

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: P368309

Luminaire Tested: **MSA-SA4A-830-U-T3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368309  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-830-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

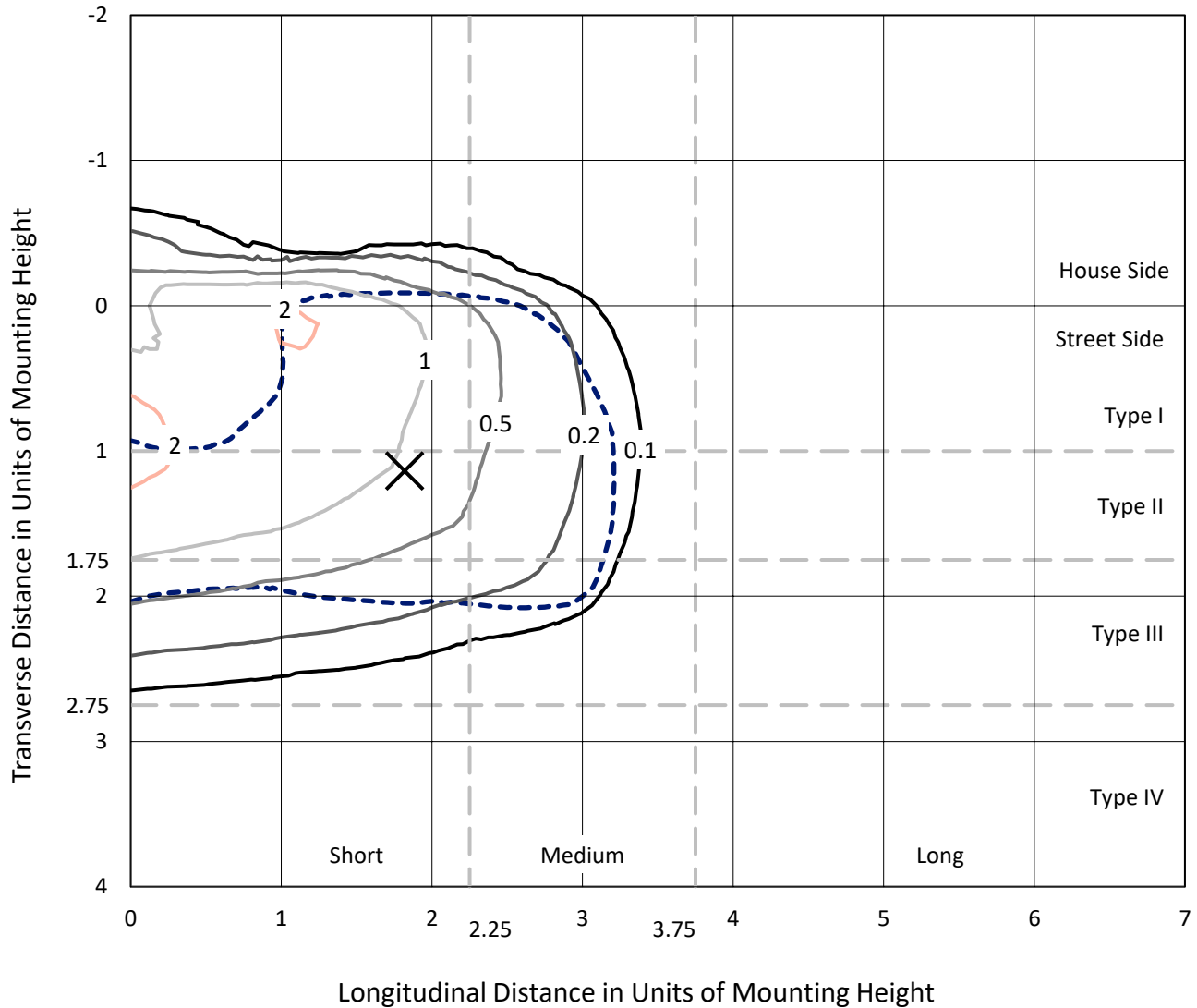
Lumens per Lamp: N/A  
Luminaire Lumens: 9098 lumens  
Efficiency: N/A  
Efficacy: 70.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

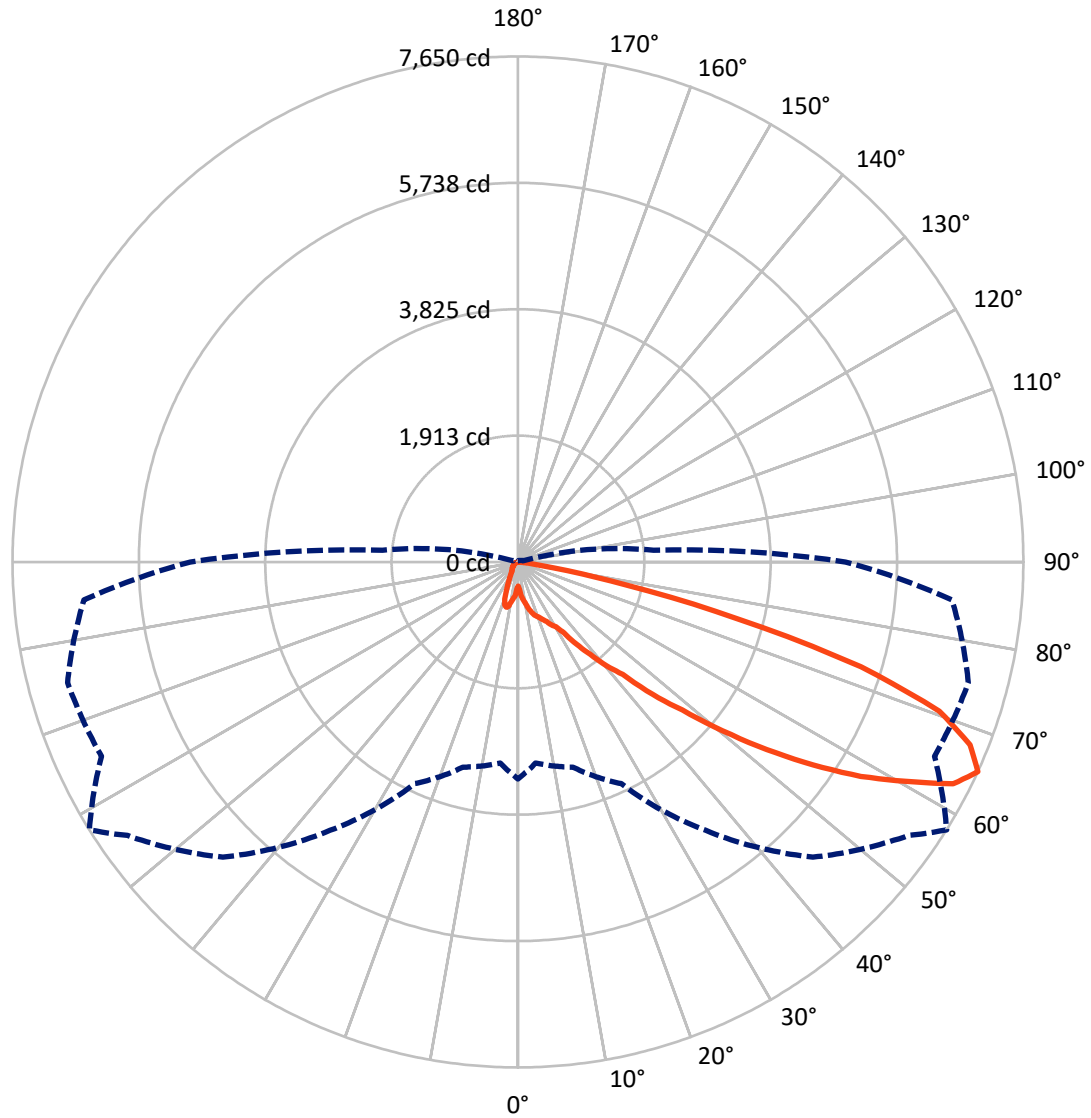
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 fc  
 Type III - Short - N/A

REPORT NUMBER: P368309  
CATALOG NUMBER: MSA-SA4A-830-U-T3-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral      - - - Horizontal Cone Through 65-Deg Vertical

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CATALOG NUMBER: MSA-SA4A-830-U-T3-HSS

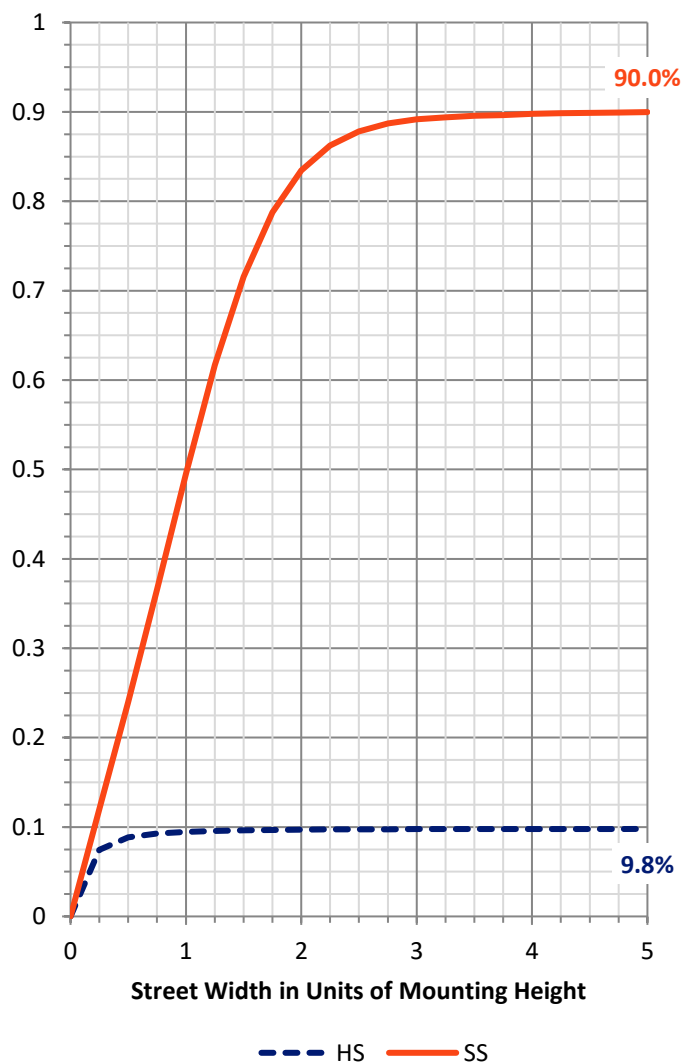
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	897.7	0.0	897.7
	% Fixture	9.9	0.0	9.9
<b>Street Side</b>	Lumens	8200.3	0.0	8200.3
	% Fixture	90.1	0.0	90.1
<b>Total</b>	Lumens	9098.0	0.0	9098.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.2	0.6
10°-20°	186.8	2.1
20°-30°	361.5	4.0
30°-40°	721.2	7.9
