

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: P596726

Luminaire Tested: **MSA-SA3D-827-U-SL4**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596726
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-SA3D-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: 14253 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

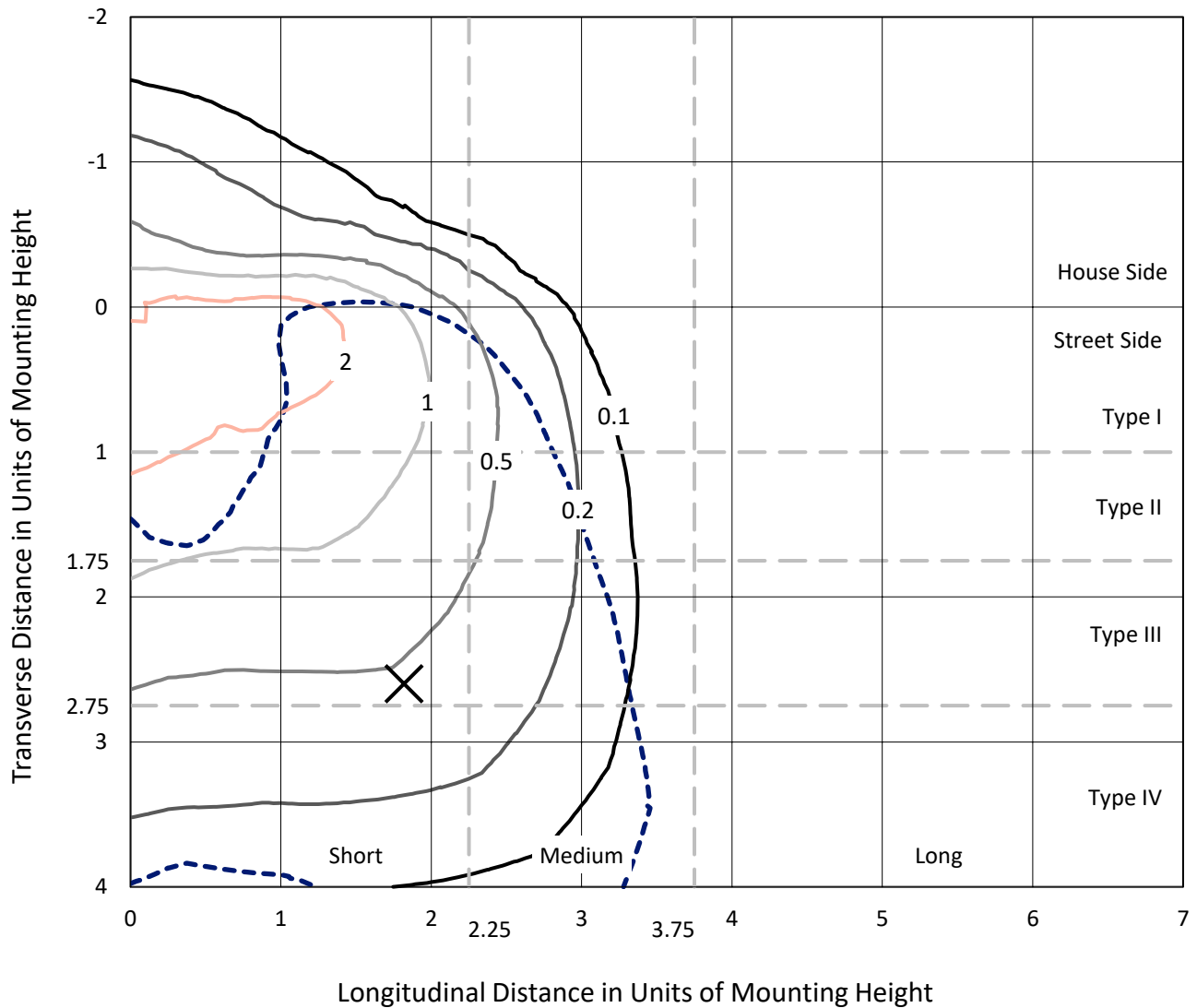
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

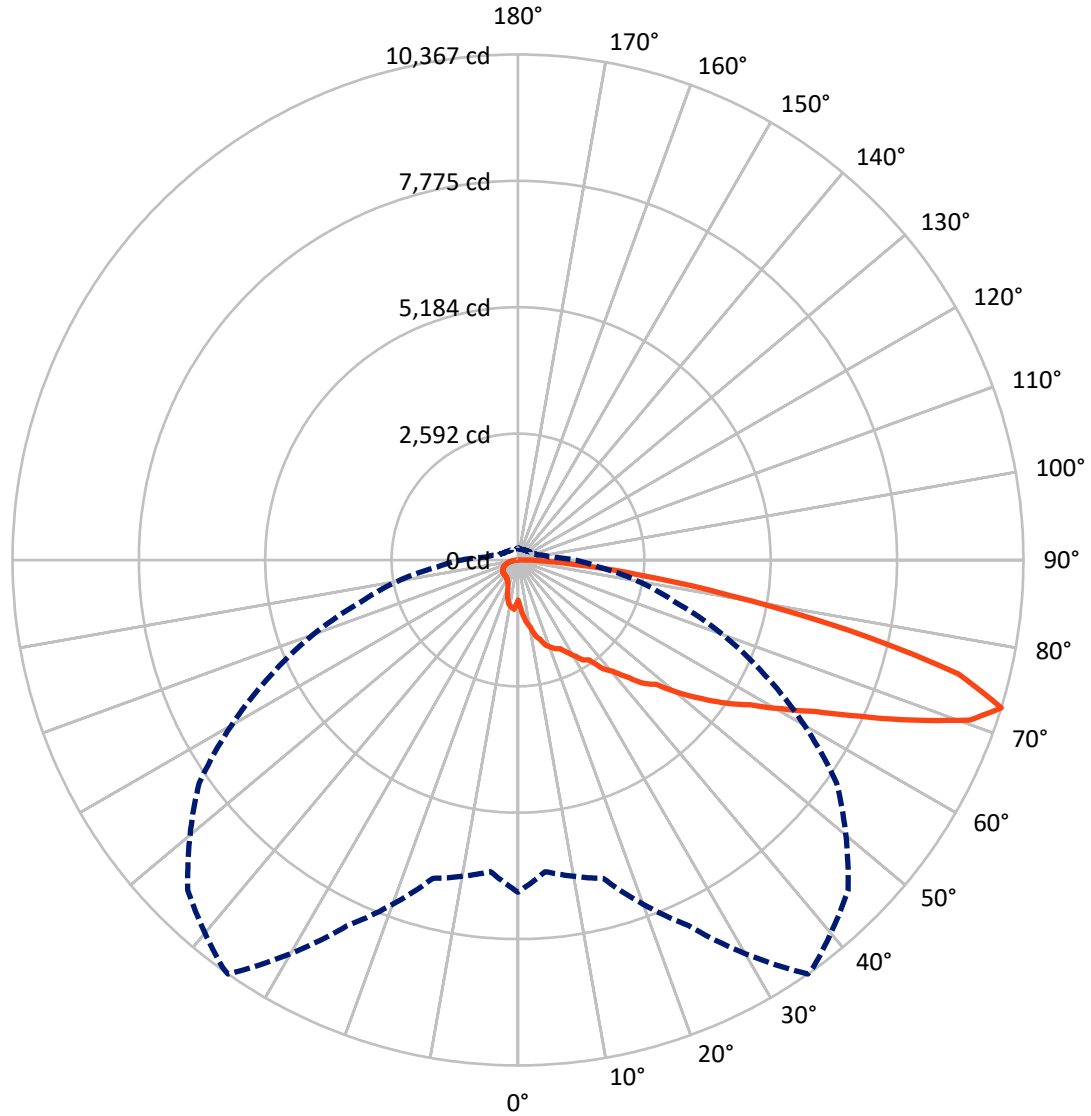
✕ Max cd
 - - - 1/2 Max cd



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1912.7	0.0	1912.7
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	12340.3	0.0	12340.3
	% Fixture	86.6	0.0	86.6
Total	Lumens	14253.0	0.0	14253.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.5	0.8
10°-20°	385.6	2.7
20°-30°	670.0	4.7
30°-40°	1119.8	7.9
40°-50°	1943.7	13.6
50°-60°	2938.3	20.6
60°-70°	3806.5	26.7
70°-80°	2808.8	19.7
80°-90°	470.8	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°	14253.0	100.0
0°-180°	14253.0	100.0

Coefficient of Utilization



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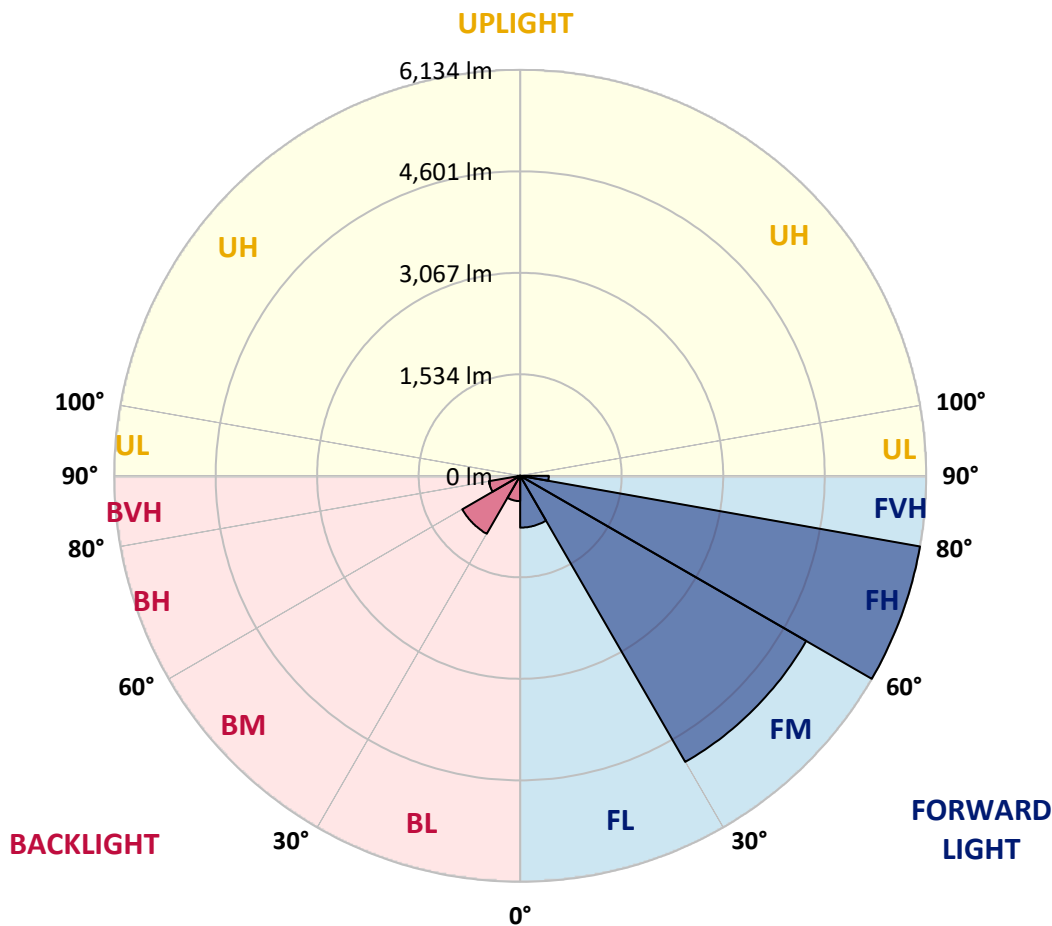
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	782.8	5.5			
FM (30°-60°)	4990.9	35.0			
FH (60°-80°)	6134.4	43.0			G3/7500
FVH (80°-90°)	432.2	3.0			G3/500
BL (0°-30°)	382.3	2.7	B1/500		
BM (30°-60°)	1010.9	7.1	B2/2500		
BH (60°-80°)	481.0	3.4	B1/500		G1/500
