

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: P368159

Luminaire Tested: **MSA-SA3D-760-U-T4W-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368159  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3D-760-U-T4W-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15006 lumens  
Efficiency: N/A  
Efficacy: 78.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

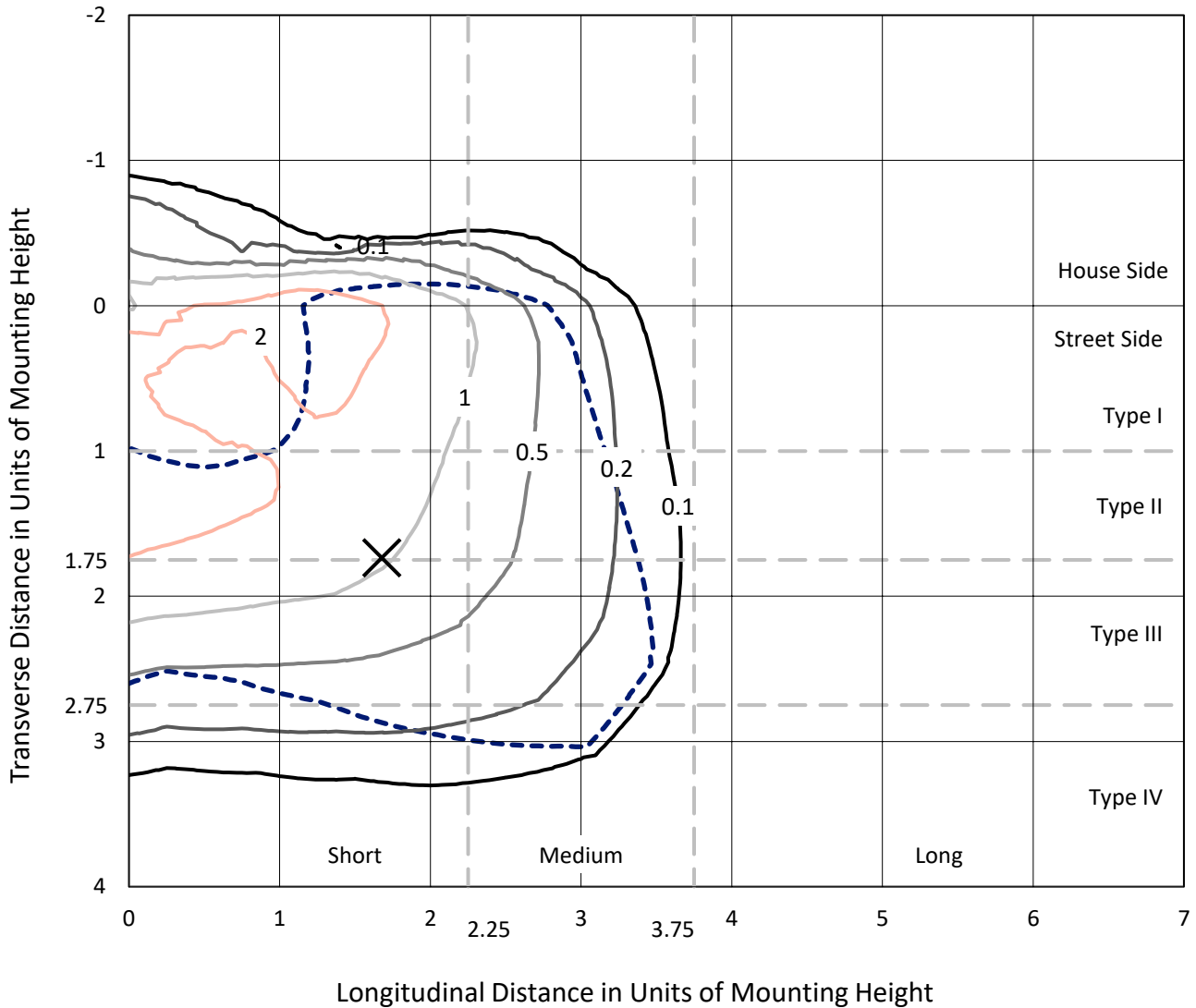
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P368159  
 CATALOG NUMBER: MSA-SA3D-760-U-T4W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

