

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: P596722

Luminaire Tested: **MSA-SA3D-827-U-SL2**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596722  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3D-827-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: 14536 lumens  
Efficiency: N/A  
Efficacy: 75.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B3 - U0 - G3

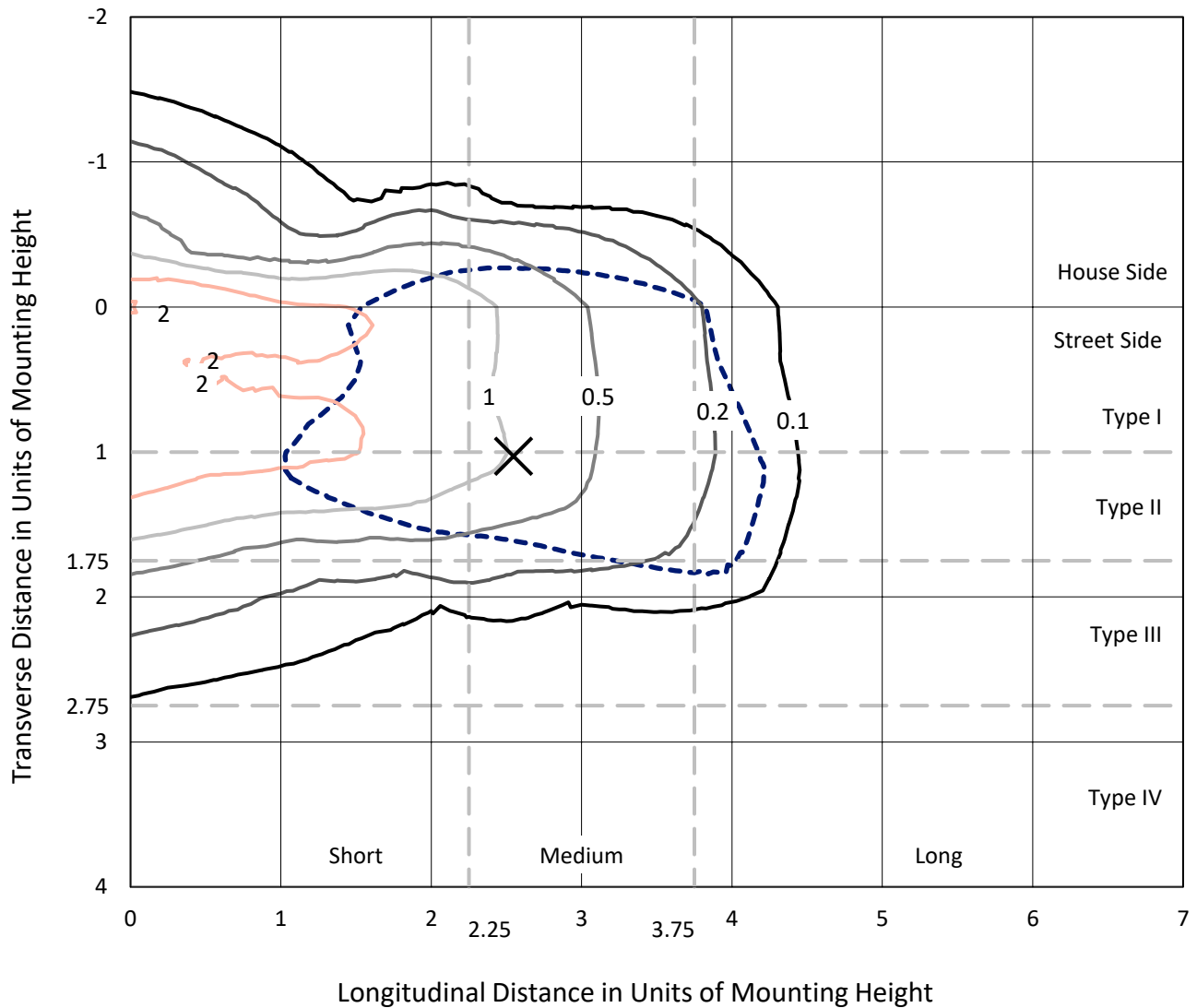
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

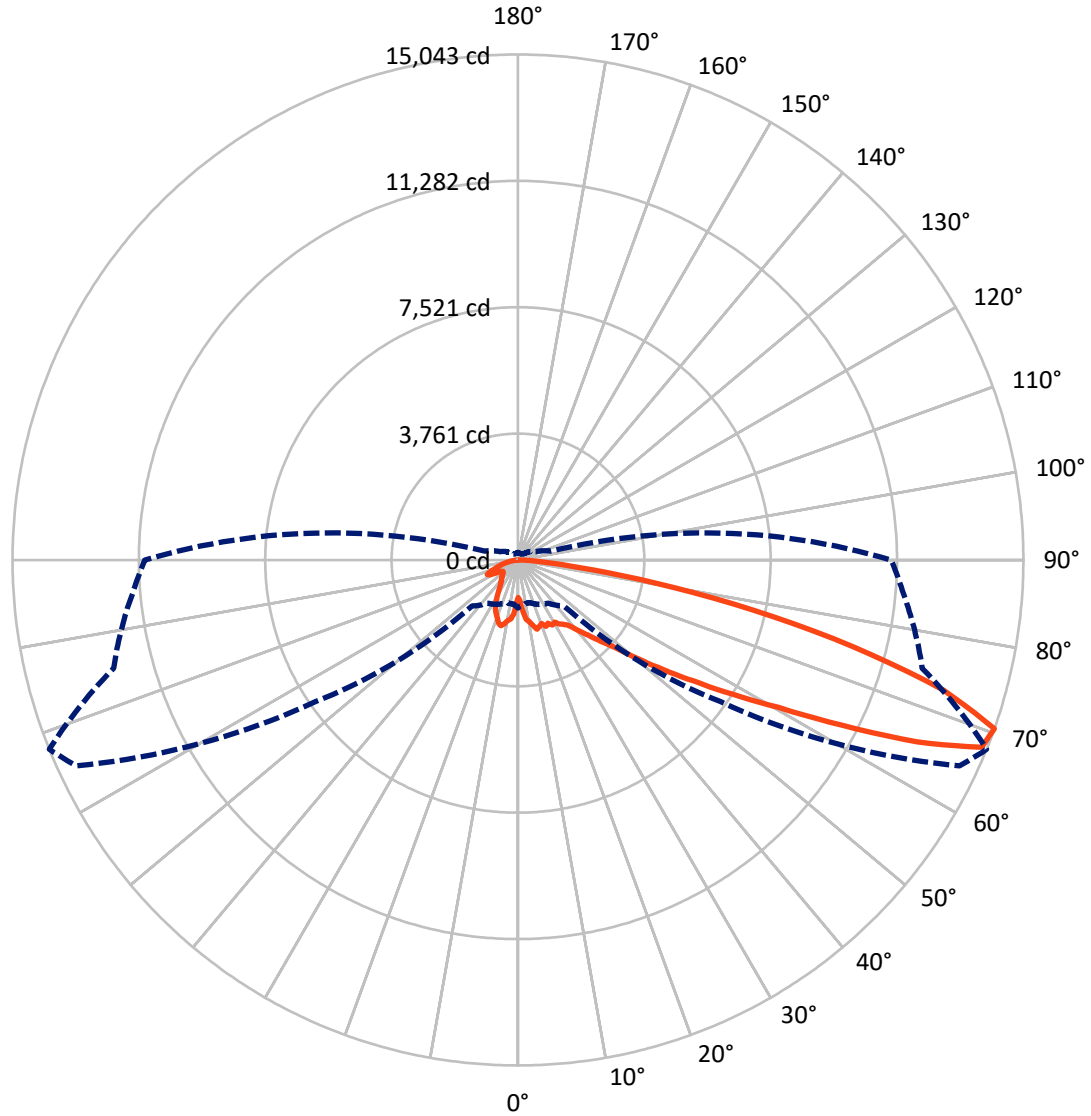
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.5 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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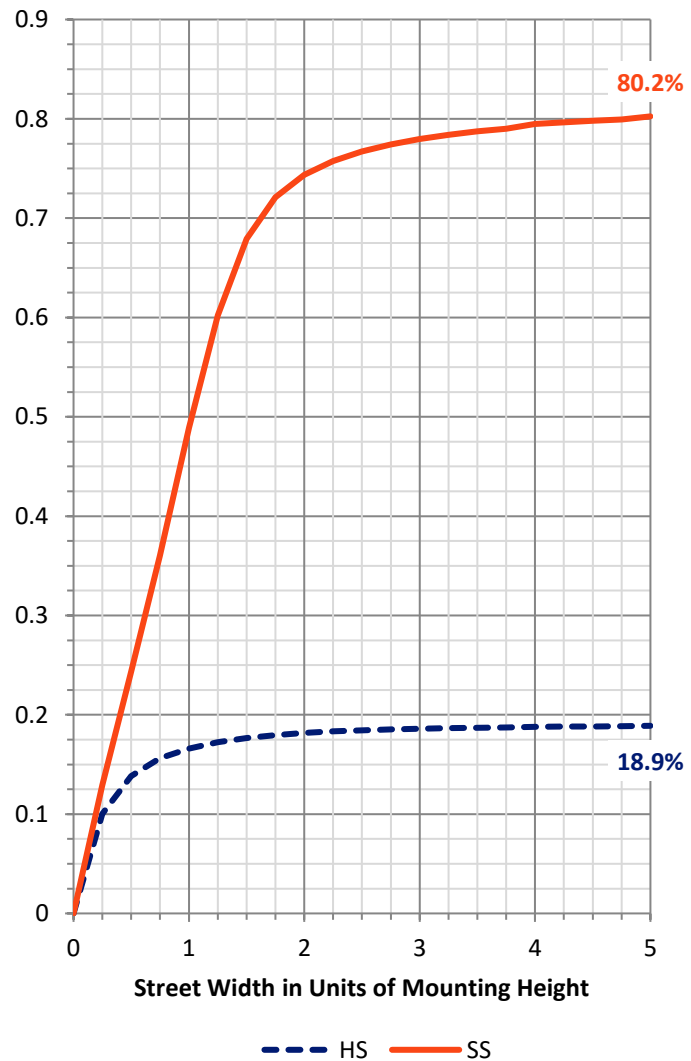
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2775.3	0.0	2775.3
	% Fixture	19.1	0.0	19.1
<b>Street Side</b>	Lumens	11760.7	0.0	11760.7
	% Fixture	80.9	0.0	80.9
<b>Total</b>	Lumens	14536.0	0.0	14536.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.8	1.0
10°-20°	485.1	3.3
20°-30°	738.0	5.1
30°-40°	1127.3	7.8
40°-50°	1938.3	13.3
50°-60°	3208.2	22.1
60°-70°	3955.3	27.2
70°-80°	2540.8	17.5
80°-90°	394.1	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°	14536.0	100.0
