

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: P368056

Luminaire Tested: **MSA-SA3D-727-U-SL2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368056
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3D-727-U-SL2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16537 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G3

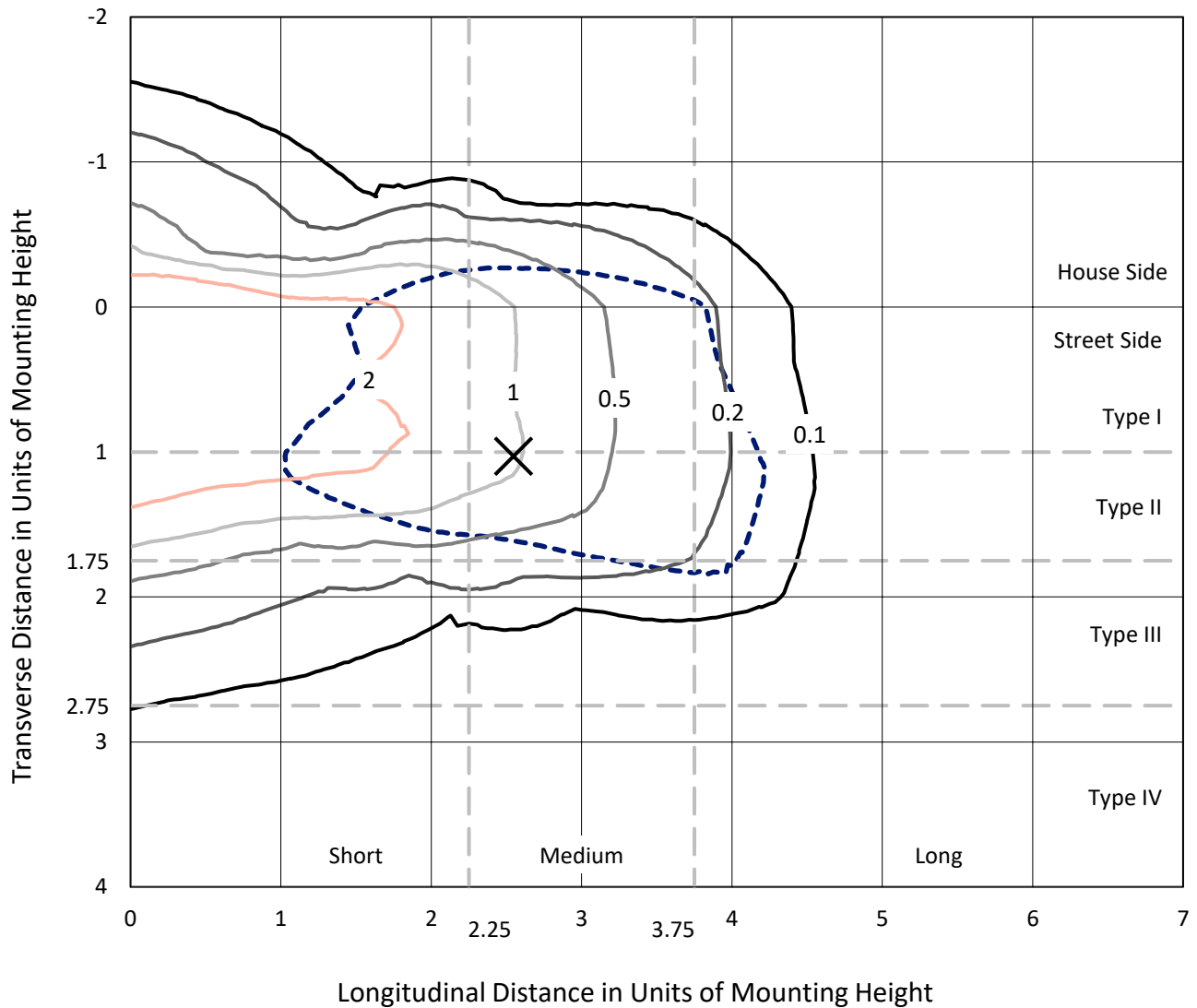
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

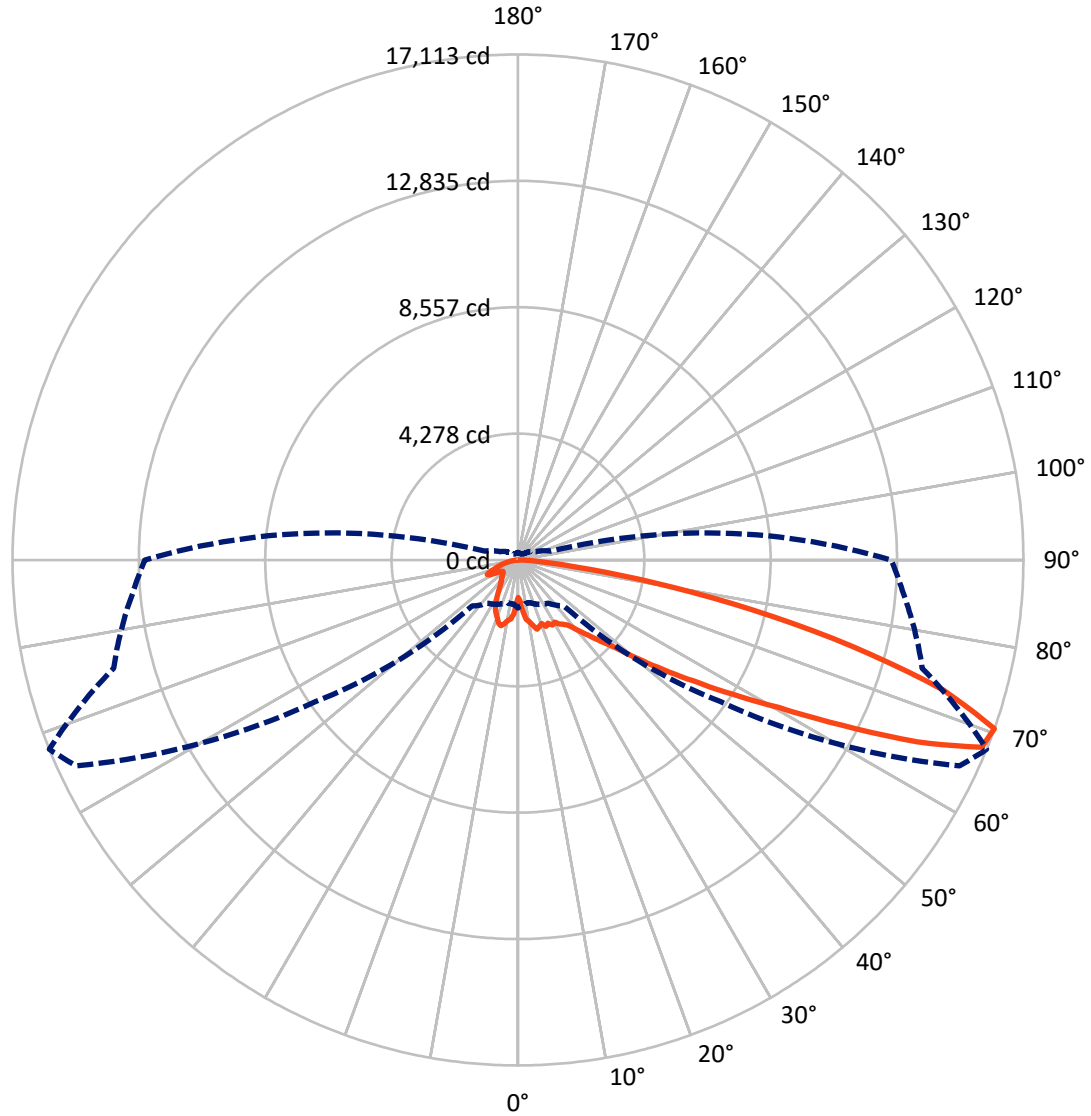
✕ Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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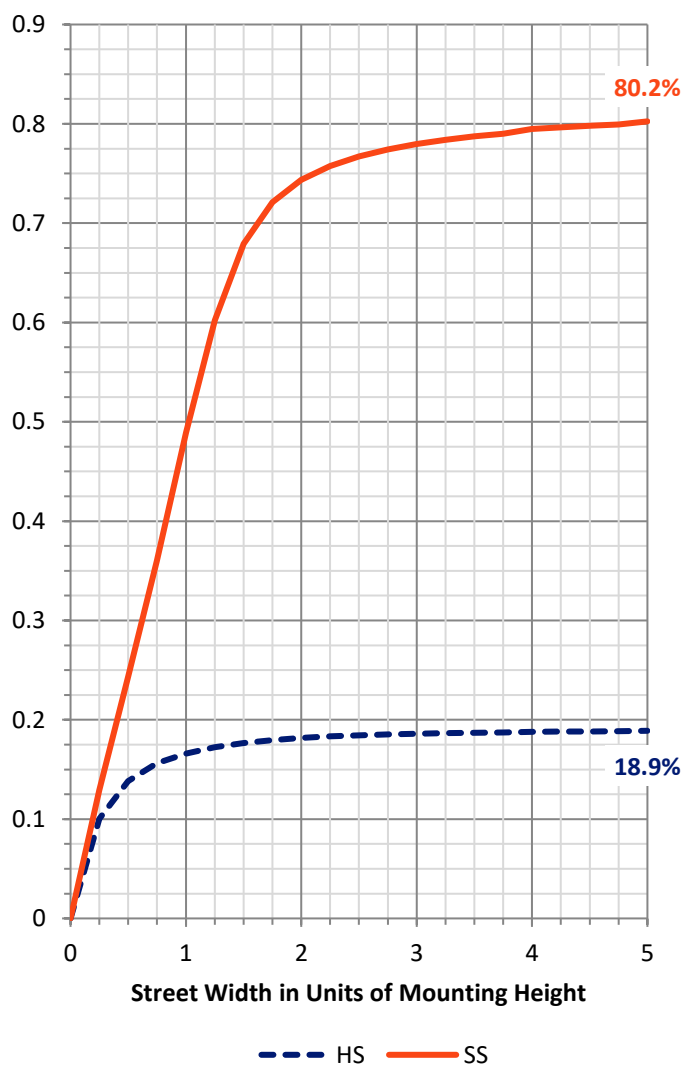
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3157.3	0.0	3157.3
	% Fixture	19.1	0.0	19.1
Street Side	Lumens	13379.7	0.0	13379.7
	% Fixture	80.9	0.0	80.9
Total	Lumens	16537.0	0.0	16537.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.3	1.0
10°-20°	551.9	3.3
20°-30°	839.6	5.1
30°-40°	1282.4	7.8
40°-50°	2205.1	13.3
50°-60°	3649.9	22.1
60°-70°	4499.8	27.2
70°-80°	2890.6	17.5
80°-90°	448.4	2.7
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°	16537.0	100.0
0°-180°	16537.0	100.0

Coefficient of Utilization



