

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: P367022

Luminaire Tested: **MSA-SA1D-730-U-SL2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367022  
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-SA1D-730-U-SL2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) 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: 6204 lumens  
Efficiency: N/A  
Efficacy: 92.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2

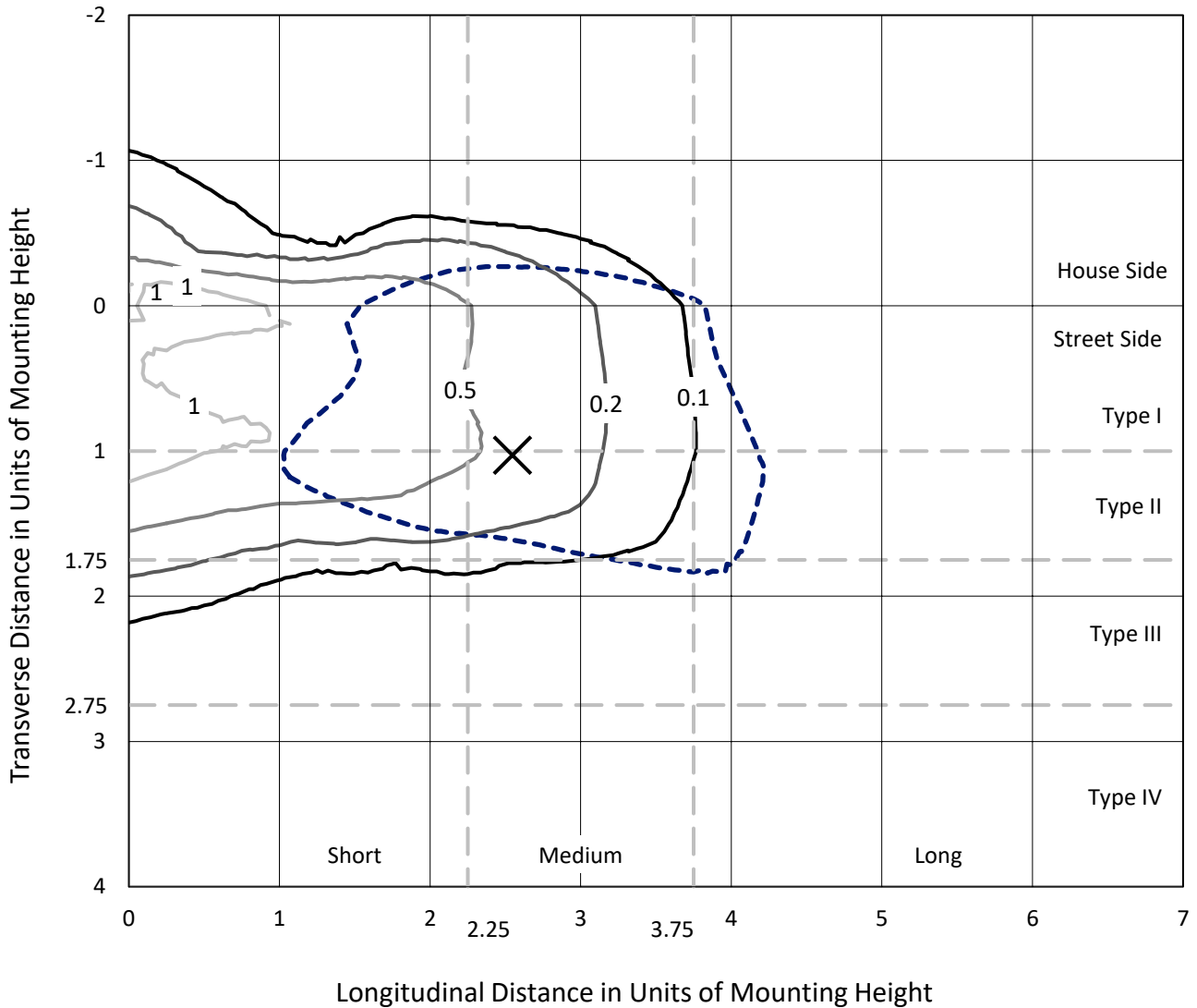
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

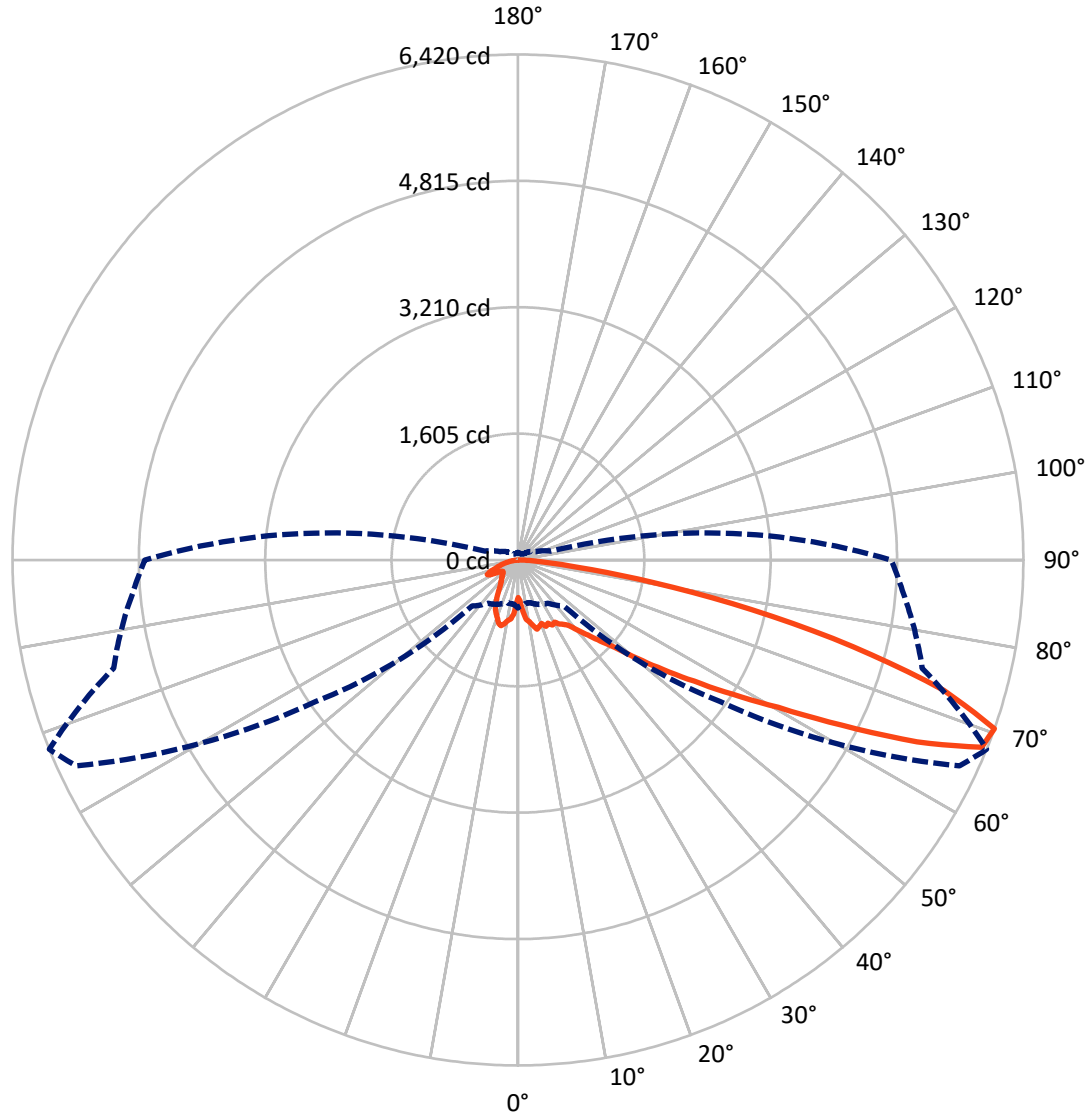
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.5 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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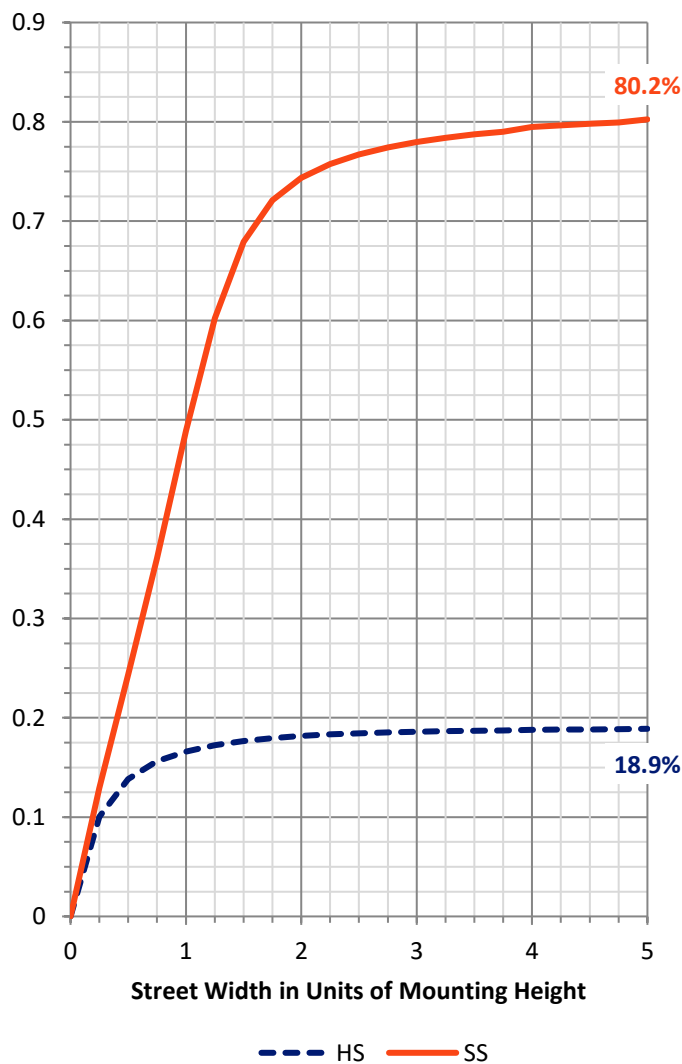
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1184.5	0.0	1184.5
	% Fixture	19.1	0.0	19.1
<b>Street Side</b>	Lumens	5019.5	0.0	5019.5
	% Fixture	80.9	0.0	80.9
<b>Total</b>	Lumens	6204.0	0.0	6204.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.5	1.0
10°-20°	207.1	3.3
20°-30°	315.0	5.1
30°-40°	481.1	7.8
40°-50°	827.3	13.3
50°-60°	1369.3	22.1
60°-70°	1688.1	27.2
70°-80°	1084.4	17.5
