

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: P367582

Luminaire Tested: **MSA-SA2D-740-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367582  
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-SA2D-740-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13452 lumens  
Efficiency: N/A  
Efficacy: 104.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B2 - U0 - G2

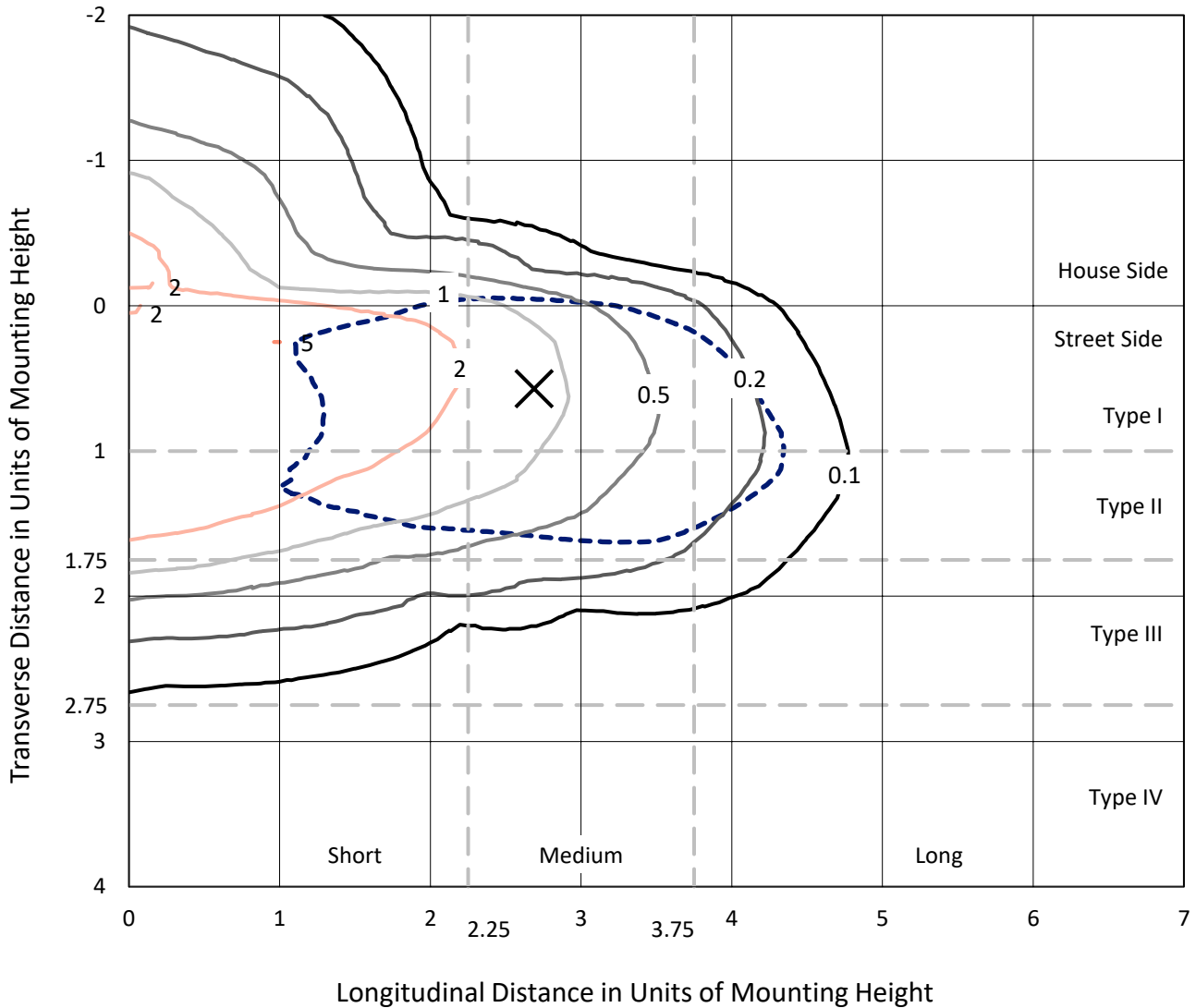
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

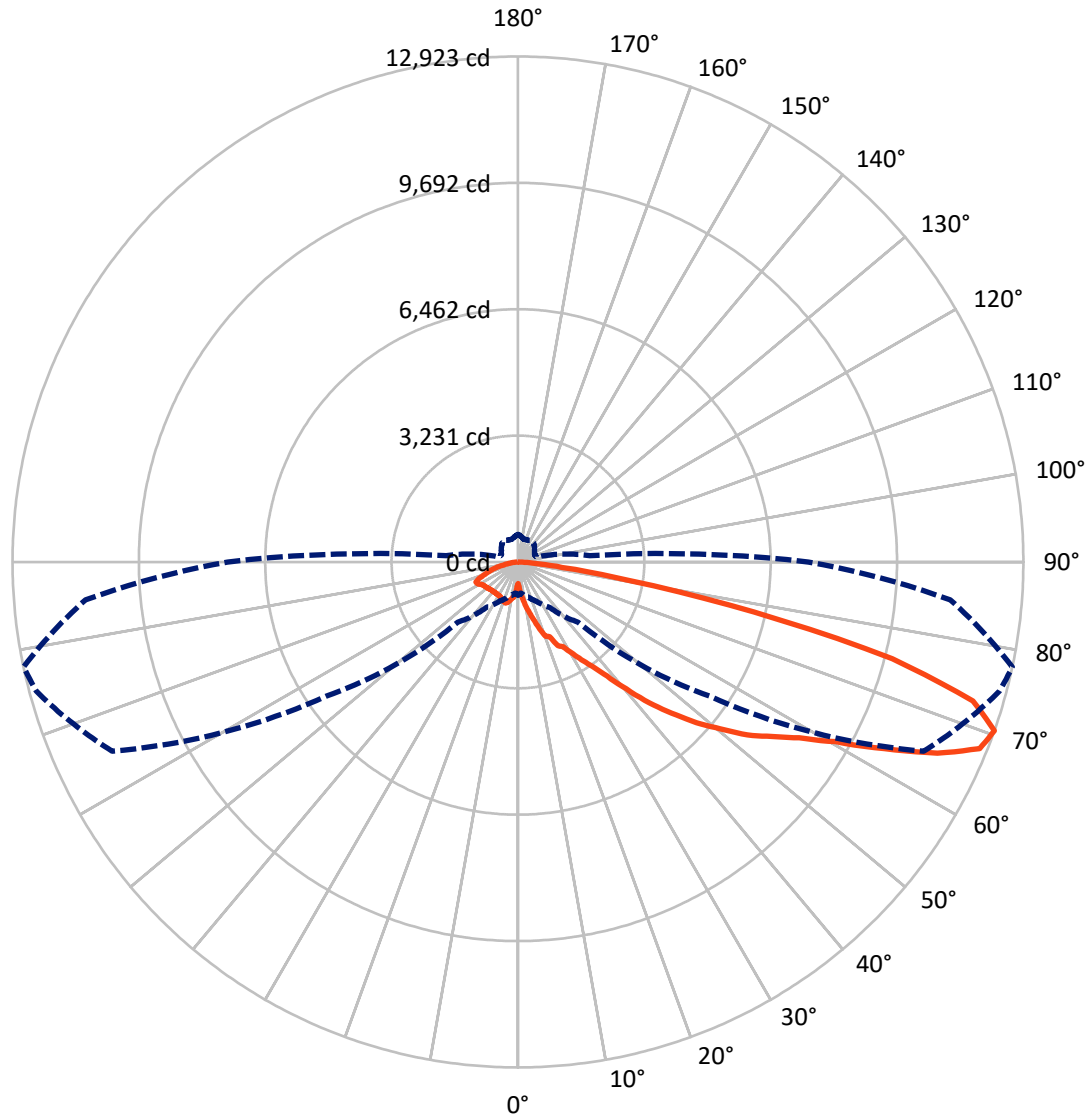
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5 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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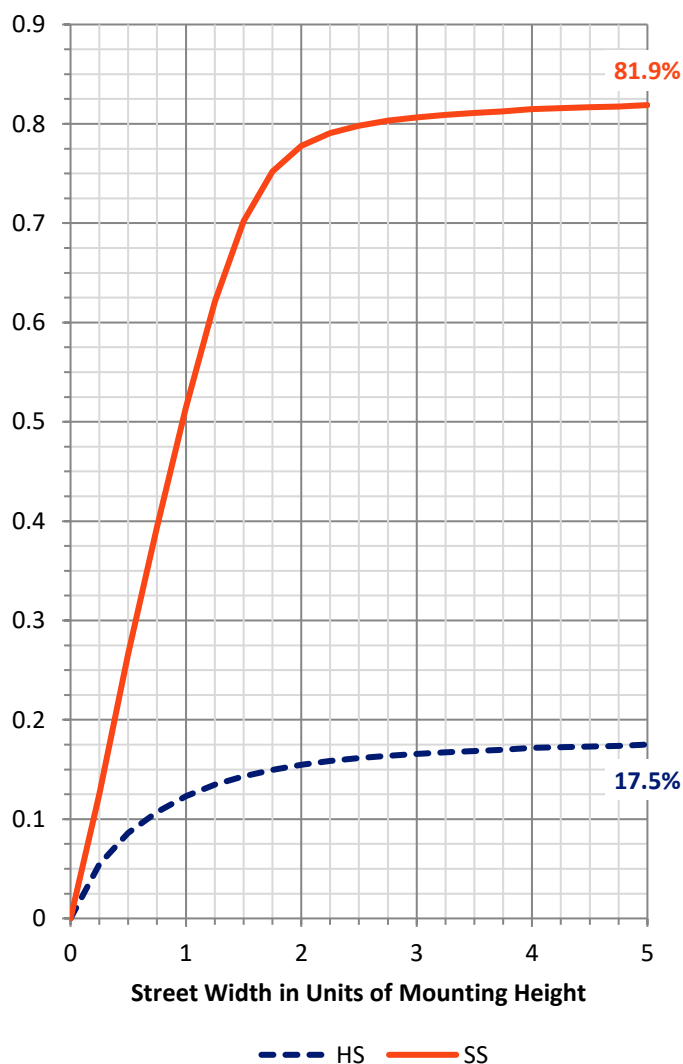
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2401.0	0.0	2401.0
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	11051.0	0.0	11051.0
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	13452.0	0.0	13452.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.8	0.6
10°-20°	373.4	2.8
20°-30°	718.8	5.3
30°-40°	1210.7	9.0
40°-50°	2094.9	15.6
50°-60°	3163.0	23.5
60°-70°	3503.4	26.0
70°-80°	2019.8	15.0
80°-90°	283.3	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°	13452.0	100.0
