

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: P367561

Luminaire Tested: **MSA-SA2D-730-U-T3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367561  
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-SA2D-730-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 9071 lumens  
Efficiency: N/A  
Efficacy: 70.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

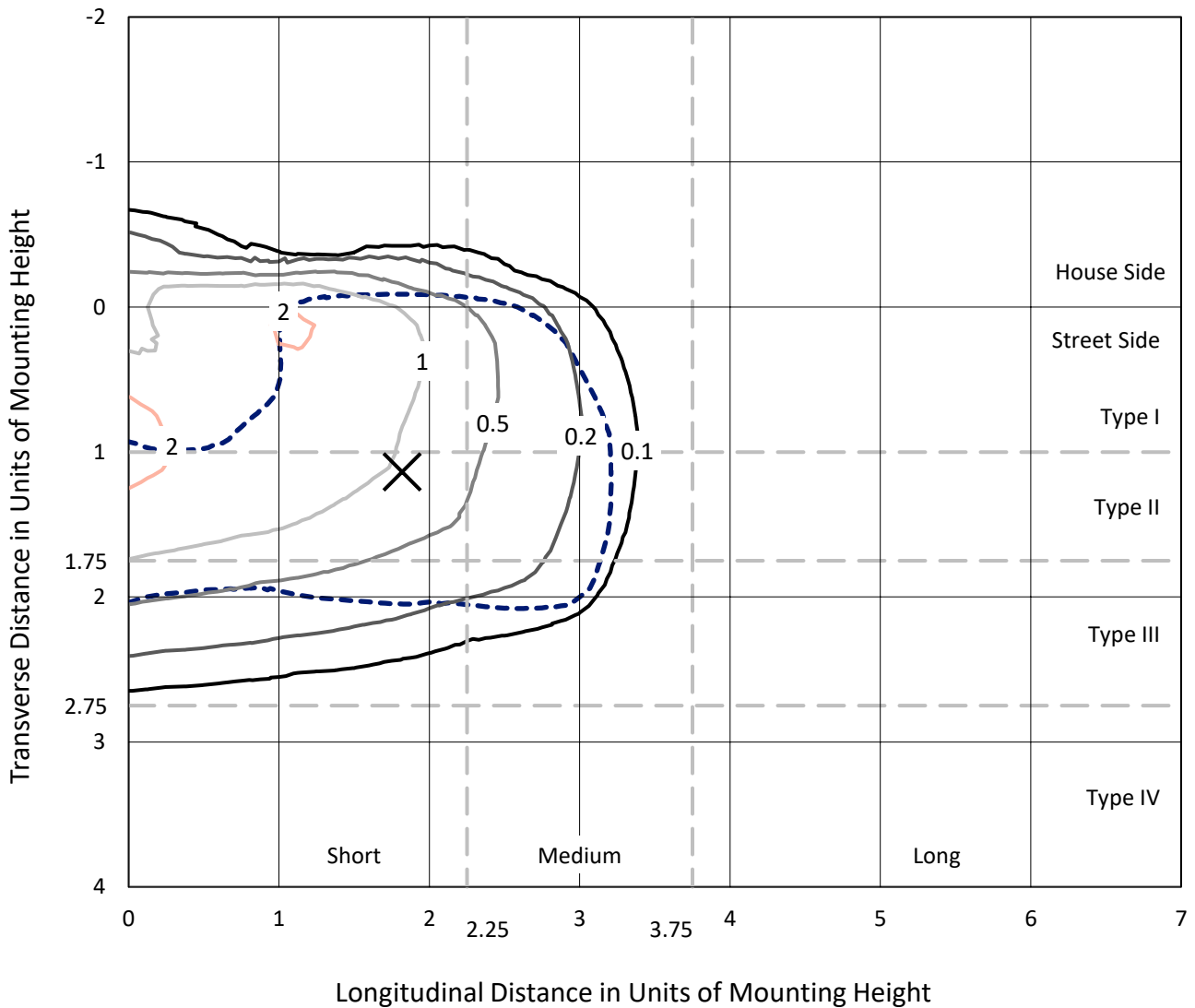
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

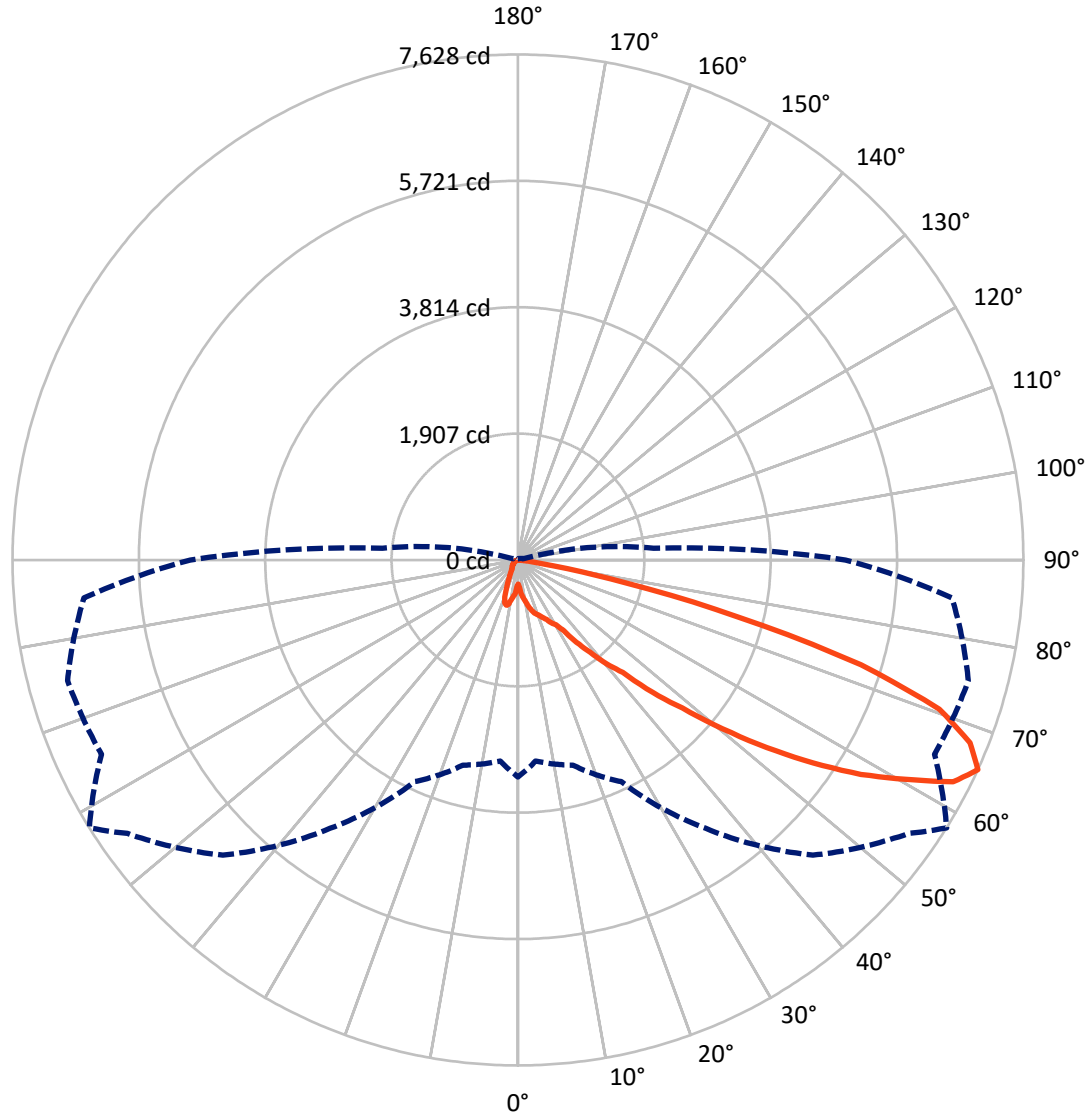
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 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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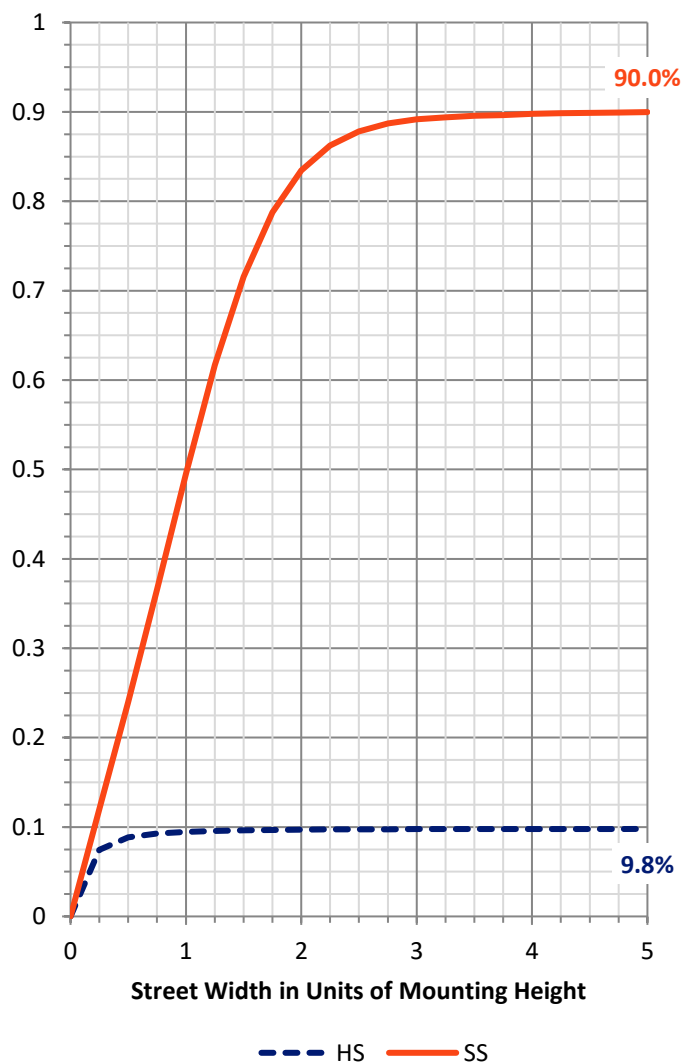
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	895.1	0.0	895.1
	% Fixture	9.9	0.0	9.9
<b>Street Side</b>	Lumens	8175.9	0.0	8175.9
	% Fixture	90.1	0.0	90.1
<b>Total</b>	Lumens	9071.0	0.0	9071.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.0	0.6
10°-20°	186.2	2.1
20°-30°	360.4	4.0
30°-40°	719.1	7.9
40°-50°	1470.1	16.2
50°-60°	2607.5	28.7
60°-70°	2749.0	30.3
70°-80°	891.2	9.8
