

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: P368329

Luminaire Tested: **MSA-SA4B-727-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368329  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4B-727-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12255 lumens  
Efficiency: N/A  
Efficacy: 71.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G2

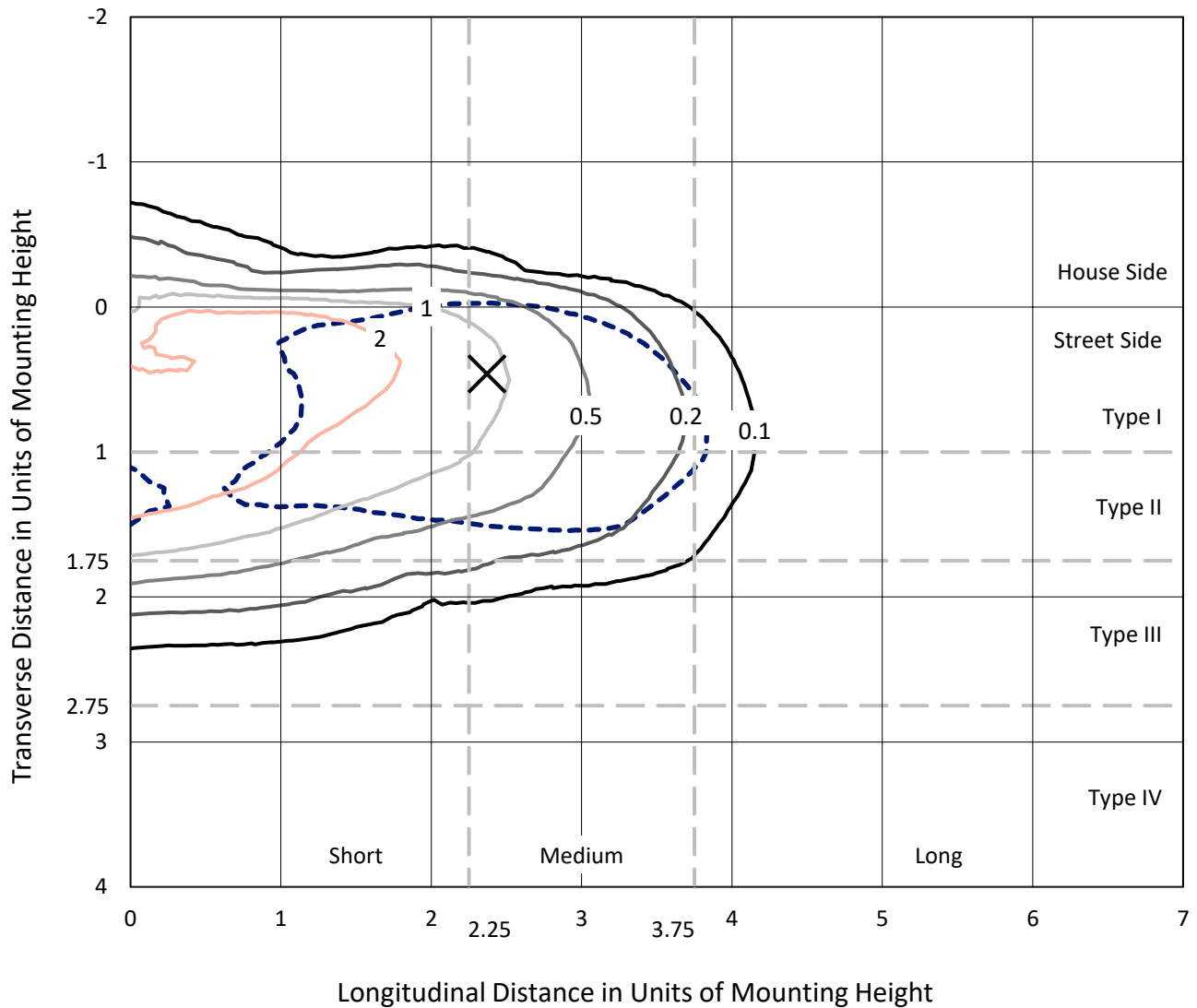
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

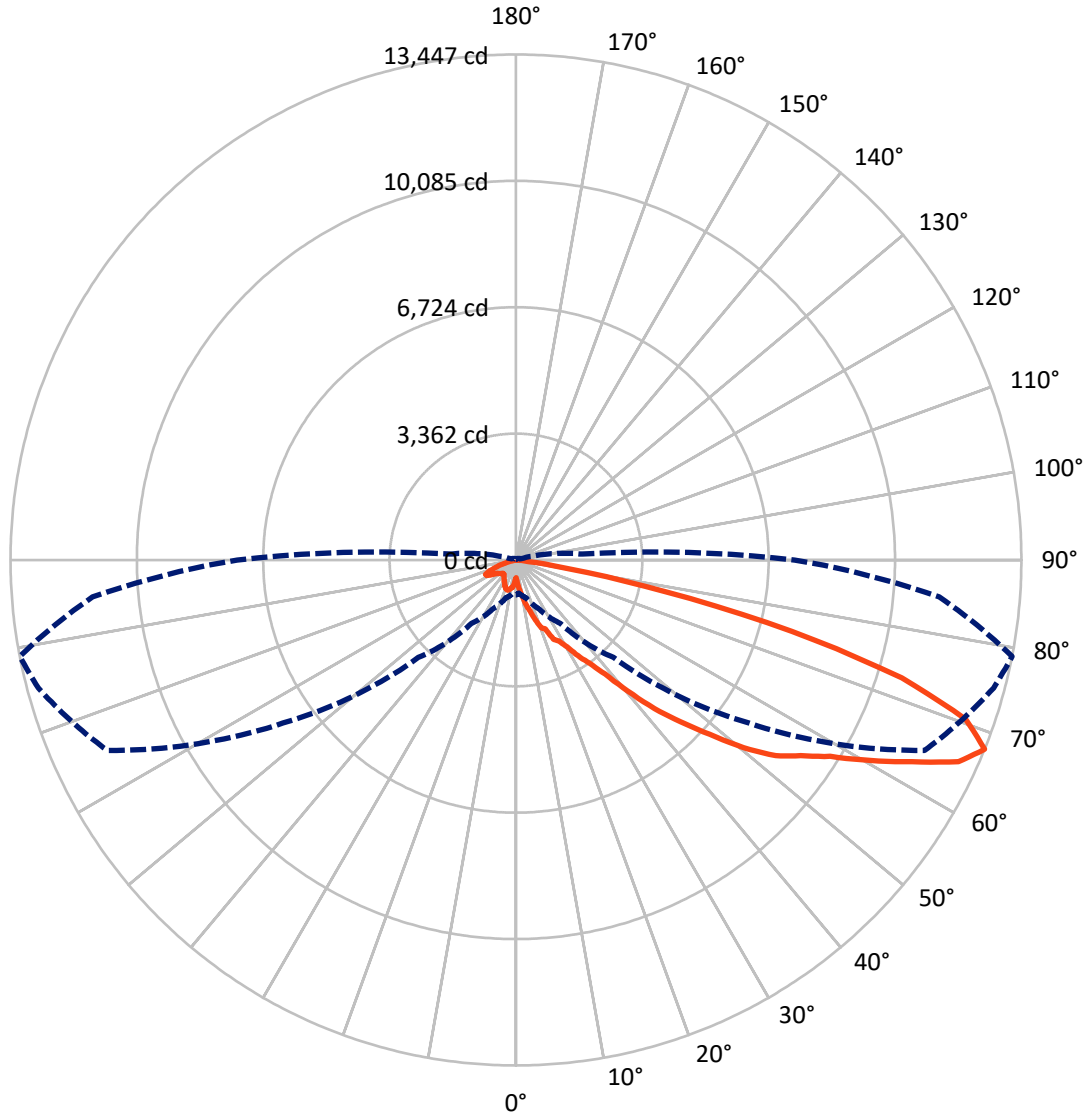
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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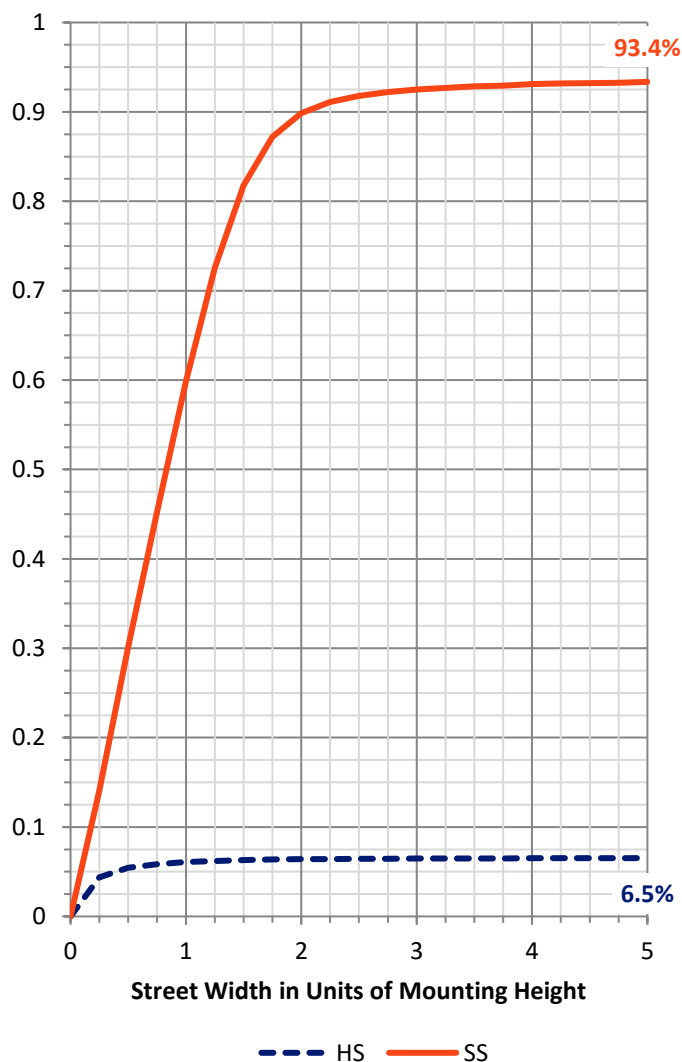
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	805.2	0.0	805.2
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	11449.8	0.0	11449.8
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	12255.0	0.0	12255.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.7	0.6
10°-20°	273.8	2.2
20°-30°	528.3	4.3
30°-40°	1037.7	8.5
40°-50°	2078.9	17.0
50°-60°	3322.8	27.1
60°-70°	3343.3	27.3
70°-80°	1508.3	12.3
80°-90°	93.3	0.8
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°	12255.0	100.0
