

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: P367104

Luminaire Tested: **MSA-SA1D-760-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367104  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-760-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: 6953 lumens  
Efficiency: N/A  
Efficacy: 103.8 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

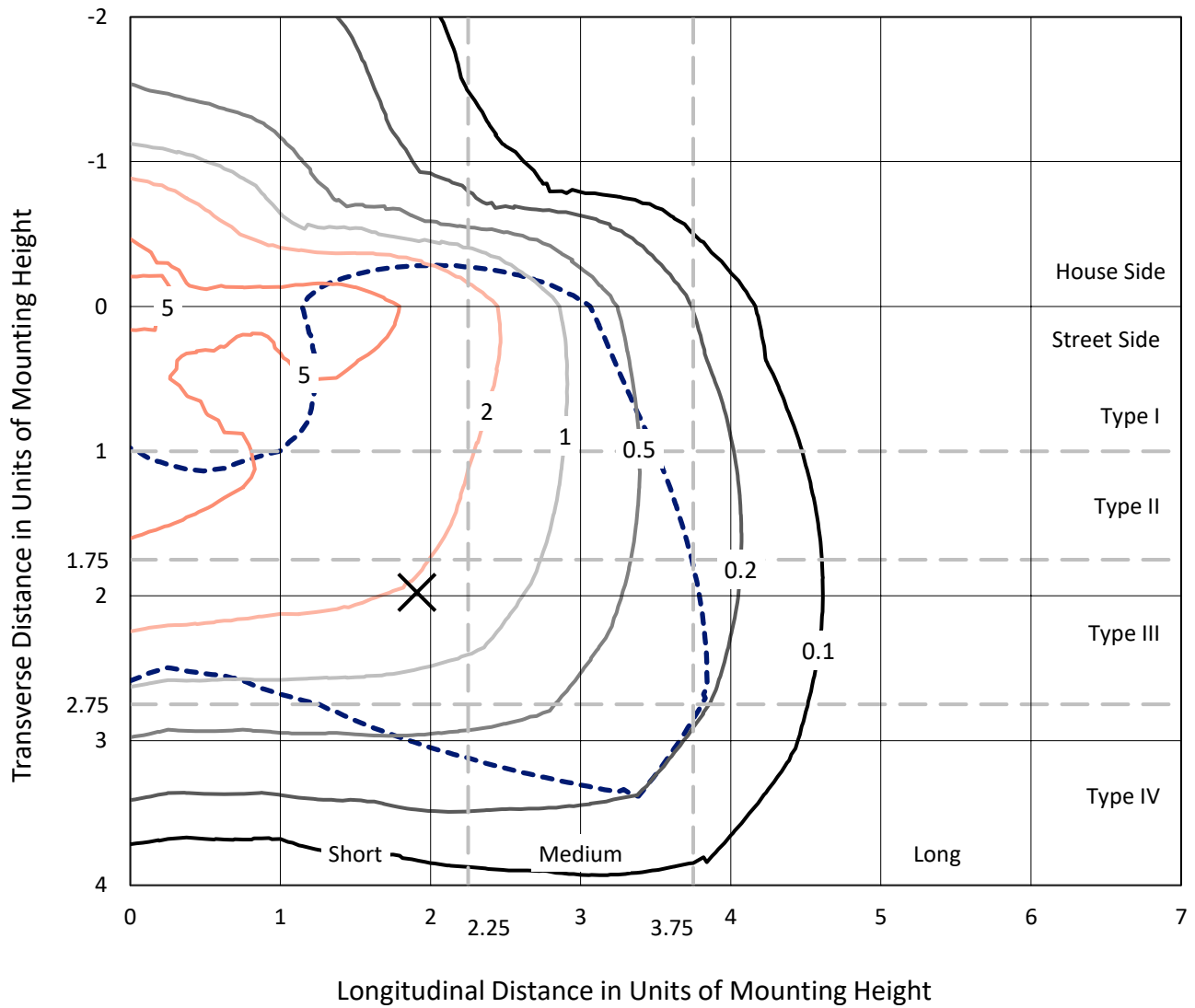
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