0°-180°	14536.0	100.0



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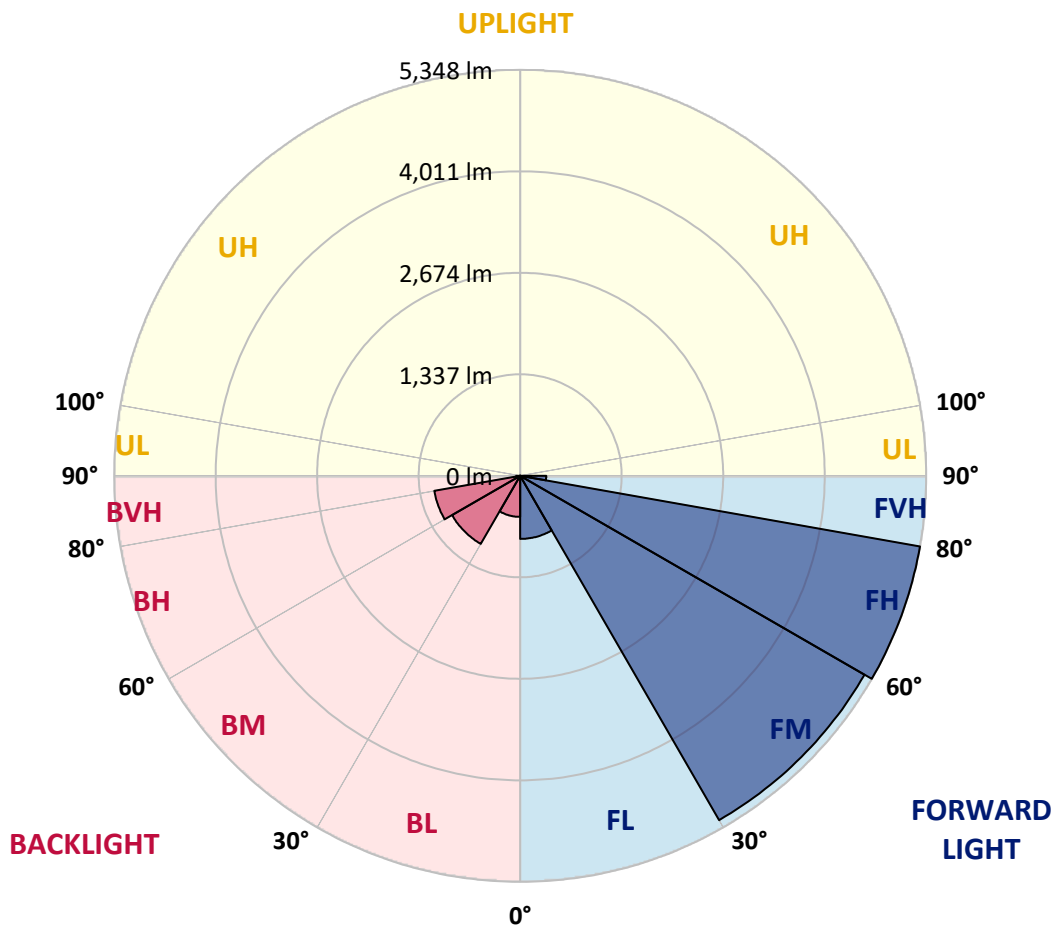
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	831.2	5.7			
FM (30°-60°)	5237.9	36.0			
FH (60°-80°)	5348.1	36.8			G3/7500
FVH (80°-90°)	343.5	2.4			G3/500
BL (0°-30°)	540.8	3.7	B2/1000		
BM (30°-60°)	1035.9	7.1	B2/2500		
BH (60°-80°)	1148.0	7.9	B3/2500		G3/2500
BVH (80°-90°)	50.6	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°	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5
2.5°	1280.6	1228.9	1176.6	1202.1	1242.9	1278.8	1271.5	1275.7	1226.5	1219.8	1349.4
5°	1508.7	1419.9	1418.1	1419.3	1423.0	1381.6	1482.6	1534.9	1546.5	1600.0	1727.2
7.5°	1587.8	1551.9	1515.4	1533.7	1487.5	1491.7	1615.8	1752.1	1784.3	1823.3	1997.3
10°	1571.4	1537.3	1548.3	1551.3	1559.9	1628.6	1708.3	1839.1	1866.5	1990.6	2035.6
12.5°	1573.8	1567.8	1618.9	1620.7	1711.9	1835.4	1867.1	1987.5	1998.5	2089.7	2277.7
15°	1657.2	1699.2	1670.6	1685.8	1703.4	1851.3	1896.9	2069.7	2135.4	2252.8	2393.9
17.5°	1819.6	1831.8	1746.0	1723.5	1781.3	1826.3	1930.3	2005.2	2073.9	2401.8	2596.5
20°	1857.3	1890.2	1788.0	1671.8	1794.1	1856.7	1929.1	1963.2	2016.7	2423.7	2699.9
22.5°	2019.2	1951.0	1827.5	1726.5	1766.7	1827.5	1879.9	2008.2	2148.7	2361.1	2803.4
