

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: P368595

Luminaire Tested: **MSA-SA4D-727-U-T3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368595
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-727-U-T3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS
EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16248 lumens
Efficiency: N/A
Efficacy: 62.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G3

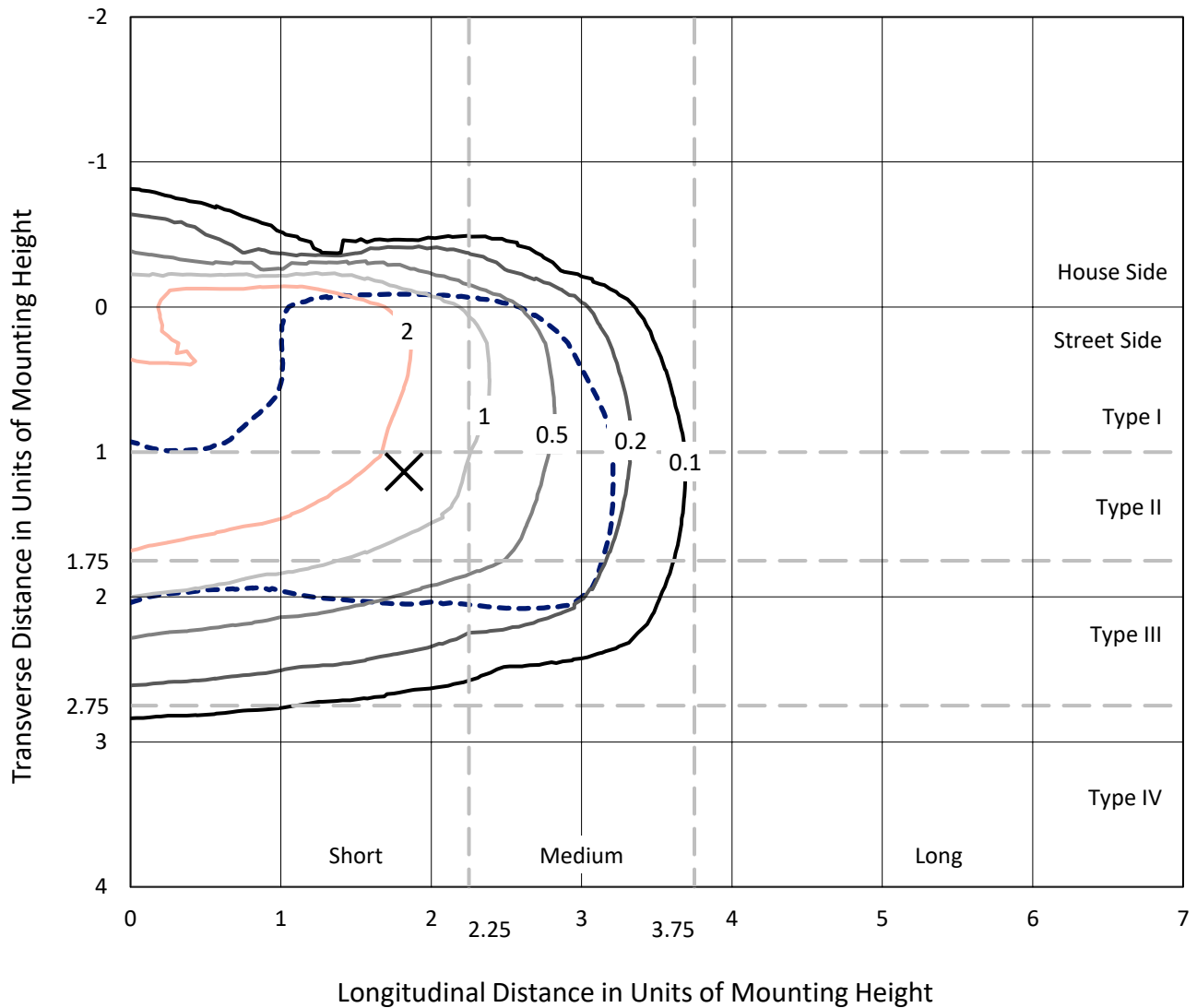
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

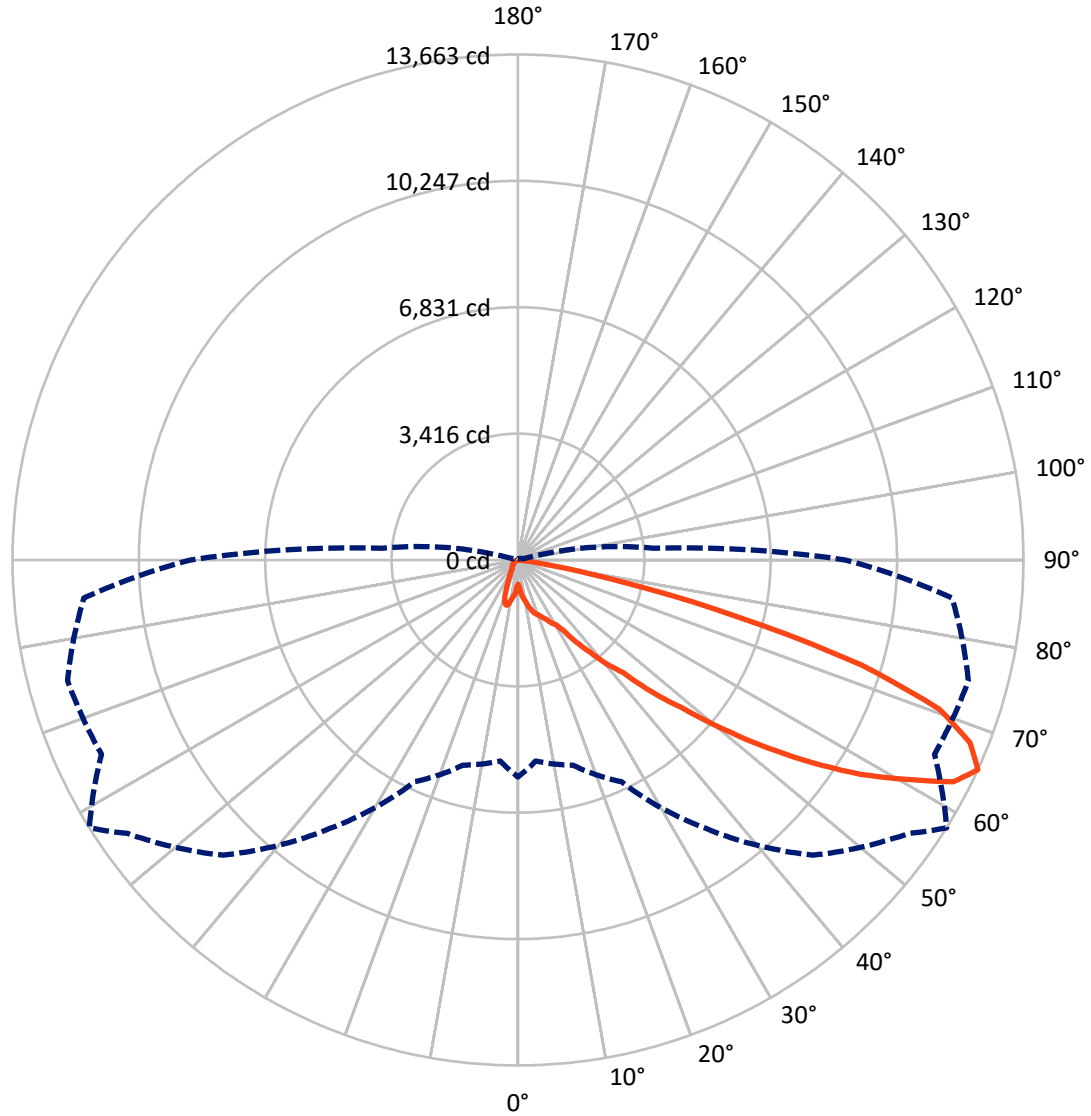
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1603.3	0.0	1603.3
	% Fixture	9.9	0.0	9.9
Street Side	Lumens	14644.7	0.0	14644.7
	% Fixture	90.1	0.0	90.1
Total	Lumens	16248.0	0.0	16248.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.4	0.6
10°-20°	333.5	2.1
20°-30°	645.6	4.0
30°-40°	1288.0	7.9
40°-50°	2633.2	16.2
50°-60°	4670.5	28.7
60°-70°	4924.0	30.3
70°-80°	1596.4	9.8
80°-90°	65.3	0.4
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°	16248.0	100.0
0°-180°	16248.0	100.0

Coefficient of Utilization



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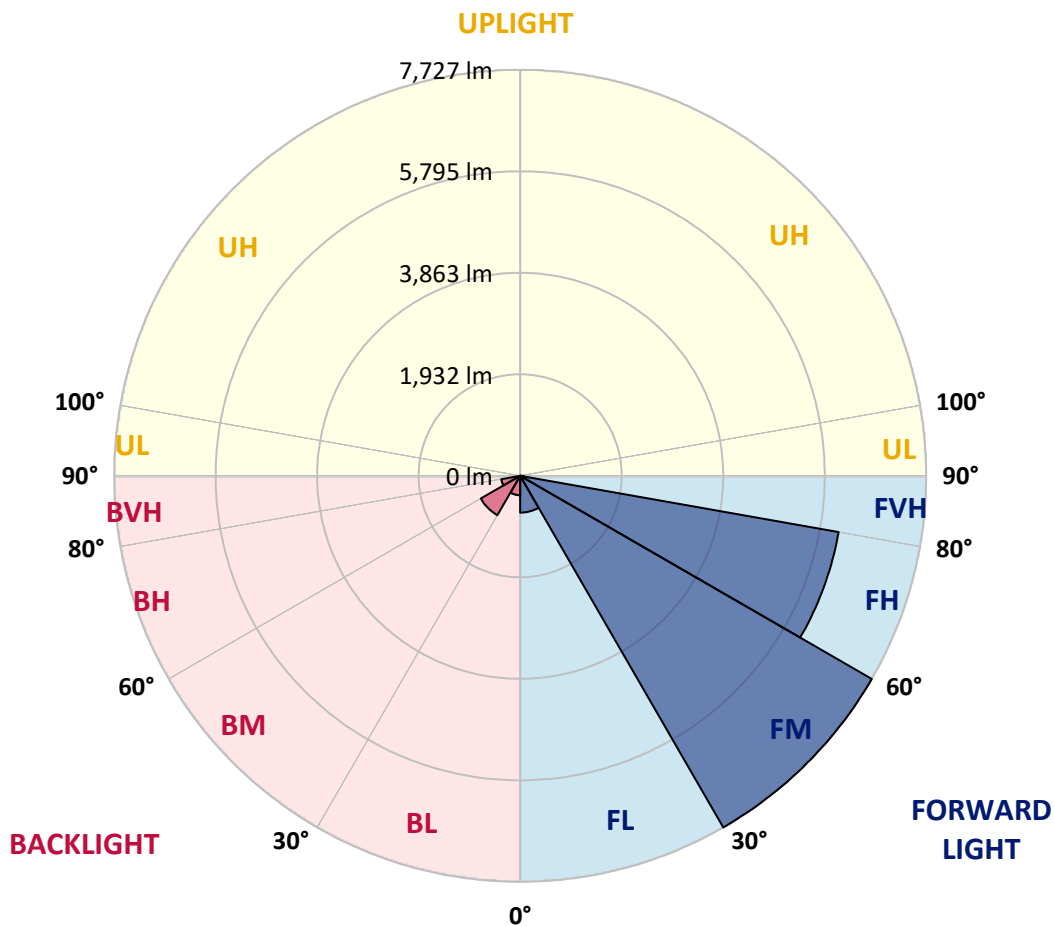
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	701.0	4.3			
FM (30°-60°)	7726.8	47.6			
FH (60°-80°)	6154.5	37.9			G3/7500
FVH (80°-90°)	62.5	0.4			G1/100
BL (0°-30°)	369.6	2.3	B1/500		