40°-50°	1474.5	16.2
50°-60°	2615.2	28.7
60°-70°	2757.2	30.3
70°-80°	893.9	9.8
80°-90°	36.5	0.4
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°	9098.0	100.0
0°-180°	9098.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P368309

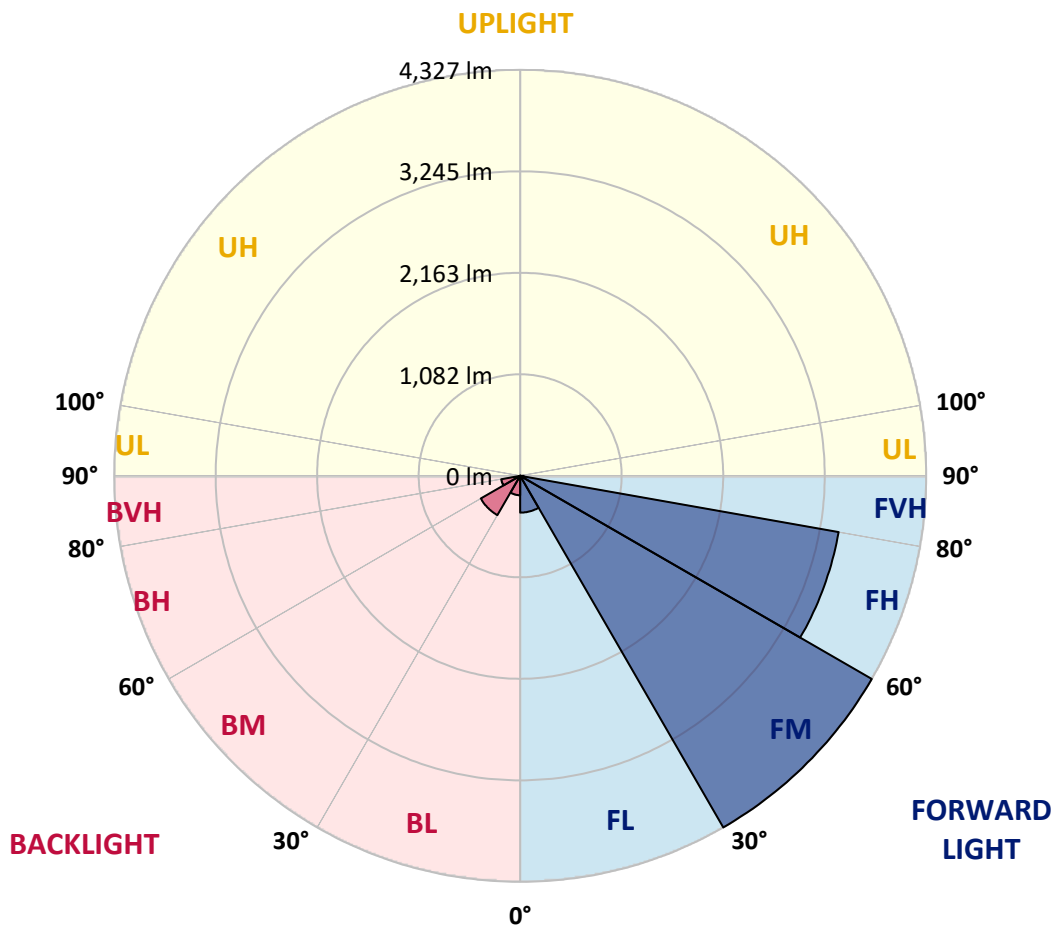
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	392.5	4.3			
FM (30°-60°)	4326.6	47.6			
FH (60°-80°)	3446.2	37.9			G2/5000
FVH (80°-90°)	35.0	0.4			G1/100
BL (0°-30°)	206.9	2.3	B1/500		
BM (30°-60°)	484.4	5.3	B1/1000		
BH (60°-80°)	204.9	2.3	B1/500		G1/500
BVH (80°-90°)	1.5	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-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	364.2	364.2	364.2	364.2	364.2	364.2	364.2	364.2	364.2	364.2	364.2
2.5°	444.6	431.3	410.3	413.9	418.0	426.2	419.5	413.4	406.7	398.0	431.3
5°	536.8	514.8	512.8	508.1	504.6	504.1	512.2	509.7	513.3	529.7	546.6
7.5°	570.6	561.4	544.0	551.2	539.9	531.2	567.6	579.4	601.9	609.6	653.6
10°	567.1	553.7	560.9	564.5	572.2	603.9	627.0	639.8	659.3	701.3	692.6
12.5°	583.4	595.2	602.9	603.4	642.9	701.3	717.7	728.4	763.2	779.6	822.7
15°	638.3	657.7	645.4	650.6	663.4	734.6	773.0	796.5	845.7	899.0	909.7
17.5°	716.6	728.9	703.3	684.9	720.2	759.1	828.8	853.4	884.6	1009.1	1032.2