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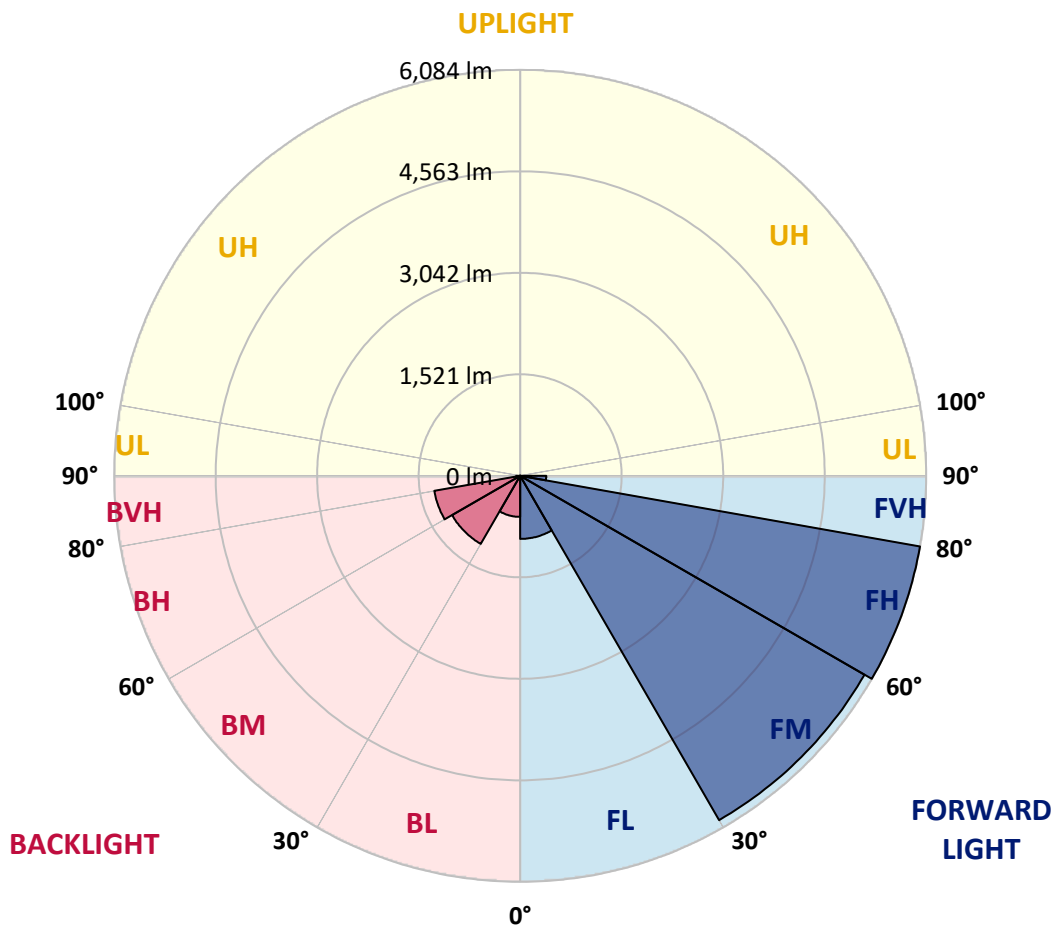
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	945.6	5.7			
FM (30°-60°)	5958.9	36.0			
FH (60°-80°)	6084.3	36.8			G3/7500
FVH (80°-90°)	390.8	2.4			G3/500
BL (0°-30°)	615.2	3.7	B2/1000		
BM (30°-60°)	1178.5	7.1	B2/2500		
BH (60°-80°)	1306.0	7.9	B3/2500		G3/2500
BVH (80°-90°)	57.6	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0
2.5°	1456.9	1398.1	1338.5	1367.6	1414.0	1454.8	1446.5	1451.4	1395.3	1387.7	1535.1
5°	1716.4	1615.4	1613.3	1614.7	1618.9	1571.8	1686.7	1746.2	1759.4	1820.3	1964.9
7.5°	1806.4	1765.6	1724.1	1744.8	1692.2	1697.1	1838.3	1993.3	2030.0	2074.3	2272.2
10°	1787.7	1749.0	1761.4	1764.9	1774.6	1852.8	1943.5	2092.3	2123.4	2264.6	2315.8
12.5°	1790.5	1783.6	1841.7	1843.8	1947.6	2088.1	2124.1	2261.1	2273.6	2377.4	2591.3
15°	1885.3	1933.1	1900.5	1917.8	1937.9	2106.1	2158.0	2354.6	2429.3	2562.9	2723.5
17.5°	2070.1	2084.0	1986.4	1960.8	2026.5	2077.7	2196.1	2281.2	2359.4	2732.5	2953.9
20°	2113.0	2150.4	2034.1	1901.9	2041.0	2112.3	2194.7	2233.4	2294.4	2757.4	3071.6
22.5°	2297.1	2219.6	2079.1	1964.2	2009.9	2079.1	2138.6	2284.7	2444.5	2686.1	3189.3
25°	2401.6	2356.6	2231.4	2108.2	2069.4	2071.5	2186.4	2317.2	2372.6	2790.6	3212.8
