

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: P368147

Luminaire Tested: **MSA-SA3D-760-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368147  
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-SA3D-760-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 16462 lumens  
Efficiency: N/A  
Efficacy: 85.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

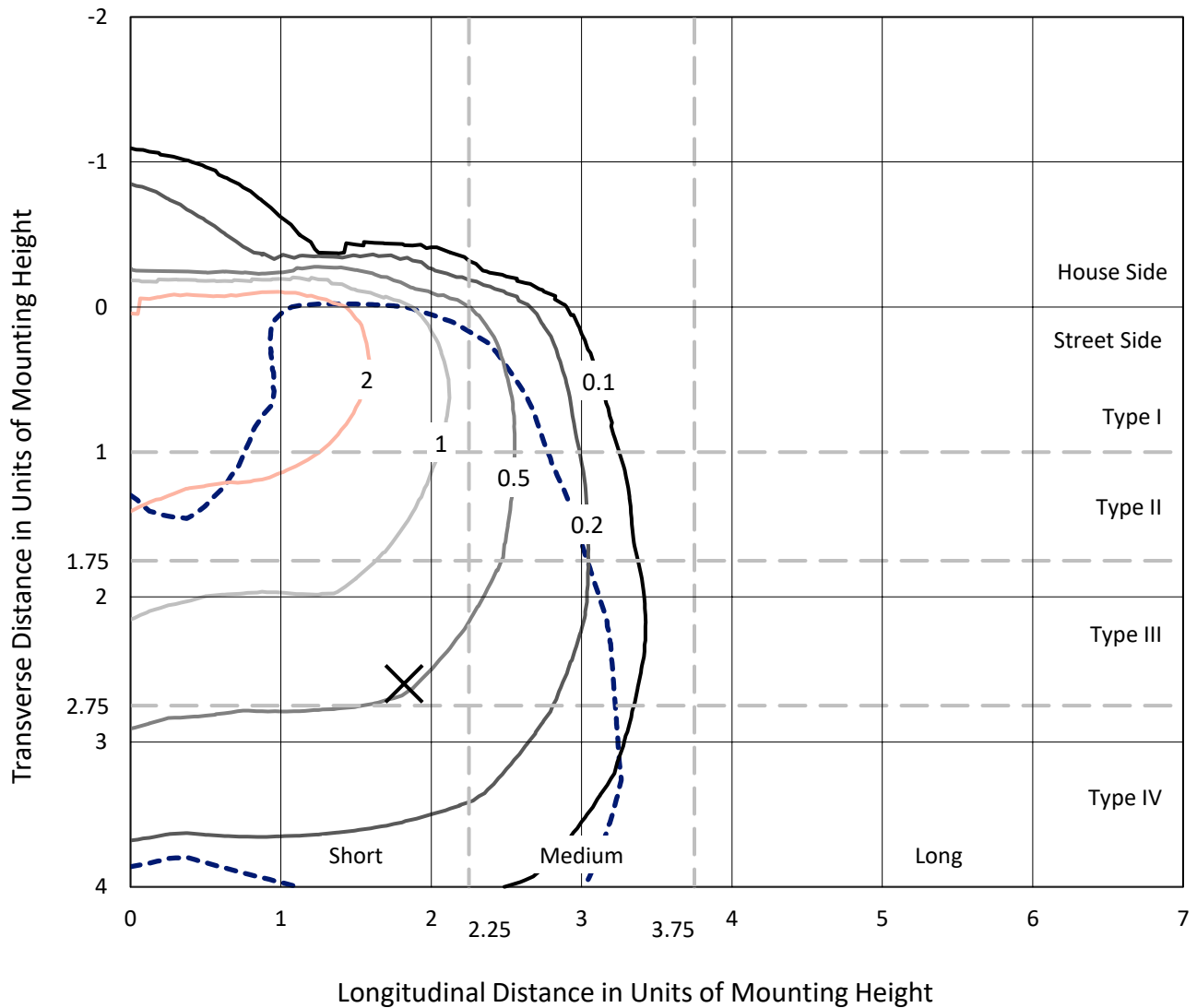
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

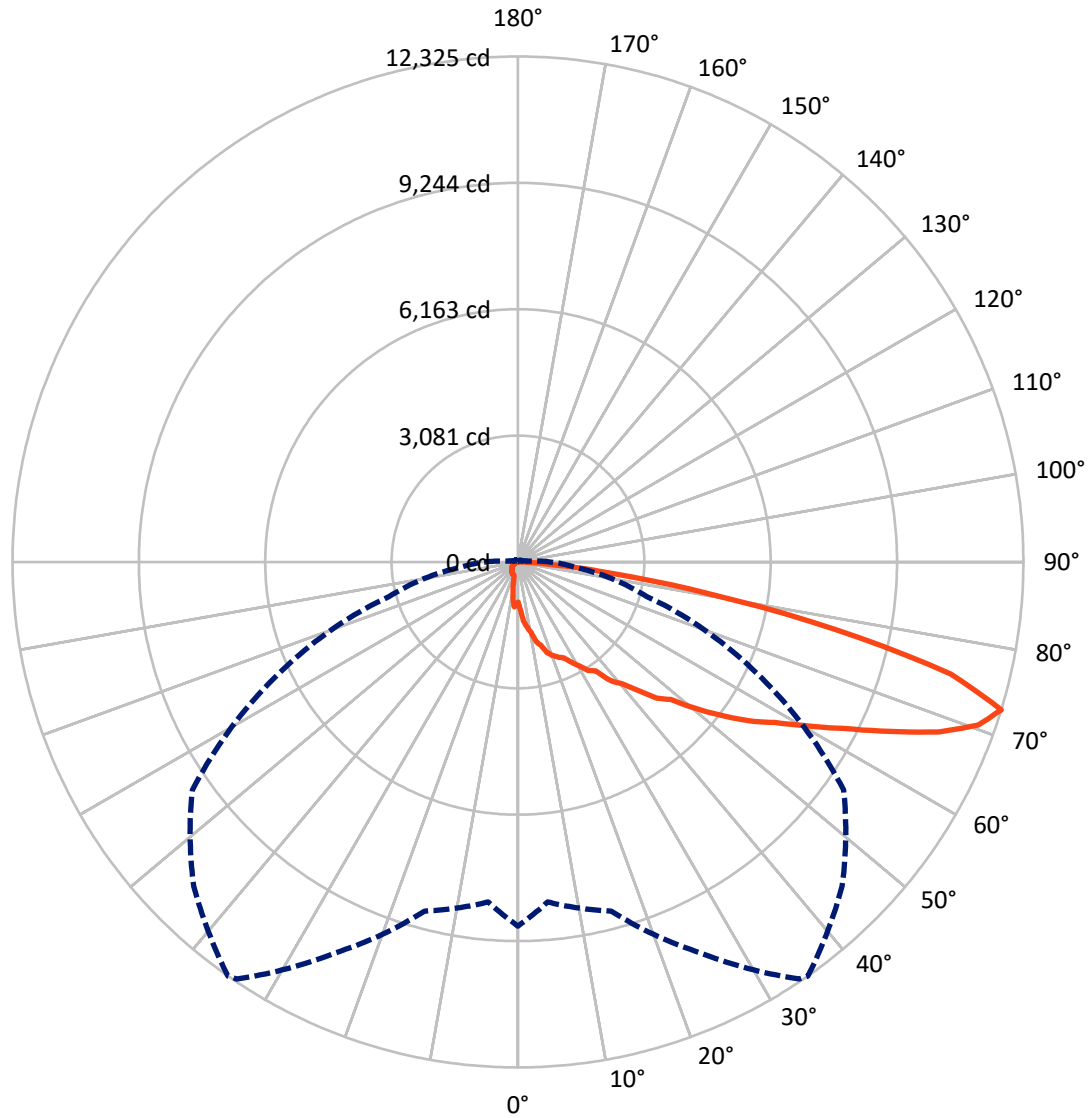
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 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	1284.0	0.0	1284.0
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	15178.0	0.0	15178.0
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	16462.0	0.0	16462.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.1	0.8
10°-20°	421.3	2.6
20°-30°	767.2	4.7
30°-40°	1323.3	8.0
40°-50°	2352.4	14.3
50°-60°	3510.4	21.3
60°-70°	4484.9	27.2
70°-80°	3120.3	19.0
80°-90°	356.9	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°	16462.0	100.0
0°-180°	16462.0	100.0

**Coefficient of Utilization**



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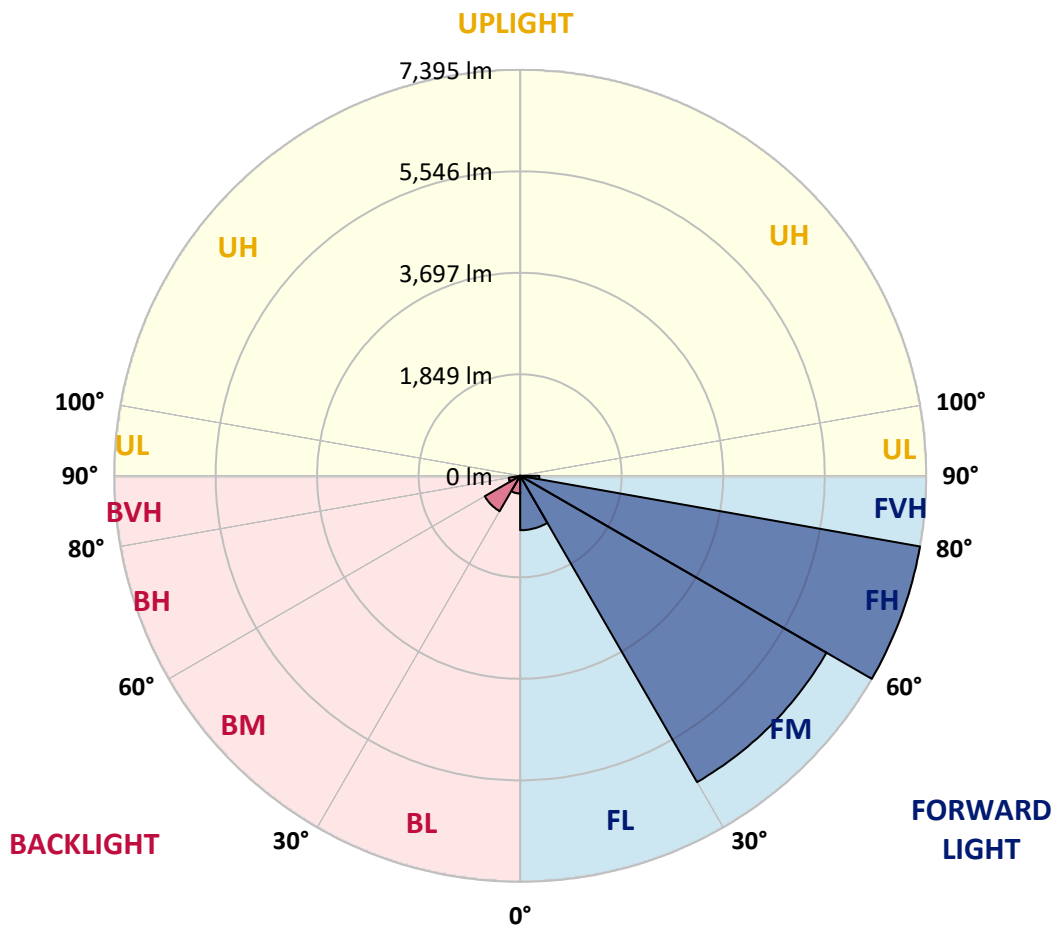
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	990.6	6.0			
FM (30°-60°)	6441.6	39.1			
FH (60°-80°)	7394.8	44.9			G3/7500
FVH (80°-90°)	350.9	2.1			G3/500
BL (0°-30°)	322.9	2.0	B1/500		
