

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: P368428

Luminaire Tested: **MSA-SA4B-830-U-RW**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368428
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-SA4B-830-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: 15855 lumens
Efficiency: N/A
Efficacy: 92.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B4 - U0 - G4

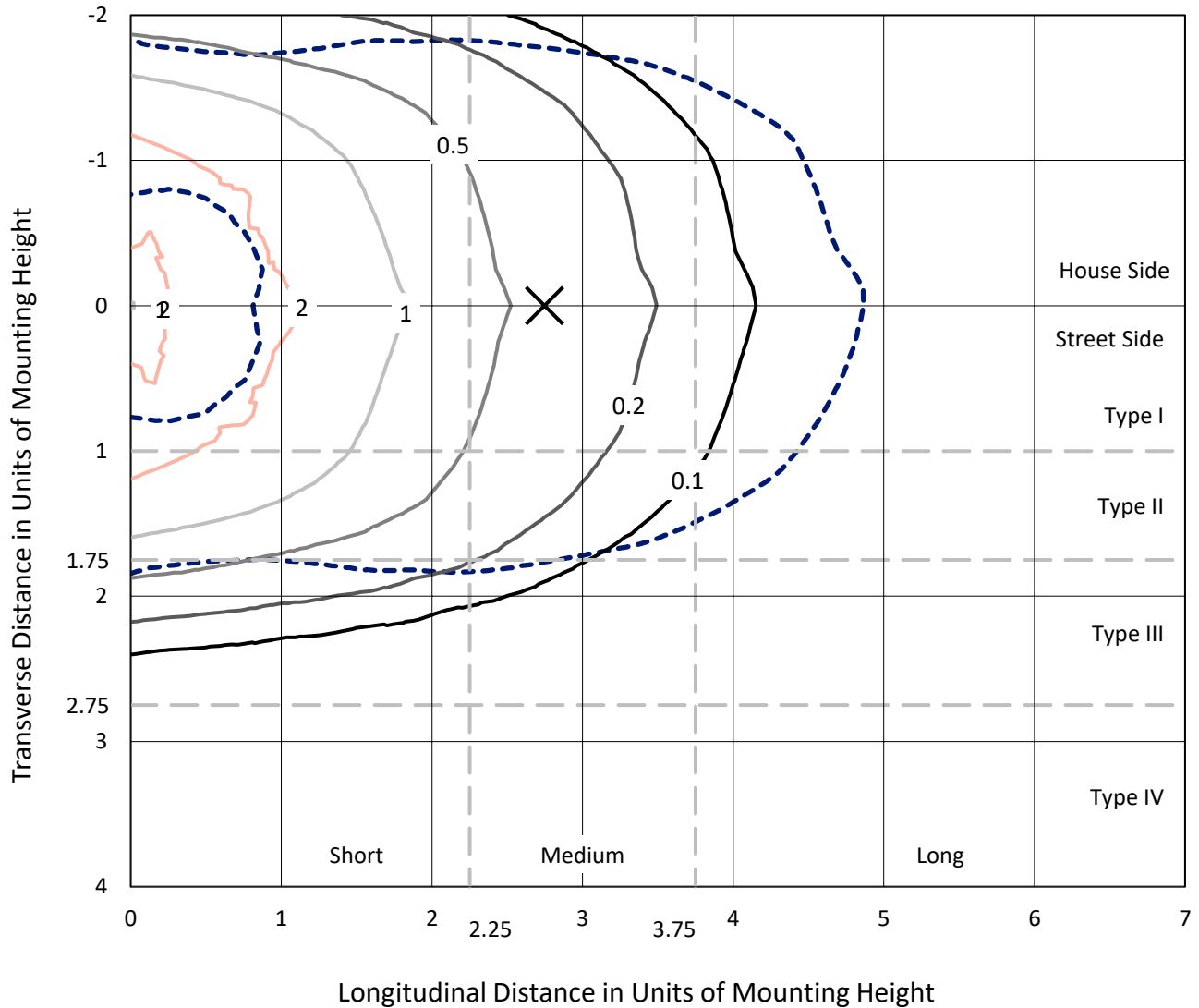
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

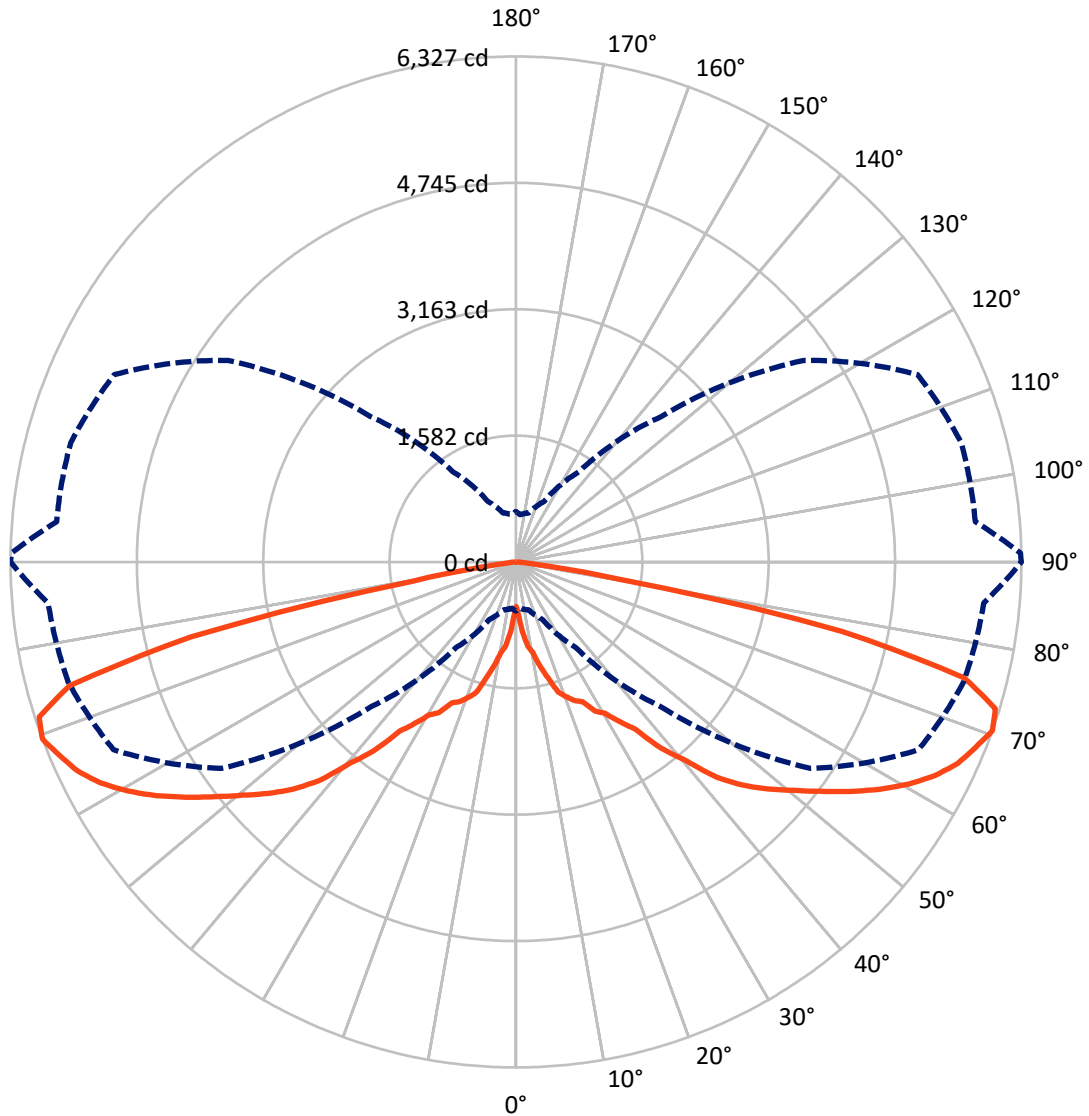
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.6 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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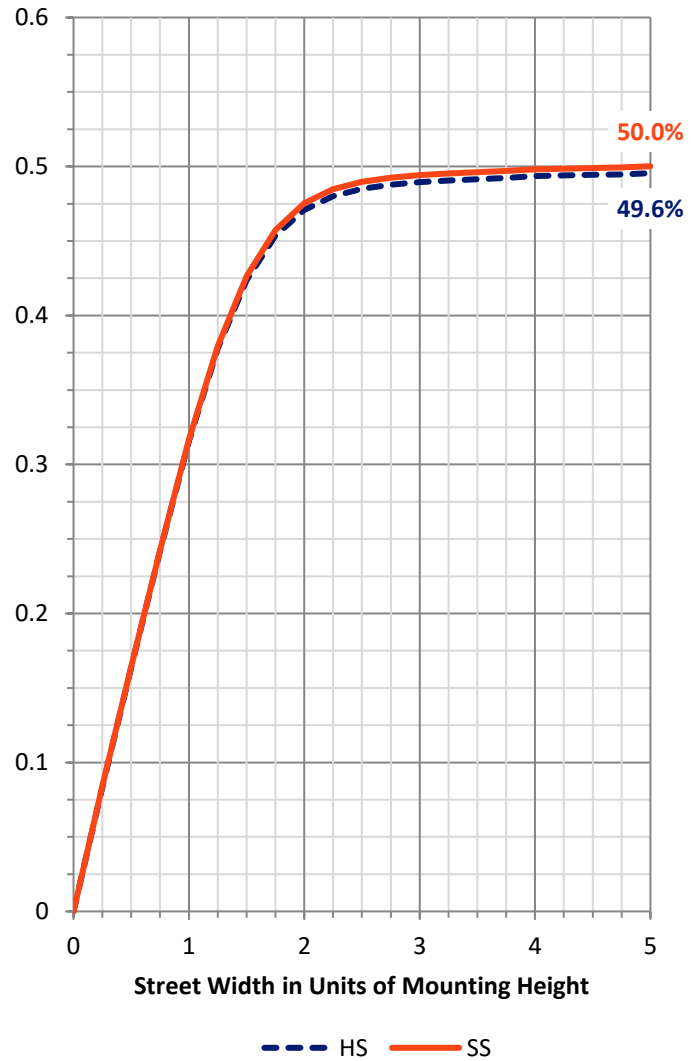
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7898.1	0.0	7898.1
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	7956.9	0.0	7956.9
	% Fixture	50.2	0.0	50.2
Total	Lumens	15855.0	0.0	15855.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.9	0.5
10°-20°	384.7	2.4
20°-30°	831.9	5.2
30°-40°	1587.1	10.0
40°-50°	2883.2	18.2
50°-60°	4050.3	25.5
60°-70°	3867.2	24.4
70°-80°	1984.7	12.5
80°-90°	182.0	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°	15855.0	100.0
0°-180°	15855.0	100.0

