

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: P368605

Luminaire Tested: **MSA-SA4D-730-U-SL2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368605  
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-730-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: 19636 lumens  
Efficiency: N/A  
Efficacy: 75.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G3

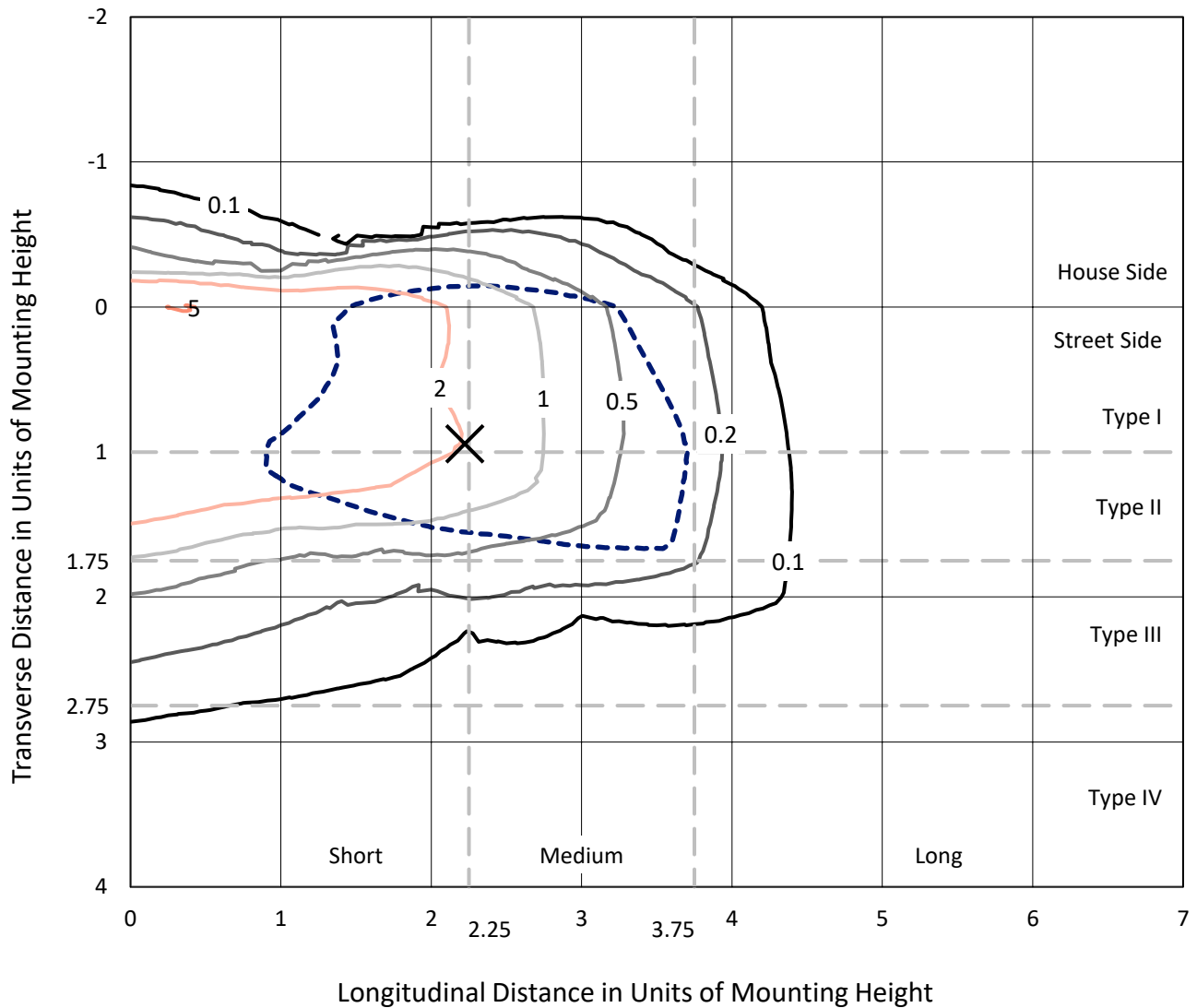
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

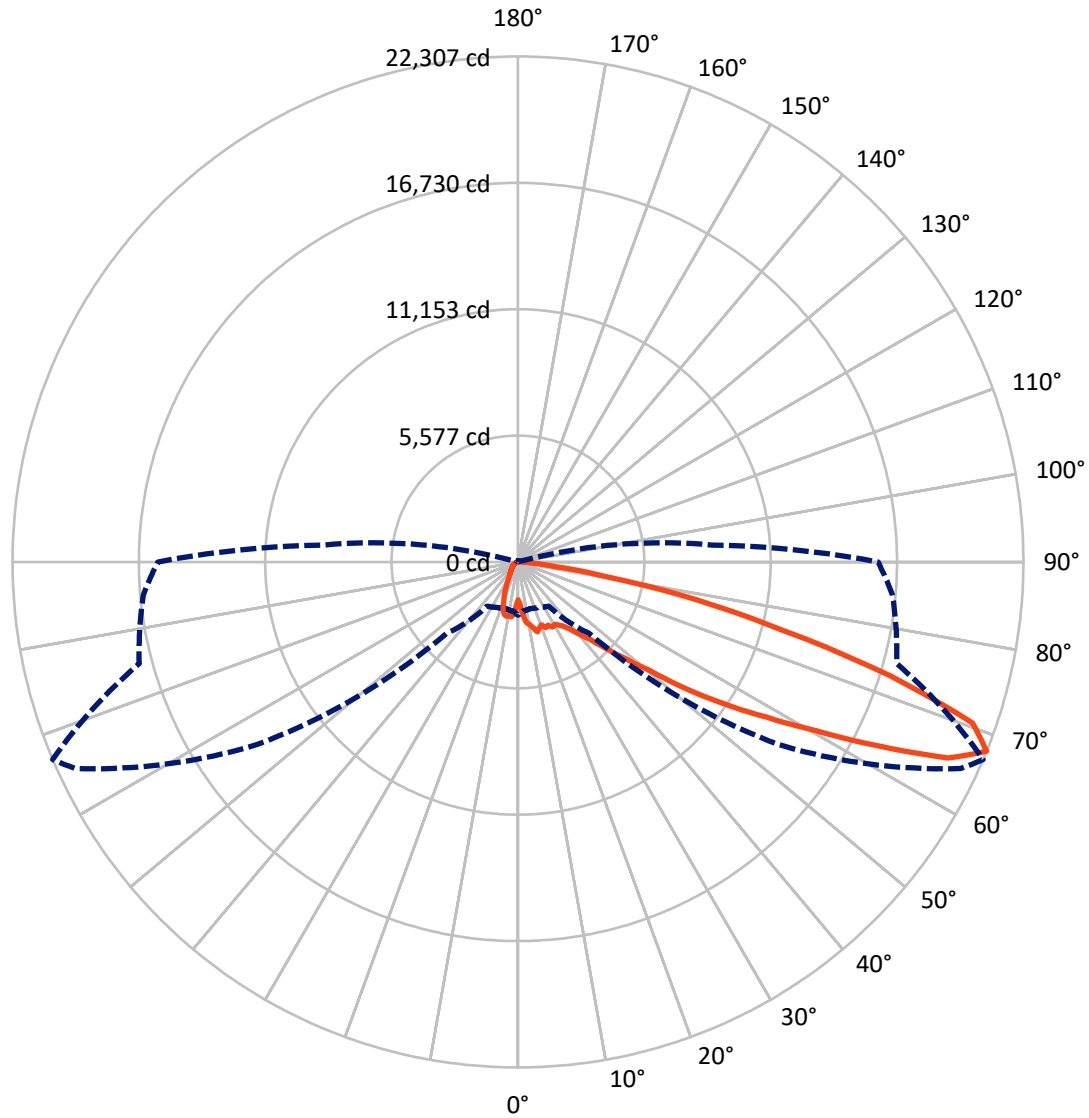
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 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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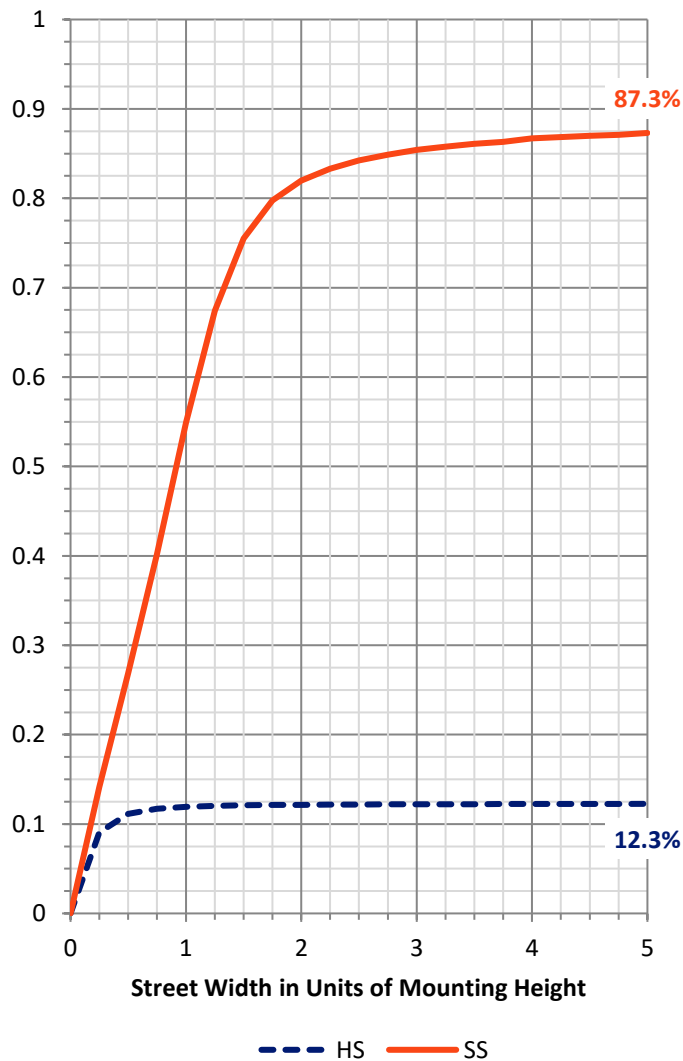
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2428.4	0.0	2428.4
	% Fixture	12.4	0.0	12.4
<b>Street Side</b>	Lumens	17207.6	0.0	17207.6
	% Fixture	87.6	0.0	87.6
<b>Total</b>	Lumens	19636.0	0.0	19636.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	209.9	1.1
10°-20°	621.2	3.2
20°-30°	973.5	5.0
30°-40°	1569.6	8.0
40°-50°	2884.2	14.7
50°-60°	4871.1	24.8
60°-70°	5385.2	27.4
70°-80°	2818.6	14.4
80°-90°	302.7	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°	19636.0	100.0
