

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: P367559

Luminaire Tested: **MSA-SA2D-730-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367559  
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-SA2D-730-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 9264 lumens  
Efficiency: N/A  
Efficacy: 71.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G2

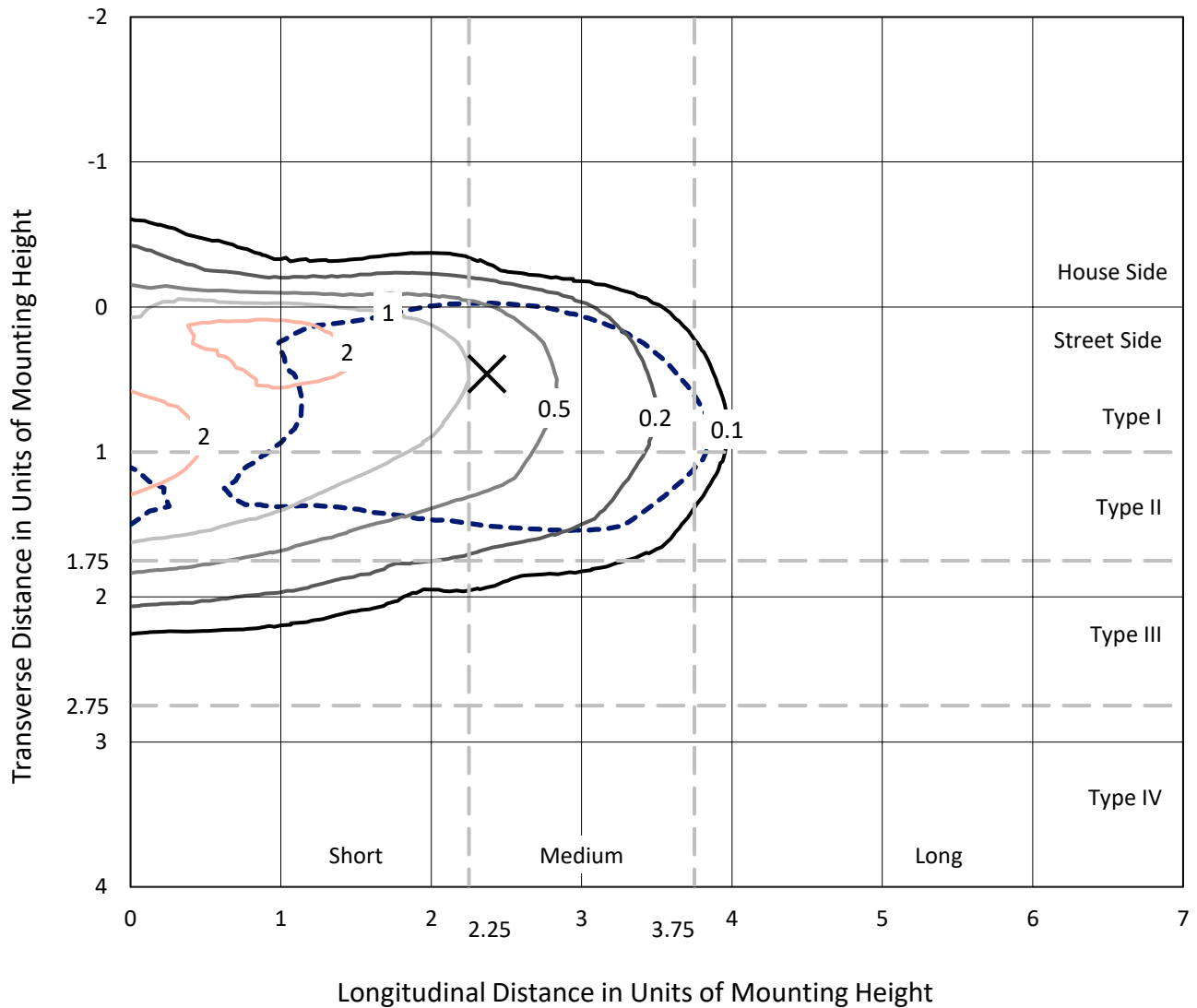
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

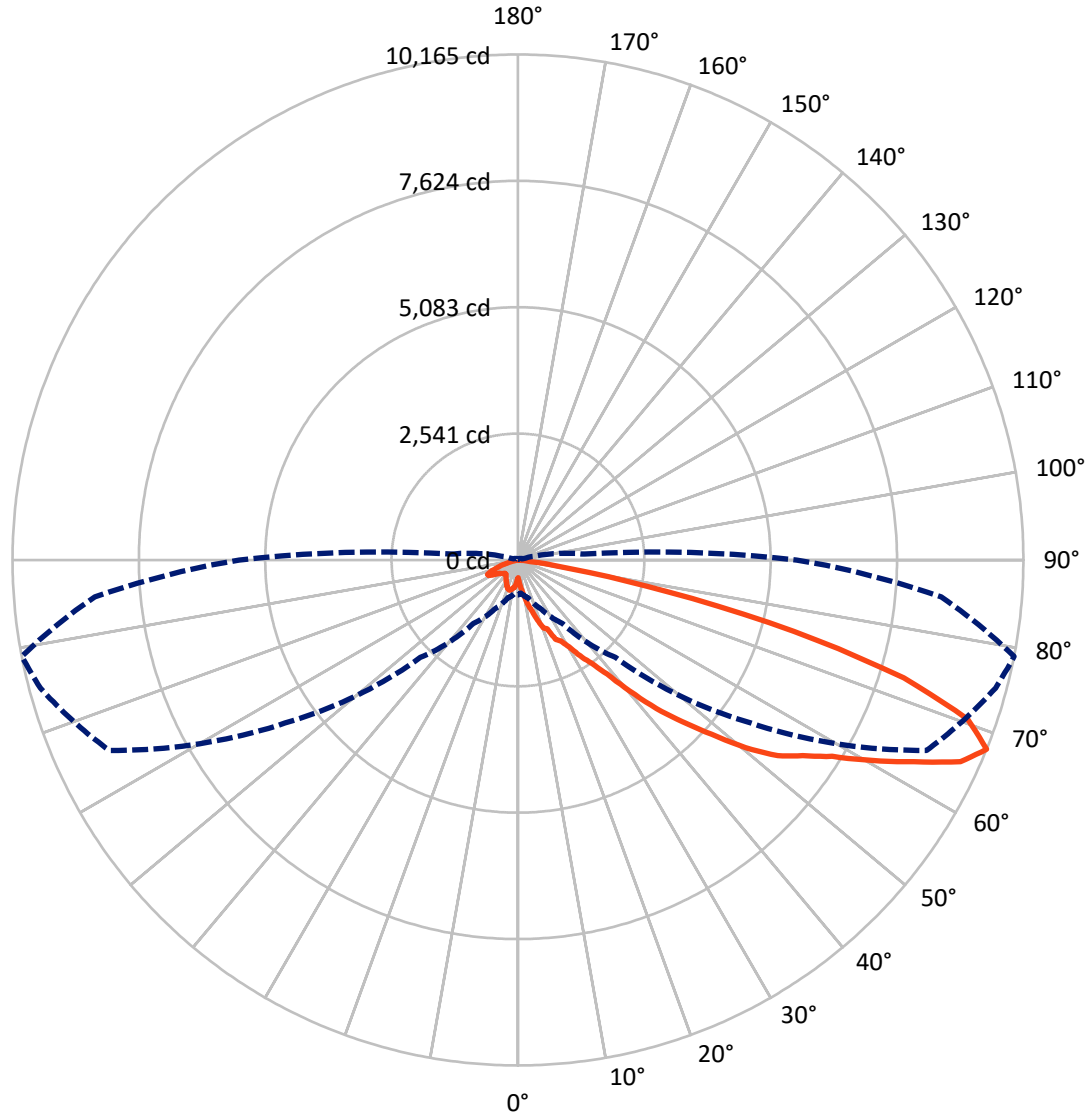
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.8 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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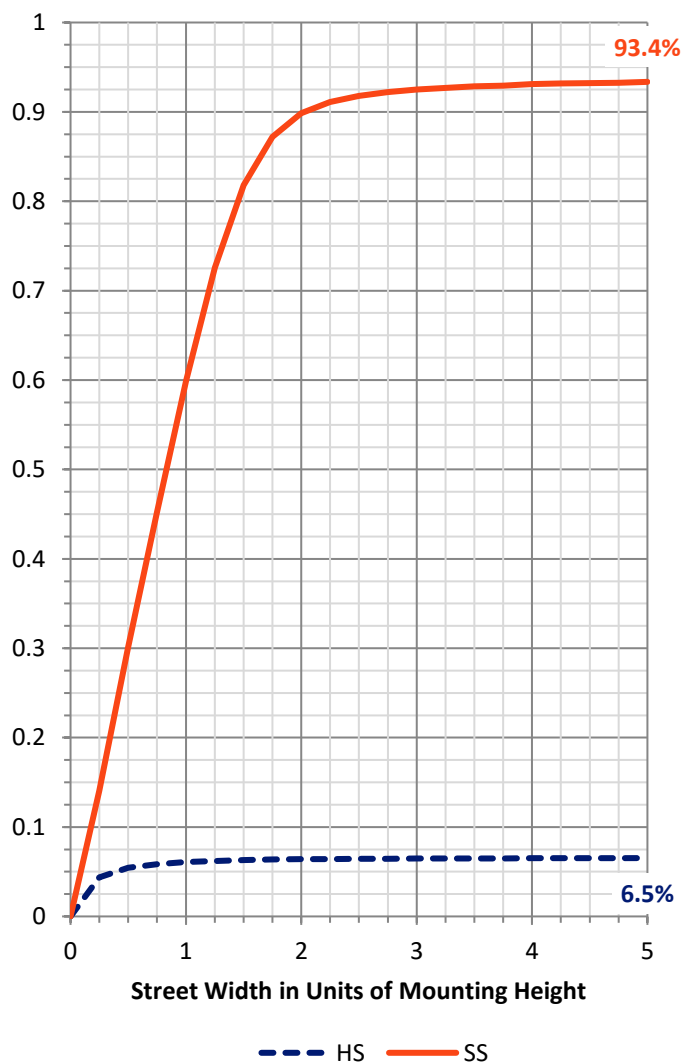
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	608.7	0.0	608.7
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	8655.3	0.0	8655.3
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	9264.0	0.0	9264.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.9	0.6
10°-20°	207.0	2.2
20°-30°	399.4	4.3
30°-40°	784.5	8.5
40°-50°	1571.5	17.0
50°-60°	2511.8	27.1
60°-70°	2527.3	27.3
70°-80°	1140.1	12.3
