

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: P596826

Luminaire Tested: **MSA-SA4D-827-U-T4W**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596826  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-827-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 19609 lumens  
Efficiency: N/A  
Efficacy: 75.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G4

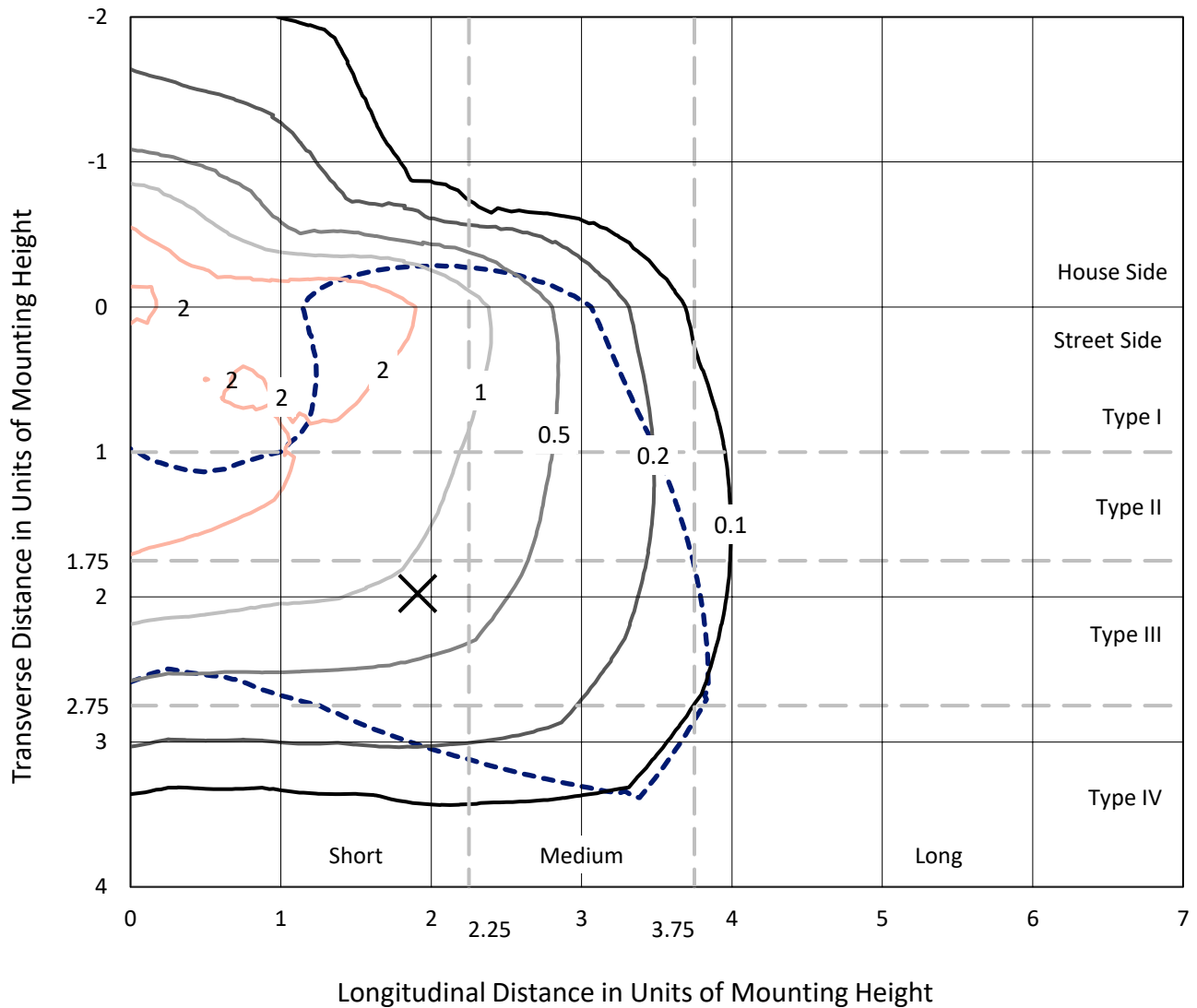
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

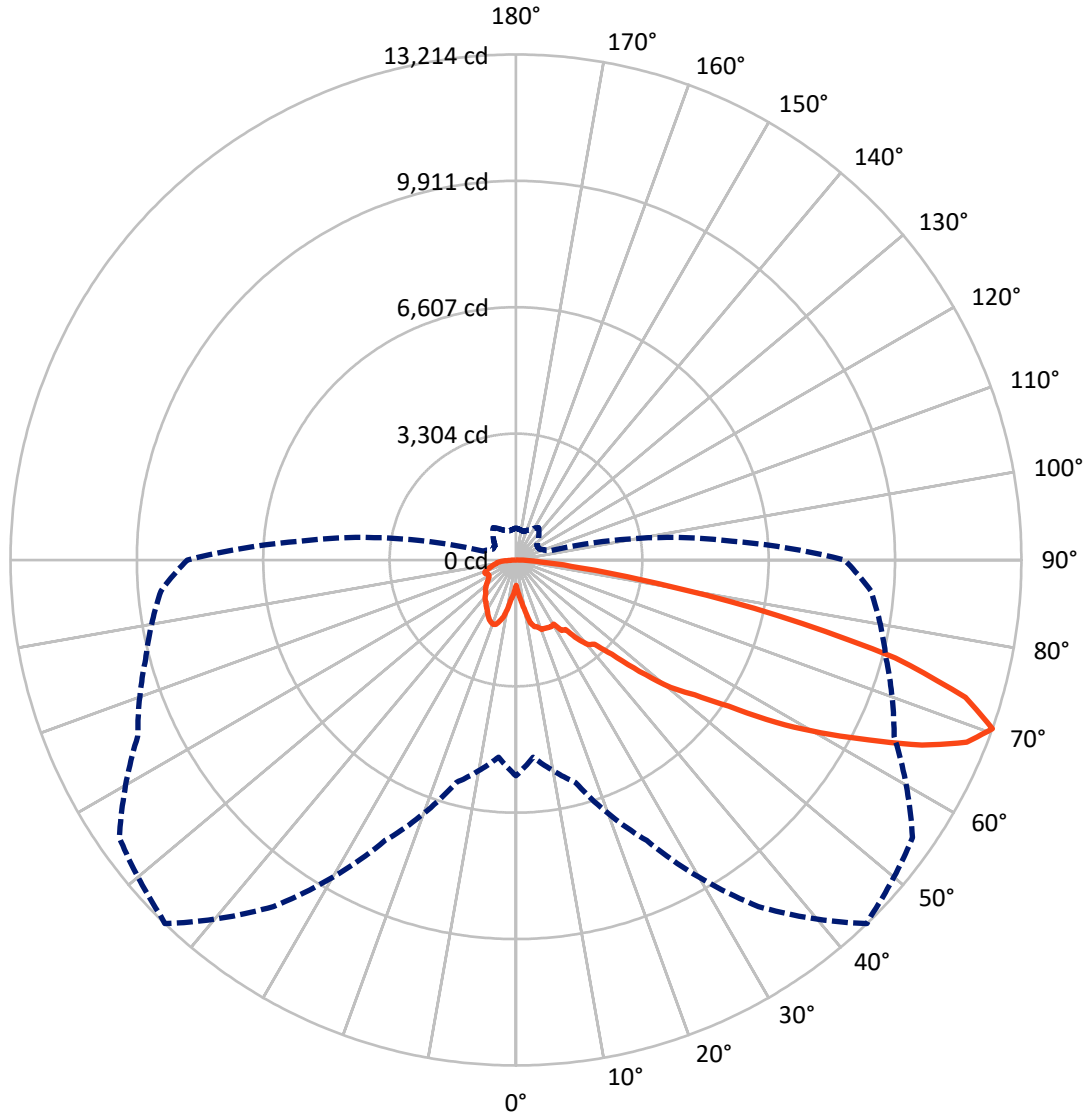
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4326.5	0.0	4326.5
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	15282.5	0.0	15282.5
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	19609.0	0.0	19609.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.5	0.5
10°-20°	481.3	2.5
20°-30°	899.3	4.6
30°-40°	1443.5	7.4
40°-50°	2436.6	12.4
50°-60°	4341.9	22.1
60°-70°	5939.2	30.3
70°-80°	3492.5	17.8
80°-90°	470.2	2.4
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°	19609.0	100.0
0°-180°	19609.0	100.0

**Coefficient of Utilization**



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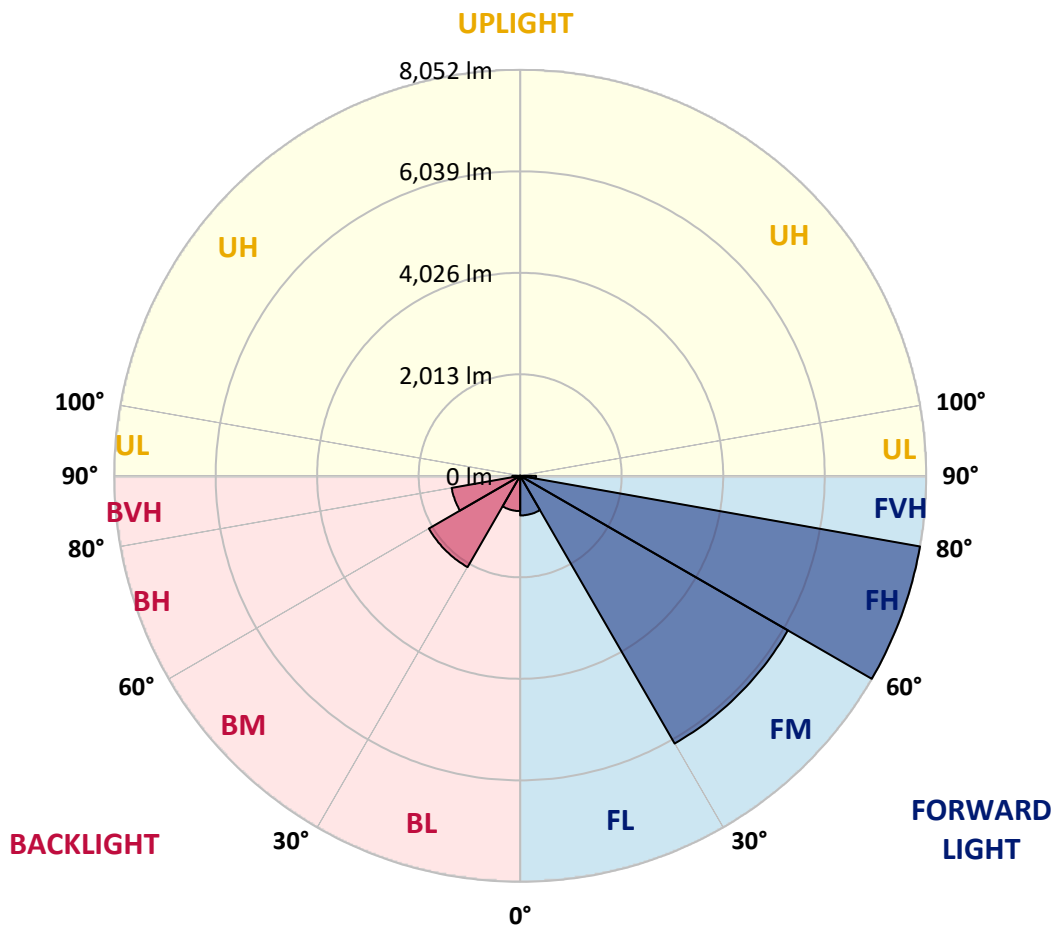
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	785.8	4.0			
FM (30°-60°)	6131.2	31.3			
FH (60°-80°)	8052.1	41.1			G4/12000
FVH (80°-90°)	313.4	1.6			G3/500
BL (0°-30°)	699.3	3.6	B2/1000		
BM (30°-60°)	2090.8	10.7	B2/2500		
BH (60°-80°)	1379.6	7.0	B3/2500		G3/2500
