

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: P368321

Luminaire Tested: **MSA-SA4B-727-U-SL3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368321
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-SA4B-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: 13343 lumens
Efficiency: N/A
Efficacy: 78.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G3

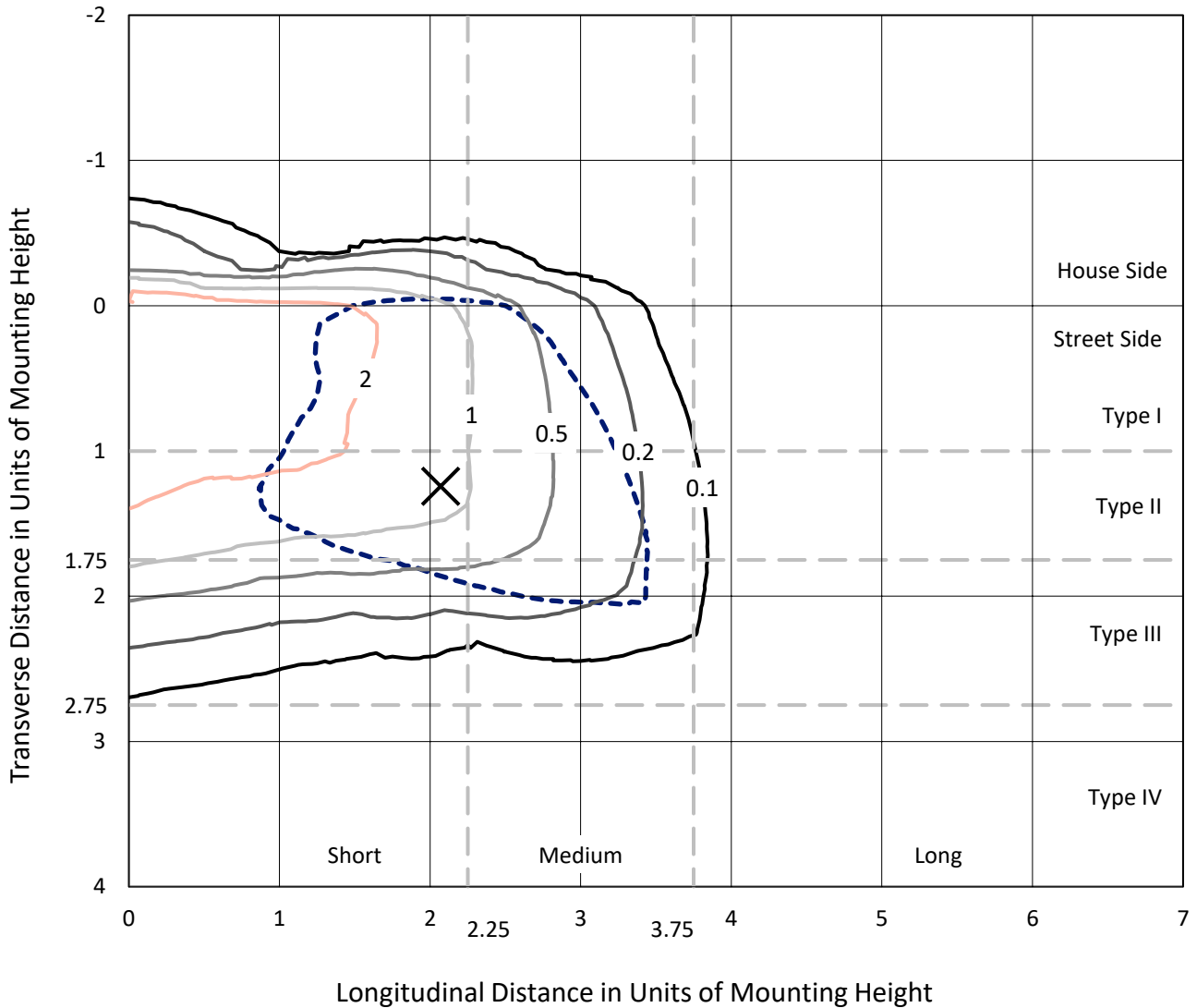
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

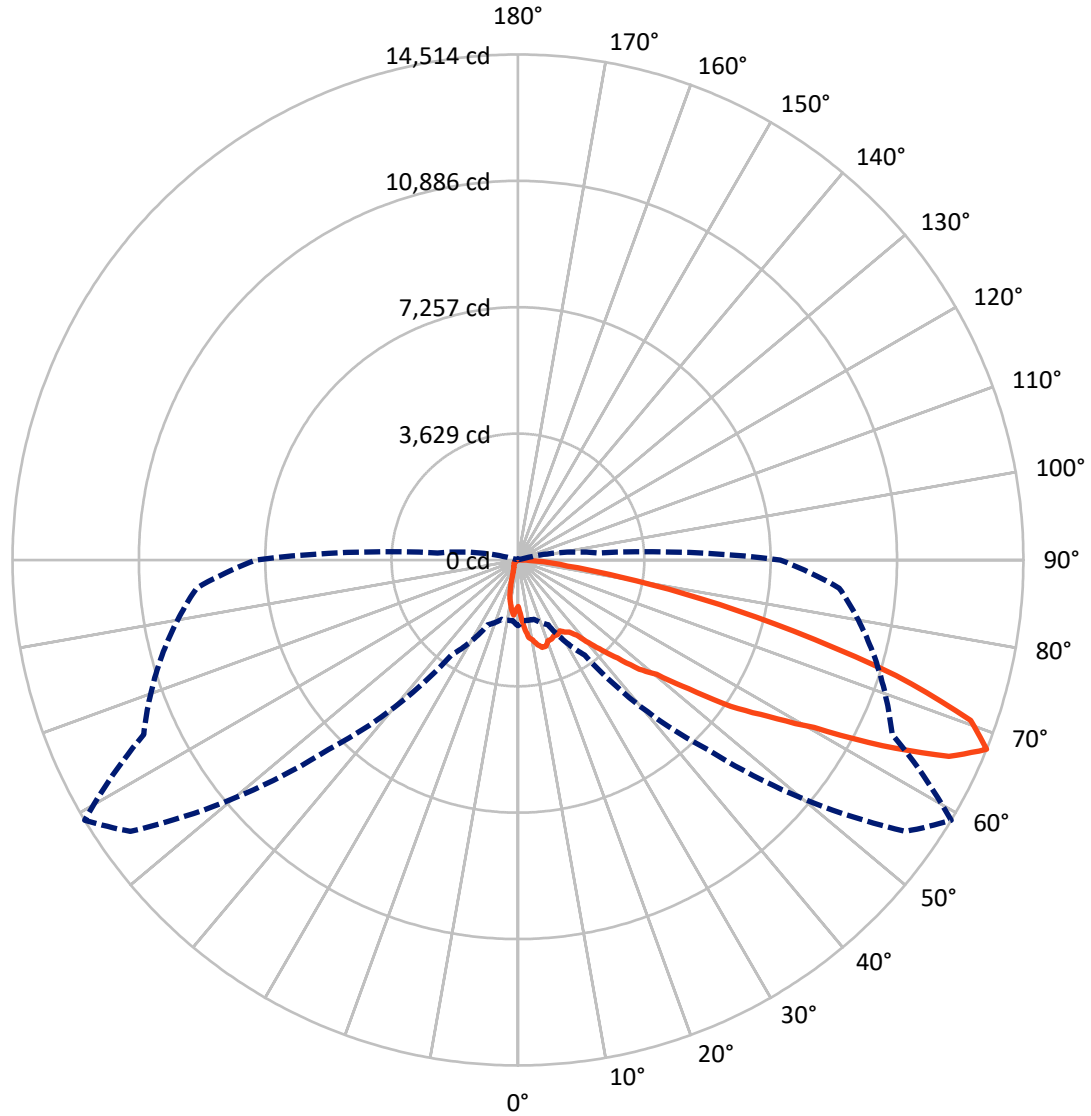
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 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	1134.7	0.0	1134.7
	% Fixture	8.5	0.0	8.5
Street Side	Lumens	12208.3	0.0	12208.3
	% Fixture	91.5	0.0	91.5
Total	Lumens	13343.0	0.0	13343.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	1.2
10°-20°	457.1	3.4
20°-30°	679.8	5.1
30°-40°	1048.9	7.9
40°-50°	1871.8	14.0
50°-60°	3331.0	25.0
60°-70°	3879.5	29.1
70°-80°	1725.3	12.9
80°-90°	187.4	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°	13343.0	100.0
0°-180°	13343.0	100.0

Coefficient of Utilization



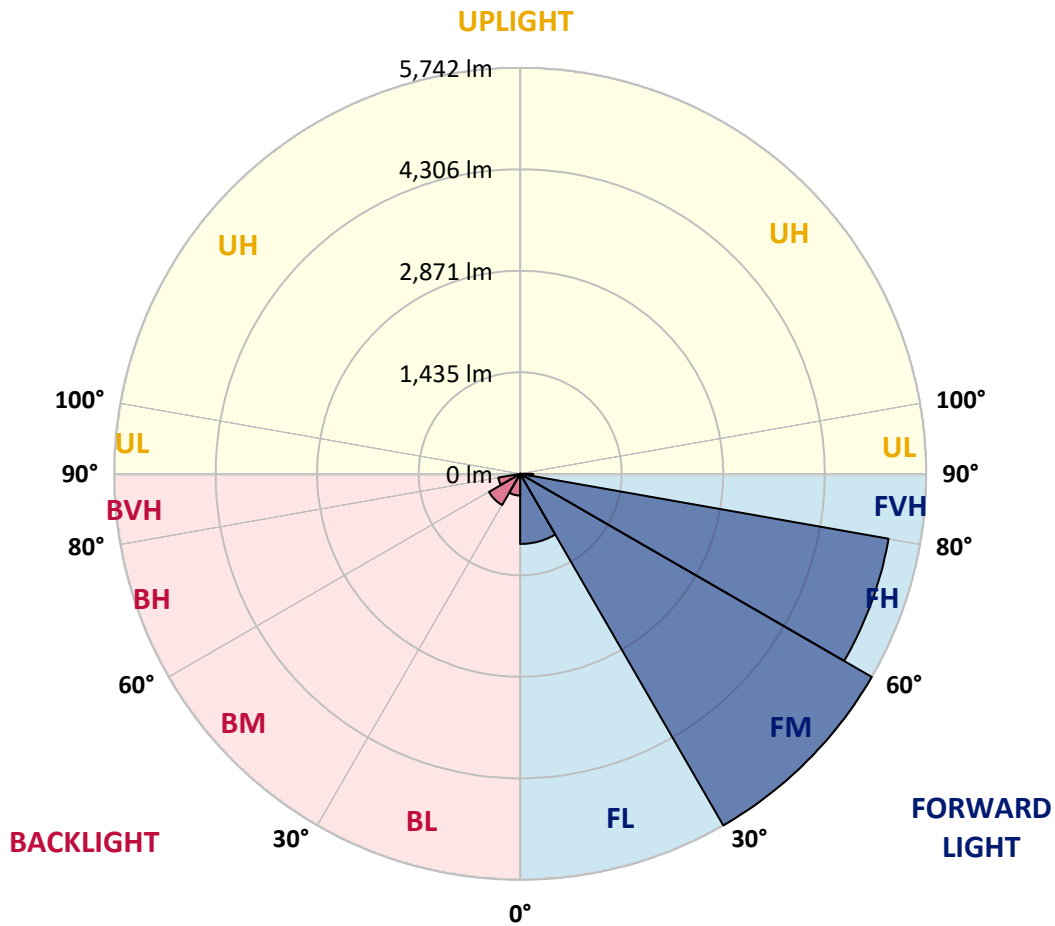
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	992.3	7.4			
FM (30°-60°)	5741.5	43.0			
FH (60°-80°)	5290.4	39.6			G3/7500
FVH (80°-90°)	184.0	1.4			G2/225
BL (0°-30°)	306.9	2.3	B1/500		
BM (30°-60°)	510.2	3.8	B1/1000		
