

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: P596638

Luminaire Tested: **MSA-SA2D-827-U-SL4**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596638  
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-SA2D-827-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

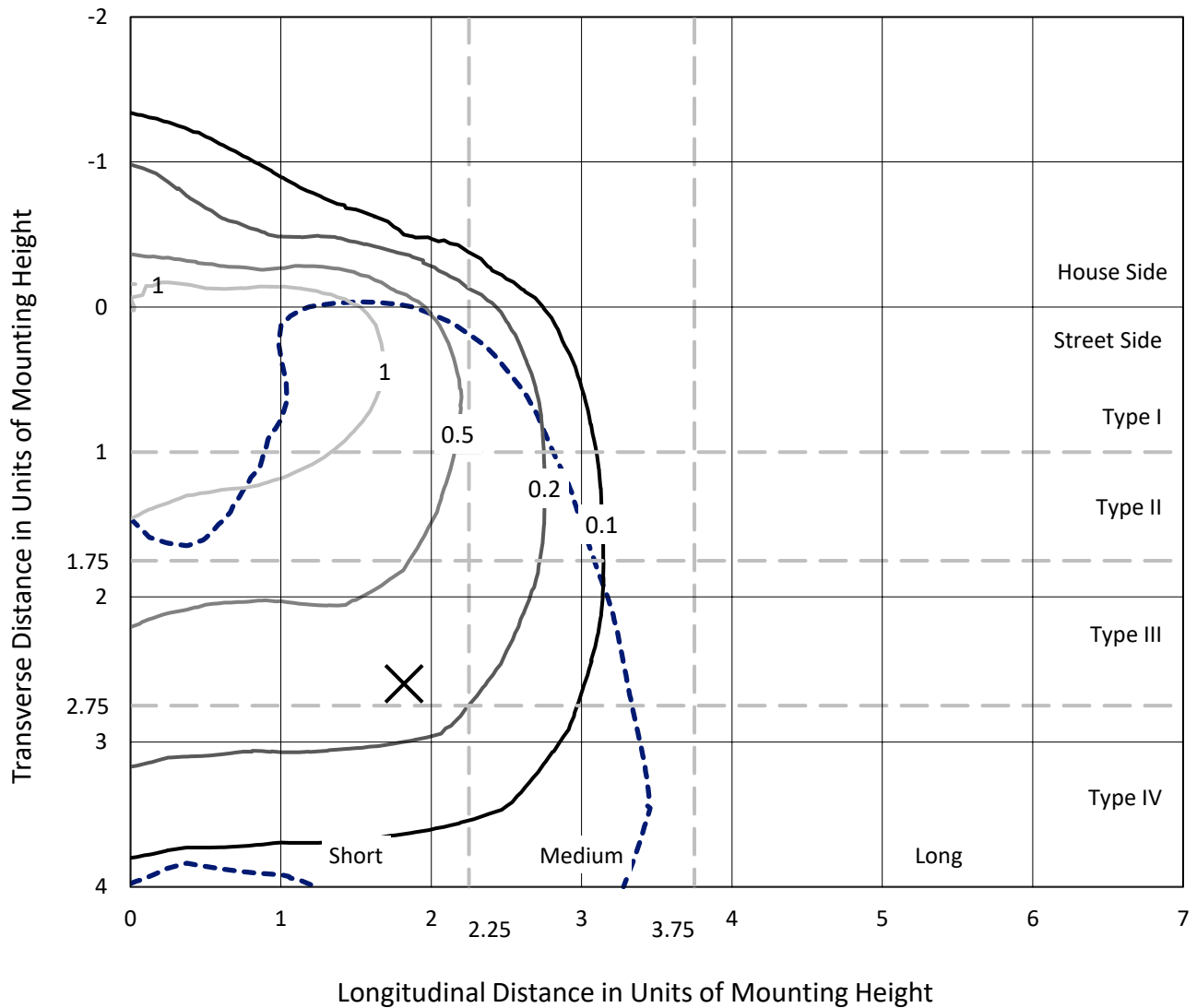
Lumens per Lamp: N/A  
Luminaire Lumens: 9658 lumens  
Efficiency: N/A  
Efficacy: 74.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3  
  
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

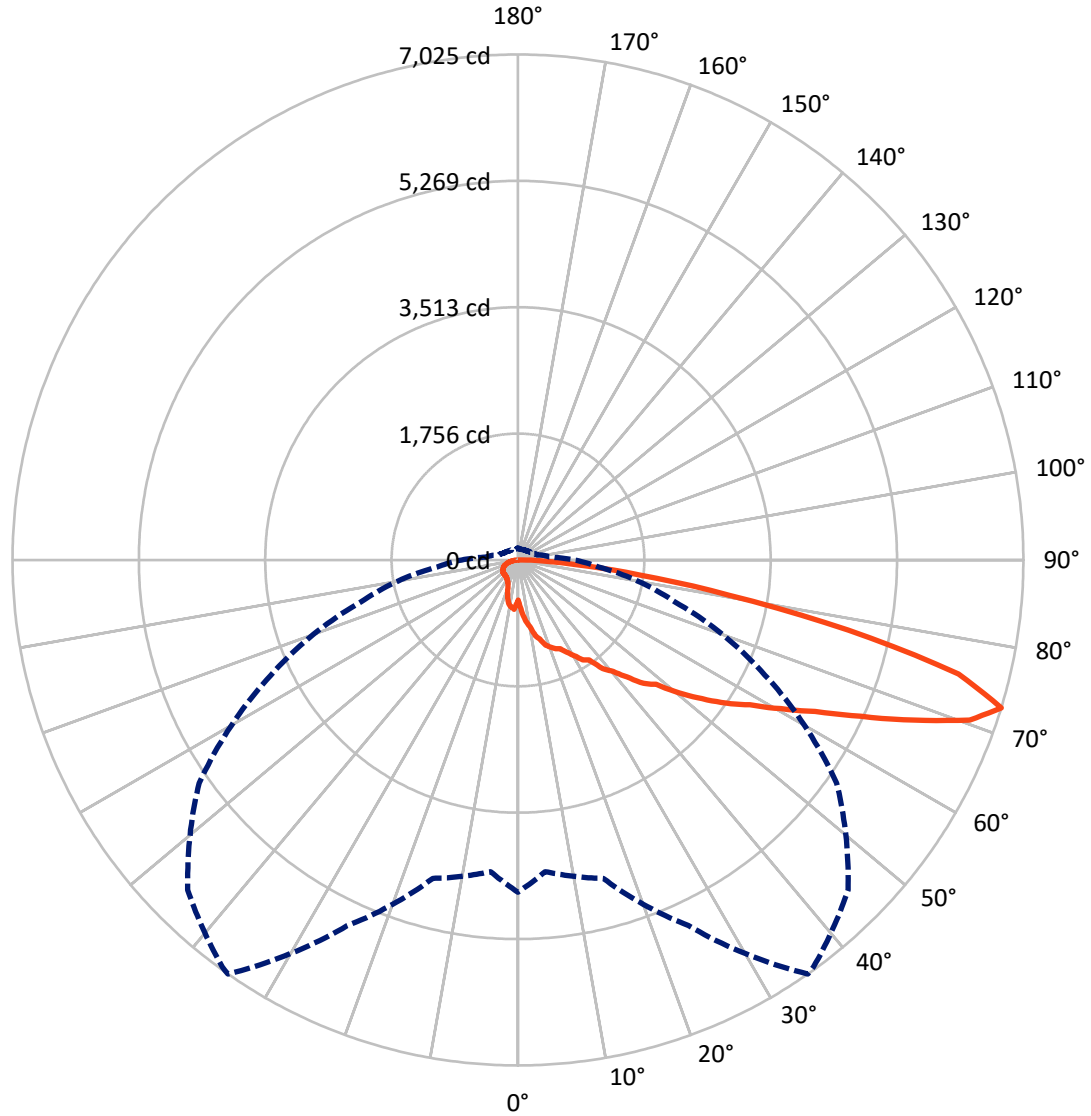
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.9 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
<b>House Side</b>	Lumens	1296.1	0.0	1296.1
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	8361.9	0.0	8361.9
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	9658.0	0.0	9658.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.2	0.8
10°-20°	261.3	2.7
20°-30°	454.0	4.7
30°-40°	758.8	7.9
40°-50°	1317.0	13.6
50°-60°	1991.0	20.6
60°-70°	2579.3	26.7
70°-80°	1903.3	19.7
80°-90°	319.0	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°	9658.0	100.0
0°-180°	9658.0	100.0

**Coefficient of Utilization**



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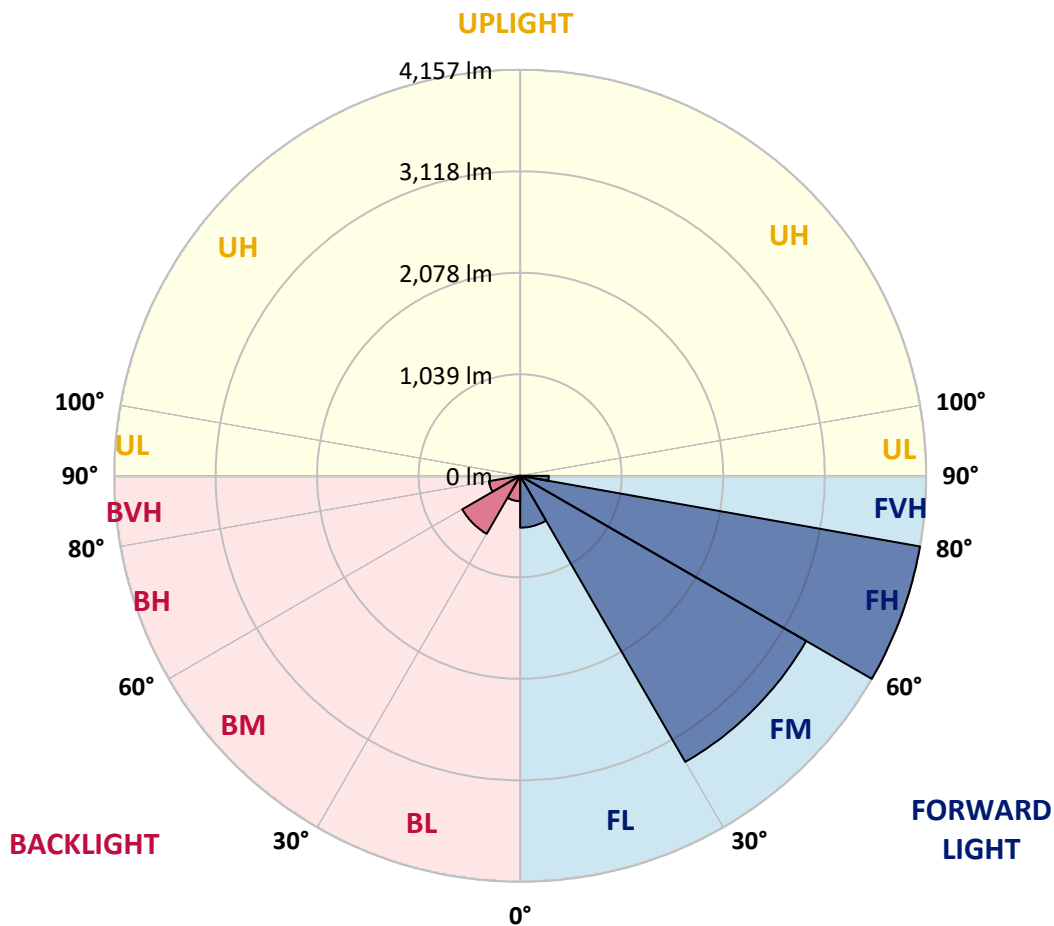
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	530.4	5.5			
FM (30°-60°)	3381.9	35.0			
FH (60°-80°)	4156.7	43.0			G2/5000