0°-180°	19636.0	100.0

**Coefficient of Utilization**

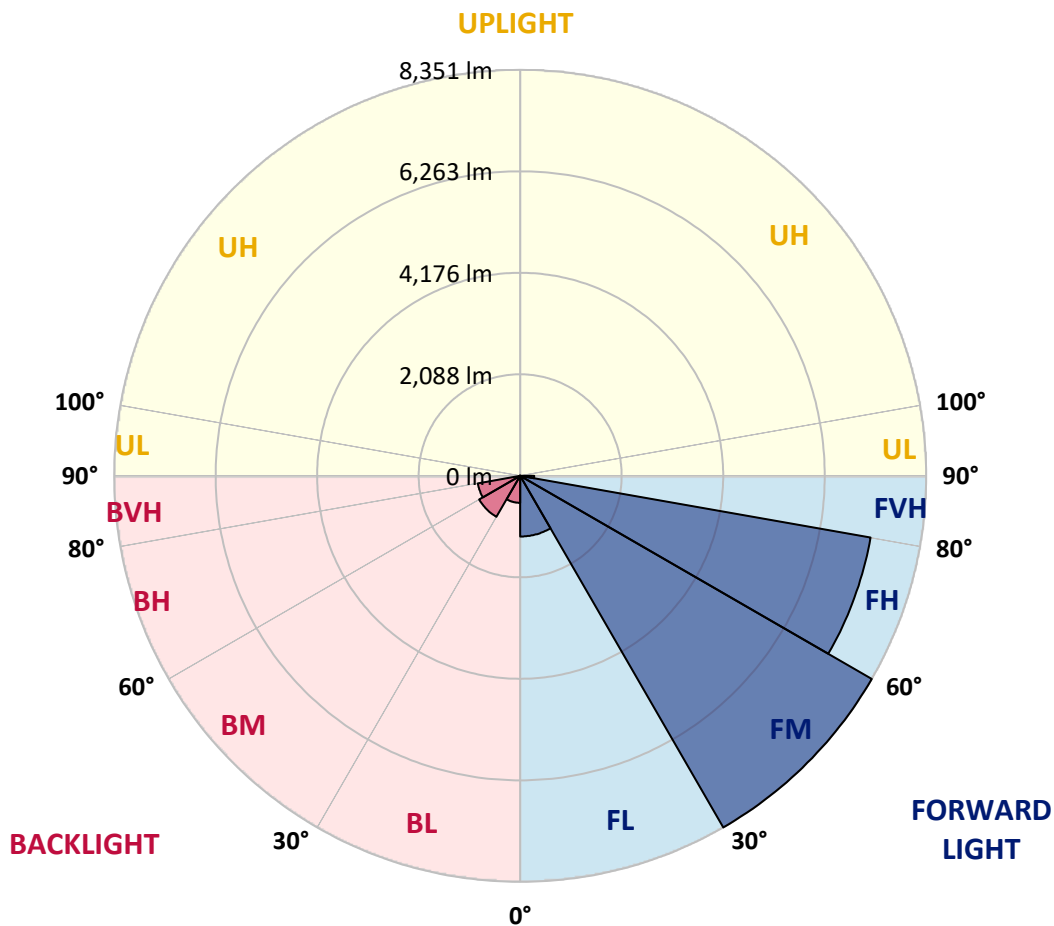


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1248.5	6.4			
FM (30°-60°)	8351.3	42.5			
FH (60°-80°)	7318.0	37.3			G3/7500
FVH (80°-90°)	289.8	1.5			G3/500
BL (0°-30°)	556.0	2.8	B2/1000		
BM (30°-60°)	973.7	5.0	B1/1000		
BH (60°-80°)	885.8	4.5	B2/1000		G2/1000
BVH (80°-90°)	12.9	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°	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4
2.5°	1974.3	1907.5	1794.0	1826.8	1892.6	1947.4	1921.5	1870.7	1871.7	1819.9	2006.1
5°	2297.0	2207.3	2141.6	2164.5	2161.5	2159.5	2282.0	2328.9	2348.8	2434.4	2560.9
7.5°	2389.6	2357.7	2289.0	2309.9	2241.2	2246.2	2461.3	2664.5	2696.4	2749.2	2974.3
10°	2353.8	2292.0	2316.9	2316.9	2317.9	2429.5	2573.9	2768.1	2807.0	3010.2	3034.1
12.5°	2314.9	2317.9	2416.5	2398.6	2534.1	2734.3	2783.1	3001.2	2982.3	3158.6	3420.6
15°	2459.3	2535.1	2471.3	2496.2	2509.2	2744.2	2822.9	3112.8	3196.5	3419.6	3589.9
17.5°	2707.4	2717.3	2584.9	2549.0	2642.6	2709.4	2867.7	3007.2	3063.0	3648.7	3889.7
20°	2752.2	2815.9	2681.5	2474.3	2672.5	2764.2	2874.7	2941.5	2965.4	3719.4	4059.1
22.5°	3022.1	2951.4	2736.3	2578.9	2635.7	2735.3	2804.0	3005.2	3148.6	3585.9	4221.4
