

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: P596745

Luminaire Tested: **MSA-SA4A-827-U-SL3-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596745  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-827-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: 9359 lumens  
Efficiency: N/A  
Efficacy: 72.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

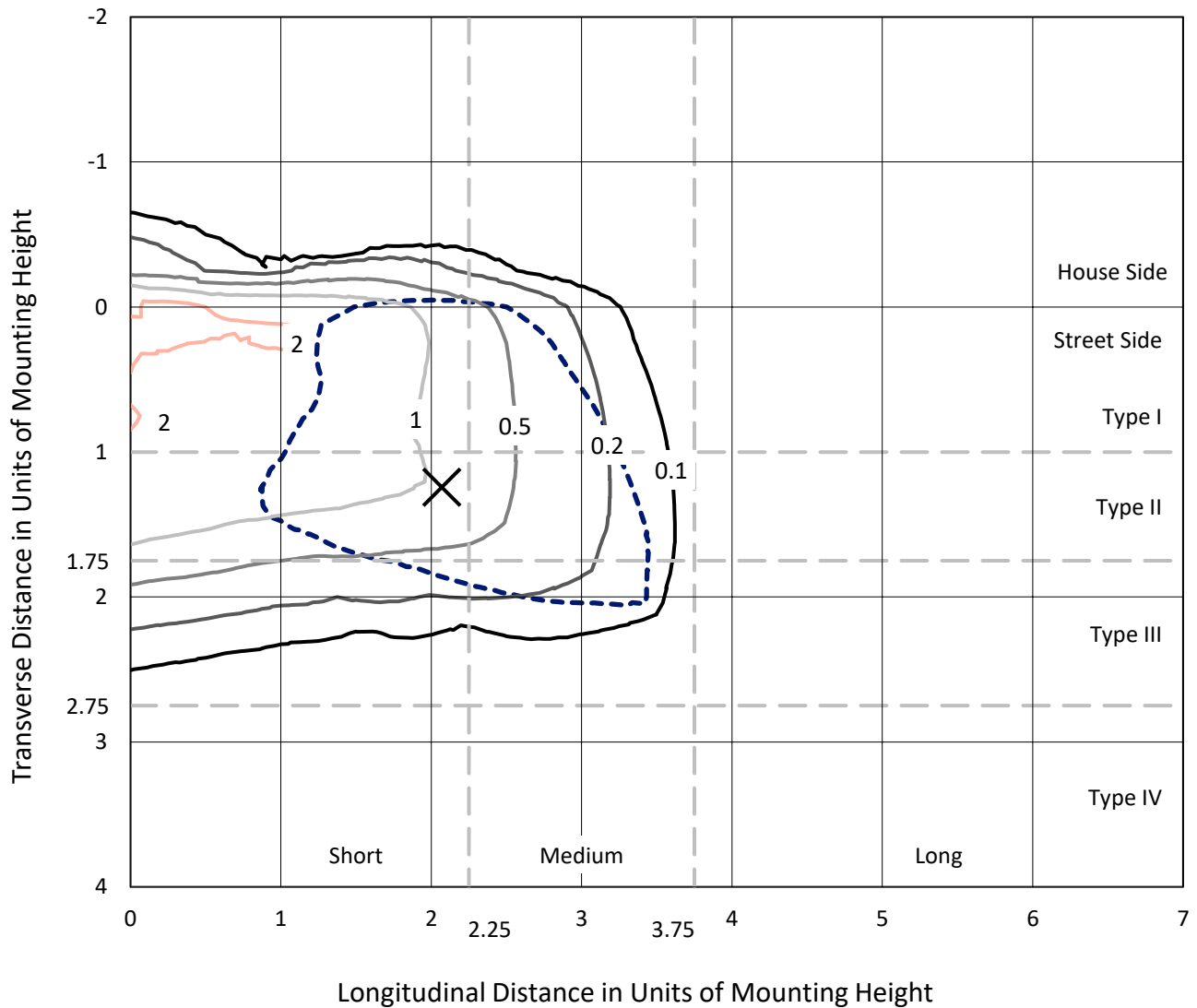
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

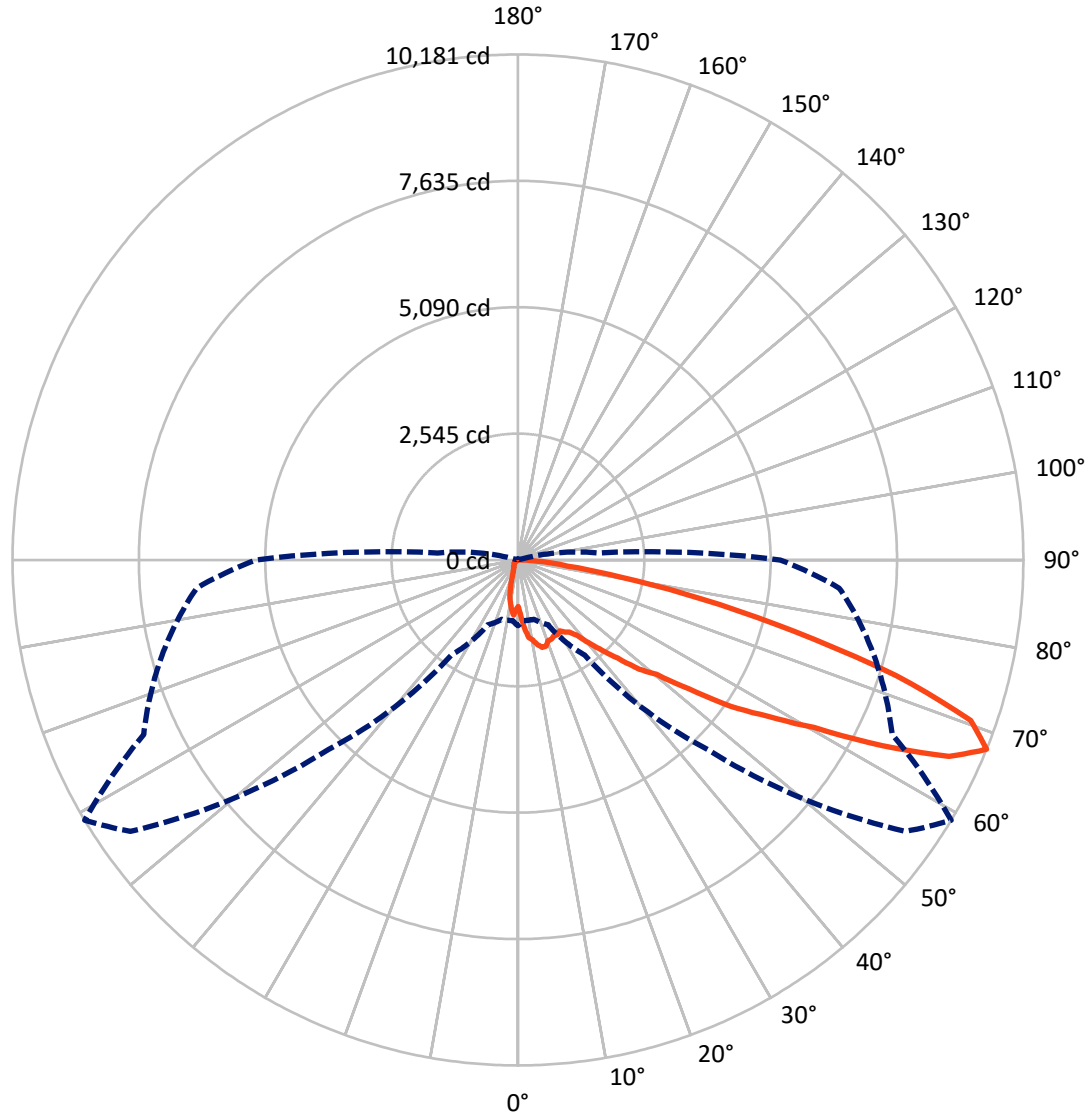
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 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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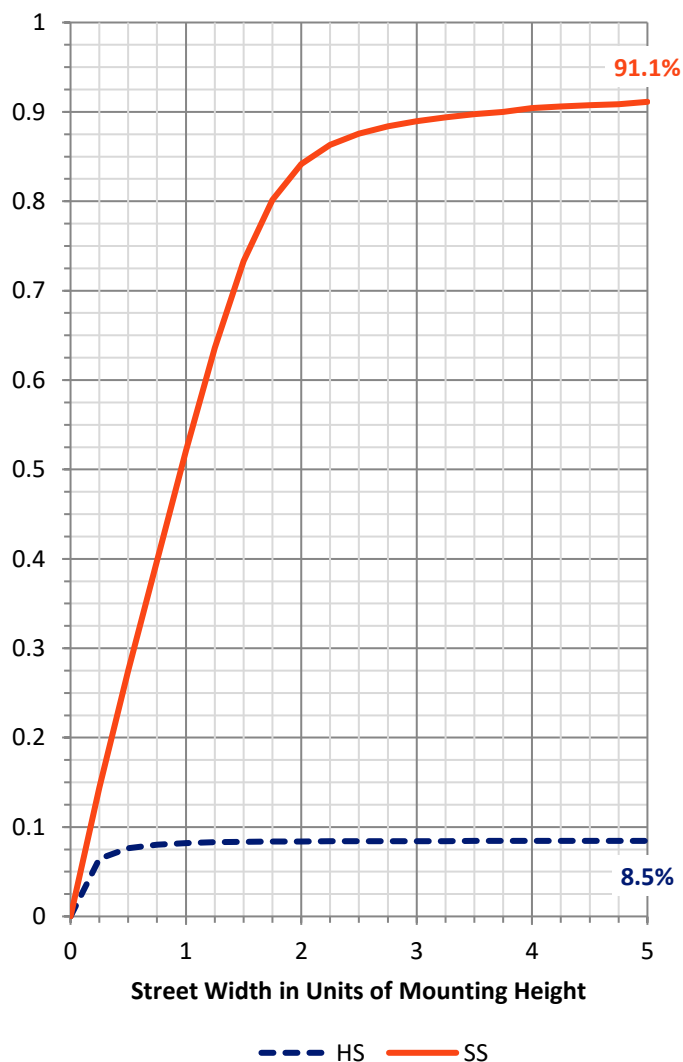
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	795.9	0.0	795.9
	% Fixture	8.5	0.0	8.5
<b>Street Side</b>	Lumens	8563.1	0.0	8563.1
	% Fixture	91.5	0.0	91.5
<b>Total</b>	Lumens	9359.0	0.0	9359.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.9	1.2
10°-20°	320.6	3.4
20°-30°	476.8	5.1
30°-40°	735.7	7.9
40°-50°	1312.9	14.0
50°-60°	2336.4	25.0
60°-70°	2721.1	29.1
70°-80°	1210.1	12.9
80°-90°	131.4	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°	9359.0	100.0
