

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: P368143

Luminaire Tested: **MSA-SA3D-760-U-SL2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368143  
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-SA3D-760-U-SL2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 16314 lumens  
Efficiency: N/A  
Efficacy: 85.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G3

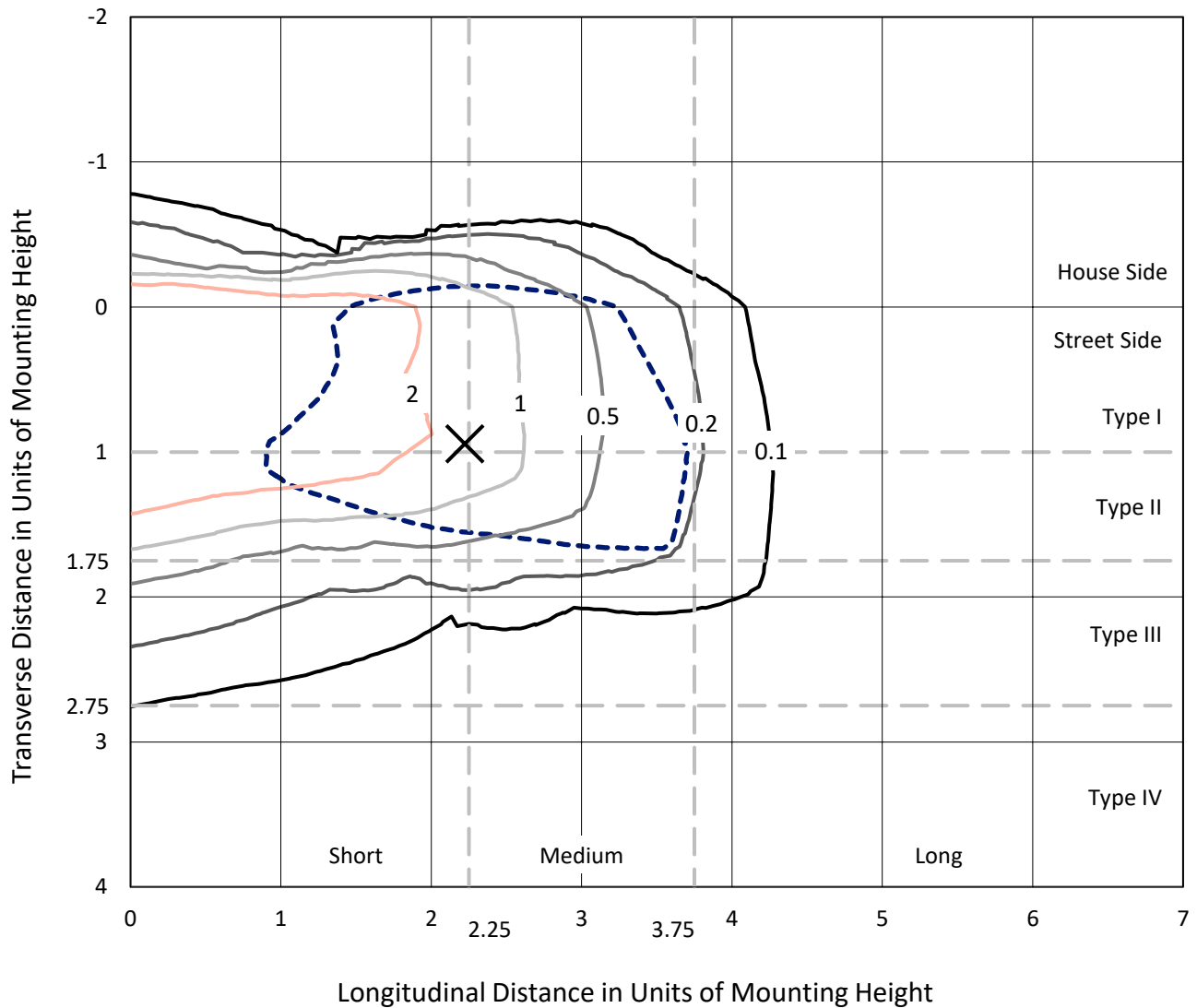
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

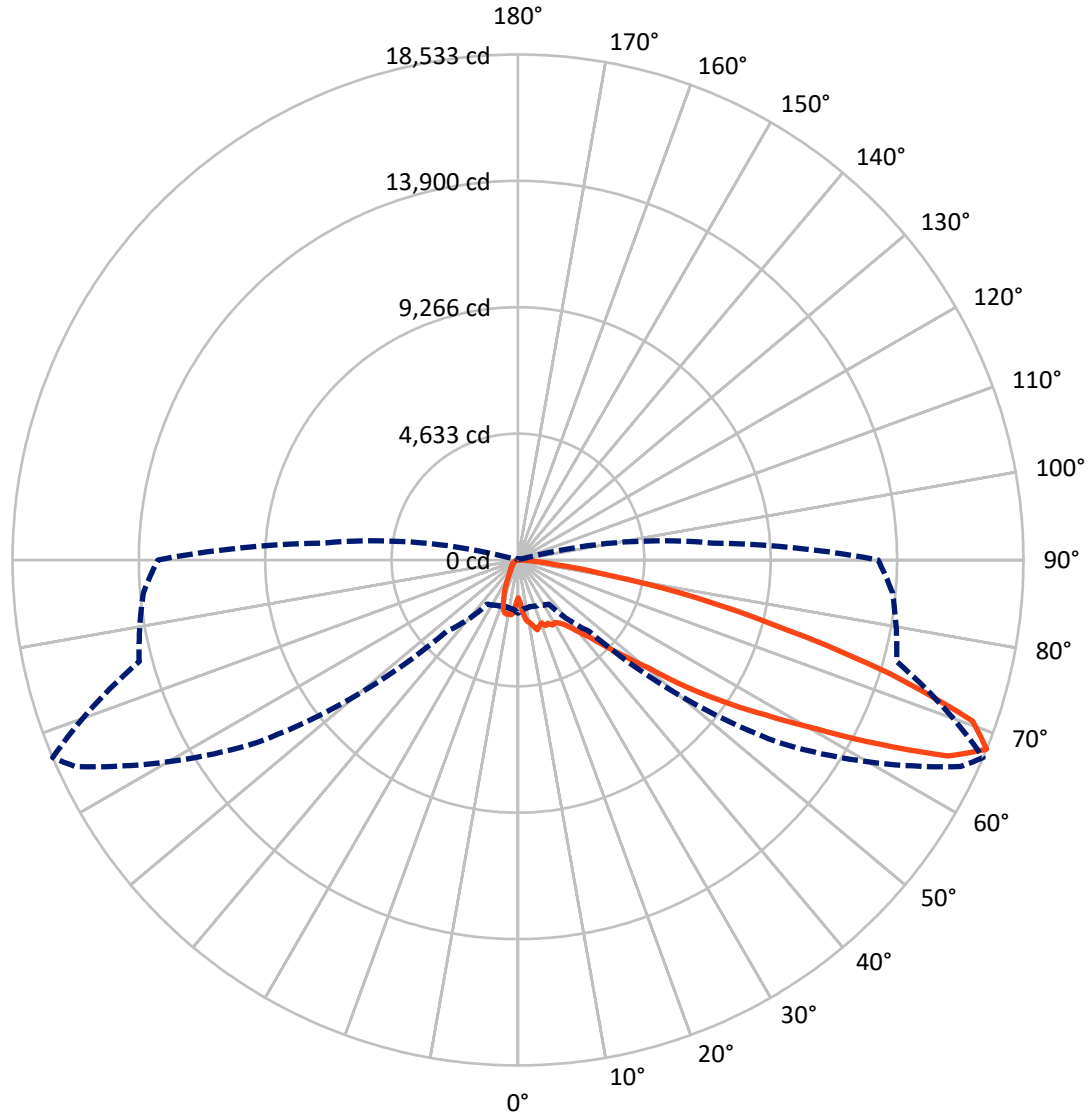
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 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	2017.6	0.0	2017.6
	% Fixture	12.4	0.0	12.4
<b>Street Side</b>	Lumens	14296.4	0.0	14296.4
	% Fixture	87.6	0.0	87.6
<b>Total</b>	Lumens	16314.0	0.0	16314.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.4	1.1
10°-20°	516.1	3.2
20°-30°	808.8	5.0
30°-40°	1304.1	8.0
40°-50°	2396.3	14.7
50°-60°	4047.0	24.8
60°-70°	4474.1	27.4
70°-80°	2341.7	14.4
80°-90°	251.5	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°	16314.0	100.0
0°-180°	16314.0	100.0

**Coefficient of Utilization**



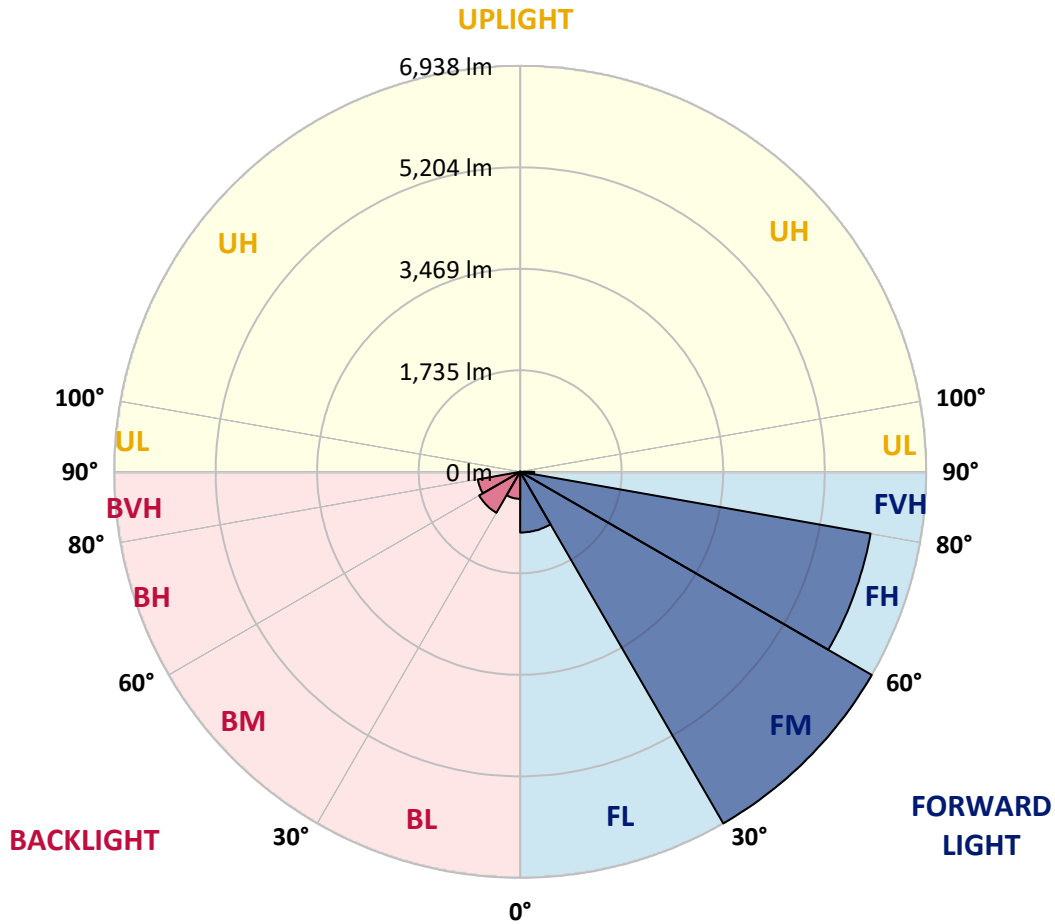
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1037.3	6.4			
FM (30°-60°)	6938.4	42.5			
FH (60°-80°)	6080.0	37.3			G3/7500
FVH (80°-90°)	240.8	1.5			G3/500
BL (0°-30°)	461.9	2.8	B1/500		
BM (30°-60°)	809.0	5.0	B1/1000		
