

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: P368596

Luminaire Tested: **MSA-SA4D-727-U-T3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368596  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-727-U-T3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21970 lumens  
Efficiency: N/A  
Efficacy: 84.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G4

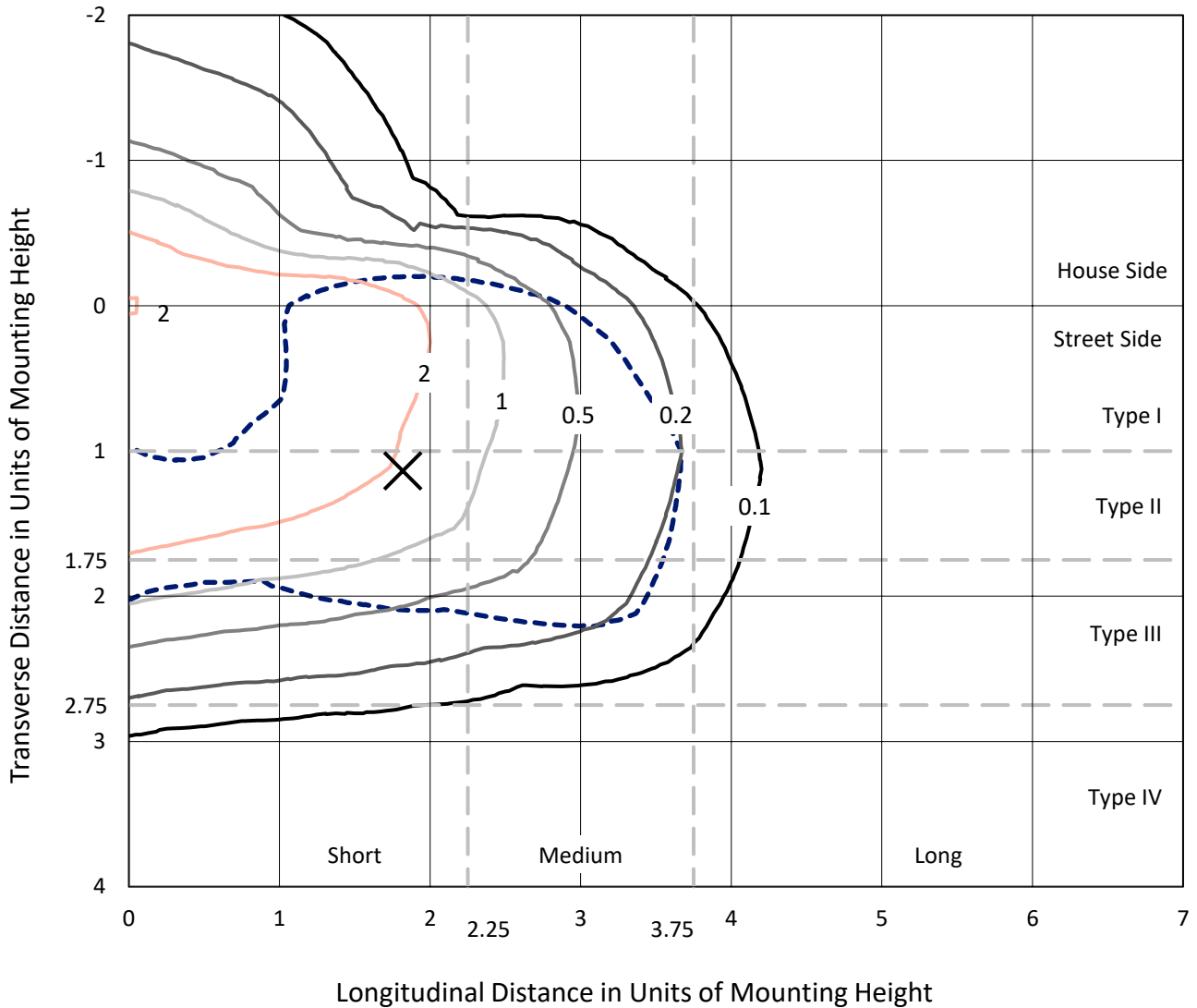
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P368596  
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### Iso-Footcandle Lines of Horizontal Illumination