80°-90°	168.2	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°	6204.0	100.0
0°-180°	6204.0	100.0

**Coefficient of Utilization**



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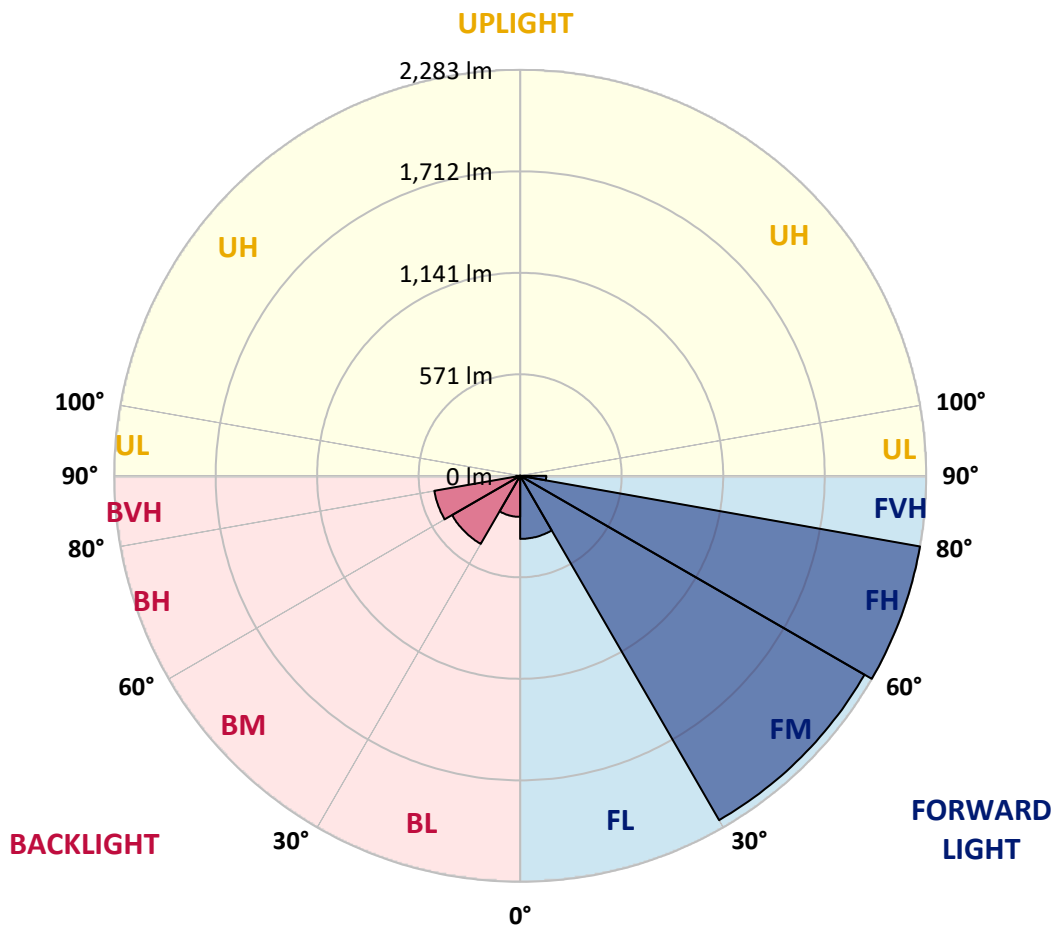
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	354.8	5.7			
FM (30°-60°)	2235.5	36.0			
FH (60°-80°)	2282.6	36.8			G2/5000
FVH (80°-90°)	146.6	2.4			G2/225
BL (0°-30°)	230.8	3.7	B1/500		
BM (30°-60°)	442.1	7.1	B1/1000		
BH (60°-80°)	490.0	7.9	B1/500		G1/500
BVH (80°-90°)	21.6	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

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

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	475.7	475.7	475.7	475.7	475.7	475.7	475.7	475.7	475.7	475.7	475.7
2.5°	546.6	524.5	502.2	513.1	530.5	545.8	542.7	544.5	523.5	520.6	575.9
5°	643.9	606.0	605.2	605.8	607.3	589.7	632.8	655.1	660.0	682.9	737.2
7.5°	677.7	662.4	646.8	654.6	634.8	636.7	689.6	747.8	761.6	778.2	852.4
10°	670.7	656.1	660.8	662.1	665.7	695.1	729.1	784.9	796.6	849.6	868.8
12.5°	671.7	669.1	690.9	691.7	730.7	783.4	796.9	848.3	853.0	891.9	972.1
15°	707.3	725.2	713.0	719.5	727.0	790.1	809.6	883.3	911.4	961.5	1021.7
17.5°	776.6	781.8	745.2	735.6	760.3	779.5	823.9	855.8	885.2	1025.1	1108.2
