

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: P367780

Luminaire Tested: **MSA-SA3A-830-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367780  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3A-830-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9297 lumens  
Efficiency: N/A  
Efficacy: 96.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B2 - U0 - G2

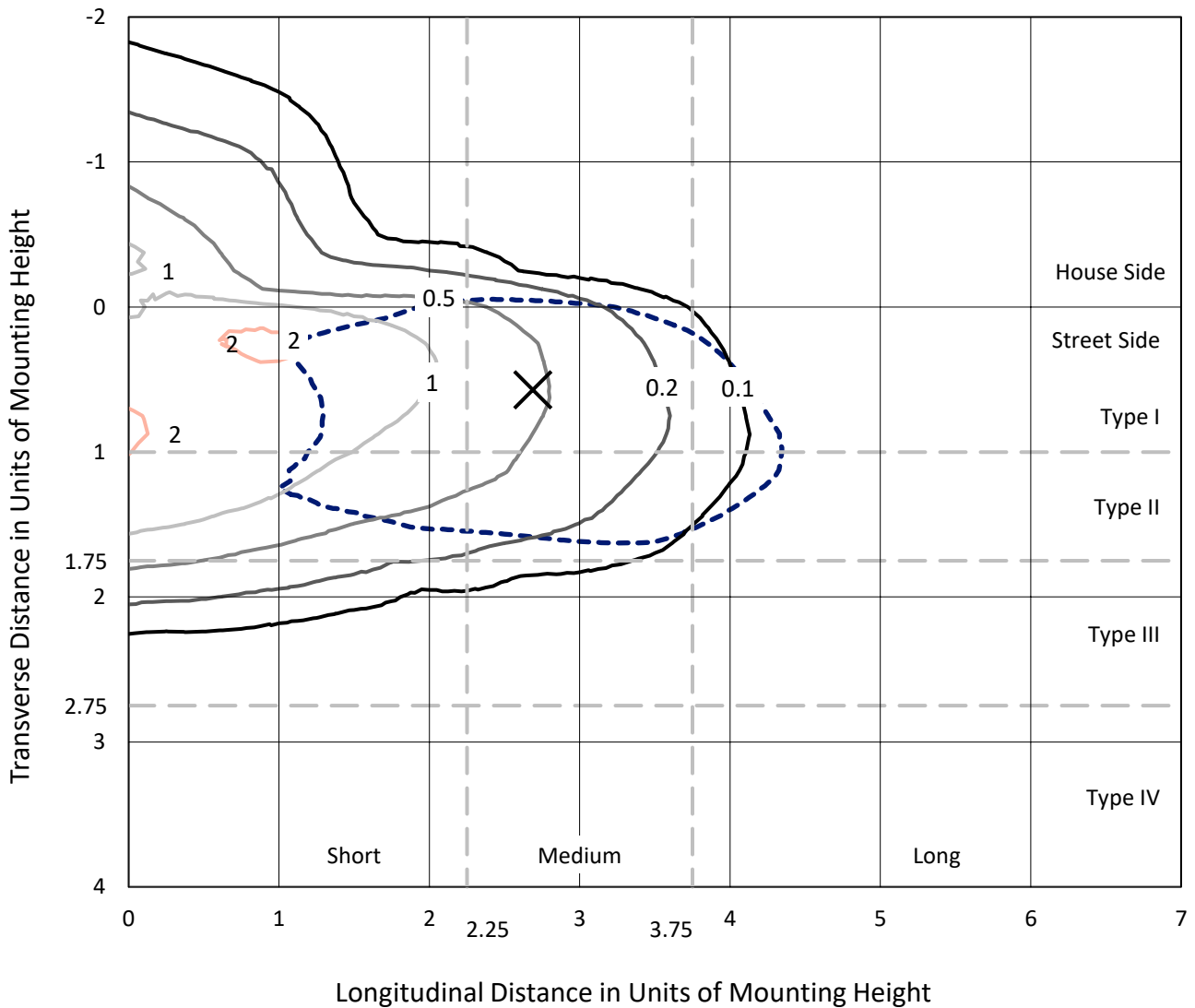
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

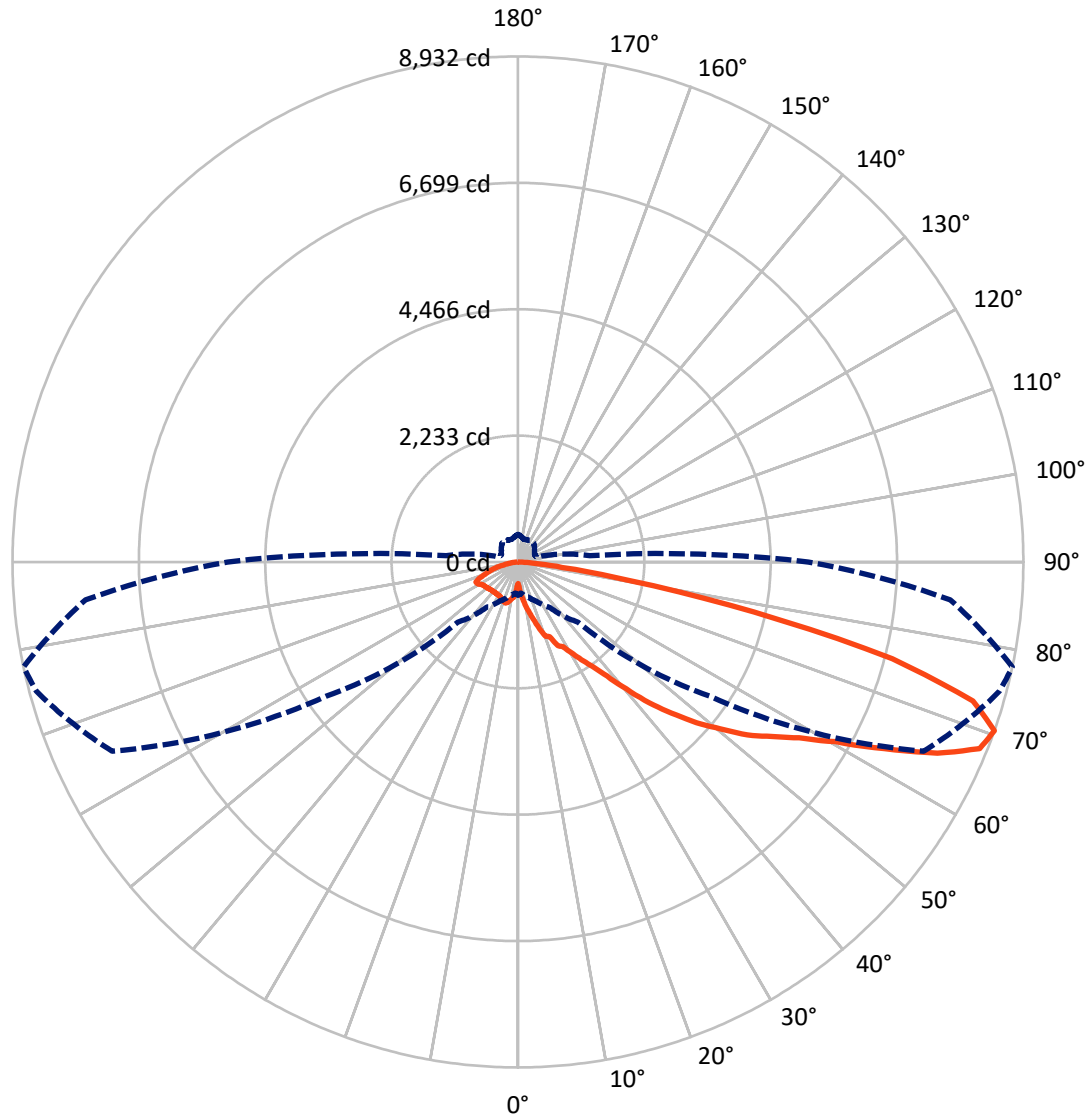
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.2 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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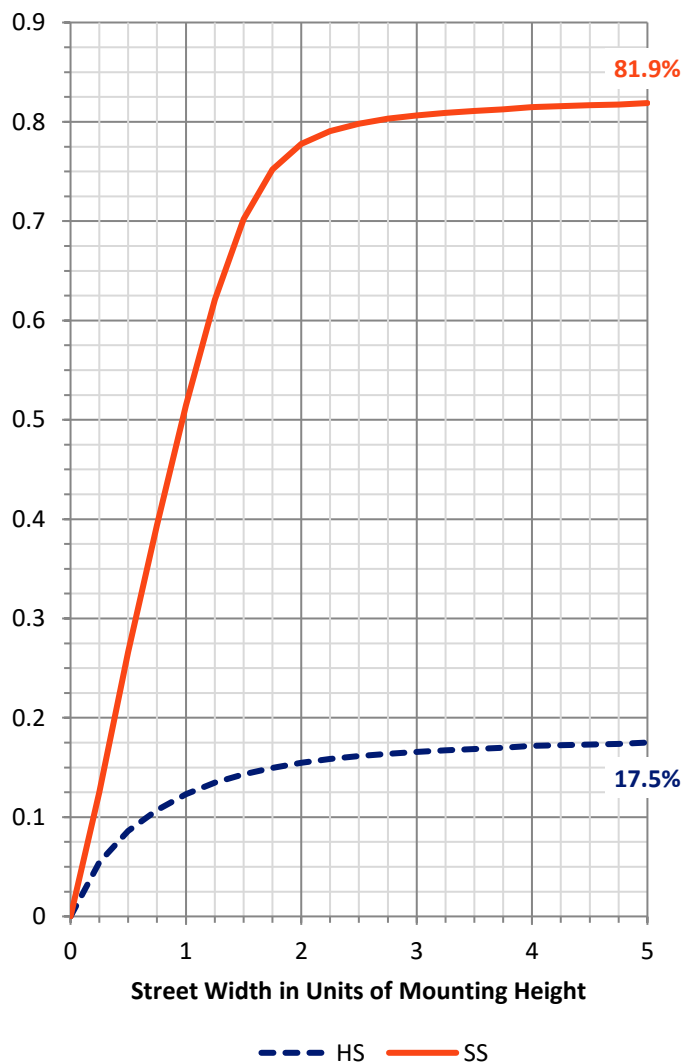
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1659.4	0.0	1659.4
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	7637.6	0.0	7637.6
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	9297.0	0.0	9297.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.6	0.6
10°-20°	258.1	2.8
20°-30°	496.8	5.3
30°-40°	836.8	9.0
40°-50°	1447.8	15.6
50°-60°	2186.0	23.5
60°-70°	2421.3	26.0
70°-80°	1395.9	15.0
80°-90°	195.8	2.1
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°	9297.0	100.0