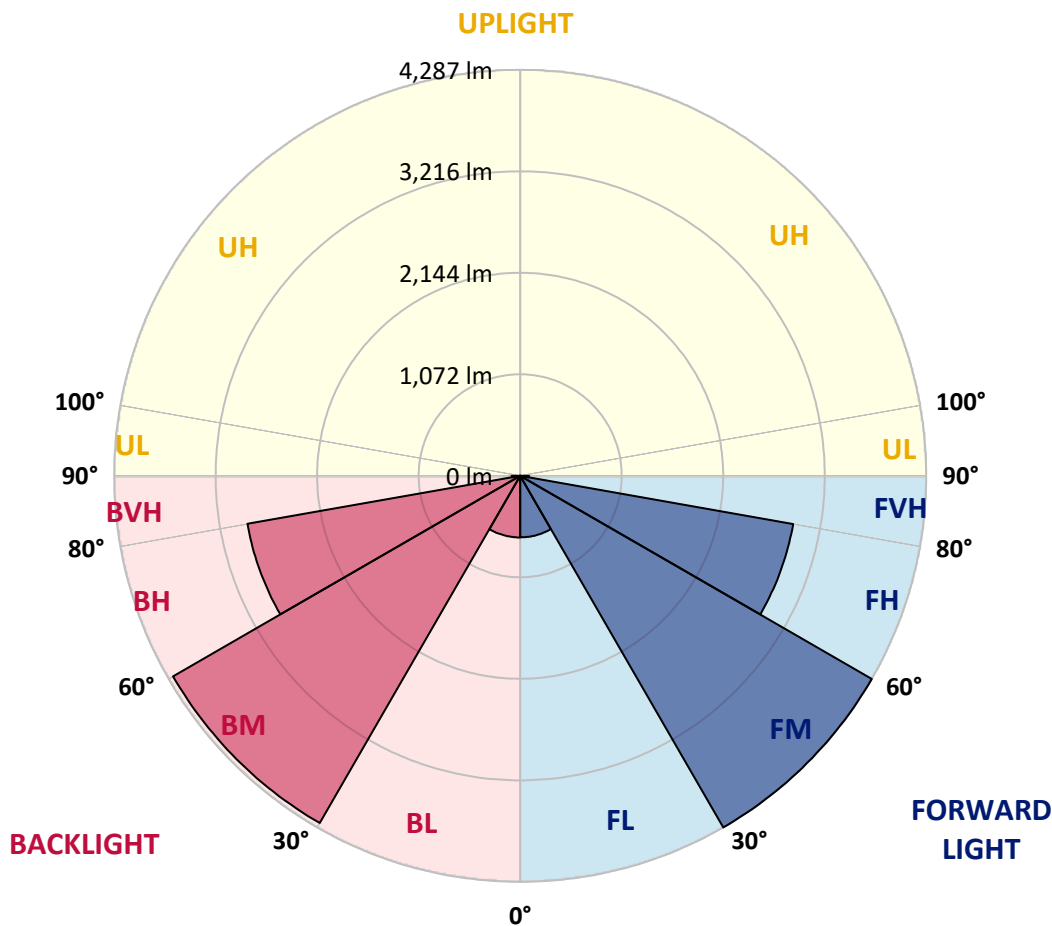


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	649.6	4.1			
FM (30°-60°)	4287.4	27.0			
FH (60°-80°)	2927.5	18.5			G2/5000
FVH (80°-90°)	92.3	0.6			G1/100
BL (0°-30°)	650.9	4.1	B2/1000		
BM (30°-60°)	4233.3	26.7	B3/5000		
BH (60°-80°)	2924.3	18.4	B4/5000		G4/5000
BVH (80°-90°)	89.6	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°	556.5	556.5	556.5	556.5	556.5	556.5	556.5	556.5	556.5	556.5	556.5
2.5°	674.1	649.0	617.5	636.2	643.9	657.4	655.4	649.0	621.4	667.6	672.8
5°	843.7	803.9	789.1	786.5	790.4	777.5	819.3	807.1	829.6	871.3	881.0
7.5°	960.7	931.1	899.6	909.3	869.4	863.6	917.6	965.8	978.0	1054.5	1059.6
10°	1015.9	987.0	995.4	989.6	985.1	1022.3	1047.4	1082.7	1133.5	1140.6	1151.5
12.5°	1062.8	1074.4	1111.0	1109.7	1170.1	1236.3	1226.7	1263.3	1271.7	1360.3	1333.4
15°	1181.7	1205.5	1202.9	1225.4	1251.7	1360.3	1361.0	1423.3	1480.5	1515.2	1506.2
17.5°	1355.8	1364.2	1329.5	1330.8	1407.3	1451.6	1501.1	1490.1	1639.2	1707.3	1711.8
20°	1459.9	1481.1	1441.3	1388.6	1524.2	1585.2	1612.9	1549.3	1708.6	1800.5	1800.5
22.5°	1641.8	1587.2	1526.8	1491.4	1610.9	1675.8	1672.6	1654.6	1739.5	1902.0	1886.6
25°	1742.0	1711.2	1681.0	1690.0	1750.4	1783.8	1828.1	1786.4	1866.1	1986.9	1936.1
