

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: P596814

Luminaire Tested: **MSA-SA4D-827-U-SL4**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596814
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-827-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18838 lumens
Efficiency: N/A
Efficacy: 72.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

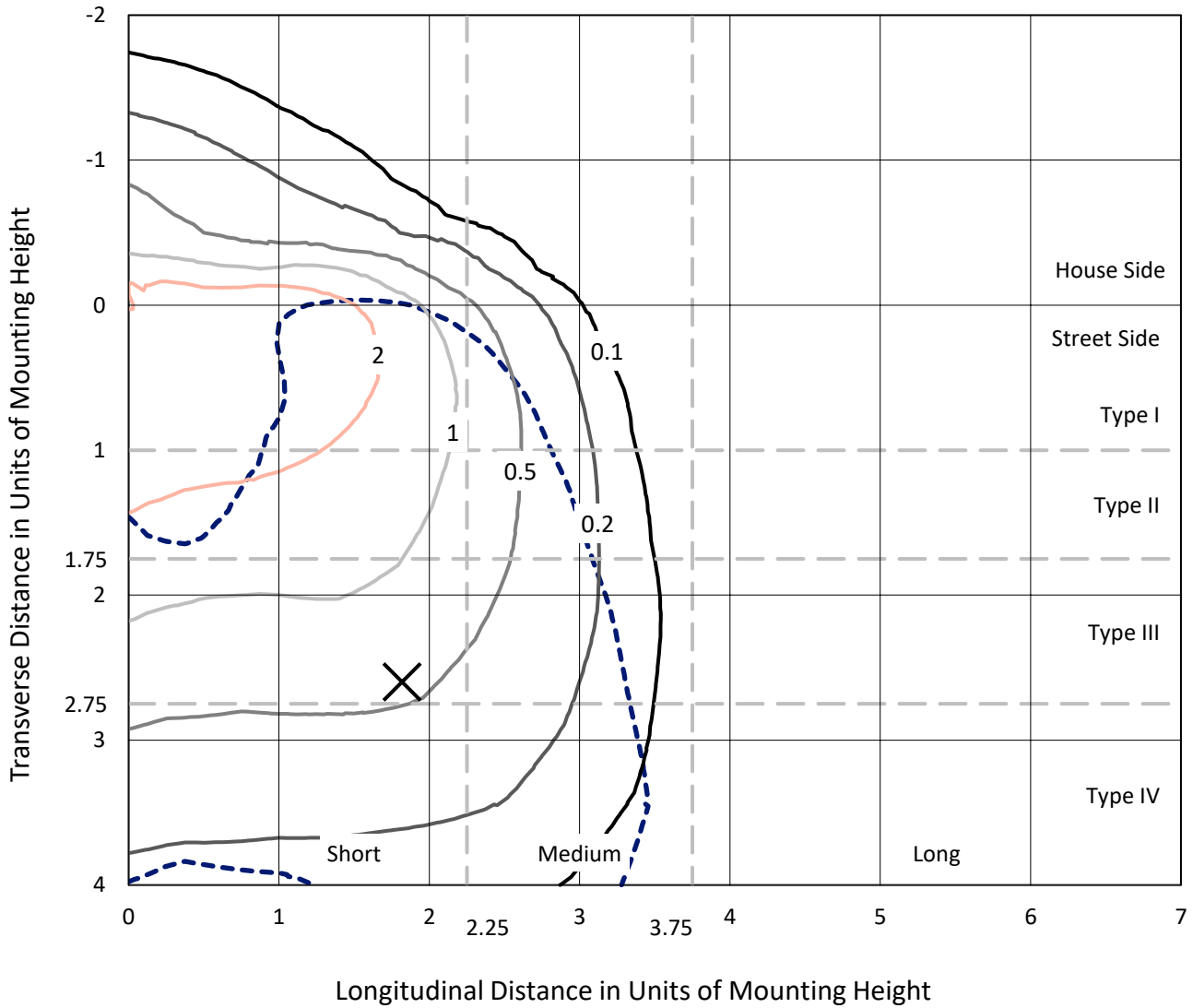
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

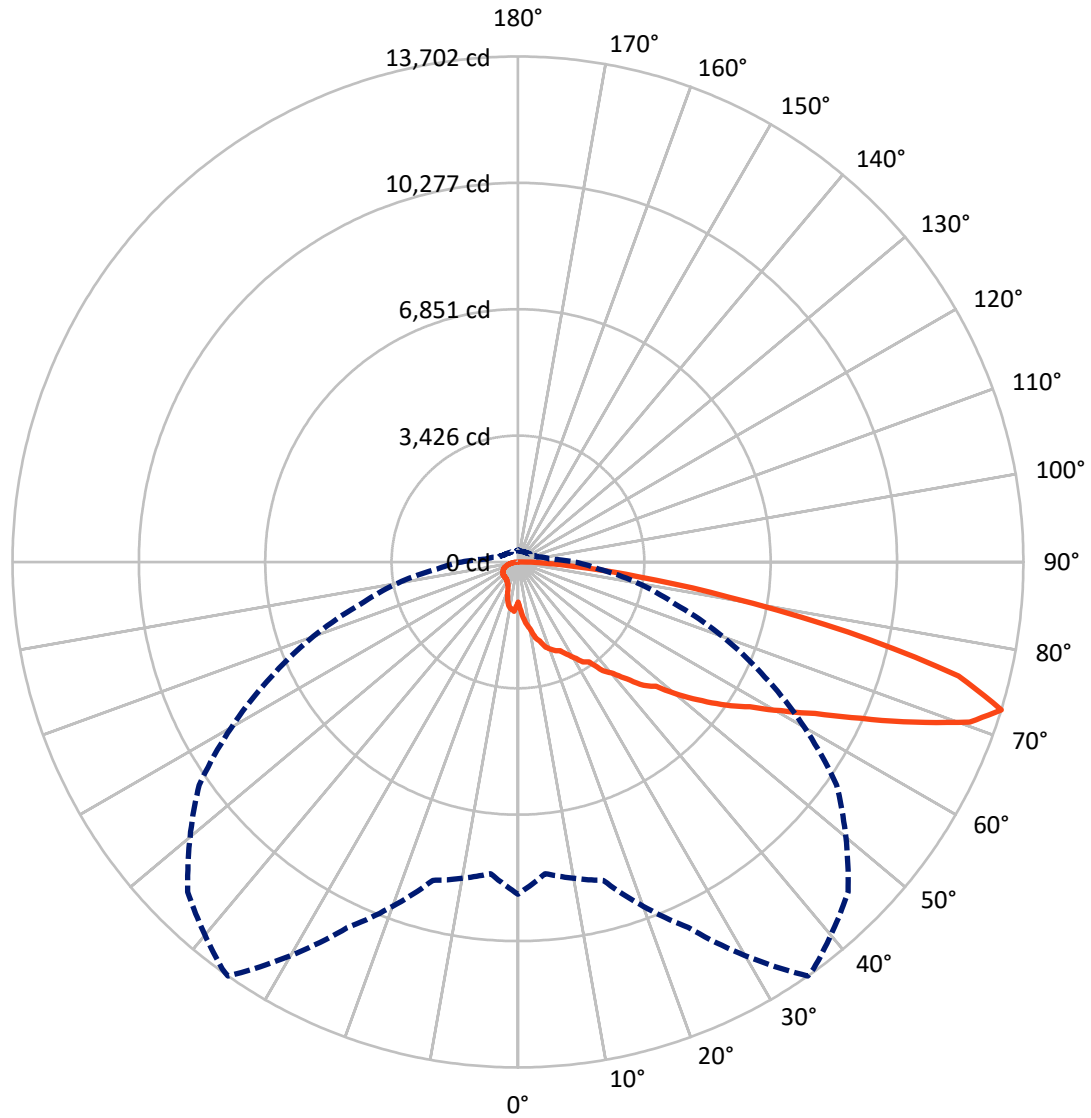
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2528.0	0.0	2528.0
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	16310.0	0.0	16310.0
	% Fixture	86.6	0.0	86.6
Total	Lumens	18838.0	0.0	18838.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.7	0.8
10°-20°	509.7	2.7
20°-30°	885.6	4.7
30°-40°	1480.1	7.9
40°-50°	2568.9	13.6
50°-60°	3883.5	20.6
60°-70°	5031.0	26.7
70°-80°	3712.4	19.7
80°-90°	622.2	3.3
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°	18838.0	100.0
0°-180°	18838.0	100.0

Coefficient of Utilization



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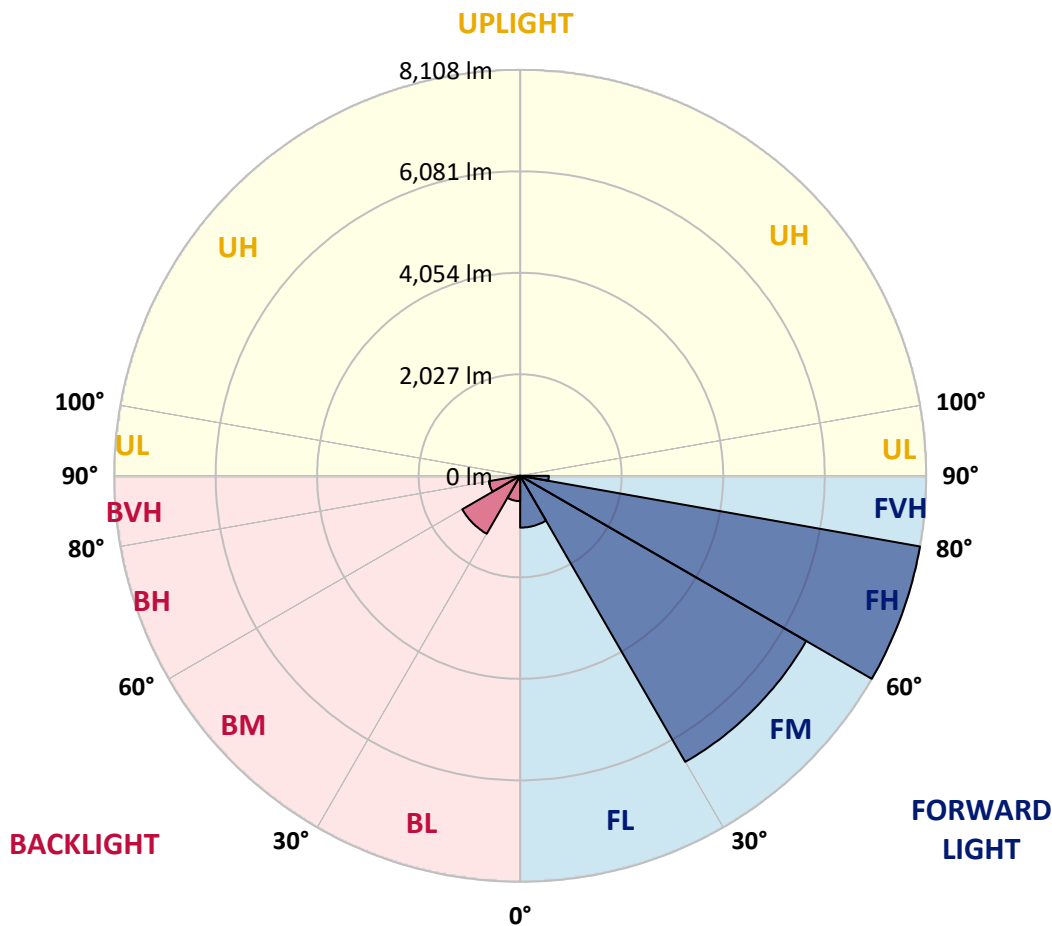
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1034.6	5.5			
FM (30°-60°)	6596.4	35.0			
FH (60°-80°)	8107.7	43.0			G4/12000
FVH (80°-90°)	571.3	3.0			G4/750
BL (0°-30°)	505.3	2.7	B2/1000		
BM (30°-60°)	1336.1	7.1	B2/2500		
BH (60°-80°)	635.7	3.4	B2/1000		G2/1000
