

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: P368675

Luminaire Tested: **MSA-SA4D-760-U-SL4-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368675
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-760-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: 21757 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G4

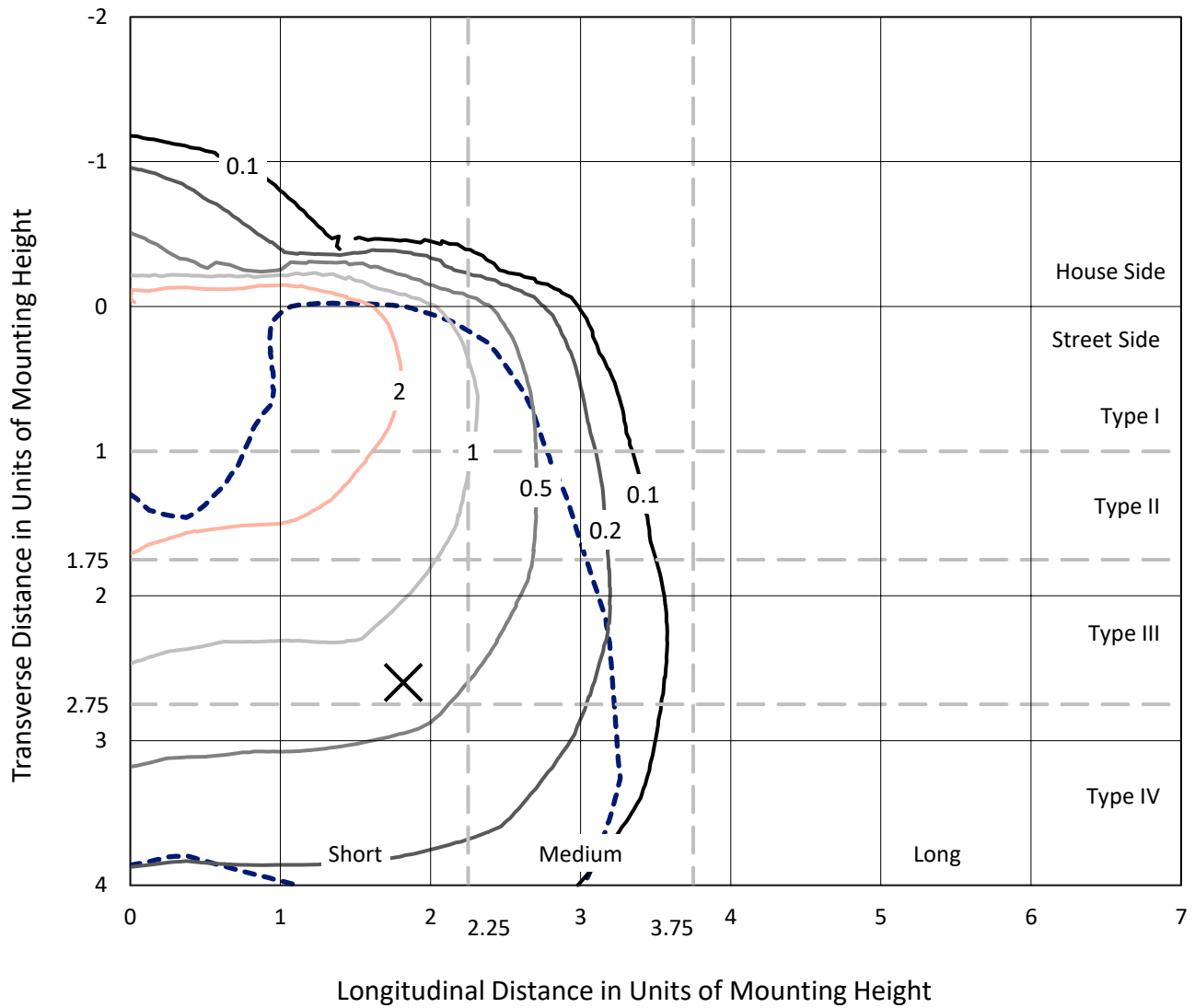
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

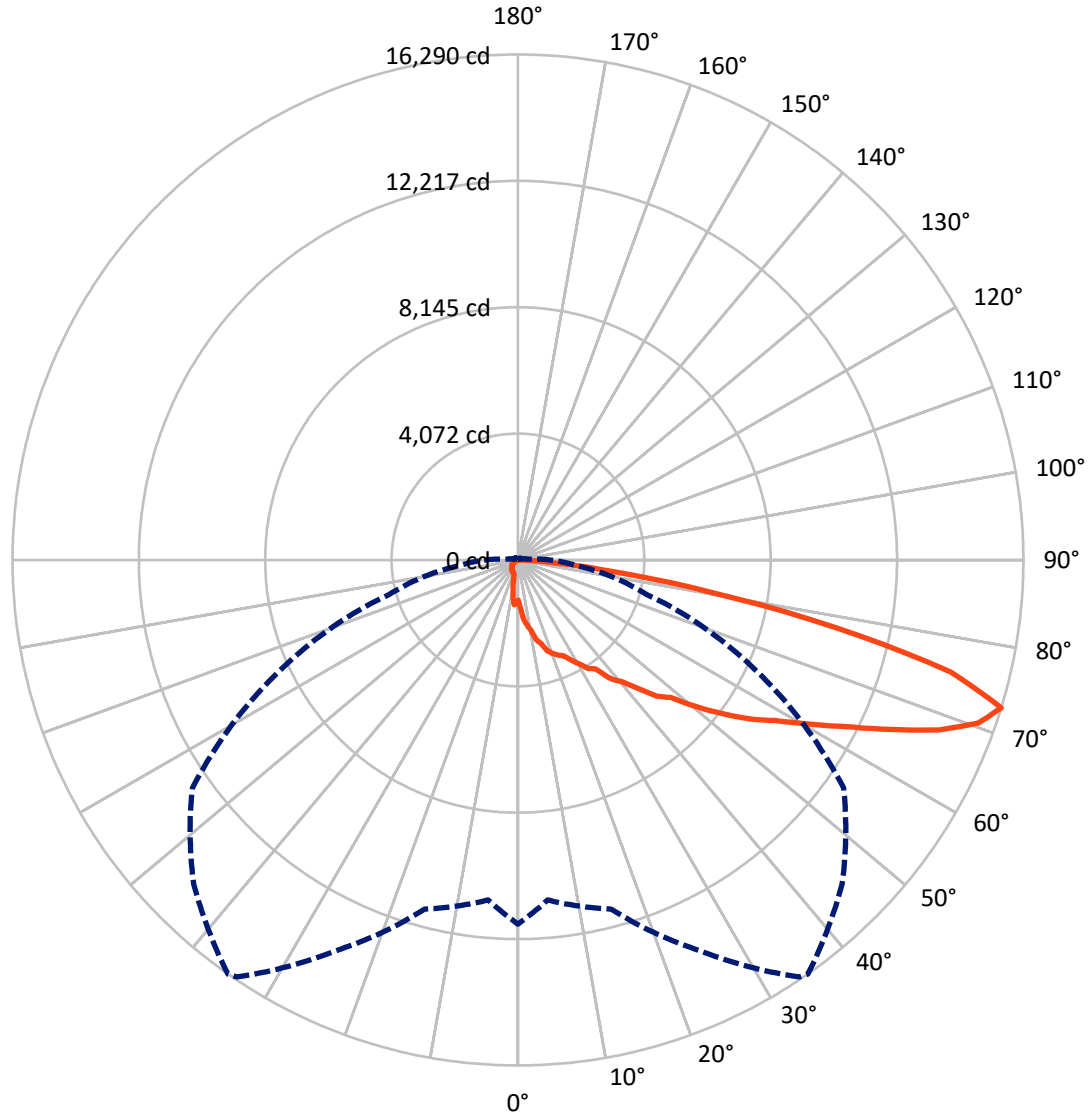
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 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
House Side	Lumens	1697.0	0.0	1697.0
	% Fixture	7.8	0.0	7.8
Street Side	Lumens	20060.0	0.0	20060.0
	% Fixture	92.2	0.0	92.2
Total	Lumens	21757.0	0.0	21757.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.3	0.8
10°-20°	556.8	2.6
20°-30°	1014.0	4.7
30°-40°	1749.0	8.0
40°-50°	3109.1	14.3
50°-60°	4639.5	21.3
60°-70°	5927.5	27.2
70°-80°	4124.0	19.0
80°-90°	471.8	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°	21757.0	100.0
0°-180°	21757.0	100.0

Coefficient of Utilization

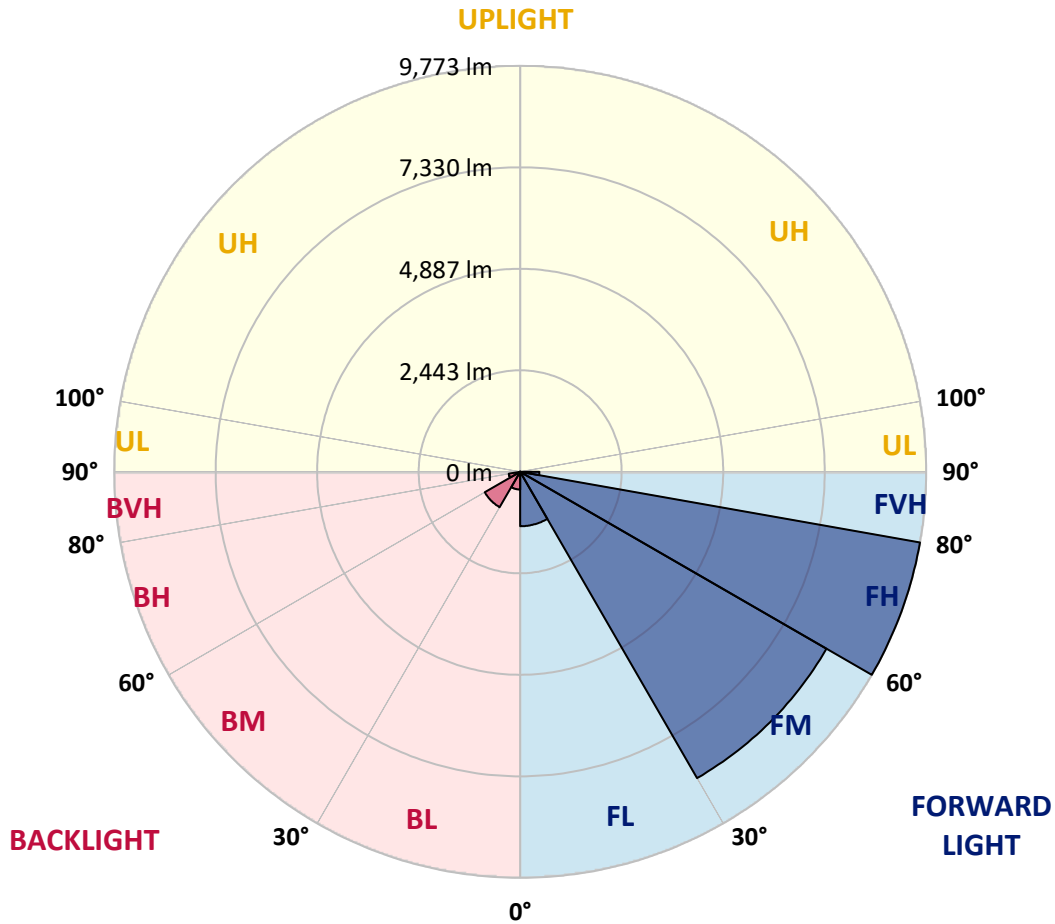


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1309.3	6.0			
FM (30°-60°)	8513.6	39.1			
FH (60°-80°)	9773.3	44.9			G4/12000
FVH (80°-90°)	463.8	2.1			G3/500
BL (0°-30°)	426.8	2.0	B1/500		
BM (30°-60°)	984.0	4.5	B1/1000		
BH (60°-80°)	278.2	1.3	B1/500		G1/500