FVH (80°-90°)	292.9	3.0			G3/500
BL (0°-30°)	259.1	2.7	B1/500		
BM (30°-60°)	685.0	7.1	B1/1000		
BH (60°-80°)	325.9	3.4	B1/500		G1/500
BVH (80°-90°)	26.1	0.3			G1/100
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°	36°	45°	55°	65°	75°	85°
0°	558.1	558.1	558.1	558.1	558.1	558.1	558.1	558.1	558.1	558.1	558.1
2.5°	696.2	662.8	634.0	632.8	659.5	669.9	665.7	656.7	645.9	623.3	672.7
5°	872.2	824.4	815.4	804.6	780.3	786.9	747.3	777.4	786.9	808.8	841.7
7.5°	976.1	948.1	926.2	917.2	875.1	870.2	840.9	883.8	901.9	899.0	948.1
10°	1016.9	991.4	993.0	963.3	949.7	955.5	958.8	959.6	970.8	979.8	955.1
12.5°	1038.0	1047.9	1084.1	1063.9	1081.2	1088.2	1122.9	1087.4	1088.7	1042.1	1067.6
15°	1143.9	1168.6	1147.6	1146.8	1141.4	1153.0	1182.6	1158.7	1177.3	1162.4	1129.5
17.5°	1271.7	1279.1	1238.7	1222.2	1243.7	1239.9	1232.5	1236.2	1190.1	1275.8	1235.4
20°	1310.8	1340.1	1286.9	1222.2	1293.1	1302.6	1301.0	1284.9	1205.7	1329.4	1290.2
22.5°	1424.6	1385.0	1343.0	1301.8	1338.1	1343.4	1334.3	1296.0	1269.6	1316.6	1347.5
25°	1476.1	1466.7	1413.1	1408.1	1368.1	1349.2	1364.8	1353.7	1327.7	1411.4	1377.2
27.5°	1594.0	1582.9	1459.7	1510.4	1452.2	1447.3	1364.4	1401.5	1427.5	1421.3	1472.4
30°	1727.6	1740.4	1560.2	1610.9	1543.7	1534.7	1451.4	1498.4	1516.1	1521.9	1585.8
32.5°	1876.0	1911.0	1732.1	1690.5	1654.6	1660.8	1590.3	1504.6	1573.4	1708.2	1735.8
35°	2036.8	2051.2	1863.6	1801.0	1707.4	1700.8	1702.0	1712.8	1782.4	1936.2	1957.6
