

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: P368142

Luminaire Tested: **MSA-SA3D-760-U-RW**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368142
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-SA3D-760-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: 20441 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B4 - U0 - G4

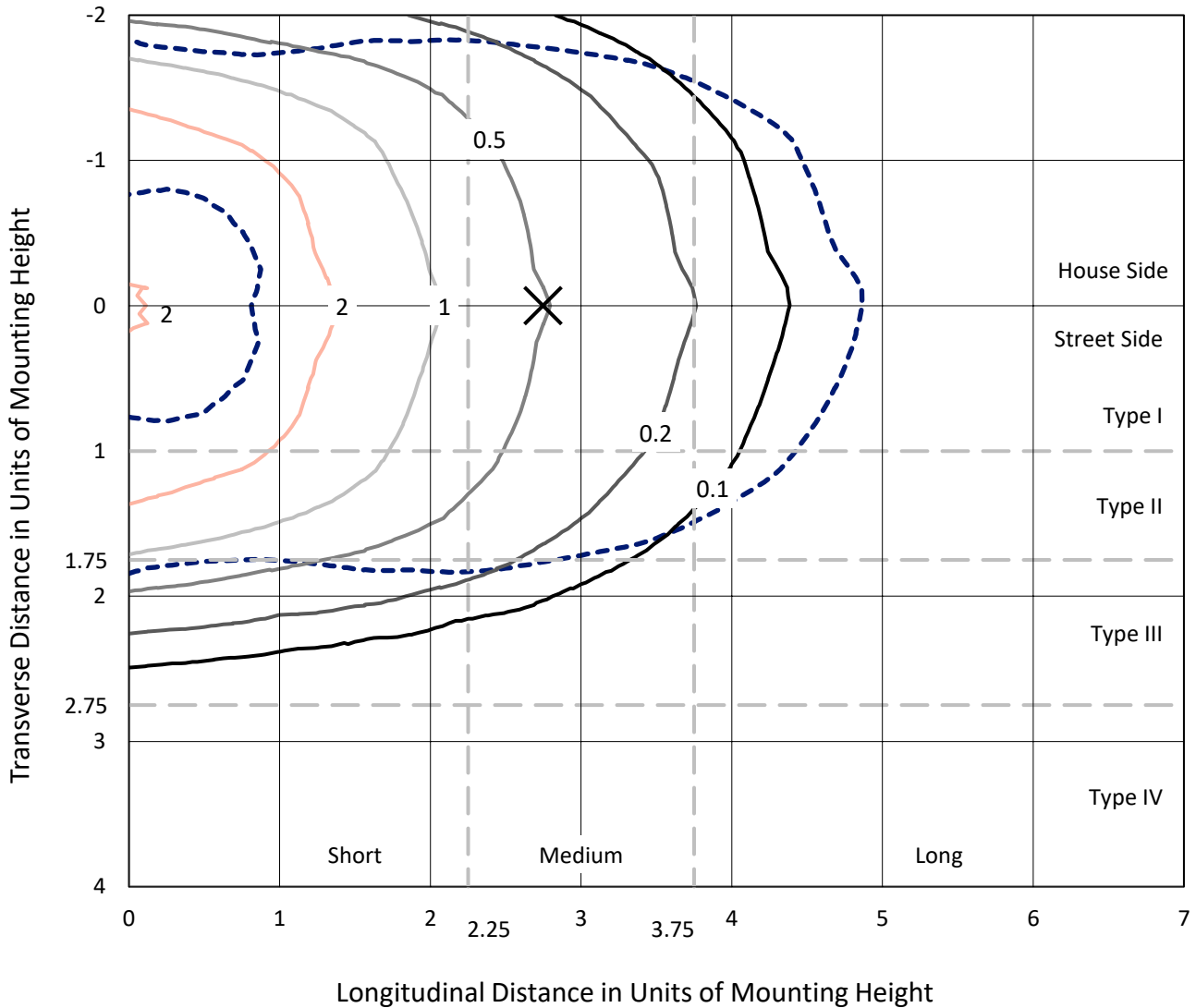
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

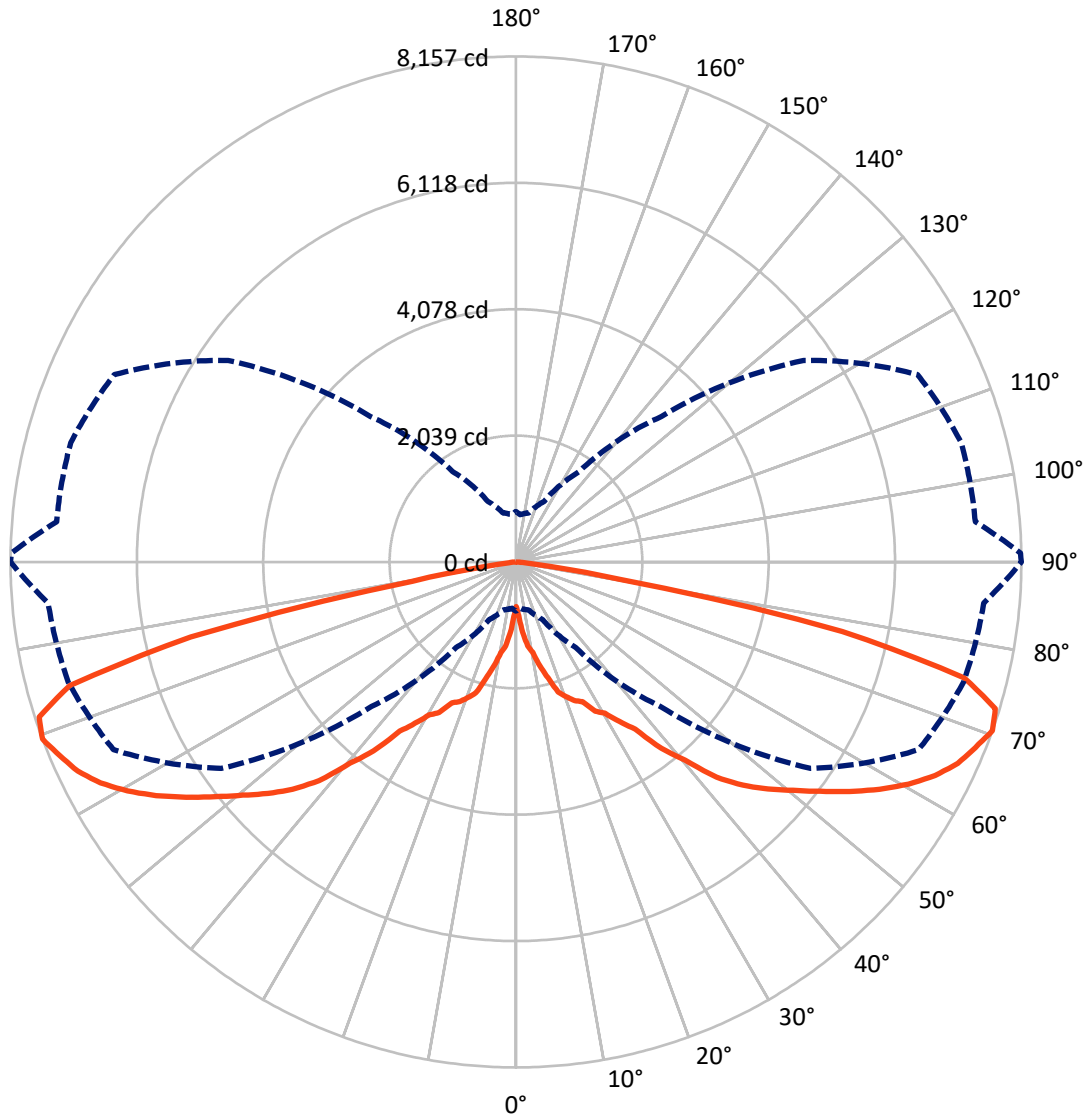
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.3 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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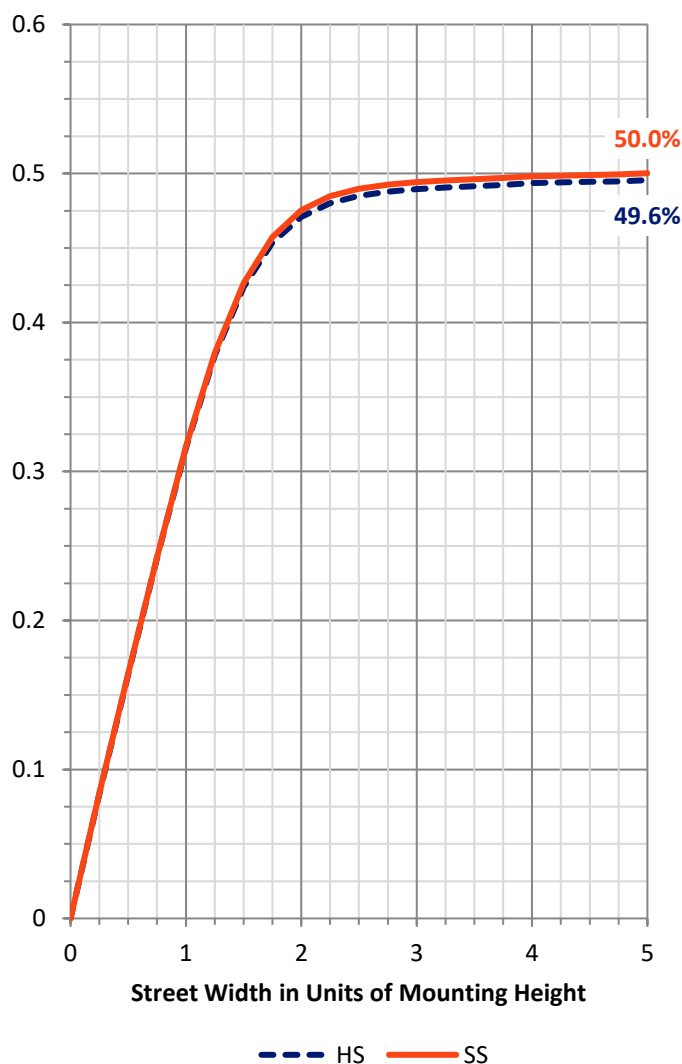
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10182.6	0.0	10182.6
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	10258.4	0.0	10258.4
	% Fixture	50.2	0.0	50.2
Total	Lumens	20441.0	0.0	20441.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.2	0.5
10°-20°	496.0	2.4
20°-30°	1072.5	5.2
30°-40°	2046.2	10.0
40°-50°	3717.2	18.2
50°-60°	5221.8	25.5
60°-70°	4985.8	24.4
70°-80°	2558.7	12.5
80°-90°	234.6	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°	20441.0	100.0
0°-180°	20441.0	100.0

Coefficient of Utilization



