

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: P368583

Luminaire Tested: **MSA-SA4D-727-U-SL2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368583  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-727-U-SL2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 18032 lumens  
Efficiency: N/A  
Efficacy: 69.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G3

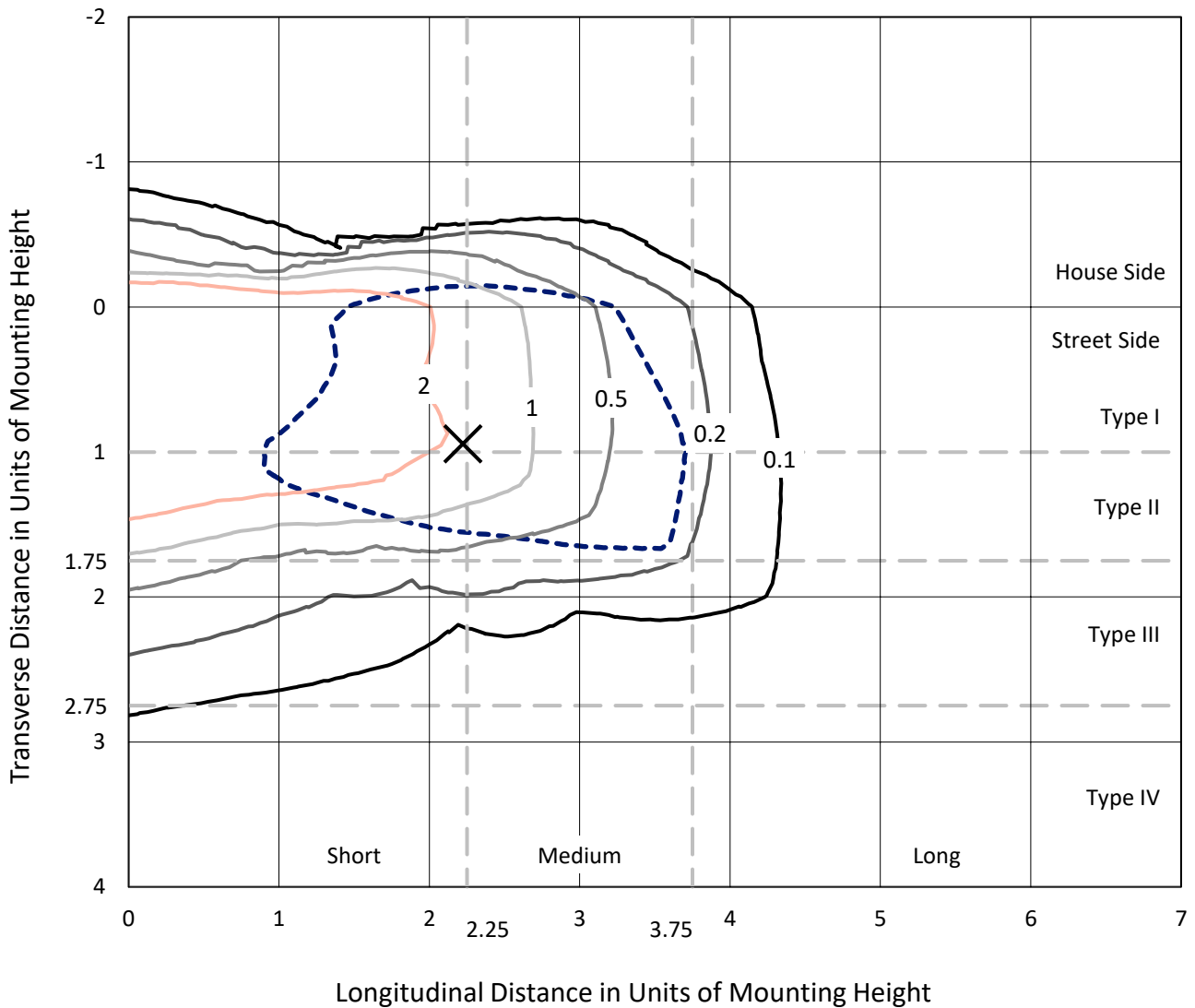
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

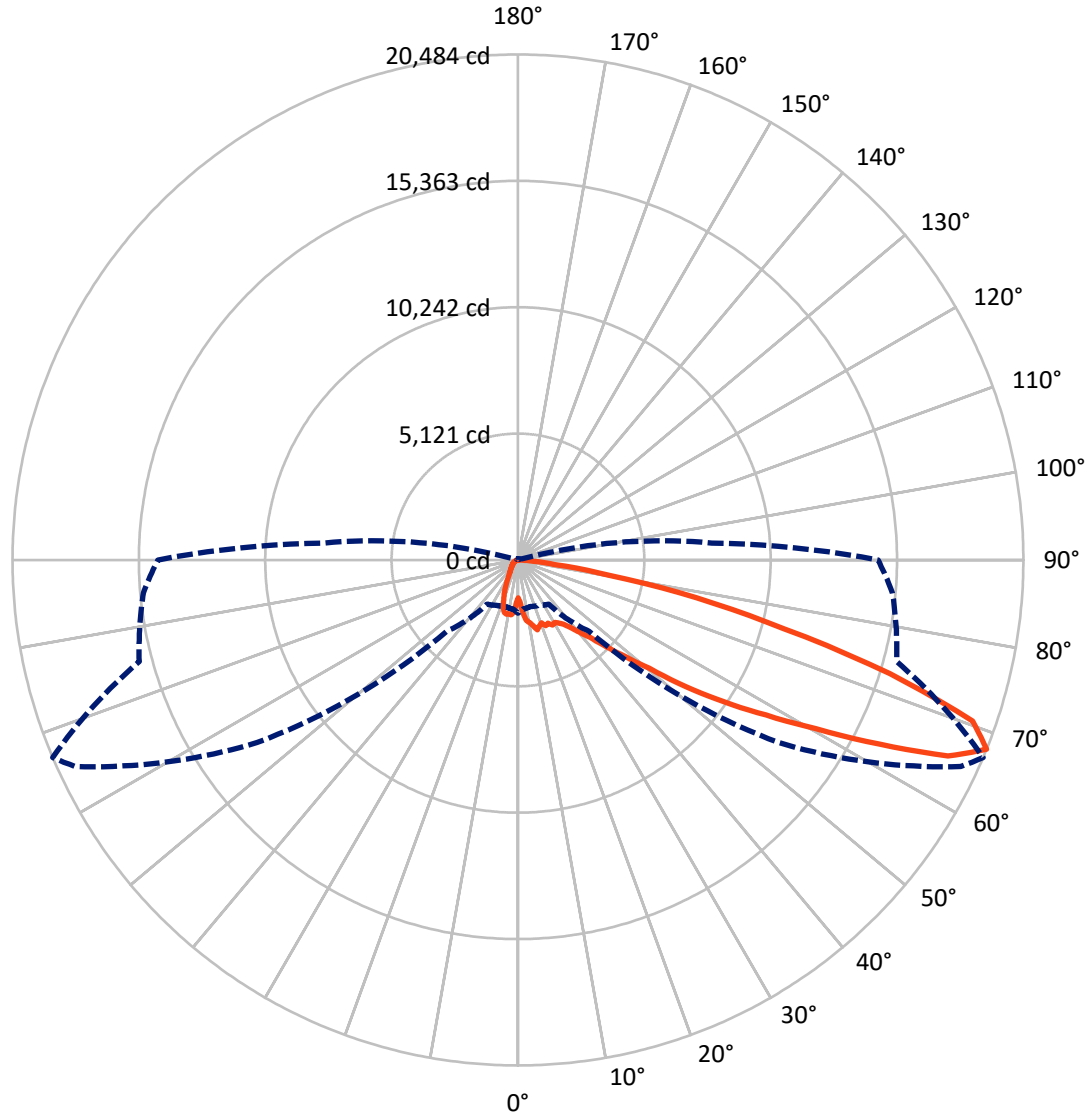
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.8 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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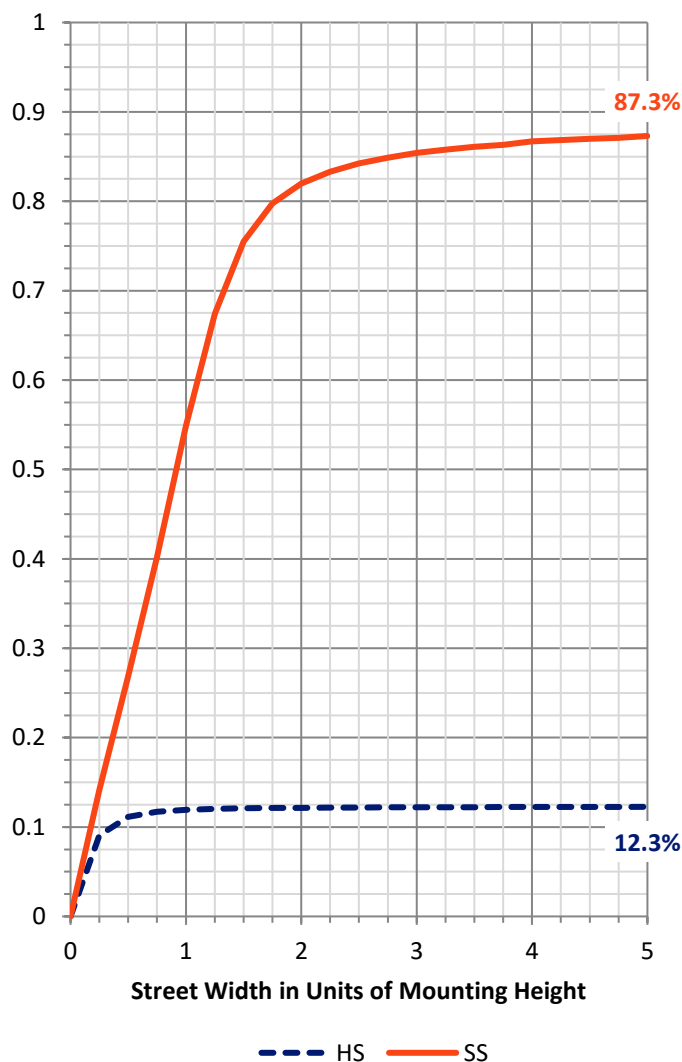
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2230.0	0.0	2230.0
	% Fixture	12.4	0.0	12.4
<b>Street Side</b>	Lumens	15802.0	0.0	15802.0
	% Fixture	87.6	0.0	87.6
<b>Total</b>	Lumens	18032.0	0.0	18032.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	192.8	1.1
10°-20°	570.4	3.2
20°-30°	894.0	5.0
30°-40°	1441.4	8.0
40°-50°	2648.6	14.7
50°-60°	4473.2	24.8
60°-70°	4945.3	27.4
70°-80°	2588.3	14.4
80°-90°	278.0	1.5
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°	18032.0	100.0