20°	815.5	836.5	781.2	707.9	754.5	800.6	876.5	888.2	921.5	1083.9	1120.3
22.5°	1046.5	1015.3	930.8	816.5	802.7	823.2	895.4	941.5	997.9	1125.9	1210.4
25°	1274.5	1263.7	1139.2	1011.7	919.5	873.4	969.2	994.8	1087.0	1225.8	1272.4
27.5°	1528.0	1549.5	1341.6	1264.2	1083.4	932.8	1015.3	1079.3	1188.4	1262.2	1374.4
30°	1862.5	1828.2	1584.4	1507.0	1300.6	1096.2	1134.6	1138.7	1299.1	1382.0	1488.6
32.5°	2124.8	2146.8	1840.5	1721.7	1556.7	1347.7	1224.3	1277.5	1392.3	1577.2	1678.1
35°	2408.6	2406.5	2107.9	1948.1	1732.4	1553.1	1490.1	1529.1	1673.0	1882.5	1909.1
37.5°	2832.7	2796.4	2443.9	2209.8	2026.4	1873.3	1825.1	1773.4	1921.9	2121.7	2221.6
40°	3232.8	3107.3	2781.5	2503.9	2269.3	2206.8	2032.6	2064.4	2108.4	2372.2	2648.3
42.5°	3636.9	3559.1	3123.7	2891.1	2602.7	2454.2	2340.5	2325.6	2535.1	2847.6	3132.9
45°	4170.2	3932.0	3583.7	3379.3	3045.3	2896.2	2804.5	2859.4	3047.9	3504.3	3694.3
47.5°	4617.9	4398.7	4099.5	3789.1	3438.7	3606.2	3434.1	3347.5	3606.2	4078.0	4330.5
50°	5002.6	4758.3	4455.5	4225.5	4168.7	4329.5	3981.2	4012.9	4181.0	4735.2	4877.6
52.5°	5282.3	5025.1	4760.8	4649.7	4882.7	4963.7	4789.0	4718.8	4871.5	5295.6	5364.8
55°	5492.8	5229.5	5023.1	5176.2	5627.0	5600.4	5661.9	5422.1	5568.1	5880.1	5847.3
