

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: P368071

Luminaire Tested: **MSA-SA3D-727-U-T4W-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368071  
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-727-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: 12550 lumens  
Efficiency: N/A  
Efficacy: 65.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

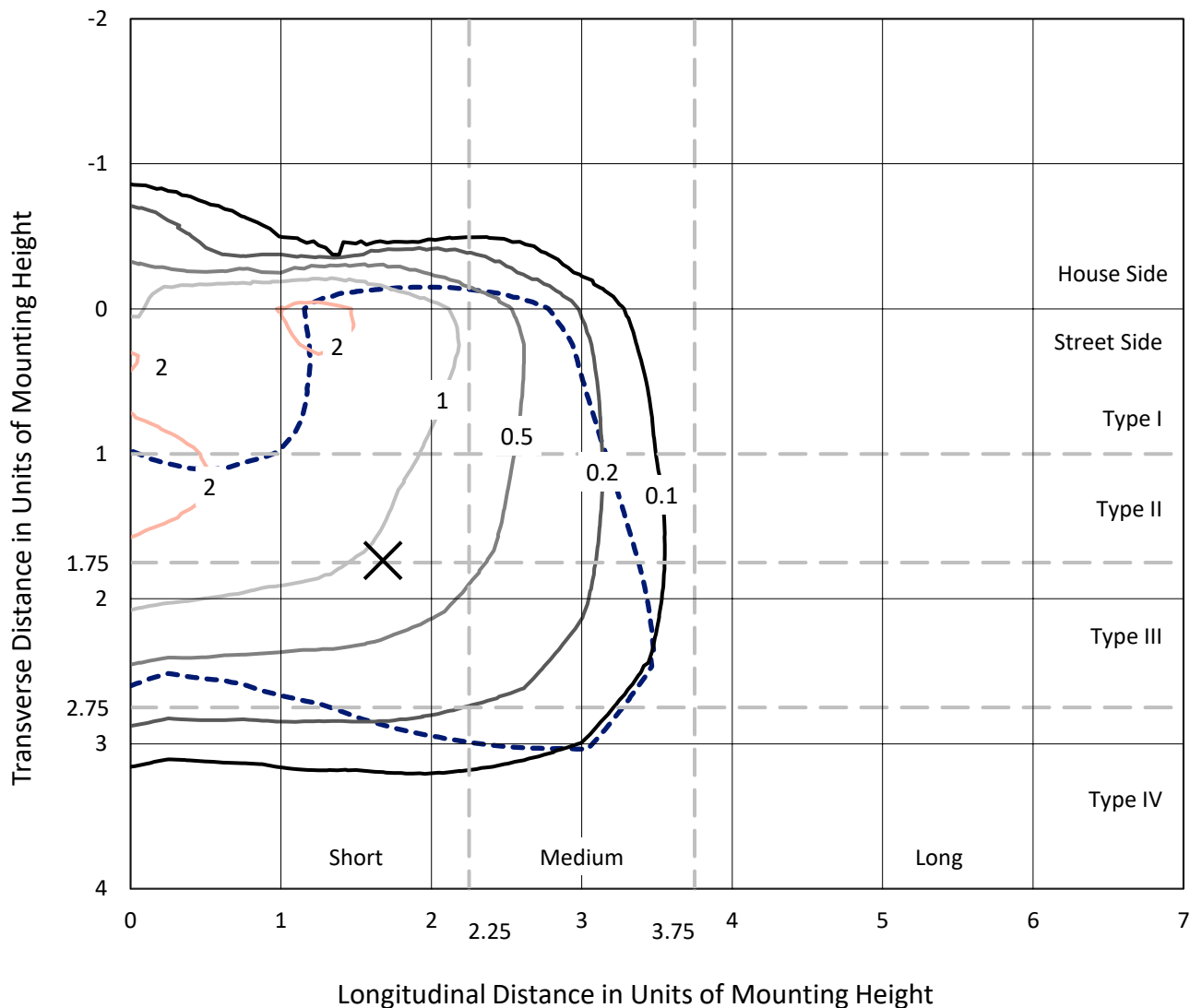
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

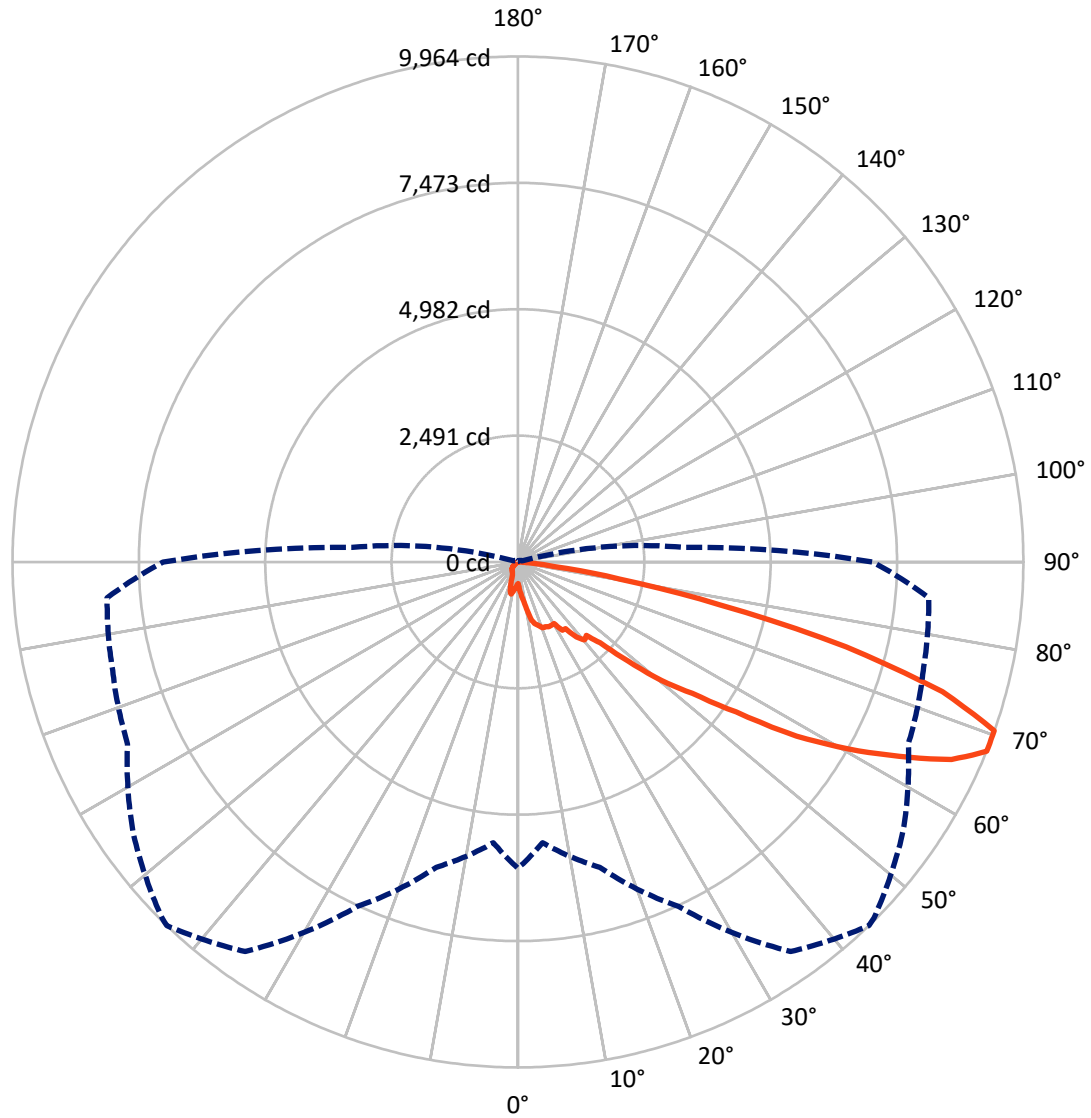
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.9 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1274.8	0.0	1274.8
	% Fixture	10.2	0.0	10.2
<b>Street Side</b>	Lumens	11275.2	0.0	11275.2
	% Fixture	89.8	0.0	89.8
<b>Total</b>	Lumens	12550.0	0.0	12550.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.7	0.5
10°-20°	262.4	2.1
20°-30°	464.8	3.7
30°-40°	755.5	6.0
40°-50°	1511.8	12.0
50°-60°	3101.5	24.7
60°-70°	4260.6	33.9
70°-80°	2002.5	16.0
80°-90°	128.3	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°	12550.0	100.0
0°-180°	12550.0	100.0

**Coefficient of Utilization**

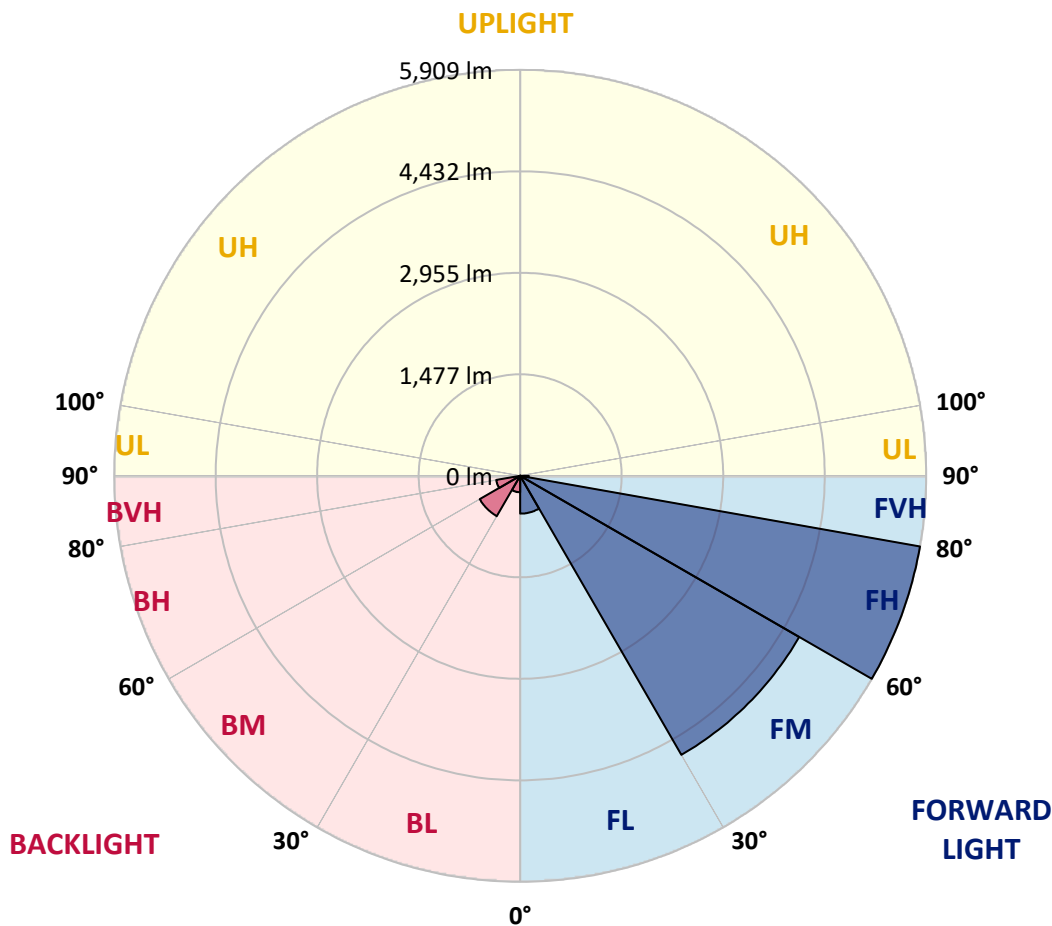


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	550.5	4.4			
FM (30°-60°)	4689.7	37.4			
FH (60°-80°)	5909.3	47.1			G3/7500
FVH (80°-90°)	125.6	1.0			G2/225
BL (0°-30°)	239.4	1.9	B1/500		