BM (30°-60°)	744.6	4.5	B1/1000		
BH (60°-80°)	210.5	1.3	B1/500		G1/500
BVH (80°-90°)	6.0	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-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6
2.5°	1247.9	1199.1	1119.7	1125.5	1161.0	1168.5	1179.2	1151.1	1126.3	1082.4	1167.7
5°	1598.8	1528.5	1483.8	1469.7	1449.0	1450.7	1400.2	1418.4	1413.4	1445.7	1484.6
7.5°	1796.6	1757.7	1701.4	1685.7	1609.6	1601.3	1539.2	1622.8	1631.1	1619.5	1683.2
10°	1875.2	1823.9	1830.5	1771.8	1733.7	1743.6	1753.6	1760.2	1770.9	1781.7	1703.9
12.5°	1921.6	1930.7	2020.9	1959.6	1997.7	1997.7	2064.7	1993.6	1996.0	1918.2	1931.5
15°	2130.1	2180.6	2140.0	2139.2	2097.8	2108.6	2186.4	2130.1	2159.1	2135.9	2046.5
17.5°	2391.6	2401.5	2324.6	2290.6	2327.9	2328.7	2295.6	2293.1	2192.2	2362.6	2254.2
20°	2475.2	2531.5	2422.2	2289.8	2444.6	2437.1	2434.6	2395.7	2227.7	2464.4	2375.0
22.5°	2702.8	2622.5	2548.0	2461.1	2521.5	2521.5	2512.4	2427.2	2361.8	2455.3	2493.4
25°	2773.9	2783.9	2687.0	2658.9	2660.6	2586.1	2579.5	2543.0	2480.1	2639.9	2563.7
27.5°	3018.9	3014.7	2782.2	2860.8	2760.7	2761.5	2578.6	2660.6	2671.3	2649.0	2734.2
30°	3259.7	3326.7	2975.8	3075.2	2970.1	2938.6	2759.9	2832.7	2851.7	2826.1	2933.6
32.5°	3566.7	3665.2	3324.2	3226.6	3066.0	3155.4	3032.1	2860.0	2954.3	3183.6	3244.0
35°	3891.9	3939.9	3576.6	3440.1	3258.9	3258.0	3253.9	3268.0	3372.2	3630.4	3681.7
37.5°	4476.2	4362.8	4034.3	3721.5	3762.0	3671.8	3608.9	3675.1	3783.5	4208.9	4428.2
