

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: P596562

Luminaire Tested: **MSA-SA1D-827-U-T4W**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596562  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-827-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

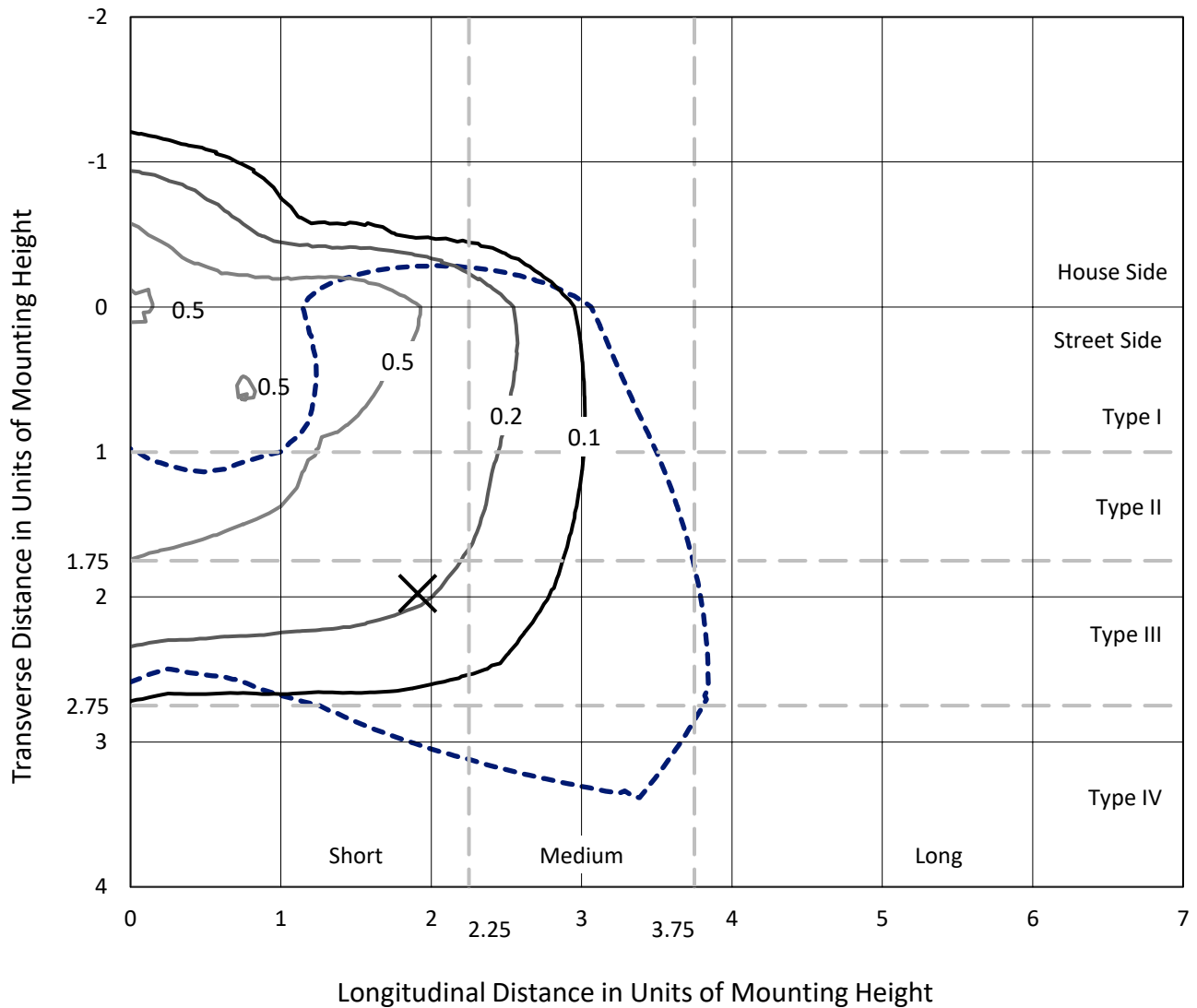
Lumens per Lamp: N/A  
Luminaire Lumens: 5111 lumens  
Efficiency: N/A  
Efficacy: 76.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
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



