

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: P368697

Luminaire Tested: **MSA-SA4D-830-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368697  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-830-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17289 lumens  
Efficiency: N/A  
Efficacy: 66.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G4

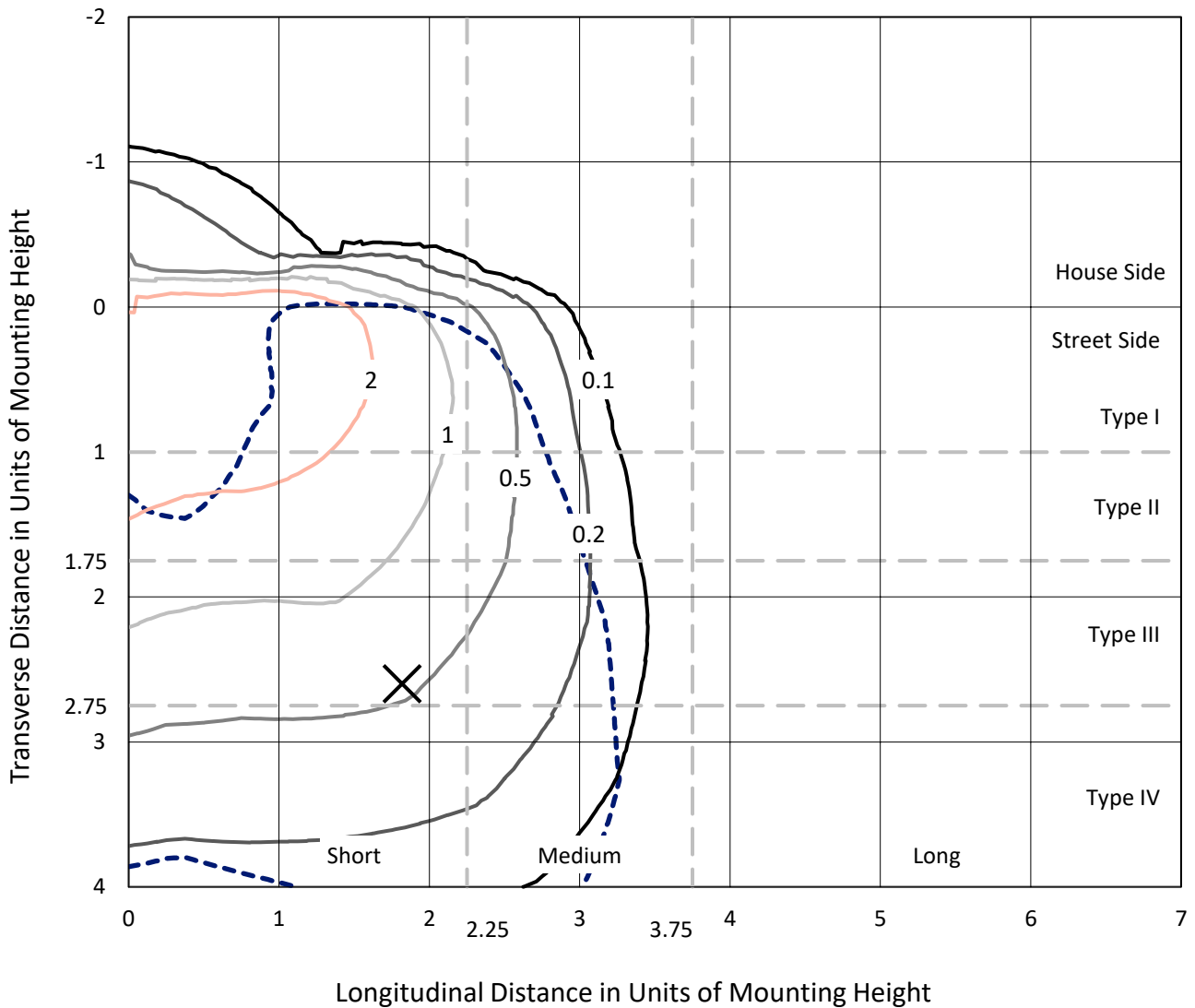
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

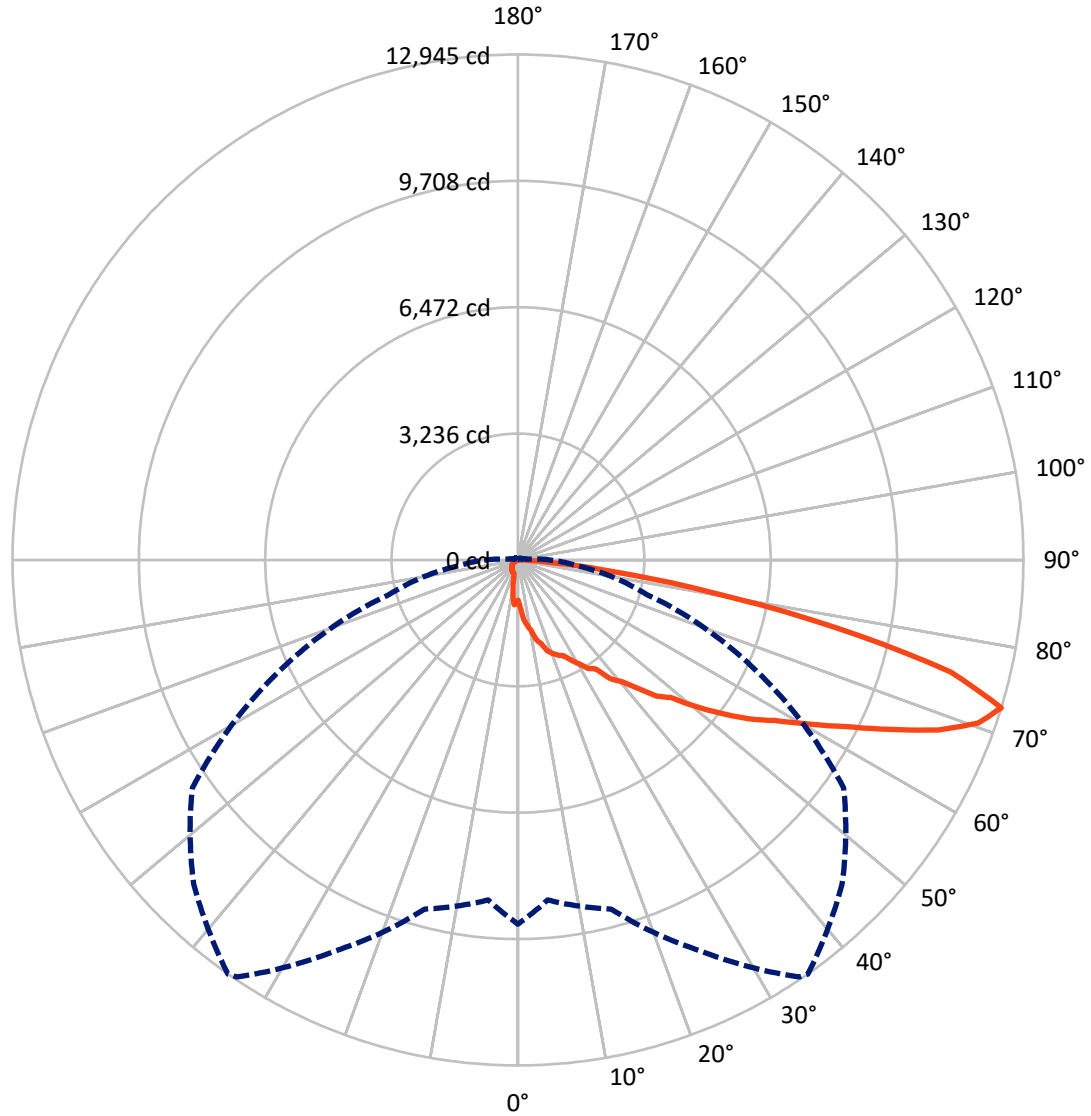
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1348.5	0.0	1348.5
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	15940.5	0.0	15940.5
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	17289.0	0.0	17289.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.3	0.8
10°-20°	442.5	2.6
20°-30°	805.7	4.7
30°-40°	1389.8	8.0
40°-50°	2470.6	14.3
50°-60°	3686.8	21.3
60°-70°	4710.2	27.2
70°-80°	3277.1	19.0
80°-90°	374.9	2.2
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°	17289.0	100.0
0°-180°	17289.0	100.0

**Coefficient of Utilization**

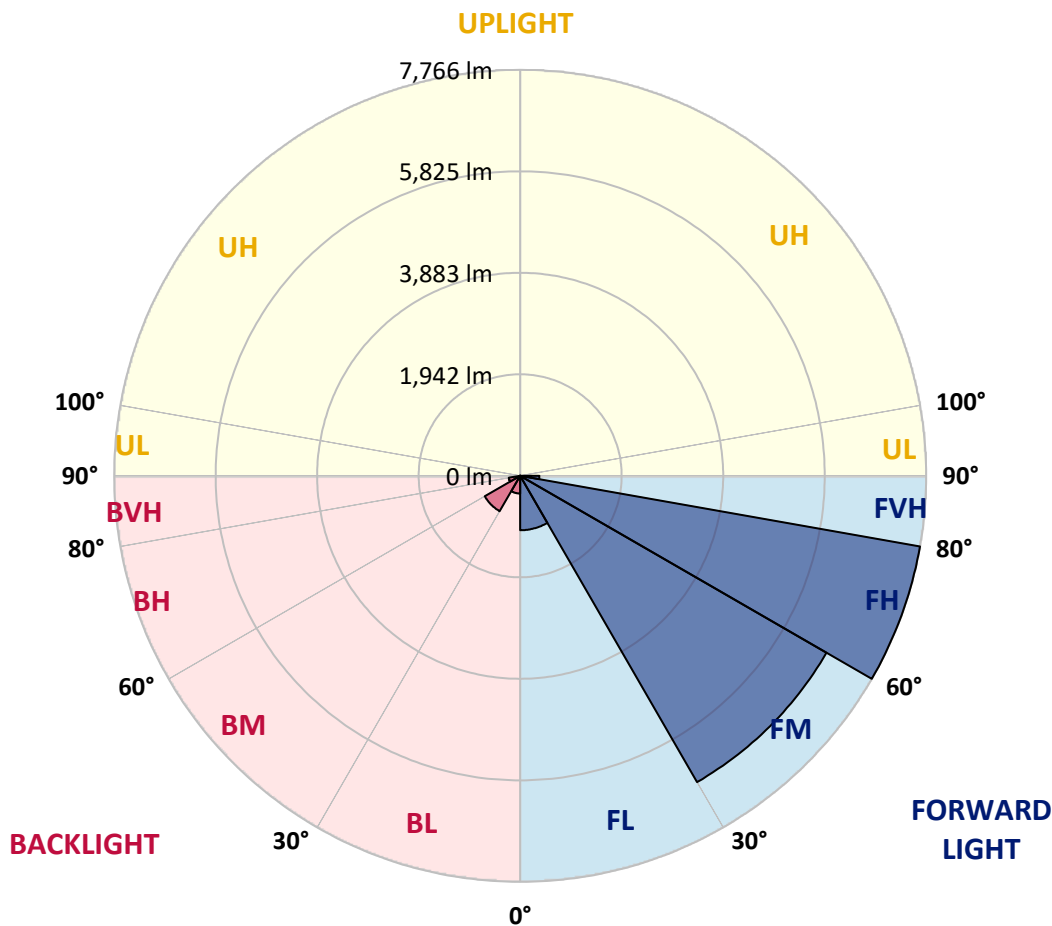


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1040.4	6.0			
FM (30°-60°)	6765.3	39.1			
FH (60°-80°)	7766.3	44.9			G4/12000
FVH (80°-90°)	368.6	2.1			G3/500
BL (0°-30°)	339.2	2.0	B1/500		
BM (30°-60°)	782.0	4.5	B1/1000		
BH (60°-80°)	221.1	1.3	B1/500		G1/500