0°-180°	9297.0	100.0

**Coefficient of Utilization**

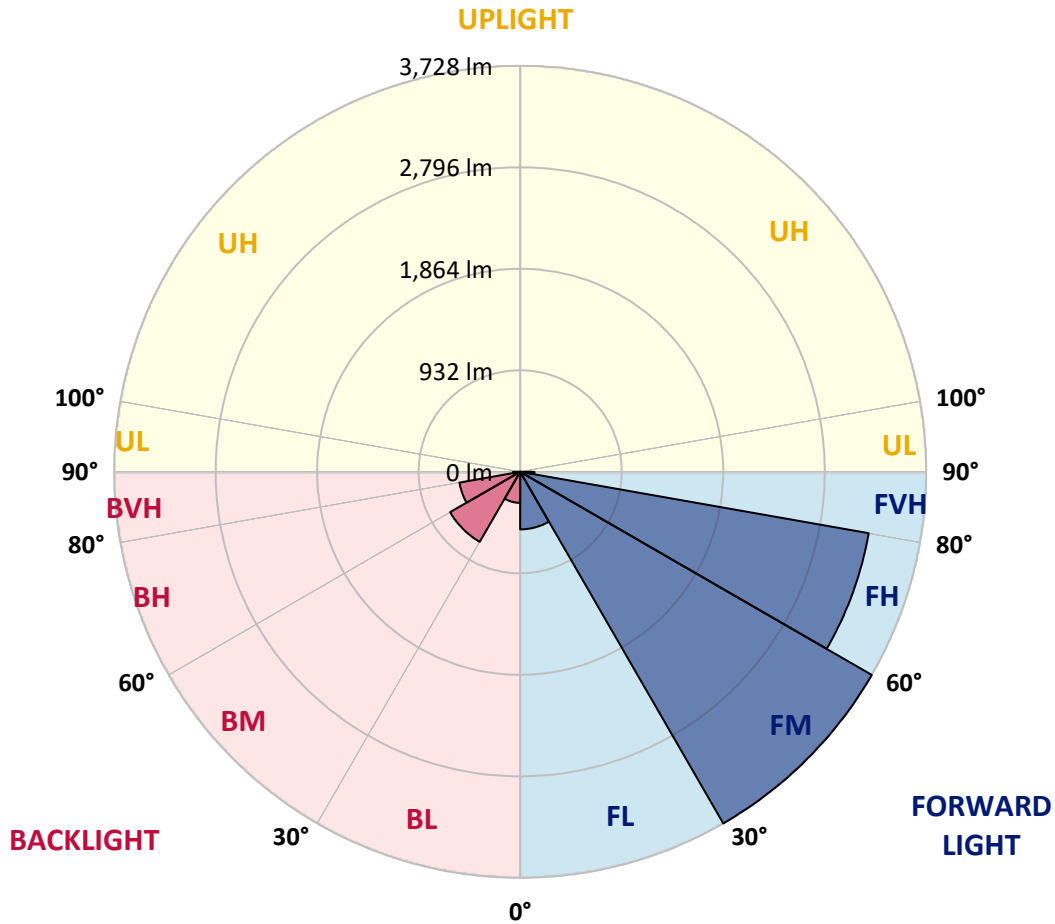


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	528.5	5.7			
FM (30°-60°)	3728.4	40.1			
FH (60°-80°)	3250.1	35.0			G2/5000
FVH (80°-90°)	130.6	1.4			G2/225
BL (0°-30°)	284.9	3.1	B1/500		
BM (30°-60°)	742.2	8.0	B1/1000		
BH (60°-80°)	567.1	6.1	B2/1000		G2/1000
BVH (80°-90°)	65.2	0.7			G1/100
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 Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	379.0	379.0	379.0	379.0	379.0	379.0	379.0	379.0	379.0	379.0	379.0
2.5°	487.9	470.5	444.2	455.0	468.2	469.7	465.5	441.4	433.3	451.5	456.9
5°	683.7	654.2	636.4	630.6	610.8	569.7	599.2	584.1	587.2	578.3	595.7
7.5°	848.4	828.6	802.3	794.9	749.6	717.4	737.5	731.0	699.2	686.8	706.5
10°	932.1	910.4	911.6	895.7	883.7	886.8	876.7	847.6	824.0	807.3	759.6
12.5°	982.5	987.9	1017.0	1008.8	1054.2	1091.4	1063.1	1020.1	945.3	930.2	882.9
15°	1102.2	1122.4	1095.3	1107.7	1127.1	1198.4	1186.7	1177.4	1098.4	1068.9	981.7
17.5°	1225.5	1229.4	1188.3	1181.7	1228.2	1264.3	1309.6	1257.3	1267.0	1246.4	1105.3
20°	1251.8	1278.6	1219.7	1179.0	1274.7	1346.0	1402.2	1346.8	1398.0	1403.4	1207.3