37.5°	2334.0	2267.2	2102.7	1944.0	1912.7	1851.3	1892.9	1925.9	1995.5	2231.3	2321.2
40°	2517.0	2467.5	2216.9	2125.0	2038.4	2044.2	2122.1	2121.7	2286.1	2529.4	2666.6
42.5°	2686.4	2632.4	2396.2	2303.9	2221.8	2242.0	2264.3	2303.5	2618.8	3010.8	3073.5
45°	2822.9	2704.5	2534.7	2514.1	2446.5	2419.7	2514.1	2576.8	3016.6	3400.4	3436.6
47.5°	2915.6	2818.3	2652.2	2634.1	2584.2	2649.7	2907.4	2947.8	3324.9	3791.6	3788.7
50°	3056.6	2923.4	2773.4	2763.9	2904.5	2939.5	3253.6	3249.5	3625.0	4116.4	4048.4
52.5°	3219.0	3051.2	2888.4	2990.2	3204.6	3221.9	3494.4	3605.2	3952.7	4429.7	4252.0
55°	3405.7	3218.2	3060.7	3196.7	3515.8	3464.7	3740.4	4011.3	4362.9	4759.9	4399.2
57.5°	3637.0	3409.4	3282.1	3489.0	3799.8	3845.1	4092.9	4433.8	4693.1	4965.1	4506.3
60°	3881.0	3613.9	3497.2	3694.3	4197.6	4249.5	4491.9	4785.0	5063.2	5158.5	4486.1
62.5°	4113.9	3824.9	3719.4	3962.6	4638.7	4767.3	4946.2	5132.9	5371.2	5205.5	4241.7
65°	4373.2	4083.8	4017.5	4382.3	5236.8	5364.6	5598.3	5542.2	5476.7	5038.9	3837.3
67.5°	4647.7	4353.8	4366.2	4869.1	5942.1	5963.9	6323.0	5950.3	5352.6	4597.9	3158.4
70°	4795.3	4494.4	4621.8	5388.1	6659.8	6628.4	6701.8	6060.0	4846.8	3634.5	2176.9
72.5°	4616.4	4348.1	4581.4	5606.5	7025.0	6991.2	6489.1	5409.1	3789.5	2260.2	1128.6
75°	3908.6	3649.8	4006.7	4997.7	6324.2	6355.5	5522.5	4022.4	2169.5	908.9	468.7
77.5°	2655.9	2522.3	2828.2	3725.2	4697.6	4806.0	4097.4	2352.1	911.0	376.4	283.6
80°	1403.6	1340.1	1566.0	2146.0	2974.5	3055.3	2409.4	1171.5	466.6	243.6	202.4
