

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: P368188

Luminaire Tested: **MSA-SA4A-727-U-SL2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368188
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-SA4A-727-U-SL2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 12880 lumens
Efficiency: N/A
Efficacy: 99.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G3

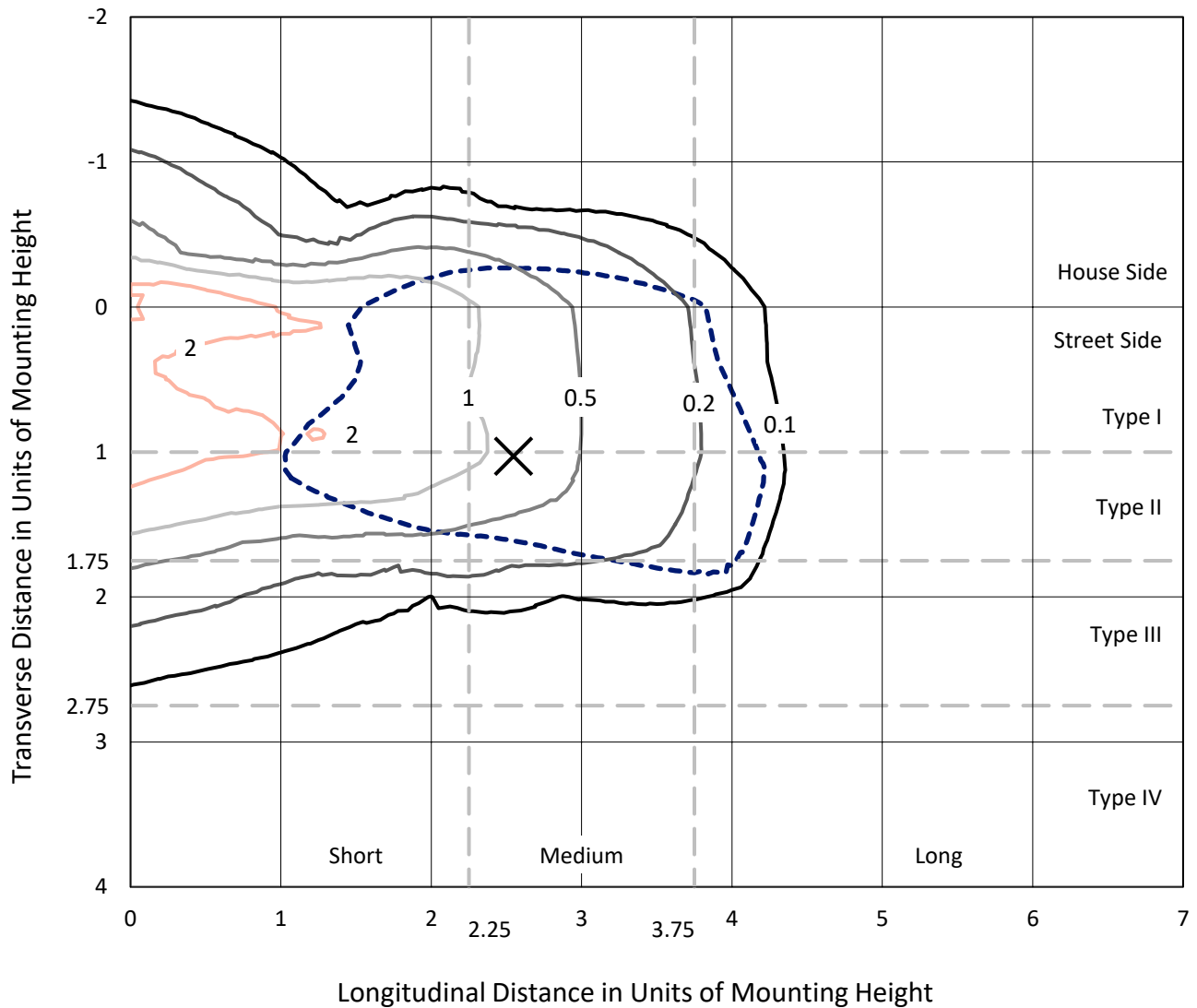
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

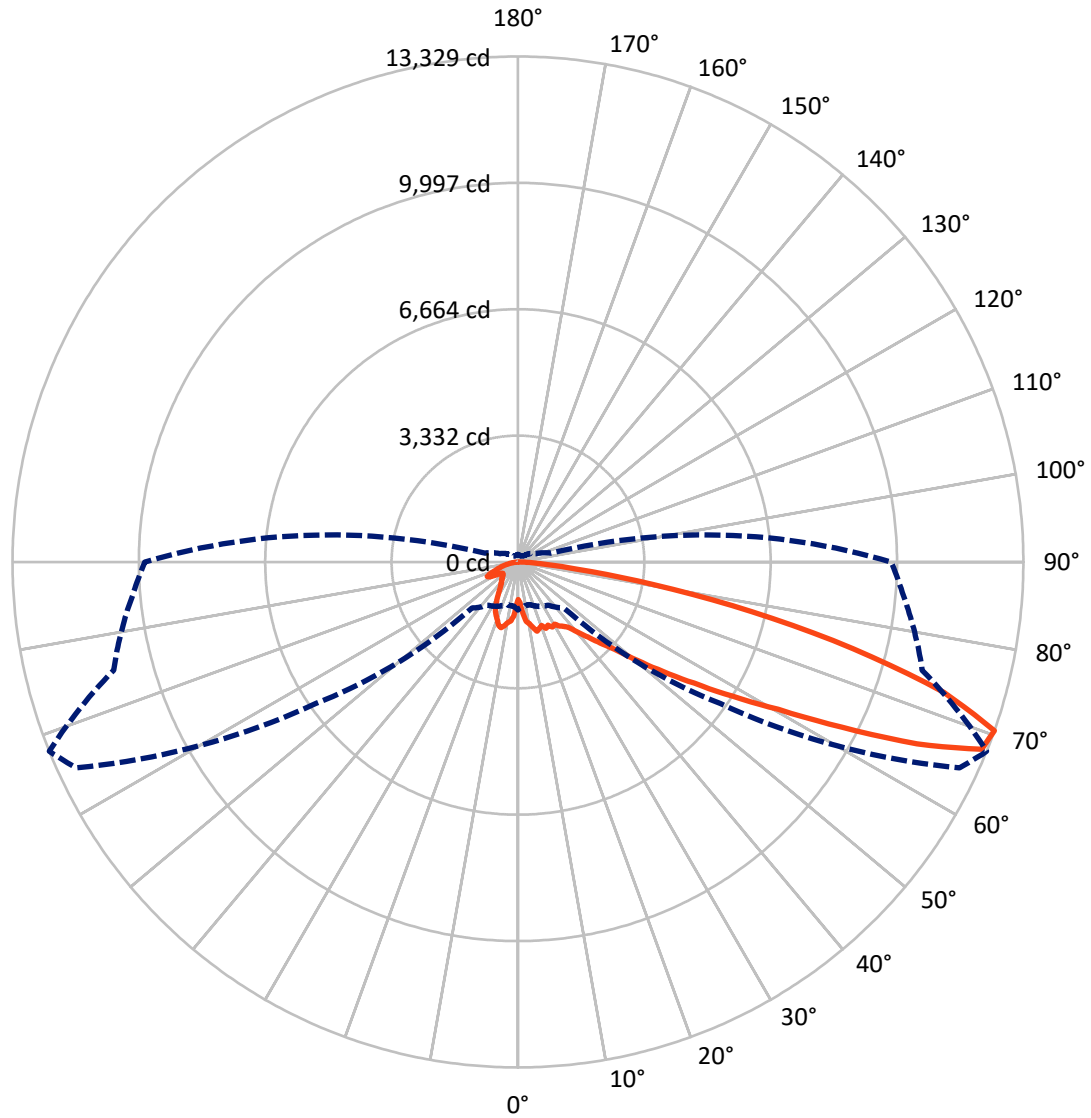
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 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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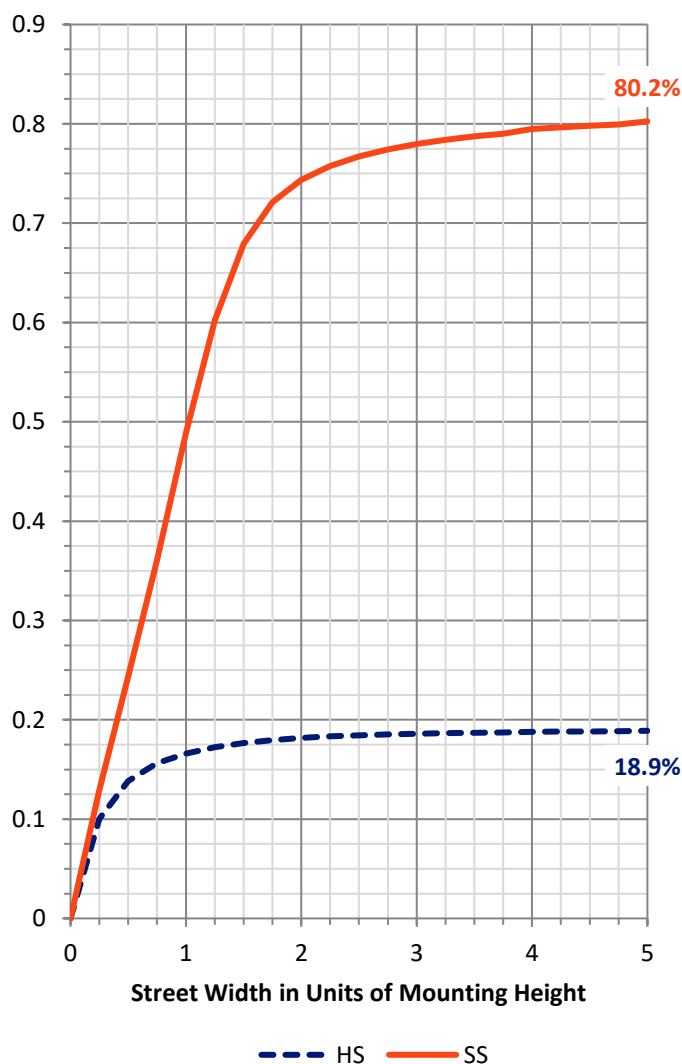
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2459.1	0.0	2459.1
	% Fixture	19.1	0.0	19.1
Street Side	Lumens	10420.9	0.0	10420.9
	% Fixture	80.9	0.0	80.9
Total	Lumens	12880.0	0.0	12880.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.9	1.0
10°-20°	429.9	3.3
20°-30°	653.9	5.1
30°-40°	998.8	7.8
40°-50°	1717.5	13.3
50°-60°	2842.7	22.1
60°-70°	3504.7	27.2
70°-80°	2251.3	17.5
80°-90°	349.2	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°	12880.0	100.0
0°-180°	12880.0	100.0

