

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: P368453

Luminaire Tested: **MSA-SA4C-727-U-SL3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368453
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4C-727-U-SL3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16524 lumens
Efficiency: N/A
Efficacy: 73.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G3

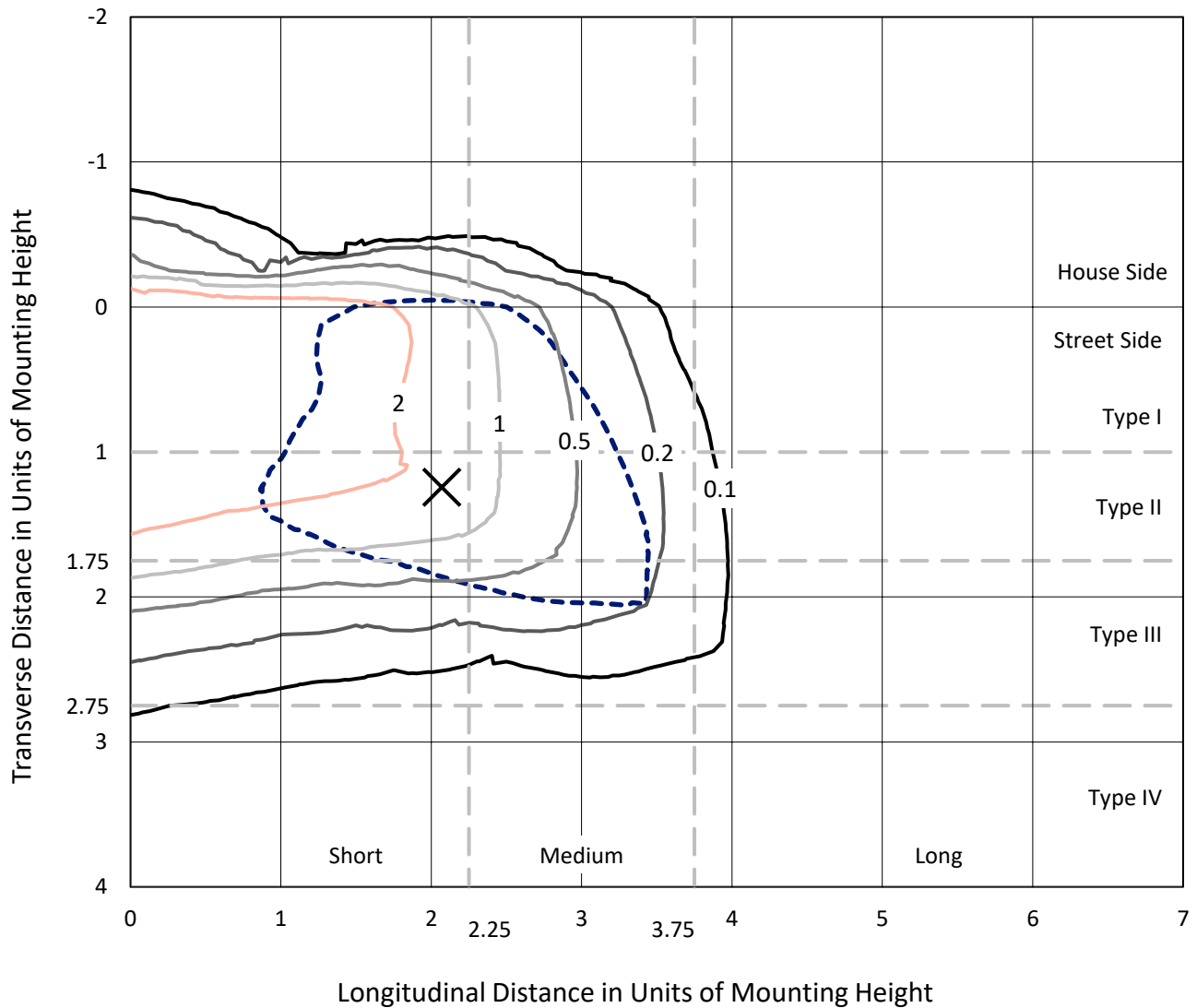
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

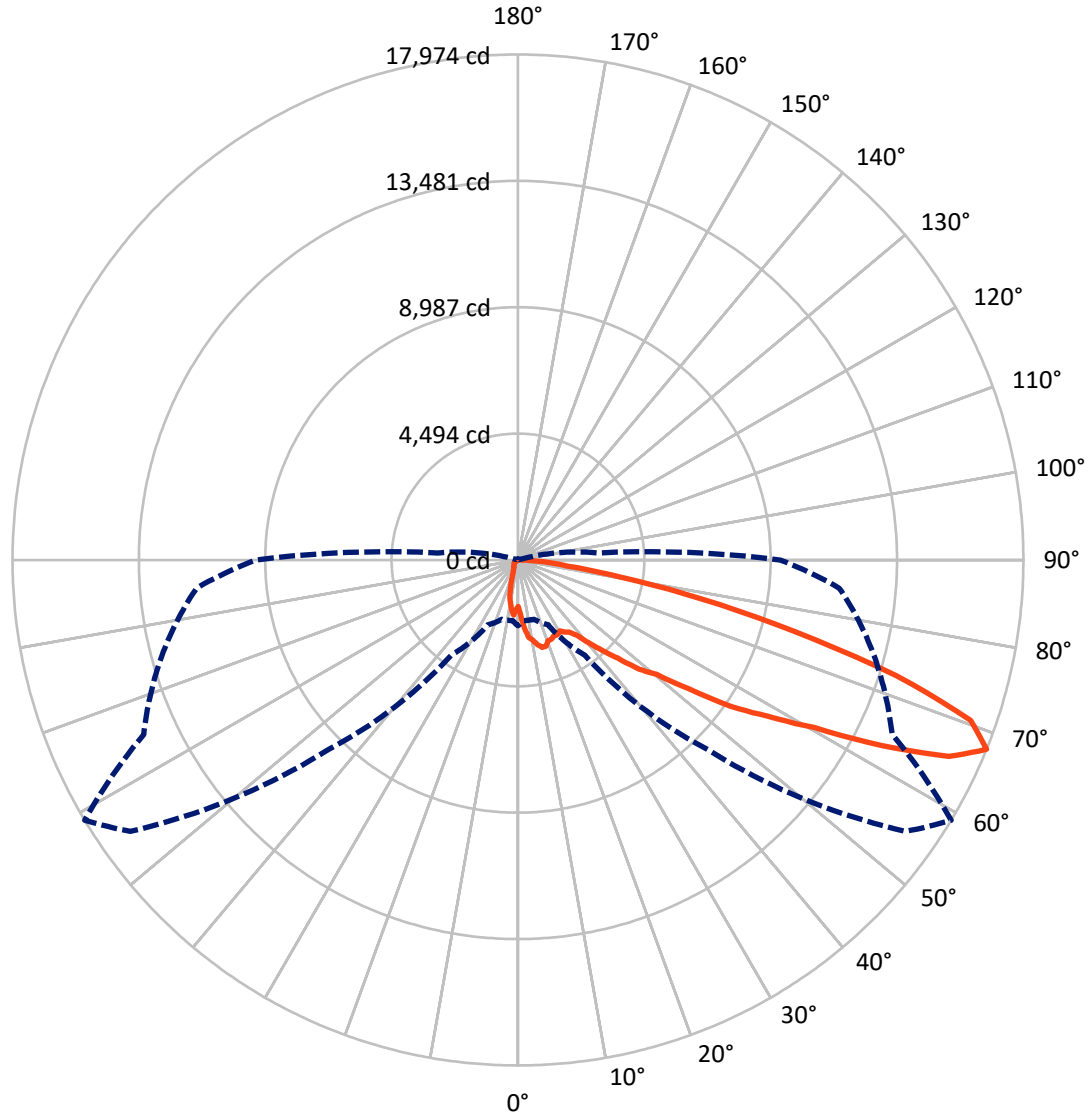
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1405.3	0.0	1405.3
	% Fixture	8.5	0.0	8.5
Street Side	Lumens	15118.7	0.0	15118.7
	% Fixture	91.5	0.0	91.5
Total	Lumens	16524.0	0.0	16524.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.0	1.2
10°-20°	566.0	3.4
20°-30°	841.9	5.1
30°-40°	1298.9	7.9
40°-50°	2318.1	14.0
50°-60°	4125.1	25.0
60°-70°	4804.3	29.1
70°-80°	2136.6	12.9
80°-90°	232.0	1.4
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°	16524.0	100.0
0°-180°	16524.0	100.0

Coefficient of Utilization



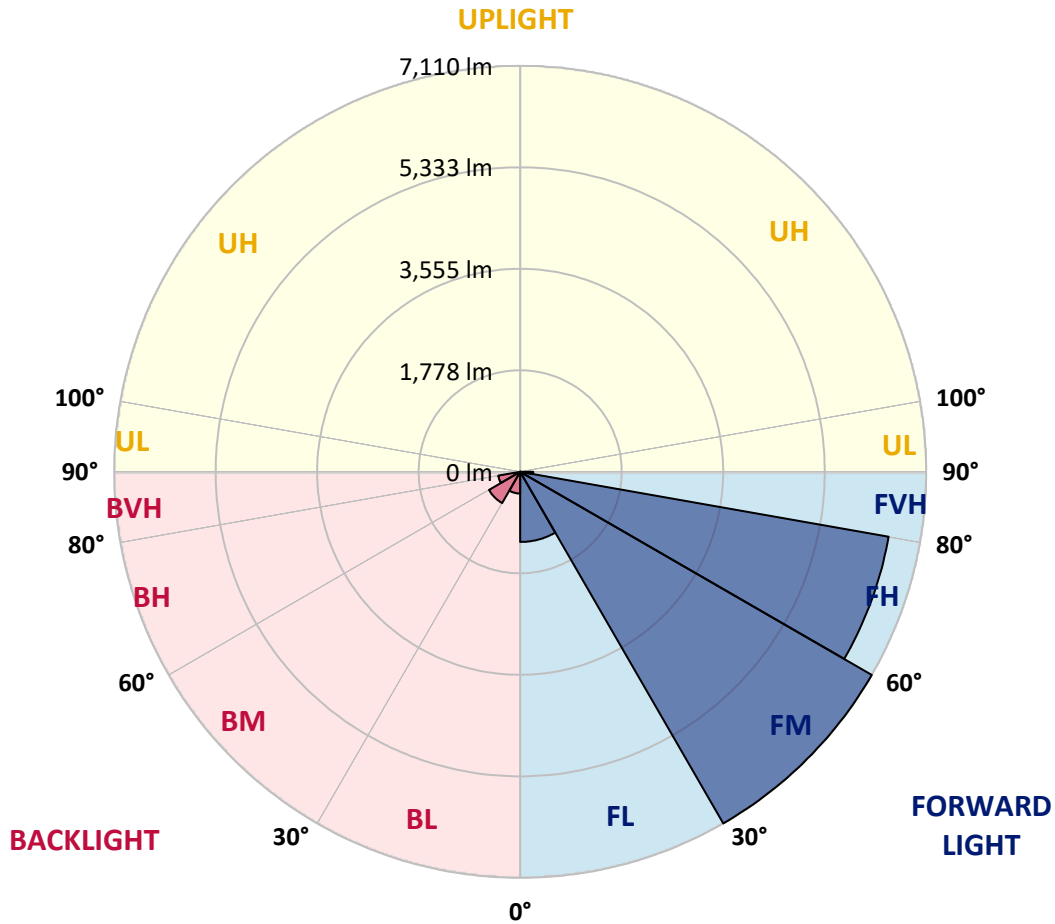
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1228.9	7.4			
FM (30°-60°)	7110.3	43.0			
FH (60°-80°)	6551.6	39.6			G3/7500
FVH (80°-90°)	227.9	1.4			G3/500
BL (0°-30°)	380.0	2.3	B1/500		
BM (30°-60°)	631.8	3.8	B1/1000		
