

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: P368033

Luminaire Tested: **MSA-SA3C-830-U-SL2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368033  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3C-830-U-SL2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11857 lumens  
Efficiency: N/A  
Efficacy: 71.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G2

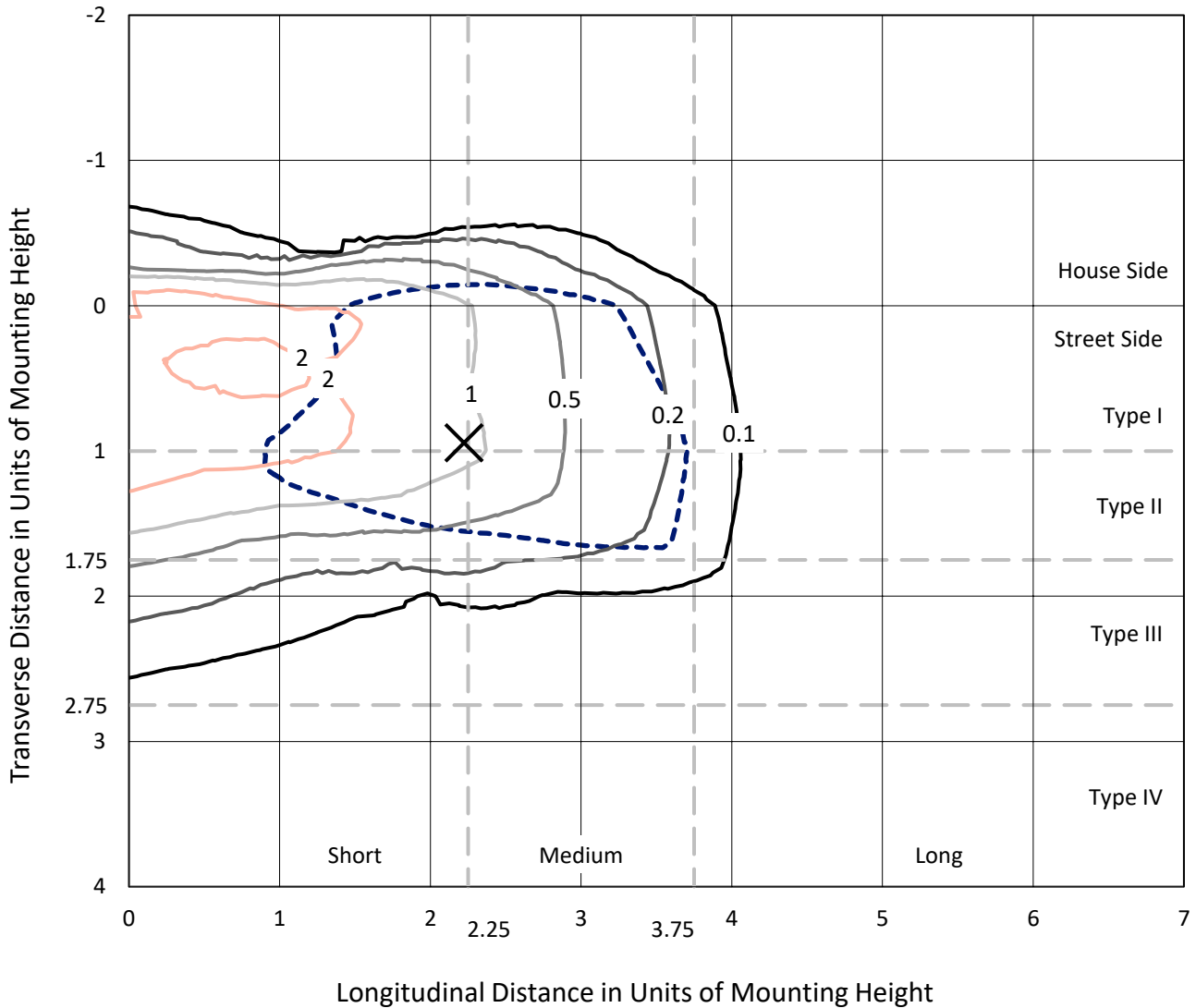
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

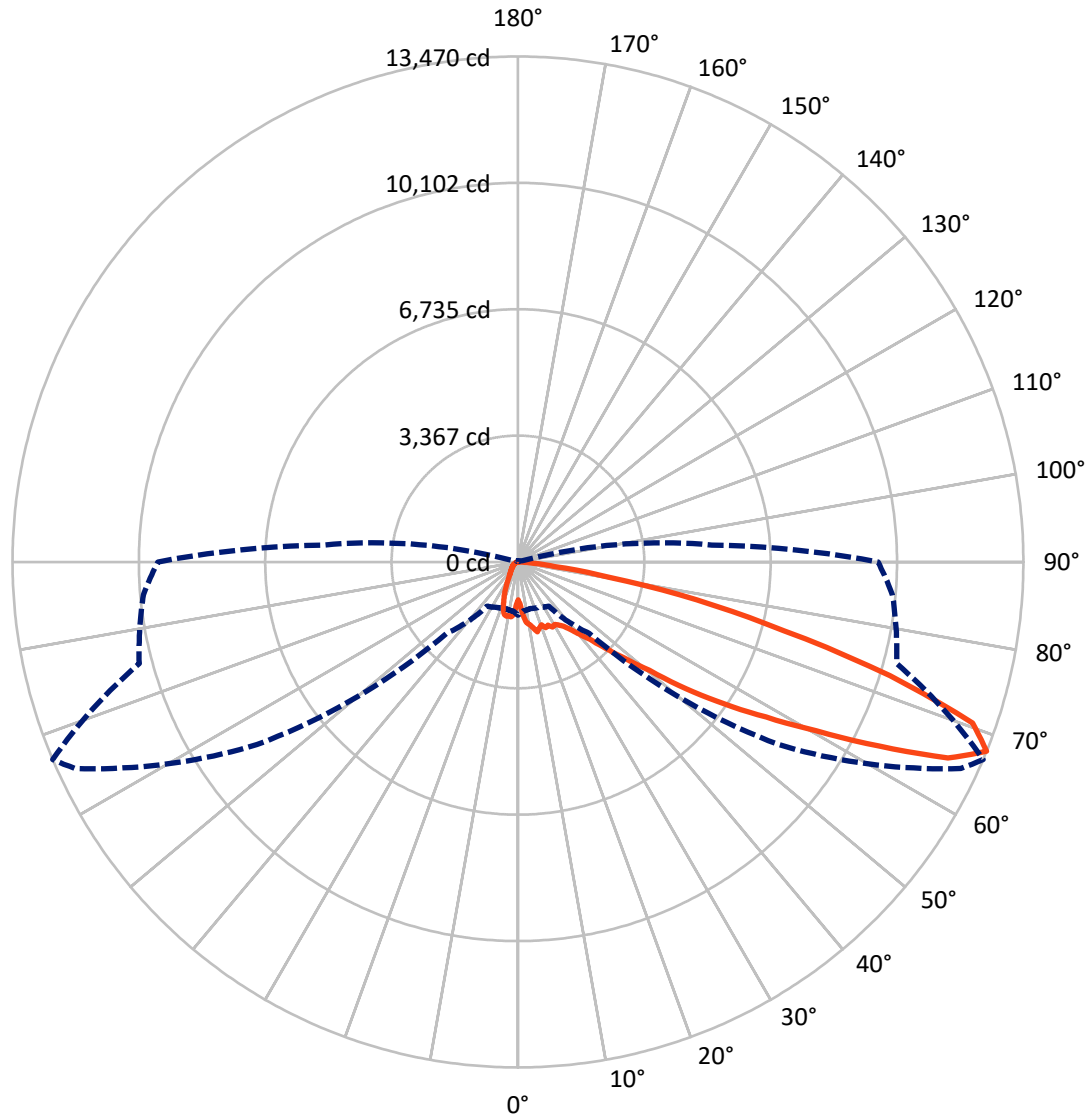
✕ Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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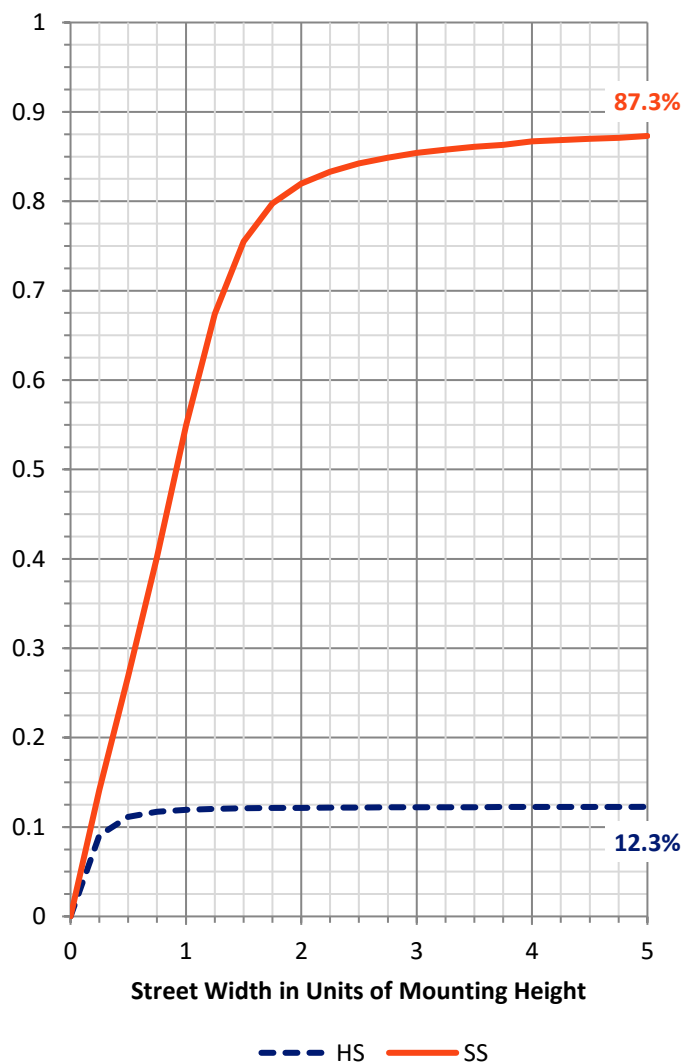
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1466.4	0.0	1466.4
	% Fixture	12.4	0.0	12.4
<b>Street Side</b>	Lumens	10390.6	0.0	10390.6
	% Fixture	87.6	0.0	87.6
<b>Total</b>	Lumens	11857.0	0.0	11857.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.8	1.1
10°-20°	375.1	3.2
20°-30°	587.8	5.0
30°-40°	947.8	8.0
40°-50°	1741.6	14.7
50°-60°	2941.4	24.8
60°-70°	3251.8	27.4
70°-80°	1702.0	14.4
80°-90°	182.8	1.5
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°	11857.0	100.0