0°-180°	12255.0	100.0

**Coefficient of Utilization**



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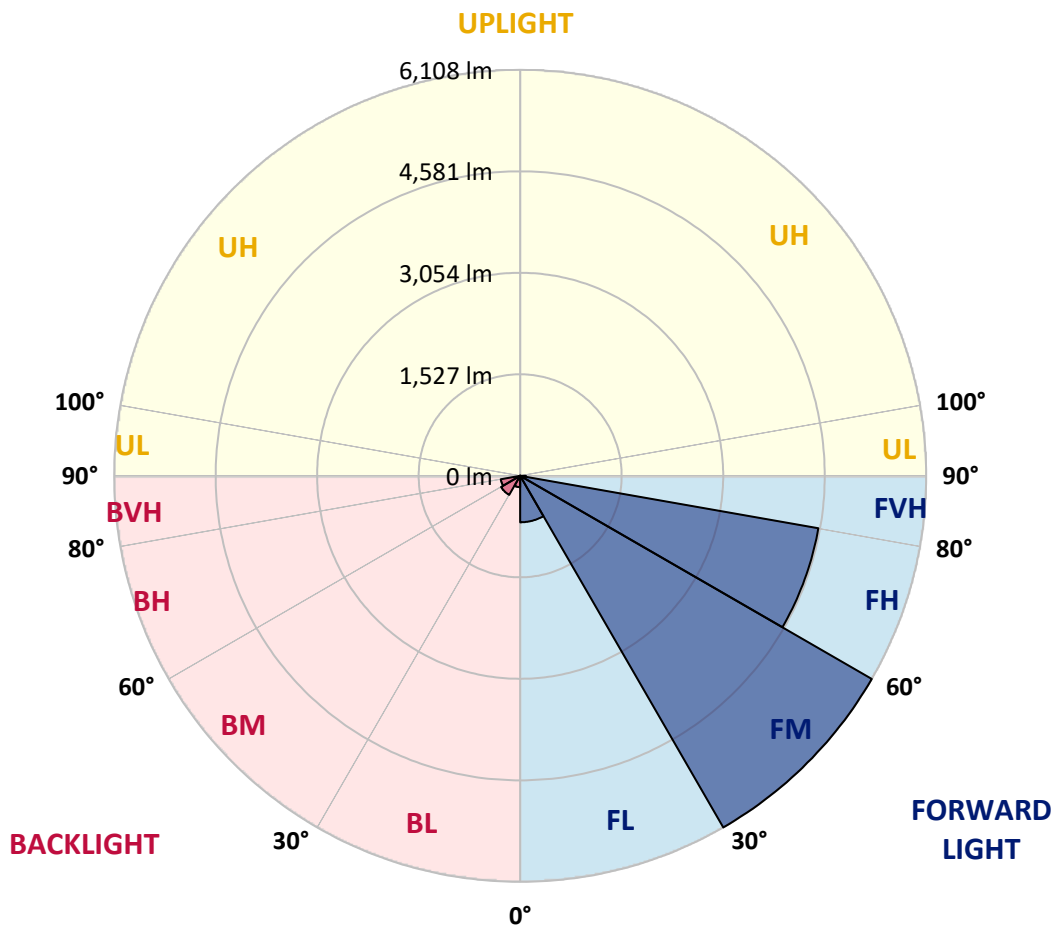
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	699.6	5.7			
FM (30°-60°)	6108.1	49.8			
FH (60°-80°)	4554.7	37.2			G2/5000
FVH (80°-90°)	87.4	0.7			G1/100
BL (0°-30°)	171.2	1.4	B1/500		
BM (30°-60°)	331.3	2.7	B1/1000		
BH (60°-80°)	296.8	2.4	B1/500		G1/500
BVH (80°-90°)	5.9	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	472.2	472.2	472.2	472.2	472.2	472.2	472.2	472.2	472.2	472.2	472.2
2.5°	637.7	614.8	577.6	598.5	597.2	608.0	587.7	565.4	529.6	565.4	568.1
5°	918.1	875.5	848.5	843.1	813.4	785.7	779.6	756.6	739.1	707.3	735.7
7.5°	1143.7	1124.1	1076.2	1070.8	997.8	957.3	970.1	960.0	893.1	860.0	887.7
10°	1239.7	1205.9	1212.6	1205.9	1174.8	1186.3	1159.9	1129.5	1076.2	1021.4	952.5
12.5°	1276.8	1271.4	1327.5	1320.7	1393.7	1481.5	1422.7	1372.1	1248.4	1234.9	1141.0
15°	1356.5	1390.3	1382.2	1410.6	1457.2	1606.5	1605.1	1617.3	1486.2	1416.0	1280.2
17.5°	1427.5	1452.5	1411.9	1444.3	1571.4	1661.9	1782.8	1735.5	1750.4	1678.8	1468.7
20°	1397.1	1425.4	1384.9	1365.3	1588.9	1760.5	1922.0	1887.5	1976.7	1932.1	1642.3