BM (30°-60°)	679.1	5.4	B1/1000		
BH (60°-80°)	353.8	2.8	B1/500		G1/500
BVH (80°-90°)	2.6	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





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8
2.5°	537.7	520.4	495.5	501.0	503.8	511.4	512.1	502.4	474.7	467.1	501.0
5°	753.6	711.4	703.8	687.9	656.1	638.7	634.6	651.9	629.8	622.8	631.8
7.5°	962.6	926.6	887.2	865.7	799.3	758.5	756.4	763.3	767.5	743.2	755.7
10°	1101.7	1062.3	1054.0	1003.5	946.0	936.3	932.2	905.9	884.4	866.4	806.2
12.5°	1227.7	1227.0	1242.2	1169.5	1160.5	1170.2	1166.8	1072.7	1051.2	975.8	958.5
15°	1395.1	1436.7	1370.9	1310.0	1232.5	1265.7	1256.7	1196.5	1182.0	1130.8	1056.7
17.5°	1568.8	1579.9	1469.9	1376.5	1356.4	1312.8	1321.8	1300.3	1227.0	1267.8	1194.5
20°	1573.0	1597.2	1479.6	1325.2	1386.8	1384.8	1385.5	1364.7	1267.8	1363.3	1296.2
22.5°	1631.1	1571.6	1462.3	1364.0	1375.1	1385.5	1396.5	1370.9	1350.2	1373.7	1386.1
25°	1607.6	1584.1	1478.9	1413.8	1403.4	1411.8	1414.5	1447.0	1433.9	1490.6	1459.5
27.5°	1668.5	1634.6	1446.4	1458.1	1421.4	1411.8	1395.1	1503.8	1542.5	1497.6	1580.6
30°	1773.0	1768.2	1502.4	1519.7	1491.3	1406.2	1450.5	1592.4	1640.8	1613.1	1714.2
32.5°	1936.3	1952.9	1666.4	1554.3	1568.8	1606.9	1590.3	1592.4	1714.9	1776.5	1856.7
35°	2168.1	2159.2	1826.3	1685.8	1609.7	1615.9	1639.4	1752.2	1910.7	1906.6	1991.7
37.5°	2623.5	2525.2	2109.3	1820.1	1842.9	1874.0	1856.7	2008.3	2023.5	2029.1	2232.5
