

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: P367321

Luminaire Tested: **MSA-SA2B-740-U-T4FT-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367321  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2B-740-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: 7459 lumens  
Efficiency: N/A  
Efficacy: 87.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

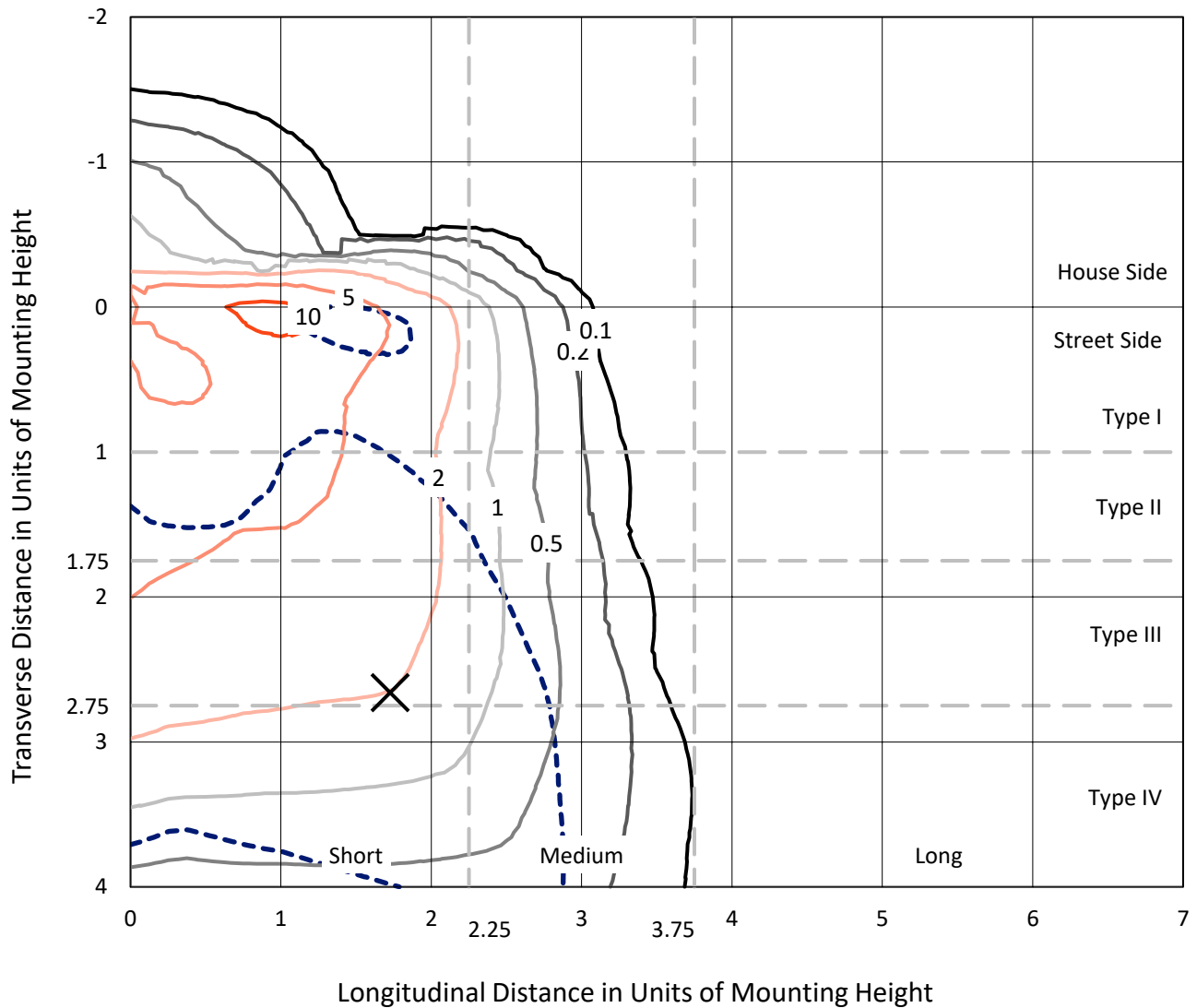
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

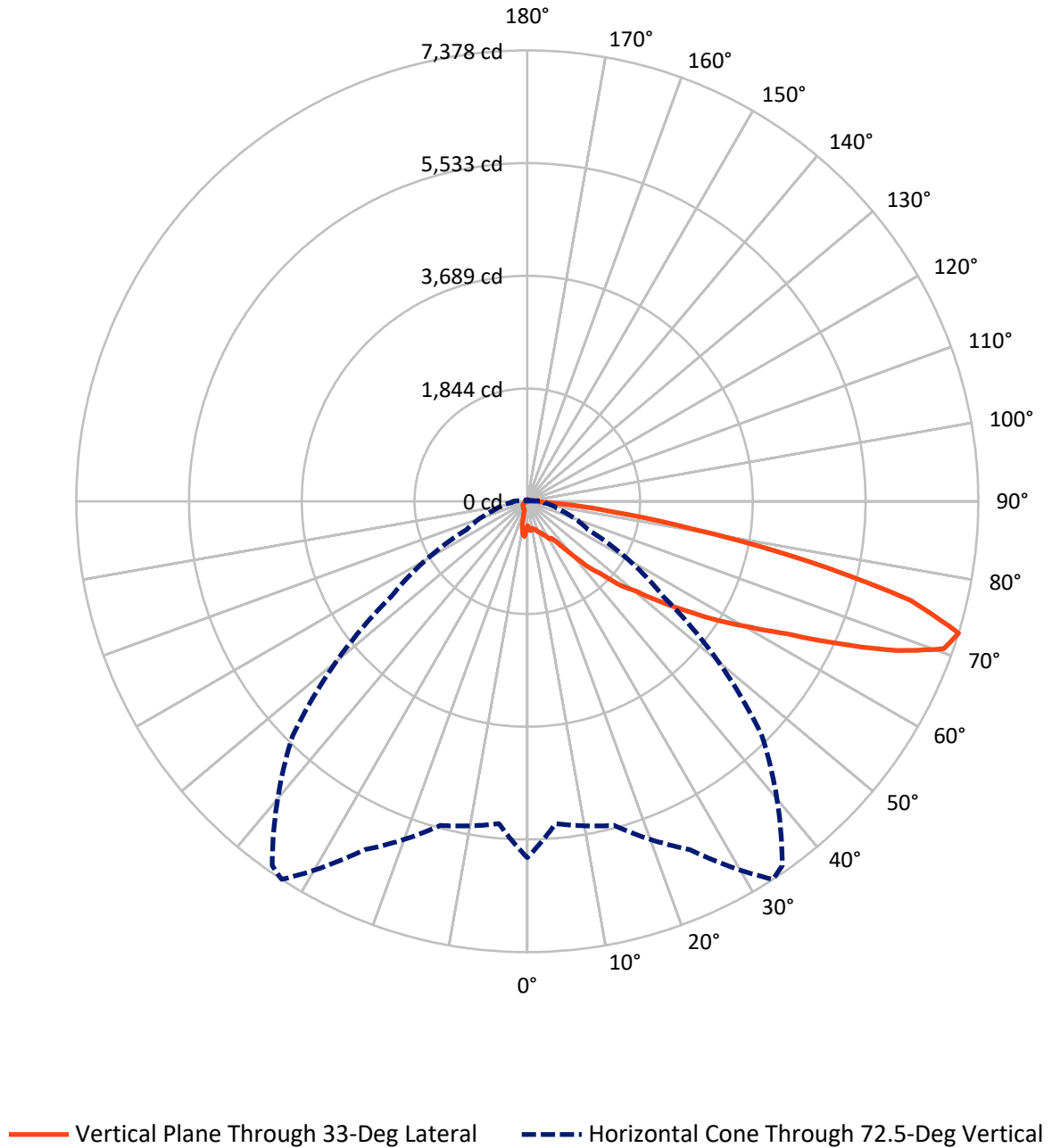
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.7 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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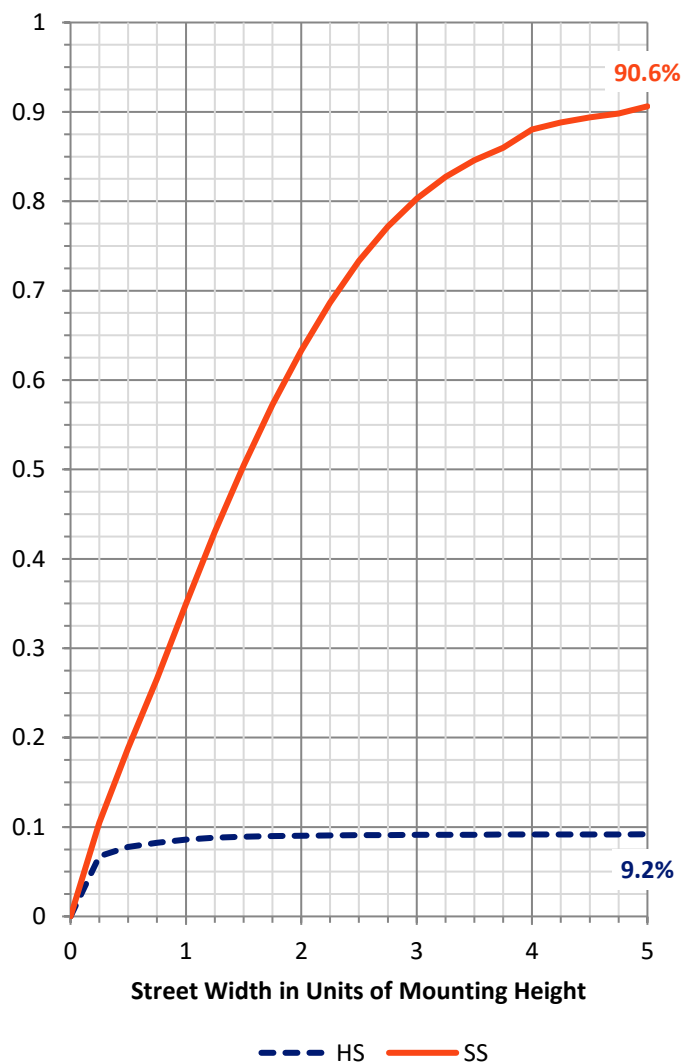
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	689.7	0.0	689.7
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	6769.3	0.0	6769.3
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	7459.0	0.0	7459.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.4	0.7
10°-20°	153.0	2.1
20°-30°	259.5	3.5
30°-40°	474.9	6.4
40°-50°	1002.3	13.4
50°-60°	1677.0	22.5
60°-70°	2244.7	30.1
70°-80°	1466.3	19.7
