

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: P596825

Luminaire Tested: **MSA-SA4D-827-U-T4W-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596825  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-15)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-827-U-T4W-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 14580 lumens  
Efficiency: N/A  
Efficacy: 56.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

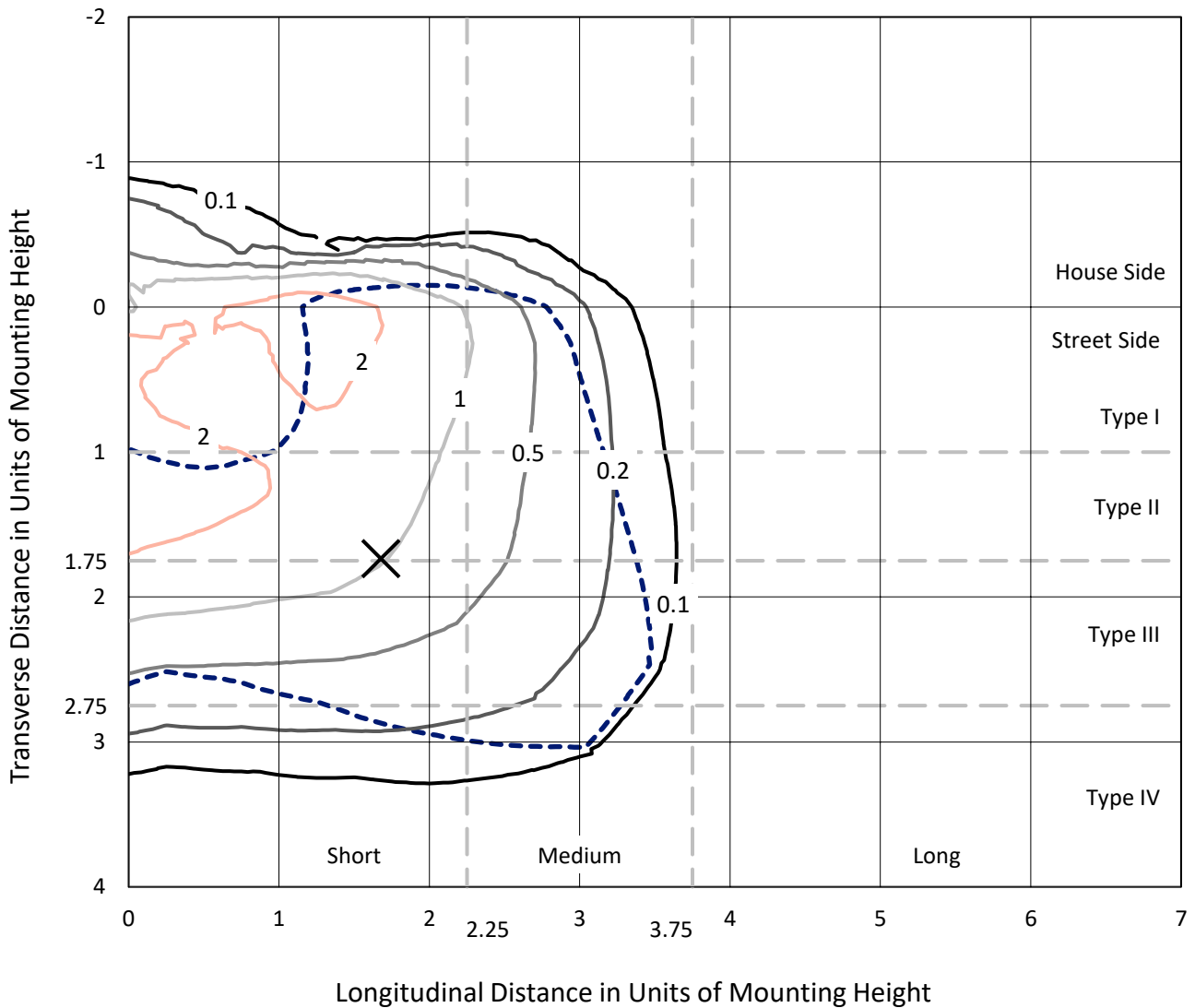
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

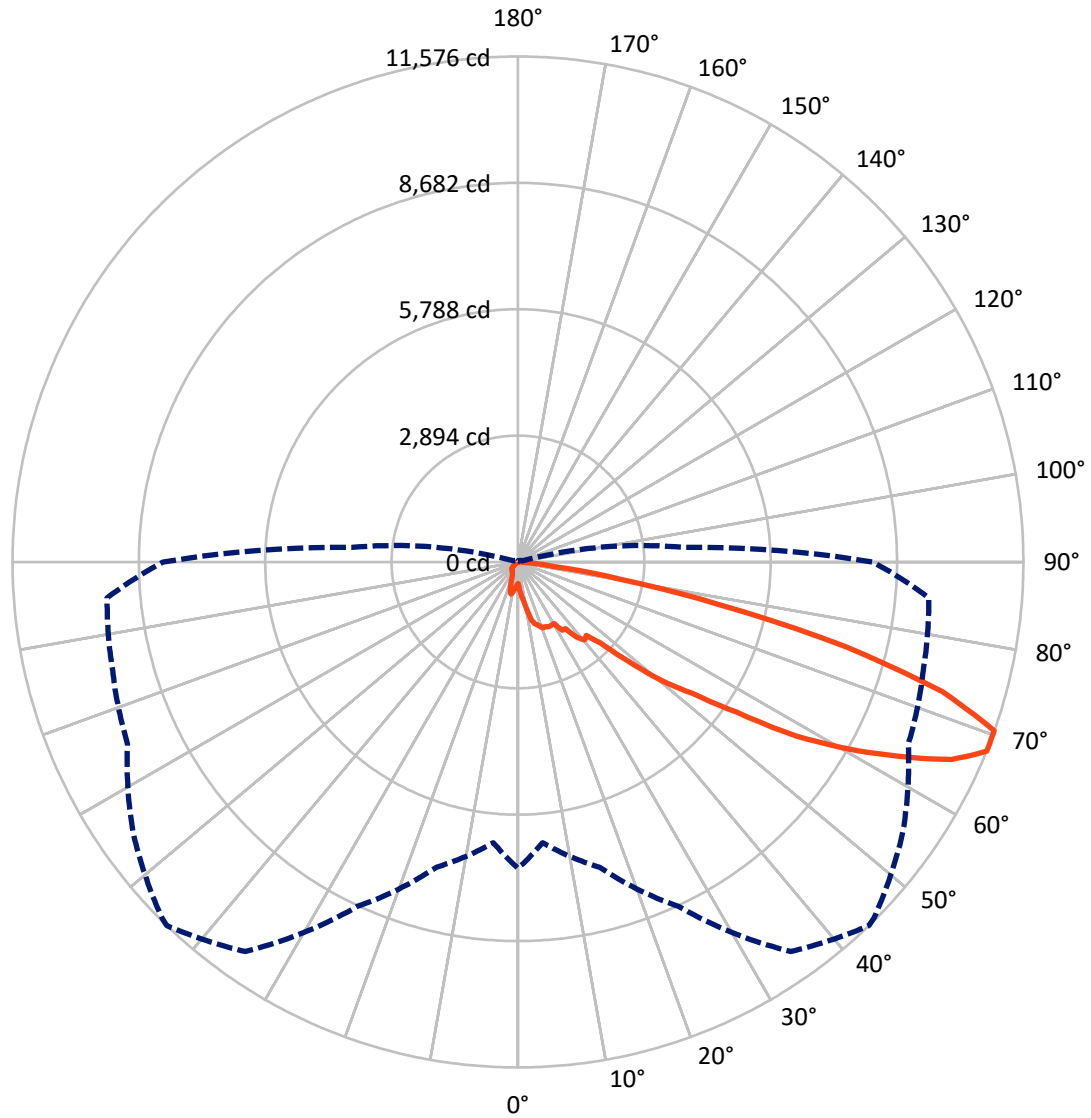
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.4 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	1481.0	0.0	1481.0
	% Fixture	10.2	0.0	10.2
<b>Street Side</b>	Lumens	13098.9	0.0	13098.9
	% Fixture	89.8	0.0	89.8
<b>Total</b>	Lumens	14580.0	0.0	14580.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.8	0.5
10°-20°	304.8	2.1
20°-30°	540.0	3.7
30°-40°	877.7	6.0
40°-50°	1756.3	12.0
50°-60°	3603.2	24.7
60°-70°	4949.7	33.9
70°-80°	2326.4	16.0
80°-90°	149.0	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°	14580.0	100.0
0°-180°	14580.0	100.0

**Coefficient of Utilization**



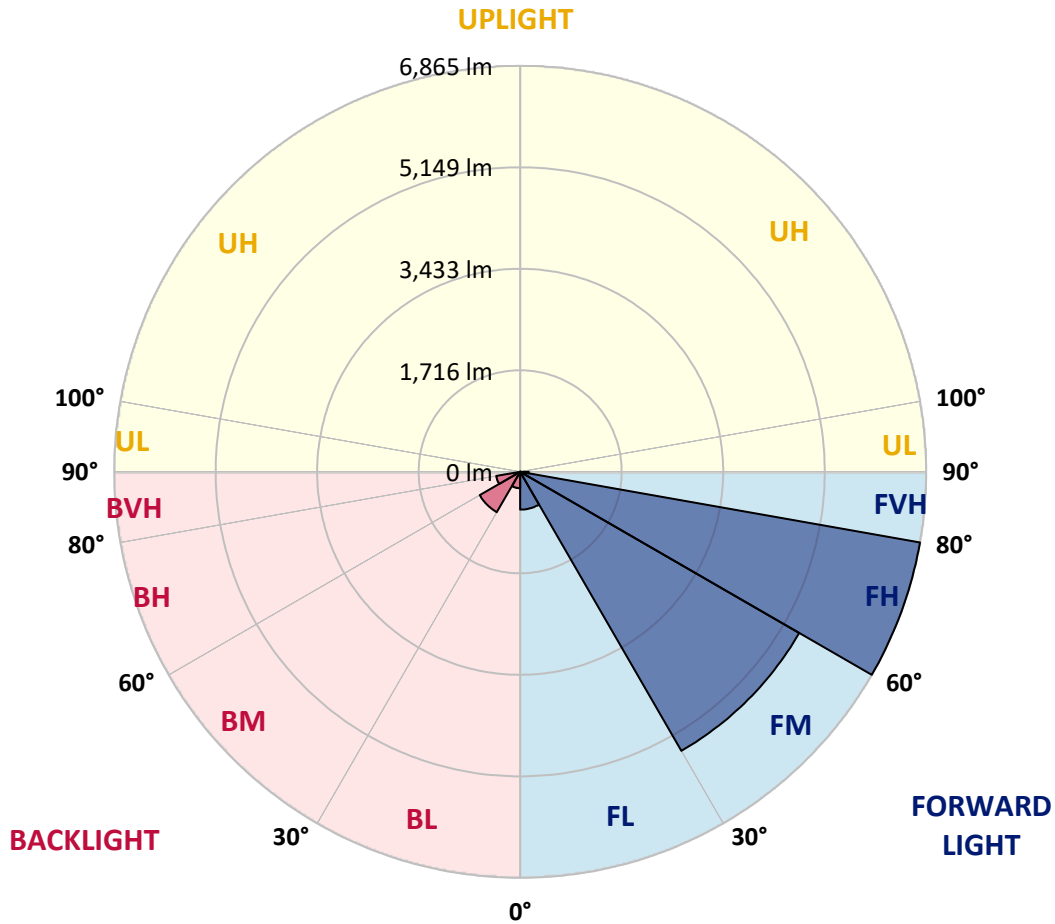
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	639.5	4.4			
FM (30°-60°)	5448.3	37.4			
FH (60°-80°)	6865.2	47.1			G3/7500
FVH (80°-90°)	146.0	1.0			G2/225
