

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: P366878

Luminaire Tested: **MSA-SA1C-727-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366878  
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-SA1C-727-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5232 lumens  
Efficiency: N/A  
Efficacy: 88.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G2

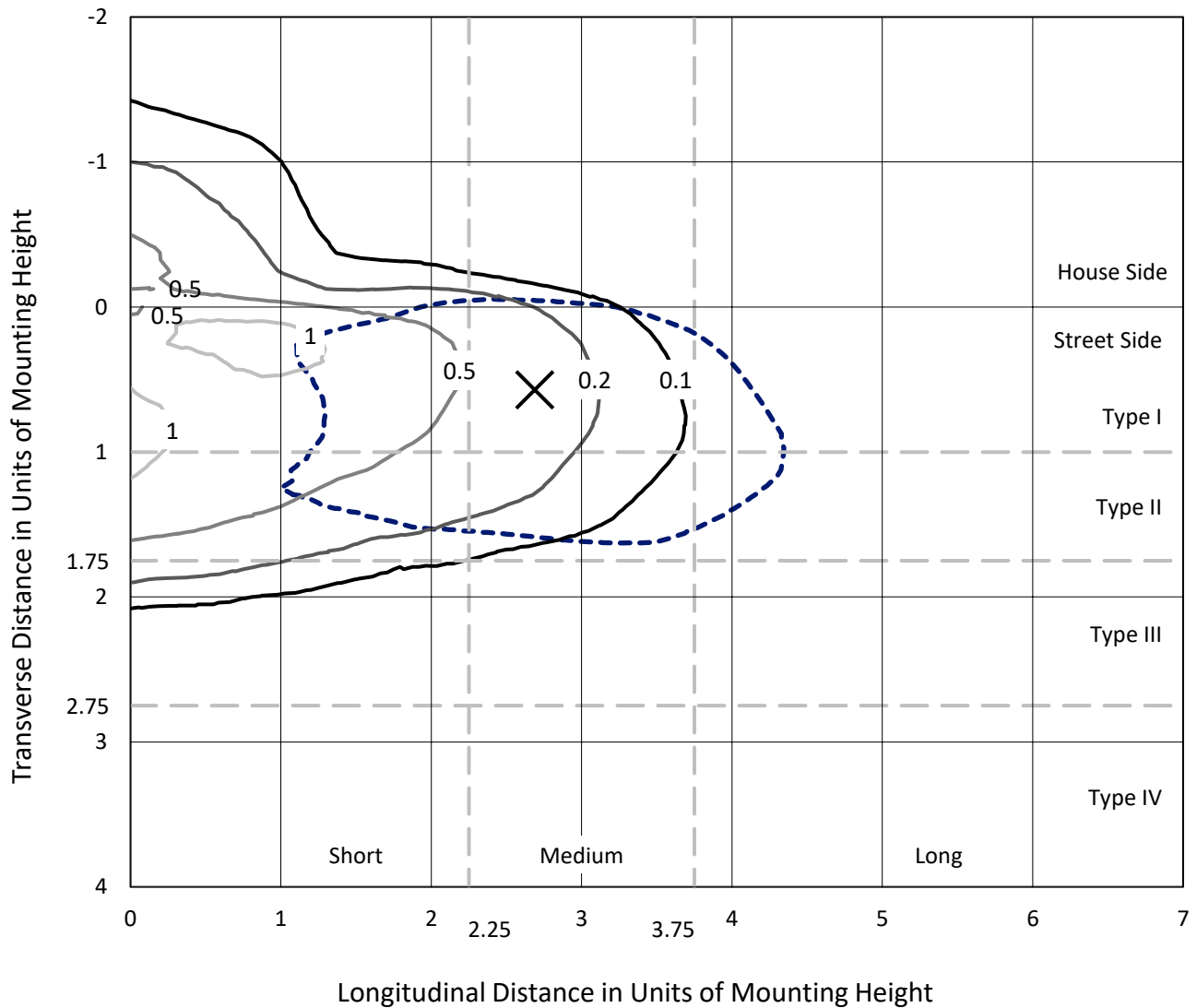
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

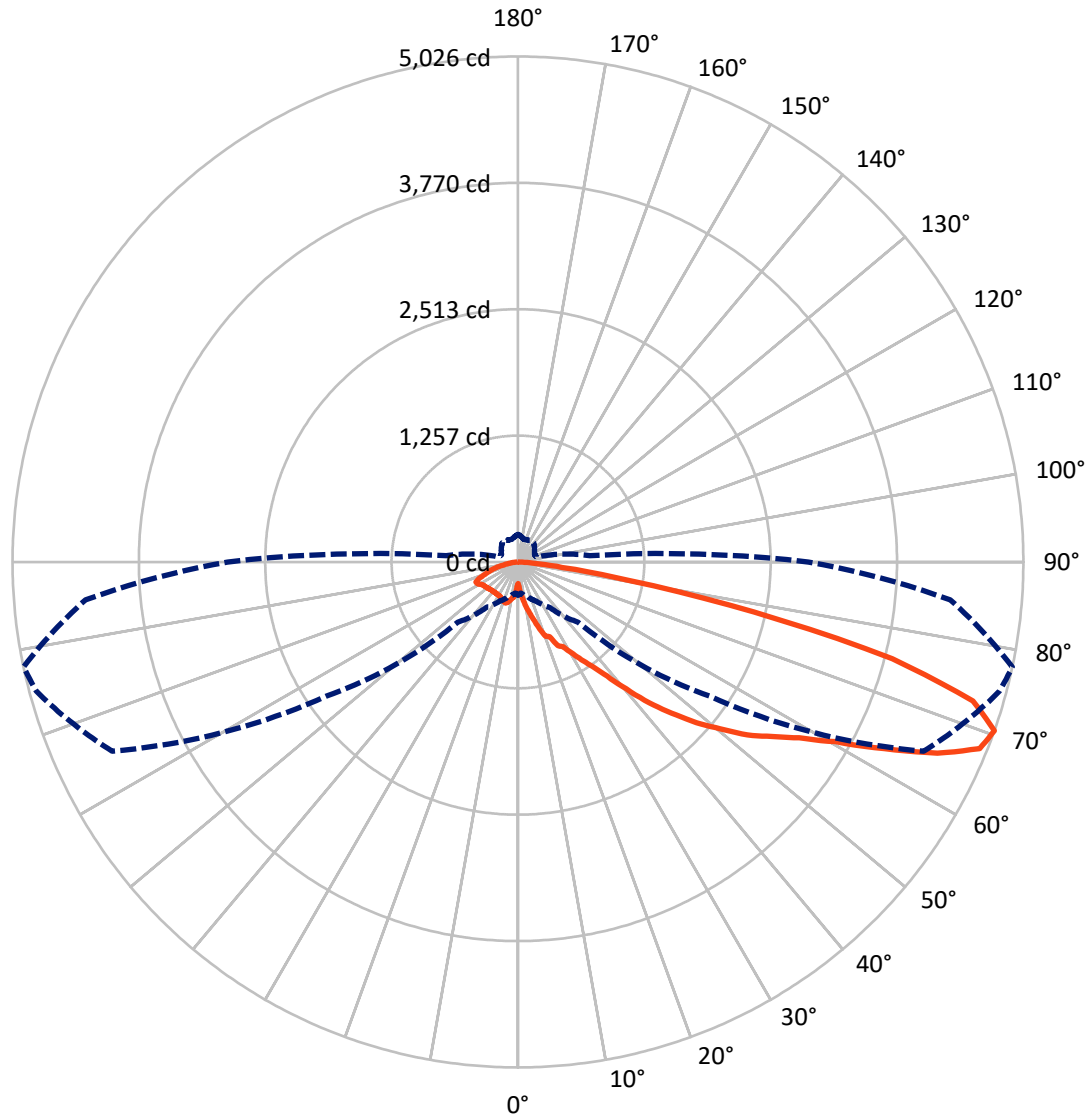
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 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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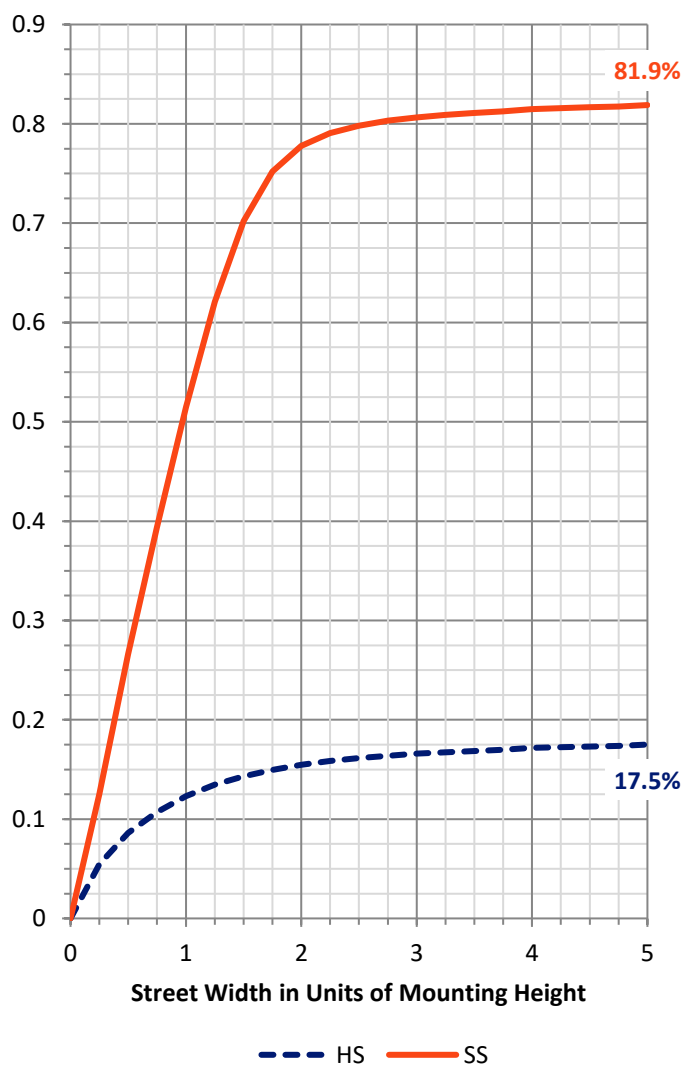
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	933.8	0.0	933.8
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	4298.2	0.0	4298.2
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	5232.0	0.0	5232.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.0	0.6
10°-20°	145.2	2.8
20°-30°	279.6	5.3
30°-40°	470.9	9.0
40°-50°	814.8	15.6
50°-60°	1230.2	23.5
60°-70°	1362.6	26.0
70°-80°	785.6	15.0
80°-90°	110.2	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°	5232.0	100.0