BH (60°-80°)	314.3	2.4	B1/500		G1/500
BVH (80°-90°)	3.3	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°	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0
2.5°	1740.4	1674.8	1581.6	1609.3	1634.3	1658.0	1618.8	1596.5	1585.7	1489.7	1610.0
5°	2137.0	2055.2	2012.6	2001.8	1974.8	1914.7	2014.7	1970.1	1984.9	2003.9	2043.1
7.5°	2257.9	2220.7	2159.3	2182.2	2079.5	2070.8	2209.3	2247.8	2298.4	2264.0	2311.3
10°	2195.7	2131.6	2160.6	2152.5	2148.4	2239.0	2336.3	2338.3	2414.0	2450.4	2290.3
12.5°	2072.8	2080.2	2184.3	2176.1	2311.3	2492.3	2514.6	2491.0	2614.6	2551.1	2526.8
15°	2154.5	2215.3	2157.9	2177.5	2225.5	2451.8	2530.8	2603.8	2720.7	2758.5	2594.4
17.5°	2253.2	2259.2	2154.5	2130.2	2251.1	2356.5	2543.0	2603.1	2614.6	2946.3	2746.4
20°	2199.8	2251.8	2126.8	1973.5	2161.3	2304.5	2493.7	2474.8	2551.8	3001.7	2780.8
22.5°	2341.7	2267.4	2107.2	1991.7	2055.2	2185.6	2345.7	2469.4	2584.9	2869.3	2825.4
25°	2355.2	2328.2	2185.6	2082.9	2072.1	2105.2	2328.2	2407.9	2588.9	2988.2	2787.6
27.5°	2507.2	2476.1	2184.3	2194.4	2093.0	1991.0	2243.0	2430.2	2662.6	2915.9	2868.0
30°	2703.1	2705.8	2329.5	2361.3	2216.7	2052.5	2312.6	2364.0	2712.6	3031.5	2927.4
32.5°	2901.8	2983.5	2616.6	2448.4	2403.2	2285.6	2226.1	2463.3	2657.9	3228.8	3076.1
35°	3203.8	3259.2	2853.1	2702.4	2524.8	2391.0	2461.3	2546.4	2854.5	3490.2	3271.3
37.5°	3715.2	3615.2	3277.4	3015.3	2972.7	2775.4	2810.5	2734.2	3055.1	3798.3	3657.8