0°-180°	11857.0	100.0

**Coefficient of Utilization**



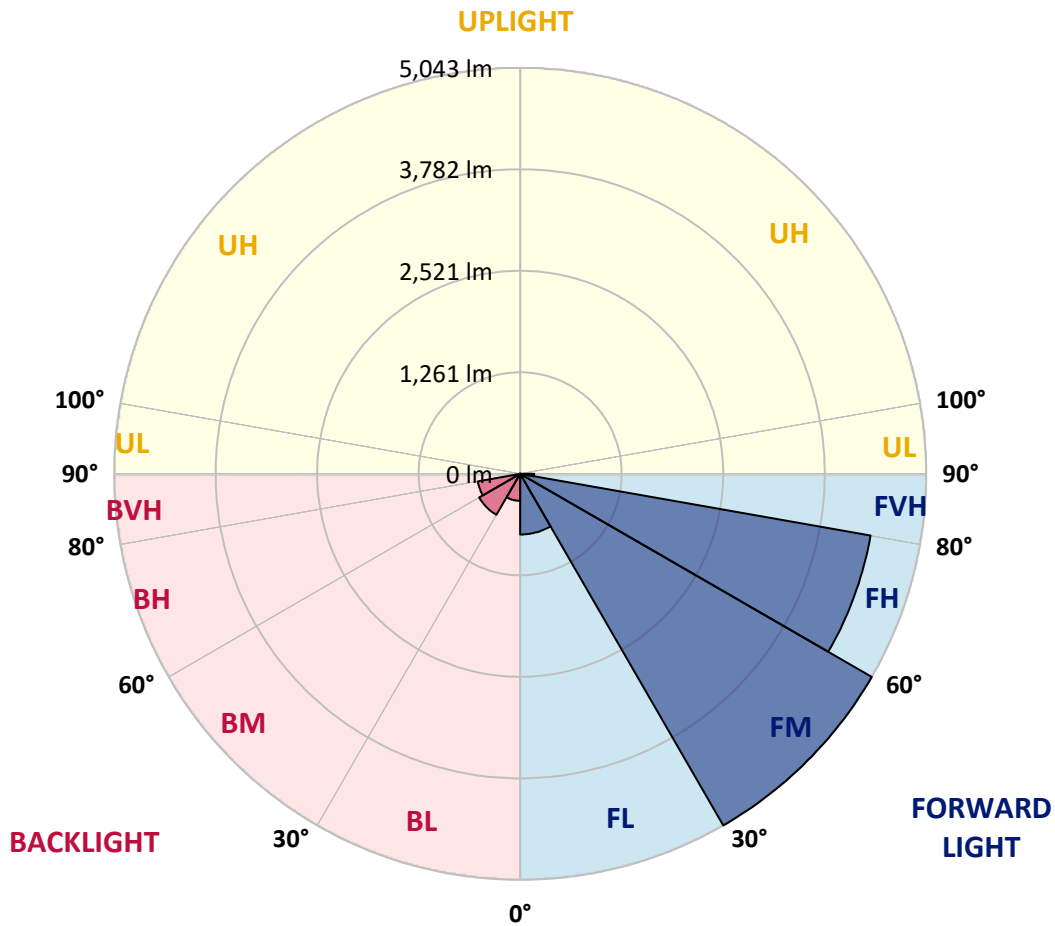
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	753.9	6.4			
FM (30°-60°)	5042.8	42.5			
FH (60°-80°)	4418.9	37.3			G2/5000
FVH (80°-90°)	175.0	1.5			G2/225
BL (0°-30°)	335.7	2.8	B1/500		
BM (30°-60°)	588.0	5.0	B1/1000		
BH (60°-80°)	534.9	4.5	B2/1000		G2/1000
BVH (80°-90°)	7.8	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9
2.5°	1192.1	1151.8	1083.3	1103.1	1142.8	1175.9	1160.3	1129.6	1130.2	1098.9	1211.4
5°	1387.0	1332.9	1293.2	1307.0	1305.2	1304.0	1378.0	1406.3	1418.3	1470.0	1546.4
7.5°	1442.9	1423.7	1382.2	1394.8	1353.3	1356.3	1486.3	1609.0	1628.2	1660.1	1796.0
10°	1421.3	1384.0	1399.0	1399.0	1399.6	1467.0	1554.2	1671.5	1695.0	1817.7	1832.1
12.5°	1397.8	1399.6	1459.2	1448.4	1530.2	1651.1	1680.5	1812.3	1800.8	1907.3	2065.5
15°	1485.1	1530.8	1492.3	1507.3	1515.1	1657.1	1704.6	1879.6	1930.1	2064.9	2167.7
17.5°	1634.8	1640.8	1560.8	1539.2	1595.7	1636.0	1731.7	1815.9	1849.5	2203.2	2348.8
20°	1661.9	1700.4	1619.2	1494.1	1613.8	1669.1	1735.9	1776.2	1790.6	2245.9	2451.0
22.5°	1824.9	1782.2	1652.3	1557.2	1591.5	1651.7	1693.2	1814.7	1901.3	2165.3	2549.1
