

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: P368192

Luminaire Tested: **MSA-SA4A-727-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368192  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-727-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12629 lumens  
Efficiency: N/A  
Efficacy: 97.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

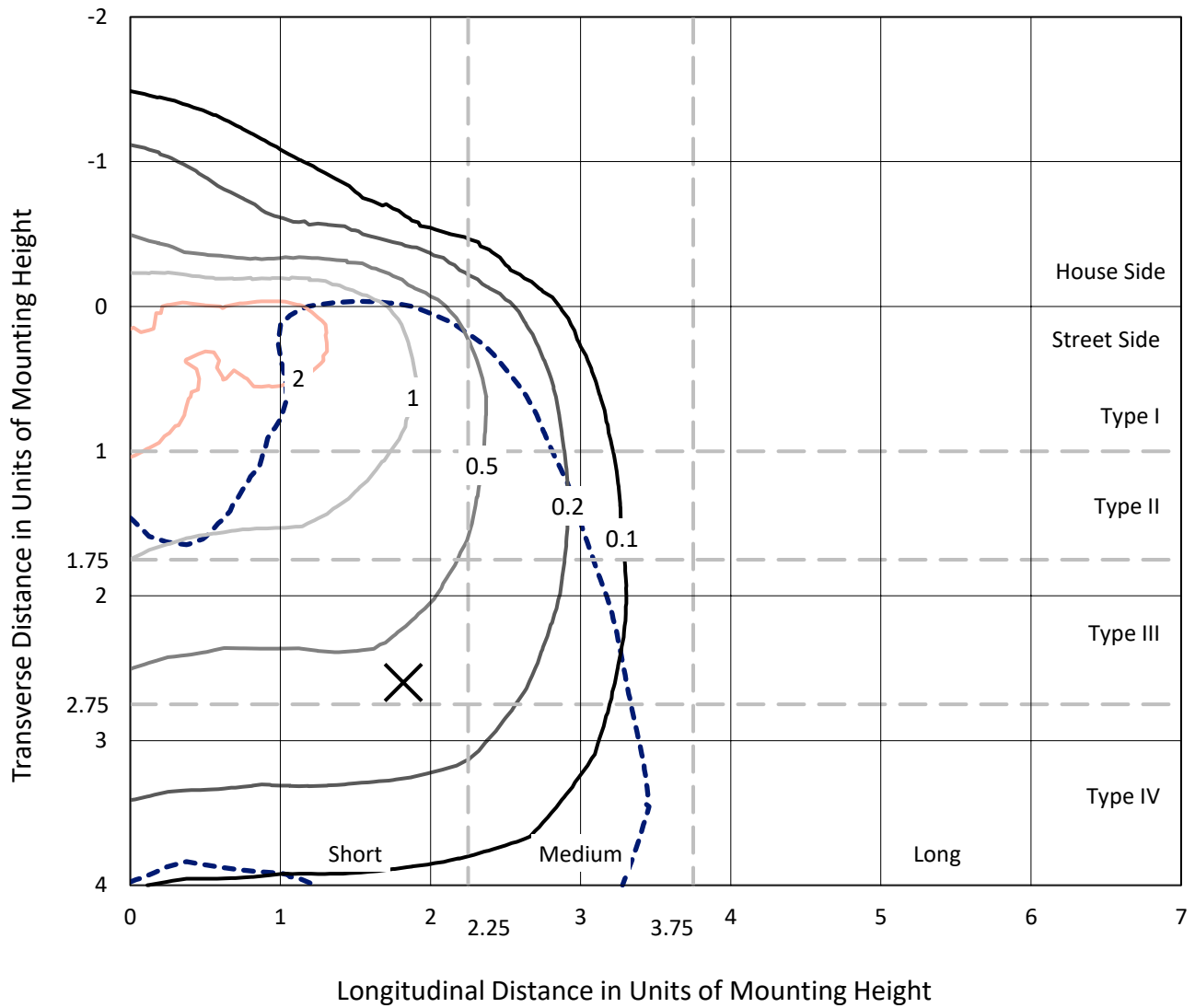
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

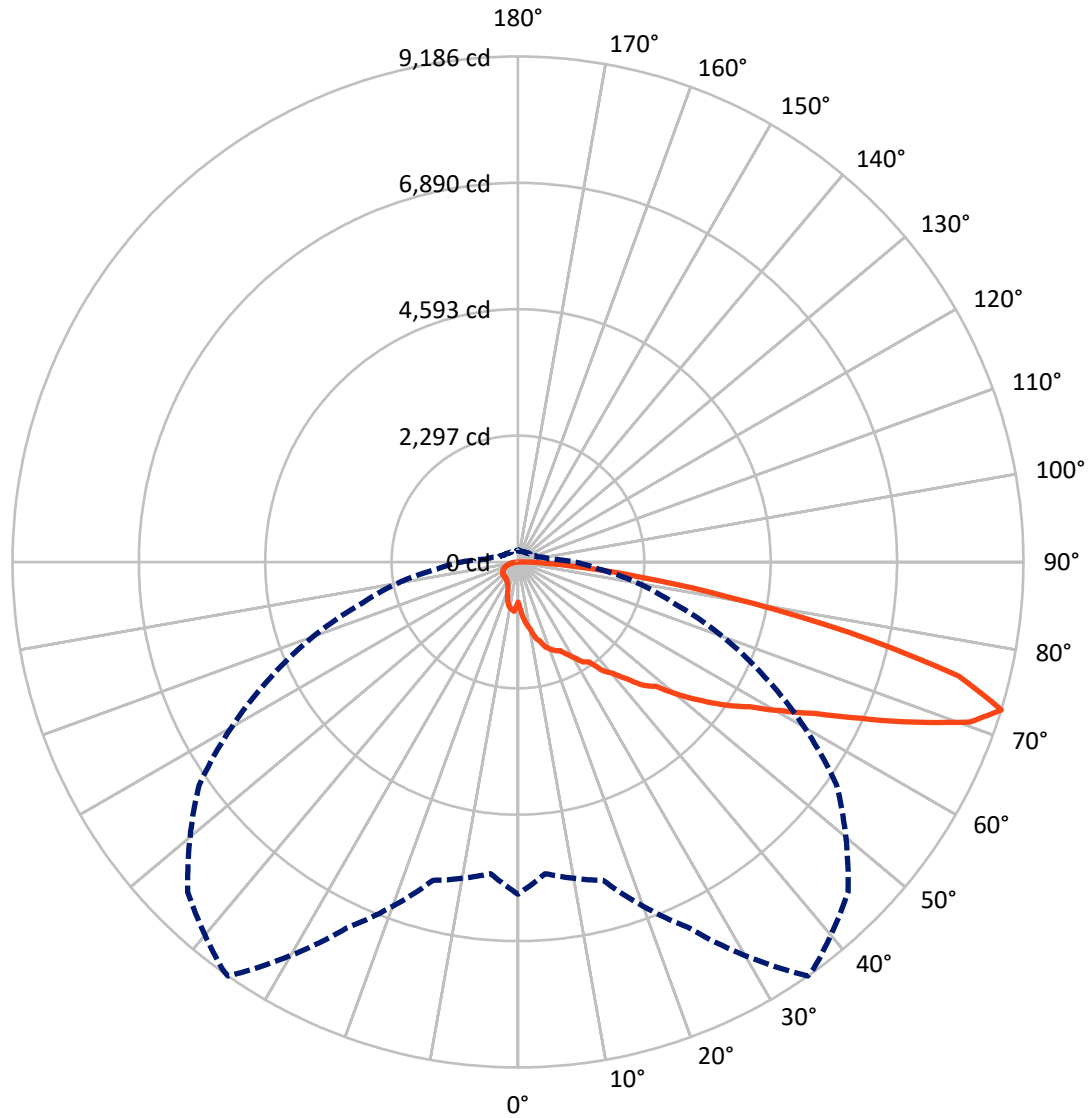
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.5 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	1694.8	0.0	1694.8
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	10934.2	0.0	10934.2
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	12629.0	0.0	12629.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.0	0.8
10°-20°	341.7	2.7
20°-30°	593.7	4.7
30°-40°	992.2	7.9
40°-50°	1722.2	13.6
50°-60°	2603.5	20.6
60°-70°	3372.8	26.7
70°-80°	2488.8	19.7
80°-90°	417.1	3.3
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°	12629.0	100.0
0°-180°	12629.0	100.0

**Coefficient of Utilization**



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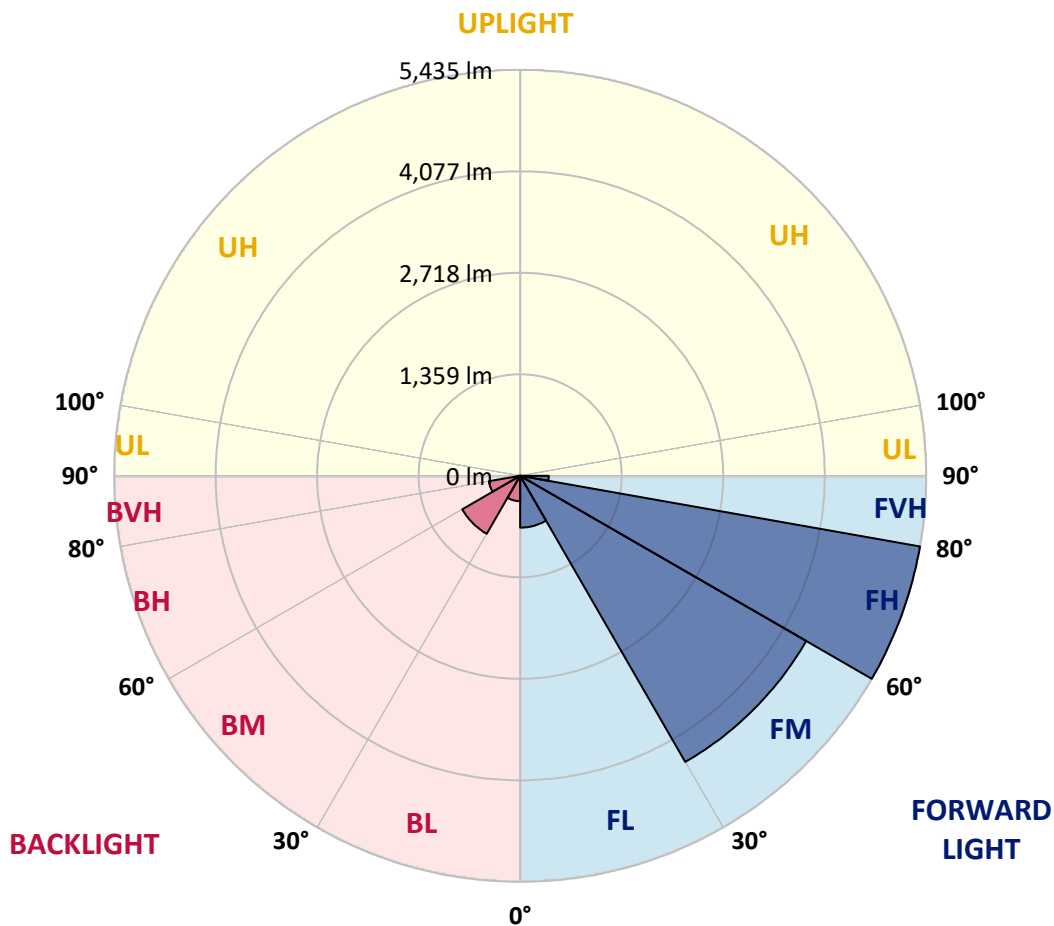
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	693.6	5.5			
FM (30°-60°)	4422.2	35.0			
FH (60°-80°)	5435.4	43.0			G3/7500
FVH (80°-90°)	383.0	3.0			G3/500
BL (0°-30°)	338.8	2.7	B1/500		
BM (30°-60°)	895.7	7.1	B1/1000		