25°	2111.0	2071.5	1961.4	1853.1	1819.0	1820.8	1921.8	2036.8	2085.5	2452.9	2824.0
27.5°	2333.1	2269.8	2022.2	2001.5	1873.2	1773.4	1928.5	2107.4	2192.6	2381.1	2925.0
30°	2611.1	2563.0	2238.2	2210.8	2014.9	1840.9	2013.7	2159.7	2147.5	2428.0	2995.0
32.5°	2836.2	2916.5	2588.6	2372.6	2233.3	2066.6	1986.9	2150.6	2271.6	2536.9	3113.6
35°	3157.4	3232.9	2861.8	2715.7	2413.4	2171.3	2173.7	2275.9	2350.7	2664.0	3246.2
37.5°	3713.5	3647.2	3348.4	3117.9	2924.4	2563.0	2454.8	2418.9	2479.1	2819.8	3506.0
40°	4114.4	4058.4	3706.8	3575.4	3198.8	2988.9	2692.0	2658.0	2764.4	2980.4	3718.3
42.5°	4589.5	4489.7	4162.4	4054.2	3660.5	3282.1	2982.8	3002.3	3054.0	3283.4	4005.5
45°	5073.2	4831.0	4645.5	4637.0	4374.2	3851.6	3449.4	3433.6	3435.4	3729.3	4327.9
47.5°	5457.0	5239.2	5026.9	4925.9	4793.3	4836.5	4127.2	3941.6	3885.6	4178.3	4811.6
50°	5716.8	5466.2	5225.9	5202.1	5556.2	5789.2	4763.5	4565.2	4599.9	4820.7	5456.4
52.5°	5722.3	5424.8	5174.2	5340.2	6174.3	6507.7	5859.8	5305.6	5416.3	5566.5	6297.8
55°	5324.4	5016.0	4852.9	5231.3	6415.8	7360.0	7400.2	6491.9	6364.1	6419.5	7303.4
57.5°	4485.5	4174.0	4079.1	4532.3	5957.7	8181.9	9260.5	7909.4	7534.6	7303.4	8334.0
