

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: P368164

Luminaire Tested: **MSA-SA3D-830-U-RW**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368164
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-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: 16244 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B4 - U0 - G4

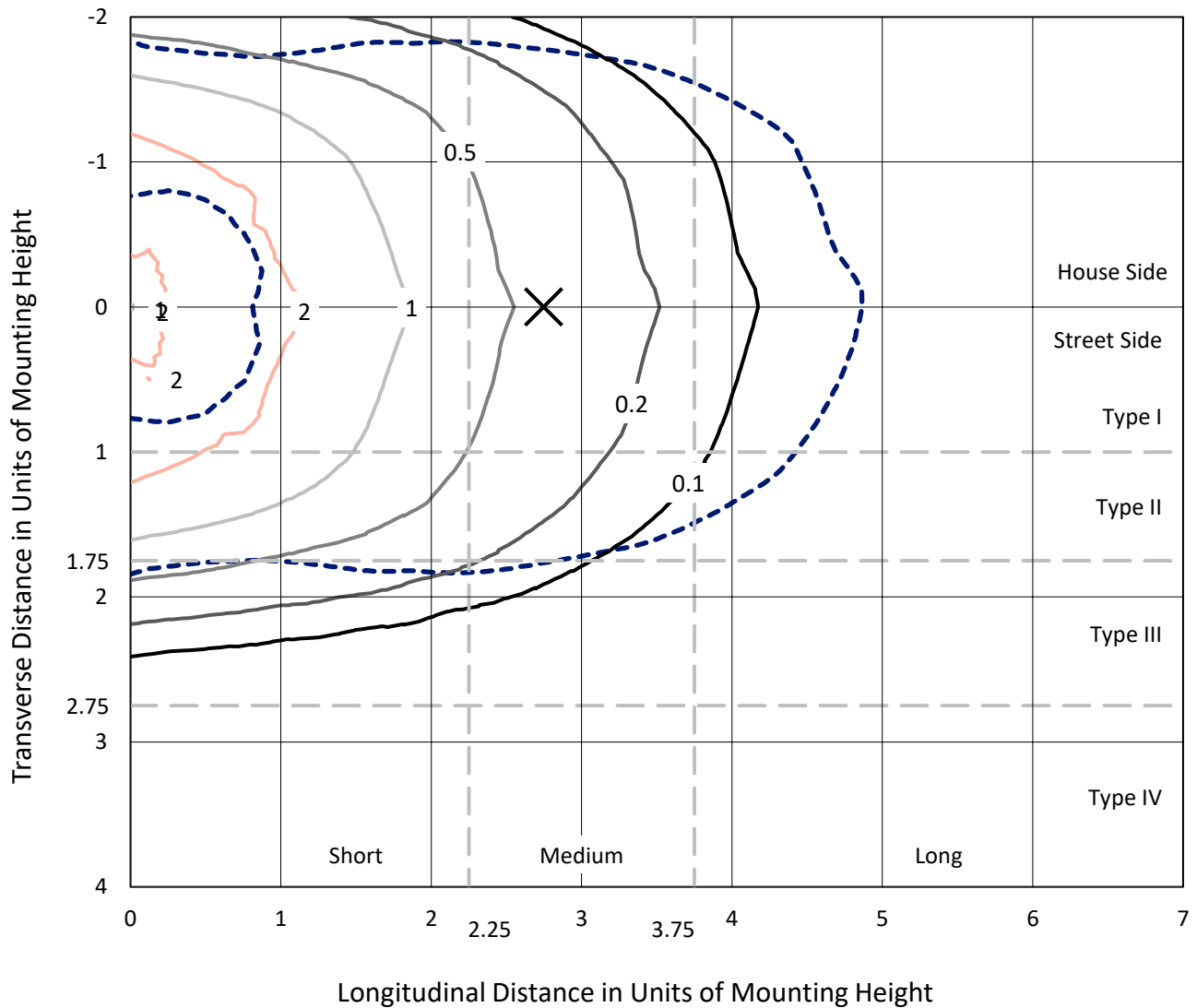
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

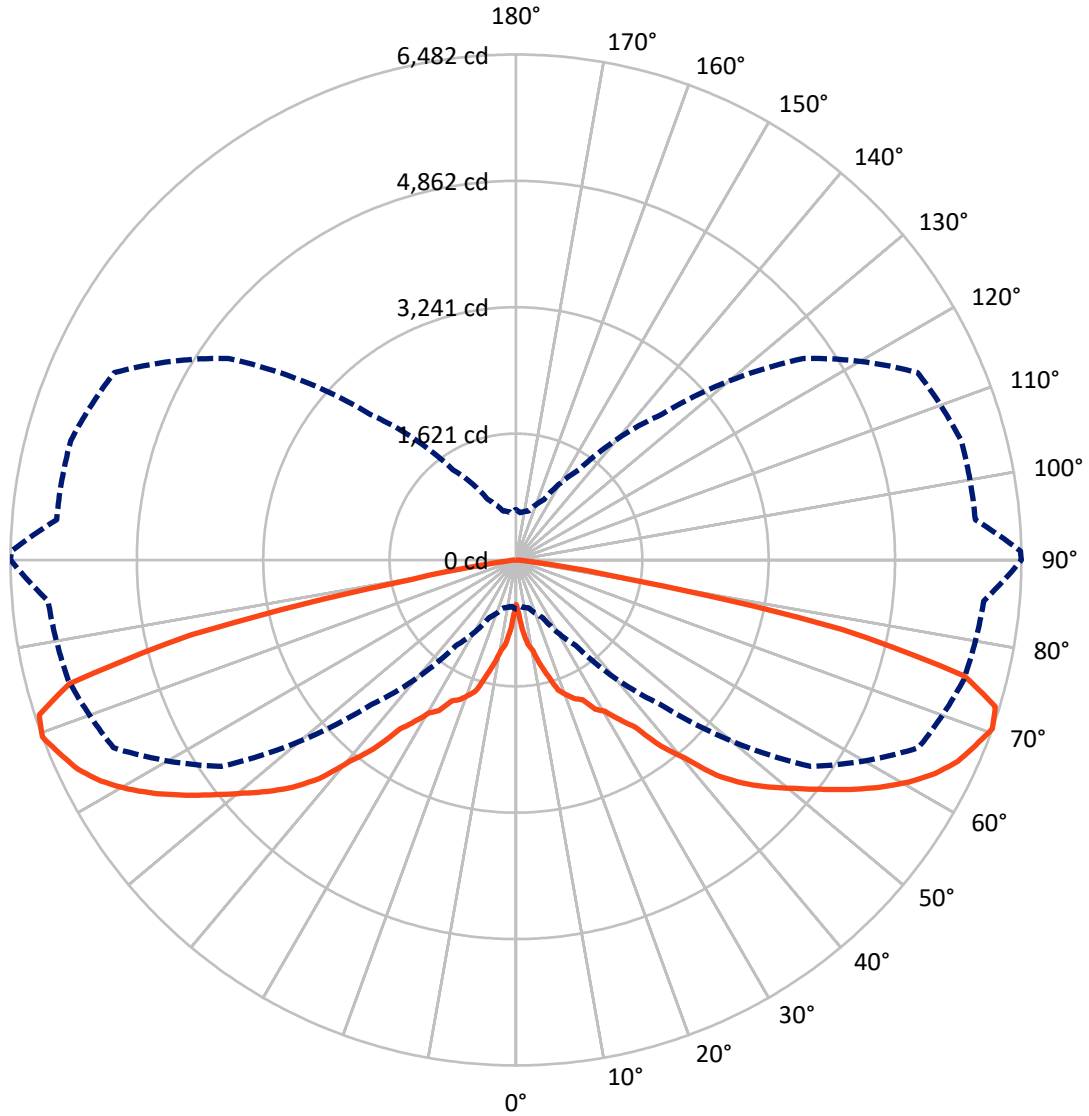
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 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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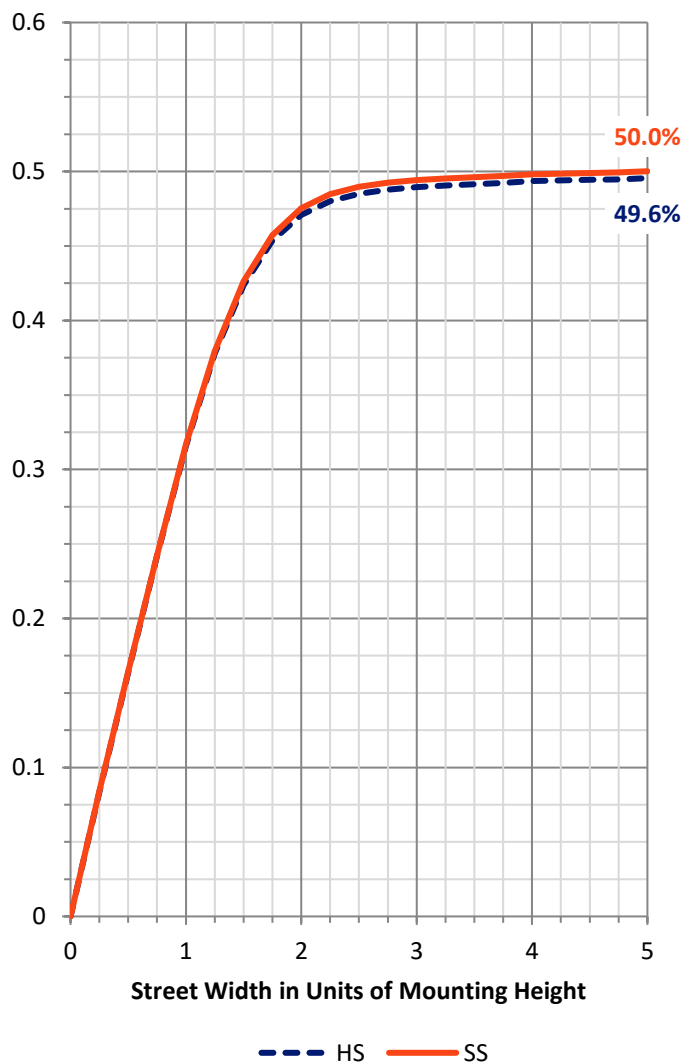
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	8091.9	0.0	8091.9
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	8152.1	0.0	8152.1
	% Fixture	50.2	0.0	50.2
Total	Lumens	16244.0	0.0	16244.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.0	0.5
10°-20°	394.2	2.4
20°-30°	852.3	5.2
30°-40°	1626.1	10.0
40°-50°	2954.0	18.2
50°-60°	4149.6	25.5
60°-70°	3962.1	24.4
70°-80°	2033.4	12.5
80°-90°	186.4	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°	16244.0	100.0
0°-180°	16244.0	100.0

Coefficient of Utilization