20°	792.7	806.7	763.1	713.5	765.7	792.5	823.4	837.9	860.7	1034.5	1152.3
22.5°	861.8	832.7	780.0	736.9	754.0	780.0	802.3	857.1	917.1	1007.7	1196.5
25°	901.0	884.1	837.1	790.9	776.4	777.1	820.2	869.3	890.1	1046.9	1205.3
27.5°	995.8	968.8	863.1	854.3	799.5	756.9	823.1	899.4	935.8	1016.3	1248.4
30°	1114.4	1093.9	955.3	943.6	860.0	785.7	859.4	921.8	916.6	1036.3	1278.3
32.5°	1210.5	1244.8	1104.8	1012.6	953.2	882.0	848.0	917.9	969.5	1082.7	1328.9
35°	1347.6	1379.8	1221.4	1159.1	1030.0	926.7	927.7	971.4	1003.3	1137.0	1385.5
37.5°	1584.9	1556.6	1429.1	1330.7	1248.1	1093.9	1047.7	1032.4	1058.1	1203.5	1496.4
40°	1756.0	1732.1	1582.1	1526.0	1365.3	1275.7	1149.0	1134.4	1179.9	1272.0	1587.0
42.5°	1958.8	1916.2	1776.5	1730.3	1562.3	1400.8	1273.1	1281.4	1303.5	1401.3	1709.5
45°	2165.2	2061.9	1982.7	1979.1	1866.9	1643.9	1472.2	1465.5	1466.3	1591.7	1847.2
47.5°	2329.1	2236.1	2145.5	2102.4	2045.8	2064.2	1761.5	1682.3	1658.4	1783.3	2053.6
50°	2440.0	2333.0	2230.4	2220.3	2371.4	2470.8	2033.1	1948.4	1963.2	2057.5	2328.8
52.5°	2442.3	2315.3	2208.3	2279.2	2635.2	2777.5	2501.0	2264.4	2311.7	2375.8	2687.9
55°	2272.5	2140.8	2071.2	2232.7	2738.3	3141.3	3158.4	2770.7	2716.2	2739.8	3117.1
