

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: P368331

Luminaire Tested: **MSA-SA4B-727-U-T3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368331
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-727-U-T3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11999 lumens
Efficiency: N/A
Efficacy: 70.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

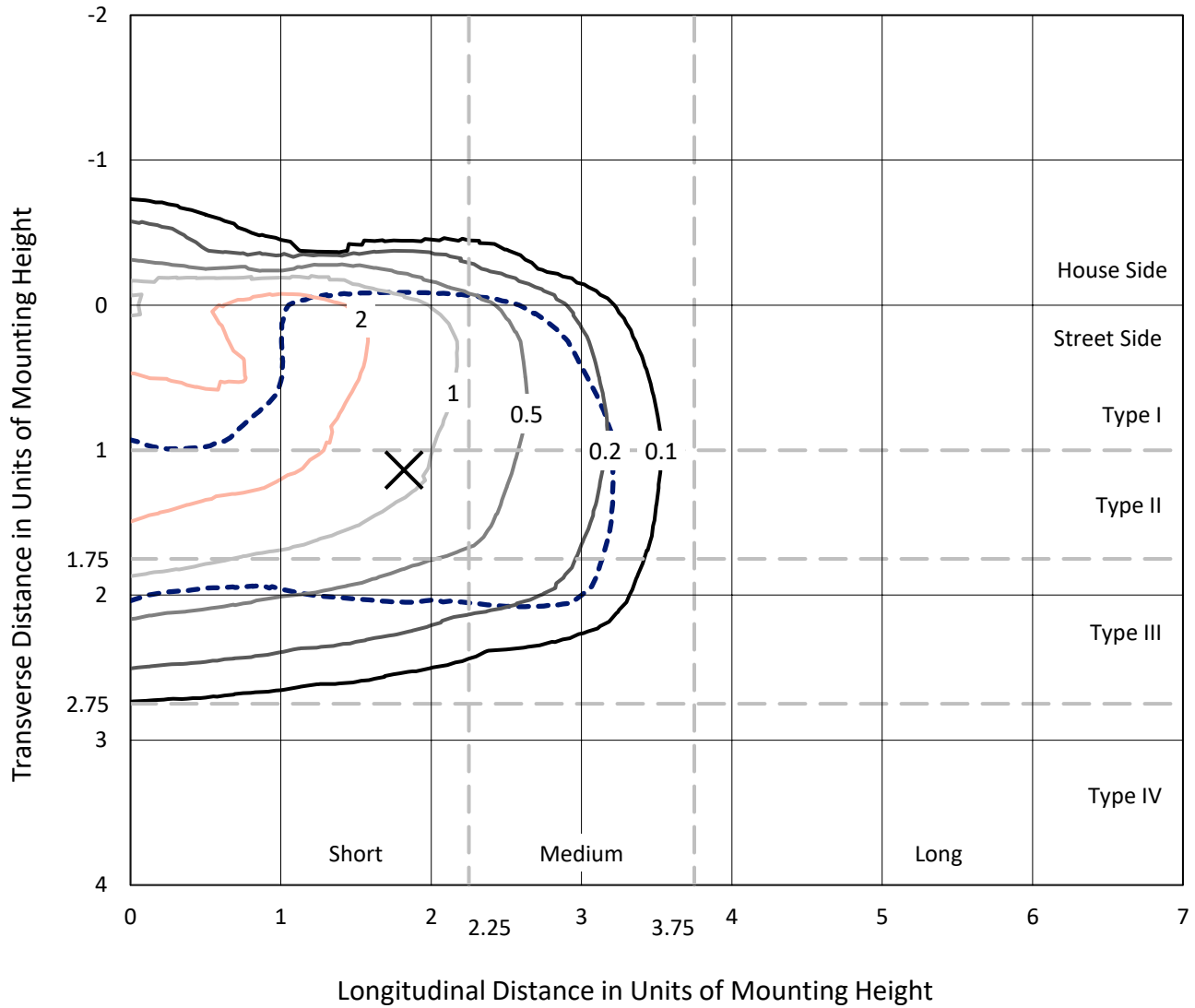
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

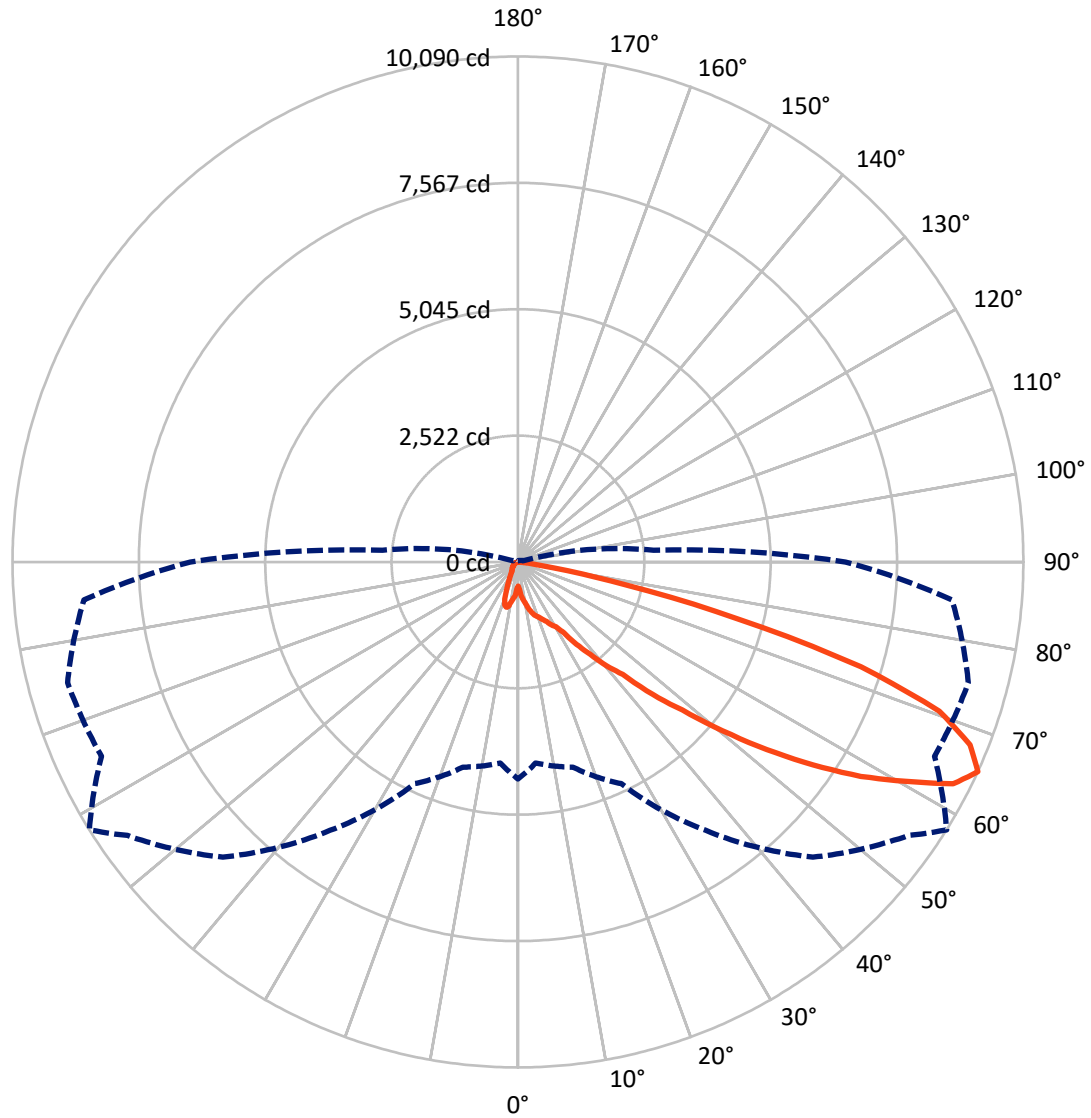
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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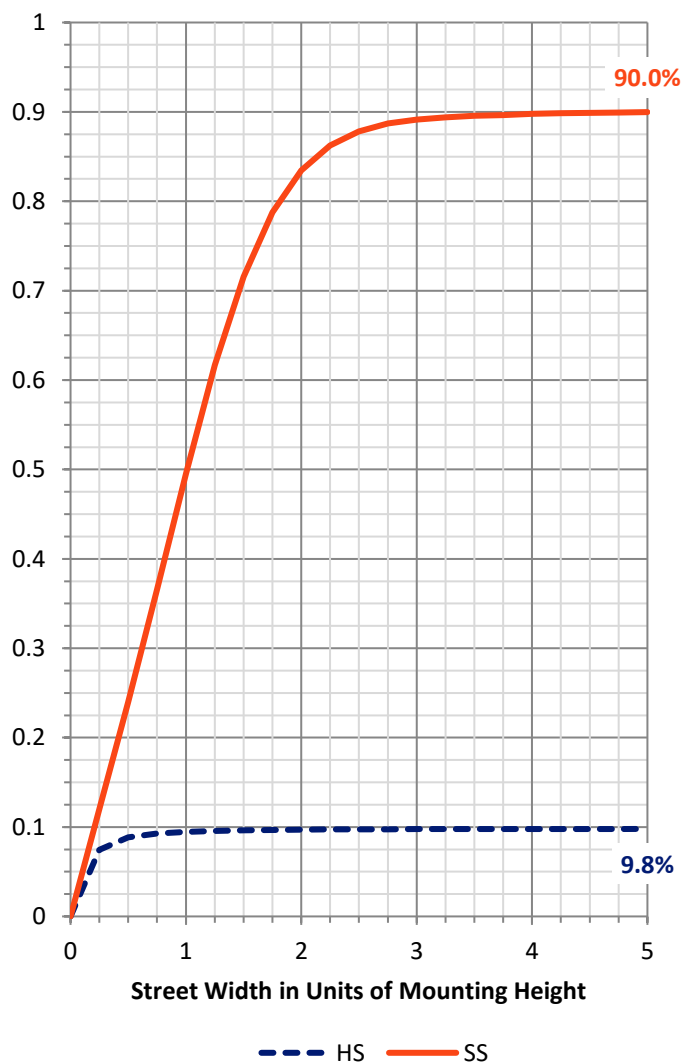
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1184.0	0.0	1184.0
	% Fixture	9.9	0.0	9.9
Street Side	Lumens	10815.0	0.0	10815.0
	% Fixture	90.1	0.0	90.1
Total	Lumens	11999.0	0.0	11999.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.5	0.6
10°-20°	246.3	2.1
20°-30°	476.8	4.0
30°-40°	951.2	7.9
40°-50°	1944.6	16.2
50°-60°	3449.2	28.7
60°-70°	3636.3	30.3
70°-80°	1178.9	9.8
80°-90°	48.2	0.4
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°	11999.0	100.0
0°-180°	11999.0	100.0