BL (0°-30°)	278.1	1.9	B1/500		
BM (30°-60°)	788.9	5.4	B1/1000		
BH (60°-80°)	411.0	2.8	B1/500		G1/500
BVH (80°-90°)	3.0	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°	491.2	491.2	491.2	491.2	491.2	491.2	491.2	491.2	491.2	491.2	491.2
2.5°	624.7	604.6	575.6	582.1	585.3	594.1	594.9	583.7	551.5	542.7	582.1
5°	875.5	826.5	817.6	799.2	762.2	742.1	737.2	757.3	731.6	723.6	734.0
7.5°	1118.3	1076.5	1030.7	1005.8	928.6	881.2	878.7	886.8	891.6	863.5	877.9
10°	1279.9	1234.1	1224.5	1165.8	1099.0	1087.8	1083.0	1052.4	1027.5	1006.6	936.6
12.5°	1426.3	1425.4	1443.1	1358.7	1348.3	1359.5	1355.5	1246.2	1221.2	1133.6	1113.5
15°	1620.8	1669.1	1592.7	1521.9	1431.9	1470.5	1460.0	1390.1	1373.2	1313.7	1227.7
17.5°	1822.6	1835.5	1707.6	1599.1	1575.8	1525.1	1535.6	1510.7	1425.4	1472.9	1387.7
20°	1827.4	1855.6	1718.9	1539.6	1611.2	1608.8	1609.6	1585.4	1472.9	1583.8	1505.8
22.5°	1895.0	1825.8	1698.8	1584.6	1597.5	1609.6	1622.4	1592.7	1568.6	1595.9	1610.4
25°	1867.6	1840.3	1718.1	1642.5	1630.5	1640.1	1643.3	1681.1	1665.8	1731.8	1695.6
27.5°	1938.4	1899.0	1680.3	1694.0	1651.4	1640.1	1620.8	1747.0	1792.1	1739.8	1836.3
30°	2059.8	2054.2	1745.4	1765.5	1732.6	1633.7	1685.1	1849.9	1906.2	1874.1	1991.4
32.5°	2249.5	2268.8	1936.0	1805.7	1822.6	1866.8	1847.5	1849.9	1992.3	2063.8	2157.1
35°	2518.9	2508.4	2121.7	1958.5	1870.0	1877.3	1904.6	2035.7	2219.8	2215.0	2313.8