25°	3160.6	3141.7	2936.5	2802.0	2744.2	2736.3	2893.6	3046.0	3091.9	3724.4	4261.3
27.5°	3492.3	3449.5	3052.0	3035.1	2844.8	2677.5	2896.6	3170.6	3256.2	3593.9	4410.7
30°	3943.5	3927.6	3398.7	3387.7	3084.9	2784.1	3058.0	3247.3	3195.5	3660.6	4510.3
32.5°	4397.7	4527.2	3986.4	3677.6	3450.5	3175.5	3012.2	3223.3	3316.0	3823.0	4693.6
35°	4946.6	5040.2	4489.4	4265.3	3760.2	3358.8	3316.0	3451.5	3491.3	4016.2	4901.8
37.5°	5906.8	5765.4	5296.2	4914.7	4649.8	4013.2	3802.1	3694.5	3787.1	4278.2	5327.1
40°	6616.0	6526.4	5948.7	5720.5	5110.9	4738.4	4186.6	4086.0	4189.6	4547.2	5622.9
42.5°	7471.7	7285.4	6741.5	6587.1	5959.6	5241.4	4681.6	4716.5	4651.7	5078.1	6141.9
45°	8245.6	7825.3	7522.5	7557.3	7222.7	6252.5	5507.4	5490.5	5436.7	5847.1	6687.8
47.5°	8766.6	8399.0	8104.2	8007.6	7967.7	8030.5	6700.7	6399.9	6360.0	6654.9	7547.4
50°	9046.5	8644.1	8279.5	8299.4	9108.3	9716.9	7931.9	7504.5	7519.5	7827.3	8722.8
52.5°	8858.2	8403.0	8018.5	8392.1	9992.8	10841.5	9969.9	8947.9	9294.5	9215.8	10299.6
55°	7988.6	7593.2	7320.3	7988.6	10089.4	12051.7	12479.0	11120.4	11042.7	10863.4	11907.3
57.5°	6525.4	6184.7	6016.4	6721.6	9032.6	13026.9	14999.1	13575.7	12913.3	12162.3	13242.0