40°	4802.2	4720.3	4257.7	4072.3	3871.2	3904.4	4074.8	4067.4	4356.2	4801.4	5129.9
42.5°	5119.2	5041.4	4586.2	4436.5	4178.3	4268.5	4342.9	4437.3	5029.0	5747.3	5927.7
45°	5401.4	5173.0	4851.9	4857.7	4723.6	4734.4	4866.0	4952.8	5808.5	6545.0	6671.7
47.5°	5571.9	5384.0	5076.2	5070.4	5062.1	5011.6	5631.4	5710.9	6430.0	7304.7	7316.3
50°	5811.8	5576.8	5307.0	5312.0	5503.2	5609.9	6349.7	6341.5	7030.0	7938.6	7671.3
52.5°	6110.6	5823.4	5526.3	5747.3	6042.7	6216.5	6817.3	7062.3	7674.6	8336.7	7810.4
55°	6492.9	6133.8	5847.4	6130.4	6775.1	6842.1	7274.9	7792.1	8377.2	8743.0	7855.0
57.5°	6941.4	6512.8	6281.1	6737.0	7380.0	7381.7	7941.1	8570.0	8808.4	8908.5	7804.6
60°	7424.7	6924.9	6691.5	7102.0	8047.0	8114.9	8681.8	8999.5	9246.1	8992.1	7714.4
62.5°	7850.1	7298.1	7116.9	7599.3	8778.6	8939.1	9327.2	9281.7	9562.3	9097.2	7485.1
65°	8356.5	7781.4	7662.2	8374.7	9733.6	9954.5	10052.2	9782.4	9668.2	9016.1	6888.5
67.5°	8858.0	8320.1	8316.8	9234.6	10985.6	11061.8	10959.2	10488.3	9544.9	8301.1	5795.3
70°	9211.4	8633.8	8851.4	10176.3	12123.5	11910.0	11478.0	10821.8	8654.5	6362.2	3786.0
72.5°	8879.5	8322.6	8813.3	10511.5	12264.2	12325.4	11177.6	9693.8	6430.0	3253.9	1370.4
75°	6747.8	6406.8	7652.3	9325.6	10888.8	10902.9	9329.7	6837.2	3166.2	883.8	379.0
77.5°	3398.7	3290.3	4843.6	6620.3	7944.4	7921.2	6410.2	3662.7	1018.7	293.8	191.2
80°	1720.5	1633.6	2061.4	3571.7	4717.8	4752.6	3660.2	1640.2	513.9	159.7	132.4
