

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: P368597

Luminaire Tested: **MSA-SA4D-727-U-T4FT-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368597  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-727-U-T4FT-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16475 lumens  
Efficiency: N/A  
Efficacy: 63.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G4

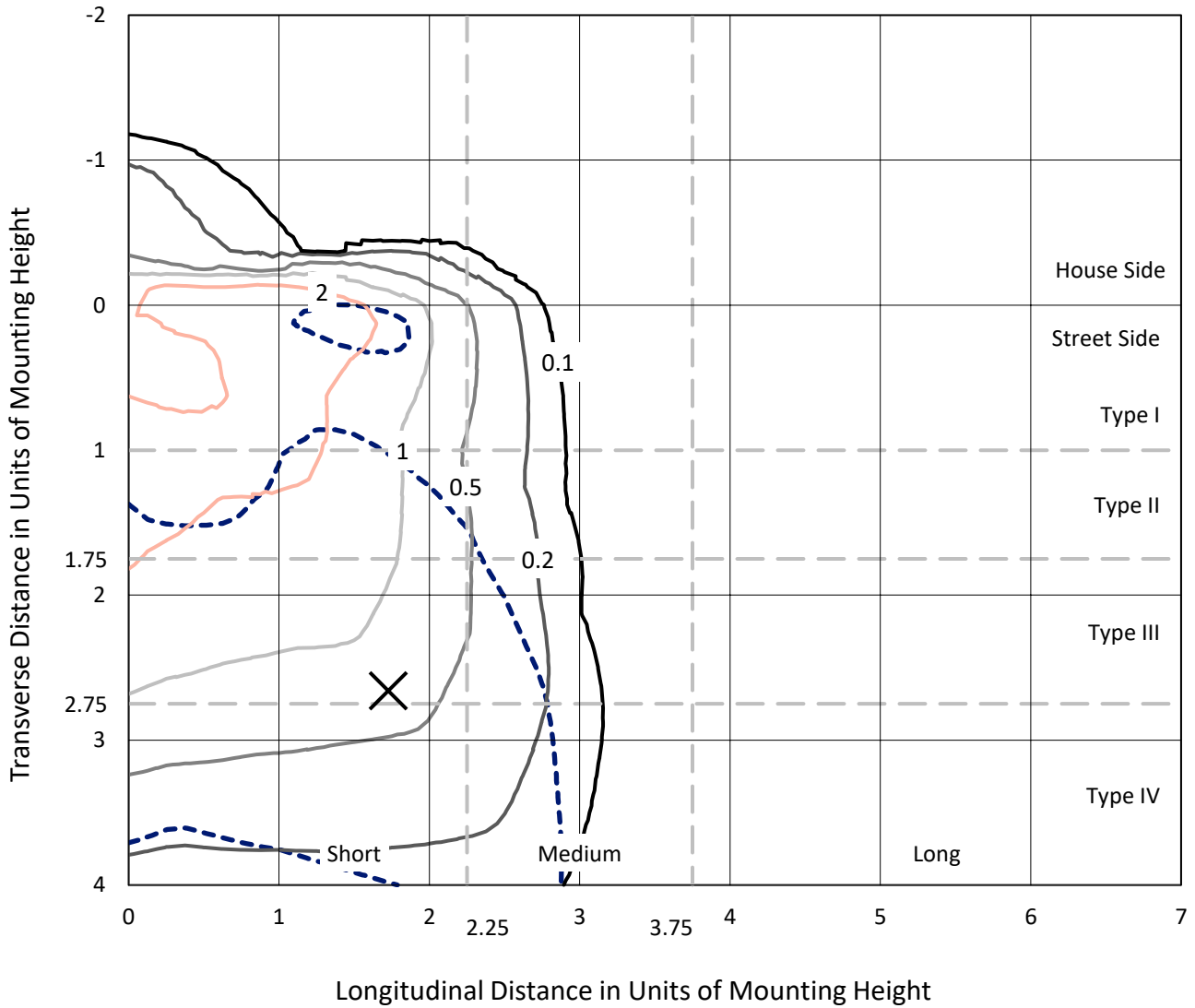
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

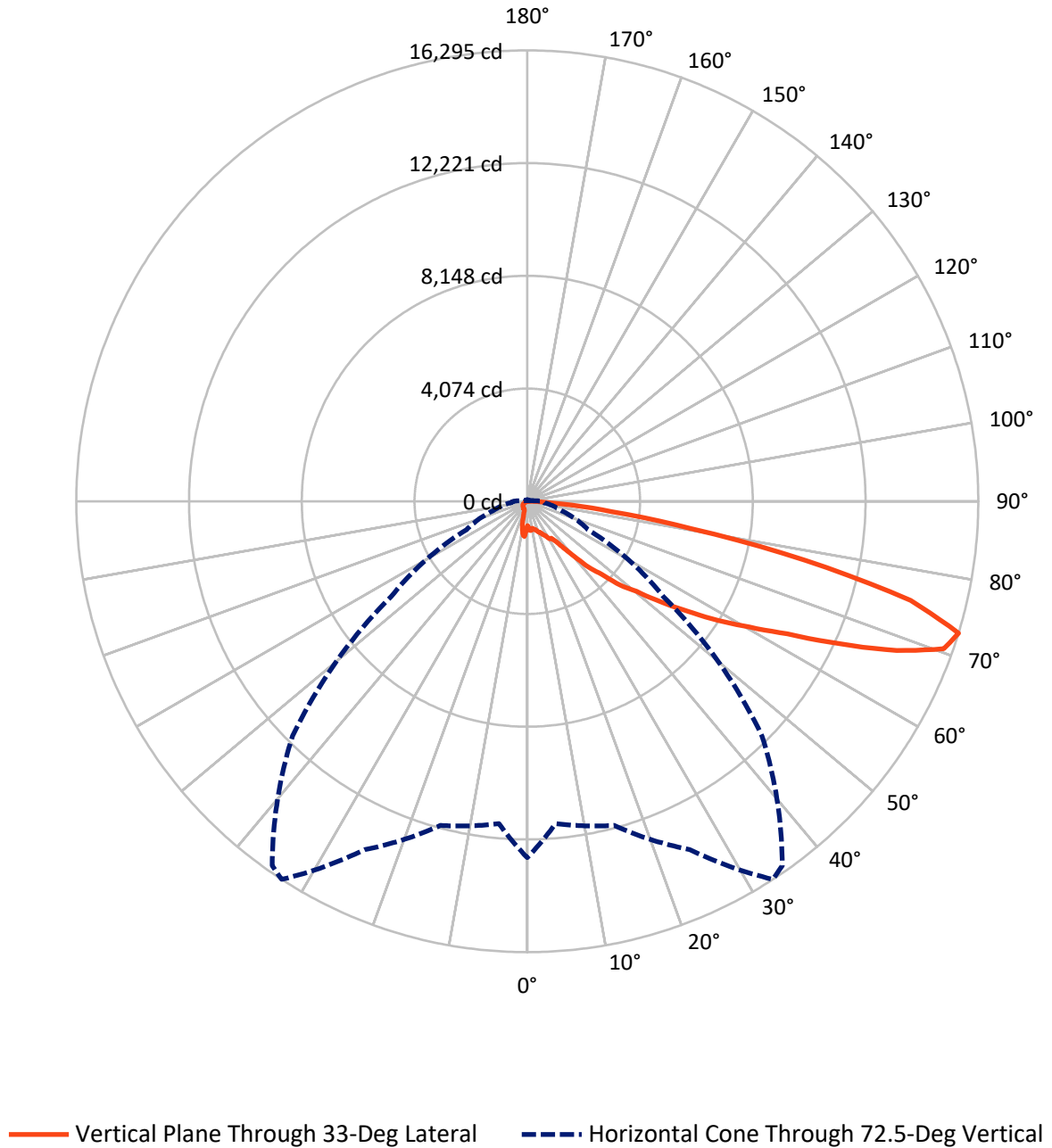
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1523.3	0.0	1523.3
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	14951.7	0.0	14951.7
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	16475.0	0.0	16475.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.4	0.7
10°-20°	338.0	2.1
20°-30°	573.2	3.5
30°-40°	1048.9	6.4
40°-50°	2213.9	13.4
50°-60°	3704.0	22.5
60°-70°	4958.0	30.1
70°-80°	3238.6	19.7
80°-90°	287.1	1.7
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°	16475.0	100.0
0°-180°	16475.0	100.0

**Coefficient of Utilization**

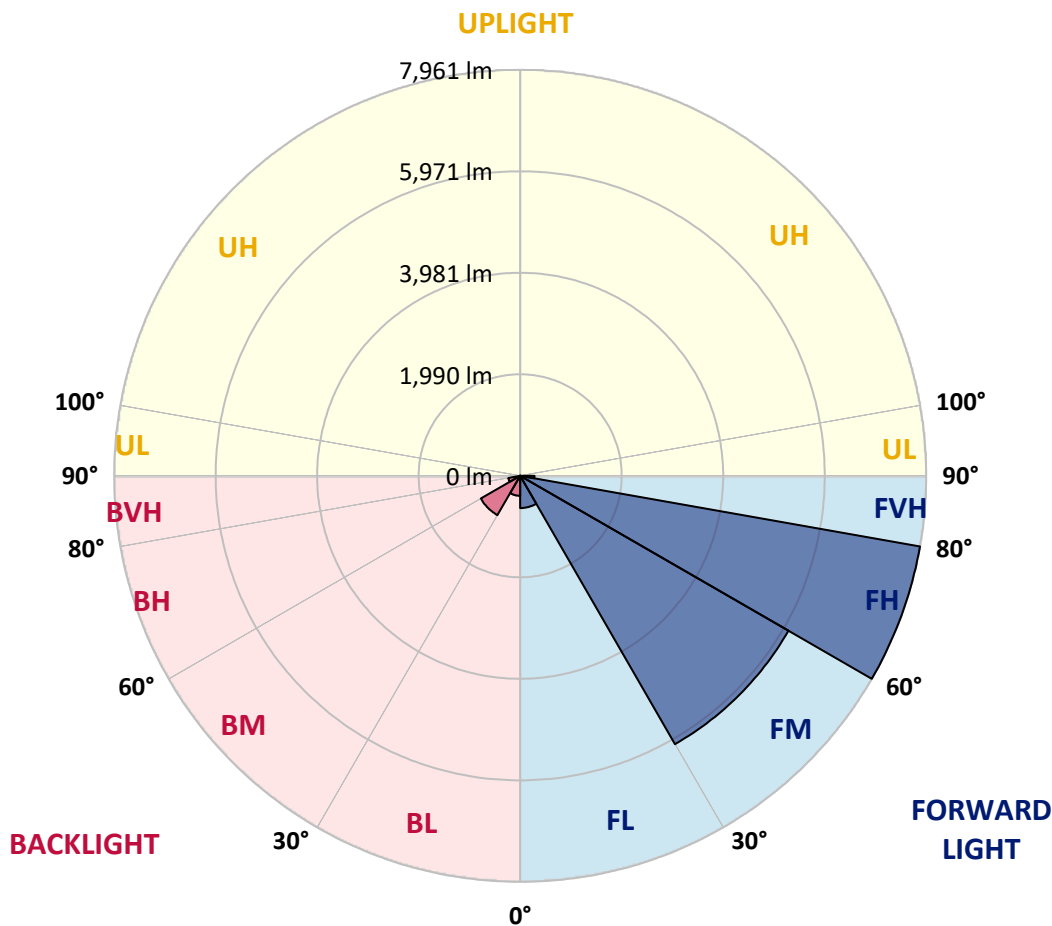


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	632.4	3.8			
FM (30°-60°)	6076.2	36.9			
FH (60°-80°)	7961.4	48.3			G4/12000
FVH (80°-90°)	281.6	1.7			G3/500
BL (0°-30°)	392.1	2.4	B1/500		
BM (30°-60°)	890.6	5.4	B1/1000		
BH (60°-80°)	235.1	1.4	B1/500		G1/500
