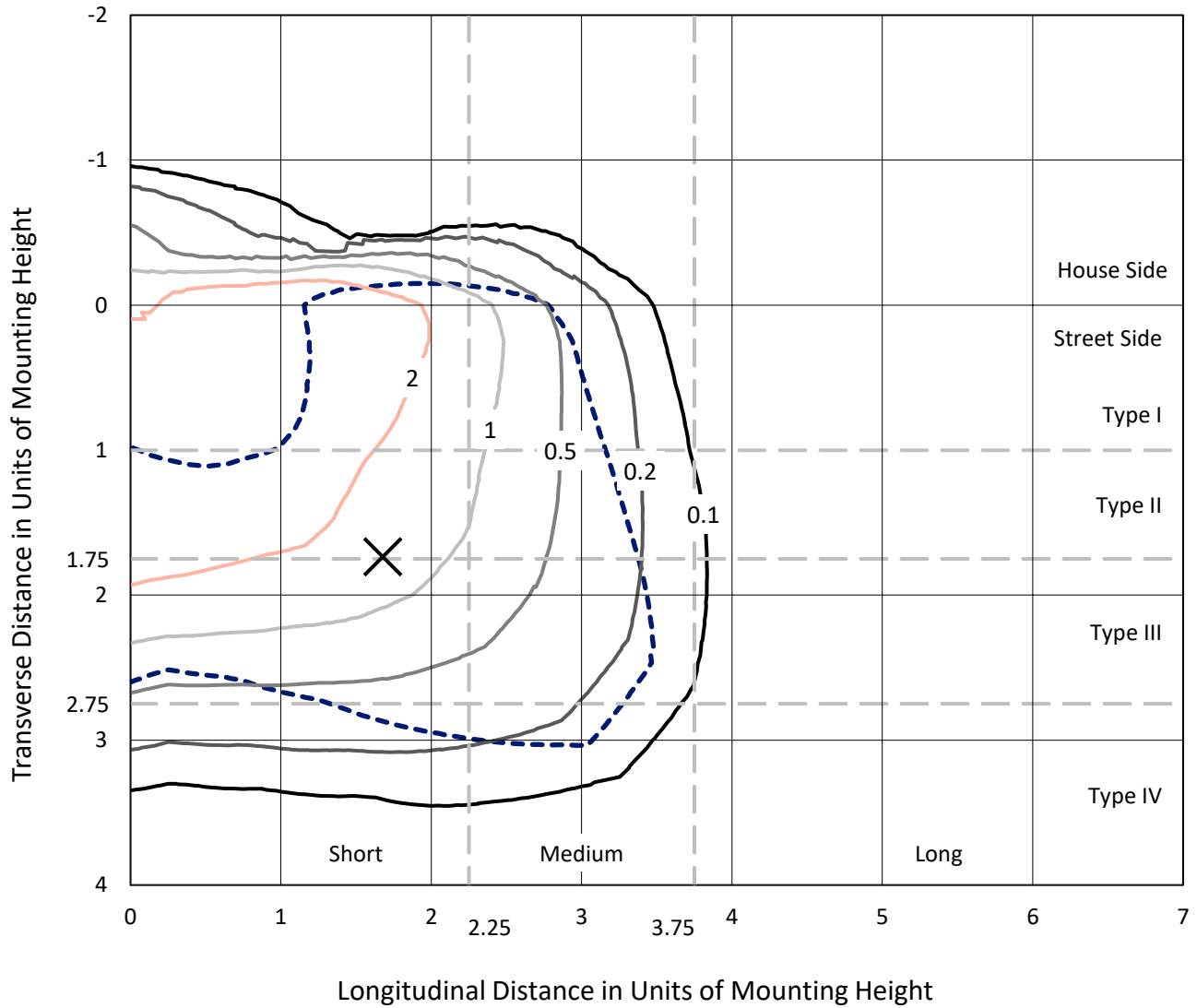
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

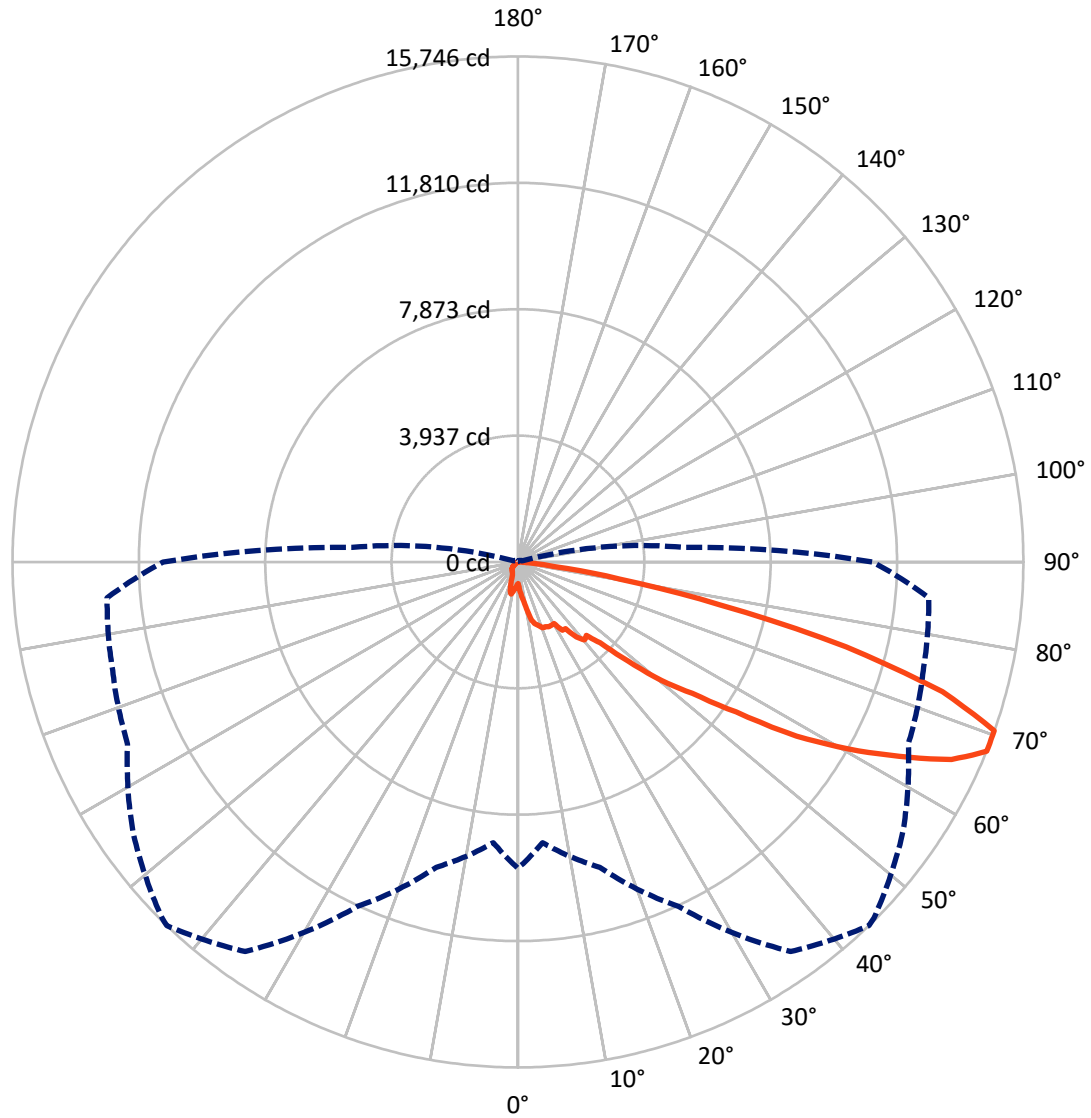
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 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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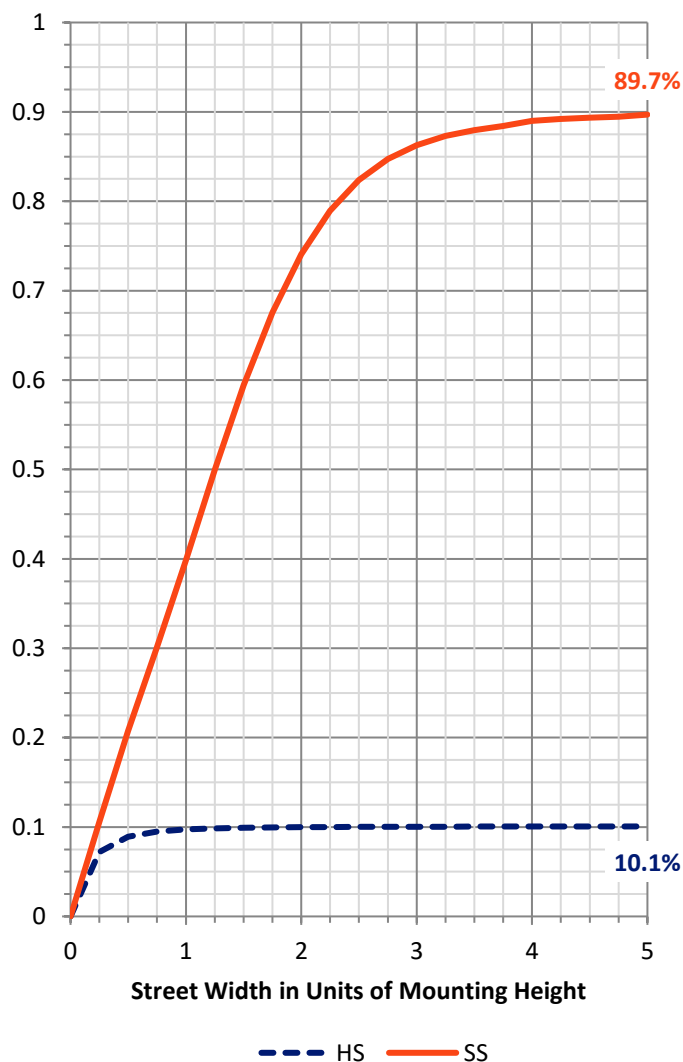
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2014.7	0.0	2014.7
	% Fixture	10.2	0.0	10.2
Street Side	Lumens	17818.3	0.0	17818.3
	% Fixture	89.8	0.0	89.8
Total	Lumens	19833.0	0.0	19833.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.0	0.5
10°-20°	414.6	2.1
20°-30°	734.5	3.7
30°-40°	1193.9	6.0
40°-50°	2389.1	12.0
50°-60°	4901.4	24.7
60°-70°	6733.0	33.9
70°-80°	3164.6	16.0
80°-90°	202.7	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°	19833.0	100.0
0°-180°	19833.0	100.0

Coefficient of Utilization



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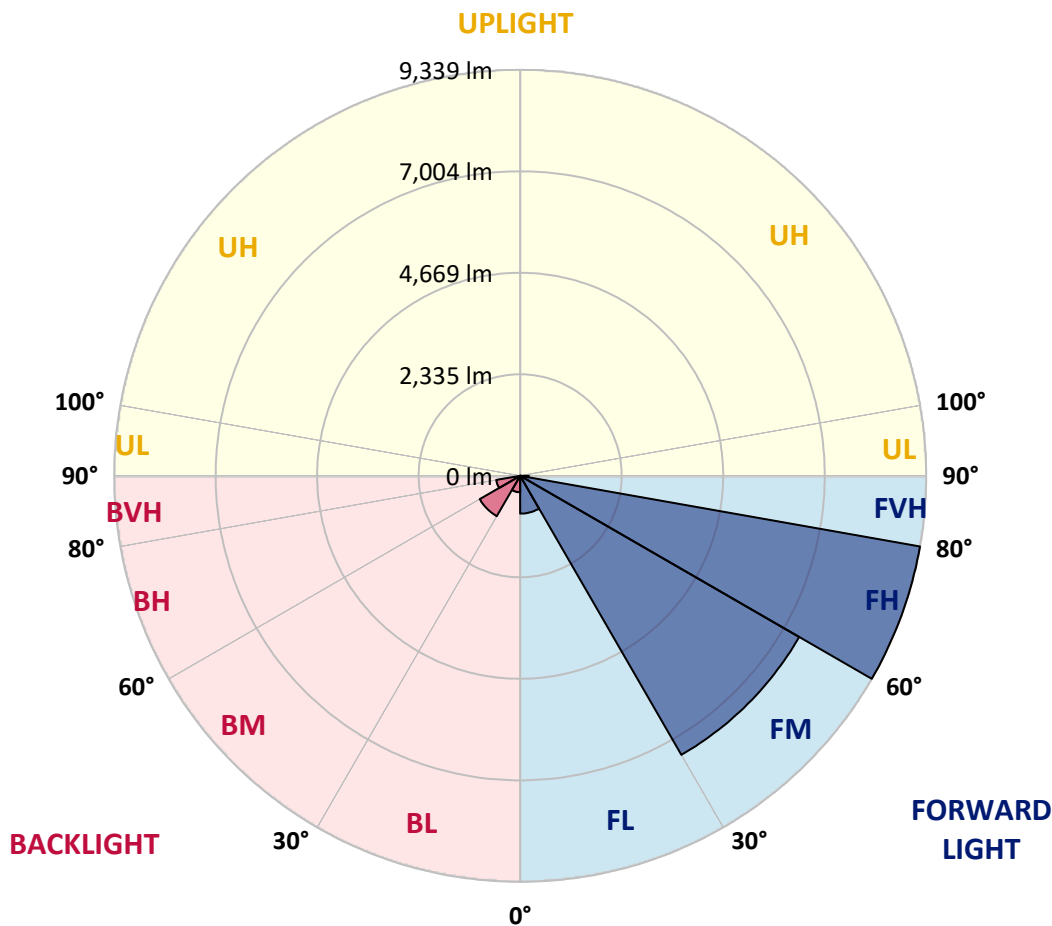
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	869.9	4.4			
FM (30°-60°)	7411.3	37.4			
FH (60°-80°)	9338.6	47.1			G4/12000
FVH (80°-90°)	198.5	1.0			G2/225
BL (0°-30°)	378.3	1.9	B1/500		