0°-180°	18032.0	100.0

**Coefficient of Utilization**

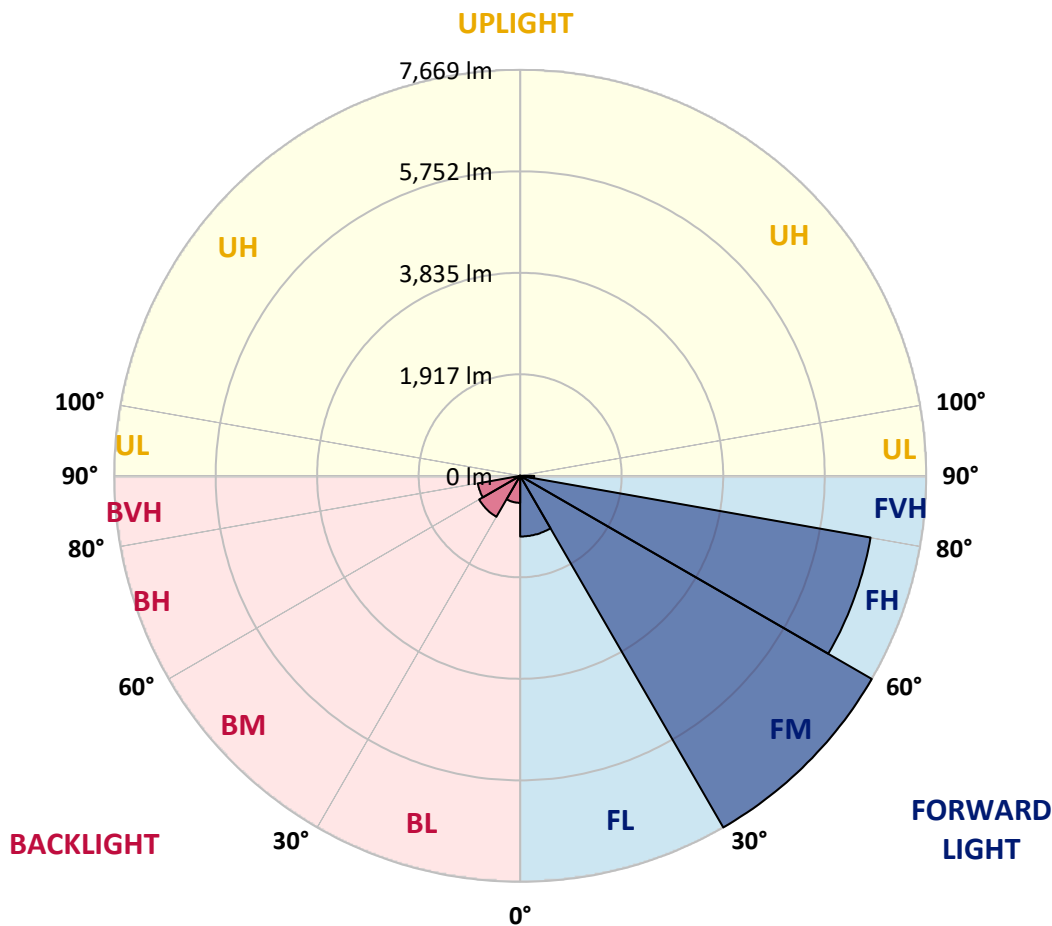


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1146.5	6.4			
FM (30°-60°)	7669.1	42.5			
FH (60°-80°)	6720.2	37.3			G3/7500
FVH (80°-90°)	266.1	1.5			G3/500
BL (0°-30°)	510.6	2.8	B2/1000		
BM (30°-60°)	894.2	5.0	B1/1000		
BH (60°-80°)	813.4	4.5	B2/1000		G2/1000
BVH (80°-90°)	11.8	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8
2.5°	1813.0	1751.7	1647.4	1677.6	1738.0	1788.3	1764.5	1717.9	1718.8	1671.2	1842.3
5°	2109.4	2027.0	1966.7	1987.7	1984.9	1983.1	2095.6	2138.6	2156.9	2235.6	2351.8
7.5°	2194.4	2165.2	2102.0	2121.2	2058.1	2062.7	2260.3	2446.9	2476.2	2524.6	2731.4
10°	2161.5	2104.8	2127.6	2127.6	2128.6	2231.0	2363.6	2542.0	2577.7	2764.3	2786.2
12.5°	2125.8	2128.6	2219.1	2202.7	2327.1	2510.9	2555.7	2756.1	2738.7	2900.6	3141.2
15°	2258.5	2328.0	2269.4	2292.3	2304.2	2520.1	2592.3	2858.5	2935.3	3140.2	3296.7
17.5°	2486.2	2495.4	2373.7	2340.8	2426.8	2488.0	2633.5	2761.5	2812.8	3350.6	3572.0
20°	2527.4	2585.9	2462.4	2272.2	2454.2	2538.4	2639.9	2701.2	2723.1	3415.6	3727.5
22.5°	2775.3	2710.3	2512.7	2368.2	2420.4	2511.8	2574.9	2759.7	2891.4	3293.0	3876.6