BM (30°-60°)	865.0	5.3	B1/1000		
BH (60°-80°)	365.9	2.3	B1/500		G1/500
BVH (80°-90°)	2.8	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°	58°	65°	75°	85°
0°	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4
2.5°	794.1	770.3	732.8	739.2	746.5	761.1	749.2	738.3	726.4	710.8	770.3
5°	958.7	919.4	915.7	907.5	901.1	900.2	914.8	910.2	916.6	945.9	976.1
7.5°	1019.1	1002.6	971.5	984.3	964.2	948.7	1013.6	1034.7	1074.9	1088.6	1167.3
10°	1012.7	988.9	1001.7	1008.1	1021.8	1078.6	1119.7	1142.6	1177.4	1252.4	1236.8
12.5°	1042.0	1063.0	1076.7	1077.7	1148.1	1252.4	1281.7	1300.9	1363.1	1392.3	1469.2
15°	1139.9	1174.6	1152.7	1161.8	1184.7	1311.8	1380.5	1422.5	1510.4	1605.5	1624.7
17.5°	1279.8	1301.8	1256.0	1223.1	1286.2	1355.8	1480.2	1524.1	1579.9	1802.2	1843.3
20°	1456.4	1493.9	1395.1	1264.3	1347.5	1429.9	1565.2	1586.3	1645.8	1935.7	2000.7
22.5°	1869.0	1813.2	1662.2	1458.2	1433.5	1470.1	1599.1	1681.4	1782.1	2010.8	2161.7
25°	2276.1	2256.8	2034.5	1806.8	1642.1	1559.8	1730.8	1776.6	1941.2	2189.1	2272.4
27.5°	2728.9	2767.3	2395.9	2257.8	1934.8	1665.9	1813.2	1927.5	2122.4	2254.1	2454.4
30°	3326.3	3265.0	2829.5	2691.4	2322.7	1957.7	2026.3	2033.6	2320.0	2468.2	2658.4
32.5°	3794.6	3834.0	3286.9	3074.7	2780.1	2406.9	2186.4	2281.5	2486.5	2816.7	2996.9
35°	4301.5	4297.8	3764.5	3479.0	3093.9	2773.7	2661.2	2730.7	2987.8	3361.9	3409.5
37.5°	5058.9	4994.0	4364.6	3946.5	3619.0	3345.5	3259.5	3167.1	3432.4	3789.2	3967.5
