

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: P368604

Luminaire Tested: **MSA-SA4D-730-U-RW**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368604  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-730-U-RW  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24605 lumens  
Efficiency: N/A  
Efficacy: 95.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B4 - U0 - G4

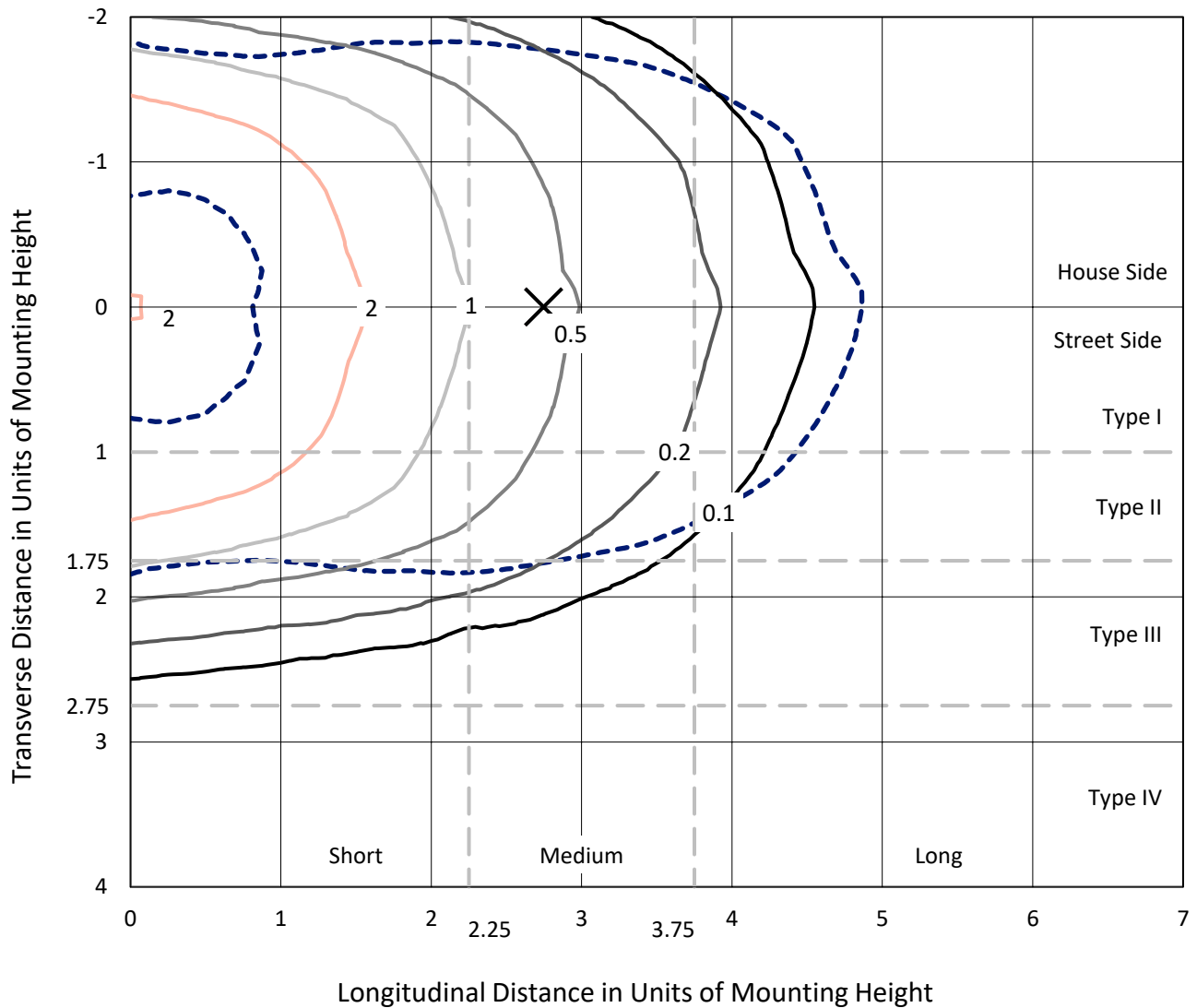
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

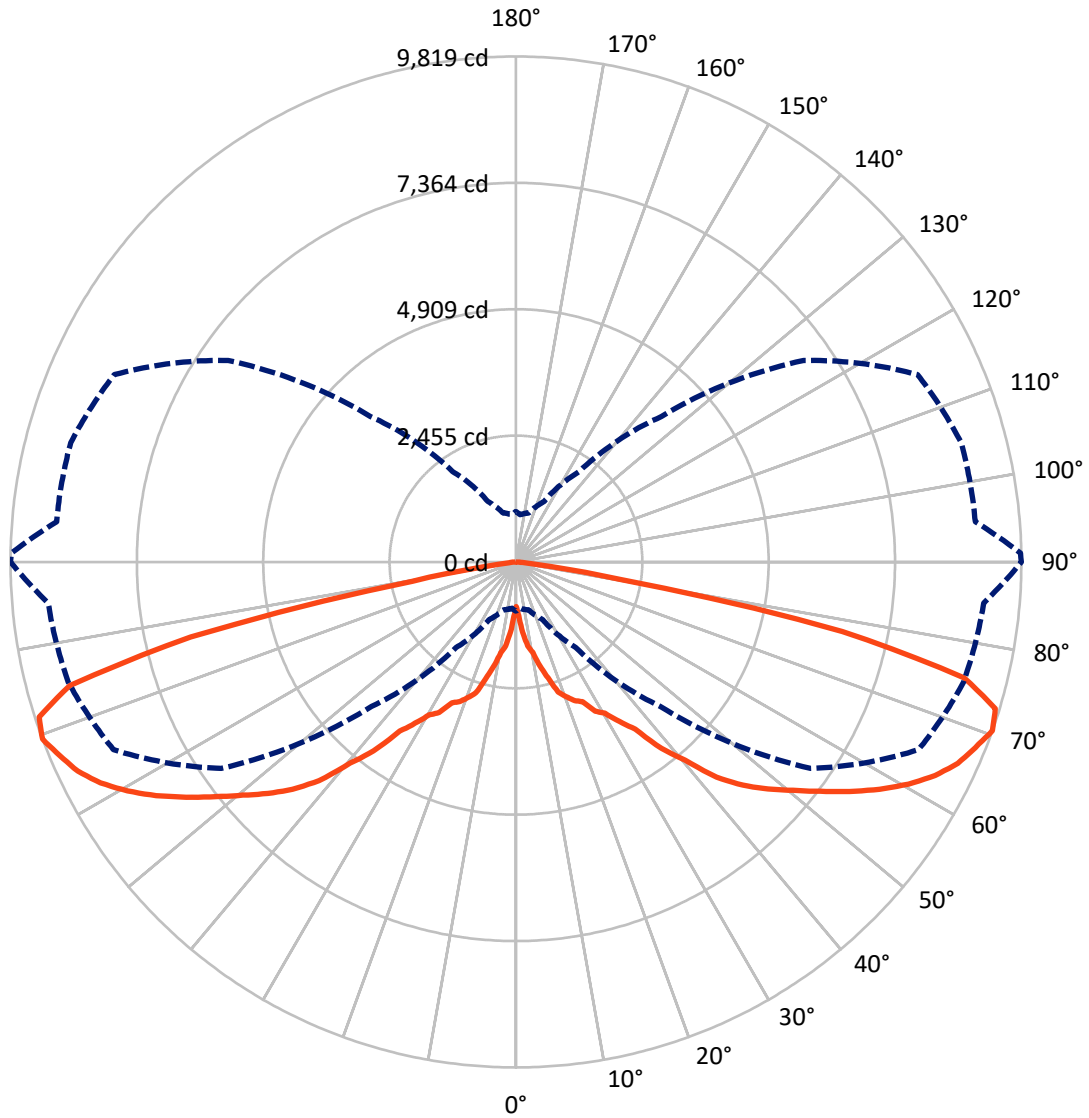
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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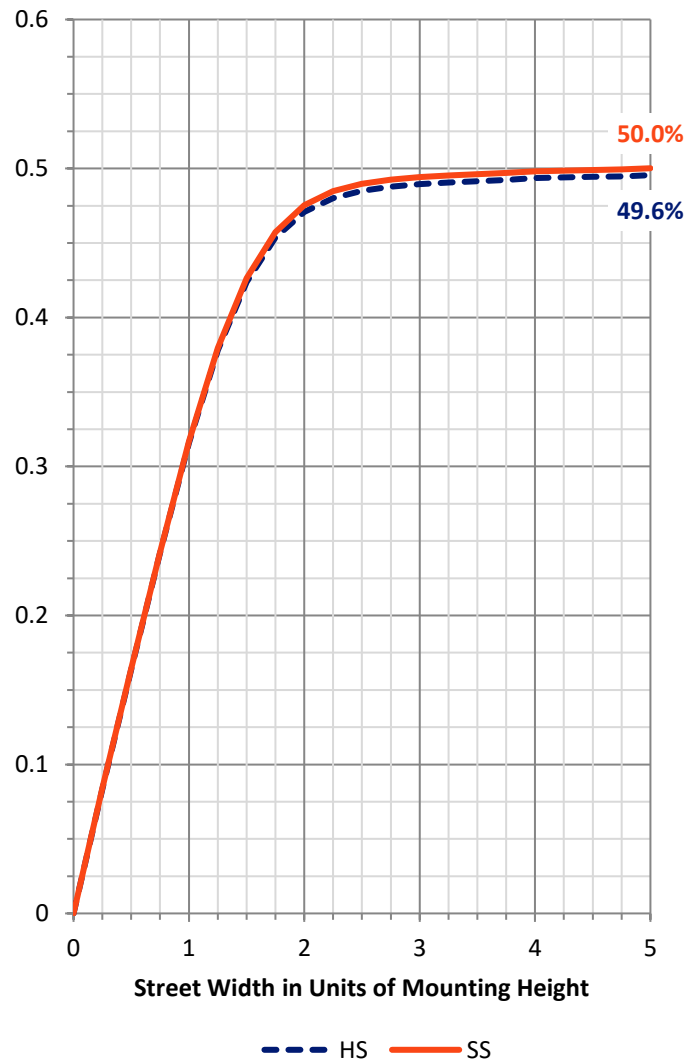
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	12256.9	0.0	12256.9
	% Fixture	49.8	0.0	49.8
<b>Street Side</b>	Lumens	12348.1	0.0	12348.1
	% Fixture	50.2	0.0	50.2
<b>Total</b>	Lumens	24605.0	0.0	24605.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.3	0.5
10°-20°	597.1	2.4
20°-30°	1290.9	5.2
30°-40°	2463.0	10.0
40°-50°	4474.4	18.2
50°-60°	6285.5	25.5
60°-70°	6001.4	24.4
70°-80°	3080.0	12.5
80°-90°	282.4	1.1
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°	24605.0	100.0
0°-180°	24605.0	100.0



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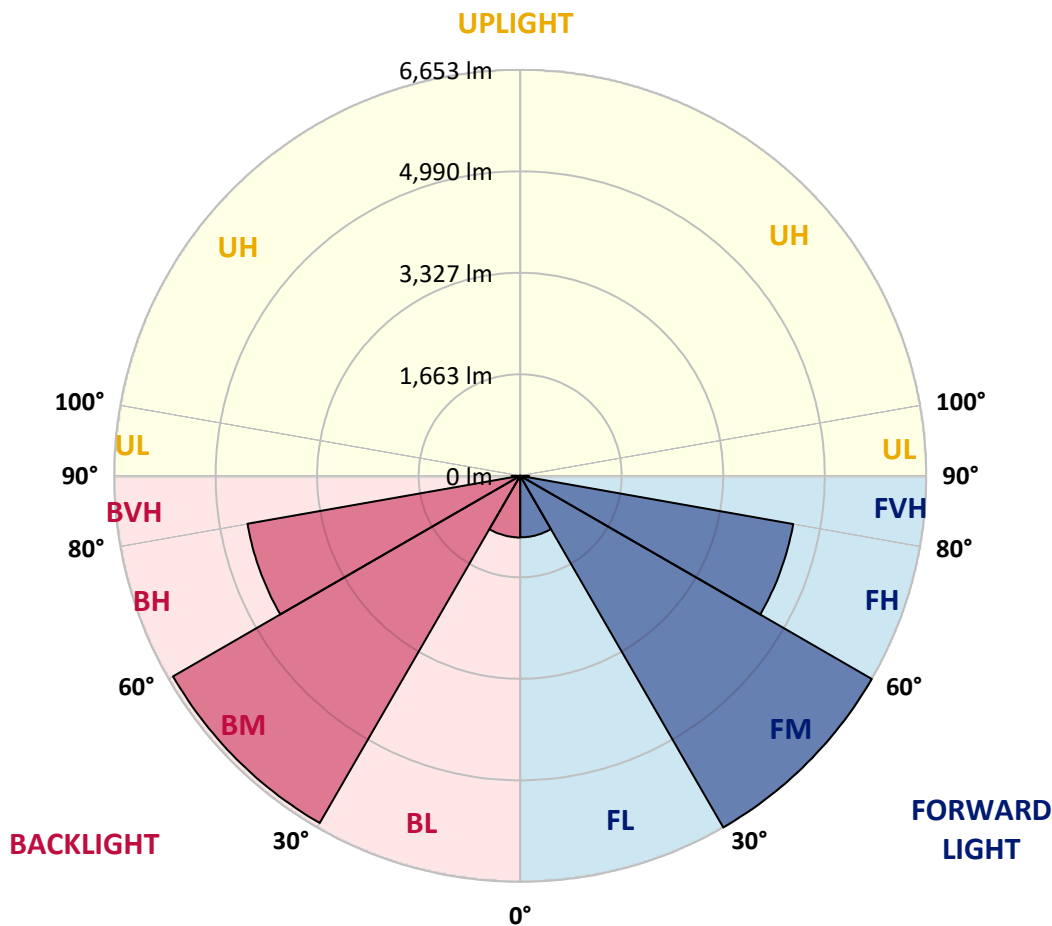