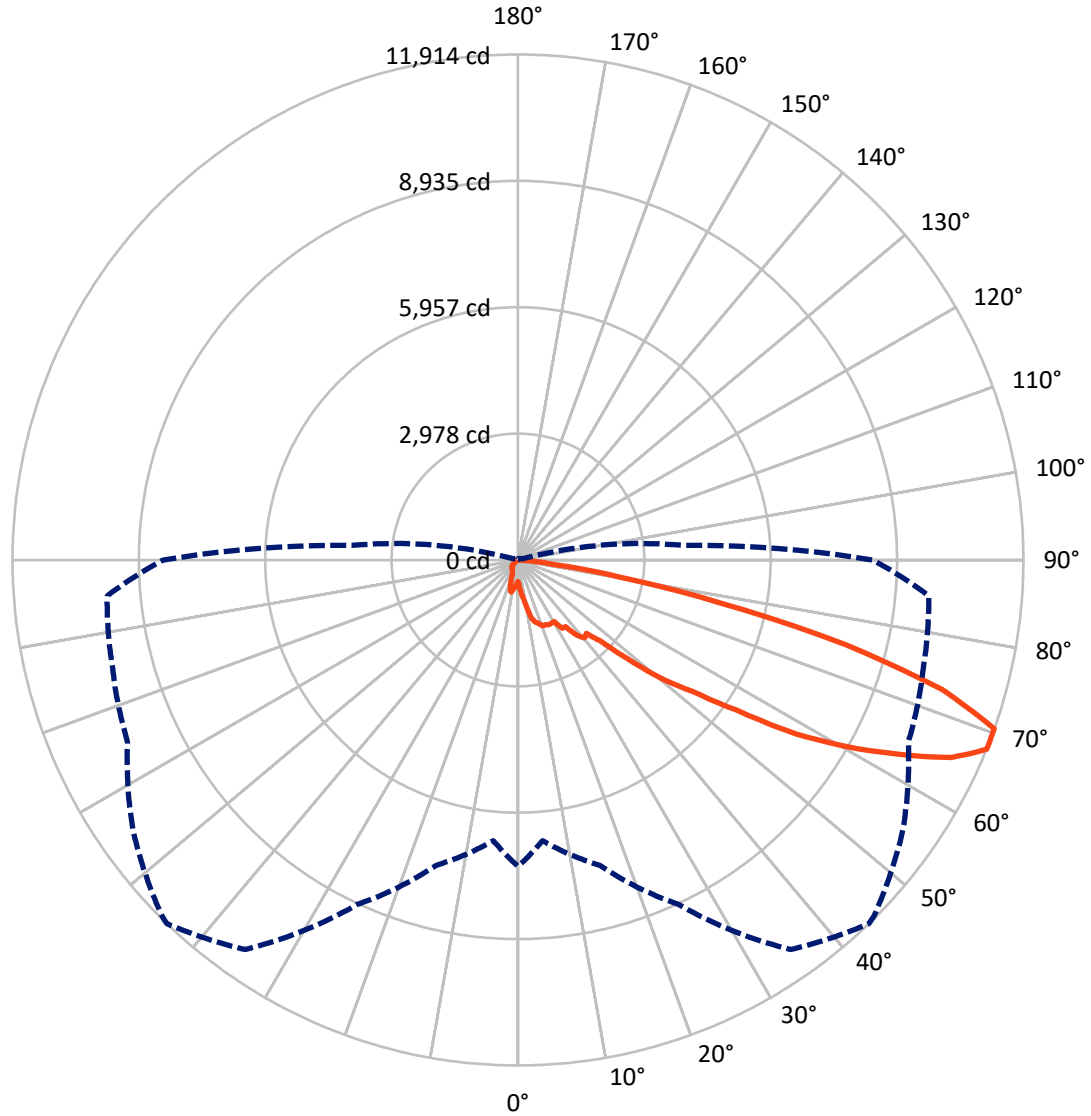
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.5 fc  
 Type IV - Short - N/A

REPORT NUMBER: P368159  
CATALOG NUMBER: MSA-SA3D-760-U-T4W-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P368159  
 CATALOG NUMBER: MSA-SA3D-760-U-T4W-HSS

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1524.3	0.0	1524.3
	% Fixture	10.2	0.0	10.2
<b>Street Side</b>	Lumens	13481.7	0.0	13481.7
	% Fixture	89.8	0.0	89.8
<b>Total</b>	Lumens	15006.0	0.0	15006.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.9	0.5
10°-20°	313.7	2.1
20°-30°	555.8	3.7
30°-40°	903.3	6.0
40°-50°	1807.7	12.0
50°-60°	3708.5	24.7
60°-70°	5094.3	33.9
70°-80°	2394.4	16.0
80°-90°	153.4	1.0
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°	15006.0	100.0
0°-180°	15006.0	100.0