40°	5773.4	5549.3	4967.4	4471.6	4052.6	3941.0	3630.0	3686.7	3765.4	4236.5	4729.6
42.5°	6495.2	6356.1	5578.5	5163.2	4648.2	4382.9	4179.8	4153.3	4527.4	5085.4	5595.0
45°	7447.5	7022.1	6400.0	6035.0	5438.6	5172.4	5008.6	5106.5	5443.1	6258.2	6597.6
47.5°	8247.0	7855.5	7321.3	6766.9	6141.1	6440.3	6132.9	5978.3	6440.3	7282.8	7733.8
50°	8934.1	8497.7	7957.1	7546.3	7444.8	7732.0	7109.9	7166.7	7466.7	8456.5	8710.9
52.5°	9433.6	8974.3	8502.3	8303.8	8720.0	8864.5	8552.6	8427.3	8699.9	9457.3	9580.8
55°	9809.5	9339.3	8970.7	9244.2	10049.2	10001.7	10111.4	9683.3	9944.0	10501.1	10442.6
57.5°	9832.4	9275.3	9059.4	9499.4	10604.5	11340.9	11662.0	10933.9	11082.1	11317.2	11185.4
60°	9113.4	8559.0	8541.6	9166.4	10765.5	11687.7	12390.2	12035.3	11836.8	12011.5	11761.8
62.5°	7680.8	7292.9	7474.0	8164.7	10166.3	11496.5	12778.1	13205.3	12432.3	12471.7	12116.7
65°	5864.9	5457.8	5741.4	6611.4	8856.3	11282.4	12887.9	13662.7	12421.3	12602.5	11776.4
67.5°	3884.3	3648.3	3969.4	4928.1	7041.3	9959.6	12831.2	13182.5	12027.1	12091.1	10513.0
70°	2005.3	1947.6	2207.4	2964.0	4734.2	7651.5	12274.1	12081.9	11226.6	10416.1	8108.9
72.5°	642.2	644.9	894.7	1353.9	2552.3	4658.2	9434.5	9697.9	8983.5	7619.5	4951.0
75°	284.5	279.9	374.2	568.1	1063.9	2088.5	5861.2	6145.7	5593.2	4191.7	2081.2
77.5°	204.9	198.5	239.7	332.1	526.9	708.1	2748.1	2965.8	2535.9	1452.7	476.6