57.5°	5505.6	5193.7	5072.8	5319.2	5938.0	6350.3	6530.1	6122.4	6205.4	6337.0	6263.2
60°	5103.0	4792.6	4782.8	5132.7	6028.1	6544.5	6937.9	6739.1	6628.0	6725.8	6585.9
62.5°	4300.8	4083.6	4185.1	4571.8	5692.6	6437.4	7155.1	7394.3	6961.4	6983.5	6784.7
65°	3284.0	3056.1	3214.9	3702.0	4959.1	6317.5	7216.5	7650.4	6955.3	7056.7	6594.1
67.5°	2175.0	2042.8	2222.6	2759.5	3942.8	5576.8	7184.8	7381.5	6734.5	6770.4	5886.7
70°	1122.8	1090.6	1236.1	1659.7	2650.9	4284.4	6872.8	6765.2	6286.3	5832.4	4540.6
72.5°	359.6	361.1	501.0	758.1	1429.2	2608.4	5282.8	5430.3	5030.3	4266.5	2772.3
75°	159.3	156.7	209.5	318.1	595.7	1169.5	3282.0	3441.3	3131.9	2347.1	1165.4
77.5°	114.7	111.2	134.2	185.9	295.1	396.5	1538.8	1660.7	1419.9	813.4	266.9
80°	80.9	80.4	97.3	130.6	184.4	176.2	486.1	545.0	436.4	197.2	78.4
82.5°	45.6	47.1	67.6	92.2	112.2	88.1	136.8	150.6	147.0	105.0	34.3
85°	22.0	24.6	44.1	66.6	58.9	34.3	48.7	52.8	61.5	61.0	17.4
87.5°	0.0	0.0	17.9	30.2	15.9	5.1	14.9	16.9	16.4	19.5	4.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P368309  
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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	364.2	364.2	364.2	364.2	364.2	364.2	364.2	364.2	364.2	364.2	364.2