BVH (80°-90°)	50.9	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7
2.5°	1358.0	1292.9	1236.6	1234.2	1286.4	1306.5	1298.5	1280.8	1259.9	1215.7	1312.2
5°	1701.3	1608.1	1590.4	1569.5	1522.0	1534.9	1457.7	1516.4	1534.9	1577.5	1641.8
7.5°	1903.9	1849.3	1806.7	1789.0	1707.0	1697.3	1640.2	1723.8	1759.2	1753.6	1849.3
10°	1983.5	1933.7	1936.9	1879.0	1852.5	1863.7	1870.2	1871.8	1893.5	1911.2	1862.9
12.5°	2024.5	2043.8	2114.6	2075.2	2109.0	2122.6	2190.2	2121.0	2123.4	2032.6	2082.4
15°	2231.2	2279.4	2238.4	2236.8	2226.4	2248.9	2306.8	2260.1	2296.3	2267.4	2203.0
17.5°	2480.4	2494.9	2416.1	2383.9	2425.8	2418.5	2404.0	2411.3	2321.2	2488.5	2409.7
20°	2556.8	2613.9	2510.2	2383.9	2522.2	2540.7	2537.5	2506.2	2351.8	2593.0	2516.6
22.5°	2778.7	2701.5	2619.5	2539.1	2609.9	2620.3	2602.6	2527.9	2476.4	2568.1	2628.4
25°	2879.2	2860.7	2756.2	2746.6	2668.6	2631.6	2662.1	2640.4	2589.8	2753.0	2686.3
27.5°	3109.2	3087.5	2847.1	2946.0	2832.6	2822.9	2661.3	2733.7	2784.4	2772.3	2872.0
30°	3369.7	3394.6	3043.3	3142.1	3011.1	2993.4	2831.0	2922.6	2957.2	2968.5	3093.1
32.5°	3659.1	3727.5	3378.5	3297.3	3227.4	3239.4	3101.9	2934.7	3069.0	3331.9	3385.8
35°	3972.7	4000.9	3635.0	3512.8	3330.3	3317.4	3319.8	3340.7	3476.6	3776.5	3818.3
37.5°	4552.4	4422.2	4101.4	3791.8	3730.7	3610.9	3692.1	3756.4	3892.3	4352.2	4527.5
40°	4909.4	4812.9	4324.1	4144.8	3975.9	3987.2	4139.1	4138.3	4459.1	4933.5	5201.3
42.5°	5239.9	5134.5	4673.8	4493.7	4333.7	4373.1	4416.5	4492.9	5108.0	5872.6	5994.8