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1008.1	4.1			
FM (30°-60°)	6653.5	27.0			
FH (60°-80°)	4543.2	18.5			G2/5000
FVH (80°-90°)	143.3	0.6			G2/225
BL (0°-30°)	1010.1	4.1	B3/2500		
BM (30°-60°)	6569.5	26.7	B4/8500		
BH (60°-80°)	4538.2	18.4	B4/5000		G4/5000
BVH (80°-90°)	139.1	0.6			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G4**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	863.6	863.6	863.6	863.6	863.6	863.6	863.6	863.6	863.6	863.6	863.6
2.5°	1046.1	1007.2	958.3	987.2	999.2	1020.1	1017.1	1007.2	964.3	1036.1	1044.1
5°	1309.3	1247.5	1224.6	1220.6	1226.6	1206.6	1271.4	1252.5	1287.4	1352.2	1367.2
7.5°	1490.8	1445.0	1396.1	1411.0	1349.2	1340.2	1424.0	1498.8	1517.7	1636.4	1644.4
10°	1576.6	1531.7	1544.7	1535.7	1528.7	1586.6	1625.4	1680.3	1759.1	1770.0	1787.0
12.5°	1649.4	1667.3	1724.2	1722.2	1815.9	1918.6	1903.7	1960.5	1973.5	2111.1	2069.2
15°	1833.9	1870.8	1866.8	1901.7	1942.6	2111.1	2112.1	2208.8	2297.6	2351.4	2337.4
17.5°	2104.1	2117.1	2063.2	2065.2	2183.9	2252.7	2329.5	2312.5	2543.9	2649.6	2656.6
20°	2265.7	2298.6	2236.7	2155.0	2365.4	2460.1	2503.0	2404.3	2651.6	2794.2	2794.2
22.5°	2547.9	2463.1	2369.4	2314.5	2500.0	2600.7	2595.7	2567.8	2699.4	2951.7	2927.8