BH (60°-80°)	426.2	3.4	B1/500		G1/500
BVH (80°-90°)	34.1	0.3			G1/100
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°	35°	36°	45°	55°	65°	75°	85°
0°	729.8	729.8	729.8	729.8	729.8	729.8	729.8	729.8	729.8	729.8	729.8
2.5°	910.4	866.7	829.0	827.4	862.4	875.9	870.5	858.7	844.6	815.0	879.7
5°	1140.6	1078.0	1066.2	1052.2	1020.4	1029.0	977.2	1016.6	1029.0	1057.6	1100.7
7.5°	1276.4	1239.7	1211.2	1199.3	1144.3	1137.9	1099.6	1155.7	1179.4	1175.6	1239.7
10°	1329.8	1296.3	1298.5	1259.7	1241.9	1249.5	1253.8	1254.8	1269.4	1281.3	1248.9
12.5°	1357.3	1370.2	1417.6	1391.2	1413.9	1423.0	1468.3	1421.9	1423.6	1362.6	1396.1
15°	1495.8	1528.1	1500.6	1499.6	1492.6	1507.6	1546.5	1515.2	1539.4	1520.0	1476.9
17.5°	1662.9	1672.6	1619.8	1598.2	1626.2	1621.4	1611.7	1616.5	1556.2	1668.3	1615.4
20°	1714.1	1752.4	1682.8	1598.2	1690.9	1703.3	1701.2	1680.1	1576.6	1738.3	1687.1
22.5°	1862.9	1811.1	1756.1	1702.2	1749.7	1756.7	1744.8	1694.7	1660.2	1721.6	1762.1
25°	1930.2	1917.8	1847.8	1841.3	1789.0	1764.2	1784.7	1770.1	1736.2	1845.6	1800.9
27.5°	2084.4	2069.8	1908.7	1975.0	1899.0	1892.5	1784.2	1832.7	1866.6	1858.5	1925.4
30°	2259.0	2275.7	2040.2	2106.5	2018.6	2006.8	1897.9	1959.3	1982.5	1990.1	2073.6
32.5°	2453.1	2498.9	2265.0	2210.5	2163.6	2171.7	2079.5	1967.4	2057.4	2233.7	2269.8
35°	2663.3	2682.2	2436.9	2355.0	2232.6	2224.0	2225.6	2239.6	2330.7	2531.8	2559.8
37.5°	3051.9	2964.6	2749.5	2542.0	2501.1	2420.7	2475.2	2518.3	2609.4	2917.7	3035.2