BM (30°-60°)	1073.2	5.4	B2/2500		
BH (60°-80°)	559.1	2.8	B2/1000		G2/1000
BVH (80°-90°)	4.1	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	668.2	668.2	668.2	668.2	668.2	668.2	668.2	668.2	668.2	668.2	668.2
2.5°	849.8	822.4	783.0	791.8	796.2	808.2	809.3	794.0	750.2	738.2	791.8
5°	1191.0	1124.3	1112.2	1087.1	1036.8	1009.4	1002.9	1030.2	995.2	984.3	998.5
7.5°	1521.3	1464.4	1402.0	1368.1	1263.2	1198.6	1195.3	1206.3	1212.8	1174.6	1194.3
10°	1741.1	1678.7	1665.6	1585.8	1495.0	1479.7	1473.1	1431.6	1397.7	1369.2	1274.1
12.5°	1940.1	1939.0	1963.1	1848.2	1834.0	1849.3	1843.9	1695.1	1661.2	1542.0	1514.7
15°	2204.8	2270.4	2166.5	2070.3	1947.8	2000.3	1986.0	1890.9	1867.9	1787.0	1670.0
17.5°	2479.3	2496.8	2322.9	2175.2	2143.5	2074.6	2088.8	2054.9	1939.0	2003.5	1887.6
20°	2485.8	2524.1	2338.2	2094.3	2191.7	2188.4	2189.5	2156.7	2003.5	2154.5	2048.4
22.5°	2577.7	2483.7	2310.9	2155.6	2173.1	2189.5	2207.0	2166.5	2133.7	2170.9	2190.6
25°	2540.5	2503.3	2337.1	2234.3	2217.9	2231.0	2235.4	2286.8	2266.0	2355.7	2306.5
27.5°	2636.8	2583.2	2285.7	2304.3	2246.3	2231.0	2204.8	2376.5	2437.7	2366.6	2497.9