25°	2703.4	2655.6	2608.7	2622.6	2716.4	2768.2	2837.0	2772.2	2895.9	3083.4	3004.6
27.5°	2998.6	2909.8	2679.5	2863.0	2863.0	2824.1	2969.7	3000.6	2919.8	3225.0	3283.8
30°	3332.7	3301.7	2975.7	3170.1	3110.3	3000.6	3279.8	3259.9	3124.2	3435.4	3408.4
32.5°	3648.8	3750.5	3441.4	3334.7	3424.4	3466.3	3319.7	3379.5	3405.5	3705.6	3692.7
35°	4133.4	4219.2	3809.3	3782.4	3632.8	3593.9	3705.6	3725.6	3727.6	4043.7	3985.8
37.5°	4972.1	4848.4	4443.5	4253.1	4270.0	4223.2	4245.1	4087.5	4109.5	4568.2	4597.1
40°	5585.3	5445.7	4995.0	4858.4	4523.3	4723.8	4546.3	4530.3	4486.4	5080.8	5064.8
42.5°	6262.4	6071.0	5572.4	5389.9	5033.9	4952.1	4870.4	5054.8	5042.9	5593.3	5715.0
45°	6774.0	6387.1	6126.8	6013.1	5799.7	5599.3	5521.5	5604.3	5566.4	5975.3	6187.7
47.5°	7097.1	6761.1	6461.9	6222.6	6018.1	6509.8	6115.9	6005.2	5928.4	6386.1	6590.5
50°	7354.4	6966.5	6613.5	6533.7	6695.2	7130.0	6508.8	6264.4	6358.2	6695.2	6973.5
52.5°	7424.2	7013.3	6696.2	6645.4	7082.2	7160.9	7060.2	6649.4	6624.4	7066.2	7402.3
55°	7210.8	6816.9	6666.3	6944.5	7427.2	7361.4	7514.9	7252.7	7076.2	7445.1	7867.9
57.5°	6661.3	6270.4	6234.5	6635.4	7243.7	7804.1	7879.9	7672.5	7441.1	7832.1	8330.7
60°	5758.9	5401.9	5492.6	5935.4	6852.8	7650.6	8053.4	7864.0	7792.2	8181.1	8759.5
62.5°	4353.8	4075.6	4317.9	4935.2	6138.8	7452.1	8292.8	8262.8	8159.1	8552.0	9138.4