BVH (80°-90°)	156.8	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	666.5	666.5	666.5	666.5	666.5	666.5	666.5	666.5	666.5	666.5	666.5
2.5°	808.8	792.8	754.2	767.0	783.1	789.6	787.9	786.3	761.4	752.6	796.8
5°	1099.1	1063.7	1035.6	1024.3	987.3	958.4	940.7	987.3	980.1	992.2	1022.7
7.5°	1372.5	1350.0	1286.4	1263.9	1188.3	1138.5	1132.9	1169.9	1179.5	1160.2	1212.5
10°	1548.5	1510.0	1497.1	1443.2	1391.0	1382.9	1378.1	1361.2	1337.9	1336.3	1289.7
12.5°	1685.2	1705.3	1715.8	1653.9	1655.5	1684.4	1669.2	1600.8	1561.4	1492.3	1497.9
15°	1930.5	1959.4	1876.6	1837.2	1761.6	1805.0	1799.4	1742.3	1736.7	1691.7	1639.4
17.5°	2144.3	2157.2	2018.9	1928.9	1903.1	1840.4	1857.3	1858.9	1784.9	1865.3	1818.7
20°	2162.0	2207.8	2048.7	1869.4	1946.5	1938.5	1940.9	1924.8	1827.5	1960.2	1942.5
22.5°	2248.9	2178.9	2035.8	1904.7	1924.8	1936.9	1948.1	1928.9	1923.2	1997.2	2051.1
25°	2232.8	2210.3	2065.5	1954.6	1957.0	1959.4	1965.0	2022.9	2016.5	2117.0	2145.1
27.5°	2383.1	2348.6	2074.4	2047.0	1984.3	1970.7	1932.1	2052.7	2146.7	2144.3	2299.5
30°	2669.4	2634.0	2280.2	2200.6	2087.2	1947.3	2021.3	2182.1	2256.1	2281.0	2478.0
32.5°	3116.4	3174.3	2685.4	2364.6	2223.9	2193.4	2185.3	2169.3	2352.6	2475.6	2654.9
35°	3758.0	3712.2	3163.0	2716.0	2367.9	2236.8	2254.5	2352.6	2570.5	2650.1	2815.7
37.5°	4492.9	4398.0	3774.9	3114.0	2782.7	2618.7	2560.0	2654.9	2703.1	2765.8	3104.3
40°	5239.8	5008.3	4375.5	3637.4	3032.0	2908.2	2856.7	2740.1	2853.5	2980.5	3410.7
42.5°	5961.0	5781.7	5029.2	4262.1	3451.7	3010.3	2982.1	2868.0	3219.3	3353.6	3852.9
