

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: P368276

Luminaire Tested: **MSA-SA4A-760-U-SL2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368276
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-760-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: 15401 lumens
Efficiency: N/A
Efficacy: 119.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G3

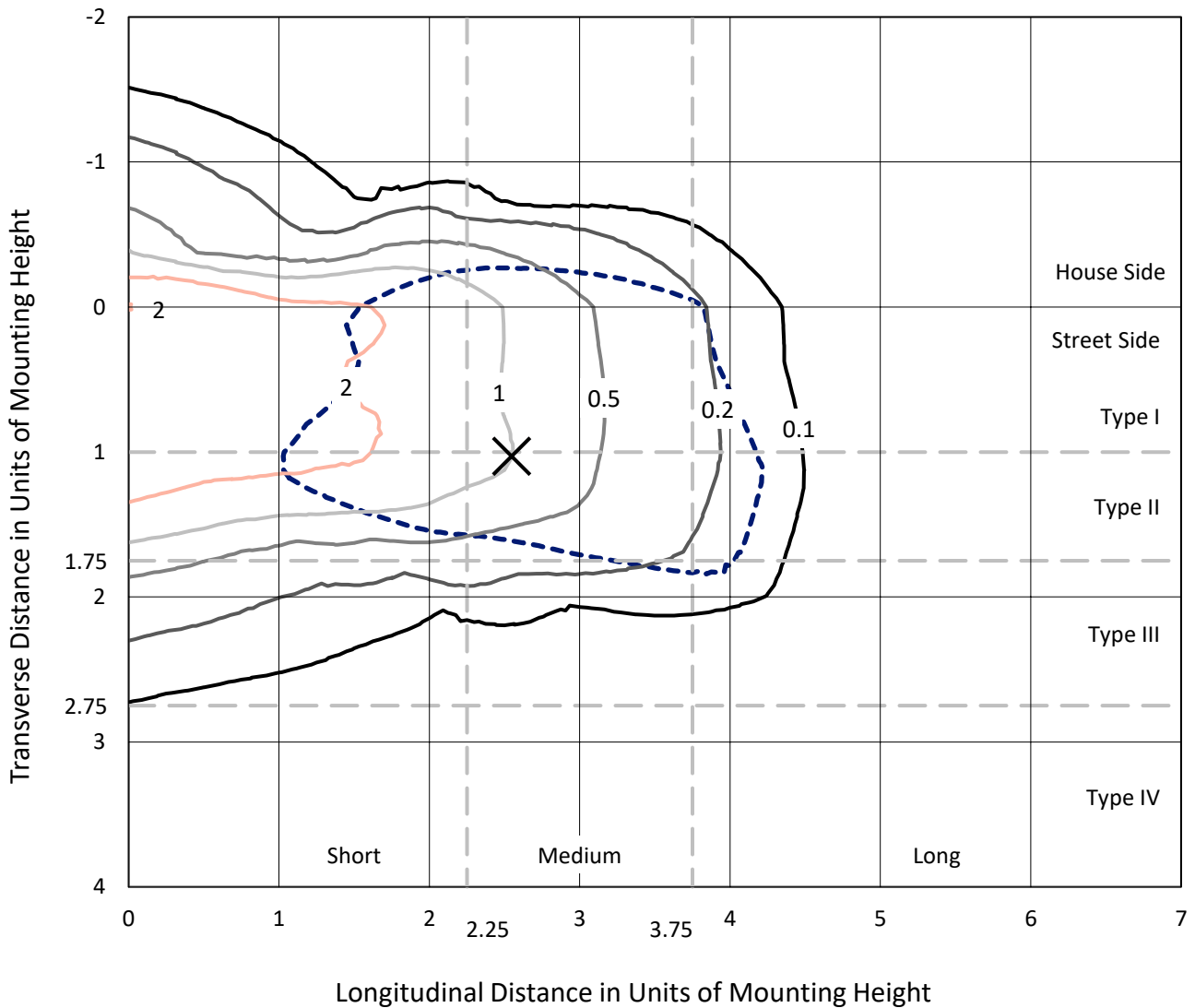
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

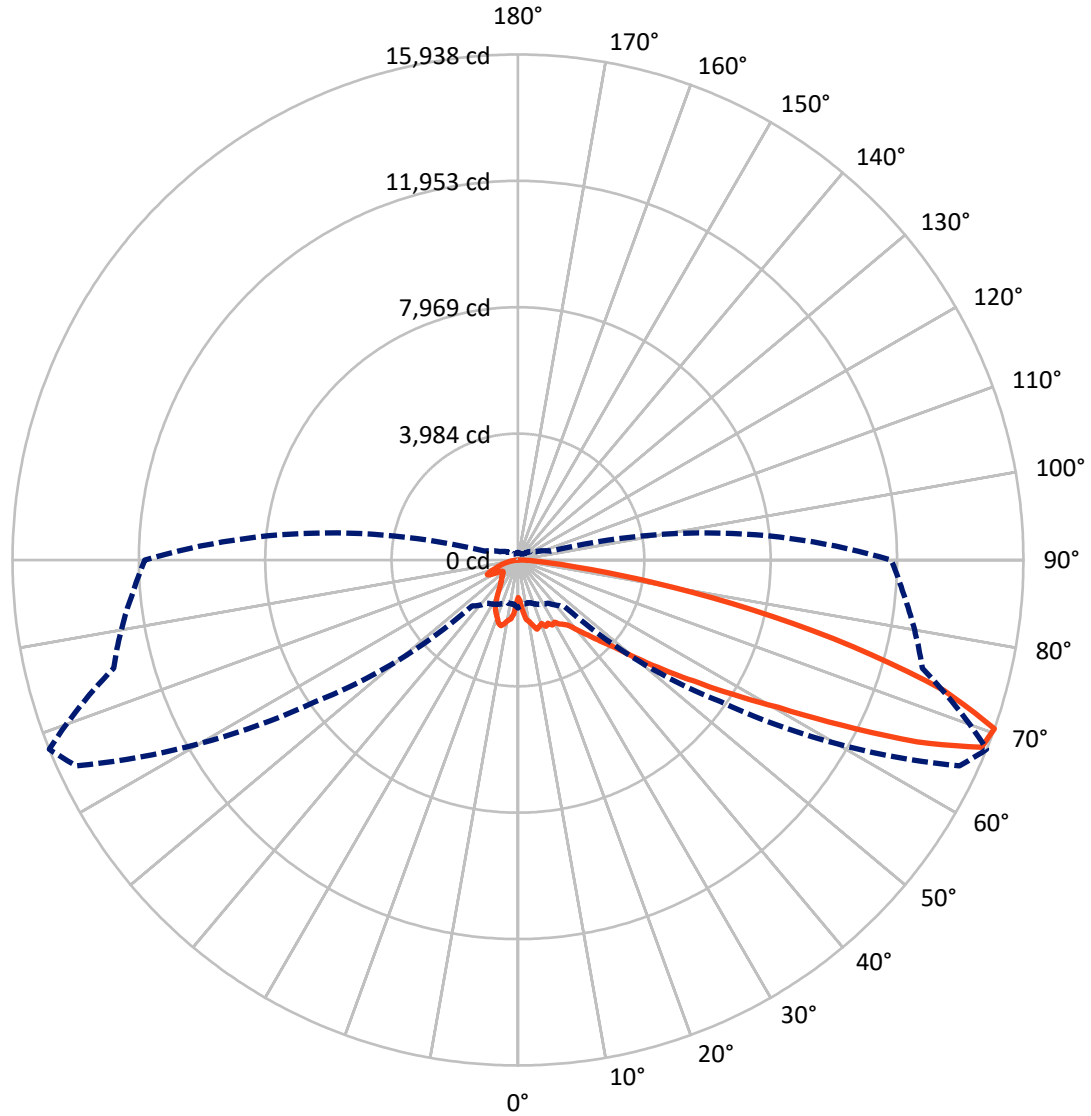
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 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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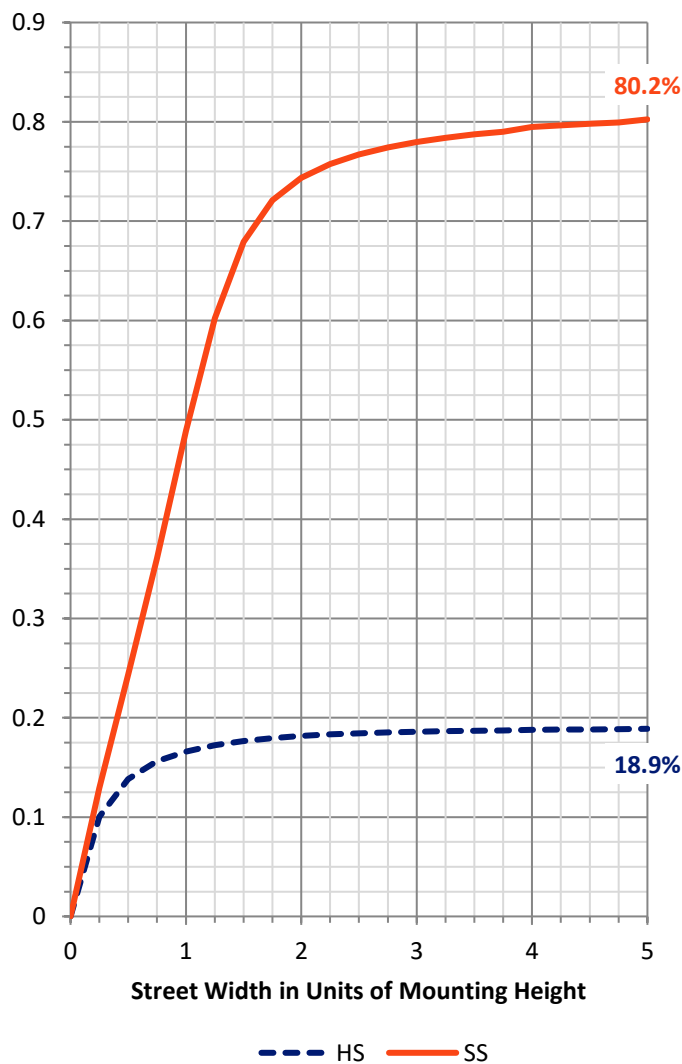
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2940.4	0.0	2940.4
	% Fixture	19.1	0.0	19.1
Street Side	Lumens	12460.6	0.0	12460.6
	% Fixture	80.9	0.0	80.9
Total	Lumens	15401.0	0.0	15401.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.7	1.0
10°-20°	514.0	3.3
20°-30°	781.9	5.1
30°-40°	1194.4	7.8
40°-50°	2053.6	13.3
50°-60°	3399.2	22.1
60°-70°	4190.7	27.2
70°-80°	2692.0	17.5
80°-90°	417.6	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°	15401.0	100.0
0°-180°	15401.0	100.0

Coefficient of Utilization