27.5°	1932.2	1875.0	1726.6	1844.8	1844.8	1819.8	1913.6	1933.5	1881.5	2078.1	2116.0
30°	2147.5	2127.6	1917.5	2042.8	2004.2	1933.5	2113.4	2100.6	2013.2	2213.7	2196.3
32.5°	2351.2	2416.7	2217.5	2148.8	2206.6	2233.6	2139.2	2177.7	2194.4	2387.8	2379.5
35°	2663.5	2718.8	2454.7	2437.3	2340.9	2315.9	2387.8	2400.7	2402.0	2605.7	2568.4
37.5°	3203.9	3124.2	2863.3	2740.6	2751.5	2721.3	2735.5	2633.9	2648.1	2943.7	2962.3
40°	3599.1	3509.1	3218.7	3130.7	2914.7	3043.9	2929.5	2919.2	2891.0	3273.9	3263.7
42.5°	4035.4	3912.0	3590.7	3473.1	3243.7	3191.1	3138.4	3257.2	3249.5	3604.2	3682.6
45°	4365.0	4115.7	3948.0	3874.8	3737.2	3608.1	3558.0	3611.3	3586.9	3850.3	3987.2
47.5°	4573.2	4356.7	4163.9	4009.7	3878.0	4194.8	3940.9	3869.6	3820.1	4115.1	4246.8
50°	4739.0	4489.1	4261.6	4210.2	4314.3	4594.4	4194.1	4036.7	4097.1	4314.3	4493.6
52.5°	4784.0	4519.3	4314.9	4282.2	4563.6	4614.4	4549.5	4284.7	4268.7	4553.3	4769.9
55°	4646.5	4392.7	4295.6	4474.9	4785.9	4743.5	4842.5	4673.5	4559.8	4797.5	5070.0
57.5°	4292.4	4040.5	4017.4	4275.7	4667.7	5028.8	5077.7	4944.0	4794.9	5046.8	5368.1
60°	3710.9	3480.9	3539.3	3824.6	4415.8	4929.9	5189.5	5067.4	5021.1	5271.7	5644.4
62.5°	2805.5	2626.2	2782.4	3180.1	3955.7	4802.0	5343.7	5324.4	5257.6	5510.8	5888.6