45°	6716.8	6301.1	5698.9	4967.3	4065.1	3511.2	3469.4	3264.3	3714.6	3994.4	4476.8
47.5°	7225.0	6839.8	6312.4	5539.7	4578.9	4349.0	4269.4	3918.8	4327.3	4690.7	5440.8
50°	7705.8	7309.4	6755.4	6166.1	5509.2	5244.6	5075.0	4491.3	5090.3	5682.0	6676.6
52.5°	8394.0	8039.4	7270.0	6797.2	6508.6	5858.1	5731.9	5411.1	5982.7	6781.1	8027.4
55°	9129.7	8646.5	7949.4	7687.3	7570.7	6737.7	6634.8	6430.6	7171.1	7906.0	9340.3
57.5°	9454.5	8950.4	8566.1	8409.3	8399.6	8016.1	7897.9	7755.6	8386.0	8870.8	10576.1
60°	9712.6	9171.5	9017.9	9105.6	9424.0	9171.5	9017.9	8892.5	9374.9	9824.4	11584.4
62.5°	9665.2	9122.5	9201.2	9468.2	10281.1	10355.0	10236.8	9932.9	10355.0	10605.9	12162.5
65°	8899.7	8398.0	8857.1	9490.7	11077.8	11668.8	11662.4	10867.2	11013.5	11013.5	12101.4
67.5°	7558.6	7039.2	7791.0	9292.1	11628.6	12710.0	12711.6	11857.7	11073.8	10972.5	11155.8
70°	5644.2	5173.9	6018.9	8092.5	11060.2	13214.1	13141.0	12656.9	10908.2	10023.0	9318.6
72.5°	3371.3	3067.4	3844.8	5891.1	9434.4	12287.1	12481.7	11736.3	9986.0	8335.3	6661.3
75°	1530.9	1399.0	1806.6	3384.1	6735.3	10248.9	10460.4	9904.8	7931.7	5994.8	3849.7
77.5°	655.3	619.9	788.7	1501.1	3713.8	7008.7	7442.0	7078.6	5374.1	3483.8	1702.9
80°	421.3	398.8	484.8	722.0	1724.6	3787.0	4160.0	4024.1	2737.7	1354.8	599.8
82.5°	251.7	244.4	324.0	453.5	940.7	1666.7	1878.2	1928.0	1136.9	607.8	343.3
85°	137.5	139.1	177.7	275.0	564.4	648.8	694.7	755.8	535.5	352.2	166.4
