

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: P367638

Luminaire Tested: **MSA-SA2D-830-U-SL2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367638
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2D-830-U-SL2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10647 lumens
Efficiency: N/A
Efficacy: 82.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B2 - U0 - G3

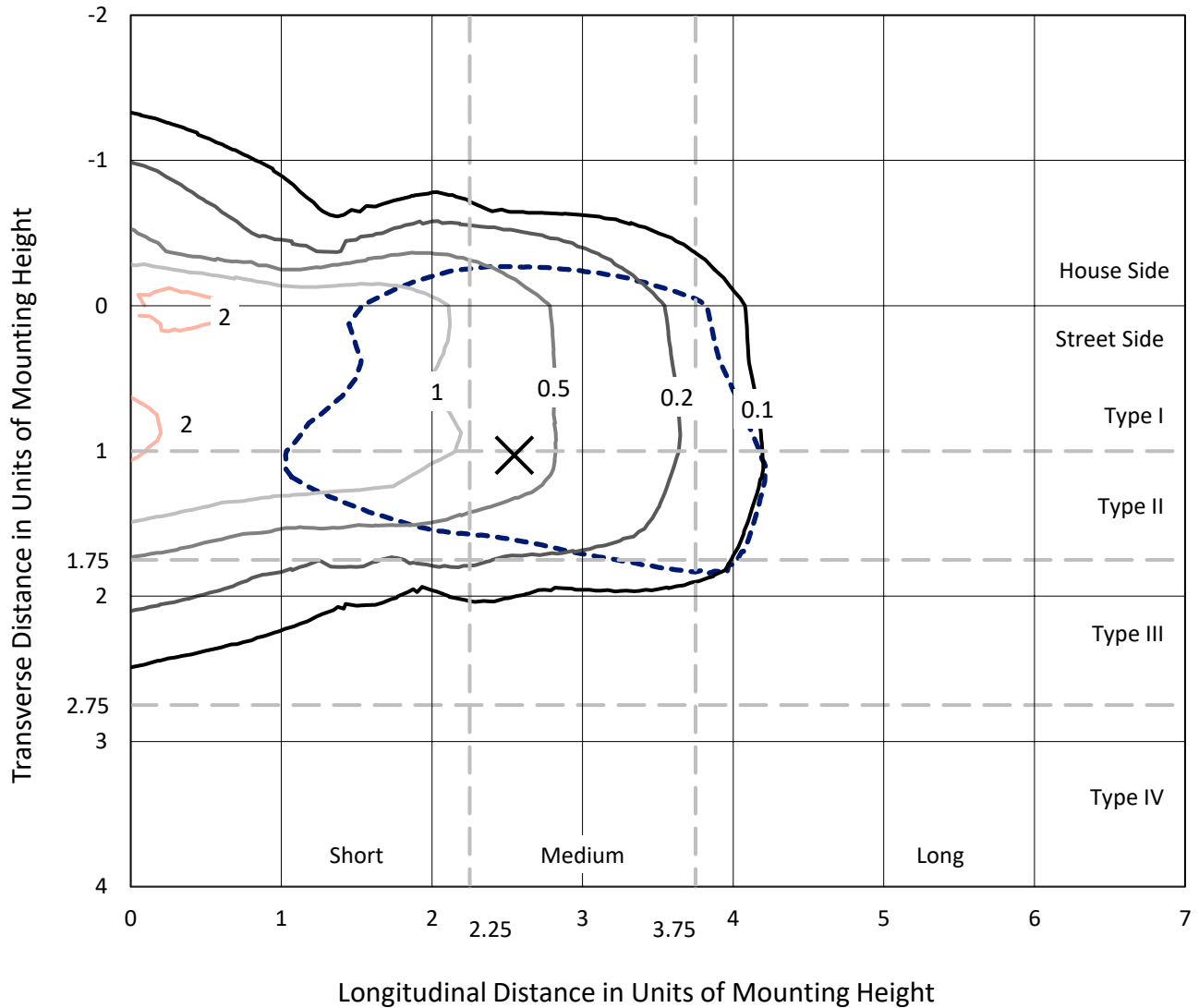
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

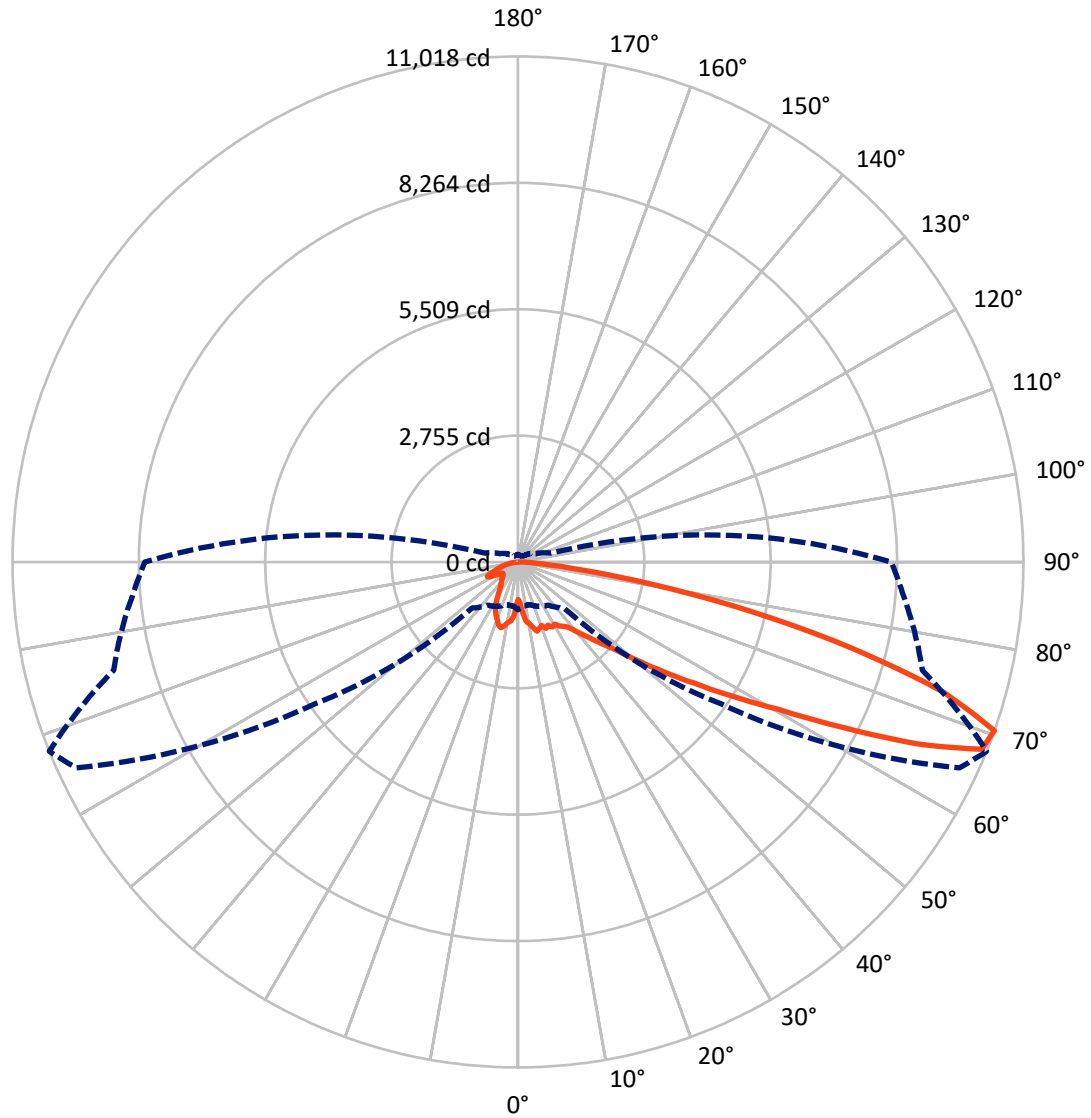
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.6 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2032.8	0.0	2032.8
	% Fixture	19.1	0.0	19.1
Street Side	Lumens	8614.2	0.0	8614.2
	% Fixture	80.9	0.0	80.9
Total	Lumens	10647.0	0.0	10647.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.0	1.0
10°-20°	355.4	3.3
20°-30°	540.6	5.1
30°-40°	825.7	7.8
40°-50°	1419.7	13.3
50°-60°	2349.9	22.1
60°-70°	2897.1	27.2
70°-80°	1861.0	17.5
80°-90°	288.7	2.7
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°	10647.0	100.0
0°-180°	10647.0	100.0

Coefficient of Utilization



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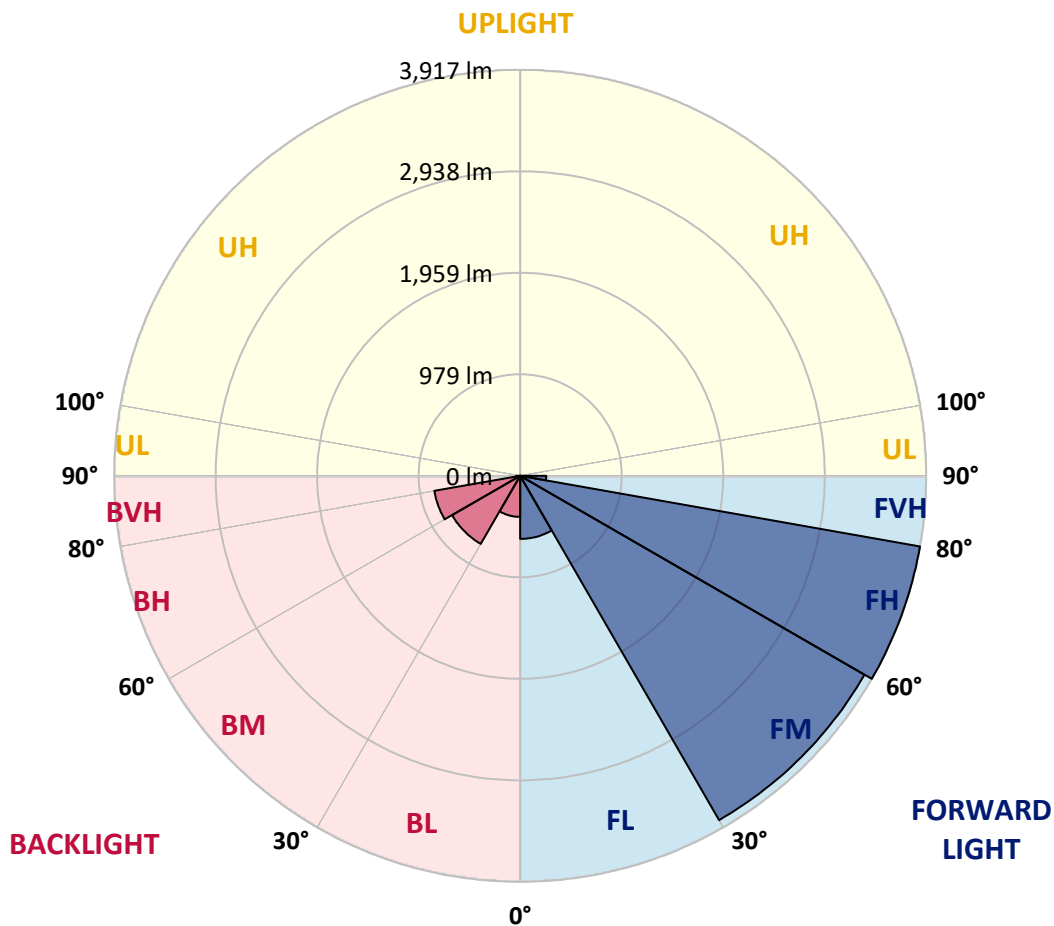
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	608.8	5.7			
FM (30°-60°)	3836.5	36.0			
FH (60°-80°)	3917.3	36.8			G2/5000
FVH (80°-90°)	251.6	2.4			G3/500
BL (0°-30°)	396.1	3.7	B1/500		
BM (30°-60°)	758.7	7.1	B1/1000		