65°	1788.9	1694.5	1853.8	2258.0	3241.8	4569.4	5417.6	5443.3	5505.0	5695.2	6077.5
67.5°	1039.7	989.6	1086.6	1417.5	2308.8	3752.0	5280.1	5648.9	5681.1	5790.3	6201.5
70°	614.9	582.2	622.0	796.2	1307.0	2556.2	4503.8	5559.0	5801.9	5877.7	6326.8
72.5°	469.1	438.2	420.9	471.0	682.4	1320.5	3045.2	4712.0	5704.8	5819.9	6274.2
75°	405.5	375.9	355.3	359.8	406.1	627.2	1650.8	3370.3	4861.1	5299.4	5795.4
77.5°	348.3	321.9	307.2	305.9	311.7	344.4	690.1	1827.5	3044.5	3809.2	4178.1
80°	278.9	258.3	255.1	255.1	246.8	244.2	343.1	695.3	1158.6	1373.8	1317.3
82.5°	203.7	183.1	203.7	201.1	188.3	178.0	218.5	300.7	357.3	282.1	223.0
85°	137.5	118.9	134.3	136.9	124.7	92.5	131.1	150.4	154.2	96.4	79.7
87.5°	48.2	46.9	75.8	66.2	54.0	31.5	48.2	52.0	54.6	34.1	23.1
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°	556.5	556.5	556.5	556.5	556.5	556.5	556.5	556.5	556.5	556.5	556.5
2.5°	674.7	667.0	628.4	634.2	649.0	656.1	663.1	634.2	620.1	665.1	660.6
5°	883.5	855.3	823.8	819.3	821.2	793.6	809.7	802.6	805.8	834.7	840.5
7.5°	1058.3	1024.3	982.5	949.7	893.2	848.2	886.1	905.4	911.2	962.6	981.9
10°	1152.8	1123.9	1111.7	1050.0	1031.3	1025.6	1016.6	985.7	1019.8	1007.6	1017.2
12.5°	1337.9	1332.1	1268.5	1228.0	1231.8	1242.8	1186.2	1155.4	1111.0	1180.4	1155.4