BH (60°-80°)	389.3	2.4	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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3
2.5°	2155.3	2074.1	1958.7	1993.0	2023.9	2053.2	2004.7	1977.1	1963.7	1844.9	1993.8
5°	2646.4	2545.2	2492.5	2479.1	2445.6	2371.2	2495.0	2439.8	2458.2	2481.6	2530.1
7.5°	2796.2	2750.2	2674.0	2702.5	2575.3	2564.4	2735.9	2783.6	2846.4	2803.7	2862.3
10°	2719.2	2639.7	2675.7	2665.7	2660.6	2772.8	2893.2	2895.7	2989.5	3034.6	2836.3
12.5°	2566.9	2576.1	2705.0	2694.9	2862.3	3086.5	3114.1	3084.8	3238.0	3159.3	3129.2
15°	2668.2	2743.5	2672.4	2696.6	2756.0	3036.3	3134.2	3224.6	3369.3	3416.2	3212.9
17.5°	2790.3	2797.9	2668.2	2638.1	2787.8	2918.3	3149.3	3223.7	3238.0	3648.8	3401.1
20°	2724.2	2788.7	2633.9	2443.9	2676.5	2853.9	3088.2	3064.8	3160.1	3717.4	3443.8
22.5°	2899.9	2807.9	2609.6	2466.5	2545.2	2706.7	2905.0	3058.1	3201.1	3553.4	3499.0
25°	2916.7	2883.2	2706.7	2579.5	2566.1	2607.1	2883.2	2981.9	3206.2	3700.6	3452.1
27.5°	3104.9	3066.4	2705.0	2717.5	2592.0	2465.7	2777.8	3009.5	3297.4	3611.1	3551.7
30°	3347.6	3350.9	2884.9	2924.2	2745.1	2541.8	2864.0	2927.5	3359.3	3754.2	3625.3
32.5°	3593.5	3694.8	3240.5	3032.1	2976.1	2830.5	2756.9	3050.5	3291.5	3998.5	3809.4
35°	3967.5	4036.1	3533.3	3346.7	3126.7	2961.0	3048.0	3153.4	3535.0	4322.3	4051.2
37.5°	4600.9	4477.1	4058.7	3734.1	3681.4	3437.1	3480.6	3386.0	3783.5	4703.8	4529.8
40°	4957.3	4845.2	4410.1	4252.0	3915.7	3953.3	3816.1	3871.3	4144.1	5101.2	4965.7