22.5°	1586.9	1533.5	1431.5	1368.0	1534.9	1758.5	1971.3	2115.2	2099.6	1990.2	1803.7
25°	1821.3	1788.9	1666.6	1554.5	1569.3	1746.3	2126.7	2338.1	2384.1	2337.4	1957.1
27.5°	2137.5	2130.0	1880.1	1831.4	1686.9	1693.0	2151.0	2619.1	2514.4	2441.5	2136.1
30°	2550.2	2491.5	2194.9	2131.4	1917.9	1813.2	2299.6	2861.7	2784.7	2685.4	2304.3
32.5°	2994.1	3002.9	2624.6	2415.1	2243.5	2119.2	2240.8	2975.2	3119.1	3038.7	2514.4
35°	3498.1	3537.2	3074.5	2828.6	2494.8	2311.8	2493.5	3323.8	3581.8	3370.4	2796.1
37.5°	4274.3	4272.9	3732.5	3242.7	3000.2	2801.6	2914.4	3640.6	4150.6	3853.4	3301.5
40°	4957.3	4808.6	4306.0	3743.3	3365.0	3310.9	3229.2	4074.3	4758.0	4579.0	3750.7
42.5°	5467.3	5362.6	4755.3	4317.5	3848.7	3677.1	3648.0	4710.0	5654.4	5403.8	4391.8
45°	6077.3	5734.2	5286.9	4892.4	4414.8	4364.8	4296.6	5355.2	6697.5	6132.7	4949.2
47.5°	6623.9	6301.0	5878.1	5371.4	4822.8	5234.9	4972.8	5922.0	7456.2	6925.9	5563.9
50°	7083.9	6740.7	6267.2	5881.4	5646.3	5926.0	5488.9	6388.8	8275.6	7846.0	6138.8
52.5°	7318.4	6929.9	6563.7	6325.3	6469.2	6406.3	6188.8	6954.2	8974.2	8652.6	6648.2
55°	7125.8	6746.2	6592.8	6711.0	7148.1	6966.4	6983.9	7830.4	9633.5	9190.3	7091.4