25°	1908.5	1897.1	1773.2	1692.0	1657.1	1652.3	1747.3	1839.3	1867.0	2248.9	2573.1
27.5°	2108.8	2082.9	1842.9	1832.7	1717.8	1616.8	1749.1	1914.5	1966.2	2170.1	2663.4
30°	2381.3	2371.6	2052.2	2045.6	1862.8	1681.1	1846.5	1960.8	1929.5	2210.4	2723.5
32.5°	2655.5	2733.7	2407.1	2220.7	2083.5	1917.5	1818.9	1946.4	2002.3	2308.5	2834.2
35°	2986.9	3043.5	2710.9	2575.5	2270.6	2028.2	2002.3	2084.1	2108.2	2425.2	2959.9
37.5°	3566.8	3481.4	3198.1	2967.7	2807.7	2423.4	2295.8	2230.9	2286.8	2583.4	3216.7
40°	3995.0	3940.9	3592.0	3454.3	3086.2	2861.2	2528.0	2467.3	2529.8	2745.8	3395.4
42.5°	4511.7	4399.2	4070.8	3977.6	3598.7	3165.0	2827.0	2848.0	2808.9	3066.3	3708.7
45°	4979.0	4725.2	4542.4	4563.4	4361.3	3775.5	3325.6	3315.4	3282.9	3530.7	4038.3
47.5°	5293.6	5071.7	4893.6	4835.3	4811.2	4849.1	4046.2	3864.5	3840.4	4018.5	4557.4
50°	5462.6	5219.6	4999.5	5011.5	5499.9	5867.4	4789.6	4531.5	4540.6	4726.4	5267.2
52.5°	5349.0	5074.1	4841.9	5067.5	6034.0	6546.5	6020.2	5403.1	5612.4	5564.9	6219.3
55°	4823.9	4585.1	4420.3	4823.9	6092.4	7277.3	7535.3	6714.9	6668.0	6559.7	7190.1
57.5°	3940.3	3734.6	3632.9	4058.8	5454.2	7866.1	9057.1	8197.6	7797.6	7344.1	7996.1