40°	3294.8	3164.0	2555.7	2103.1	1883.0	2020.7	2012.4	2049.8	2151.5	2189.6	2486.5
42.5°	4179.2	4003.4	3341.2	2623.5	2076.8	1982.0	2033.2	2103.8	2445.7	2554.3	2879.6
45°	5156.4	4800.7	4124.5	3365.4	2562.6	2268.5	2307.2	2438.7	2912.8	3092.7	3451.9
47.5°	5789.6	5476.8	4900.3	4022.8	3069.2	2914.9	2918.3	2946.7	3461.6	3795.1	4276.8
50°	6339.7	6006.9	5471.9	4710.0	3965.4	3673.3	3606.9	3476.1	4160.5	4616.6	5150.8
52.5°	7116.2	6727.3	6043.6	5516.2	4987.5	4299.6	4276.1	4320.4	4984.7	5464.3	6047.0
55°	7816.6	7343.9	6691.3	6359.1	6152.9	5220.0	5240.1	5314.1	6042.9	6296.8	6844.2
57.5°	8125.9	7613.8	7278.1	7128.7	7018.6	6477.5	6409.6	6365.4	6877.5	6974.3	7679.5
60°	8328.7	7841.5	7689.2	7723.8	8057.4	7483.0	7421.4	7164.0	7568.1	7647.7	8428.3
62.5°	8200.6	7756.3	7788.9	8077.4	8817.9	8440.1	8262.2	7831.8	8132.8	8197.2	8966.0
65°	7394.4	6931.4	7349.4	8047.7	9397.9	9388.9	9306.5	8448.4	8445.6	8528.0	9007.5
67.5°	6040.1	5554.3	6230.4	7489.9	9373.6	9963.9	9925.2	9266.4	8490.6	8270.5	8128.7
70°	4199.3	3777.8	4544.6	6185.4	8538.3	9959.8	9897.5	9815.8	8134.9	7119.0	6302.4
72.5°	2182.0	1950.2	2664.3	4262.3	6806.2	8750.8	8956.3	8822.1	6946.0	5172.3	3711.4
75°	741.2	665.0	1099.0	2262.3	4524.5	6682.3	6923.1	6786.8	4717.6	2775.1	1467.8
77.5°	287.2	267.1	393.8	918.3	2269.9	4071.9	4333.5	4194.4	2530.1	1016.6	345.3
80°	163.3	157.8	217.3	413.8	1000.7	2025.6	2209.7	2004.1	912.1	342.6	90.0
