

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: P368028

Luminaire Tested: **MSA-SA3C-760-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368028  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3C-760-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 18459 lumens  
Efficiency: N/A  
Efficacy: 111.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G4

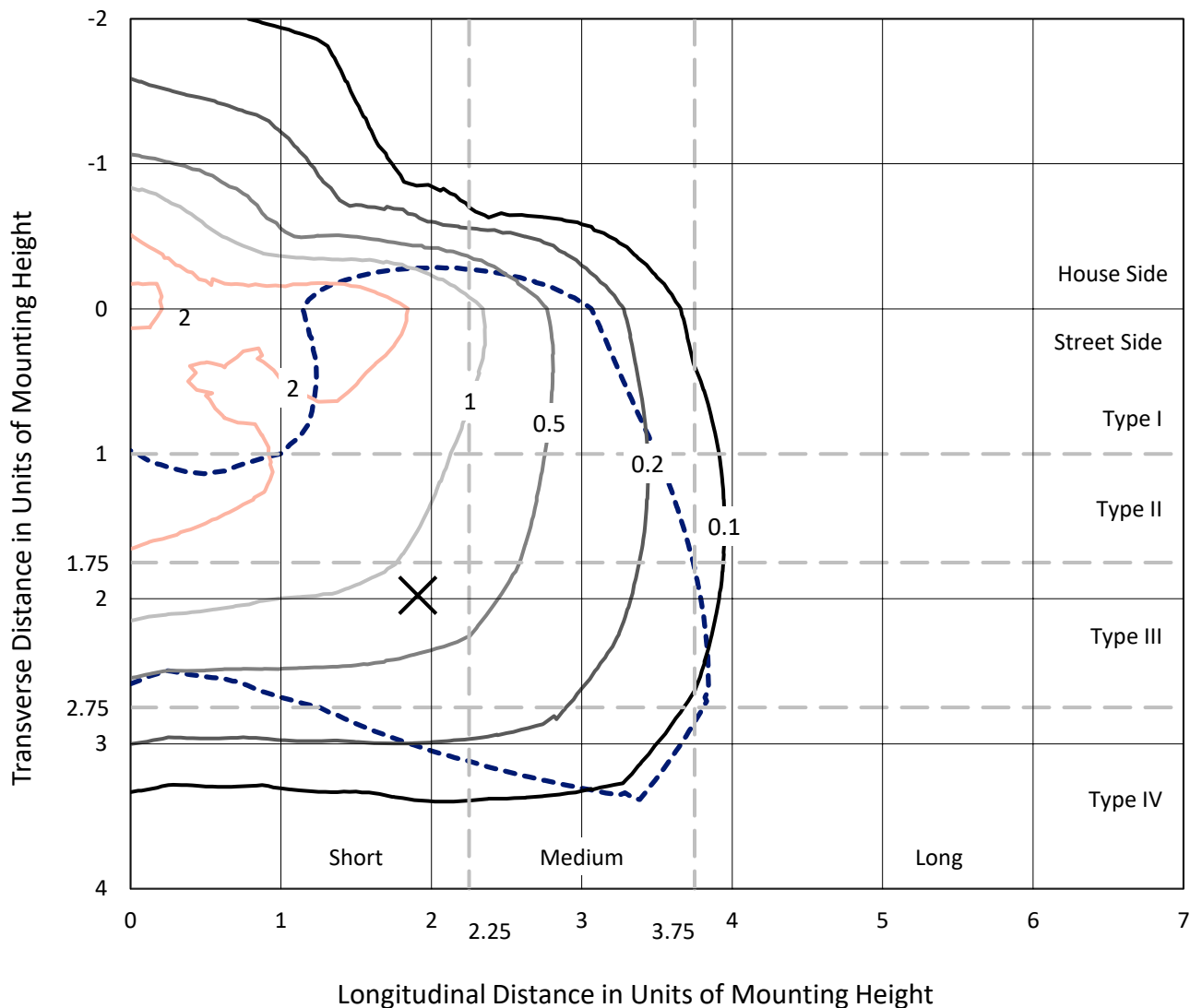
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

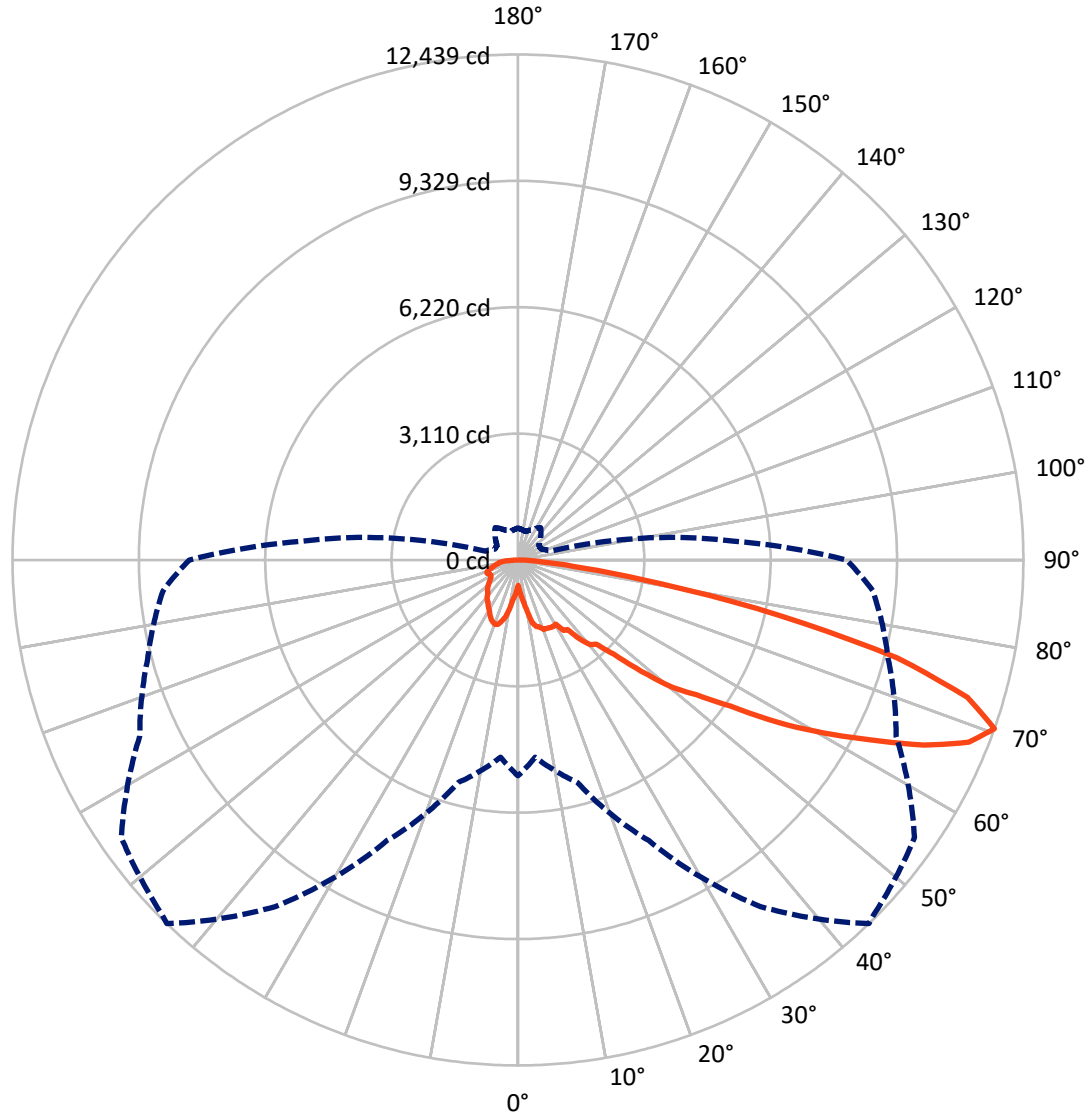
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 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	4072.8	0.0	4072.8
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	14386.2	0.0	14386.2
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	18459.0	0.0	18459.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.4	0.5
10°-20°	453.0	2.5
20°-30°	846.6	4.6
30°-40°	1358.9	7.4
40°-50°	2293.7	12.4
50°-60°	4087.3	22.1
60°-70°	5590.8	30.3
70°-80°	3287.7	17.8
80°-90°	442.7	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°	18459.0	100.0
0°-180°	18459.0	100.0

**Coefficient of Utilization**



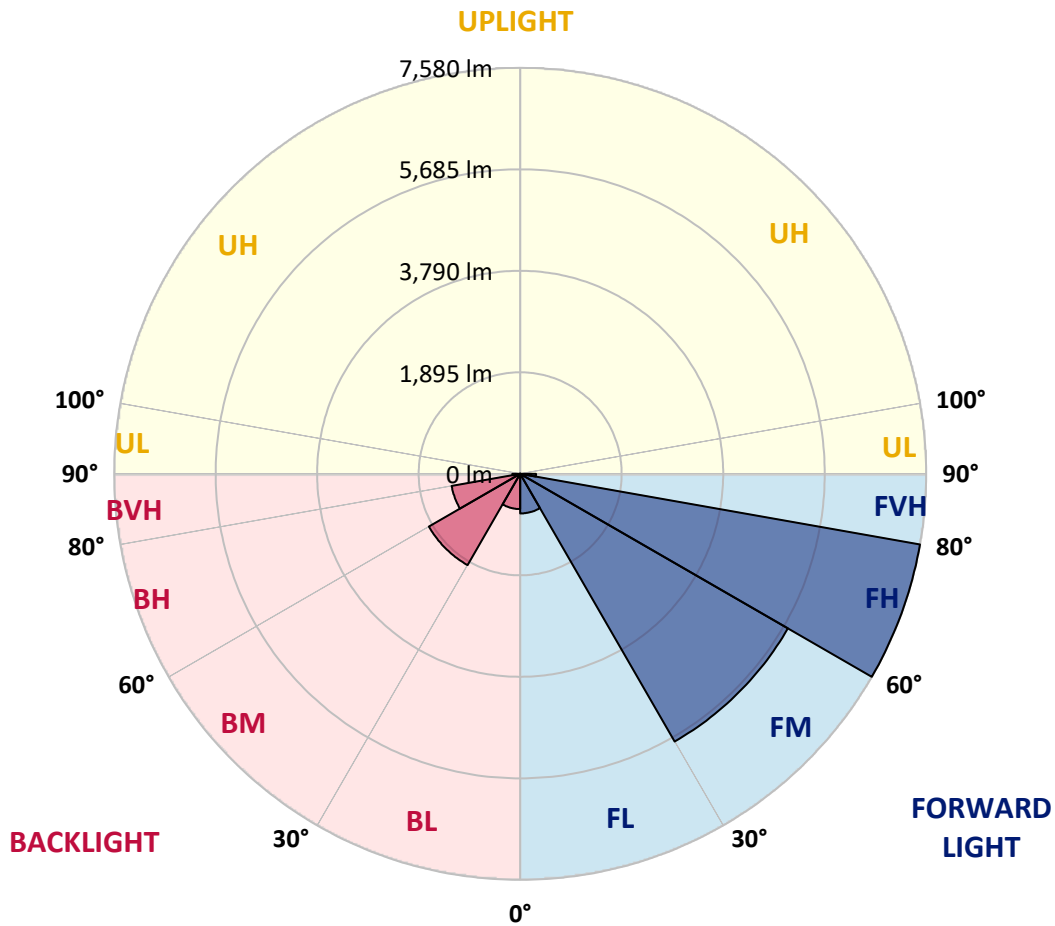
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	739.7	4.0			
FM (30°-60°)	5771.6	31.3			
FH (60°-80°)	7579.8	41.1			G4/12000
FVH (80°-90°)	295.0	1.6			G3/500
BL (0°-30°)	658.2	3.6	B2/1000		
BM (30°-60°)	1968.2	10.7	B2/2500		
BH (60°-80°)	1298.7	7.0	B3/2500		G3/2500