40°	4003.0	3912.5	3561.2	3433.5	3161.9	3192.3	3081.5	3126.1	3346.3	4119.2	4009.8
42.5°	4303.0	4216.5	3908.4	3817.9	3559.1	3433.5	3383.5	3543.6	3792.9	4653.6	4514.4
45°	4604.3	4384.7	4254.3	4299.6	4183.4	3934.8	3876.7	4019.2	4280.7	5310.3	5046.8
47.5°	4858.3	4673.2	4575.2	4554.3	4509.0	4854.3	4617.8	4680.6	4796.2	5891.3	5710.3
50°	5316.4	5134.0	4980.6	4938.1	5158.3	5648.1	5283.3	5161.7	5392.7	6593.3	6479.1
52.5°	5977.8	5745.4	5501.5	5502.2	5917.7	6186.6	6359.5	6146.0	6189.3	7365.5	7314.9
55°	6509.5	6214.3	6012.3	6171.7	6791.3	6941.9	7602.0	7414.8	7358.8	8081.7	8019.5
57.5°	6582.5	6228.5	6132.5	6412.2	7260.1	8222.2	8932.3	8464.7	8378.9	8680.9	8804.6
60°	5901.5	5525.8	5598.1	6048.1	7412.8	9002.5	10153.8	9772.1	9226.8	9382.9	9468.0
62.5°	4401.6	4101.6	4304.3	4900.2	6824.4	9525.5	11567.8	11744.8	10210.5	9909.9	9891.6
65°	2855.8	2668.0	2801.1	3289.6	5164.4	9466.0	12831.2	13598.7	10985.5	10339.6	10024.7
67.5°	1889.0	1746.5	1765.4	2054.5	3339.6	7698.6	13586.6	14514.2	11857.0	10583.5	9262.0
70°	1408.0	1295.8	1302.6	1459.3	1982.2	5077.2	12533.3	13791.9	12175.2	9738.3	7475.7
72.5°	1015.4	940.5	1003.3	1177.6	1579.6	2684.9	9341.7	11358.4	10616.6	7681.0	5036.7
75°	703.3	654.0	756.7	985.0	1441.8	1666.7	6173.1	8176.3	7441.2	4819.1	2276.8
77.5°	389.8	375.0	522.9	802.6	1308.7	1366.1	3781.4	5372.5	4127.3	1727.5	541.8
80°	170.3	164.8	253.4	602.6	1099.9	1234.3	2128.9	2978.8	1623.5	308.1	175.0