2.5°	438.0	434.9	396.0	399.0	407.7	404.2	407.2	400.1	391.9	425.2	424.7
5°	553.7	530.7	518.4	507.1	509.2	486.1	499.4	505.6	504.6	523.5	528.6
7.5°	655.2	624.4	599.8	576.3	540.4	508.1	528.1	540.9	549.6	582.4	595.2
10°	702.8	677.7	668.0	621.9	596.3	576.3	552.2	534.8	542.0	533.2	542.0
12.5°	807.3	790.4	753.0	706.4	675.7	634.7	545.0	470.2	424.1	424.7	421.6
15°	902.6	901.6	845.7	768.4	679.2	562.4	422.6	328.3	284.8	272.5	268.4
17.5°	1027.1	1011.7	909.7	795.5	635.2	435.4	287.9	224.9	220.8	227.9	224.9
20°	1106.5	1083.9	941.5	756.1	523.5	294.5	217.2	199.3	211.6	221.8	219.2
22.5°	1185.8	1152.0	965.6	707.9	372.4	215.7	196.2	193.1	200.8	213.6	215.7
25°	1229.4	1222.7	1012.7	617.8	255.1	189.0	189.0	188.0	190.6	199.8	198.2
27.5°	1355.9	1265.8	977.4	482.0	197.2	173.7	176.2	175.2	166.0	175.2	175.7
30°	1434.8	1393.3	979.9	343.2	173.7	153.7	160.3	152.1	138.3	146.0	144.5
32.5°	1593.6	1490.1	972.2	231.5	158.3	146.5	136.3	124.5	114.2	117.3	114.7
35°	1778.5	1699.6	868.3	185.9	147.5	129.6	113.2	101.4	90.7	93.2	92.7
37.5°	2146.3	1895.8	782.2	167.5	140.4	118.8	99.9	83.5	77.9	79.4	80.9
40°	2487.0	2223.1	621.9	159.3	128.1	106.0	82.5	70.7	67.1	68.1	69.7