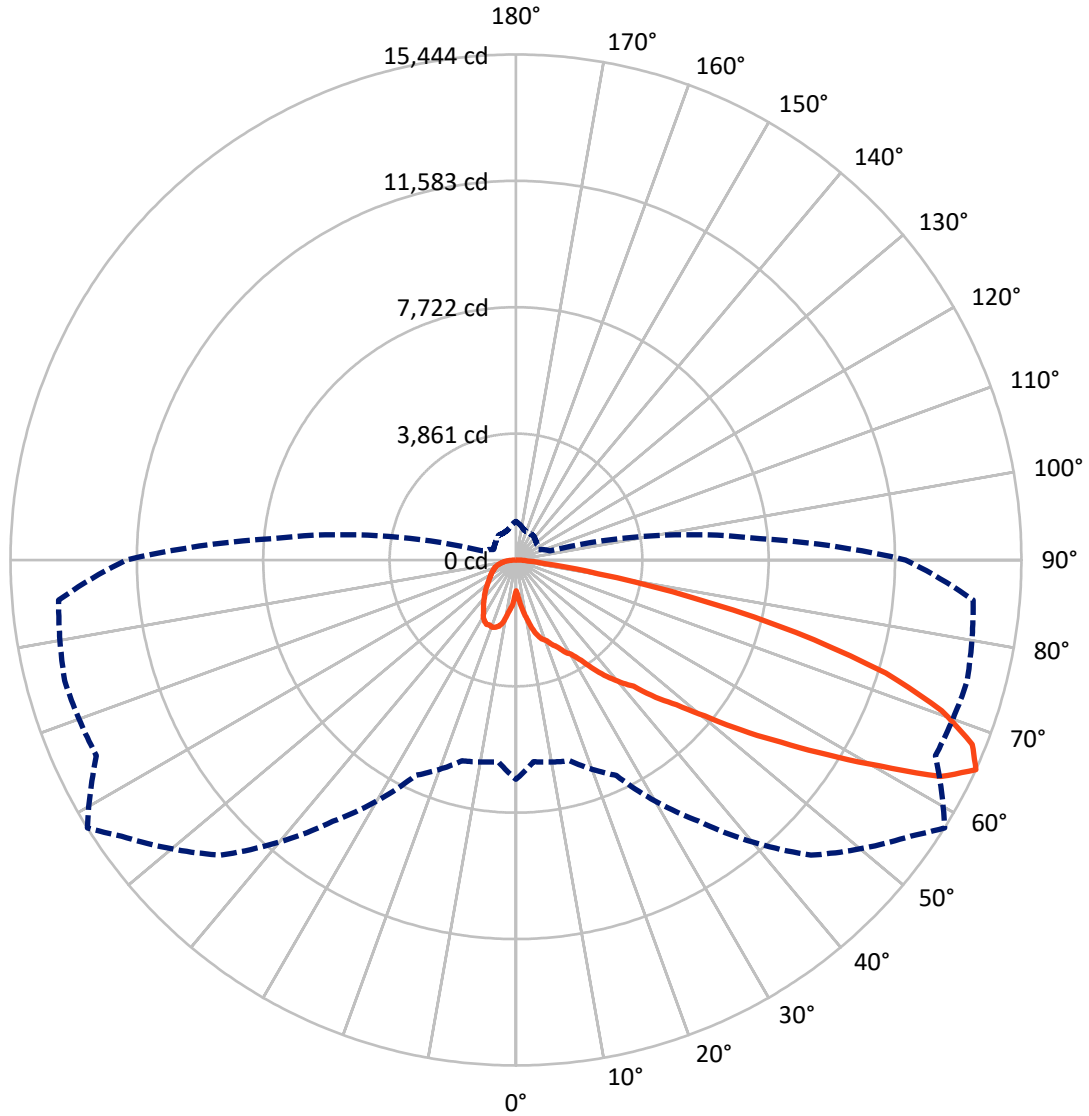
✕ Max cd  
 - - - 1/2 Max cd



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

REPORT NUMBER: P368596  
CATALOG NUMBER: MSA-SA4D-727-U-T3

### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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 CATALOG NUMBER: MSA-SA4D-727-U-T3