37.5°	3047.9	2933.7	2450.5	2114.5	2141.0	2177.2	2157.1	2333.1	2350.8	2357.3	2593.6
40°	3827.7	3675.8	2969.1	2443.3	2187.6	2347.6	2338.0	2381.4	2499.6	2543.8	2888.7
42.5°	4855.2	4651.0	3881.6	3047.9	2412.7	2302.6	2362.1	2444.1	2841.2	2967.5	3345.3
45°	5990.4	5577.2	4791.7	3909.7	2977.1	2635.4	2680.5	2833.2	3383.9	3593.0	4010.2
47.5°	6726.1	6362.7	5692.9	4673.5	3565.6	3386.3	3390.4	3423.3	4021.5	4409.0	4968.6
50°	7365.2	6978.5	6357.0	5471.9	4606.8	4267.5	4190.3	4038.4	4833.5	5363.3	5984.0
52.5°	8267.3	7815.4	7021.1	6408.5	5794.2	4995.1	4967.8	5019.2	5791.0	6348.2	7025.1
55°	9080.9	8531.8	7773.6	7387.7	7148.1	6064.4	6087.7	6173.7	7020.3	7315.4	7951.3
57.5°	9440.3	8845.3	8455.4	8281.7	8153.9	7525.2	7446.4	7395.0	7989.9	8102.5	8921.7
60°	9675.8	9109.8	8933.0	8973.2	9360.7	8693.4	8621.8	8322.8	8792.3	8884.7	9791.6
62.5°	9527.1	9011.0	9048.7	9384.0	10244.3	9805.3	9598.7	9098.6	9448.3	9523.1	10416.3
65°	8590.5	8052.6	8538.2	9349.4	10918.0	10907.5	10811.9	9814.9	9811.7	9907.4	10464.5
67.5°	7017.1	6452.7	7238.2	8701.4	10889.8	11575.6	11530.6	10765.2	9864.0	9608.3	9443.5
70°	4878.5	4388.9	5279.7	7185.9	9919.4	11570.8	11498.5	11403.6	9450.7	8270.5	7321.8
72.5°	2534.9	2265.6	3095.3	4951.7	7907.1	10166.3	10405.0	10249.1	8069.5	6008.9	4311.7
75°	861.1	772.6	1276.7	2628.2	5256.4	7763.2	8043.0	7884.6	5480.7	3223.9	1705.2
77.5°	333.6	310.3	457.5	1066.9	2637.0	4730.6	5034.5	4872.9	2939.3	1181.0	401.2