60°	2935.8	2784.2	2678.4	2903.3	4297.6	7294.1	10053.7	9594.8	9131.7	8100.1	8720.2
62.5°	2174.3	2051.0	1938.6	1959.0	2959.3	6273.4	10436.3	11075.0	10809.2	8898.3	9403.5
65°	1735.3	1622.8	1544.0	1498.9	1832.7	4719.8	9904.0	12288.2	12595.0	9650.1	9896.7
67.5°	1417.1	1322.1	1283.0	1334.7	1437.5	2690.4	8482.1	13024.4	13469.5	10447.7	10018.2
70°	1153.0	1074.8	1070.6	1210.2	1323.9	1640.2	6239.1	12516.2	12851.2	10583.6	9289.8
72.5°	803.6	769.3	824.0	1021.9	1311.8	1366.0	3583.0	10357.5	10369.5	9347.6	7641.2
75°	454.7	449.3	535.9	815.0	1277.5	1352.1	1997.5	7319.4	7324.8	7069.8	5293.6
77.5°	250.2	234.0	312.2	551.0	1097.1	1320.8	1288.4	4997.7	4869.6	3934.3	2417.9
80°	115.5	108.9	169.0	353.1	802.4	1249.3	1032.7	2747.0	2476.9	1281.8	590.1
82.5°	47.5	45.1	77.6	226.8	507.0	1006.3	870.3	1218.6	978.0	243.6	182.2
85°	8.4	9.0	31.9	137.1	283.9	463.7	705.5	578.6	425.2	67.4	99.8
87.5°	0.0	0.0	6.6	33.1	68.6	126.9	286.3	161.8	111.3	19.8	29.5
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°	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9
2.5°	1233.6	1223.4	1120.0	1124.8	1132.0	1125.4	1124.2	1095.3	1068.8	1156.0	1154.8
5°	1560.2	1487.5	1415.9	1388.2	1328.7	1250.5	1251.1	1226.4	1201.2	1236.6	1236.6
