

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: P596644

Luminaire Tested: **MSA-SA2D-827-U-T2**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596644  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2D-827-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9889 lumens  
Efficiency: N/A  
Efficacy: 76.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B2 - U0 - G2

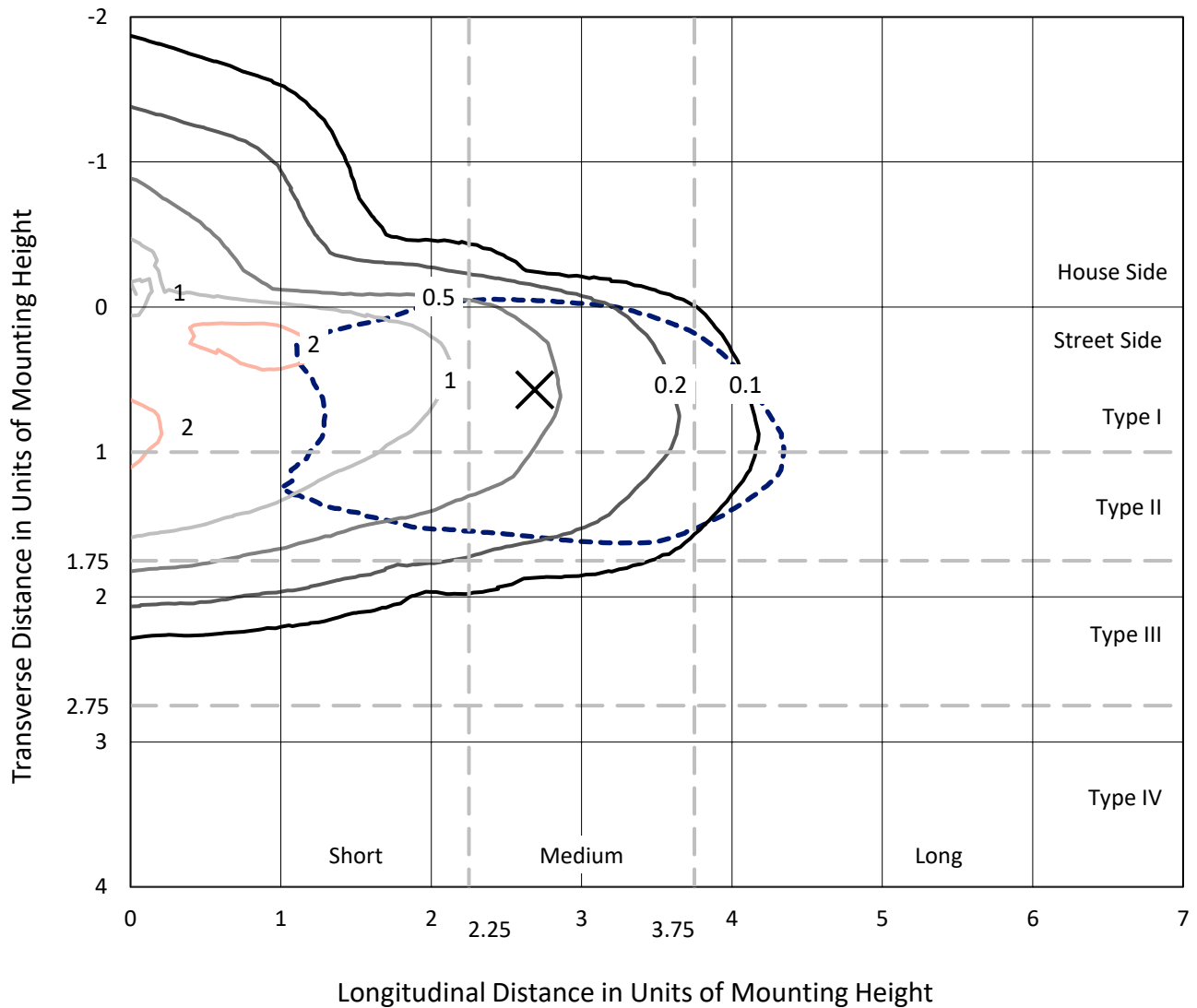
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

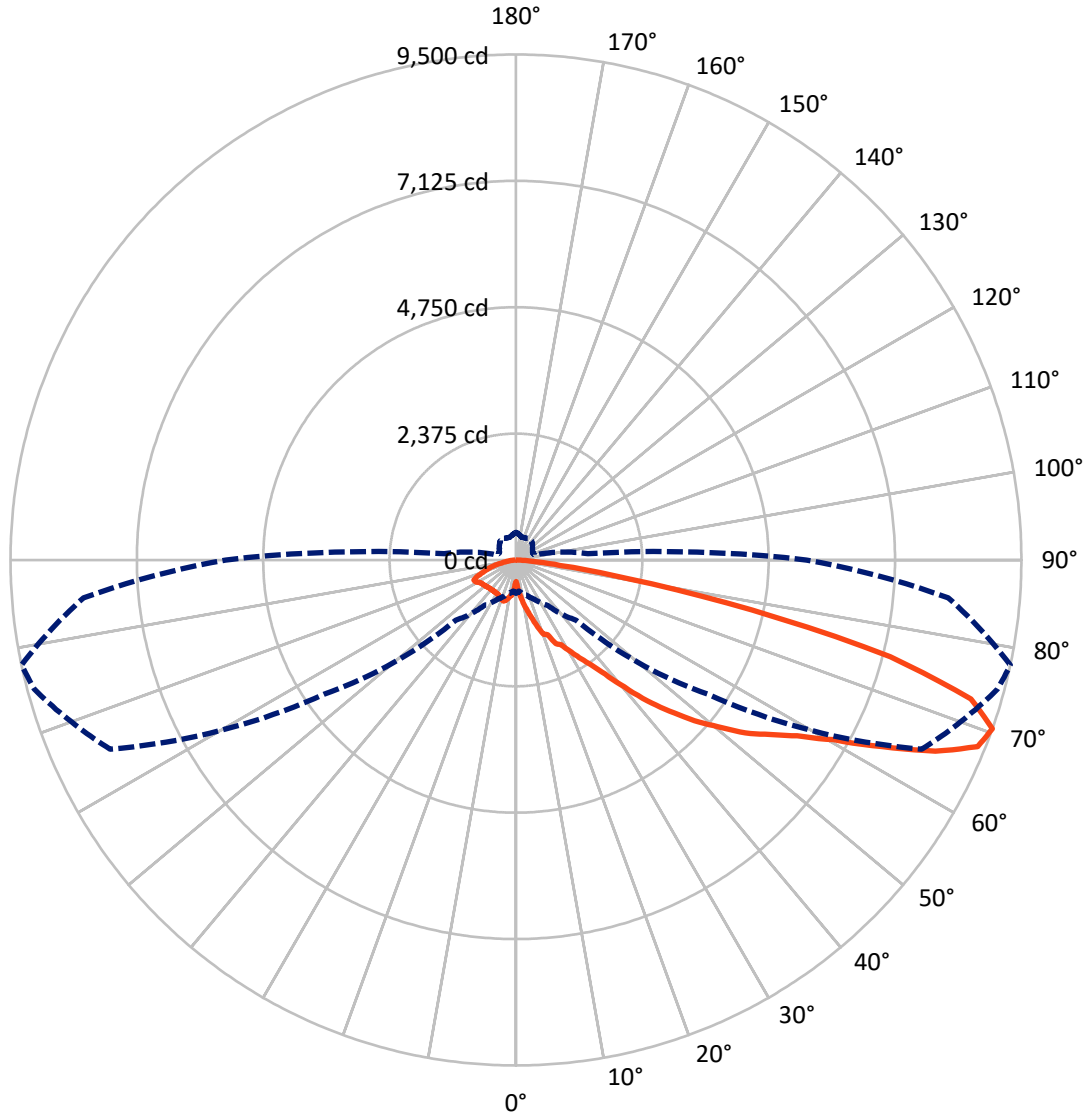
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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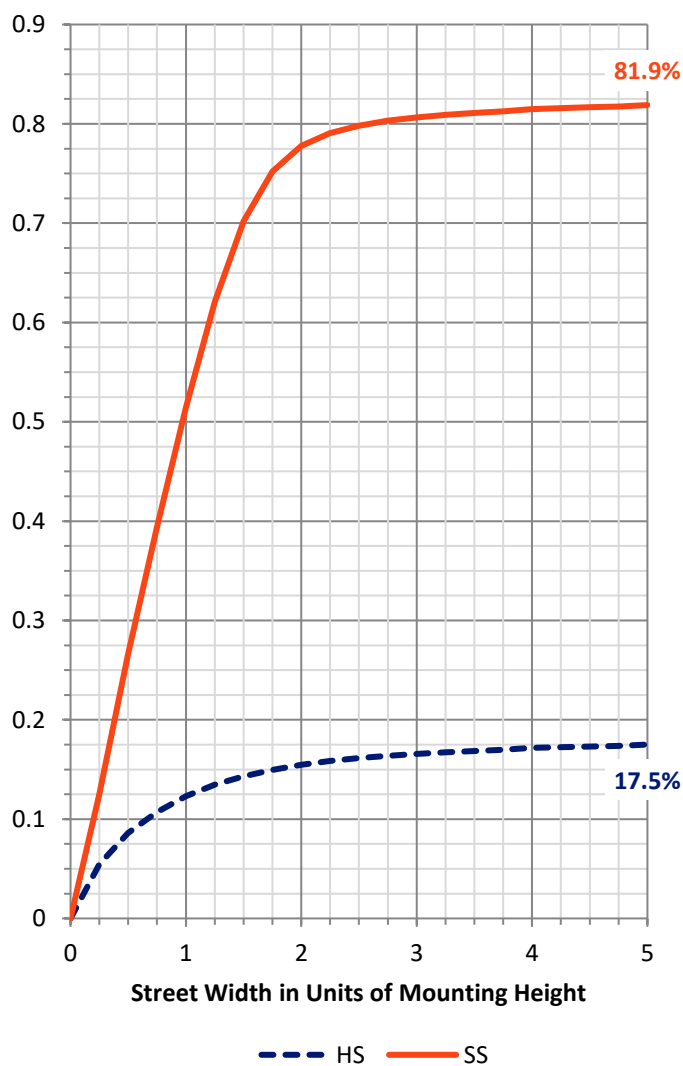
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1765.1	0.0	1765.1
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	8124.0	0.0	8124.0
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	9889.0	0.0	9889.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.3	0.6
10°-20°	274.5	2.8
20°-30°	528.4	5.3
30°-40°	890.0	9.0
40°-50°	1540.0	15.6
50°-60°	2325.2	23.5
60°-70°	2575.4	26.0
70°-80°	1484.8	15.0
80°-90°	208.3	2.1
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°	9889.0	100.0
0°-180°	9889.0	100.0