80°-90°	130.0	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°	7459.0	100.0
0°-180°	7459.0	100.0

**Coefficient of Utilization**



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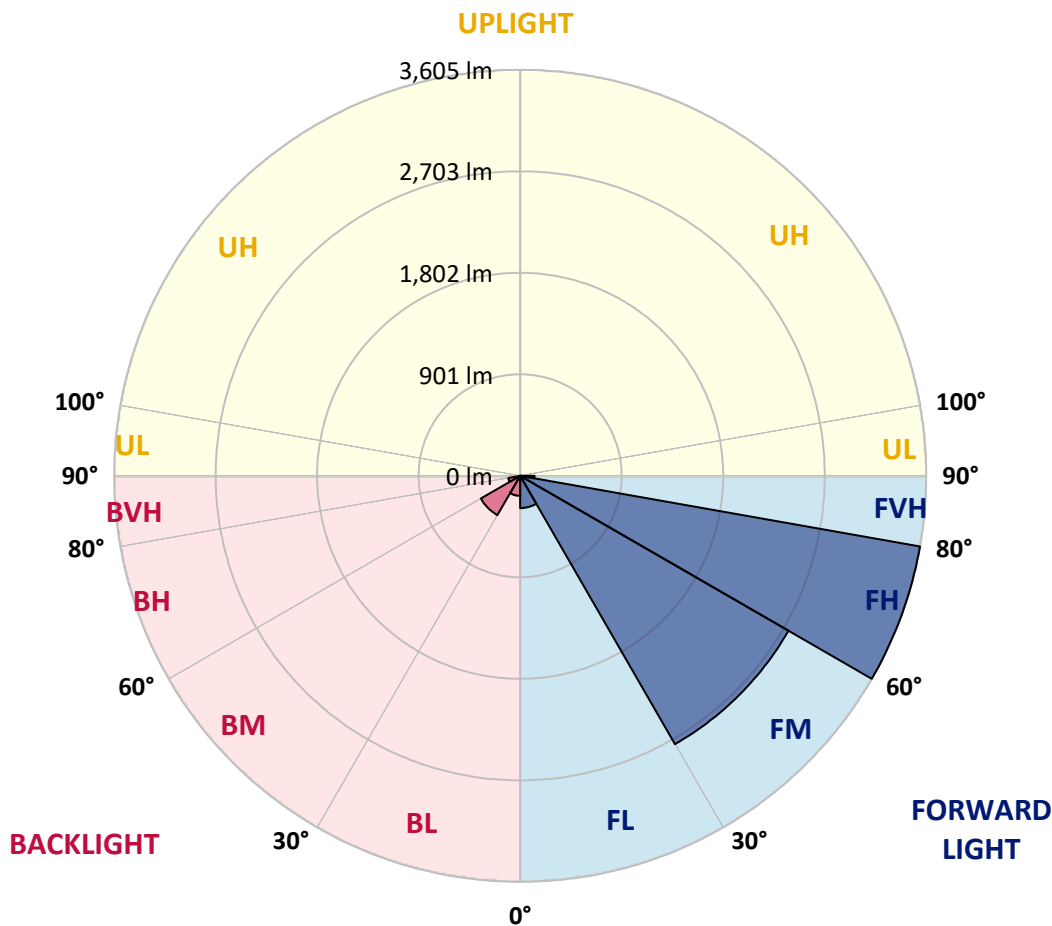
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	286.3	3.8			
FM (30°-60°)	2751.0	36.9			
FH (60°-80°)	3604.5	48.3			G2/5000
FVH (80°-90°)	127.5	1.7			G2/225
BL (0°-30°)	177.5	2.4	B1/500		
BM (30°-60°)	403.2	5.4	B1/1000		
BH (60°-80°)	106.5	1.4	B0/110		G0/110
BVH (80°-90°)	2.5	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°	396.7	396.7	396.7	396.7	396.7	396.7	396.7	396.7	396.7	396.7	396.7
2.5°	472.9	454.7	428.2	429.9	434.4	438.1	448.1	443.9	436.1	435.7	472.9
5°	501.1	480.8	479.1	481.6	480.4	487.0	478.7	505.6	528.4	555.8	599.7
7.5°	487.4	477.9	465.9	478.3	477.9	474.6	480.0	534.6	589.7	624.5	697.0
10°	448.1	437.3	446.4	450.6	447.7	462.2	498.2	542.9	608.8	681.7	716.9
12.5°	436.9	443.5	446.8	446.8	474.6	482.0	537.1	579.4	657.6	715.2	817.5
15°	480.4	493.2	470.4	465.5	474.2	478.3	539.6	590.5	690.8	795.9	881.7
17.5°	549.5	548.7	513.5	494.1	507.7	517.7	551.6	611.2	670.1	859.3	983.5
20°	597.2	598.0	534.6	494.1	539.2	545.0	582.7	630.3	676.7	891.2	1050.2