Coefficient of Utilization



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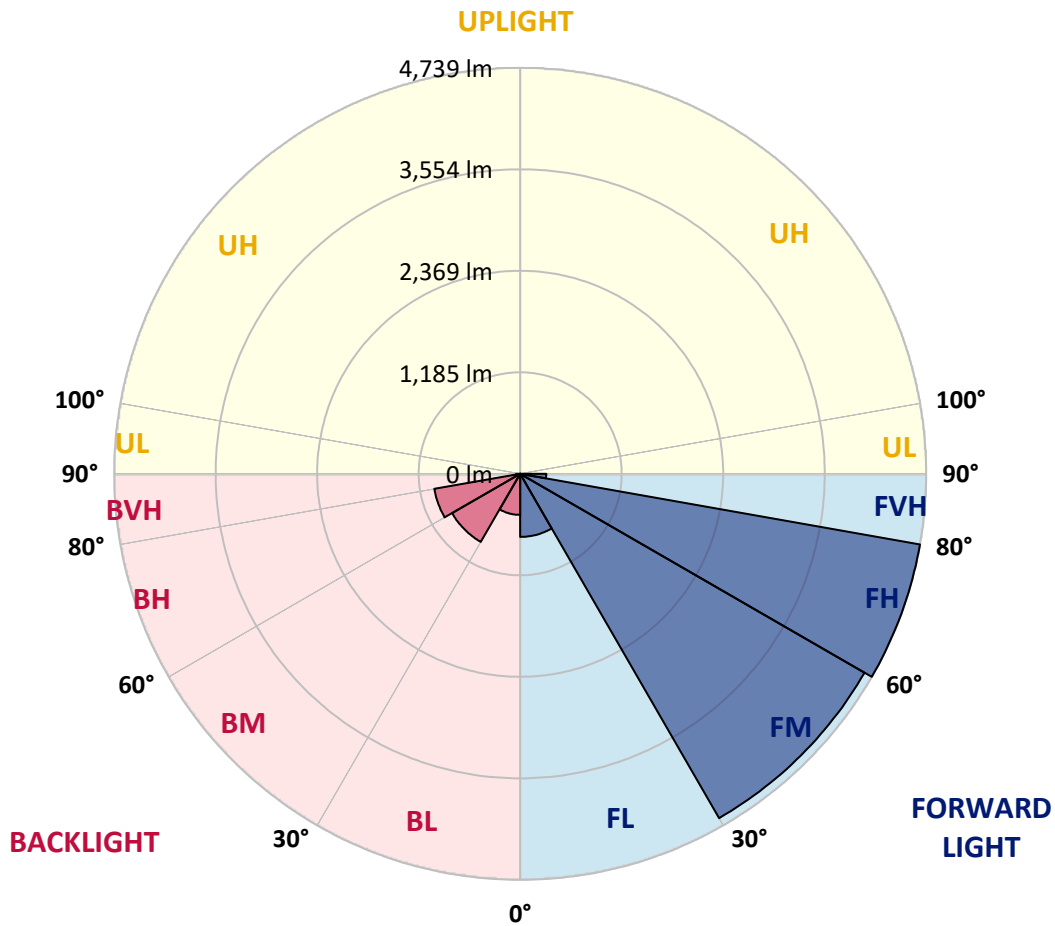
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	736.5	5.7			
FM (30°-60°)	4641.2	36.0			
FH (60°-80°)	4738.8	36.8			G2/5000
FVH (80°-90°)	304.4	2.4			G3/500
BL (0°-30°)	479.2	3.7	B1/500		
BM (30°-60°)	917.9	7.1	B1/1000		
BH (60°-80°)	1017.2	7.9	B3/2500		G3/2500
BVH (80°-90°)	44.8	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6
2.5°	1134.7	1088.9	1042.5	1065.2	1101.3	1133.1	1126.6	1130.4	1086.7	1080.8	1195.6
5°	1336.9	1258.2	1256.5	1257.6	1260.9	1224.2	1313.7	1360.0	1370.3	1417.7	1530.4
7.5°	1406.9	1375.1	1342.8	1359.0	1318.0	1321.8	1431.7	1552.5	1581.1	1615.6	1769.7
10°	1392.4	1362.2	1371.9	1374.6	1382.1	1443.1	1513.7	1629.6	1653.8	1763.8	1803.7
12.5°	1394.5	1389.2	1434.4	1436.1	1516.9	1626.3	1654.4	1761.1	1770.8	1851.7	2018.2
15°	1468.4	1505.6	1480.3	1493.7	1509.4	1640.4	1680.8	1833.9	1892.1	1996.1	2121.2
17.5°	1612.3	1623.1	1547.1	1527.2	1578.4	1618.3	1710.4	1776.7	1837.7	2128.2	2300.7
20°	1645.7	1674.9	1584.3	1481.3	1589.7	1645.2	1709.4	1739.5	1787.0	2147.6	2392.3
22.5°	1789.1	1728.8	1619.3	1529.8	1565.4	1619.3	1665.7	1779.4	1904.0	2092.1	2484.0