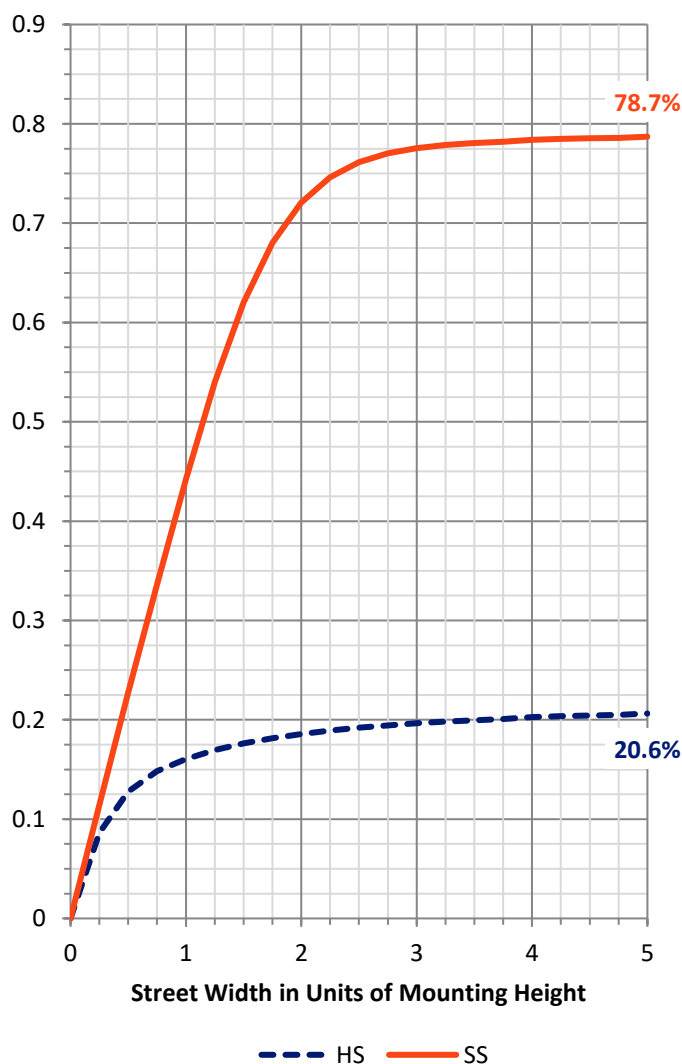
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4627.5	0.0	4627.5
	% Fixture	21.1	0.0	21.1
<b>Street Side</b>	Lumens	17342.5	0.0	17342.5
	% Fixture	78.9	0.0	78.9
<b>Total</b>	Lumens	21970.0	0.0	21970.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	143.7	0.7
10°-20°	627.0	2.9
20°-30°	1203.1	5.5
30°-40°	1986.3	9.0
40°-50°	3301.5	15.0
50°-60°	5452.3	24.8
60°-70°	6116.5	27.8
70°-80°	2781.0	12.7
80°-90°	358.7	1.6
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°	21970.0	100.0
0°-180°	21970.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P368596