22.5°	1348.4	1316.2	1238.7	1198.8	1282.5	1370.1	1461.5	1492.5	1476.3	1430.5	1305.7
25°	1415.4	1398.4	1319.3	1275.1	1306.9	1387.5	1548.0	1629.0	1643.3	1637.1	1399.5
27.5°	1539.8	1548.3	1385.6	1398.0	1353.8	1361.1	1599.9	1809.9	1720.4	1695.6	1515.8
30°	1736.3	1698.3	1515.8	1525.9	1452.6	1440.2	1709.6	1966.1	1885.9	1856.1	1611.5
32.5°	1941.3	1944.8	1723.1	1637.1	1597.9	1585.5	1687.9	2047.9	2095.2	2056.4	1756.1
35°	2230.5	2210.3	1947.9	1834.8	1693.3	1671.6	1842.5	2285.1	2371.9	2263.4	1927.8
37.5°	2670.7	2609.9	2304.5	2042.9	1938.2	1913.4	2063.4	2497.9	2693.2	2558.3	2208.4
40°	3024.2	2900.6	2623.1	2304.5	2127.4	2158.0	2220.4	2756.0	3026.5	2950.6	2468.0
42.5°	3306.0	3196.3	2848.6	2624.6	2383.9	2346.0	2414.2	3075.8	3480.0	3405.6	2792.1
45°	3576.1	3352.9	3102.1	2900.6	2669.2	2715.3	2705.2	3402.1	4036.1	3807.1	3078.5
47.5°	3842.8	3633.1	3370.7	3099.8	2866.9	3154.0	3046.7	3644.7	4411.3	4241.6	3380.0
50°	4185.4	3954.8	3655.9	3383.5	3244.0	3454.0	3273.8	3850.1	4831.4	4632.2	3664.5
52.5°	4412.9	4188.5	3926.5	3731.9	3719.1	3638.1	3592.0	4110.2	5199.6	5078.7	3966.0
55°	4386.1	4169.9	4051.3	4072.6	4230.7	3957.5	3919.9	4495.0	5583.7	5443.8	4291.6
57.5°	4050.9	3814.8	3840.0	3966.4	4391.2	4518.3	4454.3	4906.2	5926.3	5862.8	4694.2