80°-90°	70.5	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°	9264.0	100.0
0°-180°	9264.0	100.0

**Coefficient of Utilization**

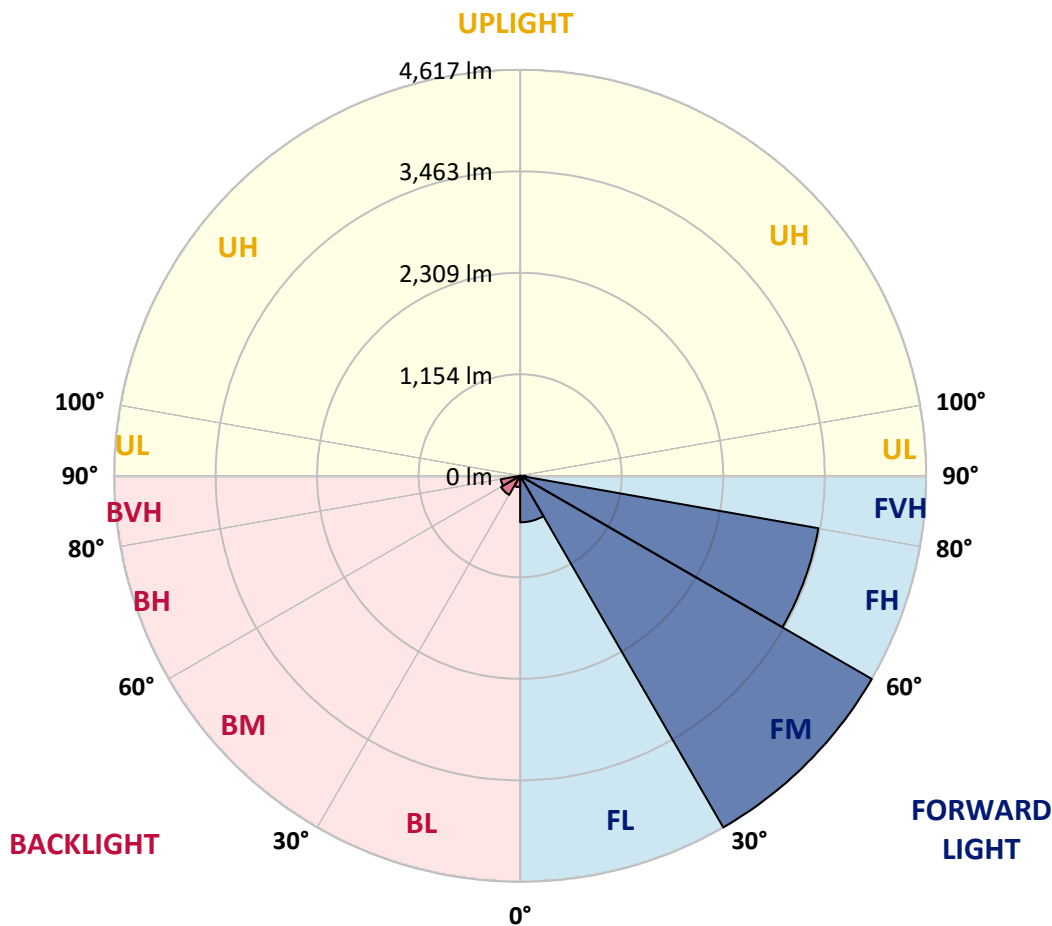


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	528.9	5.7			
FM (30°-60°)	4617.3	49.8			
FH (60°-80°)	3443.1	37.2			G2/5000
FVH (80°-90°)	66.0	0.7			G1/100
BL (0°-30°)	129.4	1.4	B1/500		
BM (30°-60°)	250.4	2.7	B1/1000		
BH (60°-80°)	224.4	2.4	B1/500		G1/500
BVH (80°-90°)	4.5	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0
2.5°	482.1	464.7	436.6	452.5	451.4	459.6	444.3	427.4	400.4	427.4	429.5
5°	694.0	661.8	641.4	637.3	614.9	593.9	589.3	572.0	558.7	534.7	556.1
7.5°	864.6	849.8	813.5	809.4	754.3	723.6	733.3	725.7	675.1	650.1	671.0
10°	937.1	911.6	916.7	911.6	888.1	896.8	876.8	853.9	813.5	772.1	720.1
12.5°	965.2	961.1	1003.5	998.4	1053.5	1119.9	1075.5	1037.2	943.7	933.5	862.5
15°	1025.4	1051.0	1044.9	1066.3	1101.5	1214.4	1213.4	1222.6	1123.5	1070.4	967.7
17.5°	1079.1	1098.0	1067.3	1091.8	1187.8	1256.3	1347.7	1311.9	1323.2	1269.0	1110.2
20°	1056.1	1077.5	1046.9	1032.1	1201.1	1330.8	1452.9	1426.8	1494.3	1460.5	1241.5