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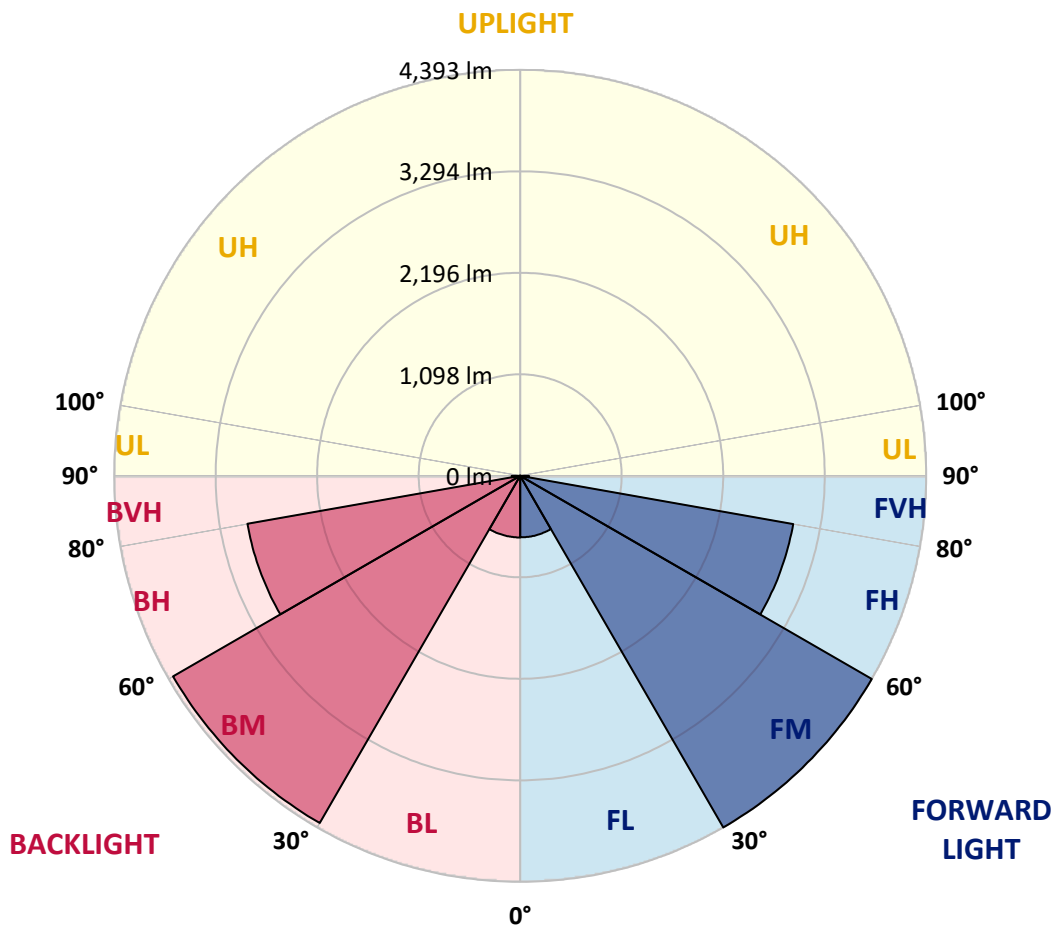
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	665.6	4.1			
FM (30°-60°)	4392.6	27.0			
FH (60°-80°)	2999.4	18.5			G2/5000
FVH (80°-90°)	94.6	0.6			G1/100
BL (0°-30°)	666.9	4.1	B2/1000		
BM (30°-60°)	4337.1	26.7	B3/5000		
BH (60°-80°)	2996.1	18.4	B4/5000		G4/5000
BVH (80°-90°)	91.8	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°	570.1	570.1	570.1	570.1	570.1	570.1	570.1	570.1	570.1	570.1	570.1
2.5°	690.6	664.9	632.7	651.8	659.7	673.5	671.5	664.9	636.6	684.0	689.3
5°	864.4	823.6	808.4	805.8	809.8	796.6	839.4	826.9	849.9	892.7	902.6
7.5°	984.2	953.9	921.7	931.6	890.7	884.8	940.1	989.5	1002.0	1080.3	1085.6
10°	1040.8	1011.2	1019.8	1013.9	1009.2	1047.4	1073.1	1109.3	1161.3	1168.6	1179.8
12.5°	1088.9	1100.8	1138.3	1137.0	1198.8	1266.7	1256.8	1294.3	1302.9	1393.7	1366.1
15°	1210.7	1235.1	1232.4	1255.5	1282.5	1393.7	1394.4	1458.2	1516.8	1552.4	1543.2
17.5°	1389.1	1397.7	1362.1	1363.4	1441.8	1487.2	1537.9	1526.7	1679.4	1749.2	1753.8
20°	1495.8	1517.5	1476.7	1422.7	1561.6	1624.1	1652.4	1587.3	1750.5	1844.7	1844.7
22.5°	1682.1	1626.1	1564.2	1528.0	1650.5	1717.0	1713.7	1695.2	1782.1	1948.7	1932.9
25°	1784.8	1753.2	1722.2	1731.4	1793.3	1827.6	1873.0	1830.2	1911.8	2035.6	1983.6