80°-90°	36.4	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°	9071.0	100.0
0°-180°	9071.0	100.0

**Coefficient of Utilization**



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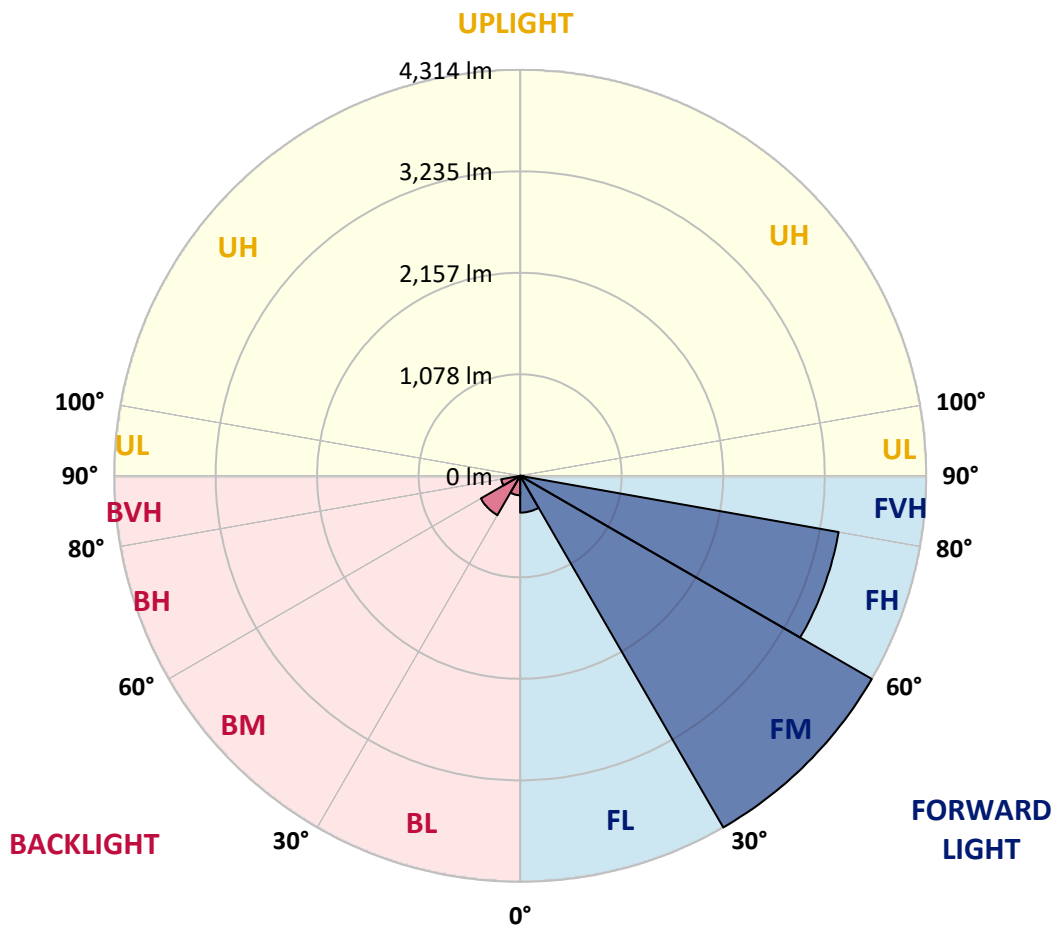
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	391.3	4.3			
FM (30°-60°)	4313.7	47.6			
FH (60°-80°)	3436.0	37.9			G2/5000
FVH (80°-90°)	34.9	0.4			G1/100
BL (0°-30°)	206.3	2.3	B1/500		
BM (30°-60°)	482.9	5.3	B1/1000		
BH (60°-80°)	204.3	2.3	B1/500		G1/500
BVH (80°-90°)	1.5	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°	363.1	363.1	363.1	363.1	363.1	363.1	363.1	363.1	363.1	363.1	363.1
2.5°	443.3	430.0	409.1	412.7	416.8	424.9	418.3	412.2	405.5	396.8	430.0
5°	535.2	513.3	511.2	506.6	503.1	502.6	510.7	508.2	511.7	528.1	544.9
7.5°	568.9	559.8	542.4	549.5	538.3	529.6	565.9	577.6	600.1	607.8	651.7
10°	565.4	552.1	559.2	562.8	570.5	602.1	625.1	637.9	657.3	699.2	690.5
12.5°	581.7	593.5	601.1	601.6	641.0	699.2	715.5	726.3	761.0	777.3	820.2
15°	636.4	655.8	643.5	648.6	661.4	732.4	770.7	794.2	843.2	896.3	907.0
17.5°	714.5	726.8	701.2	682.8	718.1	756.9	826.4	850.9	882.0	1006.1	1029.1
20°	813.1	834.0	778.9	705.8	752.3	798.3	873.9	885.6	918.8	1080.7	1117.0