22.5°	1199.6	1159.2	1082.1	1034.1	1160.3	1329.3	1490.2	1598.9	1587.2	1504.5	1363.5
25°	1376.8	1352.3	1259.9	1175.1	1186.3	1320.1	1607.6	1767.5	1802.2	1767.0	1479.4
27.5°	1615.8	1610.2	1421.2	1384.5	1275.2	1279.8	1626.0	1979.9	1900.8	1845.6	1614.8
30°	1927.8	1883.4	1659.2	1611.2	1449.8	1370.7	1738.4	2163.2	2105.0	2030.0	1741.9
32.5°	2263.3	2270.0	1984.0	1825.7	1696.0	1602.0	1693.9	2249.0	2357.8	2297.0	1900.8
35°	2644.3	2673.9	2324.1	2138.2	1885.9	1747.6	1884.9	2512.6	2707.6	2547.8	2113.7
37.5°	3231.1	3230.1	2821.5	2451.3	2267.9	2117.8	2203.1	2752.1	3137.6	2912.9	2495.7
40°	3747.4	3635.0	3255.1	2829.7	2543.7	2502.8	2441.1	3079.9	3596.7	3461.4	2835.3
42.5°	4132.9	4053.8	3594.7	3263.8	2909.3	2779.6	2757.7	3560.5	4274.4	4084.9	3319.9
45°	4594.1	4334.7	3996.6	3698.4	3337.3	3299.5	3247.9	4048.2	5062.9	4636.0	3741.2
47.5°	5007.2	4763.1	4443.4	4060.4	3645.8	3957.3	3759.1	4476.6	5636.4	5235.5	4206.0
50°	5355.0	5095.6	4737.6	4446.0	4268.3	4479.7	4149.3	4829.5	6255.8	5931.0	4640.6
52.5°	5532.2	5238.6	4961.8	4781.5	4890.3	4842.8	4678.3	5257.0	6783.9	6540.8	5025.6
55°	5386.7	5099.7	4983.7	5073.1	5403.5	5266.1	5279.4	5919.3	7282.3	6947.3	5360.6