BVH (80°-90°)	5.6	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G4**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	876.3	876.3	876.3	876.3	876.3	876.3	876.3	876.3	876.3	876.3	876.3
2.5°	1044.6	1004.3	945.8	949.5	959.5	967.7	989.7	980.6	963.2	962.3	1044.6
5°	1106.8	1062.0	1058.3	1063.8	1061.0	1075.7	1057.4	1116.8	1167.2	1227.5	1324.5
7.5°	1076.6	1055.6	1029.0	1056.5	1055.6	1048.2	1060.1	1180.9	1302.5	1379.4	1539.4
10°	989.7	965.9	986.0	995.2	988.8	1020.8	1100.4	1199.2	1344.6	1505.6	1583.3
12.5°	965.0	979.6	987.0	987.0	1048.2	1064.7	1186.4	1279.7	1452.5	1579.7	1805.6
15°	1061.0	1089.4	1039.1	1028.1	1047.3	1056.5	1191.8	1304.4	1525.7	1758.0	1947.4
17.5°	1213.8	1212.0	1134.2	1091.2	1121.4	1143.4	1218.4	1350.1	1480.0	1898.0	2172.4
20°	1319.0	1320.8	1180.9	1091.2	1190.9	1203.7	1287.0	1392.2	1494.6	1968.4	2319.7
22.5°	1454.4	1405.9	1251.3	1164.4	1232.1	1244.0	1335.5	1418.7	1569.6	1960.2	2508.1
25°	1565.0	1533.9	1339.1	1278.7	1339.1	1322.7	1405.9	1531.2	1650.1	2091.0	2618.8
27.5°	1737.0	1684.0	1401.3	1412.3	1408.6	1420.5	1439.7	1631.8	1791.9	2097.4	2874.9
30°	1897.1	1866.0	1540.3	1540.3	1576.0	1553.2	1566.9	1799.2	1929.1	2245.6	3163.0
32.5°	2062.6	2064.5	1704.1	1617.2	1588.8	1683.0	1775.4	1880.6	2094.7	2499.9	3603.9
35°	2500.8	2464.2	2017.8	1801.0	1778.2	1772.7	1920.9	2205.3	2388.3	2831.0	4197.5
37.5°	3383.5	3256.3	2692.9	2218.1	2132.2	2102.9	2271.2	2563.0	2745.0	3317.6	5179.0