BVH (80°-90°)	6.3	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-G4**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9
2.5°	1310.6	1259.4	1175.9	1182.0	1219.4	1227.2	1238.5	1208.9	1182.9	1136.8	1226.3
5°	1679.1	1605.3	1558.3	1543.6	1521.8	1523.6	1470.5	1489.7	1484.5	1518.3	1559.2
7.5°	1886.9	1846.0	1786.9	1770.4	1690.4	1681.7	1616.6	1704.3	1713.0	1700.9	1767.8
10°	1969.4	1915.5	1922.5	1860.8	1820.8	1831.2	1841.7	1848.6	1859.9	1871.2	1789.5
12.5°	2018.1	2027.6	2122.4	2058.1	2098.0	2098.0	2168.4	2093.7	2096.3	2014.6	2028.5
15°	2237.1	2290.1	2247.5	2246.7	2203.2	2214.5	2296.2	2237.1	2267.5	2243.2	2149.3
17.5°	2511.7	2522.2	2441.3	2405.7	2444.8	2445.7	2410.9	2408.3	2302.3	2481.3	2367.5
20°	2599.5	2658.6	2543.9	2404.8	2567.4	2559.5	2556.9	2516.1	2339.7	2588.2	2494.4
22.5°	2838.5	2754.2	2676.0	2584.8	2648.2	2648.2	2638.6	2549.1	2480.5	2578.7	2618.6
25°	2913.3	2923.7	2822.0	2792.5	2794.2	2716.0	2709.0	2670.8	2604.7	2772.5	2692.5
27.5°	3170.5	3166.2	2922.0	3004.5	2899.4	2900.2	2708.2	2794.2	2805.5	2782.0	2871.6
30°	3423.5	3493.8	3125.3	3229.6	3119.3	3086.2	2898.5	2975.0	2995.0	2968.0	3081.0
32.5°	3745.9	3849.3	3491.2	3388.7	3220.1	3313.9	3184.4	3003.7	3102.7	3343.5	3406.9
35°	4087.5	4137.9	3756.3	3612.9	3422.6	3421.7	3417.4	3432.1	3541.7	3812.8	3866.7
37.5°	4701.1	4582.0	4236.9	3908.4	3951.0	3856.3	3790.2	3859.7	3973.6	4420.3	4650.6
40°	5043.5	4957.4	4471.6	4276.9	4065.7	4100.5	4279.5	4271.7	4575.0	5042.6	5387.7