22.5°	1043.4	1012.3	928.0	814.1	800.3	820.7	892.7	938.7	994.9	1122.6	1206.8
25°	1270.7	1260.0	1135.9	1008.7	916.8	870.8	966.3	991.8	1083.8	1222.2	1268.6
27.5°	1523.5	1544.9	1337.6	1260.5	1080.2	930.0	1012.3	1076.1	1184.9	1258.4	1370.3
30°	1857.0	1822.8	1579.7	1502.6	1296.7	1093.0	1131.3	1135.3	1295.2	1377.9	1484.2
32.5°	2118.5	2140.5	1835.0	1716.6	1552.1	1343.7	1220.6	1273.8	1388.2	1572.5	1673.1
35°	2401.4	2399.4	2101.6	1942.3	1727.3	1548.5	1485.7	1524.5	1668.0	1876.9	1903.5
37.5°	2824.3	2788.1	2436.7	2203.3	2020.4	1867.7	1819.7	1768.1	1916.2	2115.4	2215.0
40°	3223.2	3098.1	2773.2	2496.4	2262.5	2200.2	2026.6	2058.2	2102.1	2365.2	2640.5
42.5°	3626.2	3548.5	3114.4	2882.5	2595.0	2446.9	2333.5	2318.7	2527.6	2839.1	3123.6
45°	4157.8	3920.3	3573.0	3369.3	3036.3	2887.6	2796.2	2850.9	3038.8	3493.9	3683.4
47.5°	4604.2	4385.6	4087.3	3777.8	3428.5	3595.5	3423.9	3337.6	3595.5	4065.9	4317.7
50°	4987.8	4744.1	4442.3	4213.0	4156.3	4316.7	3969.4	4001.0	4168.5	4721.2	4863.1
52.5°	5266.6	5010.2	4746.7	4635.9	4868.2	4948.9	4774.8	4704.8	4857.0	5279.9	5348.8
55°	5476.5	5214.0	5008.2	5160.9	5610.3	5583.8	5645.1	5406.0	5551.6	5862.6	5829.9