Coefficient of Utilization



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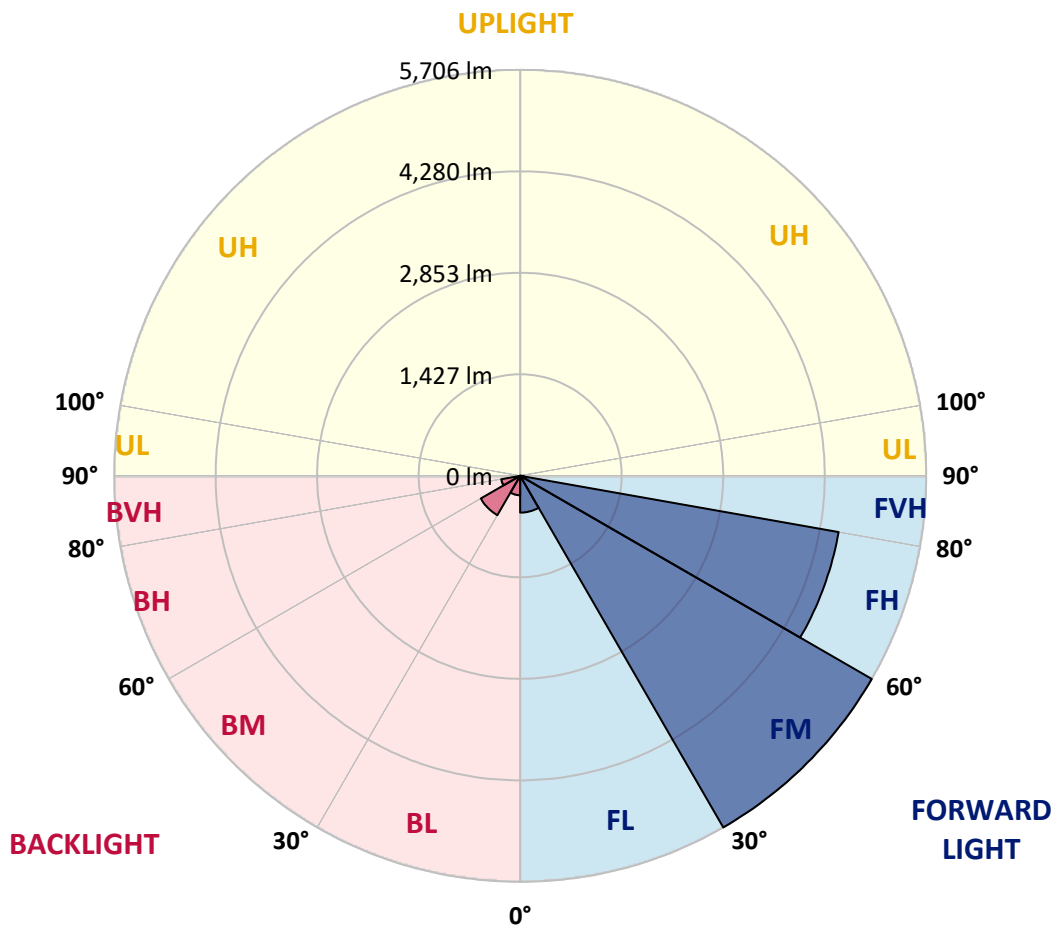
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	517.7	4.3			
FM (30°-60°)	5706.1	47.6			
FH (60°-80°)	4545.0	37.9			G2/5000
FVH (80°-90°)	46.2	0.4			G1/100
BL (0°-30°)	272.9	2.3	B1/500		
BM (30°-60°)	638.8	5.3	B1/1000		
BH (60°-80°)	270.2	2.3	B1/500		G1/500
BVH (80°-90°)	2.0	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-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3
2.5°	586.4	568.8	541.1	545.9	551.3	562.1	553.3	545.2	536.4	524.9	568.8
5°	708.0	679.0	676.3	670.2	665.4	664.8	675.6	672.2	676.9	698.6	720.8
7.5°	752.6	740.4	717.5	726.9	712.1	700.6	748.5	764.1	793.8	803.9	862.0
10°	747.9	730.3	739.8	744.5	754.6	796.5	826.9	843.8	869.5	924.9	913.4
12.5°	769.5	785.0	795.2	795.8	847.9	924.9	946.5	960.7	1006.6	1028.2	1085.0
15°	841.8	867.4	851.2	858.0	874.9	968.8	1019.5	1050.5	1115.4	1185.6	1199.8
17.5°	945.1	961.4	927.6	903.3	949.9	1001.2	1093.1	1125.5	1166.7	1330.9	1361.3
20°	1075.5	1103.2	1030.3	933.7	995.1	1055.9	1155.9	1171.5	1215.4	1429.5	1477.5
22.5°	1380.2	1339.0	1227.5	1076.9	1058.6	1085.7	1180.9	1241.7	1316.0	1484.9	1596.4