BVH (80°-90°)	7.9	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°	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1
2.5°	1649.3	1584.8	1479.8	1487.5	1534.5	1544.3	1558.6	1521.4	1488.6	1430.6	1543.2
5°	2113.1	2020.1	1961.0	1942.5	1915.1	1917.3	1850.6	1874.6	1868.1	1910.7	1962.1
7.5°	2374.5	2323.1	2248.7	2227.9	2127.3	2116.4	2034.3	2144.8	2155.7	2140.4	2224.6
10°	2478.4	2410.6	2419.3	2341.7	2291.3	2304.5	2317.6	2326.3	2340.6	2354.8	2252.0
12.5°	2539.6	2551.7	2670.9	2589.9	2640.2	2640.2	2728.8	2634.8	2638.1	2535.2	2552.7
15°	2815.2	2882.0	2828.4	2827.3	2772.6	2786.8	2889.6	2815.2	2853.5	2822.9	2704.8
17.5°	3160.9	3174.0	3072.3	3027.4	3076.6	3077.7	3034.0	3030.7	2897.3	3122.6	2979.3
20°	3271.3	3345.7	3201.3	3026.3	3230.9	3221.0	3217.7	3166.3	2944.3	3257.1	3139.0
22.5°	3572.1	3466.0	3367.6	3252.7	3332.6	3332.6	3320.5	3207.9	3121.5	3245.1	3295.4
25°	3666.2	3679.3	3551.3	3514.1	3516.3	3417.9	3409.1	3361.0	3277.9	3489.0	3388.4
27.5°	3989.9	3984.4	3677.1	3781.0	3648.7	3649.8	3408.0	3516.3	3530.5	3501.0	3613.7
30°	4308.2	4396.8	3933.0	4064.3	3925.4	3883.8	3647.6	3743.8	3769.0	3735.1	3877.2
32.5°	4713.9	4844.1	4393.5	4264.4	4052.2	4170.4	4007.4	3779.9	3904.6	4207.6	4287.4
35°	5143.8	5207.2	4727.1	4546.6	4307.1	4306.0	4300.5	4319.1	4456.9	4798.2	4866.0
37.5°	5915.9	5766.1	5331.9	4918.5	4972.1	4852.8	4769.7	4857.2	5000.5	5562.7	5852.5
40°	6346.9	6238.6	5627.2	5382.2	5116.4	5160.2	5385.5	5375.6	5757.4	6345.8	6780.0