27.5°	1979.6	1921.1	1769.0	1890.1	1890.1	1864.4	1960.6	1981.0	1927.6	2129.1	2167.9
30°	2200.2	2179.8	1964.5	2092.9	2053.4	1981.0	2165.3	2152.1	2062.6	2268.0	2250.2
32.5°	2408.9	2476.0	2272.0	2201.5	2260.8	2288.4	2191.6	2231.1	2248.3	2446.4	2437.9
35°	2728.8	2785.5	2514.9	2497.1	2398.4	2372.7	2446.4	2459.6	2460.9	2669.6	2631.4
37.5°	3282.5	3200.9	2933.6	2807.8	2819.0	2788.1	2802.6	2698.6	2713.0	3015.9	3035.0
40°	3687.4	3595.2	3297.7	3207.5	2986.3	3118.6	3001.4	2990.9	2961.9	3354.3	3343.7
42.5°	4134.4	4008.0	3678.8	3558.4	3323.3	3269.3	3215.4	3337.2	3329.3	3692.7	3773.0
45°	4472.1	4216.7	4044.9	3969.8	3828.9	3696.6	3645.3	3699.9	3674.9	3944.8	4085.0
47.5°	4685.4	4463.6	4266.1	4108.1	3973.1	4297.7	4037.6	3964.6	3913.9	4216.0	4351.0
50°	4855.3	4599.2	4366.2	4313.5	4420.1	4707.2	4297.0	4135.7	4197.6	4420.1	4603.8
52.5°	4901.4	4630.1	4420.8	4387.2	4675.6	4727.6	4661.1	4389.9	4373.4	4665.0	4886.9
55°	4760.5	4500.5	4401.0	4584.7	4903.4	4859.9	4961.3	4788.2	4671.6	4915.2	5194.3
57.5°	4397.8	4139.7	4116.0	4380.6	4782.2	5152.2	5202.2	5065.3	4912.6	5170.6	5499.8
60°	3801.9	3566.3	3626.2	3918.5	4524.2	5050.8	5316.8	5191.7	5144.3	5401.1	5782.9
62.5°	2874.3	2690.7	2850.6	3258.2	4052.8	4919.8	5474.8	5455.1	5386.6	5646.0	6033.1