45°	5506.0	5275.2	4944.0	4903.8	4771.9	4719.7	4903.8	5026.0	5883.9	6632.4	6703.2
47.5°	5686.9	5497.2	5173.1	5137.7	5040.5	5168.3	5670.8	5749.6	6485.3	7395.5	7389.8
50°	5961.9	5702.2	5409.5	5391.0	5665.2	5733.5	6346.2	6338.2	7070.6	8029.0	7896.4
52.5°	6278.7	5951.4	5633.8	5832.4	6250.5	6284.3	6815.8	7032.0	7709.8	8640.1	8293.6
55°	6642.9	6277.1	5969.9	6235.3	6857.6	6757.9	7295.8	7824.0	8509.9	9284.1	8580.6
57.5°	7094.0	6650.1	6401.7	6805.3	7411.5	7500.0	7983.2	8648.1	9153.9	9684.5	8789.7
60°	7569.9	7048.9	6821.4	7205.7	8187.4	8288.7	8761.5	9333.2	9875.9	10061.6	8750.3
62.5°	8024.2	7460.6	7254.8	7729.1	9047.7	9298.6	9647.6	10011.8	10476.5	10153.3	8273.5
65°	8530.0	7965.5	7836.1	8547.6	10214.4	10463.6	10919.5	10810.2	10682.3	9828.5	7484.7
67.5°	9065.4	8492.2	8516.3	9497.2	11590.1	11632.7	12333.0	11606.2	10440.3	8968.1	6160.5
70°	9353.3	8766.3	9014.8	10509.5	12989.9	12928.8	13071.9	11820.0	9453.8	7089.1	4246.1
72.5°	9004.3	8480.9	8936.0	10935.6	13702.3	13636.3	12657.0	10550.5	7391.4	4408.5	2201.4
75°	7623.8	7118.9	7815.2	9748.1	12335.4	12396.5	10771.6	7845.7	4231.6	1772.9	914.2
77.5°	5180.4	4919.9	5516.4	7266.0	9162.7	9374.2	7992.1	4587.8	1776.9	734.1	553.2
80°	2737.7	2613.9	3054.5	4185.8	5801.9	5959.5	4699.6	2285.1	910.2	475.2	394.8
82.5°	1487.5	1435.2	1671.6	2152.4	3296.5	3434.0	2437.0	1518.0	613.5	297.5	241.2
85°	999.4	979.3	1136.1	1156.2	1559.0	1604.0	1276.8	1169.1	368.2	145.5	159.2