60°	3376.4	3106.9	3047.9	3336.9	4939.3	7940.4	10766.9	9673.6	8910.1	8290.8	9367.6
62.5°	2532.0	2338.6	2249.7	2291.1	3417.8	7155.0	11756.1	11902.7	10821.6	9368.8	10377.5
65°	2057.5	1901.1	1822.1	1768.5	2125.6	5532.5	11577.2	13778.9	13054.3	10501.0	11163.5
67.5°	1718.6	1579.9	1543.4	1595.7	1680.3	3209.7	10178.0	14828.3	14877.6	11618.0	11622.8
70°	1426.6	1323.8	1310.4	1458.9	1570.2	1937.0	7351.5	14498.6	15042.5	12455.7	11515.2
72.5°	1102.4	1047.0	1045.2	1278.2	1559.9	1651.1	4377.8	12525.0	13255.7	12188.0	10461.5
75°	764.7	726.4	755.6	1050.6	1524.0	1674.8	2498.6	9755.8	10302.7	10371.4	8380.2
77.5°	526.2	494.0	525.6	759.8	1360.9	1715.0	1747.8	7054.0	7114.8	6954.8	4800.0
80°	366.2	343.7	368.1	537.8	1059.2	1697.3	1488.1	4441.1	4074.8	3103.9	1536.7
82.5°	226.9	220.2	247.0	383.3	745.9	1544.0	1410.2	2291.7	1749.7	856.6	548.7
85°	119.2	109.5	143.6	250.0	466.6	1211.9	1321.4	1045.8	675.3	304.2	220.2
87.5°	35.3	31.6	55.4	101.0	197.7	543.3	756.2	443.5	251.9	89.4	68.7
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5	1114.5
2.5°	1358.5	1351.8	1261.8	1273.3	1292.8	1297.6	1297.0	1264.2	1229.5	1326.2	1323.2
5°	1730.2	1670.0	1624.9	1615.2	1559.9	1504.5	1524.0	1517.3	1508.7	1552.6	1558.0
7.5°	1997.9	1914.5	1862.2	1727.8	1600.0	1489.3	1524.6	1535.5	1513.6	1592.7	1616.4