60°	3155.6	3034.3	3239.3	3470.3	4176.4	4682.6	5132.2	5407.8	6348.0	6449.5	5326.8
62.5°	2049.9	1887.9	2211.9	2604.1	3535.8	4574.1	5822.5	6358.9	7038.6	7269.3	6287.9
65°	1061.9	1036.0	1262.7	1623.1	2461.5	3900.1	6065.8	7356.5	7878.1	8146.7	7206.1
67.5°	772.0	724.0	829.0	1041.0	1502.6	2659.5	5604.6	8119.6	8552.1	8798.2	7739.8
70°	587.9	552.3	632.5	763.9	981.3	1502.2	4137.3	7911.5	8812.2	8931.5	7668.8
72.5°	440.3	409.7	479.8	602.3	756.1	845.7	2445.6	6505.0	8368.4	8409.1	6882.8
75°	351.5	327.9	358.1	475.5	616.2	575.5	1299.1	4712.8	6799.1	6834.0	5257.4
77.5°	288.4	268.2	280.6	356.6	479.4	432.9	644.5	2997.8	4316.7	4263.3	2957.9
80°	235.3	217.8	223.6	257.7	365.1	323.2	362.0	1563.8	2059.2	1976.2	1230.1
82.5°	181.0	166.3	177.9	189.5	264.3	232.2	211.2	711.6	843.4	785.6	451.1
85°	121.3	107.7	154.6	142.2	172.9	142.6	115.5	283.3	314.3	293.0	158.5
87.5°	33.3	31.4	51.9	70.9	70.9	53.9	42.2	68.6	87.6	76.7	37.2
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°	379.0	379.0	379.0	379.0	379.0	379.0	379.0	379.0	379.0	379.0	379.0
2.5°	459.3	450.7	428.3	426.3	431.8	432.5	429.0	420.9	416.6	439.9	436.4
5°	591.4	561.2	543.0	526.3	503.1	486.4	490.7	502.3	506.2	523.6	525.5