40°	4289.0	4055.8	3430.1	2895.0	2616.0	2489.8	2685.5	2933.4	3257.2	3855.4	6087.3
42.5°	5083.9	4795.8	3985.3	3624.9	3261.8	3206.9	3023.1	3426.5	3989.0	4638.4	6977.3
45°	5858.6	5291.5	4479.3	4193.9	3753.0	3784.1	3721.9	4071.3	4749.1	5496.4	7766.7
47.5°	6391.9	5882.4	5084.8	4714.3	4537.8	4355.8	4849.7	5212.9	5426.0	6041.6	8449.0
50°	6966.3	6450.4	5605.3	5346.4	5114.1	5297.9	5939.1	5987.6	5970.2	6550.1	8913.7
52.5°	7708.1	7099.9	6202.6	5909.9	6041.6	6224.5	6964.5	6973.6	6454.1	6978.2	9248.5
55°	8394.2	7720.0	6998.3	6722.1	6997.4	7152.0	7972.5	7671.6	6735.8	7269.1	9413.1
57.5°	9361.0	8580.8	8056.6	7570.0	8128.0	7979.8	8858.8	8411.5	7052.3	7462.1	9352.8
60°	10583.0	9664.7	9139.6	8624.7	9222.9	9323.5	9724.1	8781.1	7174.9	7525.2	8989.6
62.5°	11826.1	10902.3	10211.7	9862.3	10541.0	10872.1	10525.4	8964.9	7027.6	7401.7	8167.3
65°	13368.3	12185.6	11378.8	11173.9	12431.6	12918.2	11473.0	9009.8	6743.1	6722.1	6566.6
67.5°	14424.8	13273.2	12533.2	12876.2	14395.5	14434.8	12323.7	9023.5	5785.5	5263.2	4310.0
70°	14675.4	13442.4	13111.3	14121.1	15962.4	15467.5	12598.1	8328.3	4290.8	3123.7	1970.3
72.5°	12882.6	11695.3	12126.1	13886.0	16295.3	16068.5	11991.7	6008.6	2415.7	1249.5	604.6
75°	7902.1	7184.0	9096.7	11773.1	14304.0	14157.7	9355.5	3104.5	973.2	499.4	225.9
77.5°	3436.5	3191.4	4747.3	7811.5	10278.4	10147.6	5481.8	1143.4	503.1	351.2	114.3
80°	1137.0	1103.1	1798.3	3699.0	6020.5	5905.3	2309.6	475.6	358.6	281.7	64.0