40°	3291.3	3226.6	2898.9	2778.7	2665.5	2673.0	2774.9	2774.3	2989.4	3307.4	3486.9
42.5°	3512.8	3442.2	3133.3	3012.6	2905.3	2931.7	2960.8	3012.1	3424.4	3937.0	4018.9
45°	3691.2	3536.5	3314.4	3287.5	3199.1	3164.1	3287.5	3369.4	3944.6	4446.4	4493.8
47.5°	3812.5	3685.3	3468.1	3444.3	3379.1	3464.8	3801.7	3854.5	4347.7	4957.9	4954.1
50°	3996.8	3822.7	3626.5	3614.1	3797.9	3843.8	4254.5	4249.1	4740.2	5382.7	5293.7
52.5°	4209.2	3989.8	3776.9	3910.1	4190.4	4213.0	4569.3	4714.3	5168.7	5792.3	5560.0
55°	4453.4	4208.1	4002.2	4180.1	4597.3	4530.5	4891.1	5245.2	5705.0	6224.1	5752.4
57.5°	4755.8	4458.2	4291.7	4562.3	4968.7	5028.0	5351.9	5797.7	6136.8	6492.5	5892.6
60°	5074.9	4725.6	4573.1	4830.7	5488.9	5556.8	5873.7	6257.0	6620.8	6745.3	5866.2
62.5°	5379.4	5001.6	4863.6	5181.6	6065.6	6233.8	6467.7	6711.9	7023.5	6806.8	5546.5
65°	5718.5	5340.1	5253.3	5730.3	6847.7	7014.8	7320.5	7247.1	7161.4	6589.0	5017.8
67.5°	6077.5	5693.1	5709.3	6366.9	7770.0	7798.6	8268.1	7780.8	6999.2	6012.2	4130.0
70°	6270.4	5877.0	6043.5	7045.6	8708.4	8667.5	8763.4	7924.2	6337.8	4752.6	2846.6
72.5°	6036.5	5685.6	5990.7	7331.2	9186.0	9141.8	8485.3	7073.0	4955.2	2955.5	1475.8
75°	5111.0	4772.5	5239.3	6535.1	8269.7	8310.6	7221.3	5259.8	2836.9	1188.5	612.9
77.5°	3472.9	3298.3	3698.2	4871.1	6142.7	6284.5	5357.9	3075.7	1191.2	492.1	370.8
80°	1835.4	1752.4	2047.7	2806.1	3889.6	3995.2	3150.6	1531.9	610.2	318.6	264.7
82.5°	997.2	962.2	1120.6	1443.0	2210.0	2302.2	1633.8	1017.7	411.3	199.4	161.7
