

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: P366904

Luminaire Tested: **MSA-SA1C-730-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366904  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1C-730-U-T4FT  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5725 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

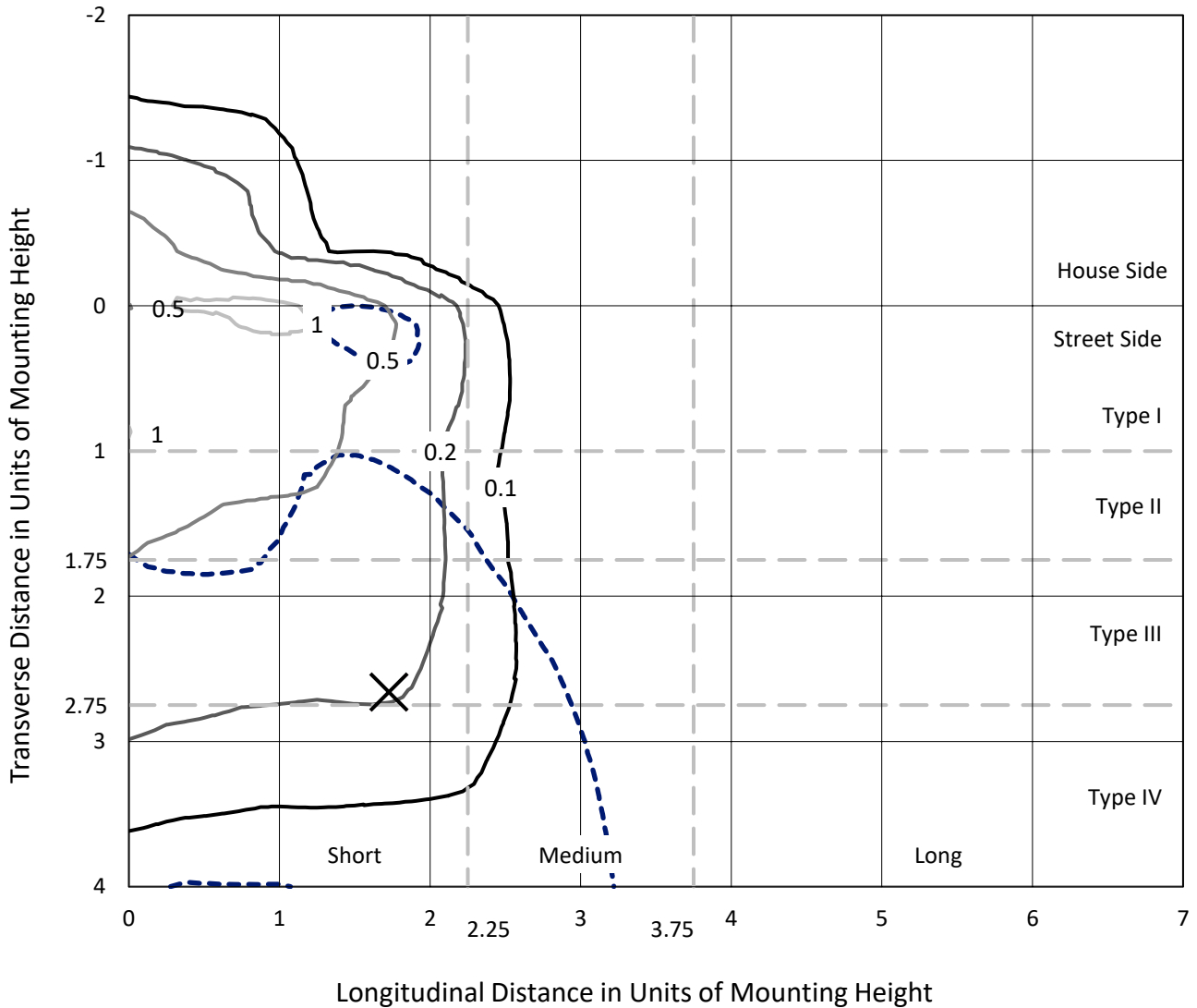
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P366904  
 CATALOG NUMBER: MSA-SA1C-730-U-T4FT