25°	2902.4	2885.0	2696.6	2573.1	2520.1	2512.7	2657.3	2797.2	2839.3	3420.2	3913.2
27.5°	3207.0	3167.7	2802.7	2787.2	2612.4	2458.8	2660.0	2911.6	2990.2	3300.3	4050.4
30°	3621.4	3606.8	3121.0	3111.0	2832.9	2556.7	2808.2	2982.0	2934.4	3361.6	4141.9
32.5°	4038.5	4157.4	3660.7	3377.2	3168.6	2916.1	2766.1	2960.0	3045.1	3510.7	4310.2
35°	4542.5	4628.5	4122.7	3916.8	3453.1	3084.4	3045.1	3169.5	3206.1	3688.2	4501.4
37.5°	5424.3	5294.4	4863.6	4513.2	4269.9	3685.4	3491.5	3392.7	3477.8	3928.7	4891.9
40°	6075.6	5993.3	5462.7	5253.3	4693.4	4351.3	3844.6	3752.2	3847.3	4175.7	5163.6
42.5°	6861.3	6690.3	6190.8	6049.1	5472.8	4813.3	4299.2	4331.2	4271.8	4663.3	5640.2
45°	7572.1	7186.1	6908.0	6940.0	6632.7	5741.7	5057.5	5042.0	4992.6	5369.4	6141.5
47.5°	8050.5	7712.9	7442.2	7353.5	7316.9	7374.5	6153.3	5877.1	5840.5	6111.3	6930.9
50°	8307.5	7938.0	7603.2	7621.5	8364.2	8923.1	7283.9	6891.5	6905.2	7187.9	8010.2
52.5°	8134.6	7716.6	7363.5	7706.5	9176.5	9955.8	9155.5	8217.0	8535.3	8463.0	9458.2
55°	7336.1	6972.9	6722.3	7336.1	9265.2	11067.2	11459.7	10212.0	10140.6	9976.0	10934.6
57.5°	5992.4	5679.5	5524.9	6172.6	8294.7	11962.8	13773.9	12466.8	11858.5	11168.8	12160.3