57.5°	5489.3	5178.3	5057.7	5303.4	5920.3	6331.5	6510.7	6104.2	6186.9	6318.2	6244.6
60°	5087.9	4778.4	4768.6	5117.5	6010.2	6525.0	6917.3	6719.1	6608.3	6705.8	6566.4
62.5°	4288.1	4071.5	4172.6	4558.2	5675.7	6418.3	7133.8	7372.3	6940.8	6962.7	6764.6
65°	3274.3	3047.0	3205.3	3691.0	4944.3	6298.8	7195.1	7627.7	6934.6	7035.8	6574.6
67.5°	2168.5	2036.8	2216.0	2751.3	3931.1	5560.3	7163.4	7359.6	6714.5	6750.3	5869.3
70°	1119.5	1087.3	1232.4	1654.8	2643.0	4271.7	6852.4	6745.2	6267.6	5815.1	4527.1
72.5°	358.5	360.1	499.5	755.9	1424.9	2600.6	5267.1	5414.2	5015.3	4253.8	2764.0
75°	158.8	156.3	208.9	317.2	594.0	1166.0	3272.2	3431.1	3122.6	2340.1	1161.9
77.5°	114.4	110.8	133.8	185.4	294.2	395.3	1534.2	1655.8	1415.7	811.0	266.1
80°	80.7	80.2	97.0	130.2	183.9	175.7	484.7	543.4	435.1	196.6	78.1
82.5°	45.5	47.0	67.4	91.9	111.8	87.8	136.4	150.2	146.6	104.7	34.2
85°	22.0	24.5	43.9	66.4	58.7	34.2	48.5	52.6	61.3	60.8	17.4
87.5°	0.0	0.0	17.9	30.1	15.8	5.1	14.8	16.9	16.3	19.4	4.1
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°	363.1	363.1	363.1	363.1	363.1	363.1	363.1	363.1	363.1	363.1	363.1
2.5°	436.7	433.6	394.8	397.9	406.5	403.0	406.0	398.9	390.7	423.9	423.4
