

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: P596660

Luminaire Tested: **MSA-SA3A-827-U-SL4**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596660
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-SA3A-827-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 8399 lumens
Efficiency: N/A
Efficacy: 87.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

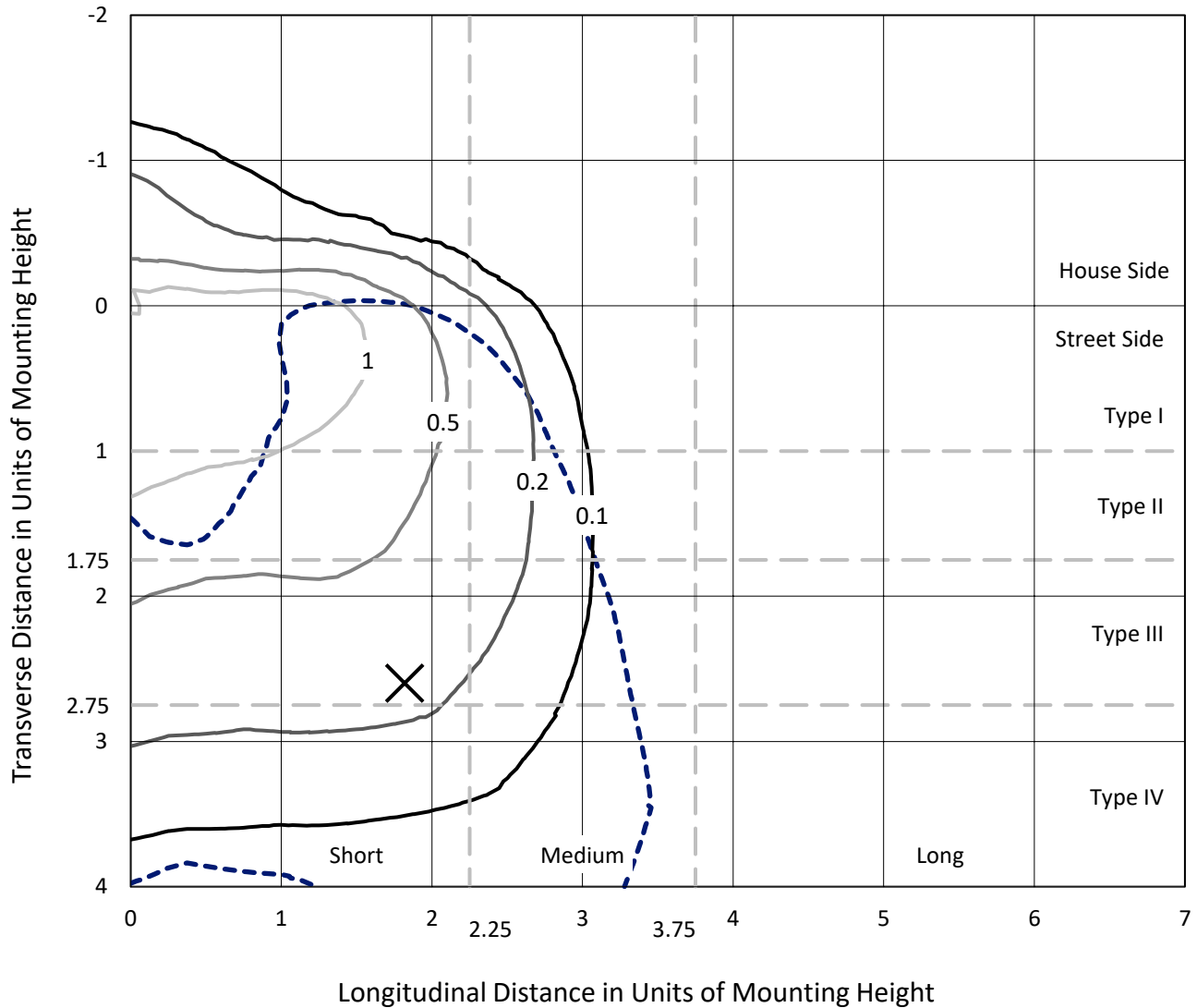
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

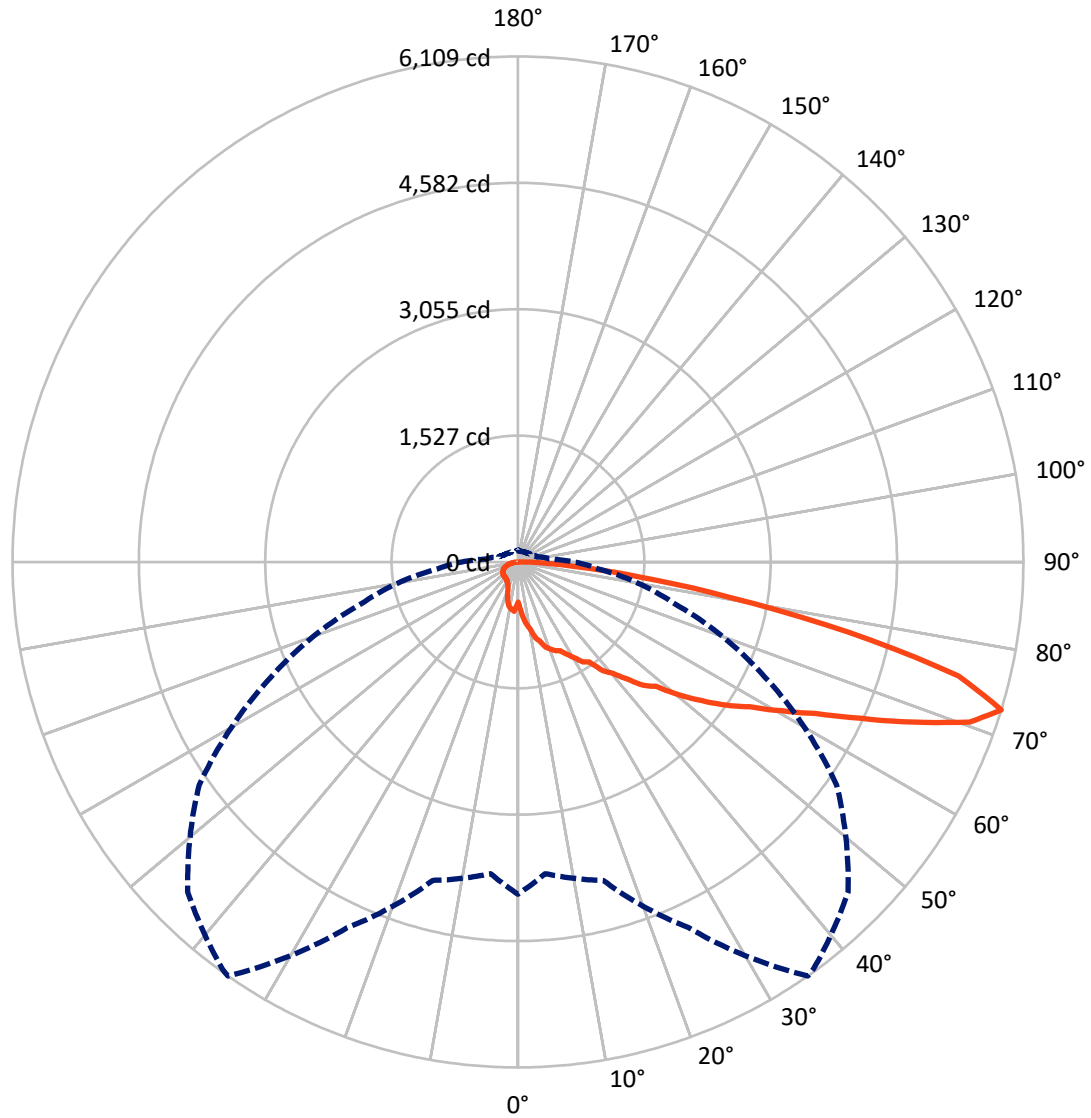
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.7 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	1127.1	0.0	1127.1
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	7271.9	0.0	7271.9
	% Fixture	86.6	0.0	86.6
Total	Lumens	8399.0	0.0	8399.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.5	0.8
10°-20°	227.2	2.7
20°-30°	394.8	4.7
30°-40°	659.9	7.9
40°-50°	1145.4	13.6
50°-60°	1731.5	20.6
60°-70°	2243.1	26.7
70°-80°	1655.2	19.7
80°-90°	277.4	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°	8399.0	100.0
0°-180°	8399.0	100.0

Coefficient of Utilization



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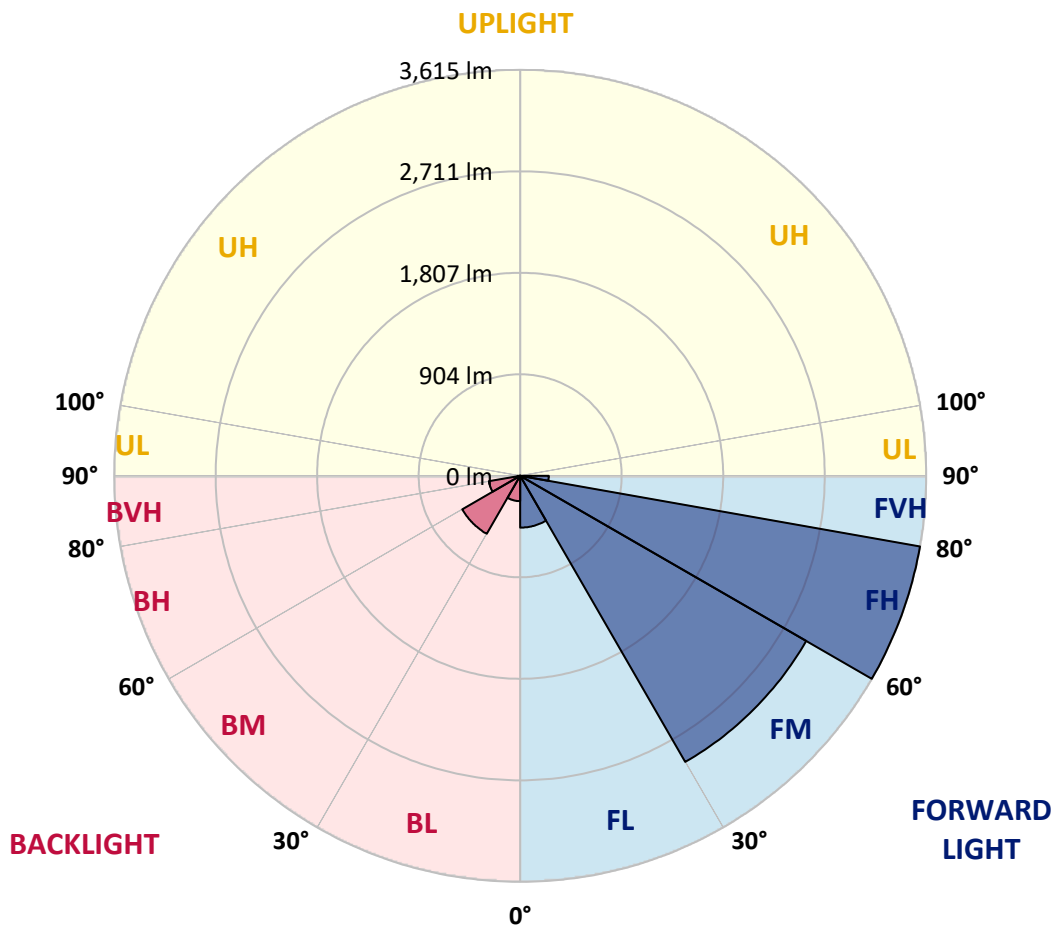
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	461.3	5.5			
FM (30°-60°)	2941.0	35.0			
FH (60°-80°)	3614.9	43.0			G2/5000
FVH (80°-90°)	254.7	3.0			G3/500
BL (0°-30°)	225.3	2.7	B1/500		