57.5°	6271.9	5925.3	5993.6	6317.2	7154.9	7630.5	7890.6	8681.6	10162.5	9860.5	7775.0
60°	4744.5	4465.5	4718.1	5292.3	6482.0	7498.1	8533.7	9532.8	10918.4	10823.8	8810.0
62.5°	2897.5	2746.2	3104.2	3820.3	5165.3	6848.8	8908.6	10667.8	11727.1	11827.7	9907.8
65°	1478.1	1409.9	1708.5	2338.1	3489.9	5626.1	8637.7	11373.1	12562.7	12934.3	10954.2
67.5°	930.9	887.0	1046.4	1426.1	2059.1	3669.6	7562.9	11989.9	13153.2	13447.0	11303.5
70°	645.2	617.5	755.3	978.9	1299.1	1976.7	5615.3	11414.3	12685.0	12698.5	10458.4
72.5°	409.4	387.8	522.2	724.9	958.6	1020.8	3219.0	8956.6	10858.3	10733.3	8469.5
75°	265.5	254.7	331.7	531.0	736.4	629.6	1590.9	6043.6	7785.8	7589.9	5625.4
77.5°	190.5	183.8	222.3	354.7	524.2	440.5	713.4	3602.1	4464.1	4035.8	2730.6
80°	114.8	114.2	160.8	222.3	372.9	310.8	329.7	1635.5	1730.8	1411.2	834.3
82.5°	57.4	59.4	89.8	143.2	239.8	203.3	150.7	544.5	464.8	342.5	168.9
85°	13.5	16.9	47.3	98.6	120.2	81.1	71.6	142.5	127.7	96.6	49.3
87.5°	0.0	0.0	14.9	23.6	32.4	13.5	24.3	27.0	34.5	27.0	10.1
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°	472.2	472.2	472.2	472.2	472.2	472.2	472.2	472.2	472.2	472.2	472.2
2.5°	568.8	560.7	511.4	498.6	497.2	483.0	486.4	472.9	473.6	504.0	504.0