42.5°	2996.1	2483.4	469.7	151.1	115.8	89.6	68.6	61.0	57.4	59.4	60.4
45°	3488.9	2704.7	350.9	143.9	105.5	77.3	57.9	52.8	48.7	50.2	52.2
47.5°	3981.2	2950.5	261.8	132.7	94.3	66.6	49.7	46.1	43.5	44.1	46.6
50°	4421.7	3065.3	205.9	118.8	85.0	57.9	45.1	41.5	40.5	41.0	43.0
52.5°	4745.4	3066.3	173.7	106.5	76.3	51.2	42.5	38.4	37.9	38.9	41.0
55°	5037.9	2984.3	150.6	95.8	68.6	46.6	40.5	36.9	36.9	37.9	40.0
57.5°	5232.1	2833.7	130.6	84.5	62.0	44.1	38.9	35.3	34.8	34.3	35.9
60°	5326.8	2628.3	110.6	74.3	55.8	42.5	37.9	31.2	30.7	29.7	30.7
62.5°	5266.9	2371.2	92.7	64.0	49.7	40.5	33.3	27.1	26.1	24.1	25.6
65°	4960.6	2058.7	78.4	54.8	43.0	34.3	28.2	23.1	20.5	17.9	17.4
67.5°	4334.1	1672.5	65.6	47.1	36.9	28.2	23.1	20.5	15.9	13.8	13.3
70°	3248.2	1141.8	54.3	40.5	30.7	24.1	19.5	18.4	14.9	13.3	12.3
72.5°	1905.6	616.2	45.6	35.3	26.1	20.0	15.9	16.9	14.9	12.3	11.3
75°	761.2	204.9	36.4	28.2	21.0	14.3	13.3	13.8	13.3	11.3	9.2
77.5°	173.7	64.5	28.2	22.0	16.4	9.2	10.8	11.8	11.8	9.2	6.7
80°	54.3	25.6	16.4	13.8	11.8	5.1	7.7	8.2	5.6	2.6	0.0
82.5°	17.4	7.2	5.6	5.6	5.1	1.0	1.5	1.0	0.0	0.0	0.0
85°	6.7	4.6	3.6	3.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	2.6	2.0	1.5	2.0	1.0	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)