65°	1832.8	1736.1	1899.3	2313.4	3321.4	4681.5	5550.5	5576.8	5640.0	5834.9	6226.6
67.5°	1065.2	1013.9	1113.3	1452.3	2365.4	3844.1	5409.6	5787.5	5820.4	5932.4	6353.7
70°	630.0	596.5	637.3	815.7	1339.1	2618.9	4614.3	5695.4	5944.2	6021.9	6482.1
72.5°	480.6	449.0	431.2	482.6	699.2	1352.9	3119.9	4827.7	5844.8	5962.6	6428.1
75°	415.4	385.1	364.1	368.7	416.1	642.5	1691.3	3453.0	4980.4	5429.4	5937.6
77.5°	356.8	329.8	314.7	313.4	319.3	352.9	707.1	1872.3	3119.2	3902.7	4280.6
80°	285.7	264.7	261.4	261.4	252.8	250.2	351.6	712.3	1187.0	1407.5	1349.6
82.5°	208.7	187.6	208.7	206.1	192.9	182.4	223.8	308.1	366.0	289.0	228.4
85°	140.9	121.8	137.6	140.2	127.7	94.8	134.3	154.1	158.0	98.8	81.6
87.5°	49.4	48.1	77.7	67.8	55.3	32.3	49.4	53.3	56.0	34.9	23.7
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°	570.1	570.1	570.1	570.1	570.1	570.1	570.1	570.1	570.1	570.1	570.1
2.5°	691.3	683.4	643.9	649.8	664.9	672.2	679.4	649.8	635.3	681.4	676.8
5°	905.2	876.3	844.0	839.4	841.4	813.1	829.5	822.3	825.6	855.2	861.1
7.5°	1084.3	1049.4	1006.6	973.0	915.1	869.0	907.9	927.6	933.5	986.2	1006.0
10°	1181.1	1151.4	1138.9	1075.7	1056.6	1050.7	1041.5	1009.9	1044.8	1032.3	1042.2
12.5°	1370.7	1364.8	1299.6	1258.1	1262.0	1273.2	1215.3	1183.7	1138.3	1209.4	1183.7