57.5°	4741.2	4479.2	4530.8	4775.4	5408.6	5768.1	5964.8	6562.8	7682.2	7453.9	5877.4
60°	3586.5	3375.6	3566.6	4000.7	4900.0	5668.0	6450.9	7206.2	8253.6	8182.1	6659.8
62.5°	2190.3	2075.9	2346.6	2887.9	3904.7	5177.3	6734.4	8064.2	8864.9	8941.0	7489.6
65°	1117.4	1065.8	1291.5	1767.5	2638.2	4253.0	6529.6	8597.3	9496.6	9777.5	8280.7
67.5°	703.7	670.5	791.0	1078.0	1556.6	2774.0	5717.1	9063.6	9943.0	10165.1	8544.7
70°	487.7	466.8	570.9	740.0	982.0	1494.3	4244.8	8628.5	9589.1	9599.3	7905.9
72.5°	309.5	293.1	394.8	548.0	724.7	771.6	2433.4	6770.6	8208.2	8113.7	6402.4
75°	200.7	192.5	250.7	401.4	556.6	476.0	1202.7	4568.6	5885.6	5737.5	4252.4
77.5°	144.0	138.9	168.0	268.1	396.3	333.0	539.3	2723.0	3374.6	3050.8	2064.2
80°	86.8	86.3	121.5	168.0	281.9	234.9	249.2	1236.4	1308.4	1066.8	630.7
82.5°	43.4	44.9	67.9	108.3	181.3	153.7	113.9	411.6	351.3	258.9	127.7
85°	10.2	12.8	35.7	74.6	90.9	61.3	54.1	107.8	96.5	73.0	37.3
87.5°	0.0	0.0	11.2	17.9	24.5	10.2	18.4	20.4	26.0	20.4	7.7
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°	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0
2.5°	430.0	423.9	386.6	376.9	375.9	365.1	367.7	357.5	358.0	381.0	381.0