27.5°	2654.3	2582.3	2300.6	2277.1	2131.0	2017.5	2194.0	2397.5	2494.4	2708.9	3327.7
30°	2970.5	2915.9	2546.3	2515.1	2292.3	2094.3	2290.9	2457.0	2443.2	2762.2	3407.3
32.5°	3226.6	3318.0	2944.9	2699.2	2540.7	2351.1	2260.4	2446.6	2584.3	2886.1	3542.2
35°	3592.1	3677.9	3255.7	3089.6	2745.6	2470.2	2472.9	2589.2	2674.3	3030.8	3693.1
37.5°	4224.7	4149.2	3809.4	3547.1	3327.0	2915.9	2792.7	2751.8	2820.4	3207.9	3988.6
40°	4680.8	4617.1	4217.0	4067.5	3639.1	3400.3	3062.6	3023.8	3145.0	3390.7	4230.2
42.5°	5221.3	5107.8	4735.4	4612.2	4164.4	3733.9	3393.4	3415.6	3474.4	3735.3	4556.9
45°	5771.5	5496.1	5285.0	5275.3	4976.3	4381.8	3924.3	3906.3	3908.4	4242.7	4923.7
47.5°	6208.3	5960.5	5718.9	5604.0	5453.2	5502.3	4695.3	4484.2	4420.5	4753.4	5473.9
50°	6503.8	6218.6	5945.2	5918.3	6321.1	6586.1	5419.2	5193.6	5233.1	5484.3	6207.6
52.5°	6510.0	6171.6	5886.4	6075.4	7024.3	7403.5	6666.4	6035.9	6161.9	6332.8	7164.8
55°	6057.4	5706.5	5521.0	5951.5	7299.0	8373.2	8418.9	7385.5	7240.2	7303.2	8308.8
57.5°	5102.9	4748.6	4640.6	5156.2	6777.9	9308.2	10535.3	8998.2	8571.8	8308.8	9481.3
60°	3841.2	3534.6	3467.5	3796.2	5619.3	9033.5	12249.0	11005.3	10136.7	9432.1	10657.2
