

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: P368488

Luminaire Tested: **MSA-SA4C-730-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368488  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4C-730-U-T4FT  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21964 lumens  
Efficiency: N/A  
Efficacy: 97.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G4

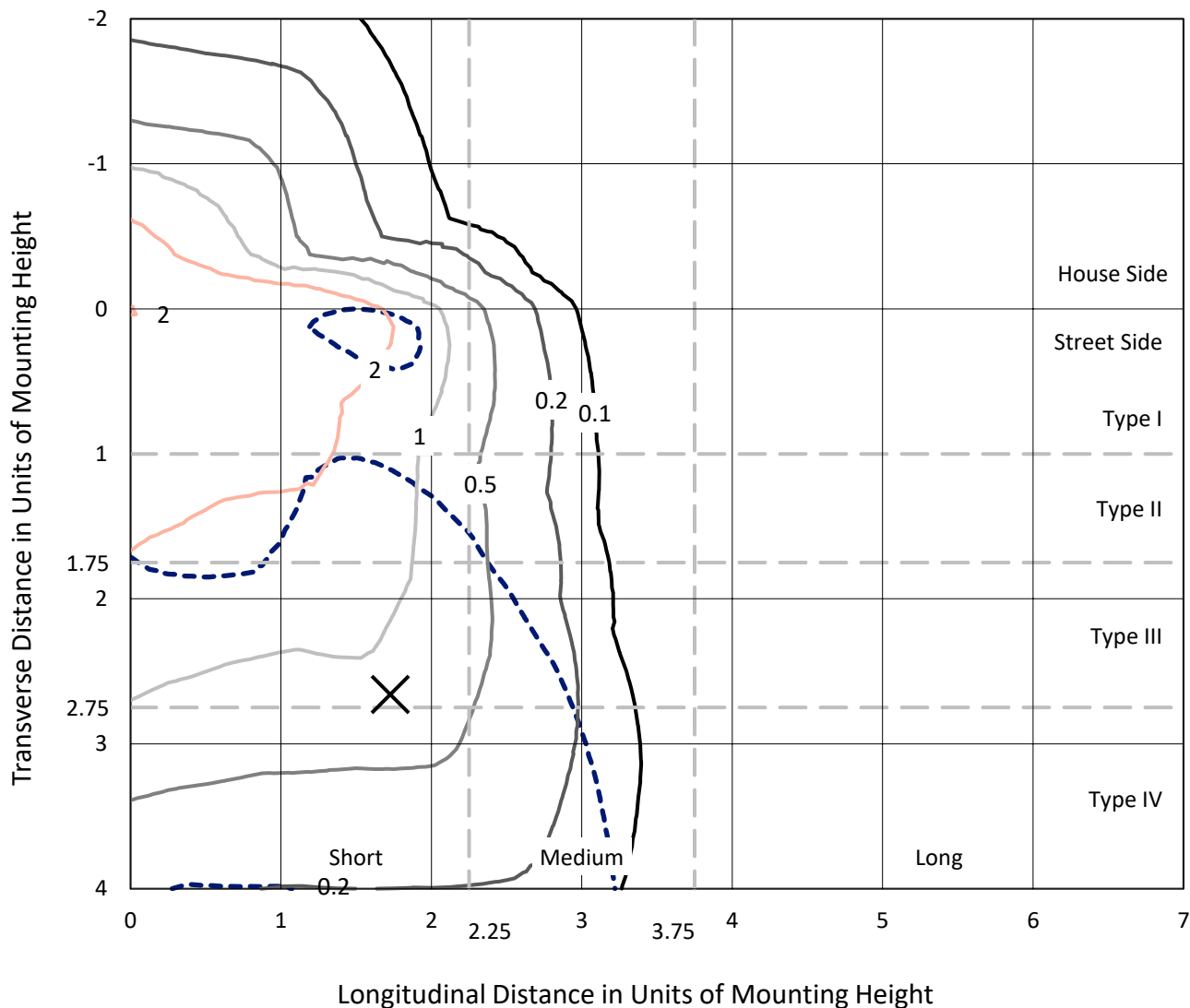
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

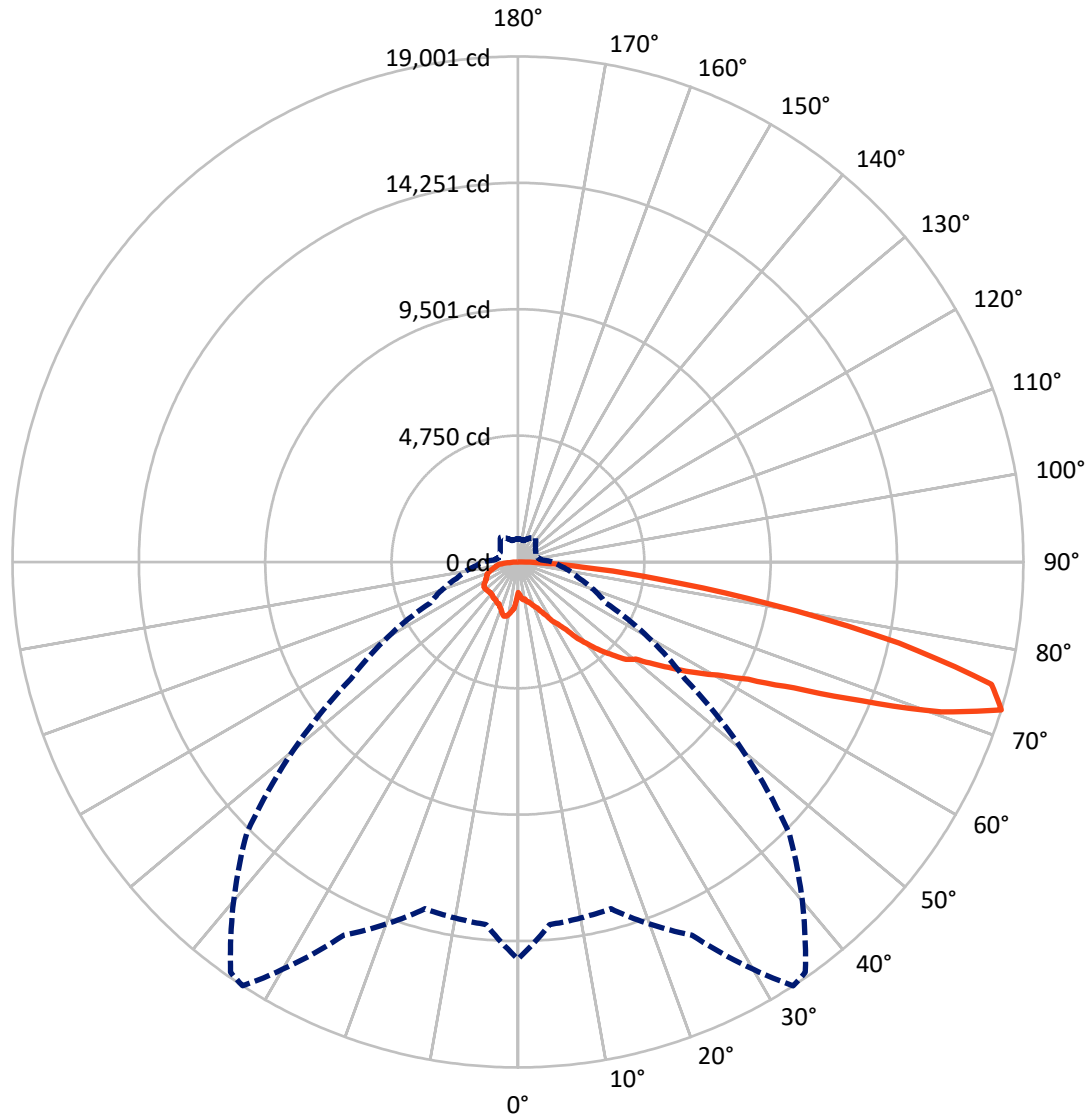
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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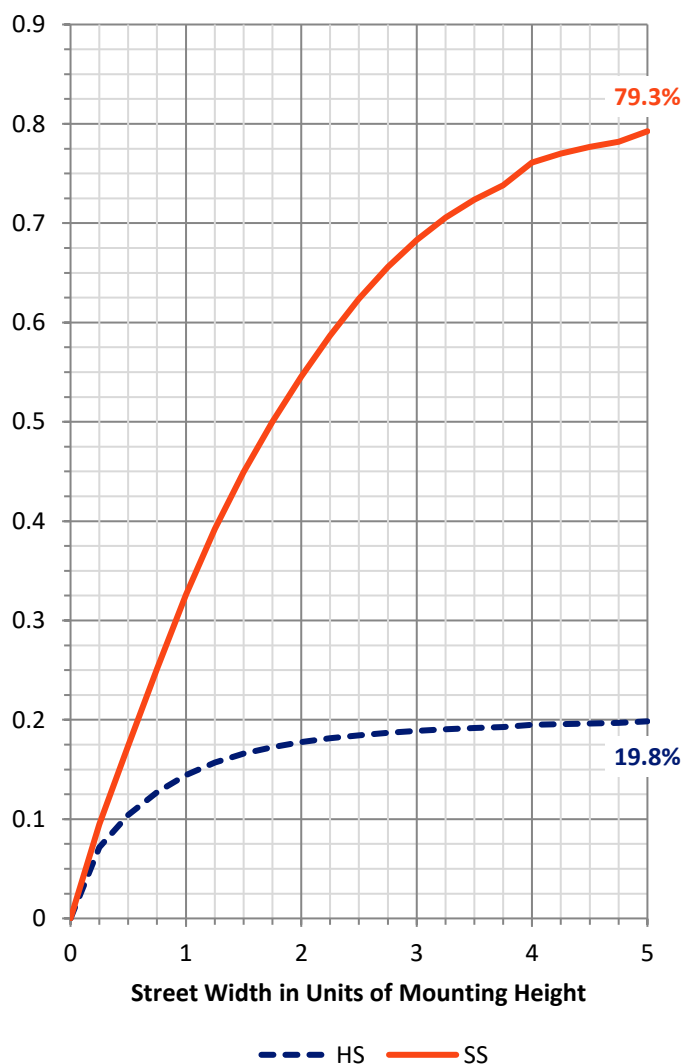
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4443.3	0.0	4443.3
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	17520.7	0.0	17520.7
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	21964.0	0.0	21964.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.4	0.7
10°-20°	585.2	2.7
20°-30°	1067.1	4.9
30°-40°	1805.3	8.2
40°-50°	3003.4	13.7
50°-60°	4407.8	20.1
60°-70°	5638.6	25.7
70°-80°	4587.5	20.9
80°-90°	710.5	3.2
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°	21964.0	100.0
0°-180°	21964.0	100.0

**Coefficient of Utilization**



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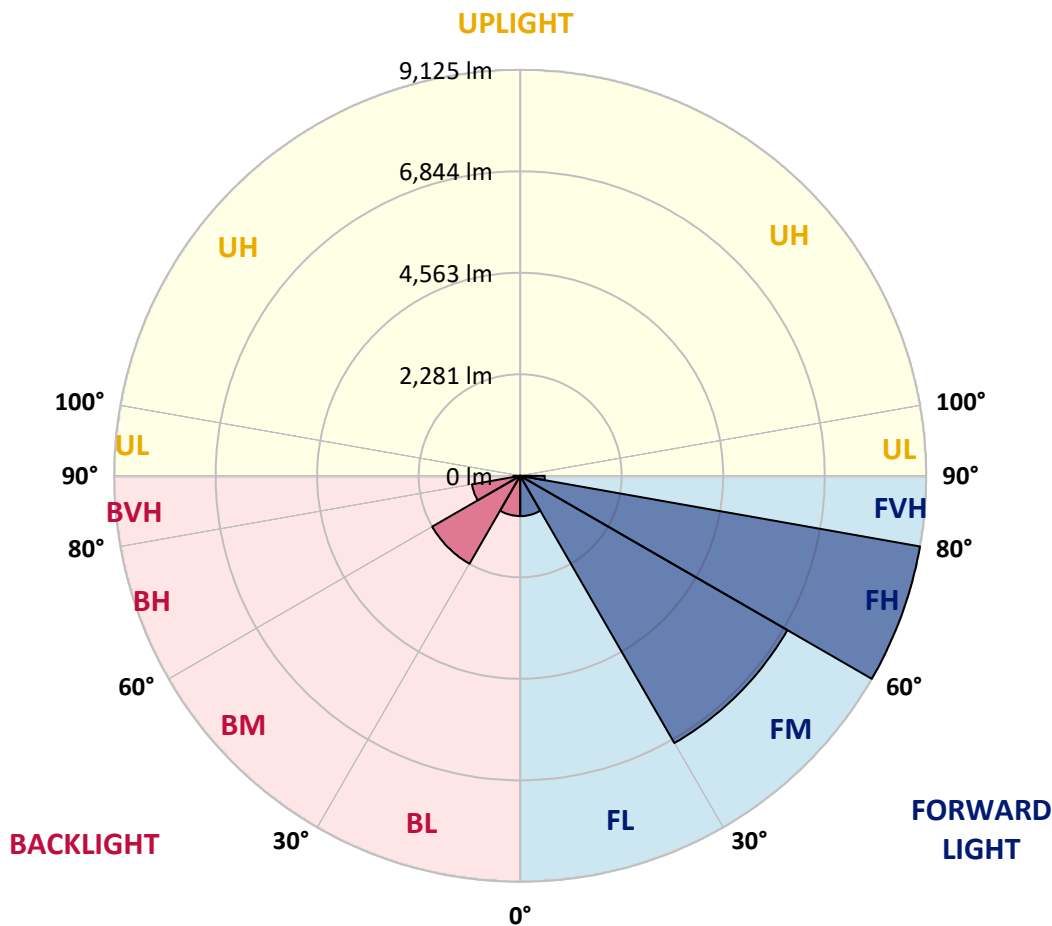