REPORT NUMBER: P596562  
 CATALOG NUMBER: MSA-SA1D-827-U-T4W

### Iso-Footcandle Lines of Horizontal Illumination

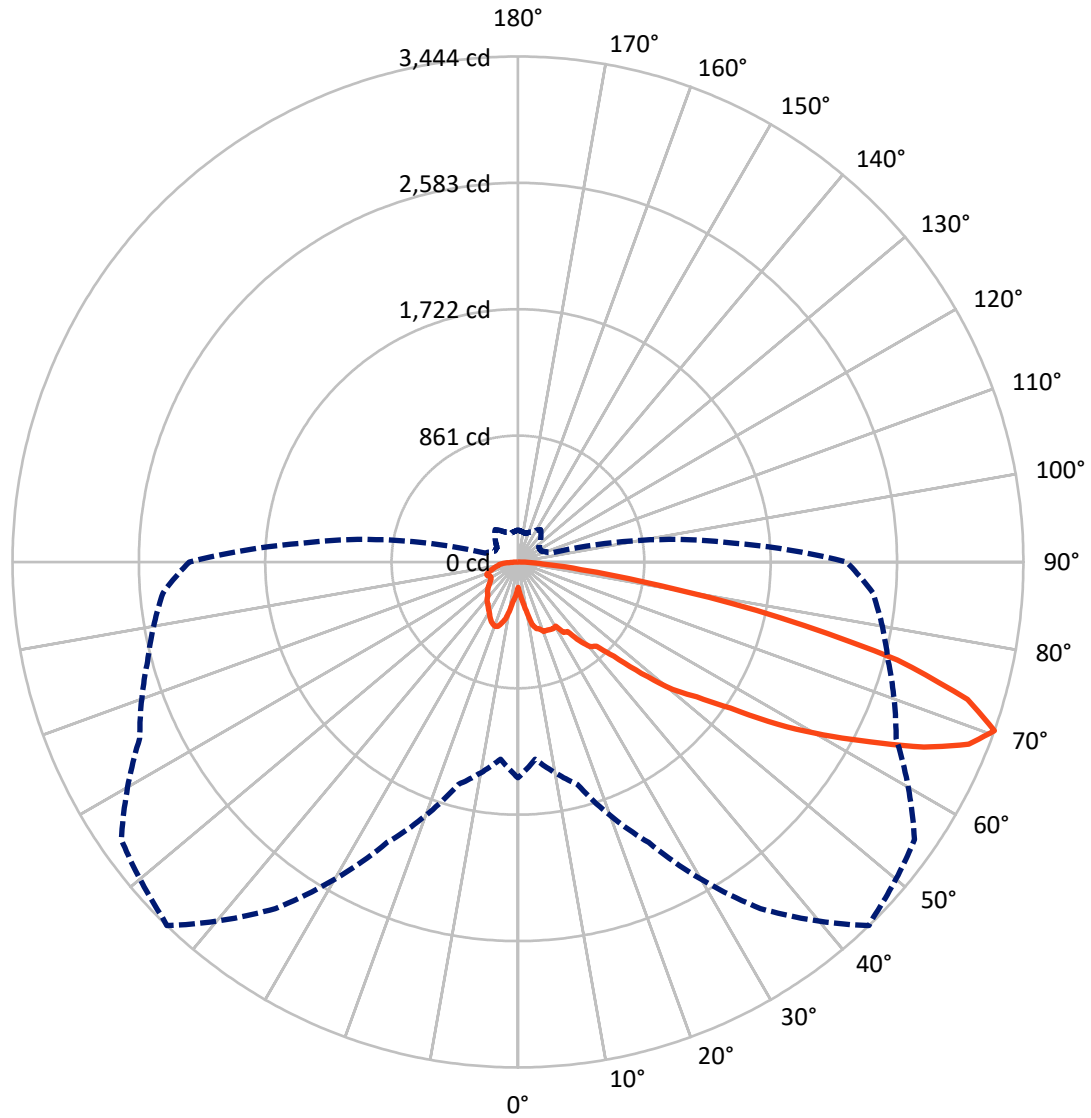
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 fc  
 Type IV - Short - N/A