0°-180°	5232.0	100.0

**Coefficient of Utilization**



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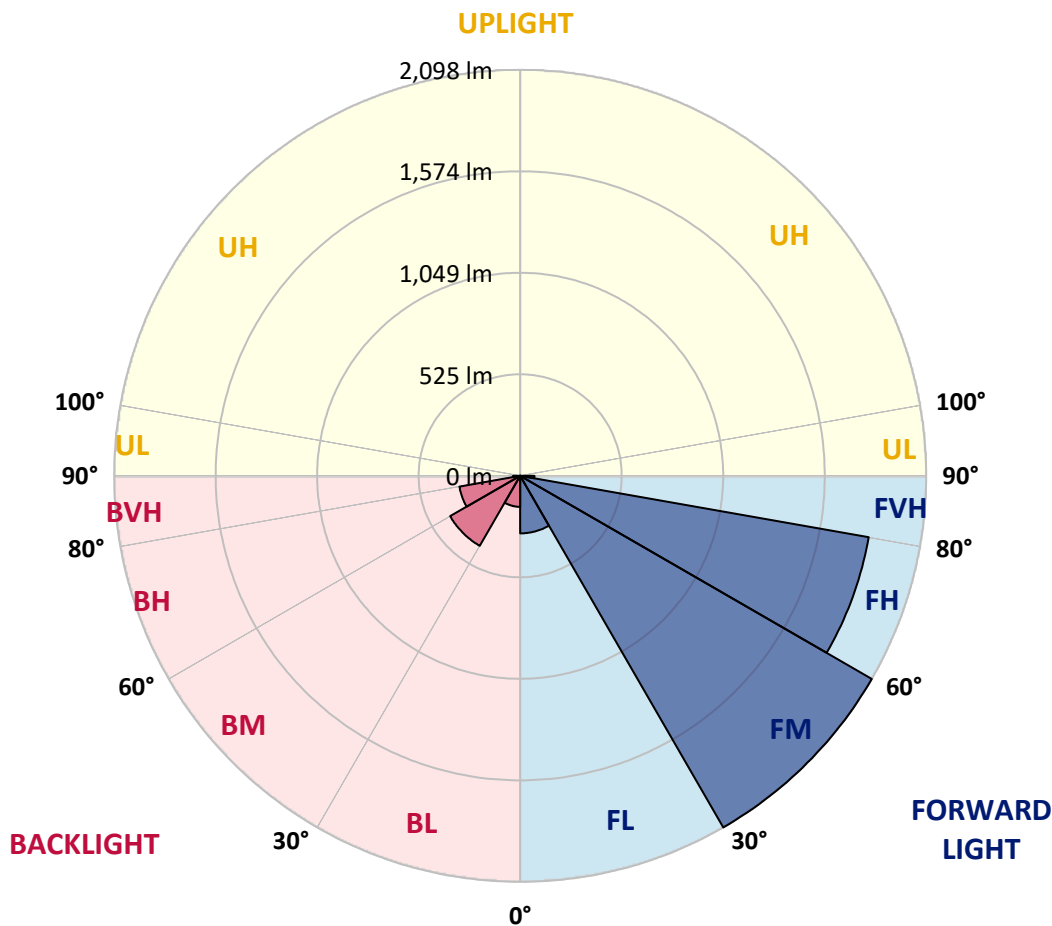
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	297.4	5.7			
FM (30°-60°)	2098.2	40.1			
FH (60°-80°)	1829.0	35.0			G2/5000
FVH (80°-90°)	73.5	1.4			G1/100
BL (0°-30°)	160.3	3.1	B1/500		
BM (30°-60°)	417.7	8.0	B1/1000		
BH (60°-80°)	319.1	6.1	B1/500		G1/500
BVH (80°-90°)	36.7	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	213.3	213.3	213.3	213.3	213.3	213.3	213.3	213.3	213.3	213.3	213.3
2.5°	274.6	264.8	250.0	256.1	263.5	264.3	261.9	248.4	243.8	254.1	257.2
5°	384.7	368.2	358.1	354.9	343.7	320.6	337.2	328.7	330.4	325.4	335.2
7.5°	477.4	466.3	451.5	447.3	421.8	403.7	415.1	411.4	393.5	386.5	397.6
10°	524.6	512.3	513.0	504.1	497.3	499.0	493.4	477.0	463.7	454.3	427.5
12.5°	552.9	556.0	572.3	567.7	593.3	614.2	598.3	574.1	532.0	523.5	496.9
15°	620.3	631.6	616.4	623.4	634.3	674.4	667.9	662.6	618.1	601.5	552.5
17.5°	689.7	691.8	668.7	665.0	691.2	711.5	737.0	707.5	713.0	701.4	622.0
20°	704.5	719.5	686.4	663.5	717.4	757.5	789.1	757.9	786.7	789.8	679.4