5°	548.0	512.2	476.5	444.8	423.4	392.7	381.5	376.9	372.8	382.0	387.6
7.5°	643.5	590.9	526.5	457.6	393.7	349.8	343.7	332.5	328.4	337.6	344.7
10°	685.8	620.5	532.1	431.5	371.8	336.0	306.4	290.6	287.5	287.0	289.6
12.5°	775.7	694.5	538.3	421.8	357.0	317.6	283.9	257.4	232.9	235.4	232.9
15°	847.7	751.7	538.3	398.3	321.2	281.9	222.7	209.4	205.8	211.4	206.8
17.5°	956.5	808.4	511.2	356.5	290.6	219.1	196.6	195.6	202.7	210.9	205.8
20°	1021.9	816.1	465.7	308.5	238.5	190.0	181.8	173.6	183.8	190.5	187.9
22.5°	1089.8	816.6	420.3	282.9	192.0	173.1	159.8	153.2	154.7	160.9	161.9
25°	1118.9	796.7	377.9	249.2	174.1	154.7	140.9	133.8	131.2	134.3	133.3
27.5°	1198.1	758.4	331.9	212.4	165.5	137.4	124.6	115.9	108.3	113.4	114.4
30°	1209.3	746.1	306.9	189.0	154.2	121.5	110.3	101.1	95.5	102.6	102.6
32.5°	1245.0	678.7	294.2	179.2	142.5	112.3	97.0	90.4	89.4	94.0	94.5
35°	1300.2	649.1	275.3	171.6	131.8	101.6	87.3	84.3	83.2	86.8	86.8
37.5°	1487.1	612.3	254.3	164.9	122.6	96.0	84.8	79.7	80.2	83.2	85.3
40°	1611.2	616.9	223.2	156.8	111.8	90.9	79.7	76.1	75.6	77.1	78.6
42.5°	1841.5	620.5	209.4	148.1	103.7	84.8	74.6	72.0	70.0	71.5	73.0