0°-180°	13452.0	100.0

**Coefficient of Utilization**



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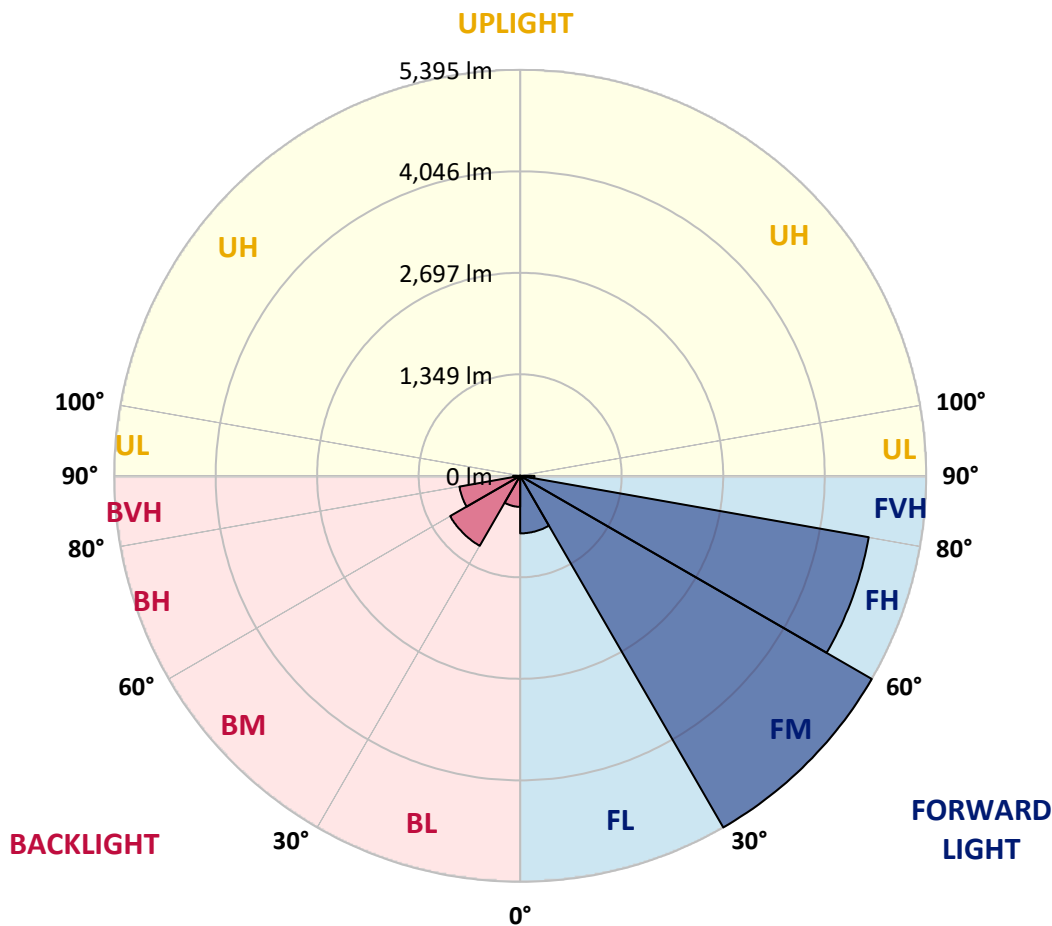
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	764.7	5.7			
FM (30°-60°)	5394.7	40.1			
FH (60°-80°)	4702.7	35.0			G2/5000
FVH (80°-90°)	189.0	1.4			G2/225
BL (0°-30°)	412.3	3.1	B1/500		
BM (30°-60°)	1073.9	8.0	B2/2500		
BH (60°-80°)	820.5	6.1	B2/1000		G2/1000
BVH (80°-90°)	94.3	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°	548.4	548.4	548.4	548.4	548.4	548.4	548.4	548.4	548.4	548.4	548.4
2.5°	706.0	680.8	642.7	658.4	677.4	679.7	673.5	638.7	627.0	653.3	661.2
5°	989.2	946.6	920.8	912.4	883.8	824.3	867.0	845.1	849.6	836.7	861.9
7.5°	1227.6	1199.0	1160.8	1150.2	1084.6	1038.0	1067.2	1057.6	1011.6	993.7	1022.3
10°	1348.7	1317.3	1319.0	1296.0	1278.6	1283.1	1268.5	1226.4	1192.2	1168.1	1099.1
12.5°	1421.6	1429.4	1471.5	1459.7	1525.3	1579.2	1538.2	1476.0	1367.7	1345.9	1277.5
15°	1594.9	1624.0	1584.8	1602.7	1630.8	1733.9	1717.1	1703.7	1589.3	1546.6	1420.5
17.5°	1773.2	1778.8	1719.4	1709.8	1777.1	1829.3	1894.9	1819.2	1833.2	1803.5	1599.3
20°	1811.3	1850.0	1764.8	1705.9	1844.4	1947.6	2028.9	1948.7	2022.7	2030.6	1746.8