22.5°	658.5	636.5	566.5	527.2	557.8	563.2	604.6	642.3	710.6	887.5	1135.5
25°	708.6	694.5	606.3	578.9	606.3	598.8	636.5	693.2	747.1	946.7	1185.6
27.5°	786.4	762.4	634.4	639.4	637.8	643.1	651.8	738.8	811.3	949.6	1301.6
30°	858.9	844.8	697.4	697.4	713.5	703.2	709.4	814.6	873.4	1016.7	1432.0
32.5°	933.9	934.7	771.5	732.2	719.3	762.0	803.8	851.4	948.3	1131.8	1631.7
35°	1132.2	1115.7	913.6	815.4	805.1	802.6	869.7	998.5	1081.3	1281.7	1900.4
37.5°	1531.8	1474.3	1219.2	1004.3	965.3	952.1	1028.3	1160.4	1242.8	1502.0	2344.8
40°	1941.8	1836.2	1553.0	1310.7	1184.4	1127.2	1215.9	1328.1	1474.7	1745.5	2756.0
42.5°	2301.7	2171.3	1804.3	1641.2	1476.8	1451.9	1368.7	1551.3	1806.0	2100.0	3158.9
45°	2652.5	2395.7	2028.0	1898.8	1699.2	1713.2	1685.1	1843.3	2150.1	2488.5	3516.3
47.5°	2893.9	2663.2	2302.1	2134.4	2054.5	1972.1	2195.7	2360.1	2456.6	2735.3	3825.3
50°	3154.0	2920.4	2537.8	2420.6	2315.4	2398.6	2688.9	2710.9	2703.0	2965.6	4035.7
52.5°	3489.8	3214.4	2808.2	2675.7	2735.3	2818.1	3153.2	3157.3	2922.1	3159.4	4187.2
55°	3800.4	3495.2	3168.5	3043.4	3168.1	3238.0	3609.5	3473.3	3049.6	3291.1	4261.8