BM (30°-60°)	595.7	7.1	B1/1000		
BH (60°-80°)	283.4	3.4	B1/500		G1/500
BVH (80°-90°)	22.7	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°	485.4	485.4	485.4	485.4	485.4	485.4	485.4	485.4	485.4	485.4	485.4
2.5°	605.5	576.4	551.3	550.3	573.6	582.5	578.9	571.1	561.7	542.0	585.0
5°	758.5	717.0	709.1	699.8	678.6	684.3	649.9	676.1	684.3	703.3	732.0
7.5°	848.9	824.5	805.5	797.6	761.1	756.8	731.3	768.6	784.4	781.8	824.5
10°	884.4	862.1	863.6	837.8	825.9	831.0	833.8	834.5	844.2	852.1	830.6
12.5°	902.7	911.3	942.8	925.2	940.3	946.4	976.5	945.7	946.7	906.2	928.5
15°	994.8	1016.3	998.0	997.3	992.6	1002.7	1028.5	1007.7	1023.8	1010.9	982.2
17.5°	1105.9	1112.4	1077.2	1062.9	1081.5	1078.3	1071.9	1075.1	1034.9	1109.5	1074.4
20°	1140.0	1165.4	1119.2	1062.9	1124.6	1132.8	1131.4	1117.4	1048.6	1156.1	1122.0
22.5°	1238.9	1204.5	1167.9	1132.1	1163.6	1168.3	1160.4	1127.1	1104.1	1145.0	1171.9
25°	1283.7	1275.5	1228.9	1224.6	1189.8	1173.3	1186.9	1177.2	1154.7	1227.4	1197.7
27.5°	1386.2	1376.6	1269.4	1313.5	1262.9	1258.6	1186.6	1218.8	1241.4	1236.0	1280.5
30°	1502.4	1513.5	1356.8	1400.9	1342.5	1334.6	1262.2	1303.1	1318.5	1323.5	1379.1
32.5°	1631.4	1661.9	1506.3	1470.1	1438.9	1444.3	1383.0	1308.5	1368.3	1485.5	1509.6
35°	1771.2	1783.8	1620.7	1566.2	1484.8	1479.1	1480.2	1489.5	1550.1	1683.8	1702.4
37.5°	2029.7	1971.6	1828.6	1690.6	1663.3	1609.9	1646.1	1674.8	1735.4	1940.5	2018.6