22.5°	1951.0	1904.4	1792.3	1734.5	1855.6	1982.4	2114.7	2159.6	2136.0	2069.8	1889.3
25°	2048.0	2023.3	1908.9	1845.0	1891.0	2007.6	2239.8	2357.0	2377.7	2368.7	2025.0
27.5°	2228.0	2240.3	2004.8	2022.7	1958.8	1969.5	2314.9	2618.8	2489.3	2453.4	2193.2
30°	2512.3	2457.3	2193.2	2207.8	2101.8	2083.9	2473.6	2844.8	2728.8	2685.6	2331.7
32.5°	2809.0	2814.0	2493.2	2368.7	2312.1	2294.2	2442.2	2963.2	3031.6	2975.5	2540.9
35°	3227.3	3198.1	2818.5	2654.7	2450.1	2418.7	2666.0	3306.4	3432.0	3275.0	2789.3
37.5°	3864.3	3776.3	3334.4	2955.9	2804.5	2768.6	2985.6	3614.2	3896.9	3701.7	3195.3
40°	4375.8	4196.9	3795.4	3334.4	3078.1	3122.4	3212.7	3987.7	4379.1	4269.2	3571.1
42.5°	4783.5	4624.8	4121.7	3797.6	3449.4	3394.4	3493.1	4450.4	5035.3	4927.6	4039.9
45°	5174.3	4851.3	4488.5	4196.9	3862.1	3928.8	3914.3	4922.5	5840.0	5508.6	4454.3
47.5°	5560.1	5256.8	4877.1	4485.1	4148.1	4563.6	4408.3	5273.6	6382.8	6137.2	4890.6
50°	6055.9	5722.2	5289.9	4895.6	4693.7	4997.7	4736.9	5570.8	6990.7	6702.5	5302.2
52.5°	6385.1	6060.4	5681.3	5399.8	5381.3	5264.1	5197.3	5947.1	7523.4	7348.5	5738.5
55°	6346.4	6033.4	5861.8	5892.7	6121.5	5726.1	5671.7	6503.9	8079.2	7876.7	6209.5
57.5°	5861.3	5519.8	5556.2	5739.0	6353.7	6537.6	6445.1	7098.9	8574.9	8482.9	6792.2