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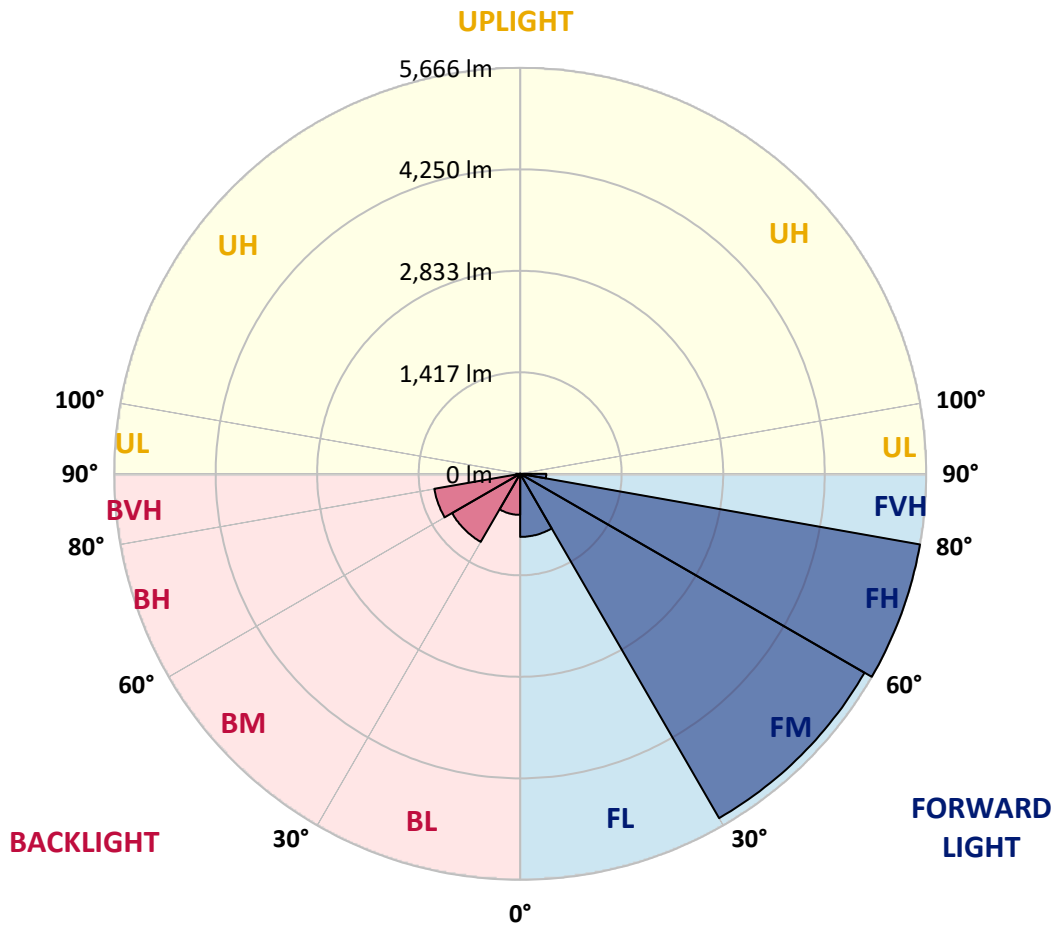
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	880.7	5.7			
FM (30°-60°)	5549.6	36.0			
FH (60°-80°)	5666.4	36.8			G3/7500
FVH (80°-90°)	364.0	2.4			G3/500
BL (0°-30°)	573.0	3.7	B2/1000		
BM (30°-60°)	1097.5	7.1	B2/2500		
BH (60°-80°)	1216.3	7.9	B3/2500		G3/2500
BVH (80°-90°)	53.6	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°	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8
2.5°	1356.8	1302.0	1246.6	1273.7	1316.9	1354.9	1347.1	1351.7	1299.4	1292.4	1429.7
5°	1598.5	1504.4	1502.5	1503.8	1507.6	1463.8	1570.8	1626.2	1638.5	1695.2	1829.9
7.5°	1682.3	1644.3	1605.6	1625.0	1576.0	1580.5	1712.0	1856.4	1890.5	1931.8	2116.1
10°	1664.9	1628.8	1640.4	1643.6	1652.7	1725.5	1809.9	1948.5	1977.5	2109.0	2156.7
12.5°	1667.5	1661.1	1715.2	1717.1	1813.8	1944.7	1978.2	2105.8	2117.4	2214.1	2413.3
15°	1755.8	1800.3	1770.0	1786.1	1804.8	1961.4	2009.8	2192.8	2262.4	2386.8	2536.4
17.5°	1927.9	1940.8	1849.9	1826.1	1887.3	1935.0	2045.2	2124.5	2197.3	2544.8	2751.0
20°	1967.9	2002.7	1894.4	1771.3	1900.8	1967.2	2043.9	2080.0	2136.7	2568.0	2860.6
22.5°	2139.3	2067.1	1936.3	1829.3	1871.8	1936.3	1991.7	2127.7	2276.6	2501.6	2970.2