42.5°	5376.4	5294.7	4816.6	4659.3	4388.2	4482.9	4561.1	4660.2	5281.6	6036.0	6225.5
45°	5672.7	5432.8	5095.6	5101.7	4960.9	4972.2	5110.4	5201.7	6100.3	6873.8	7006.8
47.5°	5851.8	5654.5	5331.2	5325.1	5316.4	5263.4	5914.3	5997.8	6753.0	7671.7	7683.9
50°	6103.8	5857.0	5573.6	5578.9	5779.6	5891.7	6668.7	6660.0	7383.1	8337.4	8056.7
52.5°	6417.6	6116.0	5804.0	6036.0	6346.3	6528.8	7159.8	7417.0	8060.2	8755.5	8202.7
55°	6819.1	6441.9	6141.2	6438.4	7115.5	7185.9	7640.4	8183.6	8798.1	9182.2	8249.7
57.5°	7290.2	6839.9	6596.6	7075.5	7750.8	7752.5	8340.0	9000.6	9250.9	9356.0	8196.6
60°	7797.7	7272.8	7027.7	7458.8	8451.3	8522.6	9117.9	9451.6	9710.6	9443.8	8101.9
62.5°	8244.4	7664.7	7474.4	7981.1	9219.6	9388.2	9795.8	9748.0	10042.6	9554.2	7861.2
65°	8776.3	8172.3	8047.2	8795.5	10222.6	10454.6	10557.2	10273.8	10153.9	9469.0	7234.5
67.5°	9303.0	8738.1	8734.6	9698.5	11537.5	11617.5	11509.7	11015.2	10024.4	8718.1	6086.4
70°	9674.1	9067.5	9296.1	10687.5	12732.6	12508.3	12054.6	11365.4	9089.2	6681.8	3976.2
72.5°	9325.6	8740.7	9256.1	11039.5	12880.3	12944.6	11739.2	10180.8	6753.0	3417.4	1439.3
75°	7086.8	6728.7	8036.7	9794.1	11435.8	11450.6	9798.4	7180.6	3325.2	928.2	398.1
77.5°	3569.5	3455.6	5086.9	6952.9	8343.5	8319.2	6732.2	3846.7	1069.9	308.5	200.8
80°	1806.9	1715.6	2165.0	3751.1	4954.8	4991.3	3844.1	1722.6	539.7	167.7	139.1