60°	4464.8	4234.3	4073.3	4415.4	6535.7	11092.9	15289.6	14591.7	13887.3	12318.6	13261.7
62.5°	3306.7	3119.2	2948.2	2979.3	4500.4	9540.6	15871.4	16842.8	16438.5	13532.4	14300.8
65°	2639.0	2467.9	2348.1	2279.5	2787.2	7177.8	15061.8	18687.8	19154.3	14675.8	15050.9
67.5°	2155.1	2010.6	1951.1	2029.8	2186.2	4091.6	12899.4	19807.4	20484.3	15888.7	15235.6
70°	1753.5	1634.6	1628.2	1840.4	2013.3	2494.5	9488.4	19034.5	19544.0	16095.5	14127.9
72.5°	1222.1	1169.9	1253.2	1554.1	1995.0	2077.3	5449.0	15751.5	15769.8	14215.7	11620.6
75°	691.5	683.3	815.0	1239.5	1942.9	2056.3	3037.8	11131.3	11139.5	10751.7	8050.5
77.5°	380.5	355.8	474.7	837.9	1668.5	2008.7	1959.3	7600.4	7405.6	5983.2	3677.2
80°	175.6	165.6	257.0	536.9	1220.2	1899.9	1570.6	4177.5	3766.8	1949.3	897.3
82.5°	72.3	68.6	118.0	344.9	771.1	1530.3	1323.6	1853.2	1487.3	370.5	277.2
85°	12.8	13.7	48.5	208.6	431.7	705.3	1073.0	880.0	646.7	102.4	151.8
87.5°	0.0	0.0	10.1	50.3	104.3	193.0	435.4	246.1	169.2	30.2	44.8
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°	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8	1535.8
2.5°	1876.1	1860.5	1703.2	1710.5	1721.5	1711.4	1709.6	1665.7	1625.5	1758.1	1756.3
5°	2372.8	2262.1	2153.3	2111.2	2020.6	1901.7	1902.6	1865.1	1826.7	1880.7	1880.7