### Iso-Footcandle Lines of Horizontal Illumination

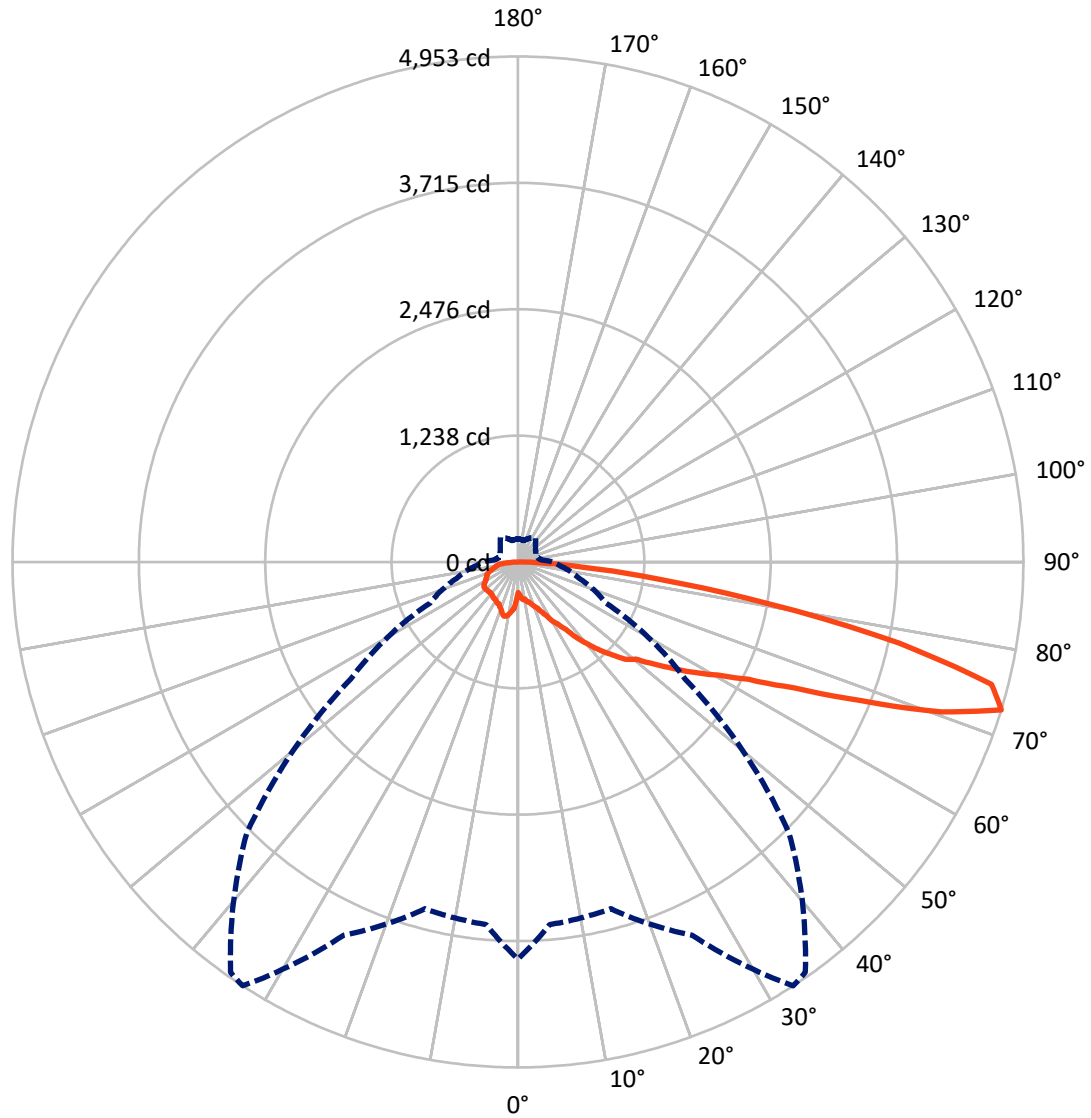
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 fc  
 Type IV - Short - N/A