22.5°	758.8	740.7	697.1	674.6	721.7	771.0	822.5	839.9	830.8	805.0	734.8
25°	796.5	786.9	742.4	717.6	735.5	780.8	871.1	916.7	924.8	921.3	787.6
27.5°	866.5	871.3	779.7	786.7	761.9	766.0	900.4	1018.6	968.2	954.2	853.0
30°	977.1	955.8	853.0	858.7	817.5	810.5	962.1	1106.5	1061.3	1044.5	906.9
32.5°	1092.5	1094.5	969.7	921.3	899.3	892.3	949.9	1152.5	1179.1	1157.3	988.3
35°	1255.2	1243.9	1096.2	1032.5	952.9	940.7	1036.9	1286.0	1334.8	1273.8	1084.9
37.5°	1503.0	1468.7	1296.9	1149.7	1090.8	1076.8	1161.2	1405.7	1515.6	1439.7	1242.8
40°	1701.9	1632.3	1476.2	1296.9	1197.2	1214.4	1249.5	1551.0	1703.2	1660.5	1388.9
42.5°	1860.5	1798.7	1603.1	1477.0	1341.6	1320.2	1358.6	1730.9	1958.4	1916.5	1571.3
45°	2012.5	1886.9	1745.7	1632.3	1502.1	1528.1	1522.4	1914.6	2271.4	2142.5	1732.4
47.5°	2162.6	2044.6	1896.9	1744.4	1613.4	1775.0	1714.6	2051.1	2482.5	2387.0	1902.1
50°	2355.4	2225.6	2057.4	1904.1	1825.6	1943.8	1842.4	2166.7	2719.0	2606.8	2062.2
52.5°	2483.4	2357.1	2209.7	2100.2	2093.0	2047.4	2021.4	2313.1	2926.2	2858.1	2231.9
55°	2468.3	2346.6	2279.9	2291.9	2380.9	2227.1	2206.0	2529.6	3142.3	3063.6	2415.1
57.5°	2279.7	2146.9	2161.0	2232.1	2471.2	2542.7	2506.7	2761.0	3335.1	3299.3	2641.7