0°-180°	9359.0	100.0

**Coefficient of Utilization**



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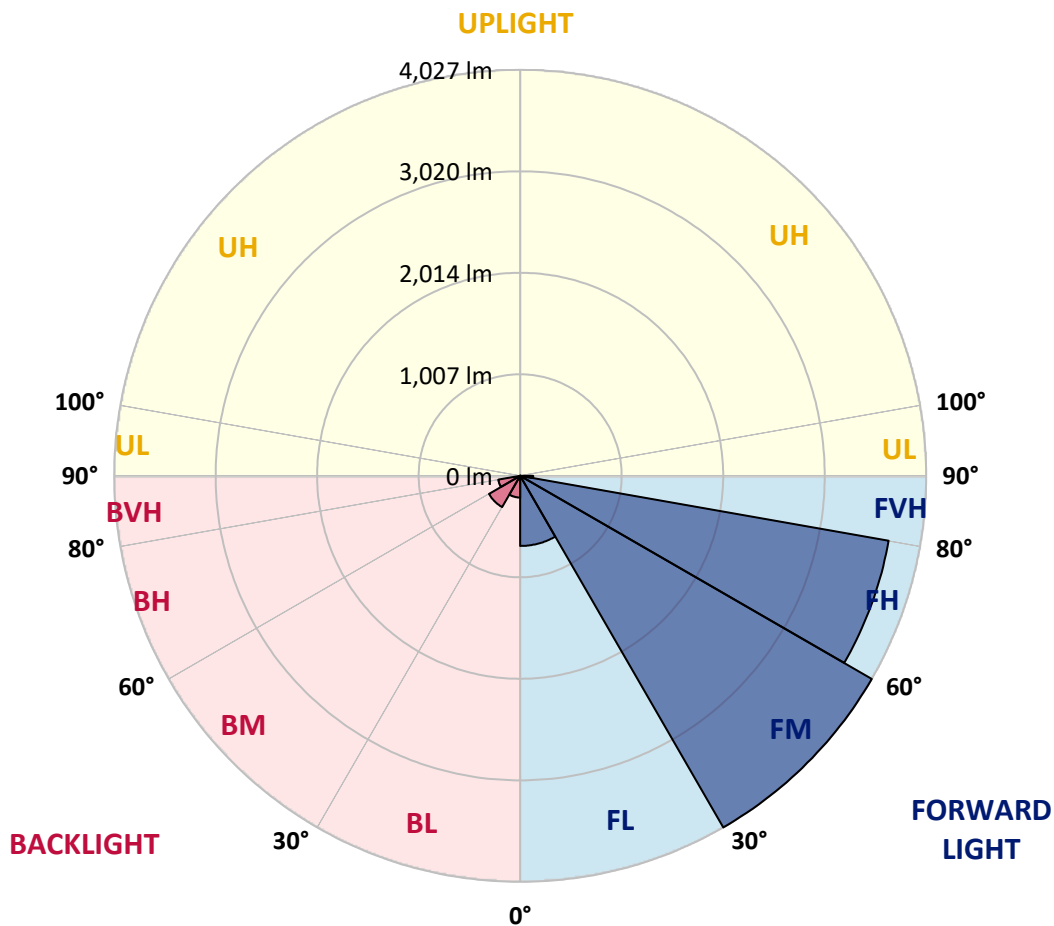
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	696.0	7.4			
FM (30°-60°)	4027.2	43.0			
FH (60°-80°)	3710.8	39.6			G2/5000
FVH (80°-90°)	129.1	1.4			G2/225
BL (0°-30°)	215.2	2.3	B1/500		
BM (30°-60°)	357.9	3.8	B1/1000		
BH (60°-80°)	220.5	2.4	B1/500		G1/500
BVH (80°-90°)	2.3	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°	936.4	936.4	936.4	936.4	936.4	936.4	936.4	936.4	936.4	936.4	936.4
2.5°	1220.7	1174.8	1109.4	1128.8	1146.3	1162.9	1135.4	1119.8	1112.2	1044.9	1129.3
5°	1498.9	1441.6	1411.7	1404.1	1385.2	1343.0	1413.1	1381.9	1392.3	1405.5	1433.0
7.5°	1583.7	1557.7	1514.5	1530.7	1458.6	1452.5	1549.6	1576.6	1612.2	1588.0	1621.2
10°	1540.1	1495.1	1515.5	1509.8	1507.0	1570.5	1638.7	1640.1	1693.2	1718.8	1606.5
12.5°	1453.9	1459.1	1532.1	1526.4	1621.2	1748.2	1763.8	1747.2	1833.9	1789.4	1772.3
15°	1511.2	1553.9	1513.6	1527.3	1561.0	1719.7	1775.2	1826.4	1908.3	1934.9	1819.7
17.5°	1580.4	1584.7	1511.2	1494.2	1579.0	1652.9	1783.7	1825.9	1833.9	2066.6	1926.3