REPORT NUMBER: P596562  
CATALOG NUMBER: MSA-SA1D-827-U-T4W

### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P596562  
 CATALOG NUMBER: MSA-SA1D-827-U-T4W

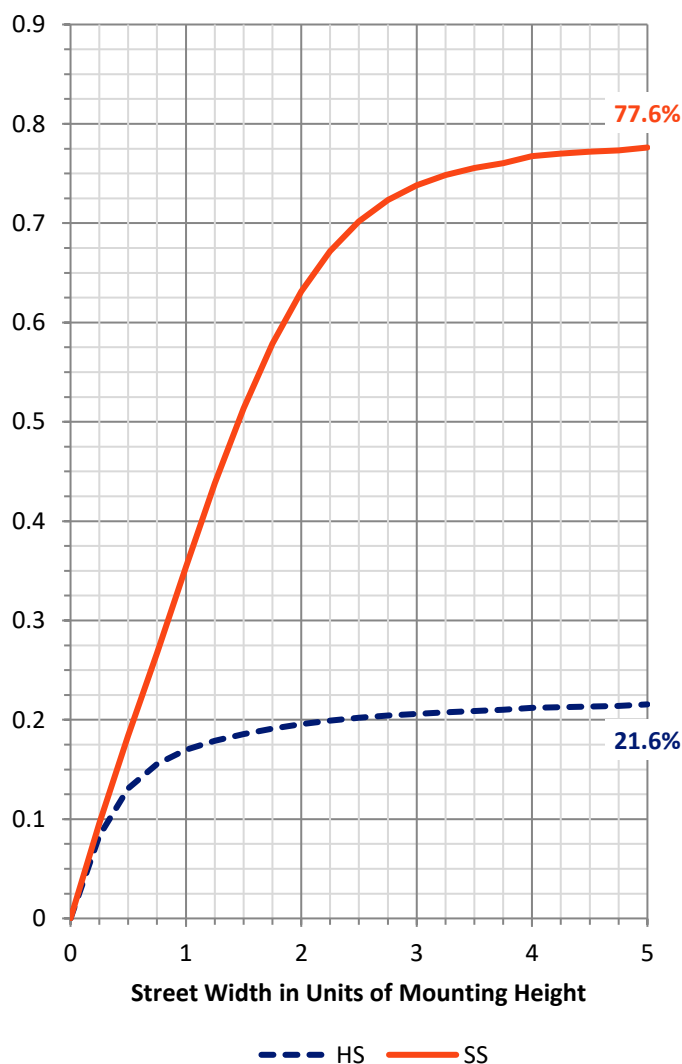
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1127.7	0.0	1127.7
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	3983.3	0.0	3983.3
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	5111.0	0.0	5111.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	27.2	0.5
10°-20°	125.4	2.5
20°-30°	234.4	4.6
30°-40°	376.2	7.4
40°-50°	635.1	12.4
50°-60°	1131.7	22.1
60°-70°	1548.0	30.3
70°-80°	910.3	17.8
80°-90°	122.6	2.4
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°	5111.0	100.0
0°-180°	5111.0	100.0