7.5°	694.1	654.2	614.3	560.8	525.5	503.1	520.1	532.5	542.2	567.0	577.1
10°	738.7	695.3	638.7	582.5	572.8	576.7	567.0	570.1	585.2	586.4	591.4
12.5°	821.6	772.4	670.5	619.7	617.0	625.1	621.7	636.0	646.5	674.8	662.7
15°	901.1	838.3	694.5	642.6	631.4	647.6	666.6	690.6	713.1	739.9	726.3
17.5°	997.6	903.0	695.7	632.1	634.1	668.9	688.7	701.9	768.9	805.8	787.2
20°	1058.5	909.6	669.7	606.2	634.1	665.5	693.0	707.3	782.5	837.9	850.7
22.5°	1113.5	912.0	649.6	592.2	610.0	651.5	693.0	724.8	772.8	825.9	827.8
25°	1143.7	910.0	623.6	593.4	609.6	630.2	667.0	696.1	731.7	805.8	807.7
27.5°	1221.2	884.8	598.0	598.0	606.5	607.3	654.2	671.3	676.3	743.7	755.8
30°	1243.7	890.2	594.9	597.2	601.5	593.8	614.3	625.5	632.9	691.0	693.0
32.5°	1279.8	846.8	604.2	590.3	584.8	583.7	588.7	598.8	601.9	637.6	644.1
35°	1323.5	829.4	607.3	588.3	577.5	571.7	586.8	574.4	584.1	625.9	630.6
37.5°	1466.2	805.4	623.2	588.3	574.4	567.8	560.4	566.2	600.7	641.0	665.8
40°	1557.3	812.7	619.3	594.1	563.9	557.7	545.3	566.6	620.1	691.4	710.0
42.5°	1716.9	817.0	624.0	591.4	567.4	543.4	551.5	574.8	631.0	671.7	700.3
45°	1882.0	830.2	620.9	583.3	559.7	570.9	559.7	580.6	607.3	608.5	630.2
47.5°	2044.0	883.3	614.3	566.6	557.7	587.2	558.5	562.0	563.9	570.9	596.5