80°	144.5	143.6	173.8	233.3	329.3	314.7	868.2	973.4	779.4	352.2	140.0
82.5°	81.4	84.2	120.8	164.7	200.3	157.3	244.3	269.0	262.6	187.5	61.3
85°	39.3	43.9	78.7	118.9	105.2	61.3	86.9	94.2	109.8	108.9	31.1
87.5°	0.0	0.0	32.0	54.0	28.4	9.1	26.5	30.2	29.3	34.8	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°	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4
2.5°	782.2	776.7	707.2	712.6	728.2	721.8	727.3	714.5	699.8	759.3	758.4
5°	988.9	947.7	925.8	905.7	909.3	868.2	891.9	902.9	901.1	934.9	944.1
7.5°	1170.0	1115.2	1071.2	1029.2	965.1	907.5	943.2	966.0	981.6	1040.1	1063.0
10°	1255.1	1210.3	1192.9	1110.6	1064.8	1029.2	986.2	955.1	967.9	952.3	967.9
12.5°	1441.7	1411.6	1344.8	1261.5	1206.6	1133.5	973.4	839.8	757.5	758.4	752.9
15°	1611.9	1610.1	1510.4	1372.2	1213.0	1004.5	754.7	586.4	508.6	486.7	479.4
17.5°	1834.2	1806.8	1624.7	1420.7	1134.4	777.6	514.1	401.6	394.3	407.1	401.6
20°	1976.0	1935.7	1681.4	1350.3	934.9	526.0	387.9	355.9	377.8	396.1	391.5
22.5°	2117.8	2057.4	1724.4	1264.3	665.1	385.1	350.4	344.9	358.6	381.5	385.1
25°	2195.6	2183.7	1808.6	1103.3	455.6	337.6	337.6	335.7	340.3	356.8	354.0
27.5°	2421.5	2260.5	1745.5	860.8	352.2	310.1	314.7	312.9	296.4	312.9	313.8
30°	2562.4	2488.3	1750.0	612.9	310.1	274.4	286.3	271.7	247.0	260.7	258.0
32.5°	2846.0	2661.2	1736.3	413.5	282.7	261.6	243.3	222.3	204.0	209.5	204.9
35°	3176.2	3035.4	1550.6	332.1	263.5	231.4	202.2	181.1	161.9	166.5	165.6
