

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: P596581

Luminaire Tested: **MSA-SA2A-827-U-T4FT-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596581  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2A-827-U-T4FT-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4375 lumens  
Efficiency: N/A  
Efficacy: 66.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

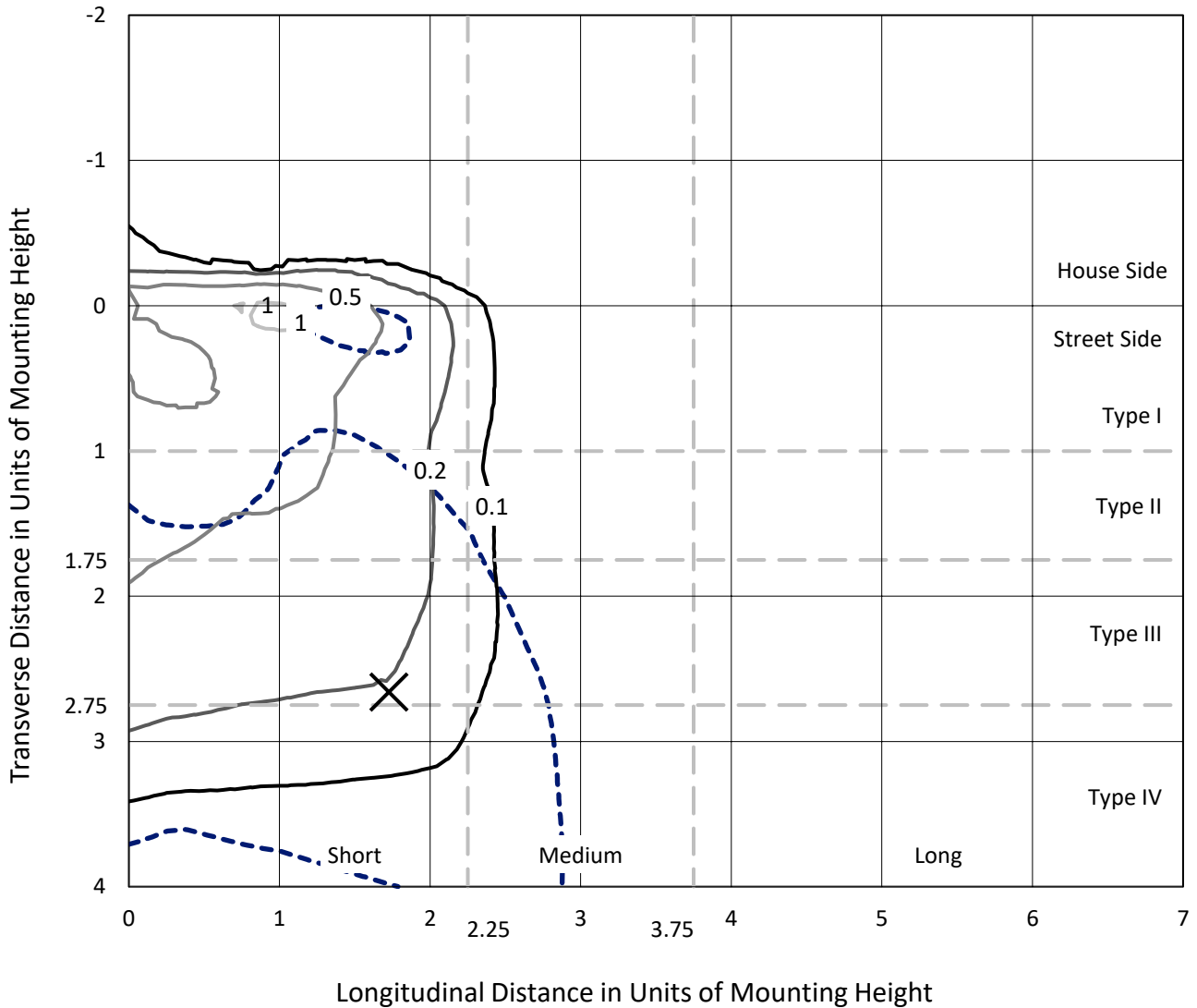
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

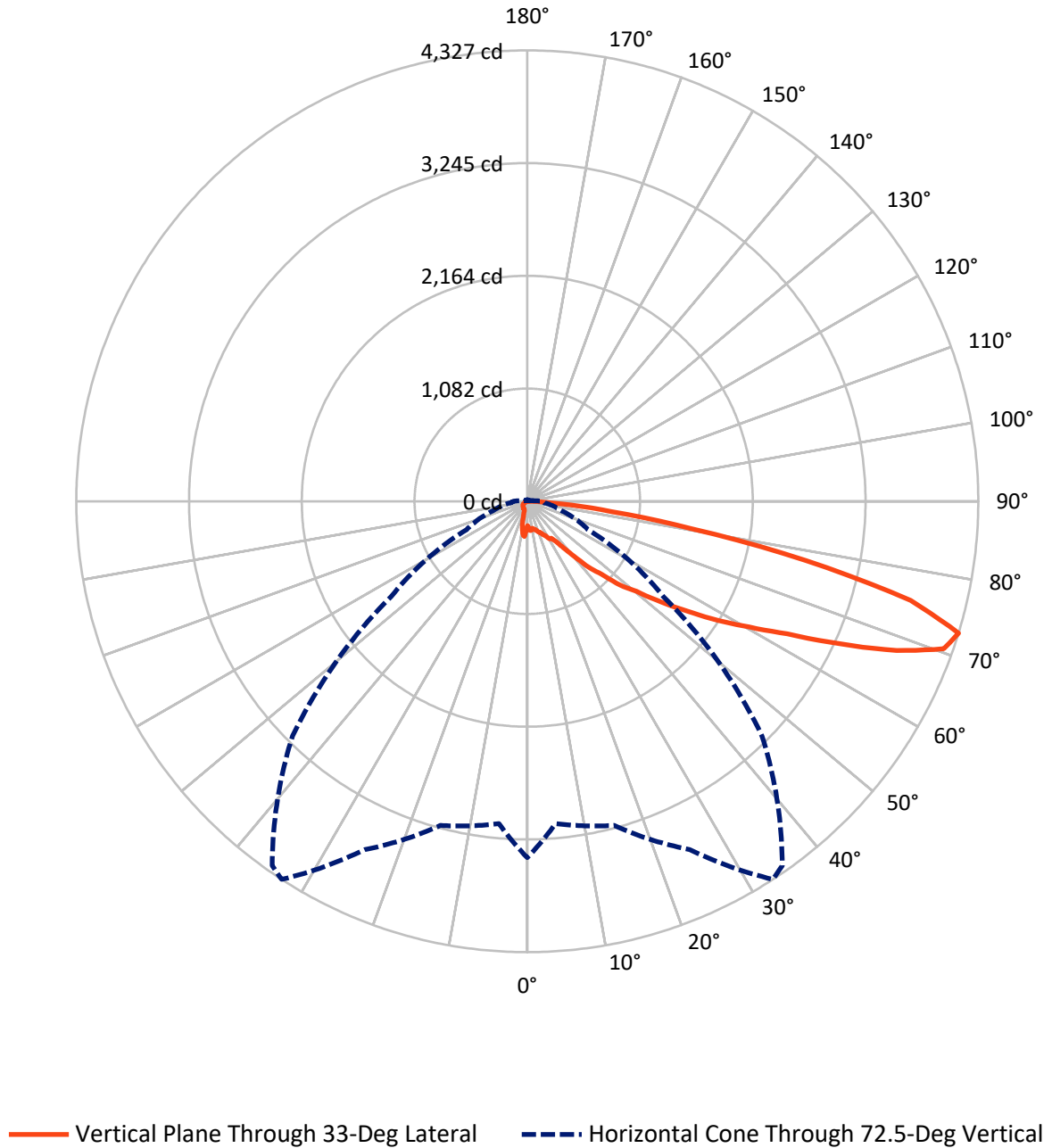
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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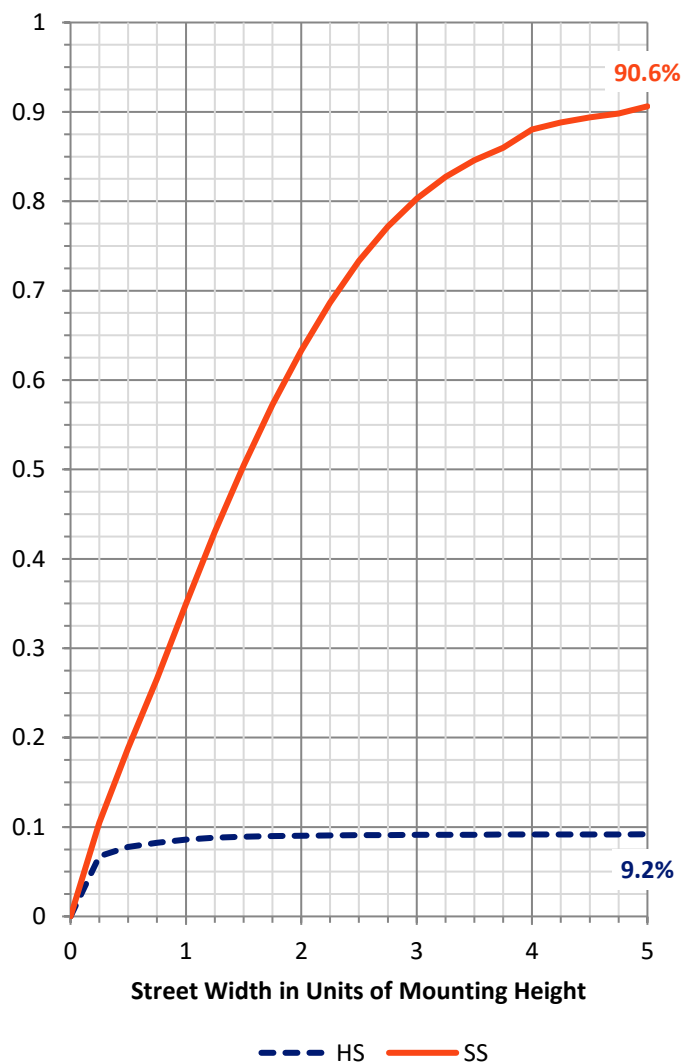
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	404.5	0.0	404.5
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	3970.5	0.0	3970.5
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	4375.0	0.0	4375.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.1	0.7
10°-20°	89.7	2.1
20°-30°	152.2	3.5
30°-40°	278.5	6.4
40°-50°	587.9	13.4
50°-60°	983.6	22.5
60°-70°	1316.6	30.1
70°-80°	860.0	19.7
80°-90°	76.2	1.7