57.5°	1914.4	1781.5	1741.0	1934.4	2542.8	3492.1	3952.4	3375.7	3215.8	3117.1	3557.0
60°	1441.1	1326.0	1300.9	1424.2	2108.1	3389.0	4595.3	4128.7	3802.9	3538.5	3998.1
62.5°	1080.7	998.1	960.2	977.8	1458.7	3053.8	5017.5	5080.1	4618.7	3998.6	4429.1
65°	878.1	811.4	777.7	754.8	907.2	2361.3	4941.2	5880.9	5571.6	4481.9	4764.6
67.5°	733.5	674.3	658.7	681.1	717.2	1369.9	4344.0	6328.8	6349.8	4958.6	4960.7
70°	608.9	565.0	559.3	622.6	670.2	826.7	3137.6	6188.0	6420.2	5316.1	4914.7
72.5°	470.5	446.9	446.1	545.5	665.7	704.7	1868.5	5345.7	5657.6	5201.9	4465.0
75°	326.4	310.0	322.5	448.4	650.4	714.8	1066.4	4163.8	4397.2	4426.5	3576.7
77.5°	224.6	210.8	224.3	324.3	580.8	732.0	746.0	3010.7	3036.6	2968.3	2048.7
80°	156.3	146.7	157.1	229.5	452.1	724.4	635.1	1895.5	1739.1	1324.7	655.9
82.5°	96.9	94.0	105.4	163.6	318.3	659.0	601.9	978.1	746.8	365.6	234.2
85°	50.9	46.7	61.3	106.7	199.2	517.2	564.0	446.3	288.2	129.8	94.0
87.5°	15.1	13.5	23.6	43.1	84.4	231.9	322.7	189.3	107.5	38.2	29.3
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°	475.7	475.7	475.7	475.7	475.7	475.7	475.7	475.7	475.7	475.7	475.7
2.5°	579.8	576.9	538.5	543.5	551.8	553.8	553.6	539.6	524.8	566.0	564.7
5°	738.5	712.7	693.5	689.4	665.7	642.1	650.4	647.6	643.9	662.6	665.0