60°	1775.8	1707.6	1823.0	1953.0	2350.3	2635.2	2888.2	3043.3	3572.4	3629.6	2997.7
62.5°	1153.6	1062.4	1244.8	1465.5	1989.8	2574.1	3276.7	3578.5	3961.1	4090.9	3538.6
65°	597.6	583.0	710.6	913.4	1385.2	2194.8	3413.6	4139.9	4433.5	4584.7	4055.3
67.5°	434.5	407.4	466.5	585.8	845.6	1496.7	3154.1	4569.4	4812.8	4951.3	4355.6
70°	330.9	310.8	356.0	429.9	552.3	845.4	2328.3	4452.3	4959.2	5026.3	4315.7
72.5°	247.8	230.5	270.0	338.9	425.5	475.9	1376.3	3660.7	4709.4	4732.3	3873.4
75°	197.8	184.5	201.5	267.6	346.8	323.9	731.1	2652.2	3826.3	3845.9	2958.7
77.5°	162.3	150.9	157.9	200.7	269.8	243.6	362.7	1687.1	2429.3	2399.2	1664.6
80°	132.4	122.6	125.8	145.0	205.5	181.9	203.7	880.1	1158.8	1112.1	692.3
82.5°	101.9	93.6	100.1	106.7	148.8	130.6	118.9	400.4	474.6	442.1	253.9
85°	68.3	60.6	87.0	80.0	97.3	80.3	65.0	159.4	176.9	164.9	89.2
87.5°	18.8	17.7	29.2	39.9	39.9	30.3	23.8	38.6	49.3	43.2	20.9
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°	213.3	213.3	213.3	213.3	213.3	213.3	213.3	213.3	213.3	213.3	213.3
2.5°	258.5	253.7	241.0	239.9	243.0	243.4	241.4	236.9	234.5	247.6	245.6
5°	332.8	315.8	305.6	296.2	283.1	273.7	276.1	282.7	284.9	294.7	295.8
7.5°	390.6	368.2	345.7	315.6	295.8	283.1	292.7	299.7	305.1	319.1	324.8