**Coefficient of Utilization**

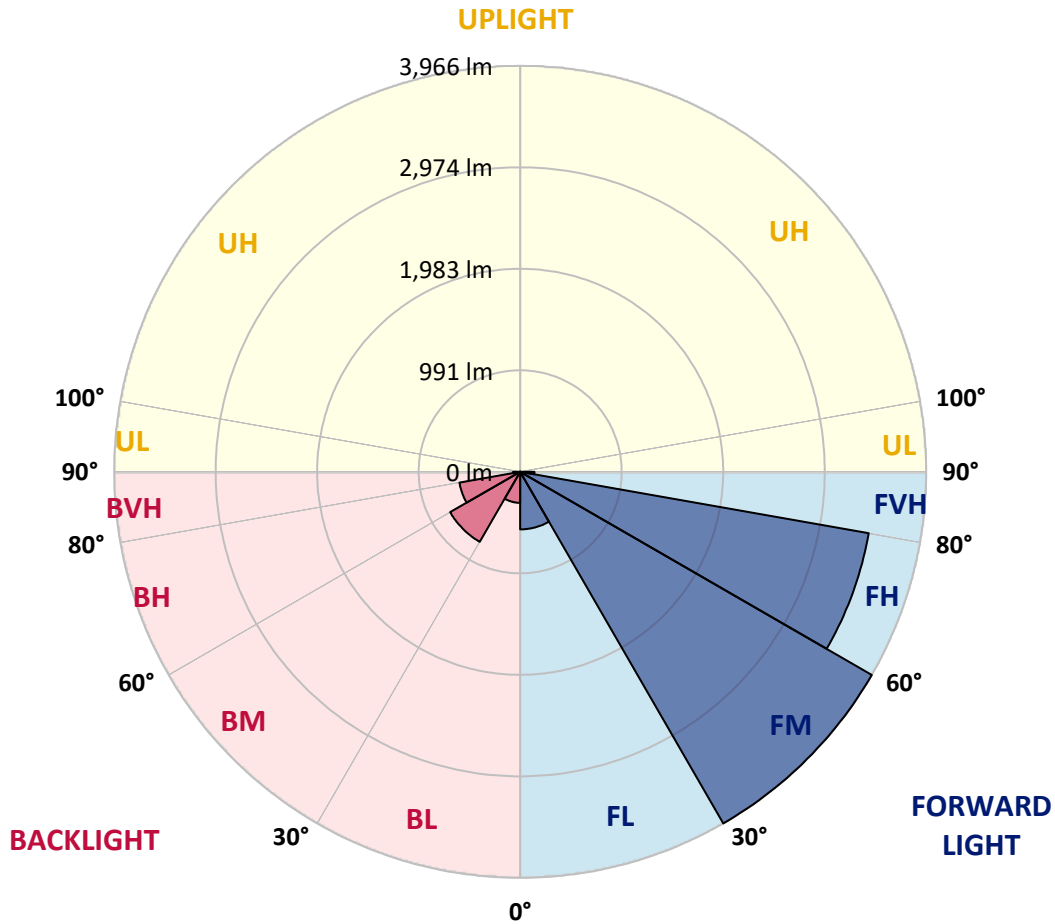


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	562.2	5.7			
FM (30°-60°)	3965.8	40.1			
FH (60°-80°)	3457.1	35.0			G2/5000
FVH (80°-90°)	138.9	1.4			G2/225
BL (0°-30°)	303.1	3.1	B1/500		
BM (30°-60°)	789.4	8.0	B1/1000		
BH (60°-80°)	603.2	6.1	B2/1000		G2/1000
BVH (80°-90°)	69.3	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**  
 Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	403.2	403.2	403.2	403.2	403.2	403.2	403.2	403.2	403.2	403.2	403.2
2.5°	519.0	500.5	472.4	484.0	498.0	499.6	495.1	469.6	460.9	480.3	486.0
5°	727.2	695.9	676.9	670.7	649.7	606.0	637.3	621.3	624.6	615.1	633.6
7.5°	902.4	881.4	853.4	845.5	797.3	763.1	784.5	777.5	743.7	730.5	751.5
10°	991.5	968.4	969.6	952.7	939.9	943.2	932.5	901.6	876.4	858.7	808.0
12.5°	1045.0	1050.8	1081.7	1073.1	1121.3	1160.9	1130.8	1085.0	1005.5	989.4	939.1
15°	1172.4	1193.9	1165.0	1178.2	1198.8	1274.7	1262.3	1252.4	1168.3	1137.0	1044.2
17.5°	1303.5	1307.7	1264.0	1256.9	1306.4	1344.8	1393.0	1337.3	1347.6	1325.8	1175.7
20°	1331.6	1360.0	1297.3	1254.1	1355.9	1431.7	1491.5	1432.6	1487.0	1492.8	1284.2
22.5°	1434.2	1400.0	1317.5	1275.1	1364.1	1457.3	1554.6	1587.6	1570.3	1521.6	1388.9