25°	1680.8	1666.7	1502.5	1334.3	1212.7	1151.9	1278.2	1312.0	1433.6	1616.7	1678.1
27.5°	2015.3	2043.6	1769.3	1667.3	1428.9	1230.2	1339.0	1423.5	1567.3	1664.6	1812.6
30°	2456.4	2411.2	2089.6	1987.6	1715.3	1445.7	1496.4	1501.8	1713.3	1822.7	1963.2
32.5°	2802.3	2831.4	2427.4	2270.6	2053.1	1777.5	1614.6	1684.9	1836.2	2080.1	2213.2
35°	3176.6	3173.9	2780.0	2569.2	2284.8	2048.4	1965.3	2016.6	2206.4	2482.8	2517.9
37.5°	3736.0	3688.0	3223.2	2914.5	2672.6	2470.6	2407.1	2338.9	2534.8	2798.3	2930.0
40°	4263.6	4098.1	3668.4	3302.2	2992.8	2910.4	2680.7	2722.6	2780.7	3128.6	3492.8
42.5°	4796.6	4693.9	4119.7	3813.0	3432.6	3236.7	3086.7	3067.1	3343.5	3755.6	4131.9
45°	5499.9	5185.8	4726.4	4456.8	4016.3	3819.7	3698.8	3771.1	4019.7	4621.7	4872.3
47.5°	6090.4	5801.2	5406.7	4997.3	4535.2	4756.1	4529.1	4414.9	4756.1	5378.3	5711.4
50°	6597.7	6275.5	5876.2	5572.9	5497.9	5710.0	5250.6	5292.5	5514.1	6245.1	6432.9
52.5°	6966.6	6627.5	6278.9	6132.3	6439.6	6546.4	6316.0	6223.5	6424.8	6984.2	7075.4
55°	7244.3	6897.0	6624.8	6826.8	7421.3	7386.1	7467.2	7151.0	7343.6	7755.0	7711.8
57.5°	7261.2	6849.7	6690.3	7015.2	7831.3	8375.2	8612.3	8074.6	8184.0	8357.6	8260.3