82.5°	762.6	735.8	857.0	1103.5	1690.1	1760.6	1249.4	778.3	314.5	152.5	123.7
85°	512.4	502.1	582.5	592.8	799.3	822.4	654.6	599.4	188.8	74.6	81.6
87.5°	256.4	246.1	306.7	270.8	305.0	305.5	300.1	382.5	47.8	24.7	14.8
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°	558.1	558.1	558.1	558.1	558.1	558.1	558.1	558.1	558.1	558.1	558.1
2.5°	673.6	659.1	609.3	608.8	616.3	611.3	615.0	594.8	586.2	625.7	623.7
5°	837.2	793.9	752.3	737.9	721.0	684.3	686.3	686.8	680.6	704.1	705.7
7.5°	933.3	881.3	843.0	766.3	706.1	659.1	665.3	672.3	665.3	696.6	708.2
10°	947.3	906.1	860.3	775.0	735.0	692.5	649.7	611.7	607.2	592.8	597.3
12.5°	1030.5	996.3	900.7	807.1	760.5	695.4	617.1	573.8	537.5	543.7	532.2
15°	1099.0	1074.6	960.1	837.6	726.3	645.5	562.3	502.9	470.3	466.6	455.1
17.5°	1191.7	1157.1	965.4	816.6	682.2	585.3	491.4	424.2	410.2	404.4	398.6
20°	1236.2	1174.0	946.0	750.6	630.7	513.6	421.3	363.6	359.5	369.8	367.7
22.5°	1275.0	1188.0	928.7	710.7	550.3	441.1	373.5	335.5	331.0	344.2	346.7
25°	1297.7	1228.0	909.8	669.9	500.4	387.1	337.6	316.2	317.0	334.3	332.2
27.5°	1399.9	1242.0	861.9	621.6	443.1	347.1	320.3	309.2	304.6	328.5	330.6
30°	1464.2	1333.5	851.2	570.5	400.7	317.8	304.6	300.1	299.3	328.1	330.2
32.5°	1583.7	1364.0	856.2	514.9	362.3	308.7	293.1	292.7	300.9	328.5	331.8
35°	1749.4	1492.6	832.3	483.1	341.3	294.7	284.0	287.3	301.3	331.4	336.0
37.5°	2072.6	1613.8	839.7	453.4	334.3	290.2	281.5	283.6	306.3	338.8	351.2