82.5°	69.2	71.3	121.1	223.5	503.1	714.9	797.2	727.3	382.0	234.6	33.2
85°	15.2	18.7	57.4	124.6	211.1	204.2	213.8	237.4	234.6	172.3	14.5
87.5°	0.0	0.0	18.0	33.9	50.5	33.2	26.3	46.4	72.0	69.2	6.2
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°	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8
2.5°	507.3	500.3	456.7	454.0	456.7	449.1	448.4	432.5	433.9	469.9	472.7
5°	631.8	597.2	559.9	548.1	537.0	512.1	525.9	525.9	525.9	548.8	555.7
7.5°	744.6	698.3	645.7	601.4	558.5	527.3	548.8	564.0	573.0	602.8	616.6
10°	795.8	750.2	703.1	640.1	606.9	595.2	570.2	557.1	573.0	566.8	574.4
12.5°	905.2	863.7	782.7	717.6	692.7	652.6	579.2	528.0	494.1	488.6	487.2
15°	1011.8	986.2	877.5	790.3	703.8	611.1	485.8	418.0	382.0	375.8	376.5
17.5°	1146.7	1110.0	950.2	824.9	678.2	511.4	375.1	317.0	314.2	329.4	330.8
20°	1236.7	1176.5	986.8	796.5	593.8	386.8	293.4	279.6	301.7	329.4	326.6
22.5°	1322.5	1257.4	1035.3	771.6	460.2	293.4	269.9	271.3	290.0	319.7	327.3
25°	1379.2	1355.7	1094.8	713.5	350.9	254.0	258.1	268.5	284.4	312.8	312.8
27.5°	1550.2	1440.1	1087.9	600.7	269.9	236.7	246.4	259.5	267.8	301.7	305.2
30°	1654.0	1618.0	1123.9	485.8	236.7	214.5	233.2	245.0	250.5	289.3	290.7
32.5°	1781.3	1701.7	1167.5	358.5	220.1	213.1	209.0	218.0	233.9	267.8	269.9
35°	1936.3	1912.8	1105.2	281.7	214.5	199.3	191.0	195.8	206.2	229.1	233.9