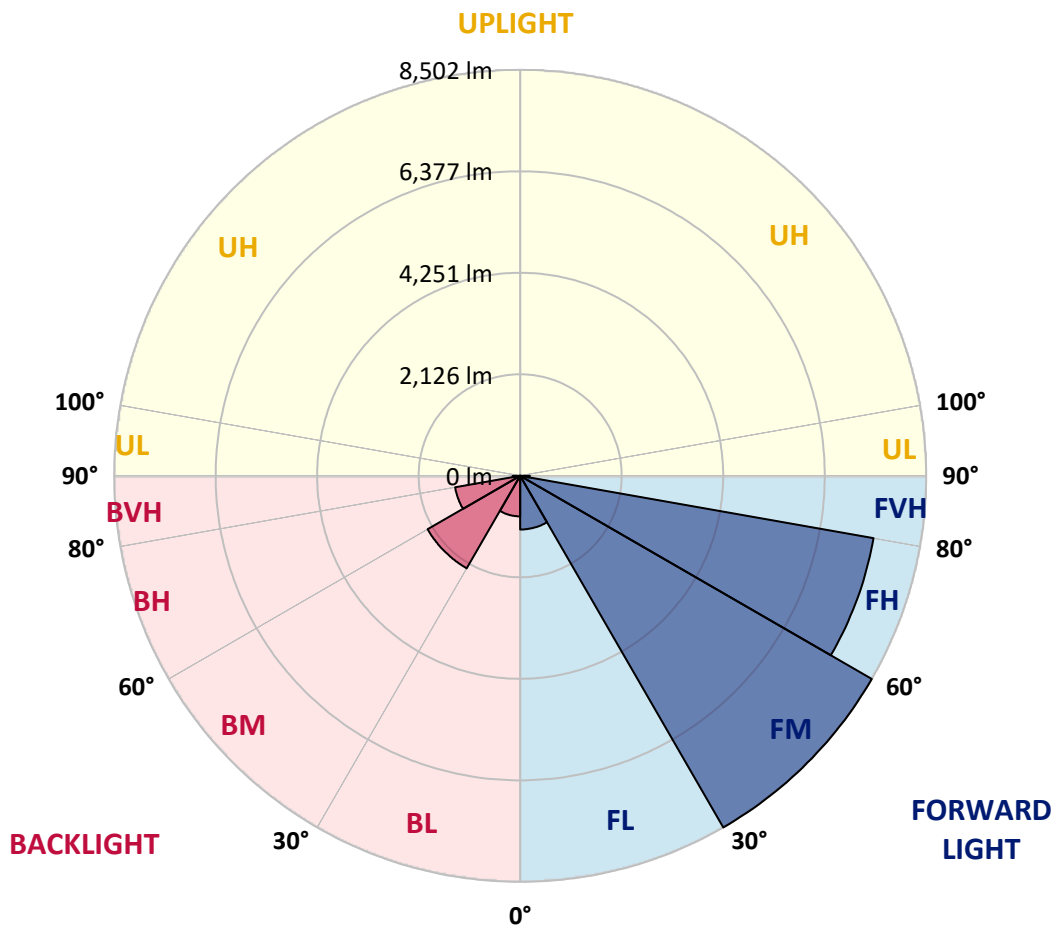
CATALOG NUMBER: MSA-SA4D-727-U-T3

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1124.3	5.1			
FM (30°-60°)	8502.0	38.7			
FH (60°-80°)	7514.2	34.2			G4/12000
FVH (80°-90°)	202.0	0.9			G2/225
BL (0°-30°)	849.5	3.9	B2/1000		
BM (30°-60°)	2238.0	10.2	B2/2500		
BH (60°-80°)	1383.3	6.3	B3/2500		G3/2500
BVH (80°-90°)	156.7	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 III Short