40°	2328.6	1833.5	828.1	438.6	324.8	289.4	276.2	284.4	305.9	343.0	354.1
42.5°	2699.6	2008.7	829.4	423.8	324.4	286.1	275.4	285.3	305.0	339.3	354.5
45°	3017.8	2165.8	847.1	415.1	320.3	291.4	274.1	286.5	299.7	326.1	343.0
47.5°	3278.8	2341.0	865.2	406.9	318.6	296.4	272.9	277.8	290.6	311.2	326.5
50°	3491.5	2464.2	888.3	405.2	318.6	293.9	269.6	269.2	279.9	296.4	310.8
52.5°	3657.2	2551.2	904.0	407.3	318.6	284.4	265.5	262.2	268.8	280.7	295.1
55°	3777.1	2578.0	891.2	412.6	318.2	275.8	258.0	255.2	258.5	266.7	280.3
57.5°	3825.4	2507.5	815.0	403.1	318.2	269.6	249.0	245.7	249.0	255.2	268.8
60°	3704.6	2280.8	704.9	378.8	312.0	261.3	238.7	236.6	241.6	246.9	260.1
62.5°	3401.6	1979.5	587.4	350.0	299.3	254.3	228.8	229.2	237.0	244.4	257.6
65°	2930.9	1615.1	489.7	320.7	283.2	243.2	218.5	221.4	232.5	242.4	255.6
67.5°	2306.3	1196.7	412.2	292.3	260.5	225.1	206.9	207.8	215.6	225.1	237.8
70°	1541.7	761.4	338.8	258.9	230.8	201.6	189.2	186.3	184.3	192.5	203.6
72.5°	782.0	449.7	278.2	221.4	198.7	176.0	166.5	159.1	153.3	158.3	166.9
75°	409.7	314.5	224.7	183.8	164.1	149.6	142.6	132.7	128.6	131.5	137.7
77.5°	289.8	246.1	181.8	145.5	133.6	118.7	120.0	109.6	106.4	108.0	114.6
80°	222.6	195.0	139.7	110.1	103.1	88.6	92.7	86.6	82.4	81.6	86.6
82.5°	151.7	146.7	99.3	77.1	72.1	61.8	67.6	65.1	59.8	56.5	58.9
85°	102.2	97.3	60.6	44.5	42.5	32.2	41.2	39.6	35.0	30.1	30.5
87.5°	17.7	32.6	17.3	11.1	10.3	3.7	9.5	9.1	8.2	4.1	3.3
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)