5°	552.1	529.1	516.9	505.6	507.7	484.7	498.0	504.1	503.1	522.0	527.1
7.5°	653.2	622.6	598.1	574.6	538.8	506.6	526.6	539.3	548.0	580.7	593.5
10°	700.7	675.7	666.0	620.0	594.5	574.6	550.6	533.2	540.3	531.7	540.3
12.5°	804.9	788.1	750.8	704.3	673.6	632.8	543.4	468.8	422.9	423.4	420.3
15°	899.9	898.9	843.2	766.1	677.2	560.8	421.3	327.4	284.0	271.7	267.6
17.5°	1024.0	1008.7	907.0	793.2	633.3	434.1	287.0	224.2	220.1	227.3	224.2
20°	1103.2	1080.7	938.7	753.8	522.0	293.7	216.5	198.7	210.9	221.1	218.6
22.5°	1182.3	1148.6	962.7	705.8	371.3	215.0	195.6	192.5	200.2	213.0	215.0
25°	1225.7	1219.1	1009.7	615.9	254.3	188.5	188.5	187.4	190.0	199.2	197.7
27.5°	1351.9	1262.0	974.5	480.6	196.6	173.1	175.7	174.7	165.5	174.7	175.2
30°	1430.5	1389.2	977.0	342.2	173.1	153.2	159.9	151.7	137.9	145.6	144.0
32.5°	1588.9	1485.7	969.4	230.8	157.8	146.1	135.9	124.1	113.9	117.0	114.4
35°	1773.2	1694.6	865.7	185.4	147.1	129.2	112.9	101.1	90.4	93.0	92.4
37.5°	2139.9	1890.2	779.9	167.0	139.9	118.5	99.6	83.2	77.6	79.2	80.7
40°	2479.6	2216.6	620.0	158.8	127.7	105.7	82.2	70.5	66.9	67.9	69.5
42.5°	2987.2	2476.0	468.3	150.7	115.4	89.4	68.4	60.8	57.2	59.2	60.3