REPORT NUMBER: P368596

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	943.3	943.3	943.3	943.3	943.3	943.3	943.3	943.3	943.3	943.3	943.3
2.5°	1126.3	1092.4	1035.7	1049.4	1082.4	1100.7	1089.7	1075.0	1055.8	1052.2	1136.3
5°	1458.4	1393.4	1366.9	1355.9	1315.7	1291.9	1333.1	1327.6	1349.5	1389.8	1472.1
7.5°	1700.9	1655.1	1611.2	1606.6	1528.8	1501.4	1556.3	1585.6	1624.9	1625.8	1737.4
10°	1830.8	1791.4	1790.5	1749.3	1742.9	1795.1	1796.0	1818.0	1822.5	1869.2	1847.2
12.5°	1971.7	1968.9	2019.2	2018.3	2076.9	2162.9	2119.9	2119.9	2132.7	2076.0	2145.5
15°	2307.5	2336.7	2242.5	2258.0	2258.0	2342.2	2339.5	2355.9	2395.3	2380.6	2349.5
17.5°	2657.0	2675.3	2570.9	2474.0	2481.3	2463.0	2528.9	2535.3	2497.8	2667.9	2630.4
20°	2882.0	2953.4	2733.8	2612.1	2635.9	2657.0	2659.7	2620.4	2601.1	2862.8	2811.6
22.5°	3160.2	3099.8	2898.5	2764.0	2799.7	2771.3	2765.8	2796.0	2822.6	2921.4	3004.6
25°	3345.9	3341.3	3099.8	2952.5	2913.1	2904.9	2960.7	2948.8	3011.9	3191.3	3139.1
27.5°	3615.8	3700.0	3271.8	3308.4	3135.5	2953.4	3132.7	3186.7	3300.1	3270.9	3387.1
30°	4139.1	4076.0	3628.6	3618.5	3422.7	3270.0	3394.4	3348.6	3552.7	3546.3	3632.3
32.5°	4566.4	4610.3	4047.6	3942.4	3797.0	3613.1	3530.7	3657.9	3767.7	3947.9	3996.4
35°	5018.4	5008.3	4476.7	4264.5	4023.9	3947.9	4049.5	4102.5	4335.8	4501.4	4386.2
37.5°	5721.0	5641.5	5033.0	4631.4	4451.1	4423.7	4597.5	4520.7	4773.2	4812.5	4877.5
40°	6374.3	6134.6	5541.7	5081.5	4795.1	4897.6	4903.1	4913.2	5048.6	5155.6	5476.8
42.5°	6995.5	6827.2	6058.7	5712.8	5291.0	5191.3	5253.5	5274.6	5616.7	5835.4	6280.1
45°	7844.6	7393.5	6801.6	6446.6	5974.5	5847.3	5803.4	5984.5	6314.8	6812.6	7194.1
47.5°	8562.8	8155.7	7591.2	7123.6	6595.7	6958.9	6710.1	6608.5	7052.3	7668.9	8276.4
50°	9158.4	8710.1	8156.6	7886.7	7802.5	8126.4	7480.5	7492.4	7898.6	8768.7	9464.9
52.5°	9619.6	9141.1	8650.7	8513.4	8983.7	9170.3	8703.7	8633.3	8929.7	9958.1	10794.3
55°	10050.5	9542.7	9163.9	9443.9	10236.2	10257.3	10224.3	9833.7	10190.5	11232.6	12170.4
57.5°	10161.2	9614.1	9362.5	9764.1	10835.5	11669.0	11996.5	11229.8	11593.1	12391.8	13348.8
60°	9591.2	9122.8	9022.1	9567.4	11159.4	12378.1	13233.5	12775.2	12638.8	13322.3	14174.1
62.5°	8423.7	7880.3	7961.7	8719.3	10818.1	12659.0	14210.7	14568.4	13743.1	14062.5	14534.6
65°	6704.6	6185.8	6350.5	7261.8	9746.7	12752.3	14710.2	15444.0	14142.1	14272.0	14024.0
67.5°	4728.4	4257.2	4464.9	5643.3	8108.1	11557.4	14796.2	15035.9	13717.5	13674.5	12629.7
70°	2678.9	2383.4	2608.5	3591.1	5722.9	9206.9	14121.9	13806.3	12956.3	12347.0	10567.4
72.5°	1228.7	1127.2	1235.2	1828.0	3294.7	6126.4	11529.0	11815.4	11164.0	10401.8	8039.5
75°	653.3	617.6	663.3	913.1	1541.7	3333.1	8191.4	8835.5	8488.7	7889.4	5244.4
77.5°	485.8	458.4	480.3	592.0	823.4	1303.8	4654.2	5466.7	5598.4	5046.7	2912.2
80°	372.4	350.4	372.4	447.4	570.0	619.4	1990.0	2548.1	2902.2	2345.0	1157.4
82.5°	276.3	261.7	295.5	335.8	400.7	387.0	706.3	879.2	1133.6	774.9	451.1
85°	219.6	201.3	214.1	227.8	256.2	212.3	323.0	361.4	382.4	320.2	166.5
87.5°	86.0	79.6	155.5	122.6	104.3	64.0	97.0	109.8	112.5	108.0	48.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P368596

