

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: P368032

Luminaire Tested: **MSA-SA3C-830-U-RW**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368032  
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-SA3C-830-U-RW  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14857 lumens  
Efficiency: N/A  
Efficacy: 89.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B4 - U0 - G4

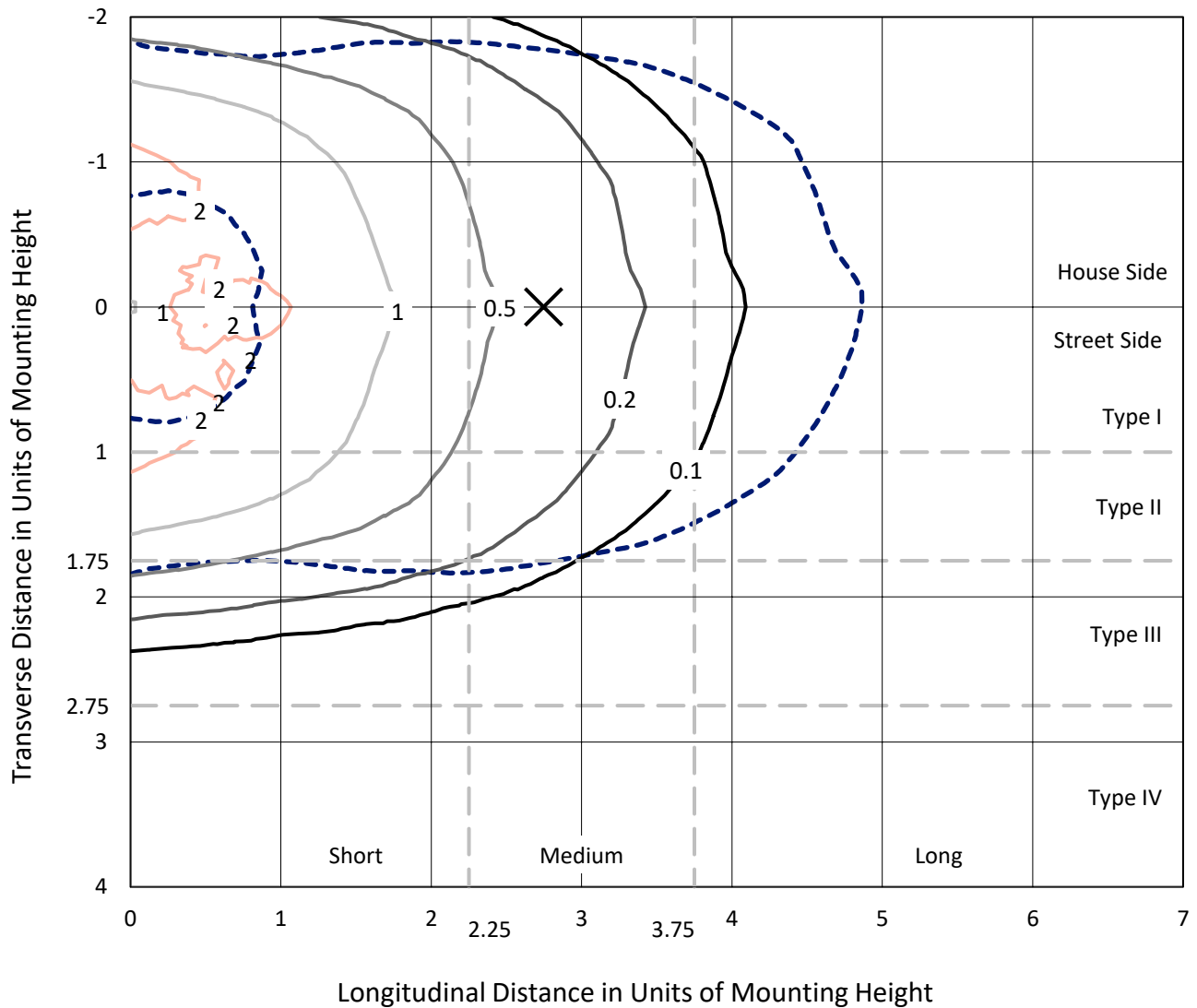
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

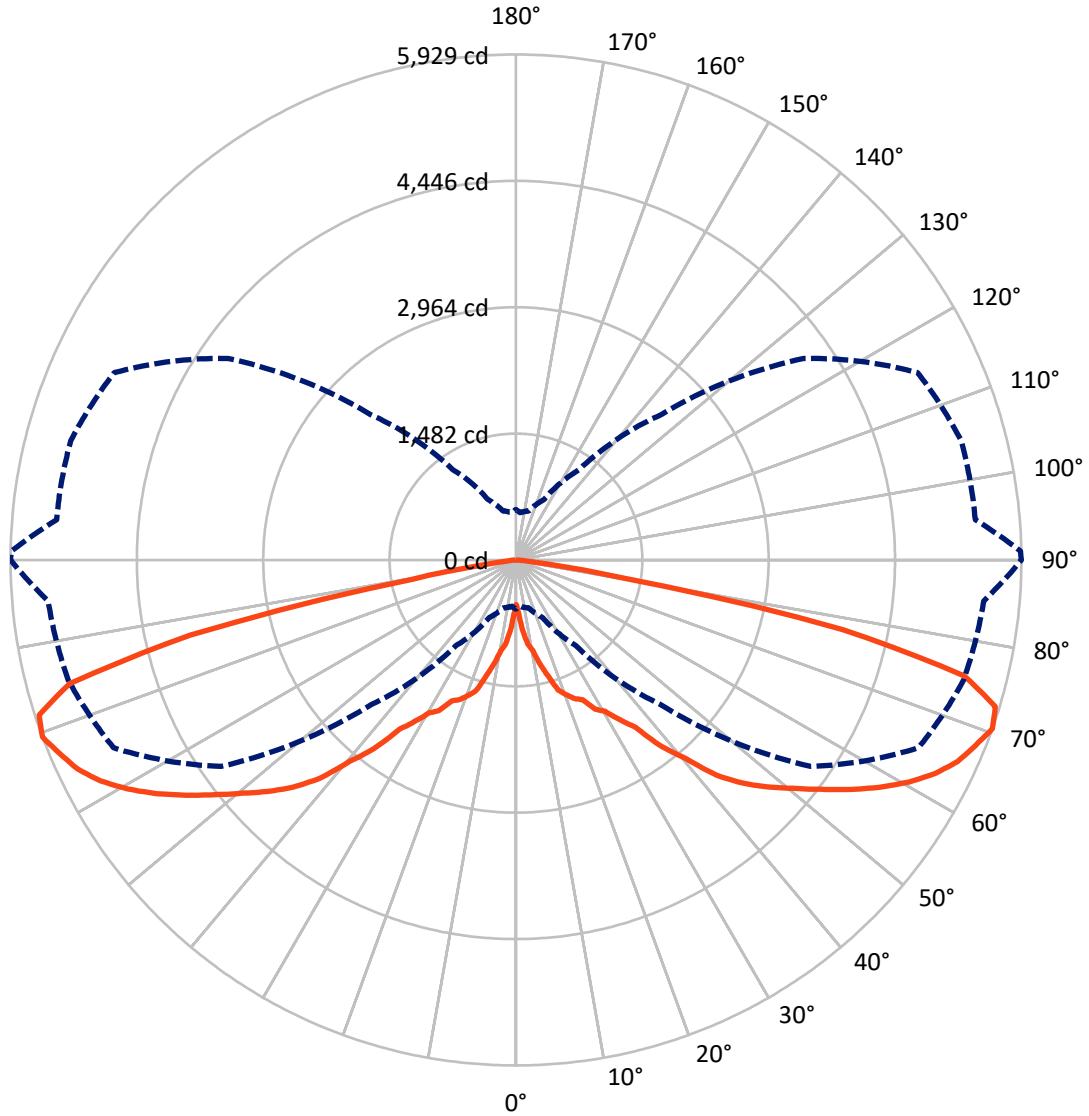
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 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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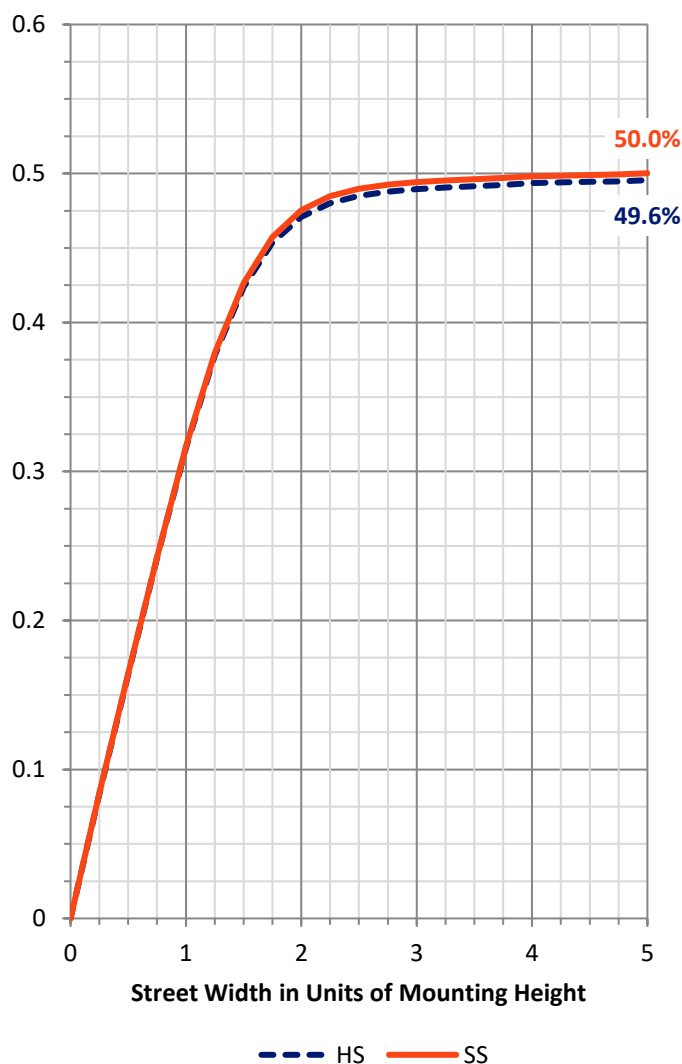
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	7401.0	0.0	7401.0
	% Fixture	49.8	0.0	49.8
<b>Street Side</b>	Lumens	7456.0	0.0	7456.0
	% Fixture	50.2	0.0	50.2
<b>Total</b>	Lumens	14857.0	0.0	14857.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.6	0.5
10°-20°	360.5	2.4
20°-30°	779.5	5.2
30°-40°	1487.2	10.0
40°-50°	2701.8	18.2
50°-60°	3795.3	25.5
60°-70°	3623.8	24.4
70°-80°	1859.7	12.5
80°-90°	170.5	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°	14857.0	100.0
0°-180°	14857.0	100.0