BH (60°-80°)	840.9	7.9	B2/1000		G2/1000
BVH (80°-90°)	37.1	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	816.3	816.3	816.3	816.3	816.3	816.3	816.3	816.3	816.3	816.3	816.3
2.5°	938.0	900.1	861.8	880.5	910.4	936.7	931.3	934.4	898.3	893.4	988.3
5°	1105.1	1040.0	1038.7	1039.6	1042.3	1012.0	1085.9	1124.3	1132.7	1171.9	1265.1
7.5°	1163.0	1136.7	1110.0	1123.4	1089.5	1092.6	1183.5	1283.3	1307.0	1335.5	1462.9
10°	1151.0	1126.0	1134.1	1136.3	1142.5	1192.9	1251.3	1347.1	1367.1	1458.0	1491.0
12.5°	1152.8	1148.3	1185.7	1187.1	1253.9	1344.4	1367.6	1455.8	1463.8	1530.6	1668.3
15°	1213.8	1244.6	1223.6	1234.8	1247.7	1356.0	1389.4	1515.9	1564.1	1650.1	1753.4
17.5°	1332.8	1341.7	1278.9	1262.4	1304.7	1337.7	1413.9	1468.7	1519.1	1759.2	1901.8
20°	1360.4	1384.5	1309.6	1224.5	1314.1	1360.0	1413.0	1438.0	1477.2	1775.3	1977.6
22.5°	1479.0	1429.0	1338.6	1264.6	1294.0	1338.6	1376.9	1470.9	1573.9	1729.4	2053.3
25°	1546.2	1517.3	1436.6	1357.3	1332.4	1333.7	1407.7	1491.9	1527.5	1796.7	2068.5
27.5°	1708.9	1662.5	1481.2	1466.0	1372.0	1298.9	1412.6	1543.6	1606.0	1744.1	2142.5
30°	1912.5	1877.3	1639.4	1619.3	1475.8	1348.4	1474.9	1581.9	1573.0	1778.4	2193.7
32.5°	2077.4	2136.2	1896.0	1737.8	1635.8	1513.7	1455.3	1575.2	1663.9	1858.2	2280.6
35°	2312.7	2367.9	2096.1	1989.2	1767.7	1590.4	1592.1	1667.0	1721.8	1951.3	2377.7
37.5°	2720.0	2671.4	2452.6	2283.7	2142.0	1877.3	1798.0	1771.7	1815.8	2065.4	2568.0