25°	1870.5	1835.5	1737.9	1642.0	1611.8	1613.4	1702.9	1804.8	1847.9	2173.5	2502.3
27.5°	2067.3	2011.2	1791.8	1773.5	1659.8	1571.4	1708.8	1867.3	1942.8	2109.9	2591.8
30°	2313.6	2271.1	1983.2	1958.9	1785.4	1631.2	1784.3	1913.7	1902.9	2151.4	2653.8
32.5°	2513.1	2584.2	2293.7	2102.3	1978.9	1831.2	1760.6	1905.6	2012.8	2247.9	2758.9
35°	2797.7	2864.6	2535.7	2406.4	2138.4	1923.9	1926.1	2016.6	2082.9	2360.5	2876.4
37.5°	3290.4	3231.7	2967.0	2762.7	2591.3	2271.1	2175.1	2143.3	2196.7	2498.5	3106.6
40°	3645.7	3596.1	3284.5	3168.0	2834.4	2648.4	2385.3	2355.1	2449.5	2640.8	3294.7
42.5°	4066.7	3978.3	3688.2	3592.3	3243.5	2908.2	2643.0	2660.3	2706.1	2909.3	3549.2
45°	4495.2	4280.7	4116.3	4108.7	3875.8	3412.8	3056.5	3042.4	3044.1	3304.4	3834.9
47.5°	4835.4	4642.4	4454.2	4364.8	4247.2	4285.5	3657.0	3492.6	3443.0	3702.3	4263.4
50°	5065.5	4843.4	4630.5	4609.5	4923.2	5129.7	4220.8	4045.1	4075.8	4271.5	4834.8
52.5°	5070.4	4806.8	4584.7	4731.9	5470.9	5766.3	5192.2	4701.1	4799.2	4932.4	5580.3
55°	4717.8	4444.5	4300.1	4635.4	5684.9	6521.5	6557.1	5752.3	5639.1	5688.1	6471.4
57.5°	3974.5	3698.5	3614.4	4016.0	5279.0	7249.8	8205.5	7008.3	6676.2	6471.4	7384.6
60°	2991.8	2753.0	2700.7	2956.7	4376.6	7035.8	9540.3	8571.6	7895.1	7346.3	8300.4