7.5°	2726.8	2574.0	2435.9	2189.8	1950.2	1733.4	1714.2	1663.0	1604.4	1674.9	1688.6
10°	2809.1	2676.5	2498.1	2136.8	1909.9	1698.6	1466.3	1275.1	1186.4	1145.2	1137.9
12.5°	3062.5	2963.7	2564.9	2165.2	1838.6	1480.9	1100.4	873.6	719.0	707.1	690.6
15°	3231.7	3162.2	2630.7	2094.7	1536.7	1064.7	691.5	530.5	468.3	462.9	454.6
17.5°	3494.2	3373.5	2567.6	1870.6	1201.9	702.5	464.7	418.9	426.3	442.7	429.9
20°	3601.3	3365.3	2430.4	1545.9	844.3	471.1	403.4	378.7	397.9	413.5	406.1
22.5°	3711.0	3389.1	2308.8	1274.2	551.6	389.7	359.5	346.7	348.5	364.1	365.0
25°	3710.1	3454.9	2167.9	992.5	410.7	346.7	324.7	308.3	301.9	312.8	310.1
27.5°	3890.3	3379.0	1910.9	736.4	361.3	310.1	289.1	268.9	246.1	257.0	257.0
30°	3891.2	3502.5	1731.6	528.7	331.1	276.2	258.0	226.9	200.3	209.5	210.4
32.5°	3994.6	3395.5	1566.0	404.3	307.3	256.1	215.9	187.5	172.0	177.5	177.5
35°	4112.6	3486.9	1311.7	356.7	283.6	227.8	184.8	161.9	150.0	154.6	154.6
37.5°	4502.3	3467.7	1135.2	332.0	268.0	205.8	168.3	142.7	137.2	140.0	143.6
40°	4643.1	3604.0	895.5	317.4	242.4	185.7	148.2	129.0	121.7	123.5	124.4
42.5°	5001.7	3634.2	715.3	305.5	219.5	161.0	131.7	118.0	108.9	108.9	111.6
