

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: P367026

Luminaire Tested: **MSA-SA1D-730-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367026
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1D-730-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6083 lumens
Efficiency: N/A
Efficacy: 90.8 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

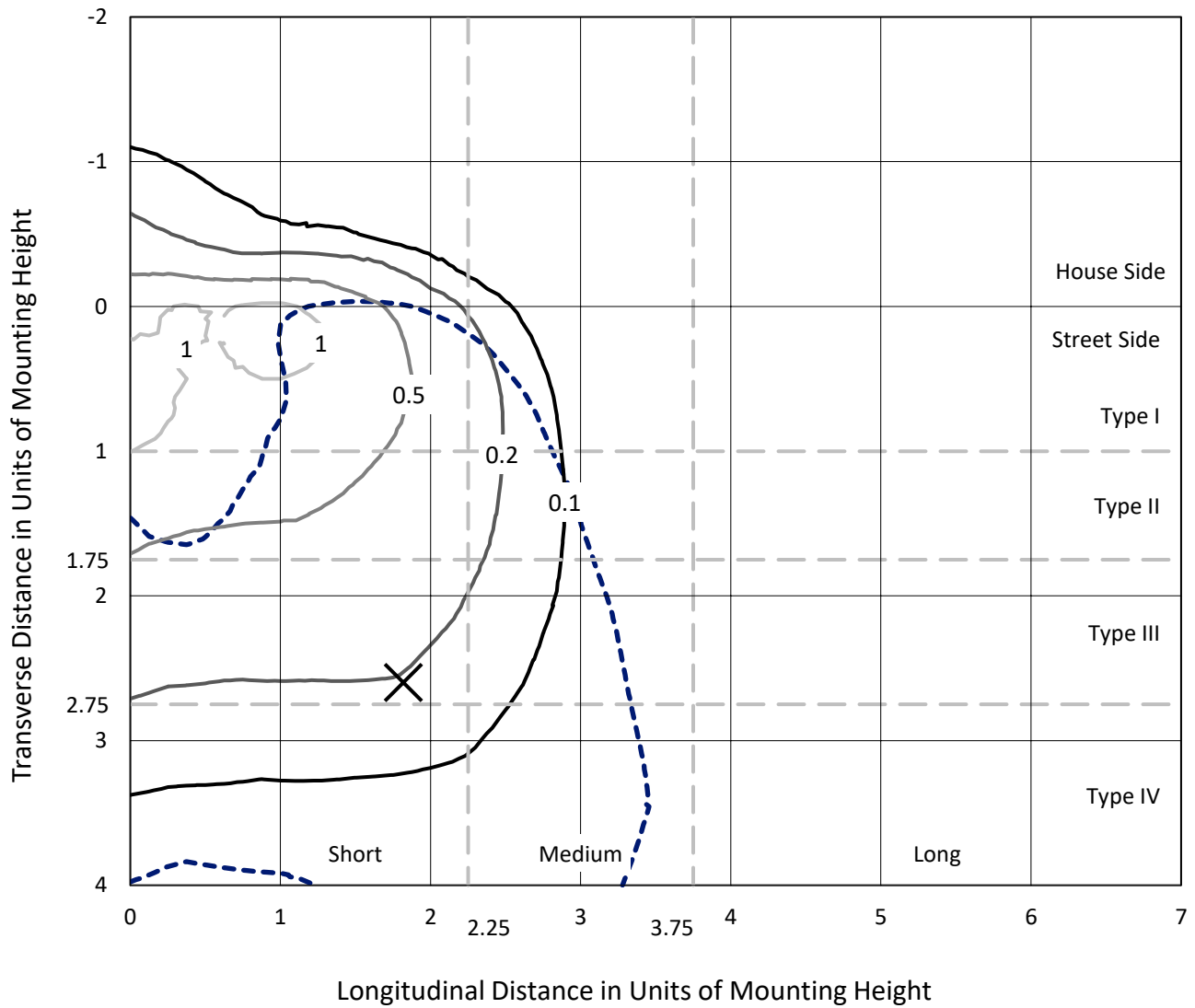
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

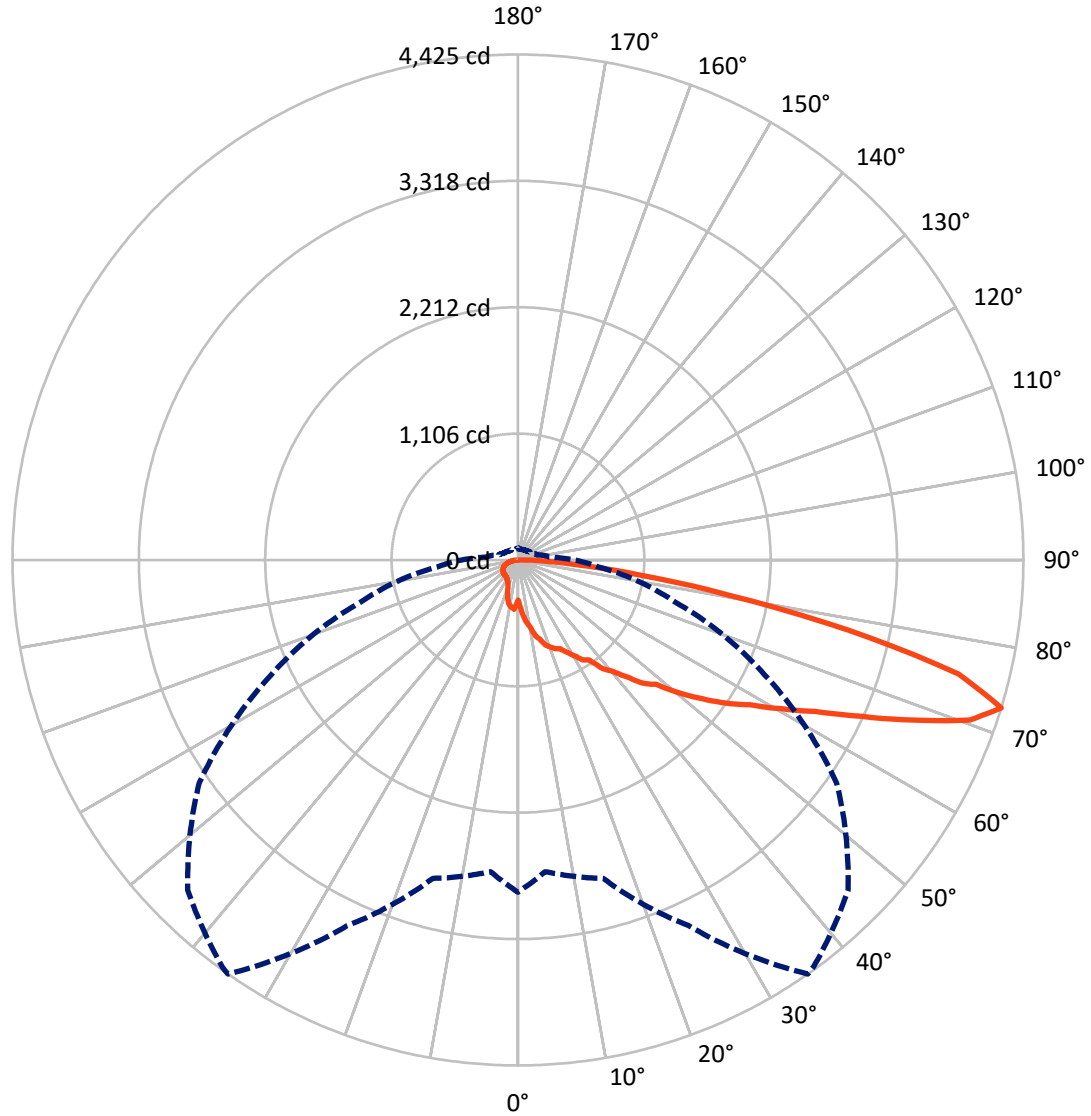
✕ Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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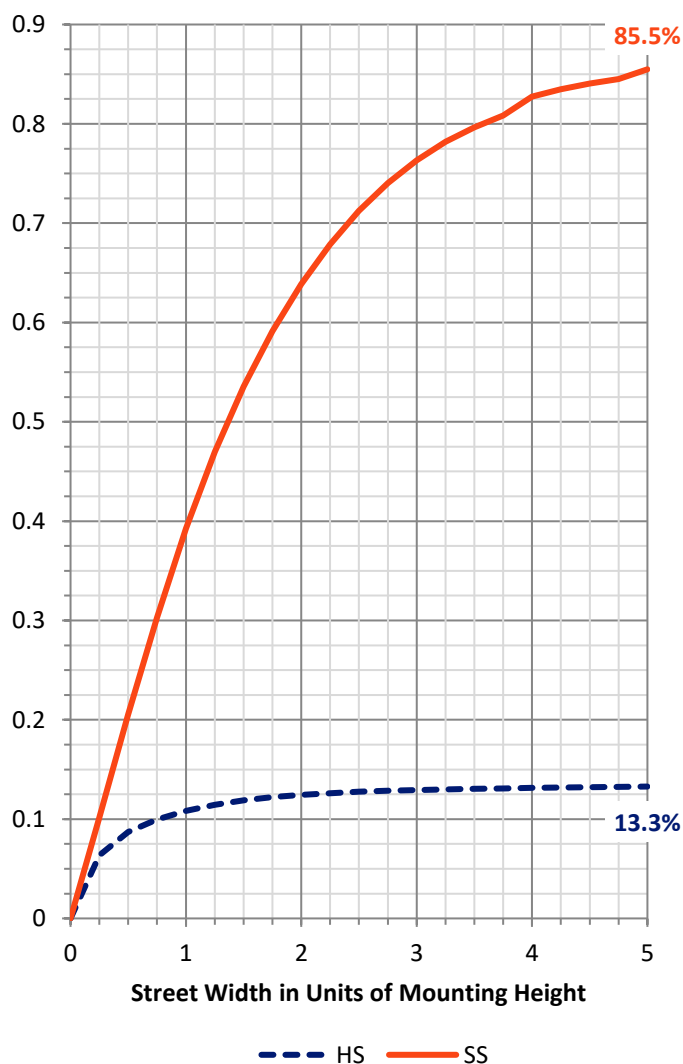
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	816.3	0.0	816.3
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	5266.7	0.0	5266.7
	% Fixture	86.6	0.0	86.6
Total	Lumens	6083.0	0.0	6083.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.7	0.8
10°-20°	164.6	2.7
20°-30°	286.0	4.7
30°-40°	477.9	7.9
40°-50°	829.5	13.6
50°-60°	1254.0	20.6
60°-70°	1624.6	26.7
70°-80°	1198.8	19.7
80°-90°	200.9	3.3
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°	6083.0	100.0
0°-180°	6083.0	100.0

Coefficient of Utilization