62.5°	2880.6	2660.5	2559.4	2606.5	3888.3	8139.9	13374.4	13541.2	12311.3	10658.5	11806.1
65°	2340.7	2162.9	2072.9	2012.0	2418.2	6294.1	13170.9	15675.7	14851.4	11946.6	12700.3
67.5°	1955.2	1797.4	1755.9	1815.4	1911.6	3651.6	11579.0	16869.6	16925.6	13217.3	13222.8
70°	1623.0	1506.0	1490.8	1659.7	1786.3	2203.7	8363.5	16494.4	17113.2	14170.3	13100.3
72.5°	1254.1	1191.1	1189.0	1454.1	1774.6	1878.4	4980.4	14249.2	15080.4	13865.8	11901.6
75°	870.0	826.4	859.6	1195.3	1733.7	1905.4	2842.5	11098.7	11720.9	11799.1	9533.9
77.5°	598.7	562.0	598.0	864.4	1548.3	1951.1	1988.4	8025.0	8094.3	7912.2	5460.8
80°	416.7	391.0	418.7	611.8	1205.0	1931.0	1692.9	5052.4	4635.8	3531.2	1748.3
82.5°	258.2	250.5	281.0	436.0	848.5	1756.6	1604.3	2607.2	1990.5	974.5	624.3
85°	135.7	124.6	163.3	284.5	530.9	1378.7	1503.3	1189.7	768.2	346.1	250.5
87.5°	40.1	36.0	63.0	114.9	224.9	618.1	860.3	504.6	286.5	101.7	78.2
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0	1268.0
2.5°	1545.5	1537.9	1435.4	1448.6	1470.7	1476.3	1475.6	1438.2	1398.8	1508.8	1505.3
5°	1968.4	1899.8	1848.6	1837.6	1774.6	1711.6	1733.7	1726.1	1716.4	1766.3	1772.5
7.5°	2272.9	2178.1	2118.6	1965.6	1820.3	1694.3	1734.4	1746.9	1722.0	1812.0	1838.9