BH (60°-80°)	735.9	4.5	B2/1000		G2/1000
BVH (80°-90°)	10.7	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°	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5
2.5°	1640.2	1584.8	1490.5	1517.8	1572.4	1617.9	1596.4	1554.2	1555.0	1512.0	1666.7
5°	1908.4	1833.9	1779.3	1798.3	1795.8	1794.2	1896.0	1934.9	1951.4	2022.6	2127.7
7.5°	1985.3	1958.9	1901.8	1919.1	1862.0	1866.2	2044.9	2213.8	2240.2	2284.1	2471.1
10°	1955.6	1904.2	1924.9	1924.9	1925.8	2018.5	2138.4	2299.8	2332.1	2500.9	2520.8
12.5°	1923.3	1925.8	2007.7	1992.8	2105.3	2271.7	2312.2	2493.5	2477.8	2624.2	2841.9
15°	2043.3	2106.2	2053.2	2073.9	2084.7	2280.0	2345.3	2586.2	2655.7	2841.1	2982.6
17.5°	2249.3	2257.6	2147.6	2117.8	2195.6	2251.0	2382.6	2498.4	2544.8	3031.4	3231.7
20°	2286.6	2339.5	2227.8	2055.7	2220.4	2296.5	2388.4	2443.8	2463.7	3090.2	3372.4
22.5°	2510.9	2452.1	2273.3	2142.6	2189.8	2272.5	2329.6	2496.8	2616.0	2979.3	3507.3
25°	2625.9	2610.2	2439.7	2328.0	2280.0	2273.3	2404.1	2530.7	2568.8	3094.3	3540.4
27.5°	2901.5	2865.9	2535.7	2521.6	2363.5	2224.5	2406.6	2634.2	2705.3	2985.9	3664.5
30°	3276.4	3263.1	2823.7	2814.6	2563.0	2313.1	2540.6	2697.9	2654.9	3041.3	3747.3
32.5°	3653.7	3761.3	3311.9	3055.4	2866.7	2638.3	2502.6	2678.0	2755.0	3176.2	3899.5
35°	4109.7	4187.5	3729.9	3543.7	3124.1	2790.6	2755.0	2867.5	2900.6	3336.8	4072.5
37.5°	4907.5	4790.0	4400.2	4083.2	3863.1	3334.3	3158.8	3069.5	3146.4	3554.4	4425.9