45°	5397.8	3710.1	569.0	295.5	200.3	144.5	118.9	107.9	94.2	92.4	96.0
47.5°	5971.3	4001.0	463.8	275.3	177.5	134.5	109.8	93.3	82.3	78.7	82.3
50°	6930.9	4495.0	409.8	250.6	161.0	126.2	97.0	79.6	71.3	66.8	69.5
52.5°	8284.6	5348.4	381.4	227.8	146.4	113.4	86.9	69.5	61.3	57.6	59.5
55°	9788.5	6327.1	367.7	204.9	133.5	99.7	75.9	61.3	54.0	49.4	50.3
57.5°	11178.8	7247.4	354.0	182.9	120.7	88.7	66.8	54.0	46.7	42.1	43.0
60°	12549.1	7981.9	321.1	157.3	108.9	79.6	58.5	46.7	42.1	36.6	36.6
62.5°	13761.1	8420.9	273.5	136.3	97.9	70.4	52.1	42.1	38.4	32.9	32.9
65°	14586.2	8441.1	220.4	117.1	86.0	60.4	45.7	39.3	35.7	29.3	28.4
67.5°	14598.1	7892.2	176.5	104.3	75.9	53.1	41.2	37.5	32.9	27.4	25.6
70°	13065.9	6520.1	147.3	91.5	65.9	46.7	35.7	35.7	32.0	26.5	23.8
72.5°	10451.6	4982.5	123.5	79.6	58.5	40.2	32.9	33.8	31.1	26.5	23.8
75°	7025.1	2857.6	102.4	67.7	51.2	33.8	32.0	32.9	32.0	26.5	22.9
77.5°	3235.4	910.1	79.6	55.8	43.9	28.4	31.1	31.1	29.3	23.8	20.1
80°	729.0	224.1	57.6	41.2	35.7	21.0	28.4	25.6	22.9	16.5	11.9
82.5°	265.3	68.6	34.8	25.6	22.0	8.2	18.3	18.3	16.5	11.9	7.3
85°	151.8	35.7	19.2	16.5	11.9	3.7	10.1	11.0	9.1	8.2	3.7
87.5°	49.4	8.2	9.1	10.1	9.1	1.8	3.7	3.7	2.7	1.8	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)