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°	4375.0	100.0
0°-180°	4375.0	100.0

**Coefficient of Utilization**



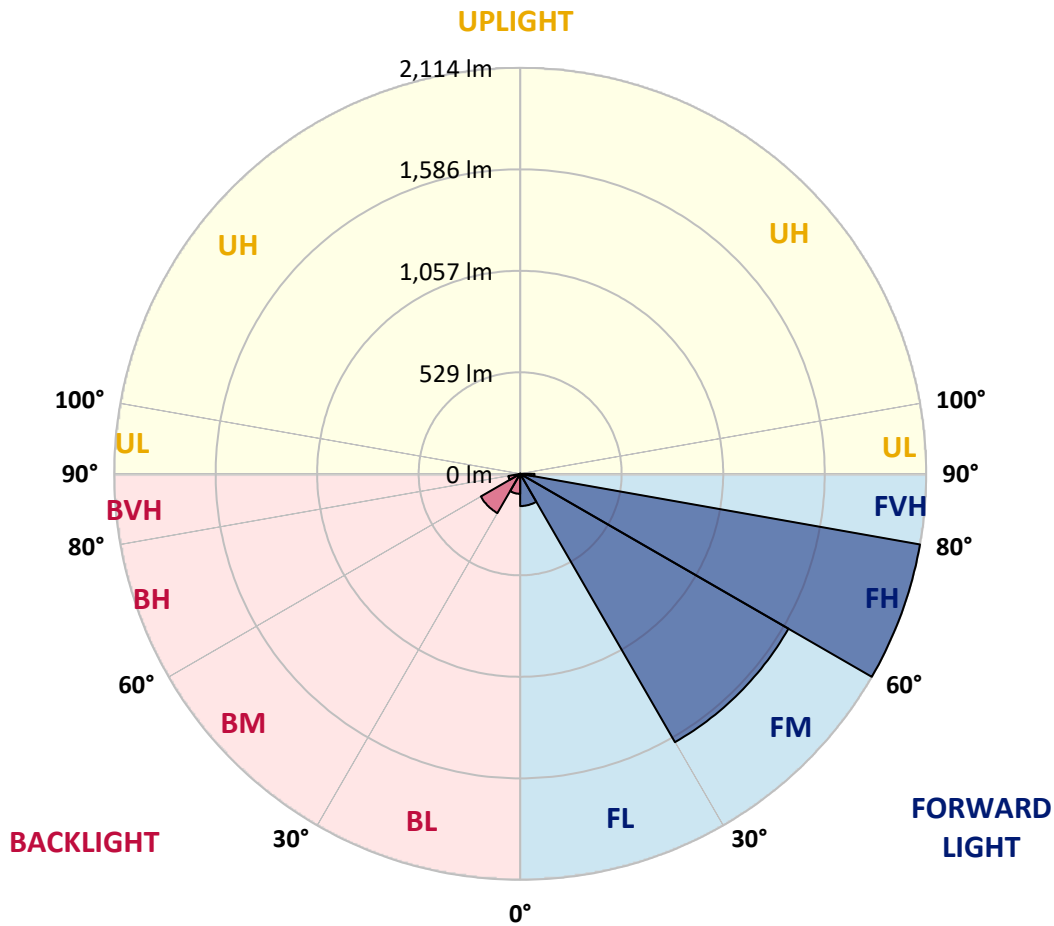
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	167.9	3.8			
FM (30°-60°)	1613.6	36.9			
FH (60°-80°)	2114.2	48.3			G2/5000
FVH (80°-90°)	74.8	1.7			G1/100
BL (0°-30°)	104.1	2.4	B0/110		
BM (30°-60°)	236.5	5.4	B1/1000		
BH (60°-80°)	62.4	1.4	B0/110		G0/110
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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	232.7	232.7	232.7	232.7	232.7	232.7	232.7	232.7	232.7	232.7	232.7
2.5°	277.4	266.7	251.2	252.1	254.8	257.0	262.8	260.4	255.8	255.5	277.4
5°	293.9	282.0	281.0	282.5	281.8	285.7	280.8	296.6	309.9	326.0	351.7
7.5°	285.9	280.3	273.3	280.6	280.3	278.4	281.5	313.6	345.9	366.3	408.8
10°	262.8	256.5	261.8	264.3	262.6	271.1	292.2	318.4	357.1	399.8	420.5
12.5°	256.3	260.1	262.1	262.1	278.4	282.7	315.0	339.8	385.7	419.5	479.5
15°	281.8	289.3	275.9	273.0	278.1	280.6	316.5	346.4	405.2	466.9	517.1
17.5°	322.3	321.8	301.2	289.8	297.8	303.6	323.5	358.5	393.0	504.0	576.9