30°	2801.9	2794.2	2374.3	2401.6	2356.8	2222.3	2292.3	2516.5	2593.0	2549.3	2708.9
32.5°	3060.0	3086.2	2633.5	2456.3	2479.3	2539.4	2513.2	2516.5	2710.0	2807.4	2934.2
35°	3426.4	3412.2	2886.1	2664.1	2543.8	2553.6	2590.8	2769.1	3019.5	3013.0	3147.5
37.5°	4146.0	3990.7	3333.4	2876.3	2912.4	2961.6	2934.2	3173.7	3197.8	3206.5	3528.1
40°	5206.8	5000.1	4038.8	3323.6	2975.8	3193.4	3180.3	3239.4	3400.1	3460.3	3929.4
42.5°	6604.5	6326.7	5280.1	4146.0	3282.0	3132.2	3213.1	3324.7	3864.9	4036.6	4550.6
45°	8148.7	7586.6	6518.1	5318.4	4049.7	3584.9	3646.2	3854.0	4603.1	4887.5	5455.1
47.5°	9149.4	8655.1	7744.1	6357.3	4850.3	4606.4	4611.9	4656.7	5470.4	5997.5	6758.7
50°	10018.8	9492.8	8647.4	7443.3	6266.5	5805.0	5700.0	5493.3	6575.0	7295.7	8139.9
52.5°	11245.9	10631.3	9550.7	8717.4	7881.8	6794.8	6757.6	6827.6	7877.5	8635.4	9556.2
55°	12352.6	11605.7	10574.4	10049.4	9723.5	8249.3	8281.0	8398.0	9549.6	9951.0	10816.1
57.5°	12841.5	12032.2	11501.8	11265.6	11091.7	10236.5	10129.3	10059.3	10868.6	11021.7	12136.1
60°	13161.9	12392.0	12151.4	12206.1	12733.2	11825.5	11728.2	11321.3	11960.0	12085.8	13319.4
62.5°	12959.6	12257.5	12308.9	12764.9	13935.1	13338.0	13056.9	12376.7	12852.4	12954.1	14169.2