42.5°	6765.8	6663.0	6061.4	5863.4	5522.2	5641.4	5739.9	5864.5	6646.6	7595.9	7834.3
45°	7138.7	6836.9	6412.5	6420.2	6243.0	6257.2	6431.1	6545.9	7676.8	8650.3	8817.6
47.5°	7364.0	7115.8	6708.9	6701.2	6690.3	6623.6	7442.8	7547.8	8498.2	9654.3	9669.6
50°	7681.2	7370.6	7014.0	7020.6	7273.3	7414.3	8392.1	8381.2	9291.2	10492.1	10138.8
52.5°	8076.0	7696.5	7303.9	7595.9	7986.4	8216.0	9010.1	9333.8	10143.2	11018.2	10322.6
55°	8581.3	8106.7	7728.2	8102.3	8954.3	9042.9	9614.9	10298.5	11071.8	11555.2	10381.6
57.5°	9174.1	8607.6	8301.4	8904.0	9753.8	9756.0	10495.4	11326.6	11641.6	11773.9	10314.9
60°	9812.9	9152.3	8843.8	9386.3	10635.4	10725.0	11474.2	11894.2	12220.2	11884.4	10195.7
62.5°	10375.1	9645.5	9406.0	10043.7	11602.2	11814.4	12327.3	12267.2	12638.0	12023.3	9892.7
65°	11044.4	10284.3	10126.8	11068.5	12864.4	13156.4	13285.5	12928.9	12778.0	11916.1	9104.1
67.5°	11707.2	10996.3	10991.9	12204.9	14519.2	14619.8	14484.2	13861.8	12615.0	10971.1	7659.3
70°	12174.2	11410.8	11698.5	13449.5	16023.0	15740.9	15169.9	14302.6	11438.2	8408.5	5003.8
72.5°	11735.6	10999.6	11648.1	13892.5	16209.0	16289.9	14772.9	12811.9	8498.2	4300.5	1811.2
75°	8918.2	8467.6	10113.7	12325.2	14391.2	14409.8	12330.6	9036.3	4184.6	1168.1	500.9
77.5°	4491.9	4348.6	6401.6	8749.8	10499.7	10469.1	8472.0	4840.8	1346.4	388.3	252.6
80°	2273.8	2159.0	2724.5	4720.5	6235.3	6281.3	4837.5	2167.8	679.2	211.1	175.0