**Coefficient of Utilization**

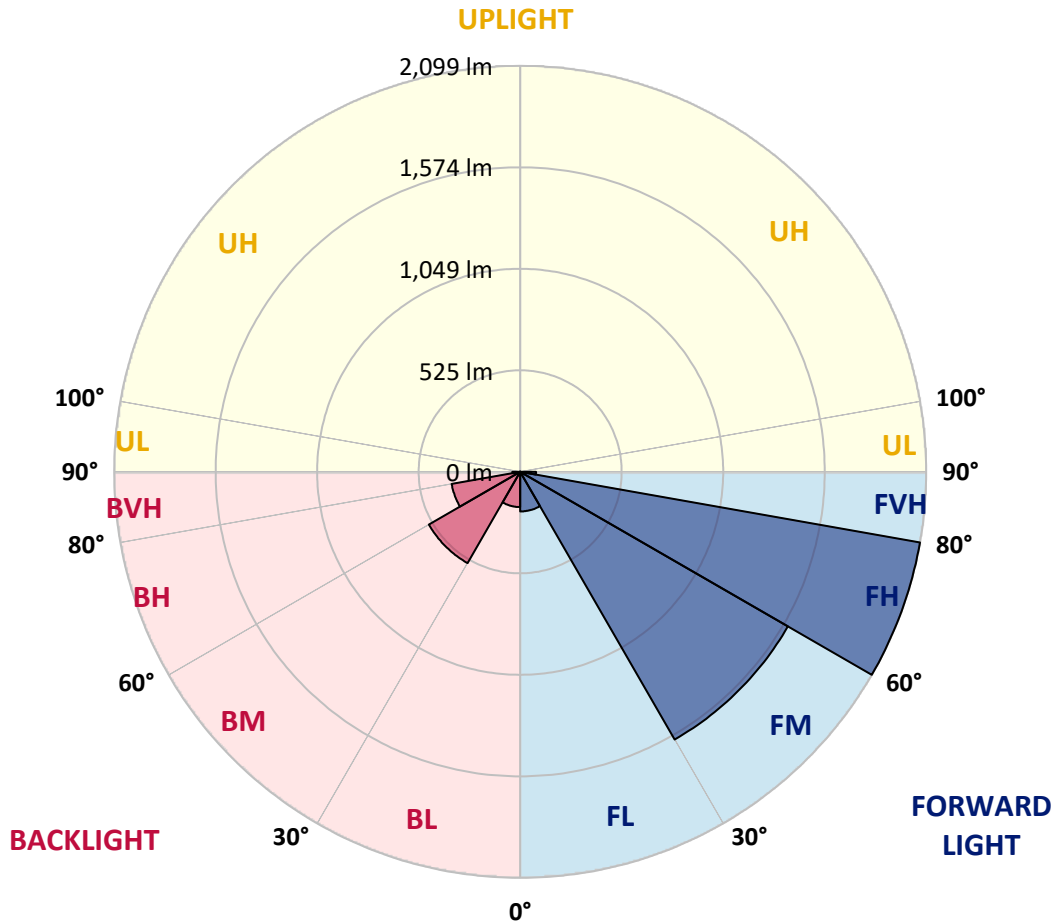


REPORT NUMBER: P596562  
 CATALOG NUMBER: MSA-SA1D-827-U-T4W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	204.8	4.0			
FM (30°-60°)	1598.1	31.3			
FH (60°-80°)	2098.7	41.1			G2/5000
FVH (80°-90°)	81.7	1.6			G1/100
BL (0°-30°)	182.3	3.6	B1/500		
BM (30°-60°)	544.9	10.7	B1/1000		
BH (60°-80°)	359.6	7.0	B1/500		G1/500
BVH (80°-90°)	40.9	0.8			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**  
 Type IV Short