57.5°	4238.2	3884.9	3647.6	3427.3	3679.9	3612.8	4010.8	3808.3	3192.9	3378.4	4234.4
60°	4791.4	4375.6	4137.9	3904.8	4175.6	4221.2	4402.6	3975.6	3248.4	3407.0	4070.0
62.5°	5354.2	4936.0	4623.3	4465.1	4772.4	4922.3	4765.3	4058.8	3181.7	3351.1	3697.7
65°	6052.4	5517.0	5151.7	5059.0	5628.4	5848.7	5194.4	4079.1	3052.9	3043.4	2973.0
67.5°	6530.8	6009.4	5674.3	5829.6	6517.5	6535.3	5579.5	4085.3	2619.3	2382.9	1951.4
70°	6644.2	6086.0	5936.1	6393.3	7226.9	7002.9	5703.7	3770.6	1942.7	1414.2	892.0
72.5°	5832.5	5295.0	5490.1	6286.8	7377.6	7274.9	5429.2	2720.4	1093.7	565.7	273.7
75°	3577.6	3252.5	4118.5	5330.2	6476.1	6409.8	4235.7	1405.5	440.6	226.1	102.3
77.5°	1555.9	1444.9	2149.3	3536.6	4653.5	4594.3	2481.9	517.7	227.8	159.0	51.8
80°	514.8	499.4	814.2	1674.7	2725.8	2673.6	1045.7	215.3	162.3	127.6	29.0
82.5°	122.2	121.3	284.1	770.7	1388.6	1345.1	320.9	118.9	117.6	100.6	15.3
85°	30.6	31.5	78.7	315.1	564.0	497.4	83.7	59.2	82.8	68.3	7.9
87.5°	0.0	0.0	20.3	45.1	85.3	53.4	9.1	15.7	23.2	24.4	4.1
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°	396.7	396.7	396.7	396.7	396.7	396.7	396.7	396.7	396.7	396.7	396.7
2.5°	481.2	476.7	439.4	448.5	462.6	461.3	470.4	463.4	457.2	487.8	484.9
