

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: P367619

Luminaire Tested: **MSA-SA2D-760-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367619  
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-SA2D-760-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 11155 lumens  
Efficiency: N/A  
Efficacy: 86.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

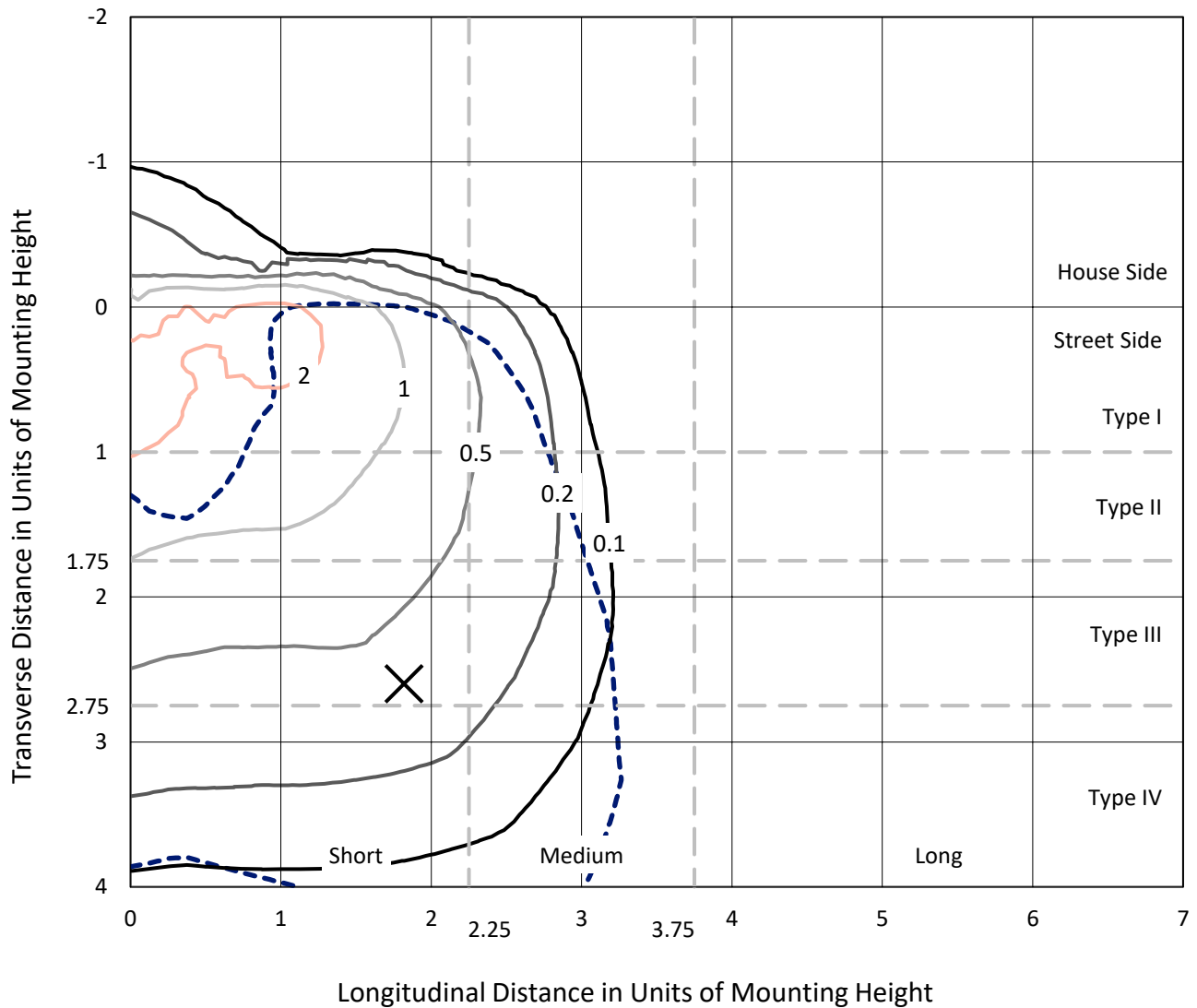
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

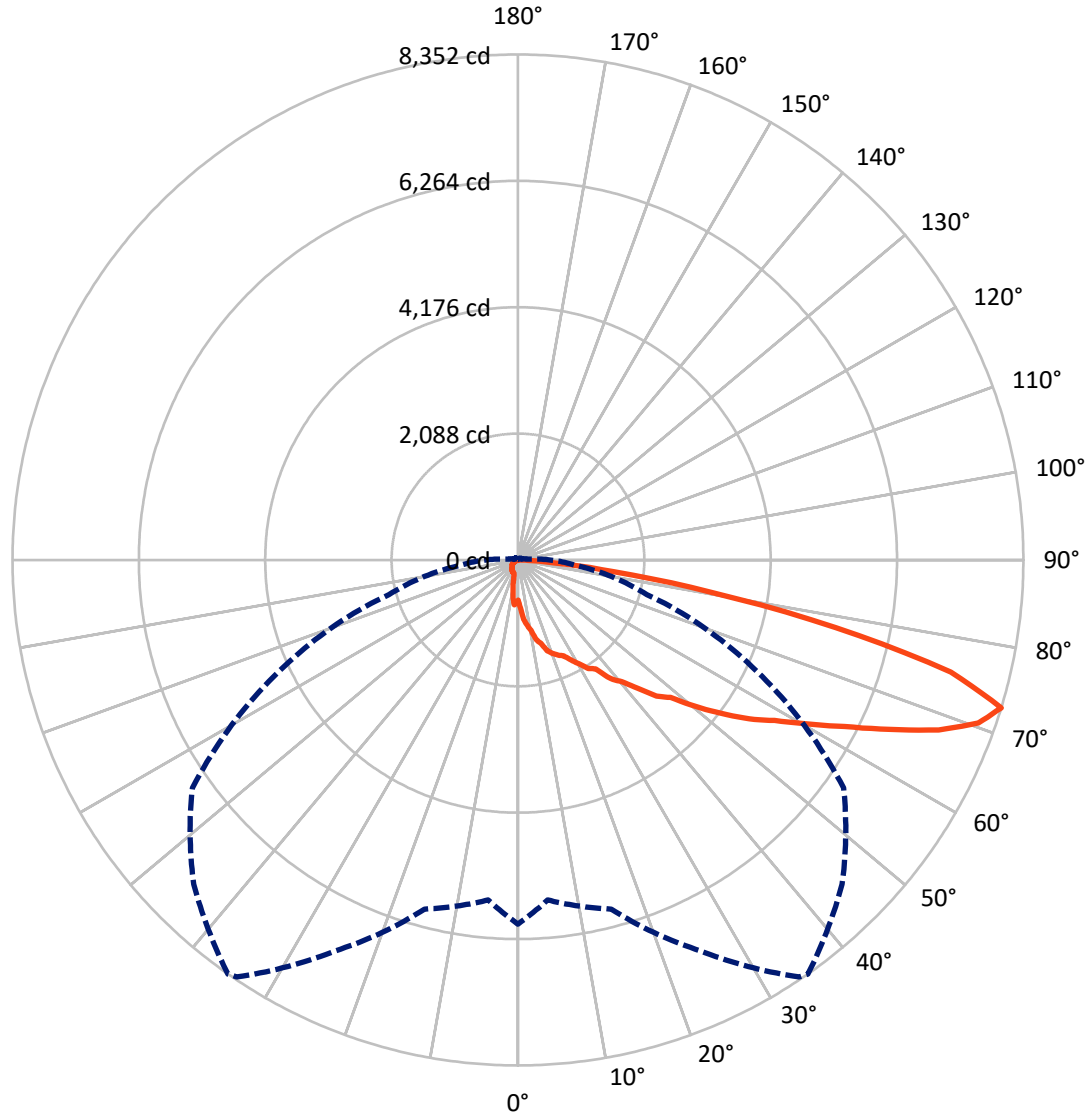
× Max cd  
 - - - 1/2 Max cd



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	870.1	0.0	870.1
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	10284.9	0.0	10284.9
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	11155.0	0.0	11155.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.7	0.8
10°-20°	285.5	2.6
20°-30°	519.9	4.7
30°-40°	896.7	8.0
40°-50°	1594.1	14.3
50°-60°	2378.7	21.3
60°-70°	3039.1	27.2
70°-80°	2114.4	19.0
80°-90°	241.9	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°	11155.0	100.0
0°-180°	11155.0	100.0

**Coefficient of Utilization**



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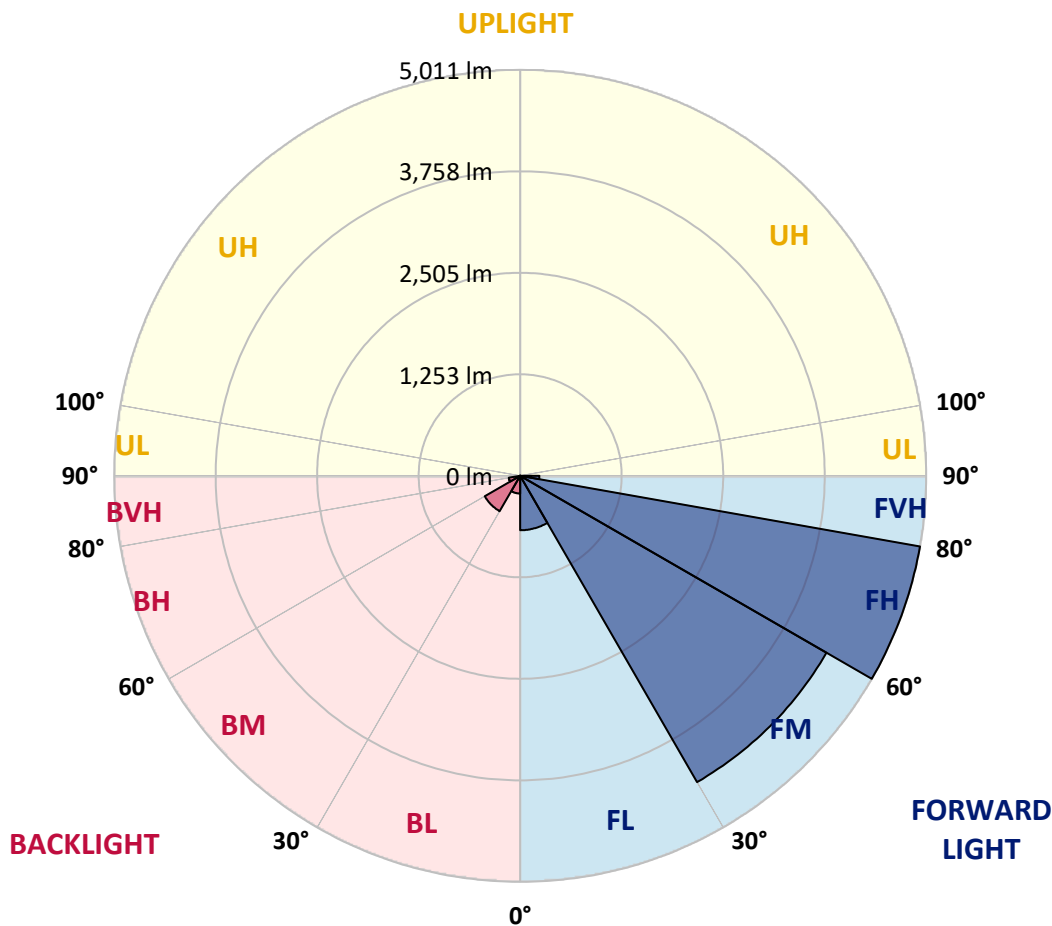
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	671.3	6.0			
FM (30°-60°)	4365.0	39.1			
FH (60°-80°)	5010.9	44.9			G3/7500
FVH (80°-90°)	237.8	2.1			G3/500
BL (0°-30°)	218.8	2.0	B1/500		