80°	189.7	183.3	252.4	480.8	1162.5	2353.2	2567.1	2328.3	1059.6	398.0	104.5
82.5°	80.4	82.8	140.7	259.7	584.5	830.5	926.2	845.0	443.8	272.5	38.6
85°	17.7	21.7	66.7	144.7	245.2	237.2	248.4	275.8	272.5	200.2	16.9
87.5°	0.0	0.0	20.9	39.4	58.7	38.6	30.6	53.9	83.6	80.4	7.2
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°	491.2	491.2	491.2	491.2	491.2	491.2	491.2	491.2	491.2	491.2	491.2
2.5°	589.3	581.3	530.6	527.4	530.6	521.8	521.0	502.5	504.1	545.9	549.1
5°	734.0	693.8	650.4	636.7	623.9	594.9	611.0	611.0	611.0	637.6	645.6
7.5°	865.1	811.2	750.1	698.7	648.8	612.6	637.6	655.2	665.7	700.3	716.3
10°	924.6	871.5	816.8	743.7	705.1	691.4	662.5	647.2	665.7	658.5	667.3
12.5°	1051.6	1003.4	909.3	833.7	804.8	758.1	672.9	613.4	574.0	567.6	566.0
15°	1175.4	1145.7	1019.4	918.1	817.6	709.9	564.4	485.6	443.8	436.6	437.4
17.5°	1332.2	1289.6	1103.9	958.3	787.9	594.1	435.8	368.2	365.0	382.7	384.3
20°	1436.7	1366.8	1146.5	925.4	689.8	449.4	340.9	324.8	350.5	382.7	379.5
22.5°	1536.4	1460.8	1202.7	896.4	534.6	340.9	313.6	315.2	336.9	371.4	380.3
25°	1602.3	1575.0	1271.9	828.9	407.6	295.1	299.9	311.9	330.4	363.4	363.4
27.5°	1800.9	1673.1	1263.8	697.9	313.6	275.0	286.2	301.5	311.1	350.5	354.6
30°	1921.5	1879.7	1305.7	564.4	275.0	249.2	270.9	284.6	291.0	336.1	337.7
32.5°	2069.4	1977.0	1356.3	416.5	255.7	247.6	242.8	253.3	271.7	311.1	313.6
35°	2249.5	2222.2	1283.9	327.2	249.2	231.5	221.9	227.5	239.6	266.1	271.7