**Coefficient of Utilization**

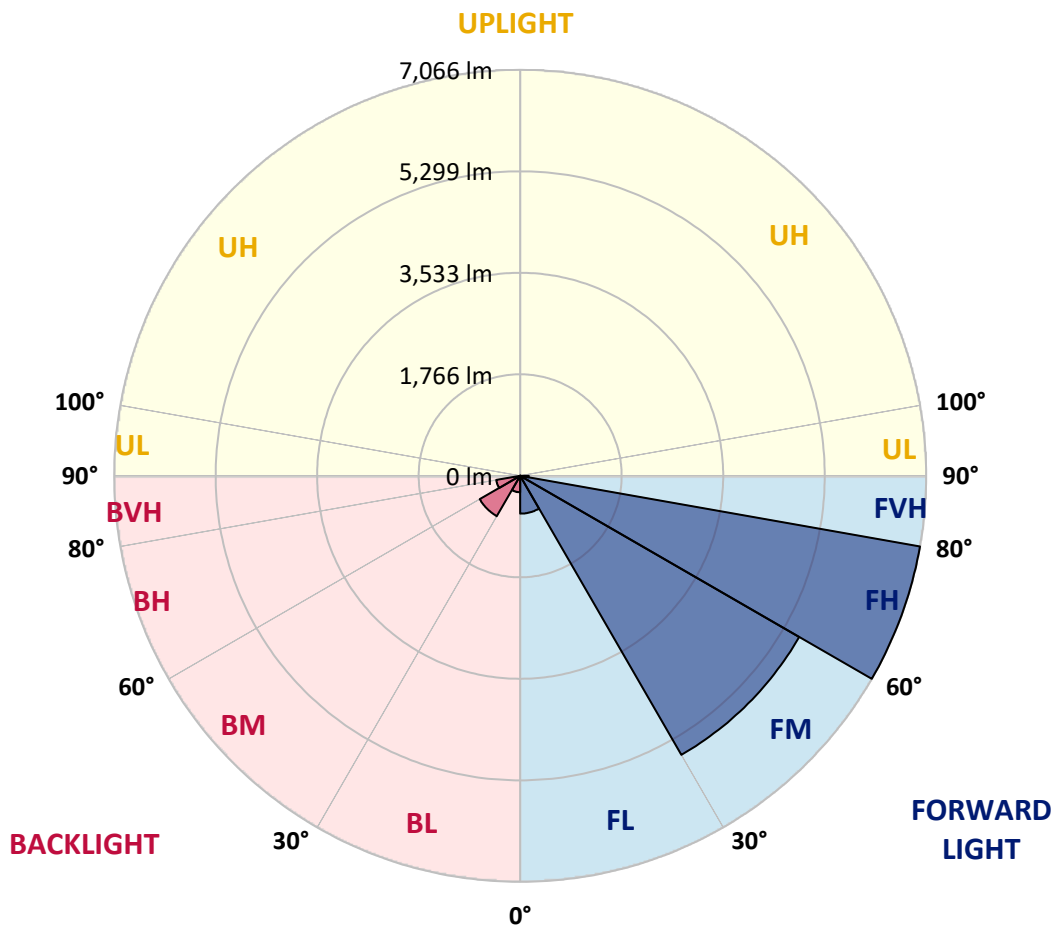


REPORT NUMBER: P368159  
 CATALOG NUMBER: MSA-SA3D-760-U-T4W-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	658.2	4.4			
FM (30°-60°)	5607.5	37.4			
FH (60°-80°)	7065.8	47.1			G3/7500
FVH (80°-90°)	150.2	1.0			G2/225
BL (0°-30°)	286.2	1.9	B1/500		
BM (30°-60°)	812.0	5.4	B1/1000		
BH (60°-80°)	423.0	2.8	B1/500		G1/500
BVH (80°-90°)	3.1	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