10°	2068.4	2002.7	1946.2	1773.4	1702.8	1638.3	1542.8	1433.9	1419.3	1373.7	1379.2
12.5°	2250.3	2241.2	2048.4	1896.3	1804.4	1676.0	1469.8	1337.8	1224.6	1230.1	1197.3
15°	2393.9	2398.8	2167.0	1954.1	1707.7	1511.8	1269.1	1104.8	988.6	965.5	941.8
17.5°	2586.8	2577.0	2176.7	1884.7	1572.6	1285.5	988.0	824.9	805.5	818.9	798.2
20°	2670.7	2584.9	2114.7	1712.6	1361.5	976.4	746.5	660.1	697.8	751.3	752.5
22.5°	2746.2	2599.5	2082.4	1573.8	1080.5	710.0	599.2	583.4	627.8	700.2	706.3
25°	2743.1	2667.1	2024.6	1433.9	837.7	554.2	520.8	532.3	585.2	660.7	664.9
27.5°	2881.2	2615.4	1874.4	1250.2	630.9	474.5	483.0	504.3	529.3	601.1	615.1
30°	2880.0	2711.5	1798.9	1026.9	506.8	435.0	456.9	475.1	495.8	561.5	569.4
32.5°	2948.1	2648.8	1753.3	798.8	454.4	425.2	430.7	449.0	478.8	523.2	528.7
35°	3030.3	2720.0	1607.3	634.5	435.0	416.7	421.0	431.3	458.7	499.5	504.9
37.5°	3293.7	2733.4	1549.5	534.8	433.8	413.1	412.5	417.9	449.0	486.1	502.5
40°	3396.5	2855.7	1381.0	499.5	429.5	413.1	404.6	407.6	433.2	480.6	493.4
42.5°	3642.9	2896.4	1256.3	487.3	429.5	405.8	392.4	397.3	427.1	469.1	489.1
45°	3896.6	2954.2	1107.8	484.9	428.9	405.2	379.6	390.6	414.9	450.2	472.1
47.5°	4258.0	3162.3	959.4	477.6	424.0	408.2	376.6	376.0	397.3	427.7	448.4