20°	1543.0	1579.5	1491.8	1384.2	1516.0	1616.4	1749.1	1735.8	1789.9	2105.5	1950.5
22.5°	1642.5	1590.4	1478.0	1397.0	1441.6	1533.0	1645.3	1732.1	1813.1	2012.6	1981.8
25°	1652.0	1633.0	1533.0	1461.0	1453.4	1476.6	1633.0	1688.9	1815.9	2096.0	1955.3
27.5°	1758.6	1736.8	1532.1	1539.2	1468.1	1396.5	1573.3	1704.6	1867.6	2045.3	2011.6
30°	1896.0	1897.9	1634.0	1656.2	1554.8	1439.7	1622.1	1658.1	1902.7	2126.3	2053.3
32.5°	2035.3	2092.7	1835.4	1717.4	1685.6	1603.2	1561.5	1727.8	1864.3	2264.7	2157.6
35°	2247.2	2286.0	2001.2	1895.5	1770.9	1677.1	1726.4	1786.1	2002.2	2448.1	2294.6
37.5°	2605.9	2535.8	2298.8	2115.0	2085.1	1946.7	1971.4	1917.8	2142.9	2664.2	2565.6
40°	2807.8	2744.3	2497.9	2408.3	2217.8	2239.1	2161.4	2192.7	2347.2	2889.3	2812.5
42.5°	3018.2	2957.5	2741.4	2677.9	2496.4	2408.3	2373.2	2485.5	2660.4	3264.1	3166.5
45°	3229.5	3075.5	2984.1	3015.8	2934.3	2759.9	2719.2	2819.1	3002.5	3724.7	3539.9
47.5°	3407.7	3277.9	3209.2	3194.5	3162.7	3404.9	3239.0	3283.1	3364.1	4132.3	4005.3
50°	3729.0	3601.1	3493.5	3463.6	3618.1	3961.7	3705.8	3620.5	3782.6	4624.6	4544.6
52.5°	4192.9	4029.9	3858.9	3859.3	4150.8	4339.4	4460.7	4310.9	4341.3	5166.3	5130.8