40°	5496.7	5422.3	4942.3	4752.8	4246.3	3936.8	3478.3	3394.7	3480.8	3777.9	4671.6
42.5°	6207.6	6052.9	5601.0	5472.7	4951.4	4354.7	3889.6	3918.6	3864.8	4219.0	5102.8
45°	6850.6	6501.4	6249.8	6278.8	6000.7	5194.7	4575.7	4561.6	4516.9	4857.9	5556.3
47.5°	7283.5	6978.1	6733.1	6652.9	6619.8	6671.9	5567.1	5317.2	5284.1	5529.0	6270.5
50°	7516.0	7181.7	6878.8	6895.3	7567.3	8073.0	6590.0	6234.9	6247.3	6503.1	7247.1
52.5°	7359.6	6981.4	6662.0	6972.3	8302.2	9007.3	8283.2	7434.1	7722.1	7656.7	8557.1
55°	6637.1	6308.6	6081.8	6637.1	8382.5	10012.8	10367.8	9239.0	9174.5	9025.5	9892.8
57.5°	5421.4	5138.4	4998.5	5584.5	7504.4	10823.0	12461.6	11279.0	10728.7	10104.7	11001.8
60°	4039.4	3830.8	3685.2	3994.7	5913.0	10036.0	13832.9	13201.4	12564.2	11144.9	11998.2
62.5°	2991.7	2822.0	2667.3	2695.4	4071.7	8631.6	14359.2	15238.1	14872.3	12243.1	12938.3
65°	2387.5	2232.8	2124.4	2062.3	2521.6	6494.0	13626.8	16907.3	17329.4	13277.6	13616.9
67.5°	1949.8	1819.0	1765.2	1836.4	1977.9	3701.7	11670.4	17920.3	18532.7	14374.9	13784.1
70°	1586.5	1478.9	1473.1	1665.1	1821.5	2256.8	8584.4	17221.0	17681.9	14562.0	12781.9
72.5°	1105.6	1058.5	1133.8	1406.0	1804.9	1879.4	4929.9	14250.8	14267.4	12861.3	10513.5
75°	625.6	618.2	737.4	1121.4	1757.8	1860.4	2748.4	10070.7	10078.2	9727.3	7283.5
77.5°	344.3	321.9	429.5	758.1	1509.5	1817.4	1772.7	6876.3	6700.0	5413.2	3326.8
80°	158.9	149.8	232.5	485.8	1104.0	1718.9	1420.9	3779.5	3407.9	1763.6	811.8