**Coefficient of Utilization**



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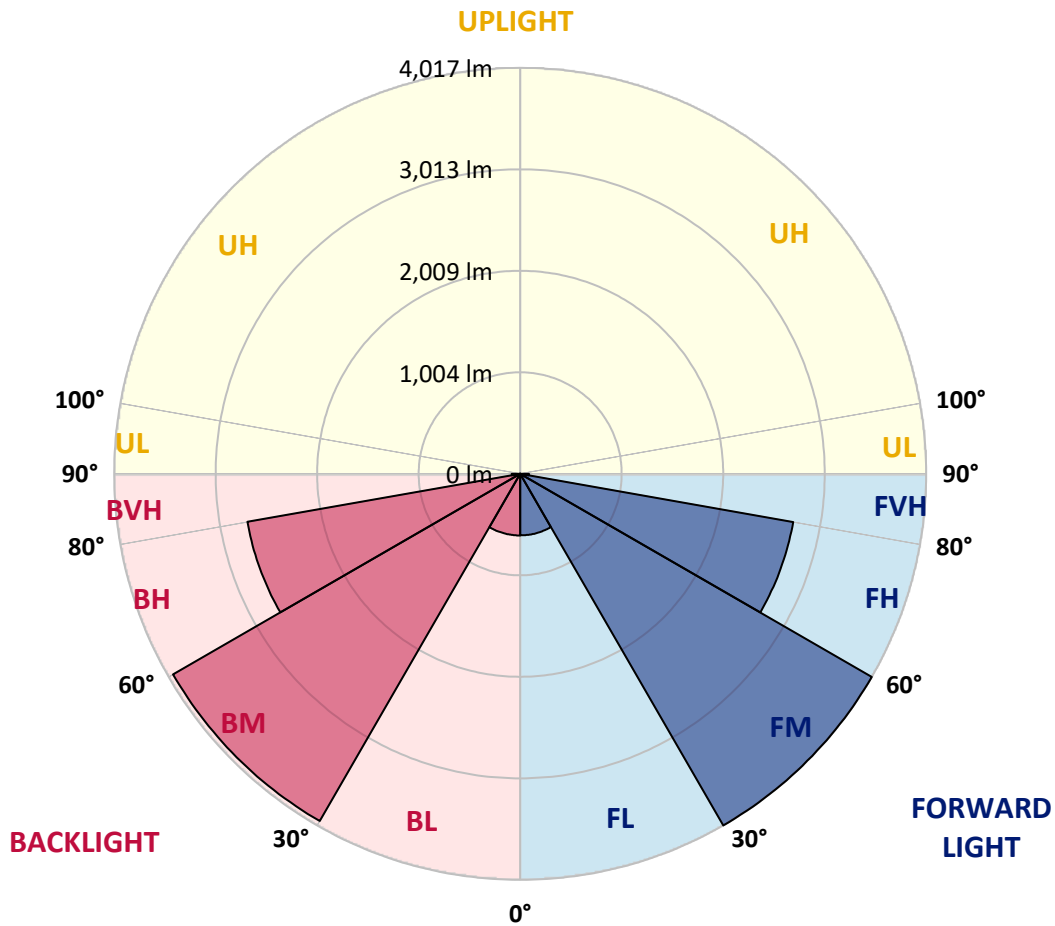
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	608.7	4.1			
FM (30°-60°)	4017.5	27.0			
FH (60°-80°)	2743.3	18.5			G2/5000
FVH (80°-90°)	86.5	0.6			G1/100
BL (0°-30°)	609.9	4.1	B2/1000		
BM (30°-60°)	3966.8	26.7	B3/5000		
BH (60°-80°)	2740.3	18.4	B4/5000		G4/5000
BVH (80°-90°)	84.0	0.6			G1/100
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°	521.4	521.4	521.4	521.4	521.4	521.4	521.4	521.4	521.4	521.4	521.4
2.5°	631.6	608.2	578.6	596.1	603.3	616.0	614.2	608.2	582.3	625.6	630.4
5°	790.6	753.3	739.4	737.0	740.6	728.6	767.7	756.3	777.4	816.5	825.5
7.5°	900.2	872.5	843.0	852.0	814.7	809.3	859.8	905.0	916.4	988.1	992.9
10°	952.0	924.9	932.7	927.3	923.1	958.0	981.5	1014.6	1062.2	1068.8	1079.0
12.5°	995.9	1006.8	1041.1	1039.9	1096.5	1158.5	1149.5	1183.8	1191.6	1274.7	1249.4
15°	1107.3	1129.6	1127.2	1148.3	1173.0	1274.7	1275.3	1333.7	1387.3	1419.8	1411.4
17.5°	1270.5	1278.3	1245.8	1247.0	1318.7	1360.2	1406.6	1396.3	1536.0	1599.9	1604.1
20°	1368.0	1387.9	1350.6	1301.2	1428.3	1485.5	1511.4	1451.7	1601.1	1687.2	1687.2
22.5°	1538.4	1487.3	1430.7	1397.6	1509.5	1570.4	1567.4	1550.5	1630.0	1782.3	1767.9