60°	6730.1	6320.7	6307.9	6769.3	7950.2	8631.2	9150.1	8888.0	8741.4	8870.4	8686.0
62.5°	5672.2	5385.7	5519.5	6029.6	7507.7	8490.0	9436.5	9752.0	9181.2	9210.2	8948.1
65°	4331.2	4030.5	4240.0	4882.4	6540.3	8331.9	9517.6	10089.8	9173.0	9306.8	8696.8
67.5°	2868.5	2694.2	2931.3	3639.4	5200.0	7355.1	9475.7	9735.1	8881.9	8929.2	7763.8
70°	1480.9	1438.3	1630.2	2188.9	3496.1	5650.6	9064.3	8922.4	8290.7	7692.2	5988.4
72.5°	474.3	476.3	660.7	999.9	1884.9	3440.1	6967.3	7161.8	6634.2	5626.9	3656.2
75°	210.1	206.7	276.3	419.5	785.7	1542.4	4328.5	4538.6	4130.5	3095.5	1536.9
77.5°	151.3	146.6	177.0	245.2	389.1	522.9	2029.4	2190.2	1872.7	1072.8	352.0
80°	106.7	106.1	128.4	172.3	243.2	232.4	641.1	718.8	575.6	260.1	103.4
82.5°	60.1	62.2	89.2	121.6	148.0	116.2	180.4	198.6	193.9	138.5	45.3
85°	29.1	32.4	58.1	87.8	77.7	45.3	64.2	69.6	81.1	80.4	23.0
87.5°	0.0	0.0	23.6	39.9	20.9	6.8	19.6	22.3	21.6	25.7	5.4
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°	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3
2.5°	577.6	573.6	522.2	526.3	537.8	533.0	537.1	527.6	516.8	560.7	560.1
5°	730.3	699.9	683.7	668.8	671.5	641.1	658.7	666.8	665.4	690.4	697.2