25°	2236.7	2194.8	2078.1	1963.4	1927.3	1929.2	2036.2	2158.0	2209.6	2598.9	2992.1
27.5°	2471.9	2404.9	2142.5	2120.6	1984.6	1878.9	2043.3	2232.8	2323.0	2522.8	3099.1
30°	2766.5	2715.6	2371.4	2342.4	2134.8	1950.5	2133.5	2288.2	2275.3	2572.5	3173.2
32.5°	3005.0	3090.1	2742.6	2513.8	2366.2	2189.6	2105.2	2278.5	2406.8	2687.9	3298.9
35°	3345.3	3425.2	3032.0	2877.4	2557.0	2300.5	2303.0	2411.3	2490.6	2822.6	3439.4
37.5°	3934.4	3864.2	3547.7	3303.4	3098.4	2715.6	2600.8	2562.8	2626.6	2987.6	3714.6
40°	4359.2	4299.9	3927.4	3788.1	3389.1	3166.8	2852.2	2816.1	2928.9	3157.7	3939.6
42.5°	4862.6	4756.9	4410.1	4295.4	3878.4	3477.4	3160.3	3180.9	3235.7	3478.7	4243.8
45°	5375.1	5118.5	4921.9	4912.9	4634.4	4080.8	3654.7	3637.9	3639.9	3951.2	4585.5
47.5°	5781.8	5551.0	5326.1	5219.1	5078.6	5124.3	4372.8	4176.2	4116.9	4426.9	5097.9
50°	6057.0	5791.4	5536.8	5511.7	5886.8	6133.7	5047.0	4836.8	4873.6	5107.6	5781.1
52.5°	6062.8	5747.6	5482.1	5658.0	6541.7	6894.9	6208.5	5621.3	5738.6	5897.8	6672.6
55°	5641.3	5314.5	5141.7	5542.6	6797.6	7798.0	7840.5	6878.2	6742.8	6801.5	7738.0
57.5°	4752.4	4422.4	4321.8	4802.0	6312.3	8668.8	9811.6	8380.0	7983.0	7738.0	8829.9
60°	3577.4	3291.8	3229.3	3535.5	5233.3	8412.9	11407.6	10249.3	9440.3	8784.2	9925.1