55°	4565.9	4358.8	4217.1	4328.9	4763.5	4869.2	5332.2	5200.9	5161.6	5668.6	5625.0
57.5°	4617.1	4368.8	4301.5	4497.6	5092.4	5767.2	6265.2	5937.3	5877.1	6089.0	6175.7
60°	4139.4	3875.9	3926.6	4242.2	5199.5	6314.5	7122.0	6854.3	6471.9	6581.3	6641.0
62.5°	3087.4	2877.0	3019.1	3437.1	4786.7	6681.3	8113.9	8238.0	7161.8	6951.0	6938.2
65°	2003.1	1871.4	1964.7	2307.3	3622.4	6639.6	9000.0	9538.4	7705.4	7252.3	7031.5
67.5°	1325.0	1225.0	1238.3	1441.1	2342.4	5399.9	9529.8	10180.5	8316.7	7423.4	6496.5
70°	987.6	908.9	913.7	1023.6	1390.4	3561.3	8791.1	9673.9	8539.9	6830.6	5243.5
72.5°	712.3	659.6	703.7	826.0	1107.9	1883.2	6552.4	7967.0	7446.6	5387.6	3532.8
75°	493.3	458.7	530.8	690.9	1011.3	1169.1	4329.9	5735.0	5219.4	3380.2	1597.0
77.5°	273.4	263.0	366.8	563.0	917.9	958.2	2652.3	3768.3	2895.0	1211.7	380.1
80°	119.4	115.6	177.7	422.7	771.5	865.8	1493.2	2089.4	1138.7	216.1	122.7
82.5°	51.2	49.3	75.8	254.5	560.6	724.1	920.8	1005.6	391.9	66.8	69.7
85°	9.0	10.0	30.3	134.1	341.2	367.7	666.8	595.2	197.1	31.8	49.8
87.5°	0.0	0.0	4.7	26.1	64.0	105.2	289.1	208.5	37.4	10.4	8.5
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°	936.4	936.4	936.4	936.4	936.4	936.4	936.4	936.4	936.4	936.4	936.4