42.5°	5328.8	5221.7	4840.2	4728.1	4407.6	4252.0	4190.1	4388.4	4697.1	5763.1	5590.7
45°	5702.0	5430.1	5268.6	5324.6	5180.7	4872.8	4800.9	4977.4	5301.2	6576.3	6250.0
47.5°	6016.6	5787.3	5666.0	5640.1	5584.0	6011.5	5718.7	5796.5	5939.6	7295.8	7071.6
50°	6583.8	6357.9	6168.0	6115.3	6388.0	6994.6	6542.8	6392.2	6678.4	8165.2	8023.8
52.5°	7402.9	7115.1	6813.1	6813.9	7328.5	7661.5	7875.7	7611.3	7664.8	9121.5	9058.7
55°	8061.4	7695.8	7445.6	7643.1	8410.3	8596.9	9414.3	9182.6	9113.1	10008.4	9931.4
57.5°	8151.8	7713.4	7594.5	7940.9	8991.0	10182.4	11061.7	10482.8	10376.5	10750.5	10903.6
60°	7308.4	6843.2	6932.7	7490.0	9180.1	11148.8	12574.5	12101.7	11426.5	11619.8	11725.2
62.5°	5451.0	5079.5	5330.5	6068.4	8451.3	11796.3	14325.6	14544.8	12644.7	12272.4	12249.8
65°	3536.6	3304.0	3468.9	4073.8	6395.6	11722.7	15890.2	16840.7	13604.4	12804.5	12414.7
67.5°	2339.4	2162.8	2186.2	2544.3	4135.7	9534.0	16825.6	17974.4	14683.7	13106.6	11470.0
70°	1743.6	1604.8	1613.1	1807.2	2454.8	6287.6	15521.2	17080.0	15077.8	12059.9	9257.9
72.5°	1257.5	1164.7	1242.5	1458.3	1956.2	3325.0	11568.8	14066.3	13147.6	9512.2	6237.4
75°	871.0	809.9	937.1	1219.9	1785.5	2064.1	7644.7	10125.5	9215.2	5968.0	2819.6
77.5°	482.8	464.4	647.6	994.0	1620.6	1691.8	4682.9	6653.3	5111.3	2139.4	671.0
80°	210.8	204.1	313.8	746.3	1362.1	1528.6	2636.4	3688.9	2010.5	381.5	216.7