87.5°	45.8	53.1	71.6	111.8	201.0	183.3	184.1	213.9	225.9	146.3	53.1
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°	666.5	666.5	666.5	666.5	666.5	666.5	666.5	666.5	666.5	666.5	666.5
2.5°	804.0	789.6	752.6	755.0	768.6	771.9	775.9	752.6	747.7	792.0	796.0
5°	1027.5	980.1	958.4	951.2	930.3	923.0	961.6	979.3	997.0	1031.6	1048.4
7.5°	1206.8	1153.8	1114.4	1078.2	1047.6	1030.0	1095.1	1144.9	1175.5	1246.2	1278.4
10°	1288.9	1243.0	1228.5	1199.6	1222.9	1276.0	1288.0	1289.7	1357.2	1355.6	1369.3
12.5°	1452.1	1422.3	1374.9	1385.3	1446.4	1501.1	1485.8	1509.2	1533.3	1591.2	1564.6
15°	1600.8	1592.8	1548.5	1555.8	1567.8	1636.2	1645.0	1668.3	1705.3	1751.2	1719.8
17.5°	1784.1	1780.9	1673.2	1663.5	1691.7	1758.4	1737.5	1696.5	1818.7	1867.7	1854.9
20°	1908.8	1884.6	1746.3	1705.3	1776.9	1785.7	1761.6	1696.5	1802.6	1909.6	1938.5
22.5°	2012.5	1984.3	1842.0	1761.6	1747.1	1751.2	1751.2	1739.1	1791.4	1879.0	1878.2
25°	2096.1	2122.6	1941.7	1864.5	1787.3	1690.9	1678.8	1689.3	1719.0	1887.8	1882.2
27.5°	2305.9	2232.8	1975.5	1917.6	1759.2	1607.2	1640.2	1656.3	1665.9	1850.9	1881.4
30°	2442.6	2465.1	2096.1	1949.0	1718.2	1514.0	1525.2	1571.9	1628.1	1846.8	1855.7
32.5°	2626.7	2578.5	2284.2	1896.7	1608.9	1457.7	1436.8	1499.5	1583.1	1781.7	1805.8
35°	2798.0	2855.1	2363.8	1887.0	1532.5	1373.3	1395.8	1417.5	1504.3	1709.4	1737.5
37.5°	3200.0	3069.8	2587.3	1840.4	1469.0	1330.7	1306.5	1339.5	1413.5	1571.9	1637.0
40°	3505.5	3513.6	2635.6	1781.7	1347.5	1269.6	1218.1	1251.1	1282.4	1408.6	1436.8