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	906.5	4.1			
FM (30°-60°)	6934.5	31.6			
FH (60°-80°)	9125.2	41.5			G4/12000
FVH (80°-90°)	554.5	2.5			G4/750
BL (0°-30°)	904.3	4.1	B2/1000		
BM (30°-60°)	2282.0	10.4	B2/2500		
BH (60°-80°)	1101.0	5.0	B3/2500		G3/2500
BVH (80°-90°)	156.0	0.7			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°	33°	35°	45°	55°	65°	75°	85°
0°	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7
2.5°	1305.7	1264.7	1197.3	1195.4	1232.8	1241.0	1265.6	1267.4	1276.5	1262.0	1365.8
5°	1440.5	1396.8	1370.4	1379.5	1362.2	1383.1	1383.1	1443.3	1523.5	1616.4	1748.5
7.5°	1472.4	1440.5	1410.5	1433.3	1436.9	1416.9	1436.0	1577.2	1722.1	1815.0	2026.4
10°	1408.7	1376.8	1399.5	1406.8	1405.9	1451.5	1550.8	1663.8	1825.1	1996.4	2110.2
12.5°	1396.8	1419.6	1430.5	1443.3	1529.8	1543.5	1693.8	1810.5	1972.7	2123.0	2419.1
15°	1572.7	1602.7	1535.3	1530.7	1559.0	1571.8	1727.6	1845.1	2082.0	2334.4	2600.5
17.5°	1823.2	1834.2	1713.0	1651.0	1672.0	1682.0	1750.3	1897.9	2043.7	2510.2	2841.9
20°	2065.6	2072.9	1845.1	1706.6	1780.4	1791.3	1855.1	1939.9	2054.7	2608.7	3005.0
22.5°	2319.8	2273.3	2023.7	1848.7	1891.6	1894.3	1931.7	1978.1	2141.2	2593.2	3203.6