25°	1505.5	1487.4	1403.3	1356.3	1390.1	1475.8	1646.5	1732.7	1747.9	1741.3	1488.6
27.5°	1637.9	1646.9	1473.8	1487.0	1440.0	1447.8	1701.8	1925.2	1830.0	1803.6	1612.3
30°	1846.9	1806.5	1612.3	1623.0	1545.1	1531.9	1818.4	2091.3	2006.0	1974.3	1714.1
32.5°	2065.0	2068.7	1832.9	1741.3	1699.7	1686.5	1795.3	2178.3	2228.6	2187.4	1867.9
35°	2372.5	2351.1	2072.0	1951.6	1801.1	1778.0	1959.8	2430.6	2523.0	2407.5	2050.5
37.5°	2840.8	2776.1	2451.2	2173.0	2061.7	2035.3	2194.8	2656.9	2864.7	2721.3	2349.0
40°	3216.8	3085.3	2790.1	2451.2	2262.8	2295.4	2361.8	2931.5	3219.2	3138.4	2625.2
42.5°	3516.5	3399.8	3030.0	2791.7	2535.7	2495.3	2567.9	3271.6	3701.6	3622.4	2969.8
45°	3803.8	3566.4	3299.6	3085.3	2839.2	2888.2	2877.5	3618.7	4293.2	4049.5	3274.5
47.5°	4087.4	3864.4	3585.3	3297.2	3049.4	3354.9	3240.7	3876.8	4692.2	4511.6	3595.2
50°	4451.9	4206.6	3888.7	3598.9	3450.5	3674.0	3482.3	4095.3	5139.1	4927.2	3897.8
52.5°	4693.9	4455.2	4176.5	3969.5	3955.9	3869.8	3820.7	4371.9	5530.7	5402.1	4218.5
55°	4665.4	4435.4	4309.2	4331.9	4500.1	4209.5	4169.5	4781.3	5939.3	5790.4	4564.8
57.5°	4308.8	4057.8	4084.6	4219.0	4670.8	4806.0	4738.0	5218.7	6303.7	6236.1	4993.2