REPORT NUMBER: P368159

CATALOG NUMBER: MSA-SA3D-760-U-T4W-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	505.6	505.6	505.6	505.6	505.6	505.6	505.6	505.6	505.6	505.6	505.6
2.5°	642.9	622.3	592.5	599.1	602.4	611.5	612.3	600.7	567.6	558.5	599.1
5°	901.1	850.6	841.5	822.5	784.4	763.8	758.8	779.5	753.0	744.7	755.5
7.5°	1151.0	1108.0	1060.8	1035.2	955.7	906.9	904.4	912.7	917.7	888.7	903.6
10°	1317.3	1270.2	1260.2	1199.8	1131.1	1119.6	1114.6	1083.2	1057.5	1036.0	964.0
12.5°	1467.9	1467.1	1485.3	1398.4	1387.7	1399.2	1395.1	1282.6	1256.9	1166.7	1146.0
15°	1668.2	1717.8	1639.2	1566.4	1473.7	1513.4	1502.7	1430.7	1413.3	1352.1	1263.5
17.5°	1875.9	1889.1	1757.5	1645.8	1621.8	1569.7	1580.5	1554.8	1467.1	1515.9	1428.2
20°	1880.8	1909.8	1769.1	1584.6	1658.2	1655.8	1656.6	1631.8	1515.9	1630.1	1549.8
22.5°	1950.3	1879.2	1748.4	1630.9	1644.2	1656.6	1669.8	1639.2	1614.4	1642.5	1657.4
25°	1922.2	1894.1	1768.3	1690.5	1678.1	1688.0	1691.3	1730.2	1714.5	1782.4	1745.1
27.5°	1995.0	1954.5	1729.4	1743.5	1699.6	1688.0	1668.2	1798.1	1844.4	1790.6	1889.9
30°	2120.0	2114.2	1796.4	1817.1	1783.2	1681.4	1734.4	1904.0	1961.9	1928.8	2049.6
32.5°	2315.2	2335.1	1992.5	1858.5	1875.9	1921.4	1901.5	1904.0	2050.5	2124.1	2220.1
35°	2592.5	2581.7	2183.7	2015.7	1924.7	1932.1	1960.3	2095.1	2284.6	2279.7	2381.4
37.5°	3136.9	3019.4	2522.1	2176.2	2203.5	2240.8	2220.1	2401.3	2419.5	2426.1	2669.4
40°	3939.6	3783.2	3055.8	2514.7	2251.5	2416.2	2406.3	2451.0	2572.6	2618.1	2973.1
42.5°	4997.1	4786.9	3995.0	3136.9	2483.2	2369.9	2431.1	2515.5	2924.3	3054.2	3443.1
45°	6165.4	5740.1	4931.7	4024.0	3064.1	2712.4	2758.8	2916.0	3482.8	3697.9	4127.4
47.5°	6922.6	6548.6	5859.3	4810.1	3669.8	3485.3	3489.4	3523.3	4139.0	4537.8	5113.7
50°	7580.4	7182.4	6542.8	5631.7	4741.4	4392.2	4312.8	4156.4	4974.7	5520.0	6158.8
52.5°	8508.8	8043.8	7226.3	6595.7	5963.5	5141.0	5112.9	5165.9	5960.2	6533.7	7230.4
55°	9346.2	8781.1	8000.8	7603.6	7357.0	6241.6	6265.6	6354.1	7225.4	7529.1	8183.6
57.5°	9716.1	9103.8	8702.5	8523.7	8392.2	7745.1	7664.0	7611.0	8223.4	8339.2	9182.4
60°	9958.6	9376.0	9194.0	9235.3	9634.2	8947.4	8873.7	8565.9	9049.2	9144.3	10077.7
62.5°	9805.5	9274.2	9313.1	9658.2	10543.6	10091.8	9879.1	9364.4	9724.4	9801.3	10720.6
65°	8841.5	8287.9	8787.7	9622.6	11237.0	11226.2	11127.8	10101.7	10098.4	10196.9	10770.3
67.5°	7222.1	6641.2	7449.7	8955.7	11208.0	11913.9	11867.5	11079.8	10152.2	9889.0	9719.4
70°	5021.1	4517.1	5434.0	7395.9	10209.3	11908.9	11834.4	11736.8	9726.9	8512.1	7535.7
72.5°	2609.0	2331.8	3185.7	5096.4	8138.1	10463.3	10709.1	10548.5	8305.3	6184.5	4437.7
75°	886.2	795.2	1314.0	2705.0	5410.0	7990.0	8278.0	8115.0	5640.8	3318.1	1755.1
77.5°	343.4	319.4	470.8	1098.0	2714.1	4868.8	5181.6	5015.3	3025.2	1215.5	412.9
80°	195.3	188.7	259.8	494.8	1196.5	2422.0	2642.1	2396.3	1090.6	409.6	107.6
82.5°	82.7	85.2	144.8	267.3	601.6	854.8	953.2	869.7	456.8	280.5	39.7
85°	18.2	22.3	68.7	148.9	252.4	244.1	255.7	283.8	280.5	206.0	17.4
87.5°	0.0	0.0	21.5	40.5	60.4	39.7	31.4	55.4	86.1	82.7	7.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P368159