65°	2776.2	2629.6	2876.9	3504.2	5030.9	7091.1	8407.4	8447.3	8543.1	8838.2	9431.6
67.5°	1613.5	1535.7	1686.3	2199.8	3583.0	5822.7	8194.0	8766.4	8816.3	8985.8	9624.0
70°	954.3	903.5	965.3	1235.5	2028.3	3966.9	6989.4	8626.8	9003.8	9121.4	9818.5
72.5°	728.0	680.1	653.2	731.0	1059.0	2049.3	4725.8	7312.5	8853.2	9031.7	9736.7
75°	629.2	583.4	551.5	558.4	630.2	973.3	2561.8	5230.3	7543.9	8224.0	8993.8
77.5°	540.5	499.6	476.7	474.7	483.6	534.5	1071.0	2836.1	4724.8	5911.4	6483.8
80°	432.8	400.9	395.9	395.9	382.9	378.9	532.5	1079.0	1798.0	2132.0	2044.3
82.5°	316.1	284.2	316.1	312.1	292.2	276.2	339.0	466.7	554.4	437.8	346.0
85°	213.4	184.5	208.4	212.4	193.5	143.6	203.4	233.3	239.3	149.6	123.7
87.5°	74.8	72.8	117.7	102.7	83.8	48.9	74.8	80.8	84.8	52.9	35.9
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):**

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	863.6	863.6	863.6	863.6	863.6	863.6	863.6	863.6	863.6	863.6	863.6
2.5°	1047.1	1035.1	975.3	984.2	1007.2	1018.1	1029.1	984.2	962.3	1032.1	1025.1
5°	1371.2	1327.3	1278.4	1271.4	1274.4	1231.5	1256.5	1245.5	1250.5	1295.4	1304.3
7.5°	1642.4	1589.5	1524.7	1473.9	1386.1	1316.3	1375.1	1405.1	1414.0	1493.8	1523.7
10°	1789.0	1744.1	1725.2	1629.4	1600.5	1591.5	1577.6	1529.7	1582.6	1563.6	1578.6