37.5°	3833.1	3385.7	1396.9	299.1	250.7	212.2	178.4	149.1	139.1	141.8	144.5
40°	4441.4	3970.3	1110.6	284.5	228.7	189.4	147.3	126.2	119.8	121.7	124.4
42.5°	5350.7	4435.0	838.9	269.9	206.7	160.1	122.6	108.9	102.5	106.1	107.9
45°	6230.8	4830.2	626.6	257.1	188.5	138.1	103.4	94.2	86.9	89.7	93.3
47.5°	7109.9	5269.3	467.5	236.9	168.3	118.9	88.7	82.3	77.8	78.7	83.2
50°	7896.7	5474.2	367.8	212.2	151.9	103.4	80.5	74.1	72.3	73.2	76.8
52.5°	8474.8	5476.1	310.1	190.3	136.3	91.5	75.9	68.6	67.7	69.5	73.2
55°	8997.2	5329.7	269.0	171.1	122.6	83.2	72.3	65.9	65.9	67.7	71.4
57.5°	9343.9	5060.7	233.3	150.9	110.7	78.7	69.5	63.1	62.2	61.3	64.0
60°	9513.1	4693.9	197.6	132.6	99.7	75.9	67.7	55.8	54.9	53.1	54.9
62.5°	9406.1	4234.7	165.6	114.4	88.7	72.3	59.5	48.5	46.7	43.0	45.7
65°	8859.1	3676.6	140.0	97.9	76.8	61.3	50.3	41.2	36.6	32.0	31.1
67.5°	7740.2	2986.9	117.1	84.2	65.9	50.3	41.2	36.6	28.4	24.7	23.8
70°	5800.8	2039.1	97.0	72.3	54.9	43.0	34.8	32.9	26.5	23.8	22.0
72.5°	3403.1	1100.5	81.4	63.1	46.7	35.7	28.4	30.2	26.5	22.0	20.1
75°	1359.4	365.9	65.0	50.3	37.5	25.6	23.8	24.7	23.8	20.1	16.5
77.5°	310.1	115.3	50.3	39.3	29.3	16.5	19.2	21.0	21.0	16.5	11.9
80°	97.0	45.7	29.3	24.7	21.0	9.1	13.7	14.6	10.1	4.6	0.0
82.5°	31.1	12.8	10.1	10.1	9.1	1.8	2.7	1.8	0.0	0.0	0.0
85°	11.9	8.2	6.4	6.4	3.7	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	4.6	3.7	2.7	3.7	1.8	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)