BM (30°-60°)	504.5	4.5	B1/1000		
BH (60°-80°)	142.6	1.3	B1/500		G1/500
BVH (80°-90°)	4.1	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°	664.5	664.5	664.5	664.5	664.5	664.5	664.5	664.5	664.5	664.5	664.5
2.5°	845.6	812.5	758.7	762.6	786.7	791.8	799.1	780.0	763.2	733.5	791.2
5°	1083.4	1035.7	1005.4	995.9	981.9	983.0	948.8	961.1	957.8	979.6	1006.0
7.5°	1217.4	1191.1	1152.9	1142.3	1090.7	1085.1	1043.0	1099.7	1105.3	1097.4	1140.6
10°	1270.7	1235.9	1240.4	1200.6	1174.8	1181.5	1188.3	1192.7	1200.0	1207.3	1154.6
12.5°	1302.1	1308.3	1369.4	1327.9	1353.7	1353.7	1399.1	1350.9	1352.6	1299.8	1308.8
15°	1443.4	1477.6	1450.1	1449.6	1421.5	1428.8	1481.5	1443.4	1463.0	1447.3	1386.8
17.5°	1620.6	1627.3	1575.2	1552.2	1577.4	1578.0	1555.6	1553.9	1485.5	1601.0	1527.5
20°	1677.2	1715.4	1641.3	1551.6	1656.5	1651.4	1649.8	1623.4	1509.6	1669.9	1609.4
22.5°	1831.4	1777.1	1726.6	1667.7	1708.6	1708.6	1702.5	1644.7	1600.4	1663.8	1689.6
25°	1879.7	1886.4	1820.8	1801.7	1802.8	1752.4	1747.9	1723.2	1680.6	1788.8	1737.2
27.5°	2045.7	2042.9	1885.3	1938.6	1870.7	1871.3	1747.3	1802.8	1810.1	1795.0	1852.8
30°	2208.8	2254.3	2016.5	2083.8	2012.6	1991.3	1870.1	1919.5	1932.4	1915.0	1987.9
32.5°	2416.9	2483.6	2252.6	2186.4	2077.6	2138.2	2054.6	1938.0	2001.9	2157.2	2198.2
35°	2637.3	2669.8	2423.6	2331.1	2208.3	2207.7	2204.9	2214.4	2285.1	2460.1	2494.8
37.5°	3033.2	2956.3	2733.7	2521.7	2549.2	2488.1	2445.5	2490.3	2563.8	2852.0	3000.6