62.5°	2682.7	2477.7	2383.6	2427.4	3621.2	7580.8	12455.6	12611.0	11465.6	9926.4	10995.0
65°	2179.9	2014.3	1930.5	1873.8	2252.1	5861.7	12266.1	14598.8	13831.1	11125.9	11827.8
67.5°	1820.9	1673.9	1635.3	1690.7	1780.3	3400.7	10783.6	15710.7	15762.9	12309.3	12314.5
70°	1511.5	1402.6	1388.4	1545.7	1663.6	2052.3	7789.0	15361.4	15937.6	13196.9	12200.4
72.5°	1168.0	1109.3	1107.4	1354.2	1652.7	1749.4	4638.3	13270.4	14044.5	12913.3	11084.0
75°	810.2	769.6	800.6	1113.2	1614.6	1774.5	2647.2	10336.3	10915.8	10988.6	8878.9
77.5°	557.6	523.4	556.9	805.1	1441.9	1817.0	1851.8	7473.8	7538.2	7368.7	5085.6
80°	388.0	364.2	390.0	569.8	1122.2	1798.3	1576.6	4705.3	4317.3	3288.6	1628.2
82.5°	240.4	233.3	261.7	406.1	790.2	1635.9	1494.1	2428.1	1853.8	907.6	581.4
85°	126.3	116.0	152.1	264.9	494.4	1284.0	1400.0	1108.0	715.5	322.3	233.3
87.5°	37.4	33.5	58.7	107.0	209.5	575.6	801.2	469.9	266.9	94.8	72.8
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°	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8	1180.8
2.5°	1439.3	1432.2	1336.8	1349.1	1369.7	1374.9	1374.2	1339.4	1302.7	1405.2	1401.9
5°	1833.2	1769.3	1721.6	1711.3	1652.7	1594.0	1614.6	1607.6	1598.5	1644.9	1650.7
7.5°	2116.8	2028.5	1973.0	1830.6	1695.2	1577.9	1615.3	1626.9	1603.7	1687.5	1712.6
