

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: P368189

Luminaire Tested: **MSA-SA4A-727-U-SL3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368189  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-727-U-SL3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10647 lumens  
Efficiency: N/A  
Efficacy: 82.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

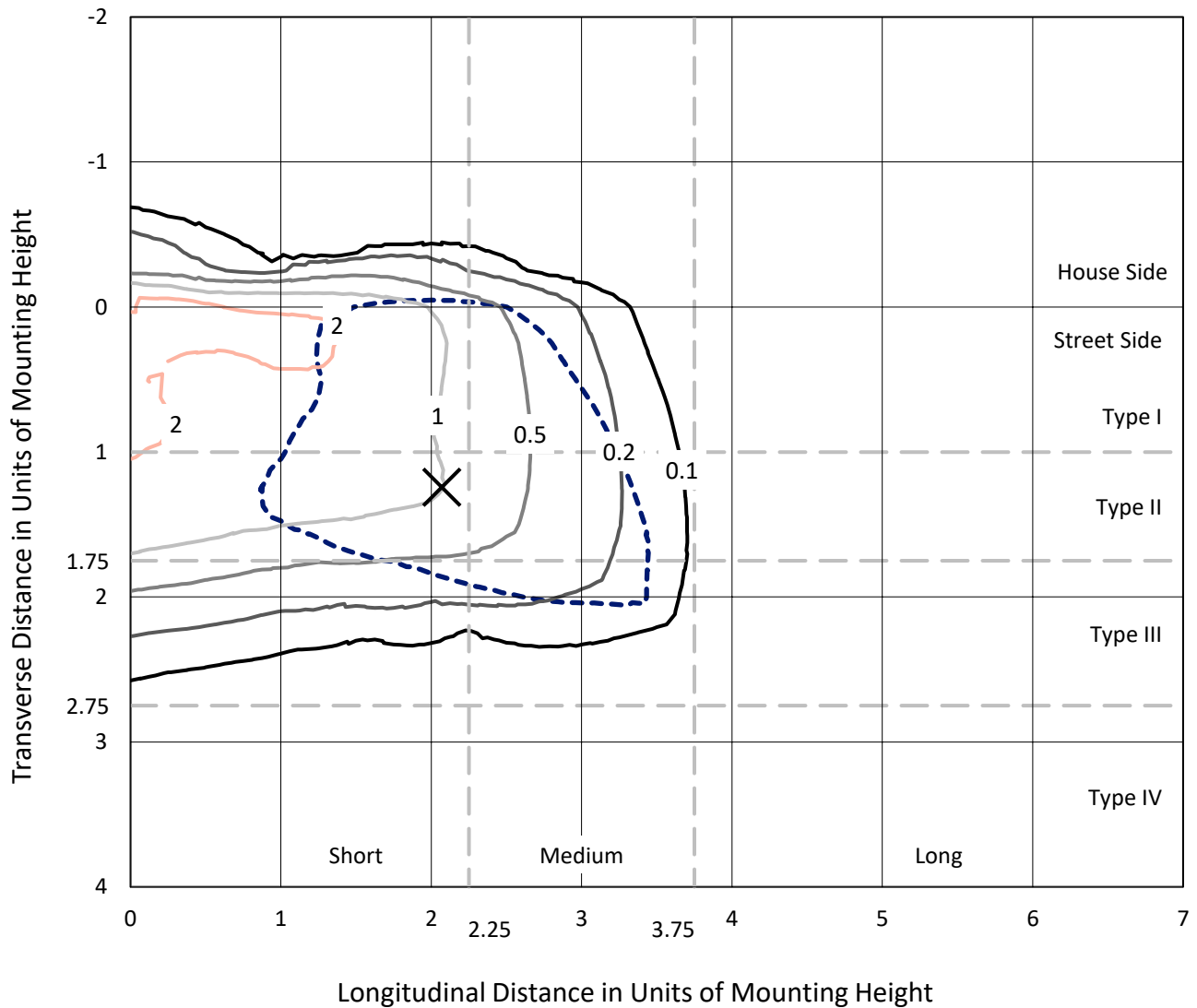
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

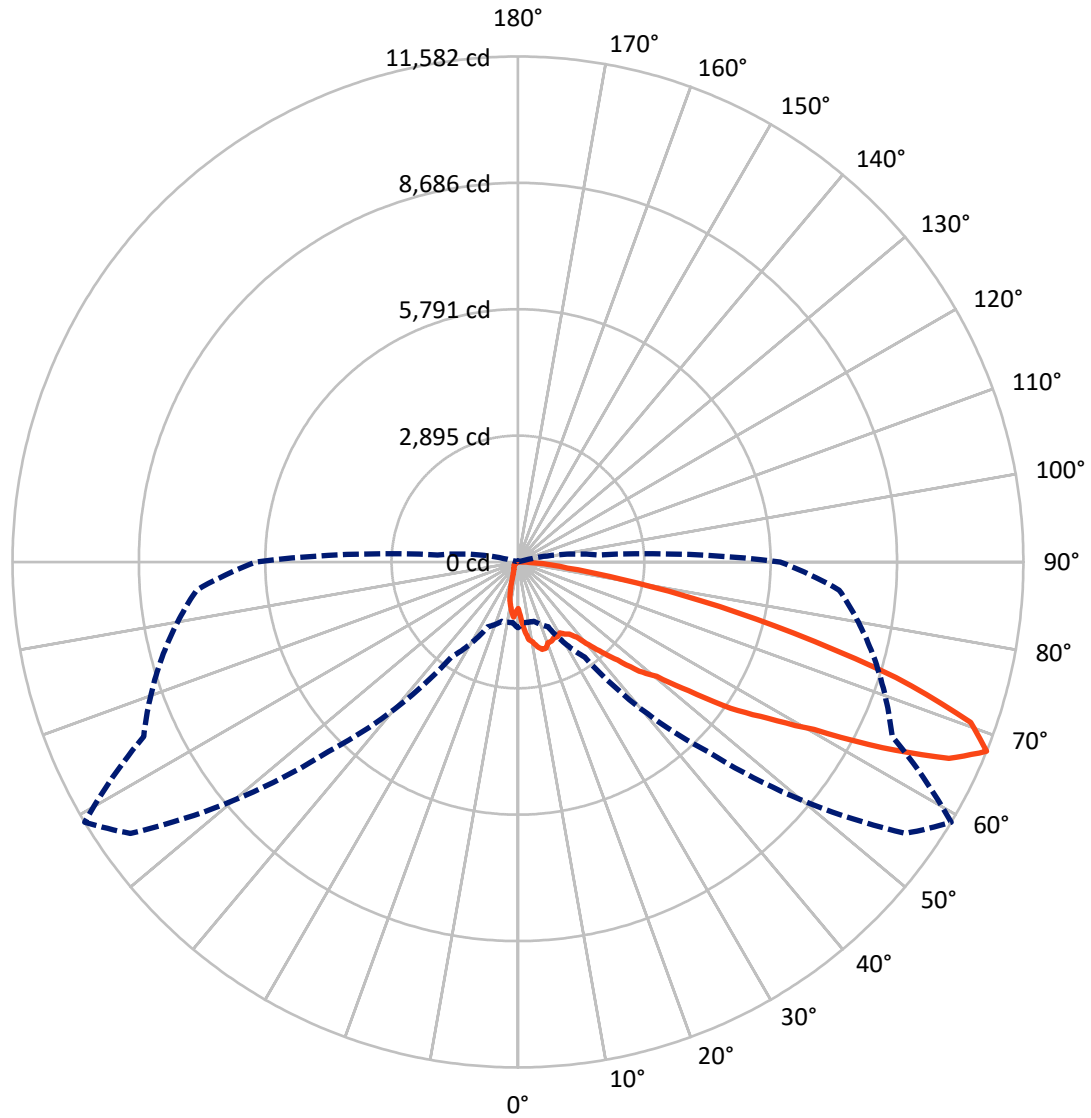
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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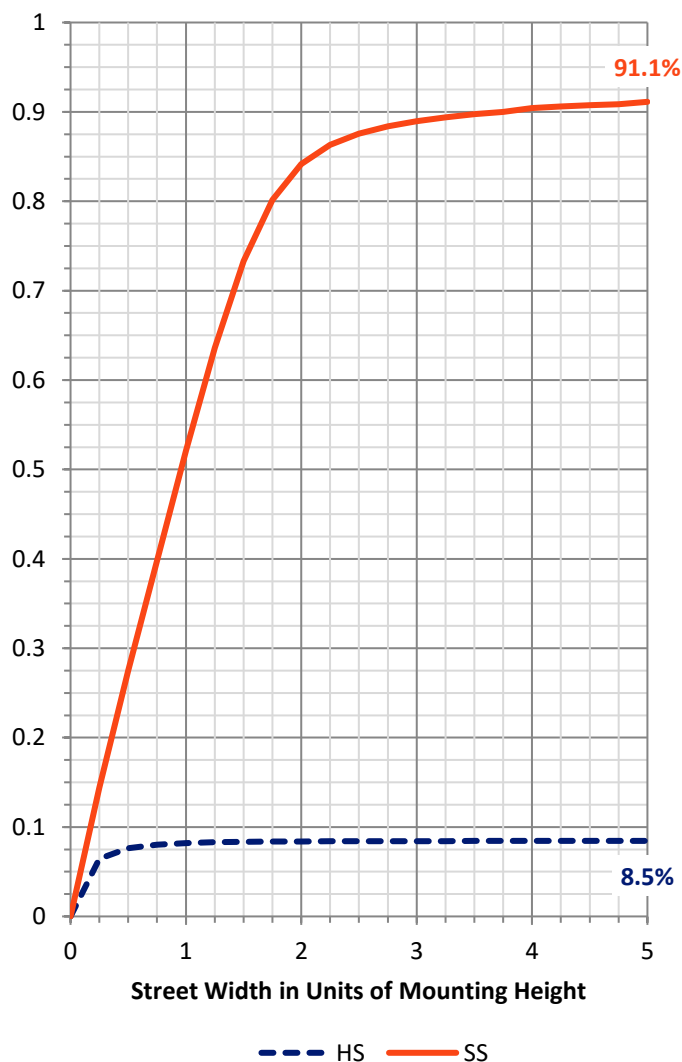
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	905.5	0.0	905.5
	% Fixture	8.5	0.0	8.5
<b>Street Side</b>	Lumens	9741.5	0.0	9741.5
	% Fixture	91.5	0.0	91.5
<b>Total</b>	Lumens	10647.0	0.0	10647.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.5	1.2
10°-20°	364.7	3.4
20°-30°	542.5	5.1
30°-40°	836.9	7.9
40°-50°	1493.6	14.0
50°-60°	2658.0	25.0
60°-70°	3095.6	29.1
70°-80°	1376.7	12.9
80°-90°	149.5	1.4
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°	10647.0	100.0
0°-180°	10647.0	100.0