REPORT NUMBER: P366904  
CATALOG NUMBER: MSA-SA1C-730-U-T4FT

### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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 CATALOG NUMBER: MSA-SA1C-730-U-T4FT

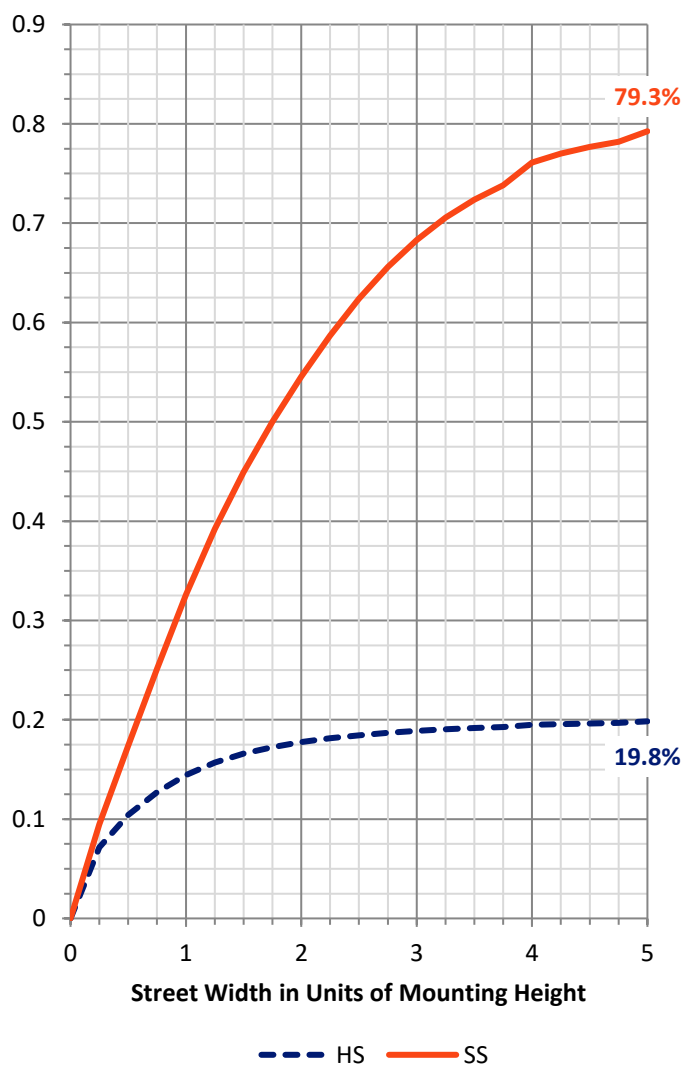
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1158.1	0.0	1158.1
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	4566.8	0.0	4566.8
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	5725.0	0.0	5725.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.3	0.7
10°-20°	152.5	2.7
20°-30°	278.2	4.9
30°-40°	470.6	8.2
40°-50°	782.9	13.7
50°-60°	1148.9	20.1
60°-70°	1469.7	25.7
70°-80°	1195.8	20.9
80°-90°	185.2	3.2
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°	5725.0	100.0
0°-180°	5725.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P366904