BVH (80°-90°)	147.6	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°	627.4	627.4	627.4	627.4	627.4	627.4	627.4	627.4	627.4	627.4	627.4
2.5°	761.4	746.3	709.9	722.1	737.2	743.2	741.7	740.2	716.8	708.4	750.1
5°	1034.6	1001.3	974.8	964.3	929.4	902.2	885.5	929.4	922.6	934.0	962.7
7.5°	1292.0	1270.8	1211.0	1189.8	1118.7	1071.7	1066.4	1101.2	1110.3	1092.2	1141.4
10°	1457.7	1421.4	1409.3	1358.6	1309.4	1301.8	1297.3	1281.4	1259.4	1257.9	1214.0
12.5°	1586.4	1605.3	1615.2	1556.9	1558.4	1585.6	1571.3	1506.9	1469.8	1404.8	1410.1
15°	1817.2	1844.5	1766.5	1729.4	1658.3	1699.2	1693.9	1640.1	1634.8	1592.5	1543.3
17.5°	2018.6	2030.7	1900.5	1815.7	1791.5	1732.5	1748.4	1749.9	1680.3	1755.9	1712.0
20°	2035.2	2078.4	1928.5	1759.7	1832.4	1824.8	1827.1	1811.9	1720.4	1845.3	1828.6
22.5°	2117.0	2051.1	1916.4	1793.0	1811.9	1823.3	1833.9	1815.7	1810.4	1880.1	1930.8
25°	2101.8	2080.6	1944.4	1840.0	1842.2	1844.5	1849.8	1904.3	1898.2	1992.8	2019.3
27.5°	2243.4	2210.8	1952.7	1927.0	1868.0	1855.1	1818.8	1932.3	2020.8	2018.6	2164.7
30°	2512.8	2479.5	2146.5	2071.6	1964.8	1833.1	1902.8	2054.1	2123.8	2147.2	2332.7
32.5°	2933.6	2988.1	2527.9	2226.0	2093.5	2064.7	2057.2	2042.0	2214.6	2330.4	2499.2
35°	3537.6	3494.5	2977.5	2556.7	2229.0	2105.6	2122.3	2214.6	2419.7	2494.6	2650.6
37.5°	4229.4	4140.1	3553.5	2931.4	2619.5	2465.1	2409.9	2499.2	2544.6	2603.6	2922.3
40°	4932.5	4714.5	4118.9	3424.1	2854.2	2737.6	2689.2	2579.4	2686.1	2805.7	3210.6
42.5°	5611.4	5442.7	4734.2	4012.2	3249.2	2833.7	2807.2	2699.8	3030.5	3156.9	3626.9