7.5°	852.7	817.1	794.8	737.4	682.9	635.6	650.7	655.4	646.0	679.8	689.9
10°	882.8	854.8	830.6	756.9	726.8	699.2	658.5	612.0	605.8	586.3	588.6
12.5°	960.5	956.6	874.2	809.3	770.1	715.3	627.3	571.0	522.7	525.0	511.0
15°	1021.7	1023.8	924.9	834.0	728.8	645.2	541.6	471.5	421.9	412.1	401.9
17.5°	1104.0	1099.9	929.0	804.4	671.2	548.6	421.7	352.1	343.8	349.5	340.7
20°	1139.9	1103.3	902.6	730.9	581.1	416.7	318.6	281.7	297.8	320.7	321.2
22.5°	1172.1	1109.5	888.8	671.7	461.1	303.0	255.8	249.0	268.0	298.9	301.5
25°	1170.8	1138.3	864.1	612.0	357.5	236.5	222.3	227.2	249.8	282.0	283.8
27.5°	1229.7	1116.2	800.0	533.6	269.3	202.5	206.2	215.3	225.9	256.5	262.5
30°	1229.2	1157.3	767.8	438.3	216.3	185.7	195.0	202.8	211.6	239.7	243.0
32.5°	1258.3	1130.5	748.3	340.9	194.0	181.5	183.8	191.6	204.3	223.3	225.6
35°	1293.3	1160.9	686.0	270.8	185.7	177.9	179.7	184.1	195.8	213.2	215.5
37.5°	1405.8	1166.6	661.3	228.2	185.1	176.3	176.0	178.4	191.6	207.5	214.5
40°	1449.6	1218.8	589.4	213.2	183.3	176.3	172.7	174.0	184.9	205.1	210.6
42.5°	1554.8	1236.2	536.2	208.0	183.3	173.2	167.5	169.6	182.3	200.2	208.8
45°	1663.1	1260.9	472.8	206.9	183.1	172.9	162.0	166.7	177.1	192.1	201.5