60°	3356.5	3227.5	3445.6	3691.3	4442.4	4980.8	5459.0	5752.1	6752.2	6860.2	5665.9
62.5°	2180.4	2008.1	2352.7	2769.9	3760.9	4865.4	6193.2	6763.8	7486.8	7732.1	6688.3
65°	1129.6	1101.9	1343.1	1726.5	2618.2	4148.5	6452.1	7824.9	8379.8	8665.5	7664.9
67.5°	821.2	770.1	881.8	1107.3	1598.3	2828.8	5961.5	8636.6	9096.7	9358.5	8232.6
70°	625.4	587.5	672.8	812.5	1043.8	1597.9	4400.8	8415.2	9373.3	9500.3	8157.2
72.5°	468.3	435.7	510.4	640.6	804.3	899.5	2601.3	6919.2	8901.3	8944.6	7321.1
75°	373.9	348.8	380.9	505.8	655.5	612.2	1381.9	5012.9	7232.1	7269.2	5592.2
77.5°	306.7	285.3	298.5	379.3	510.0	460.5	685.6	3188.7	4591.6	4534.7	3146.3
80°	250.2	231.7	237.9	274.1	388.3	343.8	385.0	1663.4	2190.3	2102.1	1308.5
82.5°	192.5	176.9	189.2	201.6	281.2	246.9	224.7	756.9	897.1	835.6	479.9
85°	129.0	114.6	164.5	151.3	183.9	151.7	122.9	301.4	334.3	311.7	168.6
87.5°	35.5	33.4	55.2	75.4	75.4	57.3	44.9	73.0	93.2	81.6	39.6
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°	403.2	403.2	403.2	403.2	403.2	403.2	403.2	403.2	403.2	403.2	403.2
2.5°	488.5	479.4	455.5	453.5	459.2	460.1	456.4	447.7	443.2	467.9	464.2
5°	629.1	596.9	577.6	559.8	535.1	517.4	521.9	534.3	538.4	556.9	559.0