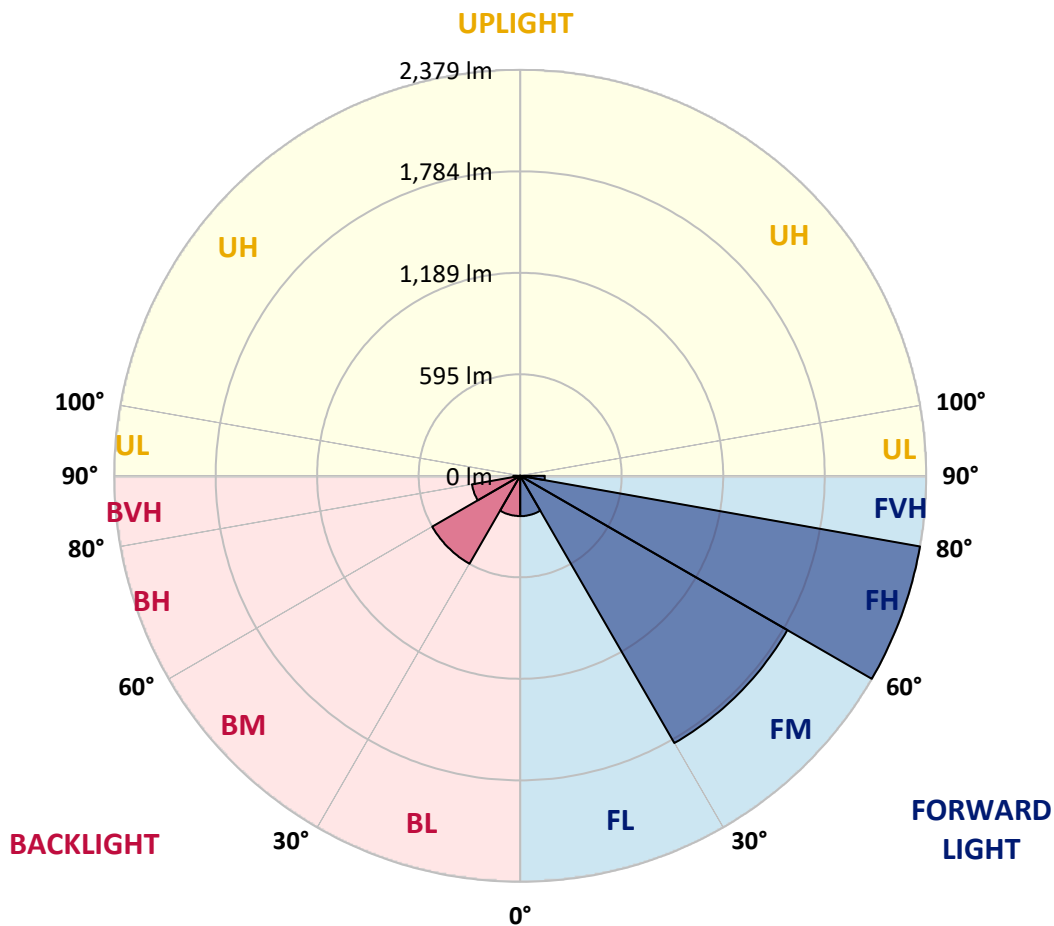
CATALOG NUMBER: MSA-SA1C-730-U-T4FT

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	236.3	4.1			
FM (30°-60°)	1807.5	31.6			
FH (60°-80°)	2378.5	41.5			G2/5000
FVH (80°-90°)	144.5	2.5			G2/225
BL (0°-30°)	235.7	4.1	B1/500		
BM (30°-60°)	594.8	10.4	B1/1000		
BH (60°-80°)	287.0	5.0	B1/500		G1/500
BVH (80°-90°)	40.7	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 IV Short