60°	4861.9	4610.9	4435.6	4808.1	7117.1	12079.6	16649.7	15889.6	15122.6	13414.4	14441.3
62.5°	3600.9	3396.7	3210.4	3244.3	4900.8	10389.2	17283.2	18341.0	17900.7	14736.2	15572.9
65°	2873.7	2687.5	2557.0	2482.3	3035.1	7816.3	16401.6	20350.1	20858.1	15981.3	16389.7
67.5°	2346.8	2189.4	2124.7	2210.3	2380.7	4455.5	14046.9	21569.3	22306.5	17302.1	16590.9
70°	1909.5	1780.0	1773.0	2004.1	2192.4	2716.3	10332.4	20727.7	21282.5	17527.2	15384.6
72.5°	1330.8	1274.0	1364.6	1692.4	2172.5	2262.1	5933.7	17152.7	17172.6	15480.2	12654.3
75°	753.0	744.1	887.5	1349.7	2115.7	2239.2	3308.0	12121.4	12130.4	11708.1	8766.6
77.5°	414.4	387.5	517.0	912.4	1816.9	2187.4	2133.6	8276.5	8064.4	6515.4	4004.3
80°	191.2	180.3	279.9	584.7	1328.8	2068.9	1710.3	4549.1	4101.9	2122.7	977.2
82.5°	78.7	74.7	128.5	375.5	839.7	1666.5	1441.3	2018.1	1619.6	403.4	301.8
85°	13.9	14.9	52.8	227.1	470.2	768.0	1168.4	958.2	704.2	111.6	165.4
87.5°	0.0	0.0	11.0	54.8	113.6	210.2	474.1	267.9	184.3	32.9	48.8
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°	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4	1672.4
2.5°	2043.0	2026.0	1854.7	1862.7	1874.6	1863.7	1861.7	1813.9	1770.1	1914.5	1912.5
5°	2583.9	2463.3	2344.8	2299.0	2200.4	2070.9	2071.9	2031.0	1989.2	2048.0	2048.0