5°	724.9	677.6	630.3	588.4	560.0	519.5	504.6	498.6	493.2	505.3	512.8
7.5°	851.2	781.6	696.5	605.3	520.9	462.8	454.7	439.8	434.4	446.5	456.0
10°	907.3	820.8	703.9	570.8	491.8	444.5	405.3	384.4	380.3	379.7	383.0
12.5°	1026.2	918.8	712.0	558.0	472.2	420.2	375.6	340.5	308.1	311.4	308.1
15°	1121.4	994.4	712.0	526.9	424.9	372.9	294.5	277.0	272.3	279.7	273.6
17.5°	1265.3	1069.4	676.2	471.5	384.4	289.8	260.1	258.7	268.2	279.0	272.3
20°	1351.8	1079.5	616.1	408.0	315.5	251.3	240.5	229.7	243.2	252.0	248.6
22.5°	1441.6	1080.2	556.0	374.3	254.0	229.0	211.5	202.7	204.7	212.8	214.2
25°	1480.2	1053.9	499.9	329.7	230.4	204.7	186.5	177.0	173.6	177.7	176.3
27.5°	1584.9	1003.2	439.1	281.0	218.9	181.7	164.8	153.4	143.2	150.0	151.3
30°	1599.7	987.0	406.0	250.0	204.0	160.8	145.9	133.8	126.3	135.8	135.8
32.5°	1647.0	897.8	389.1	237.1	188.5	148.6	128.4	119.6	118.2	124.3	125.0
35°	1720.0	858.6	364.1	227.0	174.3	134.4	115.5	111.5	110.1	114.8	114.8
37.5°	1967.2	810.0	336.4	218.2	162.1	127.0	112.1	105.4	106.1	110.1	112.8
40°	2131.4	816.1	295.2	207.4	147.9	120.2	105.4	100.7	100.0	102.0	104.0
42.5°	2436.1	820.8	277.0	195.9	137.1	112.1	98.6	95.3	92.6	94.6	96.6