BVH (80°-90°)	38.5	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	823.7	823.7	823.7	823.7	823.7	823.7	823.7	823.7	823.7	823.7	823.7
2.5°	1027.5	978.2	935.6	933.8	973.3	988.5	982.5	969.1	953.3	919.8	992.8
5°	1287.2	1216.7	1203.3	1187.5	1151.6	1161.3	1102.9	1147.3	1161.3	1193.6	1242.2
7.5°	1440.5	1399.2	1366.9	1353.5	1291.5	1284.2	1241.0	1304.3	1331.0	1326.8	1399.2
10°	1500.8	1463.0	1465.5	1421.7	1401.6	1410.1	1415.0	1416.2	1432.6	1446.0	1409.5
12.5°	1531.8	1546.4	1599.9	1570.1	1595.7	1606.0	1657.1	1604.8	1606.6	1537.9	1575.6
15°	1688.1	1724.6	1693.6	1692.4	1684.5	1701.5	1745.3	1710.0	1737.4	1715.5	1666.8
17.5°	1876.7	1887.7	1828.0	1803.7	1835.3	1829.9	1818.9	1824.4	1756.3	1882.8	1823.2
20°	1934.5	1977.7	1899.2	1803.7	1908.4	1922.3	1919.9	1896.2	1779.4	1961.9	1904.1
22.5°	2102.4	2044.0	1982.0	1921.1	1974.7	1982.6	1969.2	1912.6	1873.7	1943.0	1988.7
25°	2178.5	2164.5	2085.4	2078.1	2019.1	1991.1	2014.2	1997.8	1959.5	2082.9	2032.5
27.5°	2352.4	2336.0	2154.1	2228.9	2143.2	2135.9	2013.6	2068.3	2106.7	2097.5	2173.0
30°	2549.5	2568.4	2302.6	2377.4	2278.2	2264.8	2142.0	2211.3	2237.5	2246.0	2340.3
32.5°	2768.5	2820.2	2556.2	2494.8	2441.9	2451.0	2347.0	2220.4	2322.0	2520.9	2561.7
35°	3005.8	3027.1	2750.3	2657.8	2519.7	2510.0	2511.8	2527.6	2630.4	2857.4	2889.0
37.5°	3444.4	3345.8	3103.1	2868.9	2822.7	2732.0	2793.5	2842.1	2945.0	3292.9	3425.5
40°	3714.5	3641.5	3271.6	3136.0	3008.2	3016.7	3131.7	3131.1	3373.8	3732.8	3935.3