20°	350.3	350.7	313.6	289.8	316.3	319.7	341.8	369.7	396.9	522.7	616.0
22.5°	386.2	373.3	332.3	309.2	327.2	330.3	354.6	376.7	416.8	520.5	666.0
25°	415.6	407.3	355.6	339.6	355.6	351.2	373.3	406.6	438.2	555.3	695.4
27.5°	461.3	447.2	372.1	375.0	374.1	377.2	382.3	433.3	475.8	557.0	763.4
30°	503.8	495.5	409.0	409.0	418.5	412.4	416.1	477.8	512.3	596.3	840.0
32.5°	547.7	548.2	452.5	429.4	421.9	446.9	471.5	499.4	556.2	663.8	957.0
35°	664.1	654.4	535.8	478.3	472.2	470.7	510.1	585.6	634.2	751.8	1114.7
37.5°	898.5	864.7	715.1	589.0	566.2	558.4	603.1	680.6	728.9	881.0	1375.3
40°	1139.0	1077.0	910.9	768.8	694.7	661.2	713.2	779.0	865.0	1023.8	1616.5
42.5°	1350.0	1273.5	1058.3	962.6	866.2	851.6	802.8	909.9	1059.3	1231.8	1852.8
45°	1555.8	1405.2	1189.5	1113.7	996.6	1004.9	988.4	1081.2	1261.1	1459.6	2062.5
47.5°	1697.4	1562.1	1350.3	1251.9	1205.0	1156.7	1287.9	1384.3	1440.9	1604.4	2243.7
50°	1849.9	1712.9	1488.5	1419.8	1358.1	1406.9	1577.2	1590.0	1585.4	1739.4	2367.1
52.5°	2046.9	1885.4	1647.1	1569.4	1604.4	1652.9	1849.4	1851.9	1713.9	1853.1	2456.0
55°	2229.1	2050.1	1858.4	1785.1	1858.2	1899.2	2117.1	2037.2	1788.7	1930.3	2499.7