10°	415.7	391.3	359.4	327.8	322.4	324.5	319.1	320.8	329.3	330.0	332.8
12.5°	462.4	434.7	377.3	348.8	347.2	351.8	349.8	357.9	363.8	379.7	373.0
15°	507.1	471.8	390.9	361.6	355.3	364.5	375.1	388.7	401.3	416.4	408.7
17.5°	561.4	508.2	391.5	355.7	356.8	376.5	387.6	395.0	432.7	453.4	443.0
20°	595.7	511.9	376.9	341.1	356.8	374.5	390.0	398.0	440.4	471.6	478.8
22.5°	626.6	513.2	365.6	333.3	343.3	366.6	390.0	407.9	434.9	464.8	465.9
25°	643.6	512.1	350.9	333.9	343.1	354.6	375.4	391.7	411.8	453.4	454.5
27.5°	687.3	497.9	336.5	336.5	341.3	341.8	368.2	377.8	380.6	418.6	425.3
30°	699.9	501.0	334.8	336.1	338.5	334.1	345.7	352.0	356.2	388.9	390.0
32.5°	720.2	476.6	340.0	332.2	329.1	328.5	331.3	337.0	338.7	358.8	362.5
35°	744.8	466.8	341.8	331.1	325.0	321.7	330.2	323.2	328.7	352.2	354.9
37.5°	825.1	453.2	350.7	331.1	323.2	319.5	315.4	318.7	338.1	360.8	374.7
40°	876.4	457.4	348.5	334.4	317.3	313.9	306.9	318.9	349.0	389.1	399.6
42.5°	966.2	459.8	351.2	332.8	319.3	305.8	310.4	323.5	355.1	378.0	394.1
45°	1059.1	467.2	349.4	328.3	315.0	321.3	315.0	326.7	341.8	342.4	354.6
47.5°	1150.3	497.1	345.7	318.9	313.9	330.4	314.3	316.3	317.3	321.3	335.7