40°	3013.6	2972.6	2715.1	2618.8	2343.0	2189.2	1971.8	1946.8	2024.8	2183.0	2723.5
42.5°	3361.6	3288.5	3048.8	2969.5	2681.2	2404.0	2184.8	2199.0	2236.9	2404.9	2933.8
45°	3715.9	3538.5	3402.6	3396.4	3203.9	2821.1	2526.6	2515.0	2516.3	2731.5	3170.0
47.5°	3997.1	3837.5	3682.0	3608.0	3510.9	3542.5	3023.0	2887.1	2846.1	3060.4	3524.3
50°	4187.3	4003.7	3827.7	3810.3	4069.7	4240.4	3489.1	3343.8	3369.2	3531.0	3996.6
52.5°	4191.3	3973.4	3789.8	3911.5	4522.4	4766.6	4292.0	3886.1	3967.2	4077.3	4612.9
55°	3899.9	3674.0	3554.6	3831.7	4699.3	5390.9	5420.3	4755.0	4661.4	4702.0	5349.5
57.5°	3285.4	3057.3	2987.8	3319.7	4363.8	5992.9	6783.0	5793.3	5518.8	5349.5	6104.3
60°	2473.1	2275.7	2232.5	2444.1	3617.8	5816.0	7886.3	7085.5	6526.3	6072.7	6861.4
62.5°	1854.6	1712.9	1647.8	1678.1	2503.4	5240.7	8610.8	8718.2	7926.4	6862.3	7601.1
65°	1507.0	1392.5	1334.6	1295.4	1556.9	4052.3	8479.8	10092.4	9561.7	7691.5	8176.8
67.5°	1258.8	1157.2	1130.5	1168.8	1230.8	2351.0	7454.9	10861.1	10897.2	8509.7	8513.2
70°	1044.9	969.6	959.8	1068.6	1150.1	1418.8	5384.7	10619.6	11018.0	9123.3	8434.4
72.5°	807.4	766.9	765.5	936.2	1142.5	1209.4	3206.6	9174.1	9709.2	8927.2	7662.6
75°	560.1	532.0	553.4	769.6	1116.2	1226.7	1830.1	7145.7	7546.3	7596.6	6138.2
77.5°	385.4	361.8	385.0	556.6	996.8	1256.2	1280.2	5166.8	5211.3	5094.1	3515.8
80°	268.3	251.8	269.6	393.9	775.8	1243.2	1089.9	3252.9	2984.6	2273.5	1125.6
82.5°	166.2	161.3	180.9	280.7	546.3	1130.9	1032.9	1678.6	1281.6	627.4	401.9