82.5°	65.4	62.1	106.8	312.0	697.6	1384.5	1197.5	1676.7	1345.6	335.2	250.8
85°	11.6	12.4	43.9	188.7	390.6	638.1	970.7	796.1	585.1	92.7	137.4
87.5°	0.0	0.0	9.1	45.5	94.3	174.6	393.9	222.6	153.1	27.3	40.6
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°	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5	1389.5
2.5°	1697.4	1683.3	1540.9	1547.6	1557.5	1548.4	1546.7	1507.0	1470.6	1590.6	1588.9
5°	2146.7	2046.6	1948.1	1910.0	1828.1	1720.5	1721.4	1687.4	1652.7	1701.5	1701.5
7.5°	2467.0	2328.8	2203.8	1981.2	1764.4	1568.3	1550.9	1504.5	1451.6	1515.3	1527.7
10°	2541.5	2421.5	2260.1	1933.2	1728.0	1536.8	1326.6	1153.6	1073.4	1036.1	1029.5
12.5°	2770.7	2681.3	2320.5	1958.9	1663.4	1339.8	995.6	790.3	650.5	639.7	624.8
15°	2923.8	2860.9	2380.1	1895.1	1390.3	963.3	625.6	480.0	423.7	418.8	411.3
17.5°	3161.3	3052.1	2323.0	1692.4	1087.4	635.6	420.4	379.0	385.6	400.5	389.0
20°	3258.2	3044.6	2198.9	1398.6	763.8	426.2	365.0	342.6	360.0	374.1	367.4
22.5°	3357.5	3066.2	2088.8	1152.8	499.0	352.5	325.2	313.7	315.3	329.4	330.2
25°	3356.6	3125.7	1961.3	897.9	371.6	313.7	293.8	278.9	273.1	283.0	280.5
27.5°	3519.7	3057.1	1728.8	666.2	326.9	280.5	261.5	243.3	222.6	232.5	232.5
30°	3520.5	3168.8	1566.6	478.3	299.6	249.9	233.4	205.2	181.2	189.5	190.3
32.5°	3614.0	3072.0	1416.8	365.8	278.1	231.7	195.3	169.7	155.6	160.5	160.5
35°	3720.8	3154.7	1186.7	322.8	256.5	206.1	167.2	146.5	135.7	139.9	139.9