85°	670.0	656.5	761.6	775.1	1045.2	1075.3	856.0	783.7	246.9	97.6	106.7
87.5°	335.3	321.8	401.0	354.1	398.9	399.4	392.4	500.2	62.5	32.3	19.4
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°	729.8	729.8	729.8	729.8	729.8	729.8	729.8	729.8	729.8	729.8	729.8
2.5°	880.8	861.9	796.7	796.1	805.8	799.4	804.2	777.8	766.5	818.2	815.5
5°	1094.8	1038.2	983.7	964.8	942.7	894.8	897.5	898.0	889.9	920.6	922.8
7.5°	1220.3	1152.4	1102.3	1002.0	923.3	861.9	870.0	879.1	870.0	910.9	926.0
10°	1238.7	1184.8	1124.9	1013.4	961.1	905.6	849.5	799.9	794.0	775.1	781.0
12.5°	1347.6	1302.8	1177.8	1055.4	994.5	909.3	806.9	750.3	702.9	711.0	695.9
15°	1437.0	1405.2	1255.4	1095.3	949.8	844.1	735.2	657.6	615.0	610.2	595.1
17.5°	1558.3	1513.0	1262.4	1067.8	892.1	765.4	642.5	554.7	536.3	528.8	521.2
20°	1616.5	1535.1	1237.1	981.6	824.7	671.6	550.9	475.4	470.0	483.5	480.8
22.5°	1667.2	1553.5	1214.4	929.3	719.6	576.8	488.4	438.8	432.8	450.1	453.3
25°	1696.8	1605.7	1189.6	875.9	654.4	506.1	441.5	413.4	414.5	437.1	434.5
27.5°	1830.5	1624.1	1127.1	812.8	579.4	453.9	418.8	404.3	398.3	429.6	432.3
30°	1914.6	1743.7	1113.1	746.0	523.9	415.6	398.3	392.4	391.3	429.1	431.8
32.5°	2070.9	1783.6	1119.5	673.2	473.8	403.7	383.2	382.7	393.5	429.6	433.9
35°	2287.6	1951.8	1088.3	631.7	446.3	385.4	371.4	375.7	394.0	433.4	439.3
37.5°	2710.2	2110.3	1098.0	592.9	437.1	379.5	368.2	370.8	400.5	443.1	459.2
40°	3044.9	2397.6	1082.9	573.5	424.7	378.4	361.1	371.9	400.0	448.5	463.0