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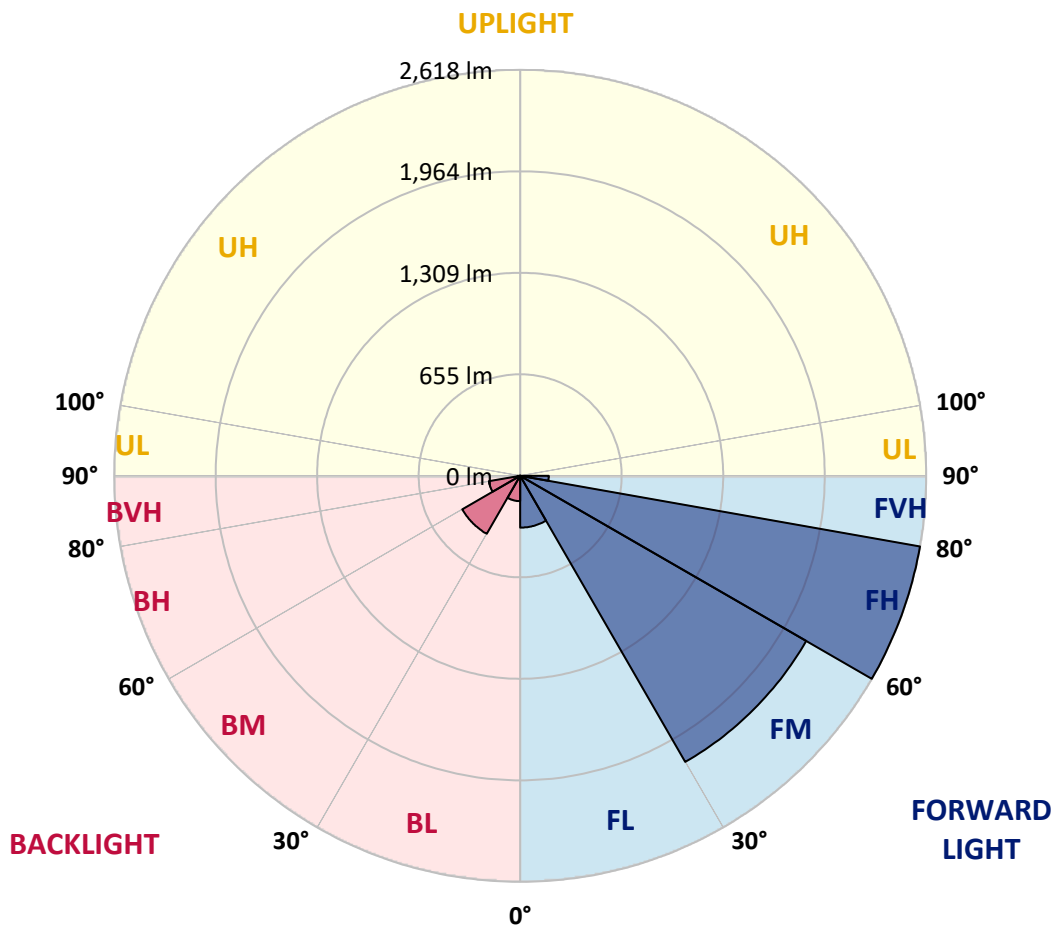
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	334.1	5.5			
FM (30°-60°)	2130.1	35.0			
FH (60°-80°)	2618.1	43.0			G2/5000
FVH (80°-90°)	184.5	3.0			G2/225
BL (0°-30°)	163.2	2.7	B1/500		
BM (30°-60°)	431.4	7.1	B1/1000		
BH (60°-80°)	205.3	3.4	B1/500		G1/500
BVH (80°-90°)	16.4	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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	351.5	351.5	351.5	351.5	351.5	351.5	351.5	351.5	351.5	351.5	351.5
2.5°	438.5	417.5	399.3	398.5	415.4	421.9	419.3	413.6	406.8	392.6	423.7
5°	549.4	519.3	513.5	506.8	491.5	495.6	470.7	489.7	495.6	509.4	530.2
7.5°	614.8	597.1	583.4	577.7	551.2	548.1	529.6	556.6	568.1	566.3	597.1
10°	640.5	624.4	625.4	606.8	598.2	601.8	603.9	604.4	611.4	617.1	601.6
12.5°	653.7	660.0	682.8	670.1	681.0	685.4	707.2	684.9	685.7	656.3	672.4
15°	720.5	736.1	722.8	722.3	718.9	726.2	744.9	729.8	741.5	732.2	711.4
17.5°	801.0	805.6	780.2	769.8	783.3	781.0	776.3	778.6	749.6	803.6	778.1
20°	825.6	844.1	810.6	769.8	814.5	820.4	819.4	809.3	759.4	837.3	812.6
22.5°	897.3	872.4	845.9	819.9	842.8	846.1	840.4	816.3	799.7	829.3	848.7