12.5°	2076.2	2067.2	1968.5	1905.7	1911.6	1928.6	1840.8	1793.0	1724.2	1831.9	1793.0
15°	2320.5	2359.4	2260.7	2146.0	2089.1	2118.1	2051.3	1981.4	1919.6	1952.5	1910.6
17.5°	2632.6	2631.6	2439.2	2316.5	2311.5	2309.5	2210.8	2057.2	2131.0	2108.1	2110.1
20°	2798.2	2771.2	2531.9	2390.3	2511.0	2468.1	2379.3	2181.9	2267.6	2295.6	2313.5
22.5°	2936.8	2921.8	2631.6	2527.9	2605.7	2606.7	2517.9	2414.2	2403.3	2490.0	2443.2
25°	3033.5	3093.3	2820.1	2795.2	2829.1	2795.2	2708.4	2640.6	2596.7	2726.4	2596.7
27.5°	3262.9	3178.1	2849.0	2990.6	3011.6	2841.0	2949.7	2870.0	2748.3	2908.8	2961.7
30°	3426.4	3476.3	3052.4	3265.8	3240.9	3083.4	3128.2	3125.2	2979.6	3292.8	3255.9
32.5°	3707.6	3647.8	3384.5	3367.6	3427.4	3420.4	3344.6	3381.5	3417.4	3644.8	3699.6
35°	3995.8	4059.6	3596.9	3711.6	3694.6	3586.9	3785.4	3762.5	3869.2	4335.8	4181.3
37.5°	4646.0	4341.8	4073.6	4058.6	4172.3	4189.3	4125.4	4226.2	4456.5	4815.5	4981.0
40°	5071.8	4933.2	4477.5	4495.4	4337.8	4609.1	4429.6	4753.7	4929.2	5534.5	5475.7
42.5°	5716.0	5377.9	4940.2	5000.0	4968.1	4837.4	5073.8	5240.3	5491.6	5953.3	6251.5
45°	6195.6	5731.9	5524.5	5487.6	5483.6	5711.0	5681.1	5947.3	6037.1	6384.1	6631.4
47.5°	6559.6	6165.7	5858.6	5900.5	5778.8	6428.0	6082.0	6164.7	6346.2	6673.3	6961.5