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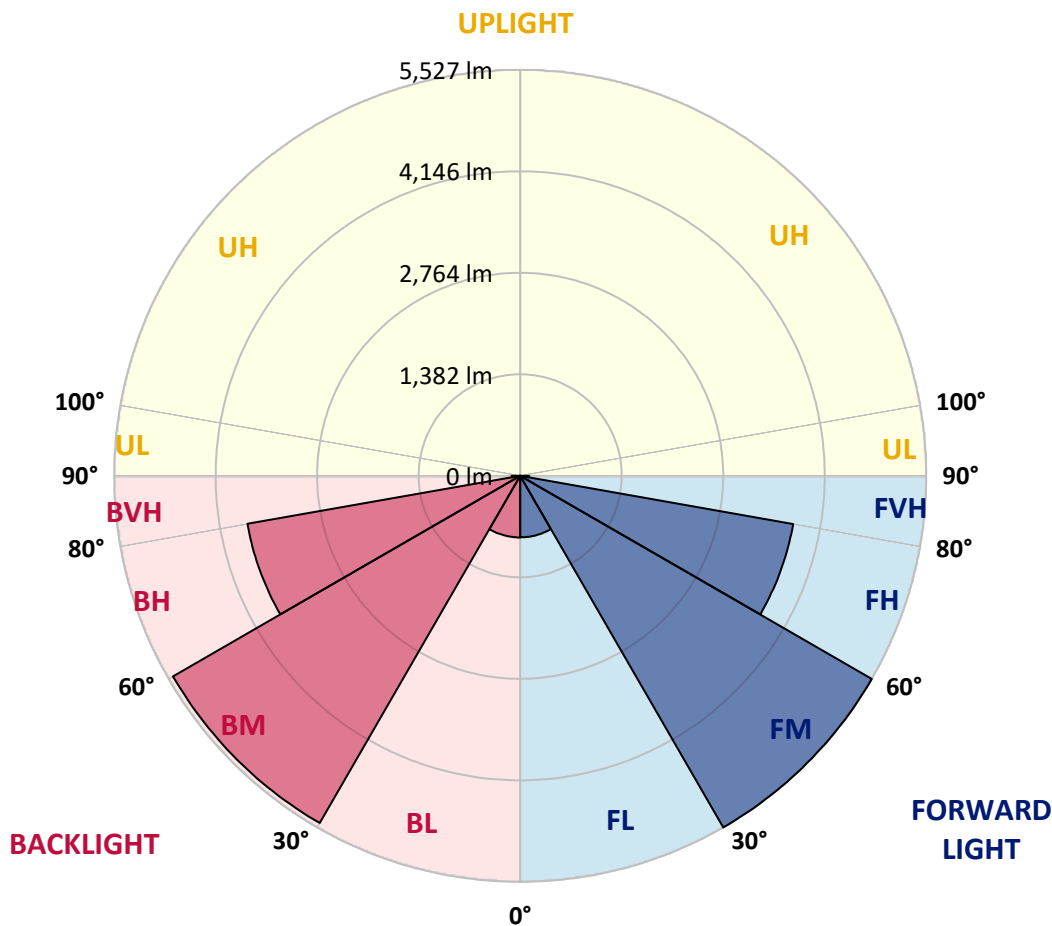
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	837.5	4.1			
FM (30°-60°)	5527.5	27.0			
FH (60°-80°)	3774.3	18.5			G2/5000
FVH (80°-90°)	119.0	0.6			G2/225
BL (0°-30°)	839.2	4.1	B2/1000		
BM (30°-60°)	5457.7	26.7	B4/8500		
BH (60°-80°)	3770.2	18.4	B4/5000		G4/5000
BVH (80°-90°)	115.5	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°	717.4	717.4	717.4	717.4	717.4	717.4	717.4	717.4	717.4	717.4	717.4
2.5°	869.0	836.7	796.1	820.2	830.1	847.5	845.0	836.7	801.1	860.8	867.4
5°	1087.7	1036.4	1017.3	1014.0	1019.0	1002.4	1056.3	1040.5	1069.5	1123.4	1135.8
7.5°	1238.5	1200.4	1159.8	1172.2	1120.9	1113.4	1183.0	1245.2	1260.9	1359.5	1366.1
10°	1309.8	1272.5	1283.3	1275.8	1270.0	1318.1	1350.4	1395.9	1461.4	1470.5	1484.6
12.5°	1370.2	1385.2	1432.4	1430.7	1508.6	1593.9	1581.5	1628.7	1639.5	1753.8	1719.0
15°	1523.5	1554.2	1550.8	1579.8	1613.8	1753.8	1754.6	1835.0	1908.7	1953.5	1941.9
17.5°	1748.0	1758.8	1714.1	1715.7	1814.3	1871.5	1935.2	1921.2	2113.4	2201.2	2207.0
20°	1882.2	1909.6	1858.2	1790.3	1965.1	2043.8	2079.4	1997.4	2202.8	2321.3	2321.3
22.5°	2116.7	2046.3	1968.4	1922.8	2076.9	2160.6	2156.4	2133.2	2242.6	2452.2	2432.3