82.5°	1056.8	1003.0	1127.9	1616.2	2289.8	2345.3	1388.6	1038.6	318.6	94.3	120.8
85°	204.4	215.2	648.0	809.3	914.4	892.9	411.3	854.9	96.0	56.3	87.7
87.5°	0.0	3.3	149.8	264.0	264.8	235.0	93.5	189.5	13.2	15.7	10.8
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°	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6
2.5°	1181.7	1169.3	1065.9	1054.3	1056.8	1039.4	1033.6	997.2	988.1	1044.4	1054.3
5°	1468.1	1385.3	1289.3	1254.6	1200.8	1109.7	1096.5	1073.3	1047.7	1057.6	1050.2
7.5°	1643.5	1533.4	1430.8	1247.9	1096.5	964.1	942.6	902.9	863.1	864.0	889.6
10°	1671.6	1579.0	1437.4	1214.8	1041.9	876.4	732.4	628.1	580.9	538.7	551.1
12.5°	1834.7	1748.6	1487.9	1204.9	962.4	704.2	515.6	413.8	369.1	354.2	352.5
15°	1965.4	1897.6	1574.0	1174.3	786.2	495.7	369.1	339.3	331.0	345.1	340.9
17.5°	2159.9	2037.4	1564.9	1047.7	599.1	376.5	340.1	336.0	345.9	354.2	356.7
20°	2245.1	2068.9	1502.8	849.1	448.5	345.1	331.8	323.6	341.8	366.6	361.6
22.5°	2331.2	2122.6	1430.0	695.1	360.8	330.2	322.7	316.1	330.2	354.2	360.0
25°	2370.1	2208.7	1348.9	542.9	335.2	312.8	307.8	310.3	321.9	343.4	340.9
27.5°	2566.2	2218.6	1194.1	428.7	324.4	300.4	300.4	306.2	306.2	335.2	332.7
30°	2688.7	2386.6	1068.4	360.8	312.0	283.0	293.0	295.4	291.3	322.7	325.2
32.5°	2903.9	2433.0	945.9	331.0	292.1	280.5	278.9	280.5	283.8	314.5	315.3
35°	3234.9	2661.4	778.7	319.4	282.2	268.1	256.5	265.6	273.9	296.3	300.4