10°	2191.5	2121.9	2062.0	1878.9	1804.1	1735.8	1634.6	1519.2	1503.8	1455.4	1461.2
12.5°	2384.3	2374.6	2170.3	2009.1	1911.8	1775.8	1557.3	1417.4	1297.5	1303.3	1268.5
15°	2536.4	2541.5	2296.0	2070.4	1809.3	1601.8	1344.6	1170.5	1047.4	1022.9	997.8
17.5°	2740.7	2730.4	2306.3	1996.9	1666.2	1362.0	1046.8	874.0	853.4	867.6	845.7
20°	2829.7	2738.8	2240.5	1814.5	1442.5	1034.5	790.9	699.4	739.3	796.0	797.3
22.5°	2909.6	2754.2	2206.4	1667.5	1144.8	752.2	634.9	618.1	665.2	741.9	748.3
25°	2906.4	2825.8	2145.1	1519.2	887.6	587.2	551.8	564.0	620.1	700.0	704.5
27.5°	3052.7	2771.0	1985.9	1324.6	668.4	502.8	511.8	534.3	560.8	636.8	651.7
30°	3051.4	2872.8	1906.0	1088.0	536.9	460.9	484.1	503.4	525.3	594.9	603.3
32.5°	3123.6	2806.5	1857.6	846.3	481.5	450.6	456.4	475.7	507.3	554.3	560.1
35°	3210.6	2881.9	1702.9	672.3	460.9	441.5	446.0	457.0	486.0	529.2	535.0
37.5°	3489.7	2896.0	1641.7	566.6	459.6	437.7	437.0	442.8	475.7	515.0	532.4
40°	3598.6	3025.6	1463.2	529.2	455.1	437.7	428.6	431.9	458.9	509.2	522.7
42.5°	3859.7	3068.8	1331.0	516.3	455.1	429.9	415.7	420.9	452.5	497.0	518.2
45°	4128.5	3130.0	1173.8	513.7	454.4	429.3	402.2	413.8	439.6	477.0	500.2
47.5°	4511.3	3350.5	1016.5	506.0	449.3	432.5	399.0	398.3	420.9	453.1	475.0
