

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: P367714

Luminaire Tested: **MSA-SA3A-740-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367714  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3A-740-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11700 lumens  
Efficiency: N/A  
Efficacy: 121.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B2 - U0 - G2

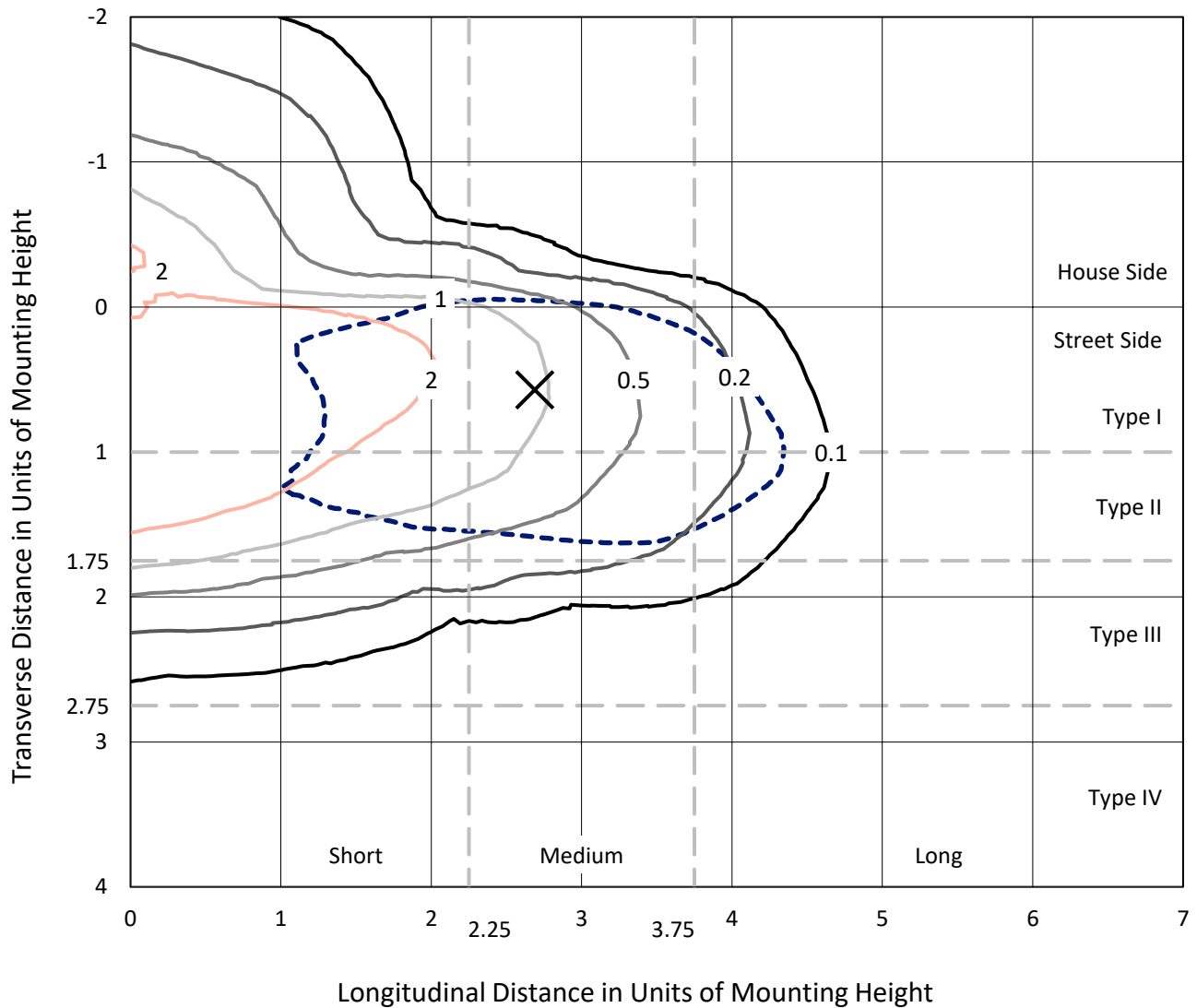
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

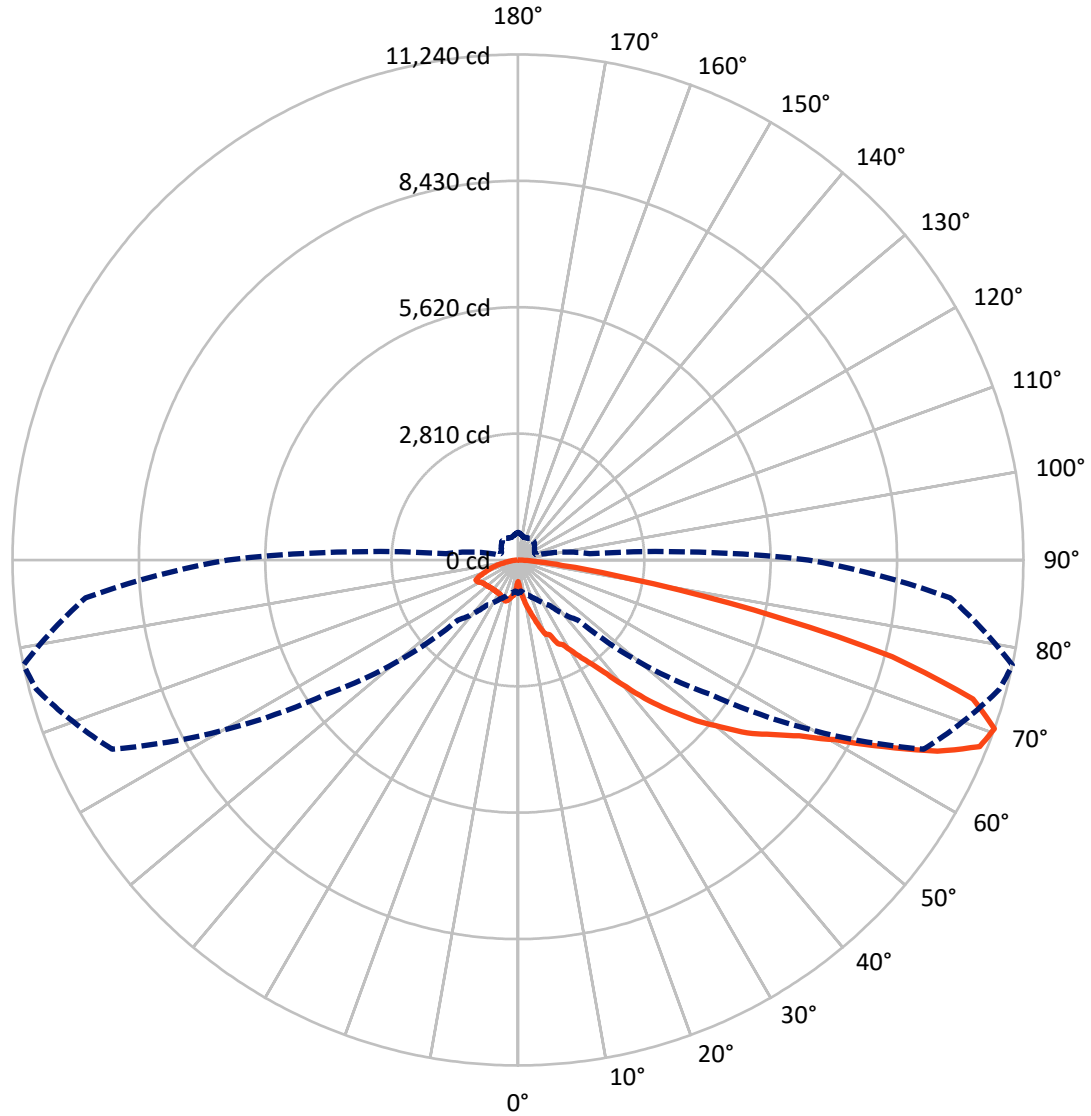
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.4 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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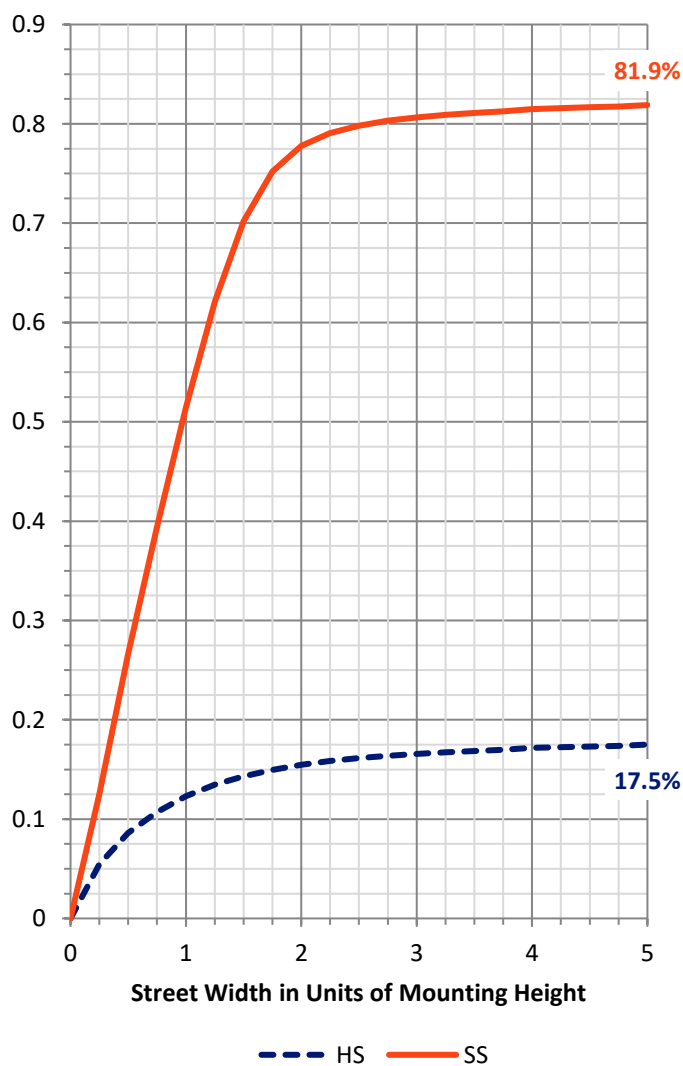
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2088.3	0.0	2088.3
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	9611.7	0.0	9611.7
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	11700.0	0.0	11700.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.7	0.6
10°-20°	324.8	2.8
20°-30°	625.2	5.3
30°-40°	1053.0	9.0
40°-50°	1822.0	15.6
50°-60°	2751.0	23.5
60°-70°	3047.1	26.0
70°-80°	1756.8	15.0
80°-90°	246.4	2.1
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°	11700.0	100.0