57.5°	2485.8	2278.7	2139.5	2010.2	2158.4	2119.1	2352.5	2233.7	1872.8	1981.6	2483.7
60°	2810.4	2566.5	2427.1	2290.3	2449.2	2475.9	2582.3	2331.8	1905.3	1998.3	2387.2
62.5°	3140.5	2895.1	2711.7	2619.0	2799.2	2887.1	2795.1	2380.7	1866.2	1965.6	2168.9
65°	3550.0	3235.9	3021.7	2967.3	3301.3	3430.5	3046.7	2392.6	1790.7	1785.1	1743.8
67.5°	3830.5	3524.7	3328.2	3419.3	3822.8	3833.2	3272.6	2396.2	1536.3	1397.7	1144.5
70°	3897.1	3569.7	3481.7	3749.9	4238.9	4107.5	3345.5	2211.6	1139.4	829.5	523.2
72.5°	3421.0	3105.7	3220.1	3687.5	4327.3	4267.0	3184.4	1595.6	641.5	331.8	160.6
75°	2098.4	1907.7	2415.7	3126.4	3798.5	3759.6	2484.4	824.4	258.4	132.6	60.0
77.5°	912.6	847.5	1260.7	2074.4	2729.5	2694.7	1455.7	303.6	133.6	93.3	30.4
80°	301.9	292.9	477.5	982.3	1598.8	1568.2	613.3	126.3	95.2	74.8	17.0
82.5°	71.7	71.2	166.6	452.0	814.4	788.9	188.2	69.7	69.0	59.0	9.0
85°	18.0	18.5	46.2	184.8	330.8	291.7	49.1	34.7	48.6	40.1	4.6
87.5°	0.0	0.0	11.9	26.5	50.0	31.3	5.3	9.2	13.6	14.3	2.4
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°	232.7	232.7	232.7	232.7	232.7	232.7	232.7	232.7	232.7	232.7	232.7