5°	612.1	587.2	575.6	591.8	583.1	562.8	579.8	576.9	571.9	582.3	590.1
7.5°	710.2	687.4	677.1	643.1	593.9	554.9	561.1	546.6	533.0	549.1	565.7
10°	742.5	730.1	728.9	662.6	616.2	559.9	493.2	435.7	420.3	400.0	409.2
12.5°	830.3	837.8	791.0	713.5	624.1	516.0	397.6	316.0	282.8	261.3	262.6
15°	902.4	928.5	860.6	721.4	549.1	393.4	264.6	191.3	170.6	165.2	163.6
17.5°	1009.6	1034.9	882.1	665.5	442.7	266.7	170.2	149.1	150.3	154.1	153.2
20°	1089.1	1085.4	863.5	566.5	326.3	174.8	142.5	139.6	146.2	157.0	154.5
22.5°	1165.8	1140.1	851.9	475.0	211.2	140.4	137.5	137.1	143.3	153.6	156.5
25°	1220.4	1224.6	832.4	371.9	153.6	130.4	132.9	136.7	142.9	154.1	152.4
27.5°	1377.0	1261.0	751.2	270.0	129.6	125.1	131.3	138.7	140.8	154.9	155.3
30°	1478.4	1398.5	698.2	181.8	119.7	115.5	128.0	137.9	140.4	158.6	159.9
32.5°	1655.3	1457.7	636.9	135.0	111.4	112.6	120.5	133.8	145.4	164.8	165.7
35°	1875.2	1647.8	525.9	121.3	108.5	106.4	110.2	125.5	144.5	165.7	169.8
37.5°	2293.8	1761.7	417.0	117.6	108.5	104.8	108.5	117.6	142.0	173.9	182.6
40°	2574.2	1993.6	300.7	116.8	106.4	103.1	104.4	113.5	135.0	169.0	181.8
42.5°	2919.6	2091.3	221.6	114.7	104.4	99.4	100.2	111.8	128.0	158.6	168.1