7.5°	864.1	823.5	791.1	760.0	712.7	670.2	696.5	713.4	724.9	768.1	785.0
10°	926.9	893.8	881.0	820.2	786.4	760.0	728.3	705.3	714.8	703.3	714.8
12.5°	1064.7	1042.4	993.1	931.6	891.1	837.0	718.8	620.2	559.4	560.1	556.0
15°	1190.4	1189.0	1115.4	1013.4	895.8	741.8	557.4	433.0	375.6	359.4	354.0
17.5°	1354.5	1334.3	1199.8	1049.2	837.7	574.2	379.7	296.6	291.2	300.6	296.6
20°	1459.3	1429.5	1241.7	997.2	690.4	388.5	286.4	262.8	279.0	292.5	289.1
22.5°	1564.0	1519.4	1273.5	933.7	491.1	284.4	258.7	254.7	264.8	281.7	284.4
25°	1621.4	1612.6	1335.6	814.8	336.4	249.3	249.3	247.9	251.3	263.5	261.5
27.5°	1788.3	1669.4	1289.0	635.7	260.1	229.0	232.4	231.0	218.9	231.0	231.7
30°	1892.3	1837.6	1292.4	452.6	229.0	202.7	211.5	200.6	182.4	192.5	190.5
32.5°	2101.7	1965.3	1282.3	305.4	208.8	193.2	179.7	164.2	150.7	154.7	151.3
35°	2345.6	2241.6	1145.1	245.2	194.6	170.9	149.3	133.8	119.6	123.0	122.3
37.5°	2830.7	2500.3	1031.6	220.9	185.1	156.7	131.7	110.1	102.7	104.7	106.7
40°	3279.9	2932.0	820.2	210.1	168.9	139.8	108.8	93.2	88.5	89.9	91.9
42.5°	3951.5	3275.2	619.5	199.3	152.7	118.2	90.5	80.4	75.7	78.4	79.7