37.5°	2616.9	2454.5	1240.5	280.6	249.2	225.9	215.5	201.0	202.6	221.1	231.5
40°	2926.5	2876.6	1119.1	272.5	238.0	217.9	192.2	174.5	162.4	168.0	172.1
42.5°	3494.9	3264.1	962.4	268.5	227.5	197.0	163.2	144.7	126.2	127.8	134.3
45°	4184.7	3687.0	822.5	264.5	220.3	176.1	137.5	115.8	96.5	97.3	103.7
47.5°	5106.0	4303.7	652.8	252.4	207.4	156.8	110.9	88.4	77.2	79.6	85.2
50°	6152.8	4844.8	516.2	234.0	192.2	138.3	90.0	71.6	67.5	69.9	76.4
52.5°	7087.8	5243.5	426.1	217.1	170.4	112.6	75.6	63.5	61.9	63.5	68.3
55°	7919.2	5475.1	356.2	197.8	146.3	90.8	68.3	58.7	57.9	57.1	60.3
57.5°	8699.0	5541.8	278.2	167.2	119.0	78.8	63.5	54.7	53.1	50.7	53.1
60°	9267.4	5427.6	204.2	134.3	97.3	71.6	59.5	49.0	46.6	42.6	44.2
62.5°	9541.6	5114.9	154.4	107.7	82.8	65.1	53.1	42.6	39.4	34.6	35.4
65°	9281.1	4599.5	121.4	90.8	70.7	54.7	45.0	36.2	32.2	27.3	27.3
67.5°	8127.4	3815.7	102.9	78.8	59.5	46.6	37.0	33.0	26.5	22.5	21.7
70°	5965.5	2744.8	88.4	69.1	51.5	40.2	31.4	29.7	25.7	21.7	20.1
72.5°	3367.0	1553.3	75.6	61.1	43.4	33.8	26.5	27.3	24.9	20.1	18.5
75°	1284.8	523.4	62.7	50.7	35.4	25.7	22.5	22.5	22.5	16.9	14.5
77.5°	318.4	133.5	49.8	41.0	28.1	16.9	18.5	19.3	19.3	14.5	10.5
80°	87.6	45.0	29.7	29.7	20.1	9.6	12.9	12.9	10.5	4.8	0.0
82.5°	32.2	16.9	10.5	12.9	8.8	3.2	4.8	3.2	2.4	0.0	0.0
85°	13.7	8.8	6.4	7.2	4.0	0.0	0.8	1.6	0.0	0.0	0.0
87.5°	5.6	4.0	3.2	3.2	1.6	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)