45°	6322.9	5931.6	5364.7	4675.9	3826.7	3305.3	3265.9	3072.9	3496.7	3760.1	4214.3
47.5°	6801.2	6438.7	5942.2	5214.8	4310.4	4093.9	4019.0	3689.0	4073.5	4415.6	5121.7
50°	7253.8	6880.7	6359.2	5804.4	5186.1	4937.1	4777.4	4227.9	4791.7	5348.8	6285.1
52.5°	7901.7	7567.9	6843.6	6398.6	6126.9	5514.6	5395.7	5093.7	5631.9	6383.4	7556.6
55°	8594.3	8139.4	7483.2	7236.4	7126.7	6342.6	6245.7	6053.5	6750.5	7442.3	8792.6
57.5°	8900.0	8425.5	8063.7	7916.1	7907.0	7546.0	7434.7	7300.8	7894.2	8350.6	9955.9
60°	9143.0	8633.6	8489.1	8571.6	8871.3	8633.6	8489.1	8371.0	8825.1	9248.2	10905.0
62.5°	9098.3	8587.5	8661.6	8912.9	9678.1	9747.7	9636.5	9350.4	9747.7	9983.9	11449.2
65°	8377.8	7905.5	8337.7	8934.1	10428.2	10984.5	10978.4	10229.9	10367.6	10367.6	11391.7
67.5°	7115.3	6626.4	7334.1	8747.2	10946.6	11964.6	11966.1	11162.3	10424.4	10329.0	10501.6
70°	5313.2	4870.5	5665.9	7617.9	10411.5	12439.2	12370.3	11914.7	10268.5	9435.1	8772.1
72.5°	3173.6	2887.5	3619.4	5545.6	8881.1	11566.5	11749.7	11048.0	9400.3	7846.5	6270.7
75°	1441.1	1317.0	1700.7	3185.7	6340.3	9647.8	9846.9	9323.9	7466.5	5643.2	3623.9
77.5°	616.8	583.5	742.5	1413.1	3496.0	6597.6	7005.6	6663.5	5058.9	3279.5	1603.1
80°	396.6	375.4	456.4	679.7	1623.5	3564.9	3916.0	3788.1	2577.1	1275.3	564.6
82.5°	236.9	230.1	305.0	426.9	885.5	1569.0	1768.0	1815.0	1070.2	572.2	323.2
85°	129.4	130.9	167.3	258.8	531.3	610.8	653.9	711.5	504.1	331.5	156.7