37.5°	4073.3	3137.3	1027.0	300.4	242.5	186.2	152.3	129.1	124.1	126.6	129.9
40°	4200.8	3260.6	810.2	287.2	219.3	168.0	134.1	116.7	110.1	111.7	112.5
42.5°	4525.2	3287.9	647.2	276.4	198.6	145.7	119.2	106.8	98.5	98.5	101.0
45°	4883.5	3356.6	514.8	267.3	181.2	130.8	107.6	97.7	85.2	83.6	86.9
47.5°	5402.4	3619.8	419.6	249.1	160.5	121.7	99.3	84.4	74.5	71.2	74.5
50°	6270.5	4066.7	370.8	226.8	145.7	114.2	87.7	72.0	64.6	60.4	62.9
52.5°	7495.3	4838.8	345.1	206.1	132.4	102.6	78.6	62.9	55.4	52.1	53.8
55°	8855.9	5724.3	332.7	185.4	120.8	90.2	68.7	55.4	48.8	44.7	45.5
57.5°	10113.8	6556.9	320.3	165.5	109.2	80.3	60.4	48.8	42.2	38.1	38.9
60°	11353.5	7221.4	290.5	142.3	98.5	72.0	53.0	42.2	38.1	33.1	33.1
62.5°	12450.0	7618.6	247.4	123.3	88.6	63.7	47.2	38.1	34.8	29.8	29.8
65°	13196.5	7636.8	199.4	105.9	77.8	54.6	41.4	35.6	32.3	26.5	25.7
67.5°	13207.2	7140.3	159.7	94.3	68.7	48.0	37.2	33.9	29.8	24.8	23.2
70°	11821.1	5898.9	133.2	82.8	59.6	42.2	32.3	32.3	29.0	24.0	21.5
72.5°	9455.8	4507.8	111.7	72.0	53.0	36.4	29.8	30.6	28.1	24.0	21.5
75°	6355.8	2585.3	92.7	61.2	46.3	30.6	29.0	29.8	29.0	24.0	20.7
77.5°	2927.1	823.4	72.0	50.5	39.7	25.7	28.1	28.1	26.5	21.5	18.2
80°	659.6	202.8	52.1	37.2	32.3	19.0	25.7	23.2	20.7	14.9	10.8
82.5°	240.0	62.1	31.4	23.2	19.9	7.4	16.6	16.6	14.9	10.8	6.6
85°	137.4	32.3	17.4	14.9	10.8	3.3	9.1	9.9	8.3	7.4	3.3
87.5°	44.7	7.4	8.3	9.1	8.3	1.7	3.3	3.3	2.5	1.7	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)