15°	1495.3	1520.3	1456.7	1382.8	1346.2	1364.8	1321.8	1276.8	1237.0	1258.2	1231.2
17.5°	1696.4	1695.8	1571.8	1492.7	1489.5	1488.2	1424.6	1325.6	1373.2	1358.4	1359.7
20°	1803.1	1785.7	1631.5	1540.3	1618.0	1590.4	1533.2	1406.0	1461.2	1479.2	1490.8
22.5°	1892.4	1882.8	1695.8	1628.9	1679.1	1679.7	1622.5	1555.7	1548.6	1604.5	1574.3
25°	1954.7	1993.3	1817.2	1801.2	1823.0	1801.2	1745.2	1701.6	1673.3	1756.8	1673.3
27.5°	2102.5	2047.9	1835.9	1927.1	1940.6	1830.7	1900.8	1849.3	1771.0	1874.4	1908.5
30°	2207.9	2240.0	1966.9	2104.5	2088.4	1986.9	2015.8	2013.8	1920.0	2121.8	2098.0
32.5°	2389.1	2350.6	2180.9	2170.0	2208.5	2204.1	2155.2	2179.0	2202.1	2348.6	2384.0
35°	2574.8	2615.9	2317.8	2391.7	2380.8	2311.4	2439.2	2424.5	2493.2	2793.9	2694.3
37.5°	2993.8	2797.8	2624.9	2615.3	2688.6	2699.5	2658.4	2723.3	2871.7	3103.0	3209.7
40°	3268.2	3178.8	2885.2	2896.8	2795.2	2970.0	2854.3	3063.2	3176.3	3566.3	3528.4
42.5°	3683.3	3465.4	3183.3	3221.9	3201.3	3117.2	3269.4	3376.8	3538.7	3836.2	4028.3
45°	3992.4	3693.6	3559.9	3536.1	3533.5	3680.1	3660.8	3832.3	3890.2	4113.8	4273.2
47.5°	4226.9	3973.1	3775.2	3802.1	3723.8	4142.1	3919.1	3972.4	4089.4	4300.1	4485.9
50°	4505.1	4222.4	3997.5	4064.3	4255.2	4415.8	4214.0	4122.8	4180.0	4428.7	4635.6