25°	2245.9	2206.1	2167.2	2178.8	2256.7	2299.8	2356.9	2303.1	2405.8	2561.5	2496.1
27.5°	2491.1	2417.4	2226.0	2378.5	2378.5	2346.2	2467.1	2492.8	2425.7	2679.2	2728.1
30°	2768.7	2743.0	2472.1	2633.6	2583.9	2492.8	2724.8	2708.2	2595.5	2854.0	2831.6
32.5°	3031.3	3115.8	2859.0	2770.3	2844.9	2879.7	2757.9	2807.6	2829.1	3078.5	3067.7
35°	3433.9	3505.1	3164.7	3142.3	3018.0	2985.7	3078.5	3095.1	3096.7	3359.3	3311.3
37.5°	4130.6	4027.9	3691.5	3533.3	3547.4	3508.5	3526.7	3395.8	3414.0	3795.1	3819.1
40°	4640.1	4524.1	4149.7	4036.2	3757.8	3924.3	3776.9	3763.6	3727.2	4220.9	4207.7
42.5°	5202.6	5043.6	4629.3	4477.7	4182.0	4114.1	4046.1	4199.4	4189.4	4646.7	4747.8
45°	5627.6	5306.2	5090.0	4995.5	4818.2	4651.7	4587.1	4655.9	4624.4	4964.0	5140.5
47.5°	5896.0	5616.9	5368.3	5169.5	4999.7	5408.1	5080.8	4988.9	4925.1	5305.4	5475.2
50°	6109.8	5787.5	5494.2	5428.0	5562.2	5923.4	5407.3	5204.3	5282.2	5562.2	5793.3
52.5°	6167.8	5826.4	5563.0	5520.8	5883.6	5949.1	5865.4	5524.1	5503.4	5870.4	6149.5
55°	5990.5	5663.2	5538.2	5769.3	6170.3	6115.6	6243.2	6025.3	5878.6	6185.2	6536.4
57.5°	5534.0	5209.3	5179.4	5512.5	6017.8	6483.4	6546.4	6374.1	6181.9	6506.6	6920.8
60°	4784.3	4487.7	4563.1	4930.9	5693.1	6355.8	6690.5	6533.1	6473.5	6796.6	7277.1
62.5°	3617.0	3385.9	3587.2	4100.0	5099.9	6191.0	6889.3	6864.5	6778.3	7104.7	7591.9