65°	11685.5	10953.9	11614.4	12717.9	14851.6	14837.4	14707.2	13351.1	13346.8	13476.9	14234.8
67.5°	9545.3	8777.5	9846.0	11836.4	14813.3	15746.2	15685.0	14643.8	13417.8	13070.1	12845.9
70°	6636.2	5970.2	7181.9	9774.9	13493.3	15739.6	15641.2	15512.2	12855.7	11250.3	9959.8
72.5°	3448.2	3081.9	4210.5	6735.7	10755.9	13829.1	14153.9	13941.7	10976.8	8173.9	5865.2
75°	1171.3	1051.0	1736.7	3575.1	7150.2	10560.2	10940.8	10725.3	7455.3	4385.5	2319.6
77.5°	453.9	422.1	622.3	1451.3	3587.1	6435.0	6848.4	6628.5	3998.3	1606.6	545.7
80°	258.1	249.3	343.4	654.0	1581.4	3201.1	3492.0	3167.2	1441.4	541.4	142.2
82.5°	109.4	112.6	191.4	353.2	795.1	1129.7	1259.9	1149.4	603.7	370.7	52.5
85°	24.1	29.5	90.8	196.9	333.6	322.6	337.9	375.1	370.7	272.3	23.0
87.5°	0.0	0.0	28.4	53.6	79.8	52.5	41.6	73.3	113.7	109.4	9.8
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°	668.2	668.2	668.2	668.2	668.2	668.2	668.2	668.2	668.2	668.2	668.2
2.5°	801.6	790.7	721.8	717.4	721.8	709.8	708.7	683.5	685.7	742.6	747.0
5°	998.5	943.8	884.8	866.2	848.7	809.3	831.2	831.2	831.2	867.3	878.2
7.5°	1176.8	1103.5	1020.4	950.4	882.6	833.4	867.3	891.3	905.5	952.6	974.4