85°	87.3	80.2	105.2	183.1	341.8	887.6	967.8	766.0	494.6	222.8	161.3
87.5°	25.8	23.2	40.5	74.0	144.8	397.9	553.9	324.8	184.5	65.5	50.4
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°	816.3	816.3	816.3	816.3	816.3	816.3	816.3	816.3	816.3	816.3	816.3
2.5°	995.0	990.1	924.2	932.6	946.9	950.5	950.0	926.0	900.6	971.4	969.2
5°	1267.3	1223.2	1190.2	1183.1	1142.5	1102.0	1116.2	1111.3	1105.1	1137.2	1141.2
7.5°	1463.4	1402.3	1364.0	1265.5	1171.9	1090.8	1116.7	1124.7	1108.7	1166.6	1184.0
10°	1515.0	1466.9	1425.5	1298.9	1247.2	1200.0	1130.0	1050.3	1039.6	1006.2	1010.2
12.5°	1648.3	1641.6	1500.3	1388.9	1321.7	1227.6	1076.6	979.9	897.0	901.0	876.9
15°	1753.4	1757.0	1587.2	1431.3	1250.8	1107.3	929.5	809.2	724.1	707.2	689.8
17.5°	1894.7	1887.6	1594.4	1380.5	1151.9	941.6	723.7	604.2	590.0	599.8	584.6
20°	1956.2	1893.4	1548.9	1254.4	997.3	715.2	546.8	483.5	511.1	550.3	551.2
22.5°	2011.4	1904.1	1525.3	1152.8	791.4	520.0	438.9	427.3	459.9	512.9	517.3
25°	2009.2	1953.5	1483.0	1050.3	613.6	405.9	381.4	389.9	428.7	483.9	487.0
27.5°	2110.4	1915.6	1372.9	915.7	462.1	347.6	353.8	369.4	387.7	440.3	450.5
30°	2109.5	1986.0	1317.6	752.2	371.2	318.6	334.6	348.0	363.2	411.3	417.1
32.5°	2159.4	1940.2	1284.2	585.1	332.9	311.5	315.5	328.9	350.7	383.2	387.2
35°	2219.5	1992.3	1177.3	464.8	318.6	305.2	308.4	315.9	336.0	365.8	369.8
37.5°	2412.5	2002.1	1134.9	391.7	317.7	302.6	302.1	306.1	328.9	356.0	368.1
40°	2487.8	2091.7	1011.5	365.8	314.6	302.6	296.3	298.6	317.3	352.0	361.4