0°-180°	11700.0	100.0

**Coefficient of Utilization**

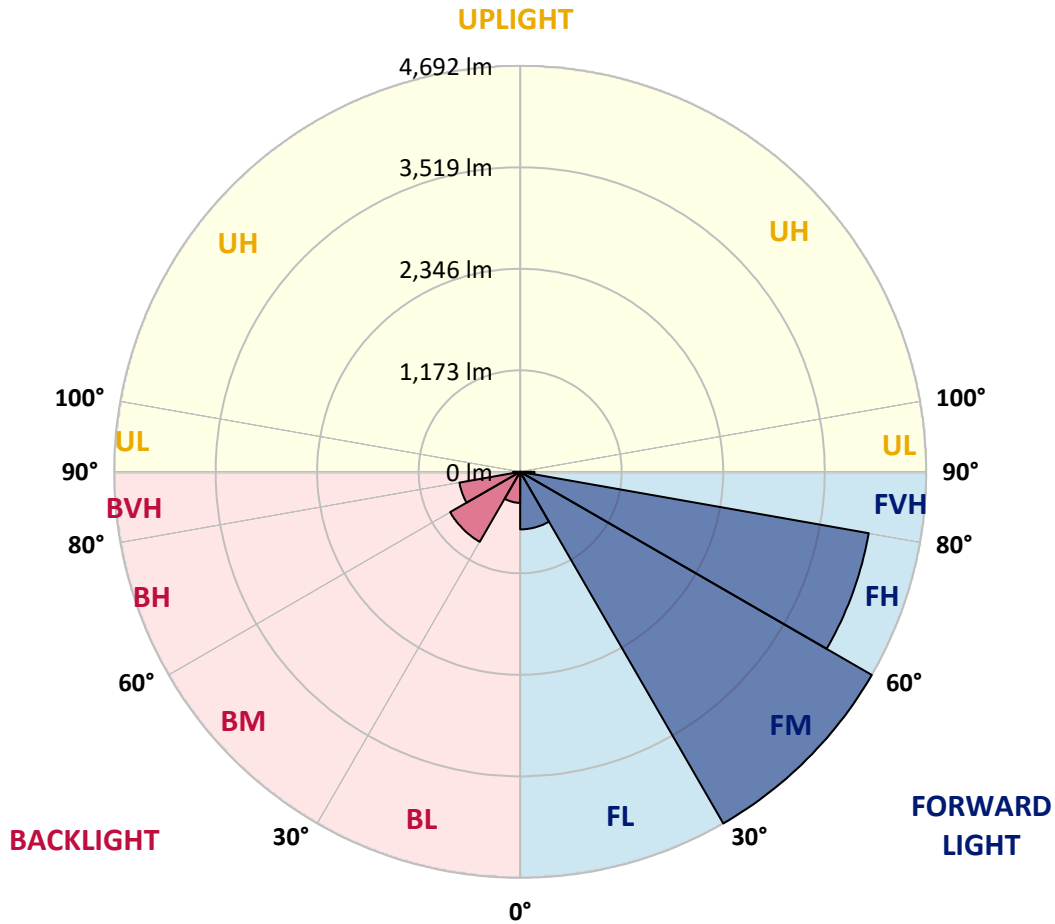


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	665.1	5.7			
FM (30°-60°)	4692.0	40.1			
FH (60°-80°)	4090.2	35.0			G2/5000
FVH (80°-90°)	164.4	1.4			G2/225
BL (0°-30°)	358.6	3.1	B1/500		
BM (30°-60°)	934.0	8.0	B1/1000		
BH (60°-80°)	713.7	6.1	B2/1000		G2/1000
BVH (80°-90°)	82.0	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**  
 Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	477.0	477.0	477.0	477.0	477.0	477.0	477.0	477.0	477.0	477.0	477.0
2.5°	614.1	592.1	559.0	572.6	589.2	591.1	585.8	555.5	545.3	568.2	575.1
5°	860.4	823.3	800.9	793.6	768.7	717.0	754.1	735.0	738.9	727.7	749.7
7.5°	1067.7	1042.8	1009.6	1000.4	943.3	902.8	928.2	919.9	879.9	864.3	889.2
10°	1173.0	1145.7	1147.2	1127.2	1112.1	1116.0	1103.3	1066.7	1036.9	1016.0	956.0
12.5°	1236.4	1243.3	1279.8	1269.6	1326.7	1373.5	1337.9	1283.7	1189.6	1170.6	1111.1
15°	1387.1	1412.5	1378.4	1394.0	1418.4	1508.1	1493.5	1481.8	1382.3	1345.2	1235.5
17.5°	1542.2	1547.1	1495.4	1487.1	1545.7	1591.0	1648.1	1582.2	1594.4	1568.6	1391.0
20°	1575.4	1609.1	1534.9	1483.7	1604.2	1693.9	1764.7	1694.9	1759.3	1766.1	1519.3