45°	3202.4	2162.6	174.3	113.9	99.4	97.7	99.4	110.6	121.3	136.2	144.9
47.5°	3417.4	2245.4	140.0	108.5	98.1	97.7	95.7	103.5	110.2	113.9	119.7
50°	3574.7	2226.8	116.0	100.2	94.0	96.5	92.8	94.0	95.7	93.6	100.2
52.5°	3671.2	2159.7	96.5	90.3	89.0	91.1	86.6	82.8	79.9	78.3	82.4
55°	3706.4	2025.1	82.0	77.4	80.3	81.2	77.4	70.8	65.8	63.4	66.7
57.5°	3639.7	1820.1	71.2	64.2	70.8	70.8	65.8	58.8	53.0	48.9	52.2
60°	3470.8	1593.6	63.4	53.4	60.5	60.9	55.1	47.6	43.1	38.9	41.0
62.5°	3156.0	1346.7	55.5	46.4	52.2	52.6	45.6	38.5	35.2	30.6	32.3
65°	2526.6	1029.9	47.2	41.0	45.1	43.9	37.7	32.7	28.6	24.4	25.3
67.5°	1639.9	635.7	41.0	37.3	38.1	36.9	31.9	28.6	24.0	20.7	21.1
70°	734.2	273.7	36.0	33.5	33.1	31.1	26.9	26.5	23.6	20.7	20.7
72.5°	226.5	103.1	31.1	30.2	28.6	26.1	23.6	25.3	23.2	19.9	19.5
75°	89.5	47.2	25.7	25.7	24.8	21.5	21.1	22.8	21.5	18.2	17.4
77.5°	46.8	29.8	21.1	21.9	21.5	16.6	19.0	20.7	19.9	15.3	12.8
80°	27.7	18.2	15.7	17.8	17.4	11.6	14.5	13.3	9.5	4.6	1.2
82.5°	15.3	8.3	7.0	10.4	10.4	4.1	7.5	6.6	3.7	0.0	0.0
85°	7.5	5.8	5.4	5.8	4.1	1.2	3.7	3.7	2.1	0.0	0.0
87.5°	3.7	3.3	2.5	2.1	1.7	0.0	1.2	1.7	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)