25°	2597.7	2568.6	2254.2	2086.6	2084.7	2047.4	2049.2	2115.7	2233.3	2759.0	3333.9
27.5°	2966.7	2970.4	2513.9	2423.7	2282.5	2257.9	2134.8	2258.8	2392.7	2760.8	3615.5
30°	3445.1	3356.7	2875.6	2729.8	2590.4	2538.5	2371.8	2477.4	2535.8	2918.4	3921.6
32.5°	3834.2	3808.7	3252.8	3032.3	2804.6	2864.7	2680.6	2587.7	2692.5	3190.0	4385.4
35°	4206.8	4123.0	3651.9	3364.9	3125.3	3088.8	2969.5	2985.0	3048.7	3533.5	4991.3
37.5°	4762.6	4717.1	4216.9	3757.6	3645.6	3497.0	3421.4	3469.7	3419.6	3973.6	5899.8
40°	5384.0	5119.8	4688.8	4279.7	4070.2	3965.4	3991.8	3946.2	3908.0	4467.4	6714.3
42.5°	5979.0	5738.5	5002.3	4818.2	4544.9	4588.6	4443.7	4475.6	4584.0	5168.1	7467.9
45°	6626.9	6106.6	5334.8	5172.7	4976.8	5032.3	5148.1	5113.4	5291.1	5994.5	8177.7
47.5°	6950.3	6455.6	5743.0	5478.8	5476.1	5360.4	6064.7	6141.2	5863.3	6606.8	8898.4
50°	7261.9	6775.4	6046.5	5867.9	5738.5	5986.3	6944.0	6768.1	6380.9	7309.3	9691.1
52.5°	7695.7	7140.8	6394.5	6204.1	6364.5	6594.1	7645.5	7610.9	6888.4	8031.9	10379.9
55°	8026.4	7466.0	6918.4	6741.7	7047.8	7272.9	8359.9	8151.2	7323.0	8562.2	10816.4
57.5°	8605.9	8031.0	7692.0	7299.3	7849.6	7846.0	9048.7	8887.5	7787.7	8997.7	10992.2
60°	9527.1	8851.9	8497.5	8044.6	8634.2	8844.6	9836.0	9371.3	8116.6	9272.9	10675.2
62.5°	10820.0	10018.2	9443.3	8995.0	9713.9	10094.7	10808.2	9723.9	8137.6	9194.5	9841.4