CATALOG NUMBER: MSA-SA3D-760-U-T4W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	505.6	505.6	505.6	505.6	505.6	505.6	505.6	505.6	505.6	505.6	505.6
2.5°	606.5	598.3	546.1	542.8	546.1	537.0	536.2	517.2	518.8	561.8	565.2
5°	755.5	714.1	669.4	655.4	642.1	612.3	628.9	628.9	628.9	656.2	664.5
7.5°	890.4	834.9	772.0	719.1	667.8	630.5	656.2	674.4	685.1	720.7	737.3
10°	951.6	897.0	840.7	765.4	725.7	711.6	681.8	666.1	685.1	677.7	686.8
12.5°	1082.3	1032.7	935.9	858.1	828.3	780.3	692.6	631.4	590.8	584.2	582.5
15°	1209.8	1179.1	1049.2	945.0	841.5	730.7	580.9	499.8	456.8	449.3	450.1
17.5°	1371.1	1327.3	1136.1	986.3	810.9	611.5	448.5	379.0	375.7	393.9	395.5
20°	1478.7	1406.7	1180.0	952.4	710.0	462.6	350.8	334.3	360.8	393.9	390.6
22.5°	1581.3	1503.5	1237.9	922.6	550.3	350.8	322.7	324.4	346.7	382.3	391.4
25°	1649.1	1621.0	1309.1	853.1	419.5	303.7	308.6	321.1	340.1	374.0	374.0
27.5°	1853.5	1722.0	1300.8	718.2	322.7	283.0	294.6	310.3	320.2	360.8	364.9
30°	1977.6	1934.6	1343.8	580.9	283.0	256.5	278.9	292.9	299.5	345.9	347.5
32.5°	2129.9	2034.7	1395.9	428.6	263.1	254.9	249.9	260.7	279.7	320.2	322.7
35°	2315.2	2287.1	1321.5	336.8	256.5	238.3	228.4	234.2	246.6	273.9	279.7
37.5°	2693.4	2526.3	1276.8	288.8	256.5	232.5	221.8	206.9	208.5	227.6	238.3
40°	3012.0	2960.7	1151.8	280.5	244.9	224.2	197.8	179.6	167.1	172.9	177.1
42.5°	3597.0	3359.5	990.5	276.4	234.2	202.7	168.0	148.9	129.9	131.6	138.2
45°	4307.0	3794.8	846.5	272.2	226.7	181.2	141.5	119.2	99.3	100.1	106.7
47.5°	5255.2	4429.4	671.9	259.8	213.5	161.4	114.2	91.0	79.4	81.9	87.7
50°	6332.6	4986.3	531.2	240.8	197.8	142.3	92.7	73.6	69.5	72.0	78.6
52.5°	7294.9	5396.7	438.6	223.4	175.4	115.8	77.8	65.4	63.7	65.4	70.3
55°	8150.5	5635.0	366.6	203.6	150.6	93.5	70.3	60.4	59.6	58.8	62.1
57.5°	8953.2	5703.7	286.3	172.1	122.5	81.1	65.4	56.3	54.6	52.1	54.6
60°	9538.2	5586.2	210.2	138.2	100.1	73.6	61.2	50.5	48.0	43.9	45.5
62.5°	9820.4	5264.3	158.9	110.9	85.2	67.0	54.6	43.9	40.5	35.6	36.4
65°	9552.3	4733.9	124.9	93.5	72.8	56.3	46.3	37.2	33.1	28.1	28.1
67.5°	8364.9	3927.2	105.9	81.1	61.2	48.0	38.1	33.9	27.3	23.2	22.3
70°	6139.8	2825.0	91.0	71.2	53.0	41.4	32.3	30.6	26.5	22.3	20.7
72.5°	3465.4	1598.7	77.8	62.9	44.7	34.8	27.3	28.1	25.7	20.7	19.0
75°	1322.3	538.7	64.5	52.1	36.4	26.5	23.2	23.2	23.2	17.4	14.9
77.5°	327.7	137.4	51.3	42.2	29.0	17.4	19.0	19.9	19.9	14.9	10.8
80°	90.2	46.3	30.6	30.6	20.7	9.9	13.2	13.2	10.8	5.0	0.0
82.5°	33.1	17.4	10.8	13.2	9.1	3.3	5.0	3.3	2.5	0.0	0.0
85°	14.1	9.1	6.6	7.4	4.1	0.0	0.8	1.7	0.0	0.0	0.0
87.5°	5.8	4.1	3.3	3.3	1.7	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)