42.5°	3964.5	3884.8	3536.3	3400.0	3278.9	3308.7	3341.6	3399.4	3864.8	4443.3	4535.8
45°	4165.9	3991.3	3740.7	3710.2	3610.5	3570.9	3710.2	3802.7	4451.8	5018.2	5071.7
47.5°	4302.8	4159.2	3914.0	3887.3	3813.7	3910.4	4290.6	4350.2	4906.8	5595.5	5591.2
50°	4510.8	4314.3	4092.9	4078.9	4286.3	4338.0	4801.6	4795.5	5349.7	6074.8	5974.5
52.5°	4750.5	4502.9	4262.6	4412.9	4729.2	4754.8	5156.9	5320.5	5833.3	6537.2	6275.0
55°	5026.1	4749.3	4516.9	4717.6	5188.5	5113.1	5520.0	5919.7	6438.6	7024.5	6492.2
57.5°	5367.3	5031.5	4843.6	5149.0	5607.6	5674.6	6040.2	6543.3	6925.9	7327.4	6650.3
60°	5727.5	5333.3	5161.1	5451.9	6194.7	6271.3	6629.0	7061.6	7472.2	7612.7	6620.5
62.5°	6071.2	5644.8	5489.0	5847.9	6845.6	7035.4	7299.4	7575.0	7926.6	7682.1	6259.8
65°	6453.8	6026.8	5928.8	6467.2	7728.3	7916.9	8261.8	8179.1	8082.4	7436.3	5663.0
67.5°	6859.0	6425.2	6443.5	7185.7	8769.2	8801.4	9331.3	8781.3	7899.2	6785.4	4661.1
70°	7076.8	6632.7	6820.7	7951.6	9828.3	9782.0	9890.3	8943.1	7152.8	5363.7	3212.6
72.5°	6812.8	6416.7	6761.0	8274.0	10367.3	10317.4	9576.4	7982.6	5592.4	3335.5	1665.6
75°	5768.2	5386.2	5913.0	7375.5	9333.1	9379.3	8149.9	5936.1	3201.7	1341.4	691.7
77.5°	3919.5	3722.4	4173.8	5497.5	6932.6	7092.6	6046.9	3471.2	1344.4	555.4	418.5
80°	2071.4	1977.7	2311.1	3167.0	4389.8	4509.0	3555.7	1728.9	688.6	359.5	298.7
82.5°	1125.4	1085.9	1264.7	1628.5	2494.2	2598.2	1843.9	1148.5	464.2	225.1	182.5