50°	5135.9	3694.7	894.7	496.3	449.9	429.9	392.5	383.5	398.3	426.7	448.0
52.5°	6005.4	4281.2	847.0	491.2	444.8	419.6	381.6	367.4	375.8	398.3	419.0
55°	7014.8	5073.4	894.0	491.2	434.4	403.5	366.1	349.4	353.9	369.3	389.3
57.5°	8194.4	6057.7	1121.5	484.1	421.5	384.2	347.4	328.1	329.4	342.9	361.0
60°	9426.2	7157.3	1631.4	478.3	412.5	362.9	325.5	305.5	303.6	316.5	332.6
62.5°	10659.9	8171.8	2167.7	491.8	409.9	344.8	302.3	282.3	281.7	293.3	306.8
65°	11640.9	8865.4	2301.1	546.6	426.7	324.2	278.5	259.8	258.5	268.1	283.0
67.5°	12122.4	8965.9	1748.1	614.9	462.2	304.9	255.2	237.8	236.6	246.9	259.8
70°	11766.0	8278.8	1079.0	622.0	460.2	282.3	231.4	216.6	214.0	225.0	234.6
72.5°	10447.2	7241.7	819.9	550.5	398.3	250.1	207.6	194.7	190.8	200.5	209.5
75°	8385.2	5749.5	656.8	444.1	313.9	210.8	183.7	171.5	166.9	176.0	183.7
77.5°	4884.5	3234.4	480.2	346.8	237.2	172.1	156.6	145.7	140.5	150.2	156.0
80°	1588.2	1077.7	301.7	248.8	173.4	134.7	127.0	119.2	114.1	120.5	122.5
82.5°	570.4	400.9	166.9	152.8	115.4	96.7	96.0	91.5	85.1	87.7	87.7
85°	252.7	183.1	99.3	81.9	69.0	51.6	60.6	57.4	50.9	49.6	47.7
87.5°	70.9	60.6	36.1	27.7	22.6	8.4	19.3	17.4	14.2	12.9	9.0
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)