25°	929.7	923.8	890.0	886.9	861.7	849.8	859.6	852.6	836.3	889.0	867.4
27.5°	1004.0	997.0	919.4	951.3	914.7	911.6	859.4	882.7	899.1	895.2	927.4
30°	1088.1	1096.2	982.7	1014.6	972.3	966.6	914.2	943.8	954.9	958.6	998.8
32.5°	1181.6	1203.6	1091.0	1064.7	1042.2	1046.0	1001.7	947.6	991.0	1075.9	1093.3
35°	1282.8	1291.9	1173.8	1134.3	1075.4	1071.2	1072.0	1078.8	1122.6	1219.5	1233.0
37.5°	1470.0	1428.0	1324.4	1224.4	1204.7	1166.0	1192.2	1213.0	1256.9	1405.4	1462.0
40°	1585.3	1554.1	1396.3	1338.4	1283.9	1287.5	1336.6	1336.3	1439.9	1593.1	1679.5
42.5°	1692.0	1658.0	1509.2	1451.1	1399.4	1412.1	1426.1	1450.8	1649.4	1896.3	1935.8
45°	1777.9	1703.4	1596.5	1583.5	1540.9	1524.0	1583.5	1622.9	1900.0	2141.7	2164.5
47.5°	1836.4	1775.1	1670.5	1659.0	1627.6	1668.9	1831.2	1856.6	2094.2	2388.1	2386.3
50°	1925.2	1841.3	1746.8	1740.8	1829.4	1851.4	2049.3	2046.7	2283.2	2592.7	2549.8
52.5°	2027.5	1921.8	1819.2	1883.4	2018.4	2029.3	2200.9	2270.7	2489.6	2790.0	2678.1
55°	2145.1	2026.9	1927.8	2013.4	2214.4	2182.2	2355.9	2526.5	2747.9	2997.9	2770.8
57.5°	2290.7	2147.4	2067.2	2197.5	2393.3	2421.8	2577.9	2792.6	2955.9	3127.2	2838.3