82.5°	90.4	87.0	133.9	449.3	989.8	1278.4	1625.7	1775.4	691.9	118.0	123.0
85°	15.9	17.6	53.5	236.8	602.4	649.3	1177.2	1050.9	348.1	56.1	87.9
87.5°	0.0	0.0	8.4	46.0	113.0	185.7	510.4	368.1	66.1	18.4	15.1
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°	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3	1653.3
2.5°	2014.7	1967.9	1789.7	1767.1	1742.8	1706.8	1693.4	1616.5	1606.4	1705.2	1705.2
5°	2507.5	2340.2	2170.3	2036.5	1916.8	1751.2	1704.3	1655.8	1616.5	1606.4	1637.4
7.5°	2767.7	2563.6	2296.7	1956.2	1680.1	1439.9	1339.5	1269.2	1190.6	1214.0	1226.6
10°	2753.5	2536.8	2196.3	1758.7	1452.5	1187.2	932.1	783.1	700.3	659.3	654.3
12.5°	2893.2	2689.1	2128.5	1601.4	1210.7	844.2	586.5	480.3	419.2	420.0	415.0
15°	2974.4	2751.8	2049.9	1402.3	852.6	543.0	406.6	383.2	374.8	384.0	379.0
17.5°	3117.5	2817.9	1871.7	1105.3	586.5	410.0	374.0	364.8	375.7	394.9	389.9
20°	3106.6	2703.3	1618.1	778.9	433.4	369.0	353.9	339.7	362.3	382.4	379.0
22.5°	3096.6	2591.2	1379.7	574.8	362.3	336.3	323.8	317.9	329.7	353.1	358.1
25°	3007.9	2536.0	1137.9	431.7	328.0	305.4	299.5	294.5	298.7	317.9	317.1
27.5°	3116.6	2396.3	878.5	362.3	303.7	276.9	271.9	263.6	255.2	271.9	274.4
30°	3094.0	2415.5	688.6	318.8	279.5	243.5	245.1	227.6	212.5	227.6	227.6
32.5°	3176.0	2274.9	551.4	289.5	255.2	229.3	208.3	189.9	179.0	188.3	189.9
35°	3295.7	2280.8	431.7	271.1	234.3	204.1	179.0	160.6	150.6	154.8	157.3