87.5°	43.1	50.0	67.4	105.2	189.2	172.6	173.3	201.3	212.7	137.8	50.0
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°	627.4	627.4	627.4	627.4	627.4	627.4	627.4	627.4	627.4	627.4	627.4
2.5°	756.9	743.2	708.4	710.7	723.6	726.6	730.4	708.4	703.9	745.5	749.3
5°	967.3	922.6	902.2	895.4	875.7	868.9	905.2	921.9	938.5	971.1	987.0
7.5°	1136.1	1086.1	1049.0	1015.0	986.2	969.6	1030.9	1077.8	1106.5	1173.1	1203.4
10°	1213.3	1170.1	1156.5	1129.3	1151.2	1201.2	1212.5	1214.0	1277.6	1276.1	1289.0
12.5°	1366.9	1338.9	1294.2	1304.1	1361.6	1413.1	1398.7	1420.6	1443.4	1497.8	1472.9
15°	1506.9	1499.4	1457.7	1464.5	1475.9	1540.2	1548.6	1570.5	1605.3	1648.5	1618.9
17.5°	1679.5	1676.5	1575.0	1566.0	1592.5	1655.3	1635.6	1597.0	1712.0	1758.2	1746.1
20°	1796.8	1774.1	1643.9	1605.3	1672.7	1681.0	1658.3	1597.0	1696.9	1797.6	1824.8
22.5°	1894.4	1868.0	1734.0	1658.3	1644.7	1648.5	1648.5	1637.1	1686.3	1768.8	1768.0
25°	1973.2	1998.1	1827.8	1755.2	1682.5	1591.7	1580.3	1590.2	1618.2	1777.1	1771.8
27.5°	2170.7	2101.8	1859.6	1805.1	1656.0	1513.0	1544.0	1559.2	1568.2	1742.3	1771.1
30°	2299.4	2320.6	1973.2	1834.7	1617.4	1425.2	1435.8	1479.7	1532.7	1738.5	1746.9
32.5°	2472.7	2427.3	2150.3	1785.5	1514.5	1372.2	1352.5	1411.6	1490.3	1677.2	1699.9
35°	2633.9	2687.6	2225.2	1776.4	1442.6	1292.7	1313.9	1334.4	1416.1	1609.1	1635.6
37.5°	3012.3	2889.7	2435.6	1732.5	1382.8	1252.6	1229.9	1260.9	1330.6	1479.7	1541.0
40°	3300.0	3307.5	2481.0	1677.2	1268.5	1195.1	1146.7	1177.7	1207.2	1326.0	1352.5