37.5°	3882.0	2895.6	634.7	310.3	277.2	256.5	252.4	250.7	265.6	291.3	299.6
40°	4405.8	3310.2	516.4	302.9	267.3	249.9	239.2	240.0	253.2	272.3	284.7
42.5°	5147.3	3609.7	437.8	291.3	253.2	235.8	223.4	230.9	236.7	256.5	264.8
45°	5766.3	3842.3	385.6	283.8	239.2	222.6	212.7	221.0	215.2	225.1	236.7
47.5°	6258.7	4045.0	346.7	265.6	230.1	215.2	202.7	200.3	190.3	192.8	203.6
50°	6529.3	4011.1	314.5	247.4	218.5	207.7	190.3	173.0	159.7	158.9	165.5
52.5°	6625.3	3829.9	288.0	231.7	204.4	191.2	171.3	147.3	134.1	129.9	135.7
55°	6651.8	3569.2	264.0	214.3	191.2	170.5	149.8	124.1	110.1	103.4	109.2
57.5°	6565.7	3167.8	240.8	197.8	175.4	150.6	128.3	101.8	88.5	80.3	85.2
60°	6353.1	2658.1	220.1	177.1	158.9	133.2	108.4	81.9	67.9	60.4	62.9
62.5°	5882.2	2083.8	197.8	158.1	141.5	116.7	91.0	64.5	51.3	44.7	45.5
65°	5165.5	1553.3	172.1	139.9	125.8	101.0	72.8	49.7	38.9	33.1	32.3
67.5°	4115.4	1052.6	146.5	120.8	111.7	85.2	57.9	38.9	30.6	26.5	24.8
70°	2418.9	530.5	121.6	104.3	96.0	71.2	45.5	31.4	28.1	24.8	23.2
72.5°	797.8	229.2	95.2	86.1	79.4	57.1	35.6	29.0	27.3	24.0	22.3
75°	278.1	132.4	70.3	66.2	62.9	43.0	29.8	26.5	26.5	23.2	20.7
77.5°	182.1	102.6	52.1	48.0	47.2	31.4	25.7	24.8	23.2	19.0	15.7
80°	151.4	57.9	36.4	33.9	33.1	19.9	20.7	18.2	14.1	8.3	3.3
82.5°	139.9	34.8	19.0	20.7	19.0	7.4	11.6	9.9	7.4	3.3	0.0
85°	81.9	15.7	10.8	10.8	8.3	1.7	5.8	5.8	3.3	0.8	0.0
87.5°	9.1	7.4	5.8	5.8	4.1	0.0	2.5	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)