50°	1257.4	528.9	340.5	305.8	315.4	330.9	316.7	307.1	306.0	318.9	335.0
52.5°	1379.1	564.9	333.7	293.1	306.4	326.7	325.0	307.8	298.4	310.8	326.9
55°	1522.4	605.9	325.9	280.5	296.6	327.2	329.6	303.2	298.6	312.1	329.3
57.5°	1712.8	665.2	310.6	262.2	284.6	320.4	317.8	297.9	293.6	308.0	325.9
60°	2037.8	779.3	288.8	244.1	271.8	303.8	308.2	288.6	284.2	300.1	318.9
62.5°	2472.9	916.5	262.4	226.4	256.1	285.9	296.2	275.0	274.6	294.9	314.5
65°	2878.0	994.4	235.1	210.3	239.9	269.4	282.7	262.4	263.3	288.8	308.4
67.5°	3046.3	902.8	210.7	195.9	221.4	250.4	271.5	252.6	249.7	280.5	298.6
70°	2888.2	717.1	189.5	180.6	200.4	229.9	256.1	239.5	232.9	260.9	275.0
72.5°	2555.6	597.8	169.7	162.7	182.1	208.3	235.1	221.8	213.3	234.7	247.3
75°	1997.7	490.5	147.0	145.0	161.2	188.7	213.3	204.2	193.2	206.8	219.4
77.5°	1137.4	310.4	123.4	124.8	136.3	165.3	187.1	179.9	168.8	174.5	189.1
80°	455.2	156.6	99.2	100.1	109.9	135.9	155.1	152.5	140.9	145.5	155.5
82.5°	170.1	85.9	73.3	73.7	83.5	107.5	132.4	131.1	120.2	116.9	122.6
85°	67.6	42.5	44.9	46.9	56.3	77.4	106.2	94.2	81.4	71.3	74.8
87.5°	16.1	13.5	15.7	16.6	18.3	24.2	38.8	31.2	32.1	25.7	19.2
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)