62.5°	2243.6	2072.1	1993.4	2030.1	3028.4	6339.9	10416.8	10546.7	9588.8	8301.5	9195.3
65°	1823.1	1684.6	1614.5	1567.0	1883.5	4902.2	10258.3	12209.1	11567.1	9304.7	9891.7
67.5°	1522.8	1399.9	1367.6	1414.0	1488.9	2844.1	9018.4	13139.0	13182.7	10294.4	10298.7
70°	1264.1	1173.0	1161.1	1292.7	1391.3	1716.4	6514.0	12846.8	13328.8	11036.7	10203.3
72.5°	976.8	927.7	926.1	1132.6	1382.1	1463.0	3879.1	11098.1	11745.5	10799.5	9269.7
75°	677.6	643.6	669.5	931.0	1350.3	1484.0	2213.9	8644.3	9129.0	9189.9	7425.5
77.5°	466.3	437.7	465.7	673.3	1205.9	1519.6	1548.7	6250.4	6304.3	6162.5	4253.2
80°	324.5	304.6	326.1	476.5	938.5	1504.0	1318.5	3935.1	3610.6	2750.3	1361.7
82.5°	201.1	195.1	218.9	339.6	660.9	1368.1	1249.5	2030.6	1550.3	759.0	486.2
85°	105.7	97.0	127.2	221.6	413.5	1073.8	1170.8	926.6	598.4	269.5	195.1
87.5°	31.3	28.0	49.1	89.5	175.2	481.4	670.0	393.0	223.2	79.2	60.9
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°	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6
2.5°	1203.7	1197.8	1118.0	1128.2	1145.5	1149.8	1149.3	1120.2	1089.4	1175.1	1172.5
5°	1533.1	1479.7	1439.8	1431.2	1382.1	1333.1	1350.3	1344.4	1336.9	1375.7	1380.5
7.5°	1770.3	1696.4	1650.1	1530.9	1417.7	1319.6	1350.9	1360.6	1341.2	1411.3	1432.3