87.5°	500.1	480.0	598.2	528.2	595.0	595.8	585.3	746.1	93.3	48.2	28.9
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°	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7	1088.7
2.5°	1313.8	1285.6	1188.4	1187.6	1202.0	1192.4	1199.6	1160.2	1143.3	1220.5	1216.5
5°	1633.0	1548.6	1467.4	1439.2	1406.2	1334.7	1338.7	1339.5	1327.5	1373.3	1376.5
7.5°	1820.3	1719.0	1644.2	1494.7	1377.3	1285.6	1297.7	1311.4	1297.7	1358.8	1381.3
10°	1847.7	1767.3	1678.0	1511.6	1433.6	1350.8	1267.2	1193.2	1184.3	1156.2	1165.0
12.5°	2010.1	1943.3	1756.8	1574.3	1483.4	1356.4	1203.6	1119.2	1048.5	1060.5	1038.0
15°	2143.5	2096.1	1872.6	1633.8	1416.7	1259.1	1096.7	980.9	917.4	910.2	887.6
17.5°	2324.4	2256.9	1883.0	1592.8	1330.7	1141.7	958.4	827.3	800.0	788.8	777.5
20°	2411.3	2289.9	1845.2	1464.1	1230.2	1001.8	821.7	709.2	701.1	721.2	717.2
22.5°	2486.9	2317.2	1811.5	1386.1	1073.4	860.3	728.5	654.5	645.6	671.4	676.2
25°	2531.1	2395.2	1774.5	1306.5	976.1	755.0	658.5	616.7	618.3	652.1	648.0
27.5°	2730.5	2422.5	1681.2	1212.5	864.3	677.0	624.7	603.0	594.2	640.8	644.8
30°	2855.9	2601.0	1660.3	1112.8	781.5	619.9	594.2	585.3	583.7	640.0	644.0
32.5°	3089.1	2660.5	1670.0	1004.2	706.7	602.2	571.7	570.9	586.9	640.8	647.2
35°	3412.3	2911.4	1623.3	942.3	665.7	574.9	554.0	560.4	587.7	646.4	655.3
37.5°	4042.7	3147.8	1637.8	884.4	652.1	566.0	549.2	553.2	597.4	660.9	685.0
40°	4542.0	3576.3	1615.3	855.5	633.6	564.4	538.7	554.8	596.6	669.0	690.7