52.5°	4762.8	4465.3	4217.9	4273.8	4585.5	4512.2	4490.4	4259.7	4252.6	4452.4	4687.6
55°	5064.2	4728.7	4510.3	4687.6	4798.1	4707.5	4672.8	4392.0	4218.5	4329.7	4551.4
57.5°	5359.8	4989.6	4772.4	4809.1	4949.2	4859.2	4598.9	4166.5	3949.9	3971.8	4196.0
60°	5636.7	5229.3	5050.0	5014.7	5126.5	4773.7	4318.1	3753.3	3466.1	3413.4	3607.4
62.5°	5873.8	5429.8	5260.2	5163.8	5270.4	4776.9	3880.5	3090.2	2774.7	2596.0	2747.0
65°	6062.1	5596.2	5475.4	5425.3	5463.9	4486.5	3198.8	2269.0	1882.1	1684.2	1772.2
67.5°	6187.4	5689.4	5634.1	5699.7	5185.6	3736.6	2369.8	1452.2	1094.3	986.4	1041.6
70°	6317.2	5771.7	5769.7	5546.8	4397.2	2576.1	1384.1	837.3	636.8	595.0	629.7
72.5°	6273.5	5674.0	5702.9	4850.8	3047.1	1377.0	730.6	473.6	431.2	446.0	476.8
75°	5809.6	5158.6	5019.2	3487.3	1728.5	640.0	420.9	358.6	356.0	378.5	408.7
77.5°	4214.0	3592.7	3223.8	1976.6	740.9	346.4	309.7	299.4	299.4	317.4	344.4
80°	1389.3	1202.3	1253.0	764.7	350.2	239.0	241.6	246.1	244.8	249.3	271.8
82.5°	228.1	236.5	365.6	312.3	211.4	163.2	182.5	191.5	194.1	173.5	197.3
85°	81.0	91.2	155.5	144.6	122.1	82.3	120.2	134.3	132.4	115.7	127.9
87.5°	25.1	32.1	56.5	43.7	36.6	22.5	45.0	52.7	66.2	27.0	24.4
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)