37.5°	3696.5	2240.6	360.6	256.9	226.7	189.1	163.2	138.9	132.2	137.2	139.7
40°	3957.5	2347.7	317.9	249.3	207.5	174.0	139.7	122.2	116.3	118.8	123.0
42.5°	4449.5	2407.1	297.0	241.0	189.9	148.9	119.6	109.6	101.2	104.6	107.9
45°	4975.7	2508.4	281.1	231.8	176.5	130.5	105.4	97.1	86.2	87.0	90.4
47.5°	5622.5	2749.3	262.7	215.9	158.1	118.8	93.7	81.2	71.1	70.3	74.5
50°	6491.0	3071.5	246.0	195.8	146.4	108.8	82.0	66.1	57.7	55.2	58.6
52.5°	7418.0	3488.1	228.4	181.6	132.2	95.4	70.3	53.5	46.0	44.3	46.9
55°	8336.7	3888.1	211.7	172.4	117.1	82.0	59.4	44.3	37.7	36.0	37.7
57.5°	9383.4	4320.6	189.9	153.9	102.9	71.1	49.4	36.8	31.0	29.3	30.1
60°	10171.5	4472.9	171.5	133.9	89.5	62.8	41.8	29.3	25.1	23.4	24.3
62.5°	10545.5	4224.4	153.9	116.3	78.6	54.4	35.1	24.3	20.9	19.2	19.2
65°	10448.5	3673.9	136.4	99.6	67.8	45.2	27.6	20.9	18.4	15.9	15.1
67.5°	9327.3	2874.8	116.3	83.7	56.9	36.8	23.4	20.1	16.7	15.1	12.6
70°	7397.1	2081.7	94.5	69.4	47.7	30.1	18.4	18.4	15.9	15.1	11.7
72.5°	4848.6	1310.2	77.0	56.1	39.3	23.4	14.2	16.7	15.1	15.1	10.9
75°	2100.9	468.5	61.9	45.2	32.6	15.9	12.6	15.1	15.9	15.1	12.6
77.5°	492.0	145.6	48.5	36.0	26.8	10.9	12.6	15.1	15.9	14.2	10.9
80°	184.9	61.9	31.8	23.4	20.9	6.7	10.9	9.2	8.4	5.9	1.7
82.5°	112.1	25.9	16.7	11.7	10.0	1.7	5.0	3.3	1.7	1.7	0.0
85°	79.5	12.6	9.2	8.4	5.0	0.0	0.8	0.0	0.0	0.8	0.0
87.5°	10.9	3.3	4.2	4.2	3.3	0.0	0.0	0.0	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)