65°	2306.4	2184.6	2390.1	2911.2	4179.5	5891.1	6984.6	7017.8	7097.3	7342.5	7835.4
67.5°	1340.4	1275.8	1400.9	1827.5	2976.6	4837.3	6807.3	7282.9	7324.3	7465.1	7995.3
70°	792.8	750.6	801.9	1026.4	1685.1	3295.6	5806.6	7166.9	7480.0	7577.8	8156.9
72.5°	604.8	565.0	542.6	607.2	879.8	1702.5	3926.0	6075.0	7354.9	7503.2	8088.9
75°	522.7	484.6	458.1	463.9	523.6	808.6	2128.3	4345.2	6267.2	6832.2	7471.7
77.5°	449.0	415.1	396.0	394.3	401.8	444.0	889.7	2356.1	3925.2	4911.0	5386.5
80°	359.5	333.0	328.9	328.9	318.1	314.8	442.4	896.4	1493.7	1771.2	1698.3
82.5°	262.6	236.1	262.6	259.3	242.7	229.5	281.7	387.7	460.6	363.7	287.5
85°	177.3	153.3	173.1	176.5	160.7	119.3	169.0	193.9	198.8	124.3	102.7
87.5°	62.1	60.5	97.8	85.3	69.6	40.6	62.1	67.1	70.4	43.9	29.8
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°	717.4	717.4	717.4	717.4	717.4	717.4	717.4	717.4	717.4	717.4	717.4
2.5°	869.9	859.9	810.2	817.7	836.7	845.8	855.0	817.7	799.4	857.4	851.6
5°	1139.1	1102.7	1062.1	1056.3	1058.8	1023.1	1043.8	1034.7	1038.9	1076.1	1083.6
7.5°	1364.4	1320.5	1266.7	1224.4	1151.5	1093.5	1142.4	1167.3	1174.7	1241.0	1265.9
10°	1486.2	1448.9	1433.2	1353.7	1329.7	1322.2	1310.6	1270.8	1314.7	1299.0	1311.4