42.5°	4078.8	3903.5	2753.8	1653.1	1271.2	1177.9	1149.0	1163.4	1168.2	1221.3	1267.9
45°	4808.1	4397.2	2800.4	1480.2	1170.7	1140.1	1081.4	1074.2	1047.6	1054.9	1095.9
47.5°	5817.1	5167.5	2766.6	1296.1	1081.4	1091.1	1006.6	973.7	936.7	945.5	984.1
50°	7122.0	6151.6	2764.2	1140.1	1020.3	1026.7	957.6	898.1	861.1	879.6	913.4
52.5°	8586.2	7138.9	2775.5	1033.2	953.6	950.4	925.4	853.1	823.3	842.6	881.2
55°	9986.8	7988.0	2859.1	965.6	884.4	890.1	899.7	838.6	805.6	823.3	863.5
57.5°	11205.7	8658.5	2827.8	894.1	820.1	845.8	871.6	818.5	793.6	819.3	859.5
60°	12057.9	8969.7	2580.1	825.7	772.7	808.0	857.9	816.1	812.9	868.3	916.6
62.5°	12369.1	8854.7	2097.7	771.9	744.5	803.2	889.3	869.1	872.4	940.7	1007.4
65°	11914.8	8250.1	1564.6	737.3	722.8	826.5	961.6	900.5	856.3	912.6	973.7
67.5°	10622.8	7175.1	1143.3	707.5	697.9	863.5	1028.3	897.3	815.3	872.4	922.2
70°	8594.2	5663.5	885.2	669.8	664.9	838.6	1034.8	873.2	771.1	808.0	836.2
72.5°	5888.7	3877.8	733.3	633.6	607.8	742.9	982.5	819.3	718.0	739.7	763.0
75°	3290.9	2176.5	616.7	588.5	532.3	661.7	921.4	787.1	678.6	685.0	717.2
77.5°	1477.0	941.5	523.4	529.0	463.9	585.3	841.8	735.7	618.3	603.8	636.0
80°	558.8	459.1	424.5	447.0	390.0	507.3	759.0	689.0	554.8	536.3	554.8
82.5°	324.0	278.2	315.2	344.1	309.5	466.3	724.4	646.4	488.8	442.2	458.3
85°	150.4	143.9	188.9	223.5	216.3	363.4	619.9	486.4	348.1	294.3	325.6
87.5°	39.4	44.2	66.7	78.8	80.4	124.6	238.8	180.9	135.9	102.9	98.9
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)