2.5°	1141.1	1114.6	1013.6	1000.8	987.1	966.7	959.1	915.5	909.9	965.8	965.8
5°	1420.2	1325.5	1229.3	1153.4	1085.7	991.8	965.3	937.8	915.5	909.9	927.4
7.5°	1567.6	1452.0	1300.8	1107.9	951.6	815.6	758.7	718.9	674.3	687.6	694.7
10°	1559.6	1436.8	1243.9	996.1	822.7	672.4	527.9	443.6	396.6	373.4	370.6
12.5°	1638.7	1523.1	1205.6	907.0	685.7	478.2	332.2	272.0	237.4	237.9	235.0
15°	1684.7	1558.6	1161.0	794.2	482.9	307.6	230.3	217.0	212.3	217.5	214.7
17.5°	1765.7	1596.0	1060.1	626.0	332.2	232.2	211.8	206.6	212.8	223.7	220.8
20°	1759.5	1531.1	916.5	441.2	245.5	209.0	200.5	192.4	205.2	216.6	214.7
22.5°	1753.9	1467.6	781.4	325.6	205.2	190.5	183.4	180.1	186.7	200.0	202.8
25°	1703.6	1436.3	644.5	244.5	185.8	173.0	169.7	166.8	169.2	180.1	179.6
27.5°	1765.2	1357.2	497.6	205.2	172.0	156.9	154.0	149.3	144.5	154.0	155.4
30°	1752.4	1368.1	390.0	180.6	158.3	137.9	138.8	128.9	120.4	128.9	128.9
32.5°	1798.9	1288.5	312.3	164.0	144.5	129.8	118.0	107.6	101.4	106.6	107.6
35°	1866.6	1291.8	244.5	153.5	132.7	115.6	101.4	91.0	85.3	87.7	89.1
37.5°	2093.6	1269.1	204.2	145.5	128.4	107.1	92.4	78.7	74.9	77.7	79.1
40°	2241.5	1329.7	180.1	141.2	117.5	98.6	79.1	69.2	65.9	67.3	69.7