82.5°	73.0	70.3	108.1	362.8	799.2	1032.3	1312.7	1433.6	558.7	95.3	99.3
85°	12.8	14.2	43.2	191.2	486.4	524.3	950.6	848.6	281.1	45.3	70.9
87.5°	0.0	0.0	6.8	37.2	91.2	150.0	412.1	297.3	53.4	14.9	12.2
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°	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0
2.5°	1626.9	1589.0	1445.1	1426.9	1407.3	1378.2	1367.4	1305.3	1297.2	1376.9	1376.9
5°	2024.8	1889.7	1752.5	1644.4	1547.8	1414.1	1376.2	1337.0	1305.3	1297.2	1322.2
7.5°	2234.9	2070.1	1854.6	1579.6	1356.6	1162.7	1081.7	1024.9	961.4	980.3	990.4
10°	2223.4	2048.5	1773.5	1420.1	1172.9	958.7	752.6	632.4	565.5	532.4	528.3
12.5°	2336.3	2171.4	1718.8	1293.1	977.6	681.7	473.6	387.8	338.5	339.2	335.1
15°	2401.8	2222.1	1655.3	1132.3	688.4	438.5	328.3	309.4	302.7	310.1	306.1
17.5°	2517.3	2275.5	1511.3	892.5	473.6	331.1	302.0	294.6	303.3	318.9	314.8
20°	2508.5	2182.9	1306.6	629.0	350.0	297.9	285.8	274.3	292.5	308.8	306.1
22.5°	2500.4	2092.4	1114.1	464.1	292.5	271.6	261.5	256.7	266.2	285.1	289.2
25°	2428.8	2047.8	918.8	348.6	264.8	246.6	241.9	237.8	241.2	256.7	256.1
27.5°	2516.7	1935.0	709.4	292.5	245.2	223.6	219.6	212.8	206.1	219.6	221.6
30°	2498.4	1950.5	556.0	257.4	225.7	196.6	198.0	183.8	171.6	183.8	183.8
32.5°	2564.6	1837.0	445.2	233.8	206.1	185.1	168.2	153.4	144.6	152.0	153.4
35°	2661.2	1841.7	348.6	218.9	189.2	164.8	144.6	129.7	121.6	125.0	127.0