47.5°	1817.3	1349.7	409.5	203.8	181.0	174.2	160.7	160.5	169.6	182.5	191.4
50°	2068.9	1488.3	360.4	199.9	181.2	173.2	158.1	154.5	160.5	171.9	180.5
52.5°	2419.2	1724.6	341.2	197.9	179.2	169.0	153.7	148.0	151.4	160.5	168.8
55°	2825.8	2043.7	360.1	197.9	175.0	162.5	147.5	140.7	142.5	148.8	156.8
57.5°	3301.0	2440.2	451.8	195.0	169.8	154.8	140.0	132.2	132.7	138.1	145.4
60°	3797.2	2883.2	657.2	192.7	166.2	146.2	131.1	123.1	122.3	127.5	134.0
62.5°	4294.1	3291.9	873.2	198.1	165.1	138.9	121.8	113.7	113.5	118.1	123.6
65°	4689.3	3571.3	927.0	220.2	171.9	130.6	112.2	104.6	104.1	108.0	114.0
67.5°	4883.3	3611.8	704.2	247.7	186.2	122.8	102.8	95.8	95.3	99.4	104.6
70°	4739.7	3335.0	434.7	250.6	185.4	113.7	93.2	87.2	86.2	90.6	94.5
72.5°	4208.4	2917.2	330.3	221.7	160.5	100.7	83.6	78.4	76.9	80.8	84.4
75°	3377.8	2316.1	264.6	178.9	126.5	84.9	74.0	69.1	67.2	70.9	74.0
77.5°	1967.6	1302.9	193.4	139.7	95.6	69.3	63.1	58.7	56.6	60.5	62.8
80°	639.8	434.1	121.5	100.2	69.8	54.3	51.2	48.0	46.0	48.6	49.3
82.5°	229.8	161.5	67.2	61.5	46.5	38.9	38.7	36.9	34.3	35.3	35.3
85°	101.8	73.7	40.0	33.0	27.8	20.8	24.4	23.1	20.5	20.0	19.2
87.5°	28.6	24.4	14.5	11.2	9.1	3.4	7.8	7.0	5.7	5.2	3.6
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)