15°	1532.0	1557.6	1492.5	1416.8	1379.2	1398.3	1354.2	1308.1	1267.3	1289.0	1261.4
17.5°	1738.0	1737.4	1610.3	1529.3	1526.0	1524.7	1459.6	1358.2	1406.9	1391.7	1393.1
20°	1847.3	1829.5	1671.5	1578.1	1657.7	1629.4	1570.8	1440.5	1497.1	1515.5	1527.4
22.5°	1938.8	1929.0	1737.4	1668.9	1720.3	1720.9	1662.3	1593.9	1586.6	1643.9	1612.9
25°	2002.7	2042.2	1861.8	1845.3	1867.7	1845.3	1788.1	1743.3	1714.3	1799.9	1714.3
27.5°	2154.1	2098.1	1880.9	1974.4	1988.2	1875.6	1947.4	1894.7	1814.4	1920.4	1955.3
30°	2262.1	2295.0	2015.2	2156.1	2139.6	2035.6	2065.2	2063.3	1967.1	2173.9	2149.5
32.5°	2447.7	2408.2	2234.4	2223.2	2262.7	2258.1	2208.1	2232.5	2256.2	2406.3	2442.5
35°	2638.0	2680.1	2374.7	2450.4	2439.2	2368.1	2499.1	2483.9	2554.4	2862.5	2760.4
37.5°	3067.2	2866.4	2689.3	2679.5	2754.5	2765.7	2723.6	2790.1	2942.1	3179.2	3288.4
40°	3348.3	3256.8	2956.0	2967.8	2863.8	3042.9	2924.4	3138.3	3254.2	3653.8	3615.0
42.5°	3773.6	3550.5	3261.4	3300.9	3279.9	3193.6	3349.7	3459.6	3625.5	3930.3	4127.2
45°	4090.3	3784.2	3647.2	3622.9	3620.2	3770.3	3750.6	3926.4	3985.6	4214.7	4378.0
47.5°	4330.6	4070.6	3867.8	3895.4	3815.1	4243.7	4015.3	4069.9	4189.7	4405.7	4595.9
50°	4615.7	4326.0	4095.6	4164.0	4359.6	4524.2	4317.4	4223.9	4282.5	4537.3	4749.3