10°	1832.8	1774.6	1724.4	1571.4	1508.8	1451.7	1367.1	1270.6	1257.6	1217.2	1222.0
12.5°	1994.0	1985.9	1815.0	1680.2	1598.8	1485.1	1302.4	1185.4	1085.1	1090.0	1060.9
15°	2121.2	2125.5	1920.1	1731.5	1513.1	1339.6	1124.5	978.9	876.0	855.5	834.5
17.5°	2292.1	2283.5	1928.8	1670.0	1393.5	1139.0	875.4	731.0	713.7	725.6	707.2
20°	2366.5	2290.5	1873.8	1517.4	1206.4	865.2	661.4	584.9	618.3	665.7	666.8
22.5°	2433.3	2303.4	1845.2	1394.5	957.4	629.1	531.0	517.0	556.3	620.5	625.8
25°	2430.6	2363.2	1794.0	1270.6	742.3	491.1	461.4	471.7	518.6	585.4	589.2
27.5°	2553.0	2317.4	1660.8	1107.8	559.0	420.5	428.0	446.9	469.0	532.6	545.0
30°	2551.9	2402.6	1594.0	909.9	449.0	385.4	404.8	421.0	439.3	497.6	504.6
32.5°	2612.3	2347.1	1553.6	707.8	402.7	376.8	381.7	397.8	424.2	463.6	468.4
35°	2685.1	2410.1	1424.2	562.2	385.4	369.3	373.0	382.2	406.5	442.6	447.4
37.5°	2918.5	2422.0	1373.0	473.8	384.3	366.0	365.5	370.3	397.8	430.7	445.3
40°	3009.6	2530.3	1223.7	442.6	380.6	366.0	358.5	361.2	383.8	425.9	437.2
42.5°	3227.9	2566.5	1113.2	431.8	380.6	359.6	347.7	352.0	378.4	415.6	433.4
45°	3452.7	2617.7	981.6	429.6	380.0	359.0	336.4	346.1	367.6	398.9	418.3
47.5°	3772.9	2802.0	850.1	423.2	375.7	361.7	333.7	333.1	352.0	379.0	397.3