82.5°	1396.7	1325.6	1490.7	2136.0	3026.3	3099.6	1835.3	1372.6	421.1	124.7	159.7
85°	270.1	284.4	856.4	1069.7	1208.6	1180.1	543.6	1129.8	126.9	74.4	115.9
87.5°	0.0	4.4	198.0	348.9	350.0	310.6	123.6	250.5	17.5	20.8	14.2
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°	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1	1296.1
2.5°	1561.8	1545.4	1408.7	1393.4	1396.7	1373.7	1366.1	1317.9	1305.9	1380.3	1393.4
5°	1940.3	1830.9	1704.0	1658.1	1587.0	1466.7	1449.2	1418.6	1384.7	1397.8	1387.9
7.5°	2172.1	2026.7	1891.0	1649.3	1449.2	1274.2	1245.8	1193.3	1140.8	1141.8	1175.8
10°	2209.3	2086.8	1899.8	1605.6	1377.0	1158.3	967.9	830.1	767.8	712.0	728.4
12.5°	2424.8	2311.0	1966.5	1592.5	1272.0	930.8	681.4	546.9	487.8	468.1	465.9
15°	2597.6	2507.9	2080.3	1552.0	1039.0	655.1	487.8	448.4	437.5	456.1	450.6
17.5°	2854.6	2692.7	2068.2	1384.7	791.9	497.6	449.5	444.1	457.2	468.1	471.4
20°	2967.3	2734.3	1986.2	1122.2	592.8	456.1	438.6	427.6	451.7	484.5	478.0
22.5°	3081.0	2805.4	1890.0	918.7	476.9	436.4	426.6	417.8	436.4	468.1	475.8
25°	3132.4	2919.1	1782.8	717.5	443.0	413.4	406.9	410.1	425.5	453.9	450.6
27.5°	3391.6	2932.3	1578.2	566.5	428.7	397.0	397.0	404.7	404.7	443.0	439.7
30°	3553.5	3154.3	1412.0	476.9	412.3	374.1	387.2	390.5	385.0	426.6	429.8
32.5°	3837.9	3215.5	1250.1	437.5	386.1	370.8	368.6	370.8	375.1	415.6	416.7
35°	4275.4	3517.4	1029.2	422.2	373.0	354.4	339.1	351.1	362.0	391.6	397.0
37.5°	5130.7	3826.9	838.9	410.1	366.4	339.1	333.6	331.4	351.1	385.0	395.9