**Coefficient of Utilization**



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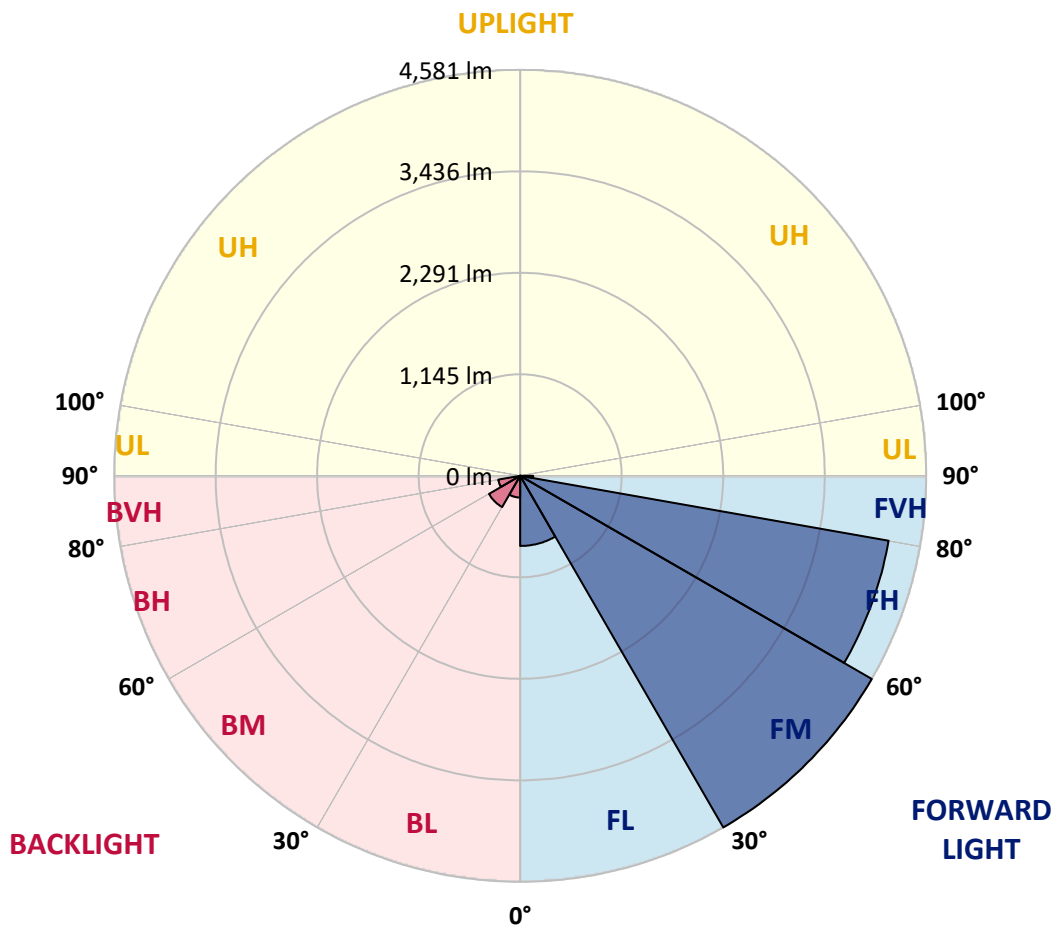
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	791.8	7.4			
FM (30°-60°)	4581.4	43.0			
FH (60°-80°)	4221.5	39.6			G2/5000
FVH (80°-90°)	146.8	1.4			G2/225
BL (0°-30°)	244.9	2.3	B1/500		
BM (30°-60°)	407.1	3.8	B1/1000		
BH (60°-80°)	250.8	2.4	B1/500		G1/500
BVH (80°-90°)	2.7	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°	59°	65°	75°	85°
0°	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3
2.5°	1388.7	1336.4	1262.0	1284.1	1304.1	1323.0	1291.7	1273.9	1265.3	1188.7	1284.7
5°	1705.2	1639.9	1606.0	1597.4	1575.8	1527.8	1607.6	1572.0	1583.9	1599.0	1630.2
7.5°	1801.7	1772.0	1723.0	1741.3	1659.4	1652.3	1762.9	1793.6	1834.0	1806.5	1844.3
10°	1752.1	1700.9	1724.0	1717.6	1714.3	1786.6	1864.2	1865.8	1926.2	1955.3	1827.6
12.5°	1654.0	1659.9	1742.9	1736.4	1844.3	1988.7	2006.5	1987.7	2086.3	2035.7	2016.2
15°	1719.2	1767.7	1721.9	1737.5	1775.8	1956.4	2019.5	2077.7	2171.0	2201.2	2070.2
17.5°	1797.9	1802.8	1719.2	1699.8	1796.3	1880.4	2029.2	2077.2	2086.3	2351.0	2191.5
20°	1755.3	1796.8	1697.1	1574.7	1724.6	1838.9	1989.8	1974.7	2036.2	2395.2	2218.9