85°	756.2	741.0	859.6	874.8	1179.6	1213.6	966.0	884.5	278.6	110.1	120.5
87.5°	378.4	363.2	452.6	399.7	450.2	450.8	442.9	564.5	70.6	36.5	21.9
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°	823.7	823.7	823.7	823.7	823.7	823.7	823.7	823.7	823.7	823.7	823.7
2.5°	994.0	972.7	899.1	898.5	909.5	902.2	907.6	877.8	865.1	923.5	920.4
5°	1235.5	1171.7	1110.2	1088.9	1064.0	1009.8	1012.9	1013.5	1004.4	1039.0	1041.5
7.5°	1377.3	1300.6	1244.0	1130.9	1042.1	972.7	981.9	992.2	981.9	1028.1	1045.1
10°	1398.0	1337.1	1269.6	1143.7	1084.7	1022.0	958.7	902.8	896.1	874.8	881.5
12.5°	1520.8	1470.3	1329.2	1191.1	1122.4	1026.3	910.7	846.8	793.3	802.4	785.4
15°	1621.8	1585.9	1416.8	1236.1	1071.9	952.7	829.8	742.2	694.1	688.6	671.6
17.5°	1758.7	1707.6	1424.7	1205.1	1006.8	863.8	725.1	626.0	605.3	596.8	588.3
20°	1824.4	1732.5	1396.1	1107.8	930.8	758.0	621.7	536.6	530.5	545.7	542.6
22.5°	1881.6	1753.2	1370.6	1048.8	812.1	650.9	551.2	495.2	488.5	508.0	511.6
25°	1915.0	1812.2	1342.6	988.5	738.5	571.2	498.2	466.6	467.8	493.4	490.3
27.5°	2065.9	1832.9	1272.0	917.4	654.0	512.2	472.7	456.3	449.6	484.8	487.9
30°	2160.8	1968.0	1256.2	841.9	591.3	469.0	449.6	442.9	441.7	484.2	487.3
32.5°	2337.2	2013.0	1263.5	759.8	534.7	455.6	432.5	431.9	444.1	484.8	489.7
35°	2581.8	2202.8	1228.2	713.0	503.7	435.0	419.1	424.0	444.7	489.1	495.8
37.5°	3058.7	2381.6	1239.2	669.2	493.4	428.3	415.5	418.5	452.0	500.1	518.3
40°	3436.5	2705.9	1222.1	647.3	479.4	427.1	407.6	419.8	451.4	506.1	522.6