25°	1632.4	1603.5	1575.2	1583.6	1640.2	1671.5	1713.1	1673.9	1748.6	1861.8	1814.2
27.5°	1810.6	1757.0	1617.9	1728.7	1728.7	1705.2	1793.2	1811.8	1763.0	1947.3	1982.8
30°	2012.3	1993.7	1796.8	1914.2	1878.1	1811.8	1980.4	1968.4	1886.5	2074.3	2058.1
32.5°	2203.2	2264.6	2078.0	2013.5	2067.7	2093.0	2004.5	2040.6	2056.3	2237.5	2229.7
35°	2495.8	2547.6	2300.1	2283.9	2193.6	2170.1	2237.5	2249.6	2250.8	2441.6	2406.7
37.5°	3002.2	2927.6	2683.1	2568.1	2578.3	2550.0	2563.3	2468.1	2481.4	2758.4	2775.8
40°	3372.5	3288.2	3016.1	2933.6	2731.3	2852.3	2745.1	2735.5	2709.0	3067.9	3058.2
42.5°	3781.4	3665.8	3364.7	3254.5	3039.6	2990.2	2940.8	3052.2	3045.0	3377.4	3450.8
45°	4090.3	3856.7	3699.5	3630.9	3502.0	3381.0	3334.0	3384.0	3361.1	3608.0	3736.2
47.5°	4285.4	4082.5	3901.8	3757.3	3633.9	3930.7	3692.9	3626.0	3579.7	3856.1	3979.5
50°	4440.7	4206.5	3993.3	3945.2	4042.7	4305.2	3930.1	3782.6	3839.2	4042.7	4210.7
52.5°	4482.9	4234.8	4043.3	4012.6	4276.3	4323.9	4263.1	4015.0	4000.0	4266.7	4469.6
55°	4354.0	4116.2	4025.3	4193.3	4484.7	4444.9	4537.7	4379.3	4272.7	4495.5	4750.8
57.5°	4022.2	3786.2	3764.5	4006.6	4373.9	4712.3	4758.1	4632.8	4493.1	4729.2	5030.2
60°	3477.3	3261.8	3316.5	3583.9	4137.9	4619.6	4862.8	4748.4	4705.1	4939.9	5289.1