22.5°	1868.5	1809.2	1681.5	1589.3	1639.9	1744.0	1871.8	1970.4	2062.6	2289.6	2254.5
25°	1879.3	1857.7	1744.0	1662.1	1653.4	1679.8	1857.7	1921.4	2065.8	2384.5	2224.3
27.5°	2000.6	1975.8	1742.9	1751.0	1670.1	1588.7	1789.8	1939.2	2124.6	2326.8	2288.5
30°	2156.9	2159.1	1858.8	1884.2	1768.8	1637.8	1845.3	1886.3	2164.5	2419.0	2335.9
32.5°	2315.4	2380.7	2087.9	1953.7	1917.6	1823.8	1776.3	1965.6	2120.8	2576.4	2454.5
35°	2556.4	2600.6	2276.6	2156.4	2014.6	1907.9	1964.0	2031.9	2277.7	2785.0	2610.3
37.5°	2964.5	2884.7	2615.2	2406.0	2372.1	2214.6	2242.7	2181.7	2437.8	3030.8	2918.7
40°	3194.2	3121.9	2841.6	2739.7	2523.0	2547.3	2458.8	2494.4	2670.2	3286.9	3199.6
42.5°	3433.5	3364.5	3118.7	3046.5	2840.0	2739.7	2699.8	2827.6	3026.5	3713.3	3602.3
45°	3674.0	3498.8	3394.7	3430.8	3338.1	3139.7	3093.4	3207.1	3415.8	4237.3	4027.1
47.5°	3876.7	3729.0	3650.8	3634.1	3598.0	3873.5	3684.8	3734.9	3827.1	4701.0	4556.5
50°	4242.2	4096.6	3974.3	3940.3	4116.0	4506.9	4215.8	4118.7	4303.1	5261.1	5170.0
52.5°	4770.0	4584.5	4389.9	4390.5	4722.0	4936.6	5074.6	4904.2	4938.7	5877.3	5836.9
55°	5194.3	4958.7	4797.5	4924.7	5419.1	5539.3	6066.0	5916.6	5871.9	6448.7	6399.1