22.5°	1696.9	1656.4	1558.8	1508.6	1613.9	1724.2	1839.3	1878.3	1857.8	1800.3	1643.2
25°	1781.2	1759.8	1660.3	1604.7	1644.7	1746.1	1948.1	2050.0	2068.0	2060.2	1761.2
27.5°	1937.8	1948.5	1743.7	1759.3	1703.7	1713.0	2013.4	2277.8	2165.1	2133.9	1907.6
30°	2185.1	2137.3	1907.6	1920.3	1828.1	1812.5	2151.4	2474.3	2373.4	2335.8	2028.0
32.5°	2443.1	2447.5	2168.5	2060.2	2011.0	1995.4	2124.1	2577.2	2636.7	2588.0	2210.0
35°	2807.0	2781.6	2451.4	2309.0	2131.0	2103.6	2318.7	2875.7	2985.0	2848.4	2426.0
37.5°	3361.0	3284.5	2900.1	2570.9	2439.2	2408.0	2596.8	3143.5	3389.3	3219.6	2779.2
40°	3805.9	3650.3	3301.1	2900.1	2677.2	2715.8	2794.3	3468.4	3808.8	3713.2	3106.0
42.5°	4160.5	4022.4	3584.9	3303.0	3000.1	2952.3	3038.2	3870.7	4379.5	4285.8	3513.7
45°	4500.4	4219.5	3903.9	3650.3	3359.1	3417.1	3404.5	4281.4	5079.4	4791.1	3874.2
47.5°	4836.0	4572.1	4241.9	3901.0	3607.8	3969.3	3834.2	4586.8	5551.5	5337.9	4253.6
50°	5267.2	4976.9	4600.9	4258.0	4082.4	4346.8	4120.0	4845.3	6080.2	5829.5	4611.6
52.5°	5553.5	5271.1	4941.3	4696.5	4680.4	4578.5	4520.4	5172.5	6543.6	6391.4	4991.1
55°	5519.8	5247.6	5098.4	5125.2	5324.2	4980.4	4933.1	5656.9	7026.9	6850.9	5400.8
57.5°	5097.9	4800.9	4832.6	4991.6	5526.1	5686.1	5605.7	6174.4	7458.1	7378.1	5907.6