62.5°	2628.9	2460.9	2607.2	2980.0	3706.7	4499.7	5007.3	4989.3	4926.7	5163.9	5517.9
65°	1676.3	1587.8	1737.2	2115.9	3037.8	4281.8	5076.6	5100.7	5158.5	5336.7	5695.0
67.5°	974.3	927.3	1018.2	1328.3	2163.5	3515.9	4947.7	5293.3	5323.5	5425.8	5811.2
70°	576.2	545.5	582.9	746.0	1224.7	2395.3	4220.3	5209.1	5436.7	5507.7	5928.6
72.5°	439.6	410.7	394.4	441.4	639.5	1237.4	2853.5	4415.4	5345.7	5453.5	5879.2
75°	379.9	352.2	333.0	337.2	380.5	587.7	1546.9	3158.2	4555.1	4965.8	5430.6
77.5°	326.4	301.7	287.8	286.6	292.0	322.7	646.7	1712.5	2852.9	3569.4	3915.1
80°	261.3	242.1	239.0	239.0	231.2	228.8	321.5	651.5	1085.6	1287.4	1234.4
82.5°	190.9	171.6	190.9	188.5	176.4	166.8	204.7	281.8	334.8	264.3	208.9
85°	128.9	111.4	125.8	128.3	116.8	86.7	122.8	140.9	144.5	90.3	74.7
87.5°	45.2	44.0	71.1	62.0	50.6	29.5	45.2	48.8	51.2	31.9	21.7
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°	521.4	521.4	521.4	521.4	521.4	521.4	521.4	521.4	521.4	521.4	521.4
2.5°	632.2	625.0	588.9	594.3	608.2	614.8	621.4	594.3	581.1	623.2	619.0
5°	827.9	801.4	771.9	767.7	769.5	743.6	758.7	752.1	755.1	782.2	787.6
7.5°	991.7	959.8	920.7	890.0	837.0	794.8	830.3	848.4	853.8	902.0	920.1
10°	1080.2	1053.1	1041.7	983.9	966.4	961.0	952.6	923.7	955.6	944.1	953.2