82.5°	269.8	268.0	627.5	1702.2	3067.0	2970.9	708.9	262.5	259.8	222.3	33.8
85°	67.7	69.5	173.8	696.1	1245.8	1098.5	184.8	130.8	182.9	150.9	17.4
87.5°	0.0	0.0	44.8	99.7	188.4	118.0	20.1	34.8	51.2	54.0	9.1
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°	876.3	876.3	876.3	876.3	876.3	876.3	876.3	876.3	876.3	876.3	876.3
2.5°	1062.9	1052.8	970.5	990.6	1021.7	1019.0	1039.1	1023.5	1009.8	1077.5	1071.1
5°	1351.9	1297.0	1271.4	1307.1	1287.9	1243.1	1280.6	1274.2	1263.2	1286.1	1303.4
7.5°	1568.7	1518.4	1495.5	1420.5	1311.7	1225.7	1239.4	1207.4	1177.2	1212.9	1249.5
10°	1640.0	1612.6	1609.9	1463.5	1361.1	1236.7	1089.4	962.3	928.4	883.6	903.7
12.5°	1834.0	1850.4	1747.1	1576.0	1378.4	1139.7	878.1	697.9	624.7	577.2	579.9
15°	1993.1	2050.7	1900.7	1593.4	1212.9	869.0	584.5	422.6	376.9	365.0	361.3
17.5°	2230.0	2285.8	1948.3	1469.9	977.8	589.1	375.9	329.3	332.0	340.3	338.4
20°	2405.7	2397.4	1907.1	1251.3	720.8	386.0	314.7	308.3	322.9	346.7	341.2
22.5°	2574.9	2518.2	1881.5	1049.2	466.5	310.1	303.7	302.8	316.5	339.4	345.8
25°	2695.6	2704.8	1838.5	821.4	339.4	288.1	293.6	301.8	315.6	340.3	336.6
27.5°	3041.4	2785.2	1659.3	596.4	286.3	276.2	290.0	306.4	311.0	342.1	343.0
30°	3265.5	3088.9	1542.2	401.6	264.3	255.2	282.6	304.6	310.1	350.3	353.1
32.5°	3656.0	3219.7	1406.8	298.2	246.1	248.8	266.2	295.4	321.1	364.0	365.9
35°	4141.7	3639.6	1161.7	268.0	239.7	235.1	243.3	277.2	319.2	365.9	375.0