82.5°	1109.9	1053.4	1184.6	1697.4	2404.8	2463.1	1458.4	1090.7	334.6	99.1	126.9
85°	214.7	226.0	680.5	850.0	960.4	937.8	432.0	897.8	100.8	59.1	92.1
87.5°	0.0	3.5	157.3	277.2	278.1	246.8	98.2	199.0	13.9	16.5	11.3
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°	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9	1029.9
2.5°	1241.1	1228.1	1119.4	1107.3	1109.9	1091.6	1085.5	1047.3	1037.7	1096.8	1107.3
5°	1541.8	1454.9	1354.1	1317.6	1261.1	1165.5	1151.6	1127.2	1100.3	1110.7	1102.9
7.5°	1726.1	1610.5	1502.7	1310.6	1151.6	1012.5	989.9	948.2	906.5	907.4	934.3
10°	1755.6	1658.3	1509.7	1275.9	1094.2	920.4	769.2	659.7	610.1	565.8	578.8
12.5°	1926.8	1836.4	1562.7	1265.4	1010.8	739.6	541.5	434.6	387.6	372.0	370.2
15°	2064.2	1992.9	1653.1	1233.3	825.7	520.6	387.6	356.3	347.6	362.4	358.1
17.5°	2268.4	2139.8	1643.5	1100.3	629.2	395.4	357.2	352.9	363.3	372.0	374.6
20°	2357.9	2172.8	1578.3	891.7	471.1	362.4	348.5	339.8	358.9	385.0	379.8
22.5°	2448.3	2229.3	1501.8	730.1	378.9	346.8	339.0	332.0	346.8	372.0	378.1
25°	2489.2	2319.7	1416.7	570.1	352.0	328.5	323.3	325.9	338.1	360.7	358.1
27.5°	2695.1	2330.1	1254.1	450.2	340.7	315.5	315.5	321.6	321.6	352.0	349.4
30°	2823.8	2506.5	1122.0	378.9	327.7	297.2	307.7	310.3	305.9	339.0	341.6
32.5°	3049.7	2555.2	993.4	347.6	306.8	294.6	292.9	294.6	298.1	330.3	331.1
35°	3397.4	2795.1	817.8	335.5	296.4	281.6	269.4	279.0	287.7	311.1	315.5
37.5°	4077.0	3041.0	666.6	325.9	291.2	269.4	265.1	263.3	279.0	305.9	314.6