42.5°	3530.1	2626.7	1084.5	554.1	424.2	374.1	360.1	373.0	398.9	443.6	463.6
45°	3946.2	2832.0	1107.7	542.8	418.8	381.1	358.4	374.6	391.9	426.4	448.5
47.5°	4287.4	3061.1	1131.4	532.0	416.7	387.6	356.8	363.3	380.0	407.0	426.9
50°	4565.5	3222.3	1161.6	529.9	416.7	384.3	352.5	352.0	366.0	387.6	406.4
52.5°	4782.2	3336.0	1182.1	532.6	416.7	371.9	347.1	342.8	351.4	367.1	385.9
55°	4939.1	3371.0	1165.4	539.6	416.1	360.6	337.4	333.7	338.0	348.7	366.5
57.5°	5002.1	3278.9	1065.6	527.2	416.1	352.5	325.6	321.3	325.6	333.7	351.4
60°	4844.2	2982.4	921.7	495.4	408.0	341.7	312.1	309.4	315.9	322.9	340.1
62.5°	4448.0	2588.4	768.1	457.6	391.3	332.6	299.2	299.7	309.9	319.6	336.9
65°	3832.4	2111.9	640.4	419.4	370.3	318.0	285.7	289.5	304.0	316.9	334.2
67.5°	3015.8	1564.8	539.0	382.2	340.7	294.3	270.6	271.7	281.9	294.3	311.0
70°	2015.9	995.6	443.1	338.5	301.9	263.6	247.4	243.6	240.9	251.7	266.3
72.5°	1022.5	588.1	363.8	289.5	259.8	230.2	217.8	208.1	200.5	207.0	218.3
75°	535.8	411.3	293.8	240.4	214.5	195.7	186.5	173.6	168.2	171.9	180.0
77.5°	378.9	321.8	237.7	190.3	174.6	155.2	156.9	143.4	139.1	141.2	149.8
80°	291.1	255.0	182.7	143.9	134.8	115.9	121.3	113.2	107.8	106.7	113.2
82.5°	198.4	191.9	129.9	100.8	94.3	80.9	88.4	85.2	78.2	73.8	77.1
85°	133.7	127.2	79.2	58.2	55.5	42.0	53.9	51.7	45.8	39.3	39.9
87.5°	23.2	42.6	22.6	14.6	13.5	4.9	12.4	11.9	10.8	5.4	4.3
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)