40°	2188.9	2145.9	1927.9	1848.0	1772.7	1777.7	1845.5	1845.1	1988.1	2199.6	2319.0
42.5°	2336.2	2289.3	2083.8	2003.5	1932.2	1949.8	1969.1	2003.2	2277.4	2618.3	2672.8
45°	2454.9	2352.0	2204.3	2186.4	2127.6	2104.3	2186.4	2240.9	2623.4	2957.1	2988.6
47.5°	2535.5	2450.9	2306.5	2290.7	2247.3	2304.3	2528.4	2563.5	2891.5	3297.3	3294.8
50°	2658.1	2542.3	2411.9	2403.6	2525.8	2556.3	2829.5	2825.9	3152.5	3579.8	3520.6
52.5°	2799.4	2653.5	2511.9	2600.4	2786.8	2801.9	3038.8	3135.3	3437.5	3852.2	3697.7
55°	2961.8	2798.7	2661.7	2780.0	3057.5	3013.0	3252.8	3488.4	3794.2	4139.4	3825.7
57.5°	3162.9	2965.0	2854.2	3034.2	3304.5	3343.9	3559.3	3855.8	4081.3	4317.9	3918.9
60°	3375.1	3142.8	3041.3	3212.7	3650.4	3695.6	3906.4	4161.2	4403.2	4486.0	3901.3
62.5°	3577.6	3326.3	3234.6	3446.1	4034.0	4145.8	4301.4	4463.8	4671.0	4526.9	3688.8
65°	3803.1	3551.5	3493.7	3811.0	4554.1	4665.3	4868.5	4819.8	4762.8	4382.1	3337.1
67.5°	4041.9	3786.3	3797.0	4234.4	5167.5	5186.5	5498.7	5174.7	4654.9	3998.5	2746.7
70°	4170.2	3908.5	4019.3	4685.7	5791.6	5764.4	5828.2	5270.0	4215.0	3160.7	1893.1
72.5°	4014.6	3781.2	3984.1	4875.7	6109.2	6079.8	5643.2	4704.0	3295.5	1965.5	981.5
75°	3399.1	3174.0	3484.4	4346.2	5499.8	5527.0	4802.6	3498.0	1886.7	790.4	407.6
77.5°	2309.7	2193.5	2459.5	3239.6	4085.2	4179.5	3563.3	2045.5	792.2	327.3	246.6
80°	1220.6	1165.4	1361.9	1866.2	2586.8	2657.1	2095.3	1018.8	405.8	211.9	176.0
82.5°	663.2	639.9	745.3	959.7	1469.8	1531.1	1086.6	676.8	273.5	132.6	107.5