65°	12419.1	11444.2	10690.6	10216.8	11403.2	11947.1	11983.6	9941.7	7944.4	8384.5	8088.4
67.5°	13979.0	12882.9	12096.6	12186.8	13918.9	14176.7	13257.4	10123.9	6906.6	6732.6	5616.4
70°	15005.9	13817.7	13293.8	14250.5	16882.0	16617.7	14289.7	9643.7	5438.7	4364.5	3162.6
72.5°	14928.5	13684.7	13496.1	15477.0	19001.3	18836.4	14415.5	7669.2	3642.8	2386.3	1577.2
75°	12162.2	11195.4	11623.7	14651.5	18390.9	18382.7	12515.7	4747.1	1868.8	1225.5	996.8
77.5°	6724.4	6349.0	7607.3	11093.4	14643.3	14718.0	8456.5	2153.1	1007.7	868.3	750.8
80°	2355.3	2320.7	3296.6	5986.3	9632.8	9651.0	3932.6	985.0	732.6	656.9	551.3
82.5°	861.0	853.8	1366.7	2780.9	5303.9	5292.0	1491.6	613.2	543.1	464.7	363.6
85°	343.5	336.2	625.1	1234.6	2436.4	2397.3	579.5	348.1	355.4	277.0	178.6
87.5°	94.8	98.4	212.3	386.3	746.2	691.6	145.8	117.5	144.0	113.0	56.5
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°	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7	1151.7
2.5°	1384.1	1393.2	1303.0	1334.8	1375.9	1397.7	1408.7	1362.2	1377.7	1443.3	1440.5
5°	1775.9	1739.4	1704.8	1740.3	1716.6	1682.9	1737.6	1734.8	1770.4	1805.9	1814.1
7.5°	2068.3	2021.0	2004.6	1924.4	1844.2	1763.1	1833.3	1877.0	1886.1	1974.5	2011.8
10°	2174.0	2155.8	2162.2	2056.5	2046.5	2054.7	1990.0	1919.8	1962.6	1926.2	1953.5