60°	2444.4	2276.2	2202.7	2326.8	2643.8	2676.5	2829.2	3013.8	3189.0	3249.0	2825.6
62.5°	2591.1	2409.1	2342.6	2495.8	2921.6	3002.6	3115.3	3232.9	3383.0	3278.6	2671.6
65°	2754.4	2572.2	2530.4	2760.1	3298.3	3378.8	3526.0	3490.7	3449.4	3173.7	2416.9
67.5°	2927.3	2742.2	2750.0	3066.8	3742.6	3756.3	3982.5	3747.8	3371.3	2895.9	1989.3
70°	3020.3	2830.7	2911.0	3393.6	4194.6	4174.9	4221.1	3816.8	3052.7	2289.2	1371.1
72.5°	2907.6	2738.6	2885.5	3531.2	4424.6	4403.3	4087.1	3406.9	2386.8	1423.6	710.9
75°	2461.8	2298.8	2523.6	3147.8	3983.2	4003.0	3478.3	2533.5	1366.4	572.5	295.2
77.5°	1672.8	1588.7	1781.3	2346.3	2958.7	3027.0	2580.7	1481.4	573.8	237.0	178.6
80°	884.0	844.1	986.3	1351.6	1873.5	1924.4	1517.5	737.9	293.9	153.4	127.5
82.5°	480.3	463.4	539.8	695.0	1064.5	1108.9	786.9	490.2	198.1	96.1	77.9
85°	322.7	316.2	366.9	373.3	503.4	518.0	412.3	377.5	118.9	47.0	51.4
87.5°	161.5	155.0	193.2	170.6	192.1	192.4	189.0	240.9	30.1	15.6	9.3
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°	351.5	351.5	351.5	351.5	351.5	351.5	351.5	351.5	351.5	351.5	351.5
2.5°	424.2	415.1	383.7	383.5	388.1	385.0	387.4	374.6	369.2	394.1	392.8
5°	527.3	500.0	473.8	464.7	454.1	431.0	432.3	432.5	428.6	443.4	444.5