REPORT NUMBER: P366904

CATALOG NUMBER: MSA-SA1C-730-U-T4FT

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2
2.5°	340.3	329.6	312.1	311.6	321.3	323.5	329.9	330.4	332.7	328.9	356.0
5°	375.5	364.1	357.2	359.6	355.1	360.5	360.5	376.2	397.1	421.3	455.8
7.5°	383.8	375.5	367.6	373.6	374.5	369.3	374.3	411.1	448.9	473.1	528.2
10°	367.2	358.9	364.8	366.7	366.5	378.3	404.2	433.7	475.7	520.4	550.0
12.5°	364.1	370.0	372.9	376.2	398.8	402.3	441.5	471.9	514.2	553.4	630.6
15°	409.9	417.8	400.2	399.0	406.4	409.7	450.3	480.9	542.7	608.5	677.8
17.5°	475.2	478.1	446.5	430.3	435.8	438.4	456.2	494.7	532.7	654.3	740.8
20°	538.4	540.3	480.9	444.8	464.1	466.9	483.5	505.6	535.6	680.0	783.3
22.5°	604.7	592.6	527.5	481.9	493.0	493.8	503.5	515.6	558.1	675.9	835.0
25°	677.1	669.5	587.6	543.9	543.4	533.7	534.1	551.5	582.1	719.1	869.0
27.5°	773.3	774.2	655.3	631.7	594.9	588.5	556.5	588.8	623.7	719.6	942.4
30°	898.0	874.9	749.5	711.5	675.2	661.7	618.2	645.8	661.0	760.7	1022.2
32.5°	999.4	992.7	847.9	790.4	731.0	746.7	698.7	674.5	701.8	831.5	1143.1
35°	1096.5	1074.7	951.9	877.1	814.6	805.1	774.0	778.0	794.7	921.0	1301.0
37.5°	1241.4	1229.5	1099.1	979.4	950.2	911.5	891.8	904.4	891.3	1035.7	1537.8
40°	1403.4	1334.5	1222.2	1115.5	1060.9	1033.6	1040.5	1028.6	1018.6	1164.4	1750.1
42.5°	1558.5	1495.8	1303.9	1255.9	1184.6	1196.0	1158.3	1166.6	1194.8	1347.1	1946.5
45°	1727.3	1591.7	1390.5	1348.3	1297.2	1311.7	1341.9	1332.8	1379.1	1562.5	2131.5
47.5°	1811.6	1682.7	1496.9	1428.1	1427.4	1397.2	1580.8	1600.7	1528.3	1722.1	2319.4
50°	1892.9	1766.0	1576.0	1529.5	1495.8	1560.4	1810.0	1764.1	1663.2	1905.2	2526.0
52.5°	2005.9	1861.3	1666.8	1617.1	1658.9	1718.8	1992.8	1983.8	1795.5	2093.5	2705.6
55°	2092.1	1946.1	1803.3	1757.2	1837.0	1895.7	2179.0	2124.7	1908.8	2231.8	2819.3
57.5°	2243.2	2093.3	2005.0	1902.6	2046.0	2045.1	2358.6	2316.5	2029.9	2345.3	2865.2
60°	2483.3	2307.3	2214.9	2096.9	2250.5	2305.4	2563.8	2442.7	2115.6	2417.0	2782.5
62.5°	2820.3	2611.3	2461.4	2344.6	2532.0	2631.2	2817.2	2534.6	2121.1	2396.6	2565.2
65°	3237.1	2983.0	2786.6	2663.1	2972.3	3114.1	3123.6	2591.3	2070.7	2185.5	2108.3
67.5°	3643.7	3358.0	3153.0	3176.5	3628.0	3695.2	3455.6	2638.8	1800.2	1754.9	1463.9
70°	3911.3	3601.6	3465.1	3714.5	4400.4	4331.5	3724.7	2513.7	1417.6	1137.6	824.4
72.5°	3891.2	3567.0	3517.8	4034.1	4952.8	4909.8	3757.4	1999.0	949.5	622.0	411.1
75°	3170.1	2918.1	3029.8	3819.0	4793.6	4791.5	3262.3	1237.4	487.1	319.4	259.8
77.5°	1752.7	1654.9	1982.9	2891.5	3816.8	3836.3	2204.2	561.2	262.7	226.3	195.7
80°	613.9	604.9	859.3	1560.4	2510.8	2515.6	1025.0	256.7	190.9	171.2	143.7
82.5°	224.4	222.5	356.2	724.8	1382.5	1379.4	388.8	159.8	141.5	121.1	94.8
85°	89.5	87.6	162.9	321.8	635.1	624.9	151.0	90.7	92.6	72.2	46.5
87.5°	24.7	25.6	55.3	100.7	194.5	180.3	38.0	30.6	37.5	29.4	14.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P366904  
 CATALOG NUMBER: MSA-SA1C-730-U-T4FT