50°	2234.3	939.9	605.0	543.4	560.4	587.9	562.8	545.7	543.8	566.6	595.3
52.5°	2450.6	1003.8	593.0	520.9	544.5	580.6	577.5	546.9	530.2	552.3	581.0
55°	2705.2	1076.7	579.0	498.4	527.1	581.4	585.6	538.7	530.6	554.6	585.2
57.5°	3043.6	1182.1	551.9	465.9	505.8	569.3	564.7	529.4	521.7	547.2	579.0
60°	3621.1	1384.8	513.1	433.7	482.9	539.9	547.6	512.8	505.0	533.3	566.6
62.5°	4394.3	1628.6	466.2	402.3	455.0	508.1	526.3	488.7	487.9	524.0	558.9
65°	5114.0	1766.9	417.8	373.6	426.3	478.6	502.3	466.2	467.8	513.1	548.0
67.5°	5413.2	1604.1	374.4	348.0	393.4	444.9	482.5	448.8	443.8	498.4	530.6
70°	5132.2	1274.3	336.8	320.9	356.2	408.5	455.0	425.6	413.9	463.5	488.7
72.5°	4541.2	1062.3	301.5	289.1	323.6	370.1	417.8	394.2	379.0	417.0	439.5
75°	3549.7	871.6	261.2	257.7	286.4	335.2	379.0	362.8	343.4	367.4	389.9
77.5°	2021.2	551.5	219.4	221.7	242.2	293.8	332.5	319.7	300.0	310.1	336.0
80°	808.9	278.3	176.3	177.9	195.3	241.5	275.6	270.9	250.4	258.5	276.3
82.5°	302.3	152.7	130.2	131.0	148.4	191.1	235.3	232.9	213.6	207.7	217.8
85°	120.1	75.6	79.8	83.3	100.0	137.6	188.7	167.4	144.6	126.7	132.9
87.5°	28.7	24.0	27.9	29.5	32.6	43.0	69.0	55.4	57.0	45.7	34.1
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)