REPORT NUMBER: P596562  
 CATALOG NUMBER: MSA-SA1D-827-U-T4W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	173.7	173.7	173.7	173.7	173.7	173.7	173.7	173.7	173.7	173.7	173.7
2.5°	210.8	206.6	196.6	199.9	204.1	205.8	205.4	205.0	198.5	196.2	207.7
5°	286.5	277.3	269.9	267.0	257.3	249.8	245.2	257.3	255.5	258.6	266.6
7.5°	357.7	351.9	335.3	329.4	309.7	296.7	295.3	304.9	307.4	302.4	316.0
10°	403.6	393.6	390.2	376.2	362.5	360.5	359.2	354.8	348.7	348.3	336.1
12.5°	439.2	444.5	447.2	431.1	431.5	439.0	435.1	417.2	407.0	389.0	390.4
15°	503.2	510.7	489.1	478.9	459.2	470.5	469.0	454.1	452.7	440.9	427.3
17.5°	558.9	562.3	526.2	502.7	496.0	479.7	484.1	484.5	465.2	486.2	474.0
20°	563.5	575.5	534.0	487.2	507.4	505.3	505.9	501.7	476.3	510.9	506.3
22.5°	586.2	567.9	530.6	496.5	501.7	504.8	507.8	502.7	501.3	520.6	534.6
25°	582.0	576.1	538.4	509.5	510.1	510.7	512.2	527.3	525.6	551.8	559.1
27.5°	621.2	612.1	540.7	533.6	517.2	513.6	503.6	535.0	559.5	558.9	599.4
30°	695.8	686.5	594.3	573.6	544.0	507.6	526.8	568.8	588.0	594.5	645.9
32.5°	812.3	827.4	699.9	616.3	579.7	571.7	569.6	565.4	613.2	645.3	692.0
35°	979.5	967.6	824.4	707.9	617.2	583.0	587.6	613.2	670.0	690.7	733.9
37.5°	1171.1	1146.3	983.9	811.6	725.3	682.6	667.3	692.0	704.6	720.9	809.1
40°	1365.7	1305.4	1140.5	948.1	790.3	758.0	744.6	714.2	743.7	776.9	889.0
42.5°	1553.7	1507.0	1310.8	1110.9	899.7	784.6	777.3	747.5	839.1	874.1	1004.2
45°	1750.7	1642.4	1485.4	1294.7	1059.6	915.2	904.3	850.8	968.2	1041.1	1166.9
47.5°	1883.2	1782.8	1645.3	1443.9	1193.5	1133.5	1112.8	1021.4	1127.9	1222.6	1418.1
50°	2008.5	1905.2	1760.8	1607.2	1435.9	1367.0	1322.8	1170.6	1326.8	1481.0	1740.2
52.5°	2187.9	2095.4	1894.9	1771.7	1696.4	1526.9	1494.0	1410.4	1559.4	1767.5	2092.3
55°	2379.6	2253.7	2072.0	2003.7	1973.3	1756.2	1729.3	1676.1	1869.1	2060.7	2434.5
57.5°	2464.3	2332.9	2232.7	2191.8	2189.3	2089.4	2058.6	2021.5	2185.8	2312.1	2756.6
60°	2531.5	2390.5	2350.5	2373.3	2456.3	2390.5	2350.5	2317.8	2443.5	2560.7	3019.4
62.5°	2519.2	2377.7	2398.3	2467.8	2679.7	2699.0	2668.2	2589.0	2699.0	2764.4	3170.1
65°	2319.7	2188.9	2308.6	2473.7	2887.4	3041.4	3039.7	2832.5	2870.6	2870.6	3154.2
67.5°	1970.1	1834.7	2030.7	2421.9	3030.9	3312.8	3313.2	3090.7	2886.3	2859.9	2907.7
70°	1471.1	1348.6	1568.8	2109.3	2882.8	3444.2	3425.1	3299.0	2843.2	2612.4	2428.9
72.5°	878.7	799.5	1002.1	1535.5	2459.0	3202.6	3253.3	3059.0	2602.8	2172.6	1736.2
75°	399.0	364.6	470.9	882.1	1755.5	2671.3	2726.4	2581.6	2067.4	1562.5	1003.4
77.5°	170.8	161.6	205.6	391.3	968.0	1826.8	1939.7	1845.0	1400.7	908.0	443.9
80°	109.8	103.9	126.4	188.2	449.5	987.1	1084.3	1048.9	713.6	353.1	156.3
82.5°	65.6	63.7	84.5	118.2	245.2	434.4	489.5	502.5	296.3	158.4	89.5
85°	35.8	36.3	46.3	71.7	147.1	169.1	181.1	197.0	139.6	91.8	43.4