12.5°	2418.2	2463.8	2350.8	2278.8	2272.4	2222.3	2092.9	2047.4	1999.1	2049.2	2023.7
15°	2614.1	2698.9	2577.7	2451.0	2308.0	2230.5	2120.3	2051.0	2019.1	2030.1	1999.1
17.5°	2901.1	2980.4	2672.4	2478.4	2330.7	2216.9	2048.3	1900.7	1979.0	1985.4	1949.9
20°	3091.6	3097.0	2704.3	2410.9	2277.9	2080.2	1916.2	1786.8	1877.0	1969.0	2009.1
22.5°	3277.4	3236.4	2743.5	2357.2	2085.6	1894.3	1814.1	1805.9	1873.3	1950.8	1959.9
25°	3416.9	3423.2	2766.3	2337.1	1972.7	1712.1	1712.1	1771.3	1830.5	2014.6	2005.5
27.5°	3754.9	3506.1	2677.9	2245.1	1815.9	1605.5	1713.0	1792.3	1820.5	2020.0	2040.1
30°	4000.9	3838.7	2696.1	2087.5	1657.4	1555.4	1643.7	1743.0	1821.4	2051.9	2044.6
32.5°	4413.7	3977.2	2738.9	1866.1	1538.9	1536.2	1614.6	1719.4	1813.2	2017.3	2028.2
35°	4870.2	4385.4	2619.6	1697.5	1510.7	1525.3	1626.4	1668.3	1778.6	2003.6	2013.7
37.5°	5714.8	4598.6	2544.0	1567.2	1492.5	1534.4	1572.7	1637.4	1748.5	1935.3	2000.9
40°	6210.5	5037.8	2263.3	1491.6	1454.2	1527.1	1546.2	1600.9	1661.0	1853.3	1895.2
42.5°	6862.9	5176.3	2023.7	1407.7	1435.1	1497.0	1554.4	1568.1	1608.2	1723.9	1800.5
45°	7406.8	5280.2	1769.5	1340.3	1370.4	1563.6	1567.2	1560.8	1553.5	1596.4	1659.2
47.5°	7969.9	5559.0	1535.3	1265.6	1345.8	1618.2	1573.6	1515.3	1485.2	1490.7	1549.0