37.5°	5066.5	3891.1	921.1	259.8	239.7	231.4	239.7	259.8	313.7	384.2	403.4
40°	5685.7	4403.3	664.1	257.9	235.1	227.8	230.5	250.6	298.2	373.2	401.6
42.5°	6448.6	4619.2	489.4	253.4	230.5	219.5	221.4	247.0	282.6	350.3	371.4
45°	7073.3	4776.5	385.1	251.5	219.5	215.9	219.5	244.2	268.0	300.9	320.1
47.5°	7548.1	4959.5	309.2	239.7	216.8	215.9	211.3	228.7	243.3	251.5	264.3
50°	7895.7	4918.3	256.1	221.4	207.6	213.1	204.9	207.6	211.3	206.7	221.4
52.5°	8108.8	4770.1	213.1	199.4	196.7	201.2	191.2	182.9	176.5	172.9	182.0
55°	8186.5	4472.9	181.1	171.0	177.5	179.3	171.0	156.4	145.4	139.9	147.3
57.5°	8039.3	4020.1	157.3	141.8	156.4	156.4	145.4	129.9	117.1	107.9	115.3
60°	7666.1	3519.7	139.9	118.0	133.5	134.5	121.7	105.2	95.1	86.0	90.6
62.5°	6970.9	2974.6	122.6	102.4	115.3	116.2	100.6	85.1	77.7	67.7	71.3
65°	5580.6	2274.8	104.3	90.6	99.7	97.0	83.2	72.3	63.1	54.0	55.8
67.5°	3622.2	1404.1	90.6	82.3	84.2	81.4	70.4	63.1	53.1	45.7	46.6
70°	1621.8	604.6	79.6	74.1	73.2	68.6	59.5	58.5	52.1	45.7	45.7
72.5°	500.3	227.8	68.6	66.8	63.1	57.6	52.1	55.8	51.2	43.9	43.0
75°	197.6	104.3	56.7	56.7	54.9	47.6	46.6	50.3	47.6	40.2	38.4
77.5°	103.4	65.9	46.6	48.5	47.6	36.6	42.1	45.7	43.9	33.8	28.4
80°	61.3	40.2	34.8	39.3	38.4	25.6	32.0	29.3	21.0	10.1	2.7
82.5°	33.8	18.3	15.5	22.9	22.9	9.1	16.5	14.6	8.2	0.0	0.0
85°	16.5	12.8	11.9	12.8	9.1	2.7	8.2	8.2	4.6	0.0	0.0
87.5°	8.2	7.3	5.5	4.6	3.7	0.0	2.7	3.7	0.0	0.0	0.0
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)