37.5°	2984.9	1809.3	291.2	207.4	183.1	152.7	131.7	112.2	106.7	110.8	112.8
40°	3195.6	1895.8	256.7	201.3	167.6	140.5	112.8	98.6	93.9	95.9	99.3
42.5°	3592.9	1943.7	239.8	194.6	153.4	120.3	96.6	88.5	81.7	84.5	87.2
45°	4017.9	2025.5	227.0	187.1	142.6	105.4	85.1	78.4	69.6	70.3	73.0
47.5°	4540.1	2220.1	212.1	174.3	127.7	95.9	75.7	65.5	57.4	56.8	60.1
50°	5241.4	2480.2	198.6	158.1	118.2	87.8	66.2	53.4	46.6	44.6	47.3
52.5°	5990.0	2816.6	184.4	146.6	106.7	77.0	56.8	43.2	37.2	35.8	37.8
55°	6731.8	3139.6	170.9	139.2	94.6	66.2	48.0	35.8	30.4	29.1	30.4
57.5°	7577.0	3488.9	153.4	124.3	83.1	57.4	39.9	29.7	25.0	23.6	24.3
60°	8213.4	3611.8	138.5	108.1	72.3	50.7	33.8	23.6	20.3	18.9	19.6
62.5°	8515.4	3411.2	124.3	93.9	63.5	43.9	28.4	19.6	16.9	15.5	15.5
65°	8437.0	2966.6	110.1	80.4	54.7	36.5	22.3	16.9	14.9	12.8	12.2
67.5°	7531.7	2321.4	93.9	67.6	45.9	29.7	18.9	16.2	13.5	12.2	10.1
70°	5973.1	1680.9	76.3	56.1	38.5	24.3	14.9	14.9	12.8	12.2	9.5
72.5°	3915.2	1058.0	62.2	45.3	31.8	18.9	11.5	13.5	12.2	12.2	8.8
75°	1696.5	378.3	50.0	36.5	26.3	12.8	10.1	12.2	12.8	12.2	10.1
77.5°	397.3	117.6	39.2	29.1	21.6	8.8	10.1	12.2	12.8	11.5	8.8
80°	149.3	50.0	25.7	18.9	16.9	5.4	8.8	7.4	6.8	4.7	1.4
82.5°	90.5	20.9	13.5	9.5	8.1	1.4	4.1	2.7	1.4	1.4	0.0
85°	64.2	10.1	7.4	6.8	4.1	0.0	0.7	0.0	0.0	0.7	0.0
87.5°	8.8	2.7	3.4	3.4	2.7	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)