12.5°	1253.6	1248.2	1188.6	1150.7	1154.3	1164.5	1111.5	1082.6	1041.1	1106.1	1082.6
15°	1401.2	1424.6	1365.0	1295.8	1261.5	1278.9	1238.6	1196.4	1159.1	1179.0	1153.7
17.5°	1589.6	1589.0	1472.8	1398.8	1395.7	1394.5	1334.9	1242.2	1286.8	1272.9	1274.1
20°	1689.6	1673.3	1528.8	1443.3	1516.2	1490.3	1436.7	1317.5	1369.3	1386.1	1396.9
22.5°	1773.3	1764.2	1589.0	1526.4	1573.4	1574.0	1520.4	1457.8	1451.1	1503.5	1475.2
25°	1831.7	1867.8	1702.8	1687.8	1708.3	1687.8	1635.4	1594.4	1568.0	1646.2	1568.0
27.5°	1970.2	1919.0	1720.3	1805.8	1818.4	1715.5	1781.1	1732.9	1659.5	1756.4	1788.3
30°	2068.9	2099.0	1843.1	1972.0	1956.9	1861.8	1888.9	1887.1	1799.2	1988.2	1966.0
32.5°	2238.7	2202.6	2043.6	2033.4	2069.5	2065.3	2019.6	2041.8	2063.5	2200.8	2233.9
35°	2412.7	2451.3	2171.9	2241.1	2230.9	2165.9	2285.7	2271.8	2336.3	2618.1	2524.7
37.5°	2805.3	2621.7	2459.7	2450.7	2519.3	2529.6	2491.0	2551.8	2690.9	2907.7	3007.7
40°	3062.4	2978.8	2703.6	2714.4	2619.3	2783.1	2674.7	2870.4	2976.3	3341.8	3306.3
42.5°	3451.4	3247.3	2983.0	3019.1	2999.8	2920.9	3063.7	3164.2	3315.9	3594.7	3774.8
45°	3741.1	3461.1	3335.8	3313.5	3311.1	3448.4	3430.4	3591.1	3645.3	3854.9	4004.2
47.5°	3960.8	3723.0	3537.5	3562.8	3489.4	3881.3	3672.4	3722.4	3832.0	4029.5	4203.5
50°	4221.6	3956.6	3745.9	3808.5	3987.3	4137.9	3948.8	3863.3	3916.9	4149.9	4343.8