50°	4847.5	3487.2	844.4	468.4	424.6	405.8	370.5	362.0	376.0	402.7	422.8
52.5°	5668.1	4040.8	799.4	463.6	419.8	396.0	360.2	346.8	354.7	376.0	395.4
55°	6620.8	4788.4	843.8	463.6	410.0	380.8	345.6	329.7	334.0	348.6	367.5
57.5°	7734.2	5717.4	1058.6	456.9	397.9	362.6	327.9	309.7	310.9	323.7	340.7
60°	8896.7	6755.3	1539.8	451.4	389.4	342.5	307.2	288.4	286.5	298.7	313.9
62.5°	10061.2	7712.9	2045.9	464.2	386.9	325.5	285.3	266.5	265.9	276.8	289.6
65°	10987.1	8367.5	2171.9	515.9	402.7	306.0	262.8	245.2	244.0	253.1	267.1
67.5°	11441.5	8462.4	1649.9	580.4	436.2	287.8	240.9	224.5	223.3	233.0	245.2
70°	11105.1	7813.9	1018.4	587.1	434.4	266.5	218.4	204.4	202.0	212.3	221.4
72.5°	9860.4	6835.0	773.8	519.5	376.0	236.0	195.9	183.7	180.1	189.2	197.7
75°	7914.2	5426.6	619.9	419.2	296.3	198.9	173.4	161.8	157.6	166.1	173.4
77.5°	4610.2	3052.8	453.2	327.3	223.9	162.4	147.8	137.5	132.6	141.7	147.2
80°	1499.0	1017.2	284.7	234.8	163.7	127.1	119.8	112.5	107.7	113.8	115.6
82.5°	538.4	378.4	157.6	144.2	108.9	91.3	90.6	86.4	80.3	82.7	82.7
85°	238.5	172.8	93.7	77.3	65.1	48.7	57.2	54.1	48.1	46.8	45.0
87.5°	66.9	57.2	34.1	26.2	21.3	7.9	18.3	16.4	13.4	12.2	8.5
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)