37.5°	2252.6	2112.8	1067.8	241.5	214.5	194.5	185.5	173.0	174.4	190.3	199.3
40°	2519.0	2476.1	963.3	234.6	204.8	187.5	165.4	150.2	139.8	144.6	148.1
42.5°	3008.3	2809.7	828.4	231.1	195.8	169.5	140.5	124.6	108.6	110.0	115.6
45°	3602.0	3173.7	708.0	227.7	189.6	151.6	118.3	99.7	83.0	83.7	89.3
47.5°	4395.1	3704.5	561.9	217.3	178.5	134.9	95.5	76.1	66.4	68.5	73.4
50°	5296.2	4170.2	444.3	201.4	165.4	119.0	77.5	61.6	58.1	60.2	65.7
52.5°	6101.0	4513.5	366.8	186.8	146.7	96.9	65.1	54.7	53.3	54.7	58.8
55°	6816.6	4712.8	306.6	170.2	126.0	78.2	58.8	50.5	49.8	49.1	51.9
57.5°	7487.8	4770.2	239.4	143.9	102.4	67.8	54.7	47.1	45.7	43.6	45.7
60°	7977.1	4671.9	175.8	115.6	83.7	61.6	51.2	42.2	40.1	36.7	38.1
62.5°	8213.1	4402.7	132.9	92.7	71.3	56.1	45.7	36.7	33.9	29.8	30.4
65°	7988.9	3959.1	104.5	78.2	60.9	47.1	38.8	31.1	27.7	23.5	23.5
67.5°	6995.8	3284.4	88.6	67.8	51.2	40.1	31.8	28.4	22.8	19.4	18.7
70°	5134.9	2362.6	76.1	59.5	44.3	34.6	27.0	25.6	22.1	18.7	17.3
72.5°	2898.2	1337.0	65.1	52.6	37.4	29.1	22.8	23.5	21.5	17.3	15.9
75°	1105.9	450.5	54.0	43.6	30.4	22.1	19.4	19.4	19.4	14.5	12.5
77.5°	274.0	114.9	42.9	35.3	24.2	14.5	15.9	16.6	16.6	12.5	9.0
80°	75.4	38.8	25.6	25.6	17.3	8.3	11.1	11.1	9.0	4.2	0.0
82.5°	27.7	14.5	9.0	11.1	7.6	2.8	4.2	2.8	2.1	0.0	0.0
85°	11.8	7.6	5.5	6.2	3.5	0.0	0.7	1.4	0.0	0.0	0.0
87.5°	4.8	3.5	2.8	2.8	1.4	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)