10°	1257.7	1185.5	1111.1	1011.6	959.1	940.5	901.2	880.4	905.5	895.7	907.7
12.5°	1430.5	1364.9	1236.9	1134.1	1094.7	1031.3	915.4	834.4	780.9	772.1	769.9
15°	1598.9	1558.4	1386.7	1248.9	1112.2	965.7	767.7	660.6	603.7	593.8	594.9
17.5°	1812.2	1754.2	1501.6	1303.6	1071.8	808.2	592.8	500.9	496.5	520.6	522.8
20°	1954.3	1859.2	1559.5	1258.8	938.3	611.3	463.7	441.8	476.8	520.6	516.2
22.5°	2089.9	1987.1	1636.1	1219.4	727.3	463.7	426.5	428.7	458.2	505.3	517.3
25°	2179.6	2142.4	1730.1	1127.5	554.5	401.4	407.9	424.3	449.5	494.3	494.3
27.5°	2449.7	2275.9	1719.2	949.3	426.5	374.0	389.3	410.1	423.2	476.8	482.3
30°	2613.8	2556.9	1776.1	767.7	374.0	339.0	368.6	387.1	395.9	457.1	459.3
32.5°	2815.0	2689.3	1845.0	566.5	347.8	336.8	330.3	344.5	369.6	423.2	426.5
35°	3060.0	3022.8	1746.5	445.1	339.0	315.0	301.8	309.5	325.9	362.0	369.6
37.5°	3559.8	3338.9	1687.5	381.7	339.0	307.3	293.1	273.4	275.6	300.8	315.0
40°	3980.8	3913.0	1522.3	370.7	323.7	296.4	261.4	237.3	220.9	228.6	234.0
42.5°	4754.0	4440.2	1309.1	365.3	309.5	267.9	222.0	196.9	171.7	173.9	182.6
45°	5692.4	5015.4	1118.8	359.8	299.7	239.5	187.0	157.5	131.2	132.3	141.1