7.5°	587.8	555.1	530.9	482.7	444.7	415.1	419.0	423.5	419.0	438.8	446.0
10°	596.6	570.7	541.8	488.1	462.9	436.2	409.2	385.3	382.4	373.3	376.2
12.5°	649.1	627.5	567.3	508.4	479.0	438.0	388.7	361.4	338.6	342.5	335.2
15°	692.2	676.9	604.7	527.6	457.5	406.6	354.1	316.7	296.2	293.9	286.6
17.5°	750.6	728.8	608.1	514.3	429.7	368.7	309.5	267.2	258.3	254.7	251.1
20°	778.6	739.4	595.9	472.8	397.2	323.5	265.3	229.0	226.4	232.9	231.6
22.5°	803.0	748.3	584.9	447.6	346.6	277.8	235.2	211.3	208.5	216.8	218.3
25°	817.3	773.4	573.0	421.9	315.2	243.8	212.6	199.1	199.7	210.6	209.3
27.5°	881.7	782.3	542.9	391.5	279.1	218.6	201.7	194.7	191.9	206.9	208.2
30°	922.2	839.9	536.1	359.3	252.4	200.2	191.9	189.0	188.5	206.7	208.0
32.5°	997.5	859.1	539.3	324.3	228.2	194.5	184.6	184.3	189.5	206.9	209.0
35°	1101.9	940.1	524.2	304.3	215.0	185.6	178.9	181.0	189.8	208.7	211.6
37.5°	1305.4	1016.5	528.9	285.6	210.6	182.8	177.3	178.6	192.9	213.4	221.2
40°	1466.7	1154.8	521.6	276.2	204.6	182.3	174.0	179.1	192.6	216.0	223.0
42.5°	1700.3	1265.2	522.4	266.9	204.3	180.2	173.4	179.7	192.1	213.7	223.3
45°	1900.8	1364.1	533.5	261.4	201.7	183.6	172.7	180.4	188.8	205.4	216.0
47.5°	2065.1	1474.4	545.0	256.3	200.7	186.7	171.9	175.0	183.0	196.0	205.6