2.5°	282.3	279.6	257.7	263.1	271.3	270.6	275.9	271.8	268.2	286.1	284.4
5°	359.0	344.4	337.6	347.1	342.0	330.1	340.1	338.4	335.4	341.5	346.1
7.5°	416.6	403.2	397.1	377.2	348.3	325.5	329.1	320.6	312.6	322.1	331.8
10°	435.5	428.2	427.5	388.6	361.4	328.4	289.3	255.5	246.5	234.6	240.0
12.5°	487.0	491.4	463.9	418.5	366.1	302.7	233.2	185.3	165.9	153.3	154.0
15°	529.3	544.6	504.7	423.1	322.1	230.8	155.2	112.2	100.1	96.9	95.9
17.5°	592.2	607.0	517.4	390.3	259.7	156.4	99.8	87.4	88.2	90.4	89.9
20°	638.8	636.6	506.4	332.3	191.4	102.5	83.6	81.9	85.7	92.1	90.6
22.5°	683.8	668.7	499.6	278.6	123.9	82.3	80.6	80.4	84.0	90.1	91.8
25°	715.8	718.3	488.2	218.1	90.1	76.5	78.0	80.2	83.8	90.4	89.4
27.5°	807.6	739.6	440.6	158.4	76.0	73.4	77.0	81.4	82.6	90.8	91.1
30°	867.2	820.3	409.5	106.6	70.2	67.8	75.1	80.9	82.3	93.0	93.8
32.5°	970.9	855.0	373.6	79.2	65.3	66.1	70.7	78.5	85.3	96.7	97.2
35°	1099.9	966.5	308.5	71.2	63.6	62.4	64.6	73.6	84.8	97.2	99.6
37.5°	1345.4	1033.3	244.6	69.0	63.6	61.5	63.6	69.0	83.3	102.0	107.1
40°	1509.9	1169.3	176.3	68.5	62.4	60.5	61.2	66.6	79.2	99.1	106.6
42.5°	1712.5	1226.7	130.0	67.3	61.2	58.3	58.8	65.6	75.1	93.0	98.6