50°	8591.3	5761.3	1369.5	1204.6	1351.3	1618.2	1604.6	1468.8	1408.7	1393.2	1454.2
52.5°	9138.0	5785.0	1243.7	1155.4	1328.5	1562.6	1625.5	1439.6	1338.5	1301.1	1358.5
55°	9436.0	5485.2	1152.6	1110.7	1270.2	1512.5	1614.6	1423.2	1253.8	1225.5	1276.5
57.5°	9429.6	4987.7	1075.2	1048.7	1203.6	1442.4	1553.5	1333.9	1201.8	1185.4	1235.5
60°	9089.7	4404.5	1015.9	997.7	1135.3	1340.3	1444.2	1275.6	1151.7	1143.5	1198.2
62.5°	8318.9	3802.3	958.5	944.0	1071.5	1268.3	1392.3	1210.9	1099.8	1098.9	1150.8
65°	6812.7	3052.4	904.8	901.1	1012.3	1197.3	1343.1	1156.3	1046.0	1064.2	1117.1
67.5°	4694.3	2144.9	847.4	858.3	957.6	1128.9	1305.7	1119.8	989.5	1026.9	1074.3
70°	2575.9	1326.6	783.6	805.5	888.4	1049.7	1247.4	1060.6	915.7	973.1	1005.9
72.5°	1310.2	884.7	704.3	739.0	803.6	933.0	1138.0	974.9	836.4	858.3	875.6
75°	880.2	666.1	615.9	654.2	700.7	821.9	1009.6	894.8	760.8	758.1	777.2
77.5°	665.1	520.3	523.0	566.7	596.8	722.6	907.5	827.3	697.0	690.7	718.9
80°	486.6	394.5	421.0	466.5	493.8	648.7	841.0	752.6	610.5	585.0	608.7
82.5°	322.6	279.7	311.6	357.2	379.0	542.1	763.6	638.7	497.5	432.8	436.4
85°	152.2	146.7	185.9	207.7	236.0	336.2	571.3	441.9	317.1	262.4	274.3
87.5°	34.6	46.5	61.0	60.1	70.2	90.2	177.7	123.9	92.0	62.9	41.9
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)