12.5°	1724.8	1717.4	1635.3	1583.2	1588.1	1602.2	1529.3	1489.5	1432.4	1521.9	1489.5
15°	1927.8	1960.1	1878.1	1782.8	1735.6	1759.6	1704.1	1646.1	1594.8	1622.1	1587.3
17.5°	2187.1	2186.3	2026.4	1924.5	1920.3	1918.7	1836.7	1709.1	1770.4	1751.3	1753.0
20°	2324.6	2302.2	2103.4	1985.8	2086.0	2050.4	1976.7	1812.6	1883.9	1907.1	1922.0
22.5°	2439.8	2427.3	2186.3	2100.1	2164.7	2165.6	2091.8	2005.7	1996.6	2068.6	2029.7
25°	2520.1	2569.8	2342.8	2322.1	2350.3	2322.1	2250.1	2193.7	2157.3	2265.0	2157.3
27.5°	2710.7	2640.3	2366.9	2484.5	2501.9	2360.2	2450.5	2384.3	2283.2	2416.6	2460.5
30°	2846.5	2888.0	2535.9	2713.2	2692.4	2561.5	2598.8	2596.3	2475.4	2735.5	2704.9
32.5°	3080.2	3030.4	2811.7	2797.7	2847.4	2841.6	2778.6	2809.3	2839.1	3028.0	3073.5
35°	3319.6	3372.6	2988.2	3083.5	3069.4	2979.9	3144.8	3125.7	3214.4	3602.1	3473.7
37.5°	3859.7	3607.0	3384.2	3371.8	3466.2	3480.3	3427.3	3510.9	3702.3	4000.6	4138.1
40°	4213.5	4098.3	3719.7	3734.6	3603.7	3829.1	3679.9	3949.2	4095.0	4597.9	4549.0
42.5°	4748.6	4467.8	4104.1	4153.8	4127.3	4018.8	4215.1	4353.5	4562.2	4945.8	5193.5
45°	5147.1	4761.9	4589.6	4558.9	4555.6	4744.5	4719.6	4940.8	5015.4	5303.7	5509.2
47.5°	5449.5	5122.3	4867.1	4901.9	4800.8	5340.2	5052.7	5121.4	5272.2	5543.9	5783.4
50°	5808.2	5443.7	5153.8	5239.9	5486.0	5693.1	5432.9	5315.3	5389.0	5709.6	5976.4