7.5°	738.3	695.9	653.4	596.5	559.0	535.1	553.2	566.4	576.7	603.1	613.8
10°	785.7	739.6	679.4	619.6	609.3	613.4	603.1	606.4	622.5	623.7	629.1
12.5°	874.0	821.6	713.2	659.2	656.3	665.0	661.2	676.5	687.6	717.7	704.9
15°	958.5	891.7	738.7	683.5	671.6	688.9	709.1	734.6	758.5	787.0	772.6
17.5°	1061.1	960.5	740.0	672.4	674.4	711.5	732.6	746.6	817.9	857.1	837.3
20°	1125.9	967.5	712.4	644.8	674.4	707.8	737.1	752.4	832.3	891.3	904.9
22.5°	1184.4	970.0	690.9	629.9	648.9	693.0	737.1	770.9	822.0	878.5	880.6
25°	1216.5	968.0	663.3	631.2	648.5	670.3	709.5	740.4	778.3	857.1	859.1
27.5°	1299.0	941.2	636.1	636.1	645.2	646.0	695.9	714.0	719.4	791.1	803.9
30°	1322.9	946.9	632.8	635.3	639.8	631.6	653.4	665.4	673.2	735.0	737.1
32.5°	1361.2	900.8	642.7	627.9	622.1	620.8	626.2	636.9	640.2	678.1	685.2
35°	1407.8	882.2	646.0	625.8	614.3	608.1	624.1	611.0	621.3	665.8	670.7
37.5°	1559.5	856.7	662.9	625.8	611.0	603.9	596.1	602.3	639.0	681.9	708.2
40°	1656.4	864.5	658.8	632.0	599.8	593.2	580.0	602.7	659.6	735.5	755.2
42.5°	1826.3	869.0	663.7	629.1	603.5	578.0	586.6	611.4	671.1	714.4	744.9
45°	2001.9	883.0	660.4	620.4	595.3	607.2	595.3	617.5	646.0	647.2	670.3
47.5°	2174.2	939.5	653.4	602.7	593.2	624.6	594.1	597.8	599.8	607.2	634.5