42.5°	3984.0	2964.4	1224.0	625.4	478.8	422.2	406.4	421.0	450.2	500.7	523.2
45°	4453.6	3196.2	1250.1	612.6	472.7	430.1	404.5	422.8	442.3	481.2	506.1
47.5°	4838.7	3454.7	1276.9	600.4	470.2	437.4	402.7	410.0	428.9	459.3	481.8
50°	5152.6	3636.6	1311.0	598.0	470.2	433.7	397.9	397.2	413.1	437.4	458.7
52.5°	5397.2	3765.0	1334.1	601.0	470.2	419.8	391.8	386.9	396.6	414.3	435.6
55°	5574.2	3804.5	1315.2	608.9	469.6	407.0	380.8	376.6	381.4	393.6	413.7
57.5°	5645.4	3700.5	1202.7	595.0	469.6	397.9	367.4	362.6	367.4	376.6	396.6
60°	5467.1	3365.9	1040.3	559.1	460.5	385.7	352.2	349.2	356.5	364.4	383.9
62.5°	5020.0	2921.2	866.9	516.5	441.7	375.3	337.6	338.2	349.8	360.7	380.2
65°	4325.3	2383.5	722.7	473.3	417.9	358.9	322.4	326.7	343.1	357.7	377.2
67.5°	3403.6	1766.0	608.3	431.3	384.5	332.2	305.4	306.6	318.2	332.2	351.0
70°	2275.2	1123.6	500.1	382.0	340.7	297.5	279.2	275.0	271.9	284.1	300.5
72.5°	1154.0	663.7	410.6	326.7	293.2	259.8	245.8	234.8	226.3	233.6	246.4
75°	604.7	464.2	331.5	271.3	242.1	220.8	210.5	195.9	189.8	194.1	203.2
77.5°	427.7	363.2	268.3	214.7	197.1	175.2	177.0	161.8	157.0	159.4	169.1
80°	328.5	287.7	206.2	162.4	152.1	130.8	136.9	127.8	121.7	120.5	127.8
82.5°	223.9	216.6	146.6	113.8	106.5	91.3	99.8	96.1	88.2	83.3	87.0
85°	150.9	143.6	89.4	65.7	62.7	47.5	60.8	58.4	51.7	44.4	45.0
87.5°	26.2	48.1	25.6	16.4	15.2	5.5	14.0	13.4	12.2	6.1	4.9
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)