45°	2776.6	845.8	267.5	186.5	131.1	107.4	92.6	90.5	84.4	85.8	88.5
47.5°	3104.9	937.0	256.0	172.9	125.7	104.7	86.5	81.7	77.7	77.0	79.7
50°	3477.8	1025.5	243.2	158.1	120.2	100.7	80.4	73.0	70.3	70.3	72.3
52.5°	3811.5	1109.9	231.0	147.9	116.2	93.2	75.0	67.6	65.5	65.5	68.2
55°	4162.8	1198.4	220.2	138.5	110.8	85.8	70.3	63.5	62.8	61.5	63.5
57.5°	4783.0	1391.7	206.7	130.4	103.4	79.7	66.2	59.4	58.1	56.1	58.1
60°	5686.2	1688.2	189.2	122.3	94.6	75.7	62.8	54.7	52.7	49.3	50.0
62.5°	6569.2	1928.1	168.9	112.1	86.5	71.6	57.4	49.3	45.9	41.9	42.6
65°	7325.8	2022.6	147.3	100.0	78.4	62.2	50.0	43.2	38.5	33.1	32.4
67.5°	7415.0	1786.2	126.3	88.5	70.3	52.7	42.6	38.5	31.1	26.3	25.0
70°	6673.2	1330.9	105.4	78.4	60.8	44.6	36.5	33.8	29.0	25.0	23.0
72.5°	5314.0	982.3	88.5	69.6	53.4	37.8	31.1	31.8	29.0	24.3	21.6
75°	3514.3	562.1	72.3	58.1	44.6	30.4	28.4	28.4	27.7	23.0	20.3
77.5°	1690.9	242.5	55.4	45.9	35.8	23.0	25.7	25.7	26.3	20.9	16.9
80°	479.6	73.0	34.5	31.1	26.3	15.5	20.3	19.6	17.6	12.2	7.4
82.5°	85.8	28.4	15.5	16.2	14.9	6.1	11.5	10.8	8.8	4.7	0.7
85°	23.6	10.8	8.8	9.5	7.4	2.0	4.7	6.1	4.7	2.7	0.0
87.5°	6.1	4.7	6.1	6.8	5.4	0.7	2.0	0.7	2.0	0.7	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)