60°	3971.2	3818.6	4076.6	4367.3	5255.9	5892.9	6458.7	6805.5	7988.8	8116.6	6703.6
62.5°	2579.7	2375.8	2783.6	3277.2	4449.7	5756.4	7327.4	8002.4	8857.9	9148.1	7913.2
65°	1336.4	1303.7	1589.1	2042.7	3097.7	4908.2	7633.7	9257.9	9914.4	10252.4	9068.6
67.5°	971.6	911.1	1043.3	1310.1	1891.0	3346.9	7053.3	10218.3	10762.6	11072.3	9740.3
70°	739.9	695.0	796.0	961.3	1235.0	1890.5	5206.7	9956.3	11089.9	11240.1	9651.0
72.5°	554.1	515.5	603.8	758.0	951.6	1064.3	3077.7	8186.3	10531.4	10582.6	8661.9
75°	442.4	412.6	450.7	598.5	775.5	724.3	1634.9	5931.0	8556.5	8600.4	6616.3
77.5°	362.9	337.5	353.1	448.7	603.3	544.8	811.1	3772.7	5432.5	5365.2	3722.5
80°	296.1	274.1	281.4	324.4	459.5	406.8	455.6	1968.0	2591.4	2487.0	1548.1
82.5°	227.8	209.2	223.9	238.5	332.6	292.2	265.8	895.5	1061.3	988.7	567.7
85°	152.7	135.6	194.6	179.0	217.5	179.5	145.3	356.5	395.6	368.7	199.5
87.5°	41.9	39.5	65.4	89.3	89.3	67.8	53.2	86.3	110.2	96.6	46.8
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°	477.0	477.0	477.0	477.0	477.0	477.0	477.0	477.0	477.0	477.0	477.0
2.5°	578.0	567.2	539.0	536.5	543.3	544.3	539.9	529.7	524.3	553.6	549.2
5°	744.3	706.3	683.3	662.4	633.1	612.1	617.5	632.1	637.0	658.9	661.4