40°	4627.2	3476.5	542.3	318.1	280.7	262.5	251.2	252.0	265.9	285.9	299.0
42.5°	5405.9	3791.1	459.8	305.9	265.9	247.7	234.7	242.5	248.6	269.4	278.1
45°	6056.0	4035.3	405.0	298.1	251.2	233.8	223.4	232.1	226.0	236.4	248.6
47.5°	6573.1	4248.2	364.2	279.0	241.6	226.0	212.9	210.3	199.9	202.5	213.8
50°	6857.3	4212.6	330.3	259.9	229.4	218.1	199.9	181.6	167.7	166.9	173.8
52.5°	6958.1	4022.3	302.5	243.4	214.7	200.8	179.9	154.7	140.8	136.5	142.5
55°	6986.0	3748.5	277.2	225.1	200.8	179.0	157.3	130.4	115.6	108.6	114.7
57.5°	6895.6	3327.0	252.9	207.7	184.3	158.2	134.7	106.9	93.0	84.3	89.5
60°	6672.2	2791.6	231.2	186.0	166.9	139.9	113.9	86.0	71.3	63.4	66.1
62.5°	6177.7	2188.4	207.7	166.0	148.6	122.5	95.6	67.8	53.9	46.9	47.8
65°	5425.0	1631.3	180.8	146.9	132.1	106.0	76.5	52.1	40.8	34.8	33.9
67.5°	4322.1	1105.5	153.8	126.9	117.3	89.5	60.8	40.8	32.2	27.8	26.1
70°	2540.4	557.1	127.8	109.5	100.8	74.7	47.8	33.0	29.5	26.1	24.3
72.5°	837.8	240.7	99.9	90.4	83.4	60.0	37.4	30.4	28.7	25.2	23.5
75°	292.0	139.1	73.9	69.5	66.1	45.2	31.3	27.8	27.8	24.3	21.7
77.5°	191.2	107.8	54.8	50.4	49.5	33.0	26.9	26.1	24.3	20.0	16.5
80°	159.0	60.8	38.2	35.6	34.8	20.9	21.7	19.1	14.8	8.7	3.5
82.5°	146.9	36.5	20.0	21.7	20.0	7.8	12.2	10.4	7.8	3.5	0.0
85°	86.0	16.5	11.3	11.3	8.7	1.7	6.1	6.1	3.5	0.9	0.0
87.5°	9.6	7.8	6.1	6.1	4.3	0.0	2.6	1.7	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)