40°	3254.1	3198.6	2885.1	2759.5	2623.2	2645.7	2761.2	2756.1	2951.8	3253.5	3476.2
42.5°	3468.9	3416.2	3107.7	3006.2	2831.3	2892.4	2942.9	3006.8	3407.7	3894.5	4016.7
45°	3660.1	3505.3	3287.7	3291.7	3200.8	3208.1	3297.3	3356.2	3936.0	4435.1	4520.9
47.5°	3775.6	3648.3	3439.7	3435.8	3430.2	3396.0	3816.0	3869.8	4357.1	4949.8	4957.7
50°	3938.2	3779.0	3596.2	3599.5	3729.1	3801.4	4302.7	4297.1	4763.7	5379.4	5198.3
52.5°	4140.7	3946.1	3744.8	3894.5	4094.7	4212.4	4619.5	4785.5	5200.5	5649.1	5292.5
55°	4399.7	4156.4	3962.3	4154.1	4591.0	4636.4	4929.7	5280.1	5676.6	5924.4	5322.7
57.5°	4703.7	4413.2	4256.2	4565.2	5000.9	5002.0	5381.1	5807.2	5968.7	6036.6	5288.5
60°	5031.1	4692.4	4534.3	4812.5	5452.8	5498.8	5882.9	6098.3	6265.4	6093.2	5227.4
62.5°	5319.4	4945.4	4822.5	5149.5	5948.6	6057.3	6320.3	6289.5	6479.6	6164.4	5072.1
65°	5662.6	5272.8	5192.1	5674.9	6595.7	6745.4	6811.6	6628.8	6551.4	6109.5	4667.8
67.5°	6002.4	5637.9	5635.6	6257.5	7444.1	7495.7	7426.2	7107.1	6467.8	5625.0	3927.0
70°	6241.8	5850.4	5997.9	6895.7	8215.1	8070.5	7777.8	7333.1	5864.4	4311.1	2565.5
72.5°	6017.0	5639.6	5972.1	7122.8	8310.5	8352.0	7574.2	6568.8	4357.1	2204.9	928.6
75°	4572.4	4341.4	5185.4	6319.2	7378.5	7388.0	6322.0	4633.0	2145.5	598.9	256.8
77.5°	2303.0	2229.6	3282.1	4486.1	5383.3	5367.6	4343.7	2481.9	690.3	199.1	129.5
80°	1165.8	1106.9	1396.9	2420.2	3196.9	3220.5	2480.2	1111.4	348.2	108.2	89.7