50°	6991.4	6552.6	6203.6	6307.3	6603.5	6852.8	6539.7	6398.1	6486.8	6872.7	7193.8
52.5°	7391.3	6929.6	6545.7	6632.4	7116.1	7002.4	6968.5	6610.5	6599.5	6909.6	7274.6
55°	7859.0	7338.4	6999.4	7274.6	7446.1	7305.5	7251.7	6815.9	6546.7	6719.2	7063.2
57.5°	8317.7	7743.3	7406.2	7463.1	7680.5	7540.9	7137.0	6465.9	6129.8	6163.7	6511.8
60°	8747.5	8115.3	7837.0	7782.2	7955.7	7408.2	6701.2	5824.7	5378.9	5297.2	5598.3
62.5°	9115.5	8426.4	8163.1	8013.5	8179.1	7413.2	6022.1	4795.6	4305.9	4028.7	4263.1
65°	9407.6	8684.7	8497.2	8419.4	8479.2	6962.5	4964.1	3521.1	2920.8	2613.7	2750.3
67.5°	9602.1	8829.3	8743.5	8845.2	8047.4	5798.7	3677.7	2253.7	1698.2	1530.7	1616.5
70°	9803.5	8956.9	8953.9	8607.9	6823.9	3997.8	2148.0	1299.4	988.2	923.4	977.3
72.5°	9735.7	8805.3	8850.2	7527.9	4728.7	2137.0	1133.8	734.9	669.1	692.1	739.9
75°	9015.7	8005.6	7789.2	5411.8	2682.5	993.2	653.2	556.4	552.5	587.4	634.2
77.5°	6539.7	5575.4	5003.0	3067.4	1149.8	537.5	480.7	464.7	464.7	492.6	534.5
80°	2156.0	1865.8	1944.6	1186.7	543.5	371.0	374.9	381.9	379.9	386.9	421.8
82.5°	354.0	367.0	567.4	484.6	328.1	253.3	283.2	297.2	301.2	269.2	306.1
85°	125.6	141.6	241.3	224.4	189.5	127.6	186.5	208.4	205.4	179.5	198.4
87.5°	38.9	49.9	87.8	67.8	56.8	34.9	69.8	81.8	102.7	41.9	37.9
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)