60°	4565.9	4390.4	4687.0	5021.2	6043.0	6775.4	7425.9	7824.6	9185.0	9332.0	7707.4
62.5°	2966.0	2731.6	3200.4	3767.9	5116.0	6618.3	8424.6	9200.7	10184.4	10518.0	9098.1
65°	1536.5	1499.0	1827.0	2348.6	3561.5	5643.1	8776.8	10644.2	11399.0	11787.6	10426.6
67.5°	1117.1	1047.5	1199.5	1506.3	2174.1	3848.1	8109.5	11748.4	12374.2	12730.3	11198.8
70°	850.7	799.1	915.2	1105.3	1419.9	2173.6	5986.3	11447.2	12750.5	12923.2	11096.2
72.5°	637.0	592.7	694.2	871.5	1094.1	1223.6	3538.5	9412.2	12108.4	12167.3	9958.9
75°	508.6	474.4	518.2	688.1	891.6	832.8	1879.7	6819.1	9837.8	9888.3	7607.0
77.5°	417.2	388.1	406.0	515.9	693.7	626.4	932.6	4337.6	6246.0	6168.6	4279.9
80°	340.4	315.2	323.6	372.9	528.3	467.7	523.8	2262.8	2979.4	2859.4	1779.9
82.5°	261.9	240.6	257.4	274.2	382.5	335.9	305.6	1029.6	1220.3	1136.7	652.7
85°	175.5	155.9	223.8	205.8	250.1	206.4	167.1	409.9	454.8	424.0	229.4
87.5°	48.2	45.4	75.1	102.6	102.6	77.9	61.1	99.3	126.7	111.0	53.8
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°	548.4	548.4	548.4	548.4	548.4	548.4	548.4	548.4	548.4	548.4	548.4
2.5°	664.5	652.2	619.7	616.9	624.7	625.8	620.8	609.0	602.8	636.5	631.4
5°	855.8	812.0	785.7	761.5	727.9	703.8	709.9	726.8	732.4	757.6	760.4