57.5°	5252.5	4970.0	4893.4	5116.6	5793.2	6560.9	7127.5	6754.4	6685.9	6926.9	7025.6
60°	4709.1	4409.3	4467.0	4826.0	5915.0	7183.5	8102.2	7797.6	7362.5	7487.1	7555.0
62.5°	3512.3	3272.9	3434.6	3910.1	5445.5	7600.8	9230.5	9371.8	8147.5	7907.6	7893.0
65°	2278.8	2128.9	2235.1	2624.9	4120.9	7553.4	10238.6	10851.1	8765.8	8250.4	7999.2
67.5°	1507.3	1393.6	1408.7	1639.4	2664.8	6143.1	10841.4	11581.5	9461.2	8445.0	7390.6
70°	1123.5	1034.0	1039.4	1164.5	1581.7	4051.4	10000.9	11005.2	9715.2	7770.6	5965.2
72.5°	810.3	750.4	800.6	939.7	1260.4	2142.4	7454.2	9063.4	8471.5	6129.1	4019.0
75°	561.2	521.9	603.8	786.0	1150.4	1330.0	4925.8	6524.2	5937.7	3845.4	1816.8
77.5°	311.1	299.2	417.3	640.5	1044.2	1090.1	3017.4	4286.9	3293.4	1378.5	432.4
80°	135.9	131.5	202.2	480.9	877.7	984.9	1698.7	2376.9	1295.5	245.8	139.6
82.5°	58.2	56.1	86.3	289.5	637.8	823.7	1047.5	1144.0	445.8	76.0	79.2
85°	10.2	11.3	34.5	152.6	388.2	418.3	758.5	677.1	224.3	36.1	56.6
87.5°	0.0	0.0	5.4	29.7	72.8	119.7	328.9	237.2	42.6	11.9	9.7
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°	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3
2.5°	1298.2	1268.0	1153.1	1138.6	1123.0	1099.8	1091.1	1041.5	1035.1	1098.7	1098.7