7.5°	873.6	823.3	773.1	705.8	661.4	633.1	654.6	670.2	682.4	713.6	726.3
10°	929.6	875.0	803.8	733.1	720.9	725.8	713.6	717.5	736.5	738.0	744.3
12.5°	1034.0	972.1	843.8	779.9	776.5	786.7	782.3	800.4	813.6	849.2	834.0
15°	1134.0	1055.0	874.0	808.7	794.5	815.0	838.9	869.2	897.5	931.1	914.0
17.5°	1255.5	1136.4	875.5	795.5	798.0	841.8	866.7	883.3	967.7	1014.0	990.6
20°	1332.0	1144.7	842.8	762.8	798.0	837.5	872.1	890.1	984.8	1054.5	1070.6
22.5°	1401.3	1147.7	817.5	745.3	767.7	819.9	872.1	912.1	972.6	1039.4	1041.8
25°	1439.3	1145.2	784.8	746.7	767.2	793.1	839.4	876.0	920.9	1014.0	1016.5
27.5°	1536.9	1113.5	752.6	752.6	763.3	764.3	823.3	844.8	851.1	936.0	951.1
30°	1565.2	1120.3	748.7	751.6	757.0	747.2	773.1	787.2	796.5	869.6	872.1
32.5°	1610.5	1065.7	760.4	742.8	736.0	734.5	740.9	753.6	757.5	802.3	810.6
35°	1665.6	1043.8	764.3	740.4	726.7	719.4	738.4	722.8	735.0	787.7	793.6
37.5°	1845.1	1013.5	784.3	740.4	722.8	714.5	705.3	712.6	756.0	806.7	837.9
40°	1959.8	1022.8	779.4	747.7	709.7	701.9	686.3	713.1	780.4	870.1	893.5
42.5°	2160.7	1028.2	785.3	744.3	714.1	683.8	694.1	723.3	794.0	845.3	881.4
45°	2368.5	1044.7	781.4	734.1	704.3	718.4	704.3	730.6	764.3	765.8	793.1
47.5°	2572.4	1111.6	773.1	713.1	701.9	738.9	702.8	707.2	709.7	718.4	750.6