42.5°	2668.3	2121.5	920.2	356.9	314.6	297.2	287.4	291.0	312.8	343.6	358.3
45°	2854.1	2163.8	811.4	355.1	314.1	296.8	278.1	286.1	303.9	329.7	345.8
47.5°	3118.8	2316.2	702.7	349.8	310.6	299.0	275.8	275.4	291.0	313.3	328.4
50°	3550.6	2554.2	618.5	343.1	311.0	297.2	271.4	265.1	275.4	295.0	309.7
52.5°	4151.7	2959.7	585.5	339.5	307.5	290.1	263.8	254.0	259.8	275.4	289.6
55°	4849.5	3507.3	618.1	339.5	300.3	278.9	253.1	241.5	244.6	255.3	269.1
57.5°	5664.9	4187.8	775.3	334.6	291.4	265.6	240.2	226.8	227.7	237.1	249.5
60°	6516.5	4948.0	1127.8	330.6	285.2	250.9	225.0	211.2	209.9	218.8	229.9
62.5°	7369.4	5649.3	1498.6	340.0	283.4	238.4	209.0	195.2	194.7	202.7	212.1
65°	8047.6	6128.8	1590.8	377.9	295.0	224.1	192.5	179.6	178.7	185.4	195.6
67.5°	8380.4	6198.3	1208.5	425.1	319.5	210.8	176.5	164.4	163.5	170.7	179.6
70°	8134.0	5723.3	745.9	430.0	318.2	195.2	160.0	149.7	147.9	155.5	162.2
72.5°	7222.3	5006.3	566.8	380.5	275.4	172.9	143.5	134.6	131.9	138.6	144.8
75°	5796.8	3974.8	454.1	307.0	217.0	145.7	127.0	118.5	115.4	121.6	127.0
77.5°	3376.8	2236.0	332.0	239.7	164.0	119.0	108.3	100.7	97.1	103.8	107.8
80°	1098.0	745.0	208.5	172.0	119.9	93.1	87.8	82.4	78.9	83.3	84.7
82.5°	394.4	277.2	115.4	105.6	79.8	66.8	66.4	63.3	58.8	60.6	60.6
85°	174.7	126.6	68.6	56.6	47.7	35.6	41.9	39.7	35.2	34.3	33.0
87.5°	49.0	41.9	25.0	19.2	15.6	5.8	13.4	12.0	9.8	8.9	6.2
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)