5°	1615.7	1507.9	1398.4	1312.2	1235.1	1128.3	1098.2	1066.9	1041.5	1035.1	1055.0
7.5°	1783.4	1651.8	1479.8	1260.4	1082.5	927.8	863.1	817.8	767.1	782.2	790.3
10°	1774.2	1634.6	1415.1	1133.2	935.9	765.0	600.6	504.6	451.2	424.8	421.6
12.5°	1864.2	1732.7	1371.5	1031.8	780.1	544.0	377.9	309.4	270.1	270.6	267.4
15°	1916.5	1773.1	1320.8	903.5	549.3	349.9	262.0	246.9	241.5	247.4	244.2
17.5°	2008.7	1815.7	1206.0	712.2	377.9	264.2	241.0	235.0	242.1	254.5	251.2
20°	2001.7	1741.8	1042.6	501.9	279.3	237.7	228.0	218.9	233.4	246.4	244.2
22.5°	1995.2	1669.6	889.0	370.4	233.4	216.7	208.6	204.9	212.4	227.5	230.7
25°	1938.1	1634.0	733.2	278.2	211.3	196.8	193.0	189.8	192.5	204.9	204.3
27.5°	2008.2	1544.0	566.1	233.4	195.7	178.4	175.2	169.8	164.4	175.2	176.8
30°	1993.6	1556.4	443.7	205.4	180.1	156.9	158.0	146.6	136.9	146.6	146.6
32.5°	2046.4	1465.8	355.3	186.5	164.4	147.7	134.2	122.4	115.4	121.3	122.4
35°	2123.5	1469.6	278.2	174.7	150.9	131.5	115.4	103.5	97.0	99.7	101.4
37.5°	2381.8	1443.7	232.4	165.5	146.1	121.8	105.1	89.5	85.2	88.4	90.0
40°	2550.0	1512.7	204.9	160.7	133.7	112.1	90.0	78.7	74.9	76.6	79.2