42.5°	3839.6	3674.6	2592.3	1556.1	1196.6	1108.8	1081.6	1095.2	1099.7	1149.7	1193.6
45°	4526.1	4139.3	2636.2	1393.4	1102.0	1073.2	1018.0	1011.2	986.2	993.0	1031.6
47.5°	5476.0	4864.4	2604.4	1220.1	1018.0	1027.1	947.6	916.6	881.8	890.1	926.4
50°	6704.4	5790.8	2602.1	1073.2	960.5	966.5	901.4	845.4	810.6	828.0	859.8
52.5°	8082.6	6720.3	2612.7	972.6	897.6	894.6	871.2	803.0	775.0	793.2	829.5
55°	9401.1	7519.5	2691.4	909.0	832.6	837.9	846.9	789.4	758.4	775.0	812.9
57.5°	10548.5	8150.7	2661.9	841.6	772.0	796.2	820.4	770.5	747.0	771.3	809.1
60°	11350.8	8443.6	2428.8	777.3	727.4	760.7	807.6	768.2	765.2	817.4	862.8
62.5°	11643.7	8335.4	1974.7	726.6	700.9	756.1	837.1	818.2	821.2	885.5	948.4
65°	11216.1	7766.2	1472.9	694.1	680.4	778.1	905.2	847.7	806.1	859.0	916.6
67.5°	9999.8	6754.3	1076.3	666.0	657.0	812.9	968.0	844.7	767.5	821.2	868.1
70°	8090.2	5331.4	833.3	630.5	625.9	789.4	974.1	822.0	725.8	760.7	787.1
72.5°	5543.3	3650.4	690.3	596.4	572.2	699.3	924.9	771.3	675.9	696.3	718.3
75°	3097.9	2048.8	580.5	554.0	501.0	622.9	867.4	741.0	638.8	644.9	675.1
77.5°	1390.4	886.3	492.7	498.0	436.7	551.0	792.4	692.5	582.0	568.4	598.7
80°	526.0	432.2	399.6	420.8	367.1	477.6	714.5	648.6	522.2	504.8	522.2
82.5°	305.0	261.9	296.7	323.9	291.4	439.0	681.9	608.5	460.2	416.3	431.4
85°	141.5	135.5	177.9	210.4	203.6	342.1	583.5	457.9	327.7	277.0	306.5
87.5°	37.1	41.6	62.8	74.2	75.7	117.3	224.8	170.3	127.9	96.9	93.1
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)