42.5°	2520.1	1363.4	168.2	136.5	107.6	84.4	67.8	62.1	57.3	59.2	61.1
45°	2818.2	1420.7	159.2	131.3	100.0	73.9	59.7	55.0	48.8	49.3	51.2
47.5°	3184.5	1557.2	148.8	122.3	89.6	67.3	53.1	46.0	40.3	39.8	42.2
50°	3676.4	1739.6	139.3	110.9	82.9	61.6	46.4	37.4	32.7	31.3	33.2
52.5°	4201.5	1975.6	129.4	102.8	74.9	54.0	39.8	30.3	26.1	25.1	26.5
55°	4721.8	2202.1	119.9	97.6	66.3	46.4	33.6	25.1	21.3	20.4	21.3
57.5°	5314.6	2447.1	107.6	87.2	58.3	40.3	28.0	20.9	17.5	16.6	17.1
60°	5761.0	2533.4	97.1	75.8	50.7	35.5	23.7	16.6	14.2	13.3	13.7
62.5°	5972.9	2392.6	87.2	65.9	44.5	30.8	19.9	13.7	11.8	10.9	10.9
65°	5917.9	2080.8	77.2	56.4	38.4	25.6	15.6	11.8	10.4	9.0	8.5
67.5°	5282.9	1628.3	65.9	47.4	32.2	20.9	13.3	11.4	9.5	8.5	7.1
70°	4189.6	1179.0	53.5	39.3	27.0	17.1	10.4	10.4	9.0	8.5	6.6
72.5°	2746.2	742.1	43.6	31.8	22.3	13.3	8.1	9.5	8.5	8.5	6.2
75°	1189.9	265.4	35.1	25.6	18.5	9.0	7.1	8.5	9.0	8.5	7.1
77.5°	278.6	82.5	27.5	20.4	15.2	6.2	7.1	8.5	9.0	8.1	6.2
80°	104.7	35.1	18.0	13.3	11.8	3.8	6.2	5.2	4.7	3.3	0.9
82.5°	63.5	14.7	9.5	6.6	5.7	0.9	2.8	1.9	0.9	0.9	0.0
85°	45.0	7.1	5.2	4.7	2.8	0.0	0.5	0.0	0.0	0.5	0.0
87.5°	6.2	1.9	2.4	2.4	1.9	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)