42.5°	5265.6	3918.0	1617.7	826.5	632.8	558.0	537.1	556.4	595.0	661.7	691.5
45°	5886.3	4224.4	1652.3	809.7	624.7	568.4	534.7	558.8	584.5	636.0	669.0
47.5°	6395.3	4566.1	1687.7	793.6	621.5	578.1	532.3	541.9	566.8	607.0	636.8
50°	6810.1	4806.5	1732.7	790.4	621.5	573.3	525.8	525.0	545.9	578.1	606.2
52.5°	7133.4	4976.1	1763.2	794.4	621.5	554.8	517.8	511.4	524.2	547.5	575.7
55°	7367.3	5028.4	1738.3	804.8	620.7	537.9	503.3	497.7	504.1	520.2	546.7
57.5°	7461.4	4890.9	1589.6	786.3	620.7	525.8	485.6	479.2	485.6	497.7	524.2
60°	7225.8	4448.7	1374.9	738.9	608.7	509.8	465.5	461.5	471.2	481.6	507.3
62.5°	6634.9	3861.0	1145.7	682.6	583.7	496.1	446.2	447.0	462.3	476.8	502.5
65°	5716.7	3150.2	955.2	625.5	552.4	474.4	426.1	431.8	453.5	472.8	498.5
67.5°	4498.5	2334.1	804.0	570.1	508.1	439.0	403.6	405.2	420.5	439.0	463.9
70°	3007.1	1485.0	660.9	504.9	450.3	393.2	369.0	363.4	359.4	375.5	397.2
72.5°	1525.2	877.2	542.7	431.8	387.5	343.3	324.8	310.4	299.1	308.7	325.6
75°	799.2	613.5	438.2	358.6	320.0	291.9	278.2	258.9	250.9	256.5	268.5
77.5°	565.2	480.0	354.6	283.8	260.5	231.6	234.0	213.9	207.4	210.7	223.5
80°	434.2	380.3	272.6	214.7	201.0	172.9	180.9	168.8	160.8	159.2	168.8
82.5°	295.9	286.2	193.8	150.4	140.7	120.6	131.9	127.0	116.6	110.2	115.0
85°	199.4	189.8	118.2	86.8	82.8	62.7	80.4	77.2	68.3	58.7	59.5
87.5°	34.6	63.5	33.8	21.7	20.1	7.2	18.5	17.7	16.1	8.0	6.4
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)