50°	2376.6	999.7	643.5	578.0	596.1	625.4	598.6	580.4	578.4	602.7	633.2
52.5°	2606.6	1067.7	630.7	554.1	579.2	617.5	614.3	581.7	564.0	587.5	618.0
55°	2877.5	1145.2	615.9	530.2	560.7	618.4	622.9	573.0	564.4	589.9	622.5
57.5°	3237.4	1257.4	587.0	495.5	538.0	605.6	600.6	563.1	554.9	582.1	615.9
60°	3851.6	1473.0	545.8	461.3	513.7	574.3	582.5	545.4	537.2	567.3	602.7
62.5°	4674.1	1732.3	495.9	427.9	484.0	540.5	559.8	519.8	519.0	557.4	594.5
65°	5439.6	1879.4	444.4	397.4	453.5	509.1	534.3	495.9	497.6	545.8	582.9
67.5°	5757.9	1706.3	398.2	370.2	418.4	473.3	513.2	477.4	472.0	530.2	564.4
70°	5459.0	1355.5	358.2	341.3	378.9	434.5	484.0	452.6	440.3	493.0	519.8
72.5°	4830.3	1130.0	320.7	307.5	344.2	393.7	444.4	419.3	403.2	443.6	467.5
75°	3775.8	927.1	277.9	274.1	304.7	356.6	403.2	385.9	365.3	390.8	414.7
77.5°	2149.9	586.6	233.3	235.8	257.7	312.5	353.7	340.1	319.1	329.8	357.4
80°	860.4	296.0	187.6	189.2	207.8	256.8	293.1	288.2	266.3	275.0	293.9
82.5°	321.6	162.4	138.5	139.3	157.9	203.2	250.2	247.8	227.1	221.0	231.7
85°	127.8	80.4	84.9	88.6	106.4	146.3	200.8	178.1	153.8	134.8	141.4
87.5°	30.5	25.6	29.7	31.3	34.6	45.8	73.4	59.0	60.6	48.6	36.3
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)