82.5°	716.1	679.6	764.3	1095.2	1551.6	1589.2	941.0	703.8	215.9	63.9	81.9
85°	138.5	145.8	439.1	548.4	619.6	605.1	278.7	579.3	65.0	38.1	59.4
87.5°	0.0	2.2	101.5	178.9	179.4	159.3	63.4	128.4	9.0	10.7	7.3
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°	664.5	664.5	664.5	664.5	664.5	664.5	664.5	664.5	664.5	664.5	664.5
2.5°	800.8	792.4	722.3	714.4	716.1	704.3	700.4	675.7	669.5	707.7	714.4
5°	994.8	938.7	873.7	850.1	813.7	752.0	743.0	727.3	709.9	716.7	711.6
7.5°	1113.7	1039.1	969.6	845.6	743.0	653.3	638.7	611.8	584.9	585.4	602.8
10°	1132.7	1069.9	974.0	823.2	706.0	593.8	496.3	425.6	393.7	365.1	373.5
12.5°	1243.2	1184.9	1008.2	816.5	652.2	477.2	349.4	280.4	250.1	240.0	238.9
15°	1331.8	1285.8	1066.6	795.7	532.7	335.9	250.1	229.9	224.3	233.8	231.0
17.5°	1463.6	1380.6	1060.4	709.9	406.0	255.1	230.5	227.7	234.4	240.0	241.7
20°	1521.3	1401.9	1018.3	575.3	303.9	233.8	224.9	219.3	231.6	248.4	245.1
22.5°	1579.7	1438.4	969.0	471.0	244.5	223.7	218.7	214.2	223.7	240.0	243.9
25°	1606.0	1496.7	914.0	367.9	227.1	212.0	208.6	210.3	218.1	232.7	231.0
27.5°	1738.9	1503.4	809.2	290.5	219.8	203.6	203.6	207.5	207.5	227.1	225.4
30°	1821.9	1617.2	723.9	244.5	211.4	191.8	198.5	200.2	197.4	218.7	220.4
32.5°	1967.7	1648.6	640.9	224.3	197.9	190.1	189.0	190.1	192.3	213.1	213.6
35°	2192.0	1803.4	527.7	216.5	191.2	181.7	173.8	180.0	185.6	200.8	203.6