45°	1878.4	1268.4	102.3	66.8	58.3	57.3	58.3	64.9	71.2	79.9	85.0
47.5°	2004.4	1317.0	82.1	63.6	57.6	57.3	56.1	60.7	64.6	66.8	70.2
50°	2096.7	1306.1	68.0	58.8	55.1	56.6	54.4	55.1	56.1	54.9	58.8
52.5°	2153.3	1266.7	56.6	53.0	52.2	53.4	50.8	48.6	46.9	45.9	48.3
55°	2174.0	1187.8	48.1	45.4	47.1	47.6	45.4	41.5	38.6	37.2	39.1
57.5°	2134.9	1067.6	41.8	37.6	41.5	41.5	38.6	34.5	31.1	28.7	30.6
60°	2035.8	934.7	37.2	31.3	35.5	35.7	32.3	27.9	25.3	22.8	24.0
62.5°	1851.1	789.9	32.5	27.2	30.6	30.8	26.7	22.6	20.6	18.0	18.9
65°	1481.9	604.1	27.7	24.0	26.5	25.7	22.1	19.2	16.8	14.3	14.8
67.5°	961.9	372.9	24.0	21.9	22.3	21.6	18.7	16.8	14.1	12.1	12.4
70°	430.7	160.6	21.1	19.7	19.4	18.2	15.8	15.5	13.8	12.1	12.1
72.5°	132.9	60.5	18.2	17.7	16.8	15.3	13.8	14.8	13.6	11.7	11.4
75°	52.5	27.7	15.1	15.1	14.6	12.6	12.4	13.4	12.6	10.7	10.2
77.5°	27.4	17.5	12.4	12.9	12.6	9.7	11.2	12.1	11.7	9.0	7.5
80°	16.3	10.7	9.2	10.4	10.2	6.8	8.5	7.8	5.6	2.7	0.7
82.5°	9.0	4.9	4.1	6.1	6.1	2.4	4.4	3.9	2.2	0.0	0.0
85°	4.4	3.4	3.2	3.4	2.4	0.7	2.2	2.2	1.2	0.0	0.0
87.5°	2.2	1.9	1.5	1.2	1.0	0.0	0.7	1.0	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)