7.5°	1004.4	946.6	888.8	811.5	760.4	727.9	752.6	770.5	784.5	820.4	835.0
10°	1068.8	1006.0	924.2	842.9	828.8	834.4	820.4	824.9	846.8	848.5	855.8
12.5°	1188.9	1117.6	970.2	896.7	892.8	904.5	899.5	920.2	935.4	976.3	958.9
15°	1303.8	1213.0	1004.9	929.8	913.5	937.1	964.5	999.3	1031.8	1070.5	1050.9
17.5°	1443.5	1306.6	1006.6	914.6	917.4	967.9	996.5	1015.6	1112.6	1165.9	1138.9
20°	1531.5	1316.2	969.0	877.1	917.4	962.9	1002.7	1023.4	1132.2	1212.4	1230.9
22.5°	1611.1	1319.5	939.9	856.9	882.7	942.7	1002.7	1048.7	1118.2	1195.0	1197.8
25°	1654.9	1316.7	902.3	858.6	882.1	911.8	965.1	1007.2	1058.8	1165.9	1168.7
27.5°	1767.0	1280.3	865.3	865.3	877.6	878.7	946.6	971.3	978.6	1076.1	1093.5
30°	1799.5	1288.1	860.8	864.2	870.3	859.1	888.8	905.1	915.8	999.9	1002.7
32.5°	1851.7	1225.3	874.3	854.1	846.2	844.5	851.8	866.4	870.9	922.5	932.0
35°	1915.1	1200.1	878.7	851.3	835.6	827.2	849.0	831.1	845.1	905.7	912.4
37.5°	2121.4	1165.3	901.7	851.3	831.1	821.5	810.9	819.3	869.2	927.5	963.4
40°	2253.2	1176.0	896.1	859.7	815.9	807.0	789.0	819.9	897.3	1000.4	1027.4
42.5°	2484.3	1182.1	902.9	855.8	821.0	786.2	798.0	831.6	913.0	971.8	1013.3
45°	2723.2	1201.2	898.4	844.0	809.8	826.0	809.8	840.1	878.7	880.4	911.8
47.5°	2957.6	1278.0	888.8	819.9	807.0	849.6	808.1	813.1	815.9	826.0	863.0