85°	445.6	436.6	506.5	515.5	695.1	715.2	569.3	521.2	164.2	64.9	71.0
87.5°	223.0	214.0	266.7	235.5	265.3	265.6	261.0	332.7	41.6	21.5	12.9
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°	485.4	485.4	485.4	485.4	485.4	485.4	485.4	485.4	485.4	485.4	485.4
2.5°	585.8	573.2	529.8	529.5	535.9	531.6	534.9	517.3	509.8	544.2	542.4
5°	728.1	690.4	654.2	641.7	627.0	595.1	596.9	597.2	591.9	612.3	613.7
7.5°	811.6	766.4	733.1	666.4	614.1	573.2	578.6	584.7	578.6	605.8	615.9
10°	823.8	787.9	748.1	673.9	639.2	602.2	565.0	532.0	528.0	515.5	519.4
12.5°	896.2	866.4	783.3	701.9	661.4	604.8	536.6	499.0	467.5	472.8	462.8
15°	955.7	934.6	834.9	728.4	631.6	561.4	489.0	437.3	409.0	405.8	395.8
17.5°	1036.4	1006.3	839.6	710.1	593.3	509.0	427.3	368.9	356.7	351.7	346.7
20°	1075.1	1021.0	822.7	652.8	548.5	446.7	366.4	316.2	312.6	321.6	319.8
22.5°	1108.8	1033.1	807.7	618.0	478.6	383.6	324.8	291.8	287.9	299.3	301.5
25°	1128.5	1067.9	791.2	582.5	435.2	336.6	293.6	275.0	275.7	290.7	288.9
27.5°	1217.4	1080.1	749.6	540.6	385.4	301.8	278.5	268.9	264.9	285.7	287.5
30°	1273.3	1159.7	740.3	496.1	348.4	276.4	264.9	261.0	260.3	285.4	287.1
32.5°	1377.3	1186.2	744.6	447.7	315.1	268.5	254.9	254.5	261.7	285.7	288.6
35°	1521.4	1298.1	723.8	420.1	296.8	256.3	247.0	249.9	262.0	288.2	292.2
37.5°	1802.4	1403.4	730.2	394.3	290.7	252.4	244.8	246.6	266.4	294.7	305.4
40°	2025.1	1594.5	720.2	381.4	282.5	251.7	240.2	247.4	266.0	298.3	307.9