7.5°	2969.3	2803.0	2652.6	2384.6	2123.7	1887.6	1866.7	1810.9	1747.1	1823.8	1838.8
10°	3059.0	2914.6	2720.3	2326.9	2079.8	1849.7	1596.7	1388.6	1291.9	1247.1	1239.1
12.5°	3334.9	3227.3	2793.0	2357.7	2002.1	1612.7	1198.3	951.3	782.9	770.0	752.0
15°	3519.2	3443.5	2864.8	2281.0	1673.4	1159.4	753.0	577.7	510.0	504.0	495.1
17.5°	3805.1	3673.6	2796.0	2037.0	1308.9	765.0	506.0	456.2	464.2	482.1	468.2
20°	3921.6	3664.6	2646.6	1683.4	919.4	513.0	439.3	412.4	433.3	450.2	442.3
22.5°	4041.1	3690.5	2514.1	1387.6	600.6	424.3	391.5	377.5	379.5	396.4	397.4
25°	4040.1	3762.2	2360.7	1080.8	447.2	377.5	353.6	335.7	328.7	340.7	337.7
27.5°	4236.4	3679.6	2080.8	801.9	393.5	337.7	314.8	292.9	267.9	279.9	279.9
30°	4237.4	3814.0	1885.6	575.7	360.6	300.8	280.9	247.0	218.1	228.1	229.1
32.5°	4349.9	3697.5	1705.3	440.3	334.7	278.9	235.1	204.2	187.3	193.2	193.2
35°	4478.4	3797.1	1428.4	388.5	308.8	248.0	201.2	176.3	163.4	168.3	168.3
37.5°	4902.8	3776.2	1236.1	361.6	291.9	224.1	183.3	155.4	149.4	152.4	156.4
40°	5056.2	3924.6	975.2	345.6	264.0	202.2	161.4	140.4	132.5	134.5	135.5
42.5°	5446.6	3957.5	778.9	332.7	239.1	175.3	143.4	128.5	118.5	118.5	121.5