40°	5823.0	4374.9	682.5	400.3	353.3	330.3	316.1	317.2	334.7	359.8	376.2
42.5°	6803.0	4770.8	578.6	385.0	334.7	311.7	295.3	305.1	312.8	339.1	350.0
45°	7621.1	5078.2	509.7	375.1	316.1	294.2	281.1	292.0	284.4	297.5	312.8
47.5°	8271.8	5346.1	458.3	351.1	304.1	284.4	268.0	264.7	251.6	254.8	269.1
50°	8629.5	5301.3	415.6	327.0	288.7	274.5	251.6	228.6	211.1	210.0	218.7
52.5°	8756.3	5061.7	380.6	306.2	270.1	252.6	226.4	194.7	177.2	171.7	179.4
55°	8791.3	4717.2	348.9	283.3	252.6	225.3	198.0	164.1	145.5	136.7	144.4
57.5°	8677.6	4186.8	318.3	261.4	231.9	199.1	169.5	134.5	117.0	106.1	112.7
60°	8396.5	3513.0	290.9	234.1	210.0	176.1	143.3	108.3	89.7	79.8	83.1
62.5°	7774.2	2754.0	261.4	208.9	187.0	154.2	120.3	85.3	67.8	59.1	60.2
65°	6827.0	2052.9	227.5	184.8	166.2	133.4	96.2	65.6	51.4	43.7	42.7
67.5°	5439.1	1391.2	193.6	159.7	147.7	112.7	76.6	51.4	40.5	35.0	32.8
70°	3197.0	701.1	160.8	137.8	126.9	94.1	60.2	41.6	37.2	32.8	30.6
72.5°	1054.3	303.0	125.8	113.7	105.0	75.5	47.0	38.3	36.1	31.7	29.5
75°	367.5	175.0	93.0	87.5	83.1	56.9	39.4	35.0	35.0	30.6	27.3
77.5°	240.6	135.6	68.9	63.4	62.3	41.6	33.9	32.8	30.6	25.2	20.8
80°	200.2	76.6	48.1	44.8	43.7	26.2	27.3	24.1	18.6	10.9	4.4
82.5°	184.8	45.9	25.2	27.3	25.2	9.8	15.3	13.1	9.8	4.4	0.0
85°	108.3	20.8	14.2	14.2	10.9	2.2	7.7	7.7	4.4	1.1	0.0
87.5°	12.0	9.8	7.7	7.7	5.5	0.0	3.3	2.2	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)