87.5°	11.9	13.8	18.7	29.1	52.4	47.8	48.0	55.7	58.9	38.1	13.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P596562  
 CATALOG NUMBER: MSA-SA1D-827-U-T4W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	173.7	173.7	173.7	173.7	173.7	173.7	173.7	173.7	173.7	173.7	173.7
2.5°	209.6	205.8	196.2	196.8	200.3	201.2	202.2	196.2	194.9	206.4	207.5
5°	267.8	255.5	249.8	247.9	242.5	240.6	250.6	255.3	259.9	268.9	273.3
7.5°	314.6	300.7	290.5	281.0	273.1	268.5	285.4	298.4	306.4	324.8	333.2
10°	335.9	324.0	320.2	312.7	318.7	332.6	335.7	336.1	353.7	353.3	356.9
12.5°	378.5	370.7	358.4	361.1	377.0	391.3	387.3	393.4	399.6	414.7	407.8
15°	417.2	415.1	403.6	405.5	408.7	426.5	428.8	434.8	444.5	456.4	448.3
17.5°	465.0	464.2	436.1	433.6	440.9	458.3	452.9	442.2	474.0	486.8	483.5
20°	497.5	491.2	455.2	444.5	463.1	465.4	459.2	442.2	469.8	497.7	505.3
22.5°	524.5	517.2	480.1	459.2	455.4	456.4	456.4	453.3	466.9	489.8	489.5
25°	546.3	553.3	506.1	486.0	465.9	440.7	437.6	440.3	448.1	492.1	490.6
27.5°	601.0	582.0	514.9	499.8	458.5	418.9	427.5	431.7	434.2	482.4	490.4
30°	636.7	642.5	546.3	508.0	447.8	394.6	397.5	409.7	424.4	481.4	483.7
32.5°	684.6	672.1	595.4	494.4	419.3	379.9	374.5	390.8	412.6	464.4	470.7
35°	729.3	744.2	616.1	491.8	399.4	357.9	363.8	369.5	392.1	445.5	452.9
37.5°	834.1	800.1	674.4	479.7	382.9	346.8	340.5	349.1	368.4	409.7	426.7
40°	913.7	915.8	687.0	464.4	351.2	330.9	317.5	326.1	334.3	367.2	374.5
42.5°	1063.1	1017.4	717.8	430.9	331.3	307.0	299.5	303.2	304.5	318.3	330.5
45°	1253.2	1146.1	729.9	385.8	305.1	297.2	281.9	280.0	273.1	274.9	285.6
47.5°	1516.2	1346.9	721.1	337.8	281.9	284.4	262.4	253.8	244.1	246.4	256.5
50°	1856.3	1603.4	720.5	297.2	265.9	267.6	249.6	234.1	224.4	229.3	238.1
52.5°	2237.9	1860.7	723.4	269.3	248.5	247.7	241.2	222.3	214.6	219.6	229.7
55°	2603.0	2082.0	745.2	251.7	230.5	232.0	234.5	218.6	210.0	214.6	225.1
57.5°	2920.7	2256.8	737.0	233.0	213.8	220.5	227.2	213.3	206.8	213.5	224.0
60°	3142.9	2337.9	672.5	215.2	201.4	210.6	223.6	212.7	211.9	226.3	238.9
62.5°	3224.0	2307.9	546.8	201.2	194.1	209.4	231.8	226.5	227.4	245.2	262.6
65°	3105.5	2150.3	407.8	192.2	188.4	215.4	250.6	234.7	223.2	237.9	253.8
67.5°	2768.8	1870.2	298.0	184.4	181.9	225.1	268.0	233.9	212.5	227.4	240.4
70°	2240.0	1476.2	230.7	174.6	173.3	218.6	269.7	227.6	201.0	210.6	217.9
72.5°	1534.9	1010.7	191.1	165.1	158.4	193.6	256.1	213.5	187.1	192.8	198.9
75°	857.8	567.3	160.7	153.4	138.7	172.5	240.2	205.2	176.9	178.5	186.9
77.5°	385.0	245.4	136.4	137.9	120.9	152.6	219.4	191.8	161.2	157.4	165.8
80°	145.6	119.7	110.7	116.5	101.6	132.2	197.8	179.6	144.6	139.8	144.6
82.5°	84.5	72.5	82.1	89.7	80.7	121.5	188.8	168.5	127.4	115.3	119.5
85°	39.2	37.5	49.2	58.3	56.4	94.7	161.6	126.8	90.7	76.7	84.9
87.5°	10.3	11.5	17.4	20.5	21.0	32.5	62.2	47.2	35.4	26.8	25.8
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)