52.5°	4463.0	4184.2	3952.4	4004.8	4296.8	4228.2	4207.7	3991.5	3984.9	4172.2	4392.6
55°	4745.4	4431.1	4226.4	4392.6	4496.1	4411.2	4378.7	4115.6	3953.0	4057.2	4264.9
57.5°	5022.4	4675.6	4472.0	4506.4	4637.6	4553.3	4309.5	3904.2	3701.3	3721.8	3931.9
60°	5281.9	4900.2	4732.2	4699.0	4803.8	4473.2	4046.3	3517.1	3247.9	3198.5	3380.4
62.5°	5504.1	5088.0	4929.1	4838.7	4938.7	4476.3	3636.3	2895.7	2600.0	2432.6	2574.1
65°	5680.5	5244.0	5130.8	5083.8	5119.9	4204.1	2997.4	2126.1	1763.6	1578.2	1660.7
67.5°	5797.9	5331.3	5279.5	5340.9	4859.2	3501.4	2220.7	1360.8	1025.4	924.3	976.1
70°	5919.6	5408.4	5406.6	5197.6	4120.4	2414.0	1297.0	784.6	596.7	557.6	590.1
72.5°	5878.6	5316.8	5343.9	4545.5	2855.3	1290.4	684.6	443.8	404.0	417.9	446.8
75°	5443.9	4833.9	4703.3	3267.8	1619.7	599.7	394.4	336.0	333.6	354.7	383.0
77.5°	3948.8	3366.5	3020.9	1852.2	694.3	324.5	290.2	280.6	280.6	297.5	322.7
80°	1301.8	1126.6	1174.2	716.5	328.2	224.0	226.4	230.6	229.4	233.6	254.7
82.5°	213.8	221.6	342.6	292.6	198.1	152.9	171.0	179.4	181.8	162.6	184.9
85°	75.9	85.5	145.7	135.5	114.4	77.1	112.6	125.8	124.0	108.4	119.8
87.5°	23.5	30.1	53.0	40.9	34.3	21.1	42.1	49.4	62.0	25.3	22.9
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)