45°	4601.4	3567.1	462.8	189.8	139.2	102.0	76.3	69.6	64.2	66.2	68.9
47.5°	5250.6	3891.4	345.2	175.0	124.3	87.8	65.5	60.8	57.4	58.1	61.5
50°	5831.6	4042.7	271.6	156.7	112.1	76.3	59.5	54.7	53.4	54.0	56.7
52.5°	6258.6	4044.0	229.0	140.5	100.7	67.6	56.1	50.7	50.0	51.3	54.0
55°	6644.3	3935.9	198.6	126.3	90.5	61.5	53.4	48.6	48.6	50.0	52.7
57.5°	6900.4	3737.3	172.3	111.5	81.7	58.1	51.3	46.6	45.9	45.3	47.3
60°	7025.4	3466.4	145.9	98.0	73.6	56.1	50.0	41.2	40.5	39.2	40.5
62.5°	6946.3	3127.3	122.3	84.4	65.5	53.4	43.9	35.8	34.5	31.8	33.8
65°	6542.3	2715.2	103.4	72.3	56.7	45.3	37.2	30.4	27.0	23.6	23.0
67.5°	5716.1	2205.8	86.5	62.2	48.6	37.2	30.4	27.0	20.9	18.2	17.6
70°	4283.9	1505.9	71.6	53.4	40.5	31.8	25.7	24.3	19.6	17.6	16.2
72.5°	2513.2	812.7	60.1	46.6	34.5	26.3	20.9	22.3	19.6	16.2	14.9
75°	1003.9	270.2	48.0	37.2	27.7	18.9	17.6	18.2	17.6	14.9	12.2
77.5°	229.0	85.1	37.2	29.1	21.6	12.2	14.2	15.5	15.5	12.2	8.8
80°	71.6	33.8	21.6	18.2	15.5	6.8	10.1	10.8	7.4	3.4	0.0
82.5°	23.0	9.5	7.4	7.4	6.8	1.4	2.0	1.4	0.0	0.0	0.0
85°	8.8	6.1	4.7	4.7	2.7	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	3.4	2.7	2.0	2.7	1.4	0.0	0.0	0.0	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)