37.5°	2630.5	1962.1	430.1	210.3	187.9	173.8	171.0	169.9	180.0	197.4	203.0
40°	2985.5	2243.0	349.9	205.2	181.1	169.3	162.1	162.6	171.6	184.5	192.9
42.5°	3487.9	2446.0	296.6	197.4	171.6	159.8	151.4	156.5	160.4	173.8	179.4
45°	3907.4	2603.6	261.3	192.3	162.1	150.8	144.1	149.7	145.8	152.5	160.4
47.5°	4241.0	2741.0	235.0	180.0	155.9	145.8	137.4	135.7	129.0	130.7	137.9
50°	4424.4	2718.0	213.1	167.7	148.0	140.8	129.0	117.2	108.2	107.7	112.2
52.5°	4489.5	2595.2	195.1	157.0	138.5	129.5	116.1	99.8	90.8	88.0	92.0
55°	4507.4	2418.6	178.9	145.2	129.5	115.5	101.5	84.1	74.6	70.1	74.0
57.5°	4449.1	2146.6	163.2	134.0	118.9	102.1	86.9	69.0	60.0	54.4	57.8
60°	4305.0	1801.2	149.2	120.0	107.7	90.3	73.5	55.5	46.0	40.9	42.6
62.5°	3985.9	1412.0	134.0	107.1	95.9	79.1	61.7	43.7	34.8	30.3	30.8
65°	3500.3	1052.5	116.6	94.8	85.2	68.4	49.3	33.6	26.4	22.4	21.9
67.5°	2788.7	713.3	99.3	81.9	75.7	57.8	39.3	26.4	20.7	17.9	16.8
70°	1639.1	359.4	82.4	70.7	65.0	48.2	30.8	21.3	19.1	16.8	15.7
72.5°	540.6	155.3	64.5	58.3	53.8	38.7	24.1	19.6	18.5	16.3	15.1
75°	188.4	89.7	47.7	44.9	42.6	29.2	20.2	17.9	17.9	15.7	14.0
77.5°	123.4	69.5	35.3	32.5	32.0	21.3	17.4	16.8	15.7	12.9	10.7
80°	102.6	39.3	24.7	23.0	22.4	13.5	14.0	12.3	9.5	5.6	2.2
82.5°	94.8	23.6	12.9	14.0	12.9	5.0	7.9	6.7	5.0	2.2	0.0
85°	55.5	10.7	7.3	7.3	5.6	1.1	3.9	3.9	2.2	0.6	0.0
87.5°	6.2	5.0	3.9	3.9	2.8	0.0	1.7	1.1	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)