42.5°	2866.9	1551.0	191.4	155.3	122.4	96.0	77.1	70.6	65.2	67.4	69.5
45°	3206.0	1616.2	181.1	149.3	113.8	84.1	67.9	62.5	55.5	56.1	58.2
47.5°	3622.8	1771.5	169.3	139.1	101.9	76.6	60.4	52.3	45.8	45.3	48.0
50°	4182.4	1979.0	158.5	126.1	94.3	70.1	52.8	42.6	37.2	35.6	37.7
52.5°	4779.7	2247.5	147.2	117.0	85.2	61.5	45.3	34.5	29.7	28.6	30.2
55°	5371.6	2505.2	136.4	111.1	75.5	52.8	38.3	28.6	24.3	23.2	24.3
57.5°	6046.0	2783.9	122.4	99.2	66.3	45.8	31.8	23.7	19.9	18.9	19.4
60°	6553.9	2882.0	110.5	86.3	57.7	40.4	27.0	18.9	16.2	15.1	15.6
62.5°	6794.8	2721.9	99.2	74.9	50.7	35.0	22.6	15.6	13.5	12.4	12.4
65°	6732.3	2367.2	87.9	64.2	43.7	29.1	17.8	13.5	11.9	10.2	9.7
67.5°	6009.9	1852.4	74.9	53.9	36.7	23.7	15.1	12.9	10.8	9.7	8.1
70°	4766.2	1341.3	60.9	44.7	30.7	19.4	11.9	11.9	10.2	9.7	7.5
72.5°	3124.1	844.2	49.6	36.1	25.3	15.1	9.2	10.8	9.7	9.7	7.0
75°	1353.7	301.9	39.9	29.1	21.0	10.2	8.1	9.7	10.2	9.7	8.1
77.5°	317.0	93.8	31.3	23.2	17.3	7.0	8.1	9.7	10.2	9.2	7.0
80°	119.1	39.9	20.5	15.1	13.5	4.3	7.0	5.9	5.4	3.8	1.1
82.5°	72.2	16.7	10.8	7.5	6.5	1.1	3.2	2.2	1.1	1.1	0.0
85°	51.2	8.1	5.9	5.4	3.2	0.0	0.5	0.0	0.0	0.5	0.0
87.5°	7.0	2.2	2.7	2.7	2.2	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)