10°	2353.2	2278.4	2214.1	2017.5	1937.2	1863.9	1755.2	1631.3	1614.7	1562.8	1569.0
12.5°	2560.1	2549.7	2330.3	2157.3	2052.8	1906.8	1672.1	1522.0	1393.2	1399.5	1362.1
15°	2723.5	2729.0	2465.3	2223.1	1942.8	1719.9	1443.7	1256.9	1124.7	1098.4	1071.4
17.5°	2942.9	2931.8	2476.4	2144.2	1789.1	1462.4	1124.0	938.5	916.4	931.6	908.1
20°	3038.4	2940.8	2405.8	1948.3	1548.9	1110.8	849.2	750.9	793.9	854.8	856.1
22.5°	3124.2	2957.4	2369.1	1790.5	1229.2	807.7	681.7	663.7	714.3	796.6	803.5
25°	3120.7	3034.2	2303.4	1631.3	953.0	630.5	592.4	605.6	665.8	751.6	756.5
27.5°	3277.8	2975.4	2132.4	1422.3	717.7	539.8	549.5	573.8	602.1	683.8	699.7
30°	3276.5	3084.7	2046.6	1168.3	576.5	494.9	519.8	540.5	564.1	638.8	647.8
32.5°	3354.0	3013.5	1994.7	908.7	517.0	483.8	490.0	510.8	544.7	595.2	601.4
35°	3447.4	3094.4	1828.6	721.9	494.9	474.1	478.9	490.7	521.9	568.2	574.5
37.5°	3747.1	3109.7	1762.8	608.4	493.5	469.9	469.3	475.5	510.8	553.0	571.7
40°	3864.1	3248.8	1571.1	568.2	488.6	469.9	460.3	463.7	492.8	546.8	561.3
42.5°	4144.4	3295.1	1429.2	554.4	488.6	461.6	446.4	451.9	485.9	533.6	556.5
45°	4433.0	3360.9	1260.3	551.6	487.9	460.9	431.9	444.3	472.0	512.2	537.1
47.5°	4844.1	3597.6	1091.5	543.3	482.4	464.4	428.4	427.7	451.9	486.6	510.1