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2
2.5°	360.8	363.1	339.6	347.9	358.6	364.3	367.2	355.1	359.1	376.2	375.5
5°	462.9	453.4	444.4	453.6	447.4	438.7	452.9	452.2	461.5	470.7	472.9
7.5°	539.1	526.8	522.5	501.6	480.7	459.6	477.8	489.2	491.6	514.7	524.4
10°	566.7	561.9	563.6	536.0	533.4	535.6	518.7	500.4	511.6	502.1	509.2
12.5°	630.3	642.2	612.7	594.0	592.3	579.3	545.5	533.7	521.1	534.1	527.5
15°	681.4	703.5	671.9	638.9	601.6	581.4	552.7	534.6	526.3	529.1	521.1
17.5°	756.2	776.9	696.6	646.0	607.5	577.8	533.9	495.4	515.8	517.5	508.2
20°	805.8	807.3	704.9	628.4	593.7	542.2	499.5	465.7	489.2	513.2	523.7
22.5°	854.3	843.6	715.1	614.4	543.6	493.8	472.9	470.7	488.3	508.5	510.9
25°	890.6	892.3	721.0	609.2	514.2	446.3	446.3	461.7	477.1	525.1	522.7
27.5°	978.7	913.9	698.0	585.2	473.3	418.5	446.5	467.2	474.5	526.5	531.8
30°	1042.9	1000.6	702.8	544.1	432.0	405.4	428.4	454.3	474.8	534.8	532.9
32.5°	1150.4	1036.7	713.9	486.4	401.1	400.4	420.8	448.2	472.6	525.8	528.7
35°	1269.4	1143.1	682.8	442.5	393.8	397.6	423.9	434.9	463.6	522.3	524.9
37.5°	1489.6	1198.6	663.1	408.5	389.0	399.9	409.9	426.8	455.8	504.4	521.5
40°	1618.8	1313.1	589.9	388.8	379.0	398.0	403.0	417.3	433.0	483.1	494.0
42.5°	1788.8	1349.2	527.5	366.9	374.1	390.2	405.2	408.7	419.2	449.3	469.3
45°	1930.6	1376.3	461.2	349.4	357.2	407.5	408.5	406.8	404.9	416.1	432.5
47.5°	2077.4	1449.0	400.2	329.9	350.8	421.8	410.2	395.0	387.1	388.5	403.7
50°	2239.4	1501.7	357.0	314.0	352.2	421.8	418.2	382.8	367.2	363.1	379.0
52.5°	2381.9	1507.9	324.2	301.1	346.3	407.3	423.7	375.2	348.9	339.1	354.1
55°	2459.5	1429.7	300.4	289.5	331.1	394.2	420.8	371.0	326.8	319.4	332.7
57.5°	2457.9	1300.1	280.2	273.4	313.7	376.0	404.9	347.7	313.3	309.0	322.0
60°	2369.3	1148.1	264.8	260.1	295.9	349.4	376.4	332.5	300.2	298.1	312.3
62.5°	2168.4	991.1	249.8	246.0	279.3	330.6	362.9	315.6	286.7	286.4	300.0
65°	1775.8	795.6	235.8	234.9	263.9	312.1	350.1	301.4	272.6	277.4	291.2
67.5°	1223.6	559.1	220.9	223.7	249.6	294.3	340.3	291.9	257.9	267.7	280.0
70°	671.4	345.8	204.2	209.9	231.6	273.6	325.1	276.4	238.7	253.6	262.2
72.5°	341.5	230.6	183.6	192.6	209.5	243.2	296.6	254.1	218.0	223.7	228.2
75°	229.4	173.6	160.5	170.5	182.6	214.2	263.1	233.2	198.3	197.6	202.6
77.5°	173.4	135.6	136.3	147.7	155.6	188.3	236.5	215.6	181.7	180.0	187.4
80°	126.8	102.8	109.7	121.6	128.7	169.1	219.2	196.2	159.1	152.5	158.6
82.5°	84.1	72.9	81.2	93.1	98.8	141.3	199.0	166.5	129.7	112.8	113.8
85°	39.7	38.2	48.4	54.1	61.5	87.6	148.9	115.2	82.6	68.4	71.5
87.5°	9.0	12.1	15.9	15.7	18.3	23.5	46.3	32.3	24.0	16.4	10.9
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)