52.5°	4879.7	4574.8	4321.4	4378.7	4698.0	4622.9	4600.5	4364.2	4356.9	4561.7	4802.6
55°	5188.4	4844.8	4620.9	4802.6	4915.9	4823.0	4787.5	4499.8	4322.0	4435.9	4663.1
57.5°	5491.3	5112.1	4889.5	4927.1	5070.6	4978.4	4711.8	4268.7	4046.9	4069.2	4299.0
60°	5775.0	5357.6	5173.9	5137.7	5252.3	4890.9	4424.1	3845.4	3551.1	3497.1	3696.0
62.5°	6017.9	5563.0	5389.2	5290.5	5399.8	4894.1	3975.8	3166.0	2842.7	2659.7	2814.4
65°	6210.8	5733.5	5609.8	5558.4	5597.9	4596.6	3277.2	2324.6	1928.3	1725.5	1815.7
67.5°	6339.2	5829.0	5772.4	5839.5	5312.9	3828.3	2428.0	1487.9	1121.2	1010.6	1067.2
70°	6472.2	5913.3	5911.3	5682.8	4505.1	2639.3	1418.1	857.8	652.4	609.6	645.2
72.5°	6427.4	5813.2	5842.8	4969.9	3121.9	1410.8	748.5	485.2	441.8	456.9	488.5
75°	5952.1	5285.2	5142.3	3572.8	1771.0	655.7	431.2	367.4	364.7	387.8	418.7
77.5°	4317.4	3680.8	3302.9	2025.1	759.1	354.8	317.3	306.8	306.8	325.2	352.9
80°	1423.3	1231.8	1283.8	783.4	358.8	244.9	247.5	252.1	250.8	255.4	278.5
82.5°	233.7	242.3	374.6	320.0	216.6	167.2	187.0	196.2	198.8	177.8	202.1
85°	83.0	93.5	159.3	148.1	125.1	84.3	123.1	137.6	135.6	118.5	131.0
87.5°	25.7	32.9	57.9	44.8	37.5	23.0	46.1	54.0	67.8	27.7	25.0
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)