45°	2098.9	639.4	202.2	140.9	99.1	81.2	70.0	68.4	63.8	64.9	66.9
47.5°	2347.1	708.3	193.5	130.7	95.0	79.2	65.4	61.8	58.7	58.2	60.3
50°	2629.0	775.2	183.8	119.5	90.9	76.1	60.8	55.2	53.1	53.1	54.6
52.5°	2881.3	839.0	174.7	111.8	87.8	70.5	56.7	51.1	49.5	49.5	51.6
55°	3146.8	905.9	166.5	104.7	83.8	64.9	53.1	48.0	47.5	46.5	48.0
57.5°	3615.6	1052.0	156.3	98.6	78.1	60.3	50.0	44.9	43.9	42.4	43.9
60°	4298.4	1276.2	143.0	92.4	71.5	57.2	47.5	41.4	39.8	37.3	37.8
62.5°	4965.9	1457.5	127.7	84.8	65.4	54.1	43.4	37.3	34.7	31.7	32.2
65°	5537.8	1529.0	111.3	75.6	59.2	47.0	37.8	32.7	29.1	25.0	24.5
67.5°	5605.2	1350.2	95.5	66.9	53.1	39.8	32.2	29.1	23.5	19.9	18.9
70°	5044.5	1006.0	79.7	59.2	46.0	33.7	27.6	25.5	22.0	18.9	17.4
72.5°	4017.0	742.5	66.9	52.6	40.3	28.6	23.5	24.0	22.0	18.4	16.3
75°	2656.6	424.9	54.6	43.9	33.7	23.0	21.4	21.4	20.9	17.4	15.3
77.5°	1278.2	183.3	41.9	34.7	27.1	17.4	19.4	19.4	19.9	15.8	12.8
80°	362.6	55.2	26.0	23.5	19.9	11.7	15.3	14.8	13.3	9.2	5.6
82.5°	64.9	21.4	11.7	12.3	11.2	4.6	8.7	8.2	6.6	3.6	0.5
85°	17.9	8.2	6.6	7.1	5.6	1.5	3.6	4.6	3.6	2.0	0.0
87.5°	4.6	3.6	4.6	5.1	4.1	0.5	1.5	0.5	1.5	0.5	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)