50°	2811.8	1182.8	761.4	683.8	705.3	739.9	708.2	686.7	684.3	713.1	749.2
52.5°	3084.0	1263.3	746.2	655.5	685.3	730.6	726.7	688.2	667.2	695.0	731.1
55°	3404.5	1355.0	728.7	627.2	663.3	731.6	737.0	678.0	667.7	698.0	736.5
57.5°	3830.3	1487.6	694.5	586.3	636.5	716.5	710.6	666.3	656.5	688.7	728.7
60°	4557.0	1742.7	645.8	545.8	607.7	679.4	689.2	645.3	635.5	671.1	713.1
62.5°	5530.0	2049.5	586.8	506.3	572.6	639.4	662.4	615.0	614.1	659.4	703.3
65°	6435.8	2223.6	525.8	470.2	536.5	602.4	632.1	586.8	588.7	645.8	689.7
67.5°	6812.3	2018.8	471.2	438.0	495.1	559.9	607.2	564.8	558.5	627.2	667.7
70°	6458.7	1603.7	423.9	403.9	448.2	514.1	572.6	535.5	520.9	583.3	615.0
72.5°	5714.9	1336.9	379.5	363.9	407.3	465.8	525.8	496.0	477.0	524.8	553.1
75°	4467.3	1096.9	328.7	324.4	360.4	421.9	477.0	456.5	432.1	462.4	490.7
77.5°	2543.6	694.1	276.1	279.0	304.8	369.7	418.5	402.4	377.5	390.2	422.9
80°	1017.9	350.2	221.9	223.9	245.8	303.9	346.8	340.9	315.1	325.3	347.8
82.5°	380.4	192.2	163.9	164.9	186.8	240.5	296.1	293.1	268.7	261.4	274.1
85°	151.2	95.1	100.5	104.9	125.8	173.1	237.5	210.7	181.9	159.5	167.3
87.5°	36.1	30.2	35.1	37.1	41.0	54.1	86.8	69.7	71.7	57.6	42.9
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)