45°	5877.9	4040.1	619.6	321.7	218.1	157.4	129.5	117.5	102.6	100.6	104.6
47.5°	6502.5	4356.9	505.0	299.8	193.2	146.4	119.5	101.6	89.6	85.7	89.6
50°	7547.4	4894.8	446.2	272.9	175.3	137.5	105.6	86.7	77.7	72.7	75.7
52.5°	9021.6	5824.1	415.4	248.0	159.4	123.5	94.6	75.7	66.7	62.8	64.7
55°	10659.2	6890.0	400.4	223.1	145.4	108.6	82.7	66.7	58.8	53.8	54.8
57.5°	12173.2	7892.0	385.5	199.2	131.5	96.6	72.7	58.8	50.8	45.8	46.8
60°	13665.4	8691.9	349.6	171.3	118.5	86.7	63.7	50.8	45.8	39.8	39.8
62.5°	14985.2	9170.0	297.8	148.4	106.6	76.7	56.8	45.8	41.8	35.9	35.9
65°	15883.7	9191.9	240.1	127.5	93.6	65.7	49.8	42.8	38.8	31.9	30.9
67.5°	15896.6	8594.3	192.2	113.6	82.7	57.8	44.8	40.8	35.9	29.9	27.9
70°	14228.2	7100.1	160.4	99.6	71.7	50.8	38.8	38.8	34.9	28.9	25.9
72.5°	11381.3	5425.7	134.5	86.7	63.7	43.8	35.9	36.9	33.9	28.9	25.9
75°	7650.0	3111.8	111.6	73.7	55.8	36.9	34.9	35.9	34.9	28.9	24.9
77.5°	3523.2	991.1	86.7	60.8	47.8	30.9	33.9	33.9	31.9	25.9	21.9
80°	793.9	244.0	62.8	44.8	38.8	22.9	30.9	27.9	24.9	17.9	12.9
82.5°	288.9	74.7	37.9	27.9	23.9	9.0	19.9	19.9	17.9	12.9	8.0
85°	165.4	38.8	20.9	17.9	12.9	4.0	11.0	12.0	10.0	9.0	4.0
87.5°	53.8	9.0	10.0	11.0	10.0	2.0	4.0	4.0	3.0	2.0	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)