50°	2199.1	1552.1	559.5	255.2	200.7	185.1	169.8	169.5	176.3	186.7	195.8
52.5°	2303.4	1606.9	569.4	256.5	200.7	179.1	167.2	165.1	169.3	176.8	185.9
55°	2379.0	1623.7	561.3	259.9	200.4	173.7	162.5	160.7	162.8	168.0	176.5
57.5°	2409.4	1579.3	513.3	253.9	200.4	169.8	156.8	154.7	156.8	160.7	169.3
60°	2333.3	1436.5	444.0	238.6	196.5	164.6	150.3	149.0	152.1	155.5	163.8
62.5°	2142.5	1246.7	370.0	220.4	188.5	160.2	144.1	144.4	149.3	154.0	162.3
65°	1846.0	1017.2	308.4	202.0	178.4	153.2	137.6	139.4	146.4	152.7	161.0
67.5°	1452.6	753.7	259.6	184.1	164.1	141.8	130.3	130.9	135.8	141.8	149.8
70°	971.0	479.5	213.4	163.0	145.4	127.0	119.2	117.4	116.1	121.2	128.3
72.5°	492.5	283.3	175.3	139.4	125.1	110.9	104.9	100.2	96.6	99.7	105.2
75°	258.1	198.1	141.5	115.8	103.3	94.2	89.8	83.6	81.0	82.8	86.7
77.5°	182.5	155.0	114.5	91.6	84.1	74.8	75.6	69.1	67.0	68.0	72.2
80°	140.2	122.8	88.0	69.3	64.9	55.8	58.4	54.5	51.9	51.4	54.5
82.5°	95.5	92.4	62.6	48.6	45.4	38.9	42.6	41.0	37.6	35.6	37.1
85°	64.4	61.3	38.2	28.0	26.7	20.3	26.0	24.9	22.1	19.0	19.2
87.5°	11.2	20.5	10.9	7.0	6.5	2.3	6.0	5.7	5.2	2.6	2.1
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)