CATALOG NUMBER: MSA-SA4D-727-U-T3

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	943.3	943.3	943.3	943.3	943.3	943.3	943.3	943.3	943.3	943.3	943.3
2.5°	1145.5	1136.3	1082.4	1099.7	1128.1	1133.6	1145.5	1112.6	1096.1	1156.5	1159.2
5°	1479.4	1430.0	1404.4	1407.2	1388.9	1360.5	1403.5	1431.9	1442.8	1487.7	1504.1
7.5°	1738.4	1678.9	1635.9	1586.5	1517.0	1472.1	1547.1	1602.0	1631.3	1724.6	1761.2
10°	1853.6	1806.1	1796.9	1734.7	1732.9	1732.0	1728.3	1709.1	1772.2	1763.1	1788.7
12.5°	2091.5	2081.5	1994.5	1969.8	1972.6	1969.8	1893.0	1889.3	1890.2	1974.4	1944.2
15°	2312.9	2314.8	2235.2	2145.5	2065.0	2040.3	2010.1	1996.4	2016.5	2064.1	2034.8
17.5°	2586.5	2595.7	2367.8	2226.0	2119.9	2117.1	2044.9	1959.8	2082.4	2111.7	2079.6
20°	2763.1	2724.7	2444.7	2206.8	2176.6	2094.3	2004.6	1887.5	1993.6	2065.0	2085.1
22.5°	2930.5	2863.7	2516.1	2240.7	2096.1	1998.2	1911.3	1835.3	1869.2	1948.8	1936.0
25°	3044.0	3025.7	2614.9	2322.1	2093.4	1875.6	1758.5	1710.0	1727.4	1850.9	1839.0
27.5°	3314.8	3117.2	2597.5	2343.1	2005.5	1708.2	1649.6	1597.5	1580.1	1713.7	1750.3
30°	3495.9	3414.5	2713.7	2310.2	1894.8	1570.9	1484.9	1474.0	1479.4	1631.3	1641.4
32.5°	3803.4	3592.0	2904.0	2183.9	1733.8	1469.4	1370.6	1375.1	1399.8	1510.5	1533.4
35°	4123.6	3997.3	2929.6	2093.4	1603.0	1361.4	1321.2	1289.1	1302.9	1399.8	1404.4
37.5°	4718.3	4281.9	3087.0	1953.4	1506.9	1320.2	1243.4	1215.0	1222.3	1277.2	1316.6
40°	5241.6	4853.7	3013.8	1818.0	1387.9	1265.3	1169.3	1148.2	1126.3	1180.3	1205.0
42.5°	6080.6	5261.8	2989.1	1668.8	1332.1	1191.2	1125.4	1069.6	1048.5	1094.3	1139.1
45°	6919.6	5694.5	2854.6	1517.9	1253.5	1185.7	1061.3	1008.3	1013.7	1054.9	1100.7
47.5°	7854.7	6275.5	2626.8	1371.5	1167.4	1159.2	997.3	974.4	990.9	1036.6	1082.4
50°	8959.9	6892.2	2438.3	1239.7	1106.1	1079.6	989.0	961.6	977.1	1031.1	1076.0
52.5°	10168.5	7568.3	2301.0	1118.0	1036.6	1016.5	1000.0	973.5	991.8	1038.4	1085.1
55°	11369.8	8185.9	2207.7	1034.8	977.1	990.0	1022.9	1003.7	1012.8	1047.6	1094.3
57.5°	12261.0	8511.6	2020.2	946.0	928.7	974.4	1025.6	993.6	999.1	1047.6	1097.9
60°	12778.8	8573.8	1711.8	873.8	890.2	943.3	997.3	956.1	952.4	1032.0	1095.2
62.5°	12722.1	8212.4	1357.8	807.9	846.3	896.6	954.3	914.9	925.0	1033.9	1100.7
65°	11909.6	7474.1	1079.6	752.1	793.2	845.4	918.6	903.0	951.5	1107.1	1179.3
67.5°	10482.3	6395.4	867.4	699.9	743.8	810.6	943.3	984.5	1005.5	1182.1	1256.2
70°	8495.1	4969.0	722.8	654.2	704.5	827.1	1014.7	1006.4	989.0	1146.4	1205.0
72.5°	6137.3	3406.3	635.9	609.3	656.0	777.7	1016.5	972.6	950.6	1046.7	1088.8
75°	3840.0	2032.1	555.4	552.6	581.9	697.2	970.7	931.4	871.9	919.5	974.4
77.5°	2193.1	1040.3	467.5	492.2	509.6	604.8	869.2	833.5	780.4	800.6	854.5
80°	837.2	503.2	394.3	437.3	432.8	512.4	736.5	728.3	667.9	674.3	707.2
82.5°	394.3	281.8	327.5	376.0	351.3	408.1	598.4	595.6	542.6	491.3	517.8
85°	146.4	150.0	239.7	286.4	244.3	263.5	432.8	420.9	369.6	312.0	344.9
87.5°	32.9	54.0	118.0	149.1	85.1	81.4	174.8	151.9	146.4	86.9	91.5
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)