50°	5514.8	3967.2	960.7	532.9	483.1	461.6	421.5	411.8	427.7	458.2	481.0
52.5°	6448.4	4597.0	909.4	527.4	477.6	450.6	409.7	394.5	403.5	427.7	449.9
55°	7532.3	5447.6	960.0	527.4	466.5	433.3	393.1	375.1	380.0	396.6	418.0
57.5°	8798.8	6504.5	1204.3	519.8	452.6	412.5	373.0	352.3	353.7	368.2	387.6
60°	10121.5	7685.2	1751.7	513.5	443.0	389.7	349.5	328.1	326.0	339.8	357.1
62.5°	11446.2	8774.6	2327.6	528.1	440.2	370.3	324.6	303.1	302.5	314.9	329.4
65°	12499.6	9519.3	2470.8	586.9	458.2	348.1	299.0	278.9	277.5	287.9	303.8
67.5°	13016.6	9627.3	1877.0	660.3	496.2	327.4	274.1	255.4	254.0	265.1	278.9
70°	12633.8	8889.5	1158.6	667.9	494.2	303.1	248.5	232.5	229.8	241.5	251.9
72.5°	11217.8	7775.9	880.4	591.1	427.7	268.5	222.9	209.0	204.9	215.2	224.9
75°	9003.7	6173.6	705.3	476.9	337.1	226.3	197.3	184.1	179.3	188.9	197.3
77.5°	5244.8	3473.0	515.6	372.4	254.7	184.8	168.2	156.4	150.9	161.3	167.5
80°	1705.4	1157.2	323.9	267.2	186.2	144.7	136.3	128.0	122.5	129.4	131.5
82.5°	612.5	430.5	179.3	164.0	123.9	103.8	103.1	98.3	91.4	94.1	94.1
85°	271.3	196.6	106.6	87.9	74.1	55.4	65.1	61.6	54.7	53.3	51.2
87.5°	76.1	65.1	38.8	29.8	24.2	9.0	20.8	18.7	15.2	13.8	9.7
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)