50°	3232.9	1359.9	875.4	786.2	810.9	850.7	814.3	789.6	786.8	819.9	861.4
52.5°	3545.8	1452.4	858.0	753.7	787.9	840.1	835.6	791.3	767.1	799.1	840.6
55°	3914.3	1557.9	837.8	721.2	762.7	841.2	847.3	779.5	767.7	802.5	846.8
57.5°	4403.8	1710.4	798.6	674.1	731.8	823.8	817.1	766.0	754.8	791.8	837.8
60°	5239.4	2003.7	742.5	627.5	698.7	781.2	792.4	741.9	730.7	771.6	819.9
62.5°	6358.1	2356.4	674.6	582.1	658.4	735.2	761.5	707.1	706.0	758.2	808.6
65°	7399.5	2556.6	604.5	540.6	616.9	692.6	726.8	674.6	676.9	742.5	792.9
67.5°	7832.4	2321.1	541.7	503.6	569.2	643.8	698.2	649.4	642.1	721.2	767.7
70°	7425.9	1843.8	487.3	464.3	515.4	591.1	658.4	615.7	598.9	670.7	707.1
72.5°	6570.7	1537.1	436.3	418.3	468.3	535.5	604.5	570.3	548.4	603.4	635.9
75°	5136.2	1261.2	378.0	372.9	414.4	485.1	548.4	524.9	496.9	531.6	564.1
77.5°	2924.5	798.0	317.4	320.8	350.5	425.1	481.2	462.6	434.0	448.6	486.2
80°	1170.4	402.6	255.2	257.4	282.6	349.4	398.7	392.0	362.3	374.0	399.8
82.5°	437.4	220.9	188.4	189.5	214.8	276.5	340.4	337.0	309.0	300.6	315.2
85°	173.8	109.4	115.5	120.6	144.7	199.1	273.1	242.3	209.2	183.4	192.3
87.5°	41.5	34.8	40.4	42.6	47.1	62.2	99.8	80.2	82.4	66.2	49.3
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)