7.5°	1793.0	1692.6	1601.7	1439.9	1282.4	1139.8	1127.2	1093.5	1055.0	1101.3	1110.3
10°	1847.1	1759.9	1642.6	1405.1	1255.9	1116.9	964.2	838.5	780.1	753.1	748.2
12.5°	2013.8	1948.8	1686.5	1423.7	1209.0	973.8	723.6	574.4	472.8	464.9	454.1
15°	2125.0	2079.3	1729.9	1377.4	1010.5	700.1	454.7	348.9	308.0	304.3	298.9
17.5°	2297.7	2218.3	1688.4	1230.0	790.3	461.9	305.6	275.5	280.3	291.1	282.7
20°	2368.0	2212.8	1598.1	1016.5	555.2	309.8	265.3	249.0	261.6	271.9	267.1
22.5°	2440.2	2228.5	1518.1	837.9	362.7	256.2	236.4	228.0	229.2	239.4	240.0
25°	2439.6	2271.8	1425.5	652.6	270.1	228.0	213.5	202.7	198.5	205.7	203.9
27.5°	2558.1	2221.9	1256.5	484.2	237.6	203.9	190.1	176.8	161.8	169.0	169.0
30°	2558.7	2303.1	1138.6	347.7	217.7	181.6	169.6	149.2	131.7	137.7	138.3
32.5°	2626.7	2232.7	1029.7	265.9	202.1	168.4	141.9	123.3	113.1	116.7	116.7
35°	2704.3	2292.8	862.5	234.6	186.5	149.8	121.5	106.5	98.6	101.7	101.7
37.5°	2960.5	2280.2	746.4	218.3	176.2	135.3	110.7	93.8	90.2	92.0	94.4
40°	3053.1	2369.8	588.8	208.7	159.4	122.1	97.4	84.8	80.0	81.2	81.8
42.5°	3288.9	2389.7	470.4	200.9	144.4	105.9	86.6	77.6	71.6	71.6	73.4