52.5°	6140.4	5756.9	5437.9	5510.0	5911.8	5817.3	5789.2	5491.8	5482.6	5740.3	6043.5
55°	6529.0	6096.5	5814.9	6043.5	6186.0	6069.2	6024.4	5662.4	5438.7	5582.1	5867.9
57.5°	6910.1	6432.9	6152.9	6200.1	6380.7	6264.7	5929.2	5371.6	5092.4	5120.6	5409.7
60°	7267.1	6741.9	6510.7	6465.2	6609.3	6154.5	5567.1	4838.9	4468.6	4400.7	4650.9
62.5°	7572.8	7000.4	6781.6	6657.4	6794.9	6158.7	5003.0	3984.0	3577.2	3346.9	3541.6
65°	7815.5	7214.9	7059.2	6994.6	7044.3	5784.2	4124.0	2925.2	2426.5	2171.4	2284.8
67.5°	7977.1	7335.0	7263.8	7348.3	6685.5	4817.4	3055.3	1872.3	1410.8	1271.7	1342.9
70°	8144.4	7441.1	7438.6	7151.1	5669.0	3321.2	1784.5	1079.5	821.0	767.1	811.9
72.5°	8088.1	7315.2	7352.4	6253.9	3928.5	1775.4	941.9	610.6	555.9	574.9	614.7
75°	7490.0	6650.8	6471.0	4496.0	2228.5	825.1	542.6	462.3	459.0	488.0	526.9
77.5°	5432.9	4631.8	4156.3	2548.3	955.2	446.5	399.3	386.1	386.1	409.3	444.0
80°	1791.1	1550.0	1615.5	985.8	451.5	308.2	311.5	317.3	315.6	321.4	350.4
82.5°	294.1	304.9	471.4	402.6	272.6	210.4	235.3	246.9	250.2	223.7	254.3
85°	104.4	117.6	200.5	186.4	157.4	106.0	154.9	173.1	170.7	149.1	164.9
87.5°	32.3	41.4	72.9	56.3	47.2	29.0	58.0	67.9	85.3	34.8	31.5
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)