45°	3478.6	2696.6	349.8	143.5	105.2	77.1	57.7	52.6	48.5	50.1	52.1
47.5°	3969.4	2941.8	261.0	132.3	94.0	66.4	49.5	46.0	43.4	43.9	46.5
50°	4408.6	3056.2	205.3	118.5	84.8	57.7	44.9	41.4	40.3	40.9	42.9
52.5°	4731.4	3057.2	173.1	106.2	76.1	51.1	42.4	38.3	37.8	38.8	40.9
55°	5023.0	2975.5	150.2	95.5	68.4	46.5	40.3	36.8	36.8	37.8	39.8
57.5°	5216.6	2825.3	130.2	84.3	61.8	43.9	38.8	35.2	34.7	34.2	35.8
60°	5311.0	2620.5	110.3	74.1	55.7	42.4	37.8	31.2	30.6	29.6	30.6
62.5°	5251.3	2364.2	92.4	63.8	49.5	40.3	33.2	27.1	26.0	24.0	25.5
65°	4945.9	2052.6	78.1	54.6	42.9	34.2	28.1	23.0	20.4	17.9	17.4
67.5°	4321.3	1667.5	65.4	47.0	36.8	28.1	23.0	20.4	15.8	13.8	13.3
70°	3238.5	1138.4	54.1	40.3	30.6	24.0	19.4	18.4	14.8	13.3	12.3
72.5°	1899.9	614.4	45.5	35.2	26.0	19.9	15.8	16.9	14.8	12.3	11.2
75°	758.9	204.3	36.3	28.1	20.9	14.3	13.3	13.8	13.3	11.2	9.2
77.5°	173.1	64.4	28.1	22.0	16.3	9.2	10.7	11.7	11.7	9.2	6.6
80°	54.1	25.5	16.3	13.8	11.7	5.1	7.7	8.2	5.6	2.6	0.0
82.5°	17.4	7.2	5.6	5.6	5.1	1.0	1.5	1.0	0.0	0.0	0.0
85°	6.6	4.6	3.6	3.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	2.6	2.0	1.5	2.0	1.0	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)