45°	3549.3	2439.6	374.1	194.3	131.7	95.0	78.2	71.0	62.0	60.7	63.2
47.5°	3926.5	2630.9	305.0	181.0	116.7	88.4	72.2	61.4	54.1	51.7	54.1
50°	4557.4	2955.7	269.5	164.8	105.9	83.0	63.8	52.3	46.9	43.9	45.7
52.5°	5447.6	3516.8	250.8	149.8	96.2	74.6	57.1	45.7	40.3	37.9	39.1
55°	6436.4	4160.4	241.8	134.7	87.8	65.6	49.9	40.3	35.5	32.5	33.1
57.5°	7350.7	4765.5	232.8	120.3	79.4	58.3	43.9	35.5	30.7	27.7	28.3
60°	8251.7	5248.5	211.1	103.5	71.6	52.3	38.5	30.7	27.7	24.1	24.1
62.5°	9048.7	5537.2	179.8	89.6	64.4	46.3	34.3	27.7	25.3	21.7	21.7
65°	9591.2	5550.5	145.0	77.0	56.5	39.7	30.1	25.9	23.5	19.2	18.6
67.5°	9599.0	5189.6	116.1	68.6	49.9	34.9	27.1	24.7	21.7	18.0	16.8
70°	8591.5	4287.3	96.8	60.1	43.3	30.7	23.5	23.5	21.1	17.4	15.6
72.5°	6872.5	3276.3	81.2	52.3	38.5	26.5	21.7	22.3	20.5	17.4	15.6
75°	4619.4	1879.0	67.4	44.5	33.7	22.3	21.1	21.7	21.1	17.4	15.0
77.5°	2127.4	598.5	52.3	36.7	28.9	18.6	20.5	20.5	19.2	15.6	13.2
80°	479.4	147.4	37.9	27.1	23.5	13.8	18.6	16.8	15.0	10.8	7.8
82.5°	174.4	45.1	22.9	16.8	14.4	5.4	12.0	12.0	10.8	7.8	4.8
85°	99.8	23.5	12.6	10.8	7.8	2.4	6.6	7.2	6.0	5.4	2.4
87.5°	32.5	5.4	6.0	6.6	6.0	1.2	2.4	2.4	1.8	1.2	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)