42.5°	2347.7	1746.9	721.3	368.5	282.1	248.8	239.5	248.1	265.3	295.0	308.3
45°	2624.4	1883.5	736.7	361.0	278.5	253.4	238.4	249.1	260.6	283.6	298.3
47.5°	2851.3	2035.8	752.4	353.8	277.1	257.7	237.3	241.6	252.7	270.7	283.9
50°	3036.3	2143.0	772.5	352.4	277.1	255.6	234.4	234.1	243.4	257.7	270.3
52.5°	3180.4	2218.6	786.1	354.2	277.1	247.4	230.9	228.0	233.7	244.1	256.7
55°	3284.8	2241.9	775.0	358.8	276.7	239.8	224.4	221.9	224.8	231.9	243.8
57.5°	3326.7	2180.6	708.7	350.6	276.7	234.4	216.5	213.7	216.5	221.9	233.7
60°	3221.7	1983.5	613.0	329.4	271.4	227.3	207.6	205.8	210.1	214.7	226.2
62.5°	2958.2	1721.4	510.8	304.3	260.3	221.2	199.0	199.3	206.1	212.6	224.0
65°	2548.8	1404.5	425.9	278.9	246.3	211.5	190.0	192.5	202.2	210.8	222.3
67.5°	2005.7	1040.7	358.5	254.2	226.6	195.7	180.0	180.7	187.5	195.7	206.8
70°	1340.7	662.1	294.7	225.1	200.7	175.3	164.5	162.0	160.2	167.4	177.1
72.5°	680.0	391.1	242.0	192.5	172.8	153.1	144.8	138.4	133.4	137.7	145.2
75°	356.3	273.5	195.4	159.9	142.7	130.1	124.0	115.4	111.8	114.4	119.7
77.5°	252.0	214.0	158.1	126.5	116.1	103.2	104.3	95.4	92.5	93.9	99.7
80°	193.6	169.6	121.5	95.7	89.6	77.1	80.7	75.3	71.7	71.0	75.3
82.5°	131.9	127.6	86.4	67.0	62.7	53.8	58.8	56.6	52.0	49.1	51.3
85°	88.9	84.6	52.7	38.7	36.9	28.0	35.8	34.4	30.5	26.2	26.5
87.5°	15.4	28.3	15.1	9.7	9.0	3.2	8.2	7.9	7.2	3.6	2.9
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)