50°	4295.2	3089.9	748.2	415.1	376.3	359.6	328.3	320.7	333.1	356.9	374.6
52.5°	5022.4	3580.4	708.3	410.8	372.0	350.9	319.1	307.3	314.3	333.1	350.4
55°	5866.6	4242.9	747.7	410.8	363.3	337.5	306.2	292.2	295.9	308.9	325.6
57.5°	6853.1	5066.1	938.0	404.8	352.5	321.3	290.6	274.4	275.5	286.8	301.9
60°	7883.2	5985.7	1364.4	400.0	345.0	303.5	272.2	255.5	253.9	264.7	278.2
62.5°	8914.9	6834.2	1812.9	411.3	342.8	288.4	252.8	236.1	235.6	245.3	256.6
65°	9735.4	7414.2	1924.4	457.1	356.9	271.1	232.9	217.2	216.2	224.2	236.6
67.5°	10138.1	7498.3	1461.9	514.3	386.5	255.0	213.5	198.9	197.8	206.5	217.2
70°	9840.0	6923.7	902.4	520.2	384.9	236.1	193.5	181.1	179.0	188.1	196.2
72.5°	8737.1	6056.3	685.7	460.4	333.1	209.2	173.6	162.8	159.6	167.6	175.2
75°	7012.6	4808.4	549.3	371.4	262.5	176.3	153.6	143.4	139.6	147.2	153.6
77.5°	4085.0	2705.0	401.6	290.0	198.4	143.9	131.0	121.8	117.5	125.6	130.5
80°	1328.2	901.3	252.3	208.1	145.0	112.7	106.2	99.7	95.4	100.8	102.4
82.5°	477.1	335.3	139.6	127.8	96.5	80.9	80.3	76.5	71.2	73.3	73.3
85°	211.3	153.1	83.0	68.5	57.7	43.1	50.7	48.0	42.6	41.5	39.9
87.5°	59.3	50.7	30.2	23.2	18.9	7.0	16.2	14.6	11.9	10.8	7.5
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)