47.5°	6945.7	5854.2	888.0	343.4	282.2	213.3	150.9	120.3	105.0	108.3	115.9
50°	8369.6	6590.3	702.1	318.2	261.4	188.1	122.5	97.3	91.9	95.1	103.9
52.5°	9641.5	7132.7	579.6	295.3	231.9	153.1	102.8	86.4	84.2	86.4	93.0
55°	10772.3	7447.7	484.5	269.0	199.0	123.6	93.0	79.8	78.7	77.6	82.0
57.5°	11833.2	7538.4	378.4	227.5	161.9	107.2	86.4	74.4	72.2	68.9	72.2
60°	12606.4	7383.2	277.8	182.6	132.3	97.3	80.9	66.7	63.4	58.0	60.2
62.5°	12979.3	6957.7	210.0	146.5	112.6	88.6	72.2	58.0	53.6	47.0	48.1
65°	12625.0	6256.7	165.1	123.6	96.2	74.4	61.2	49.2	43.7	37.2	37.2
67.5°	11055.6	5190.4	140.0	107.2	80.9	63.4	50.3	44.8	36.1	30.6	29.5
70°	8114.8	3733.7	120.3	94.1	70.0	54.7	42.7	40.5	35.0	29.5	27.3
72.5°	4580.2	2112.9	102.8	83.1	59.1	45.9	36.1	37.2	33.9	27.3	25.2
75°	1747.6	712.0	85.3	68.9	48.1	35.0	30.6	30.6	30.6	23.0	19.7
77.5°	433.1	181.5	67.8	55.8	38.3	23.0	25.2	26.2	26.2	19.7	14.2
80°	119.2	61.2	40.5	40.5	27.3	13.1	17.5	17.5	14.2	6.6	0.0
82.5°	43.7	23.0	14.2	17.5	12.0	4.4	6.6	4.4	3.3	0.0	0.0
85°	18.6	12.0	8.7	9.8	5.5	0.0	1.1	2.2	0.0	0.0	0.0
87.5°	7.7	5.5	4.4	4.4	2.2	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)