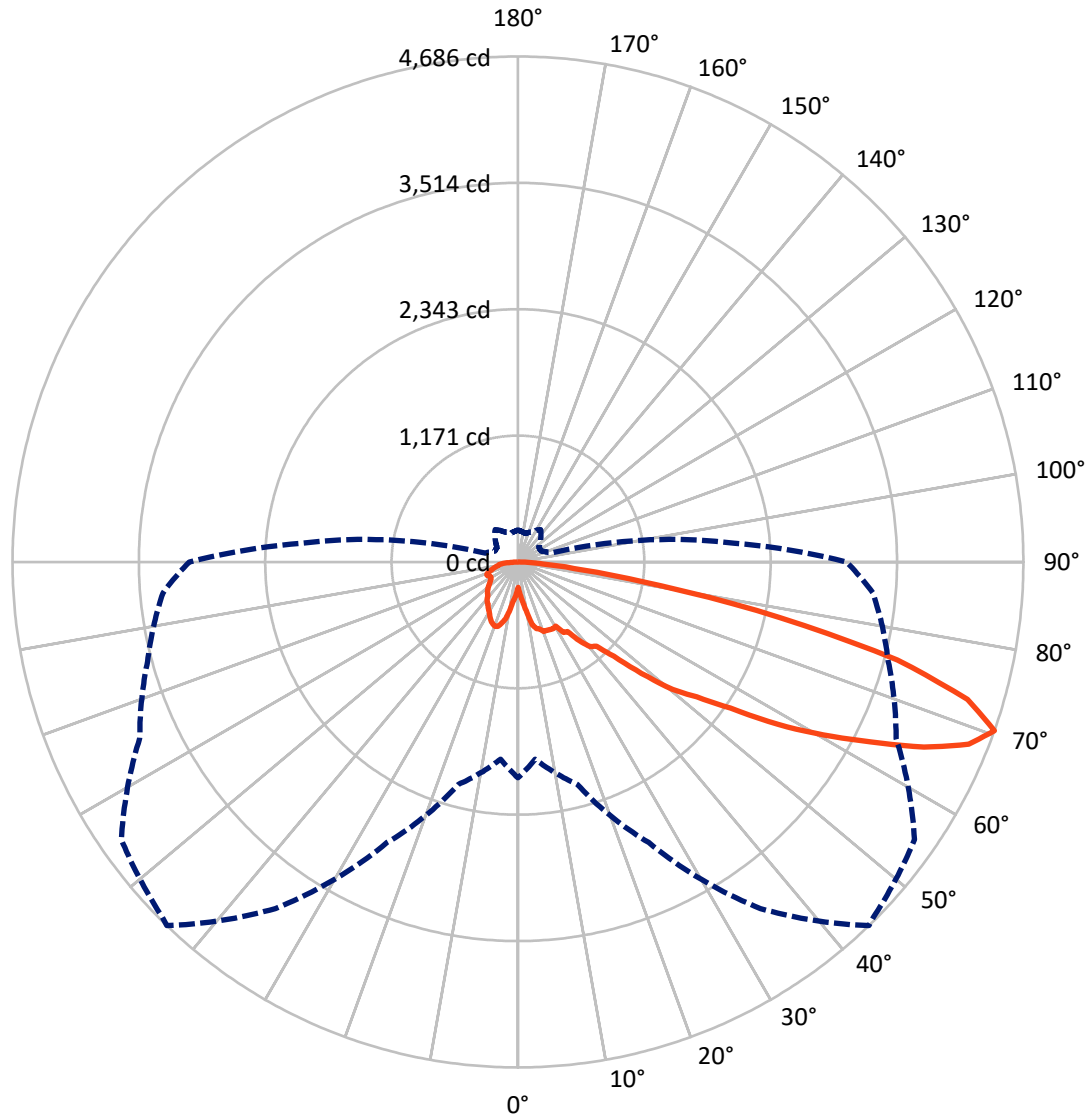
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.4 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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

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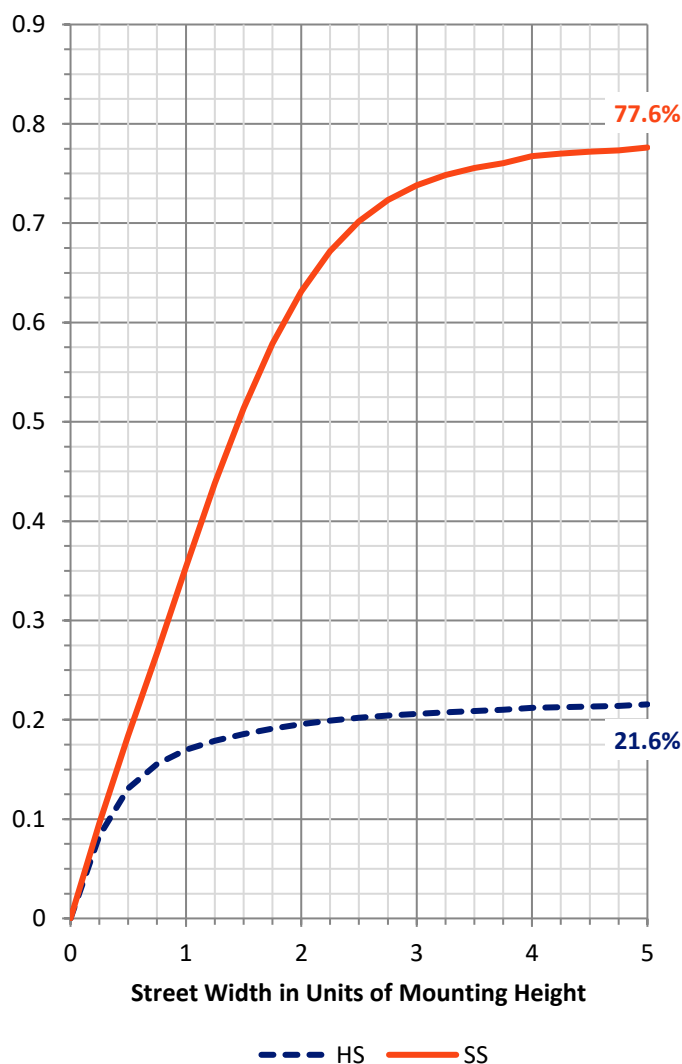
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1534.1	0.0	1534.1
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	5418.9	0.0	5418.9
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	6953.0	0.0	6953.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.1	0.5
10°-20°	170.6	2.5
20°-30°	318.9	4.6
30°-40°	511.9	7.4
40°-50°	864.0	12.4
50°-60°	1539.6	22.1
60°-70°	2105.9	30.3
70°-80°	1238.4	17.8
80°-90°	166.7	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°	6953.0	100.0
0°-180°	6953.0	100.0

**Coefficient of Utilization**

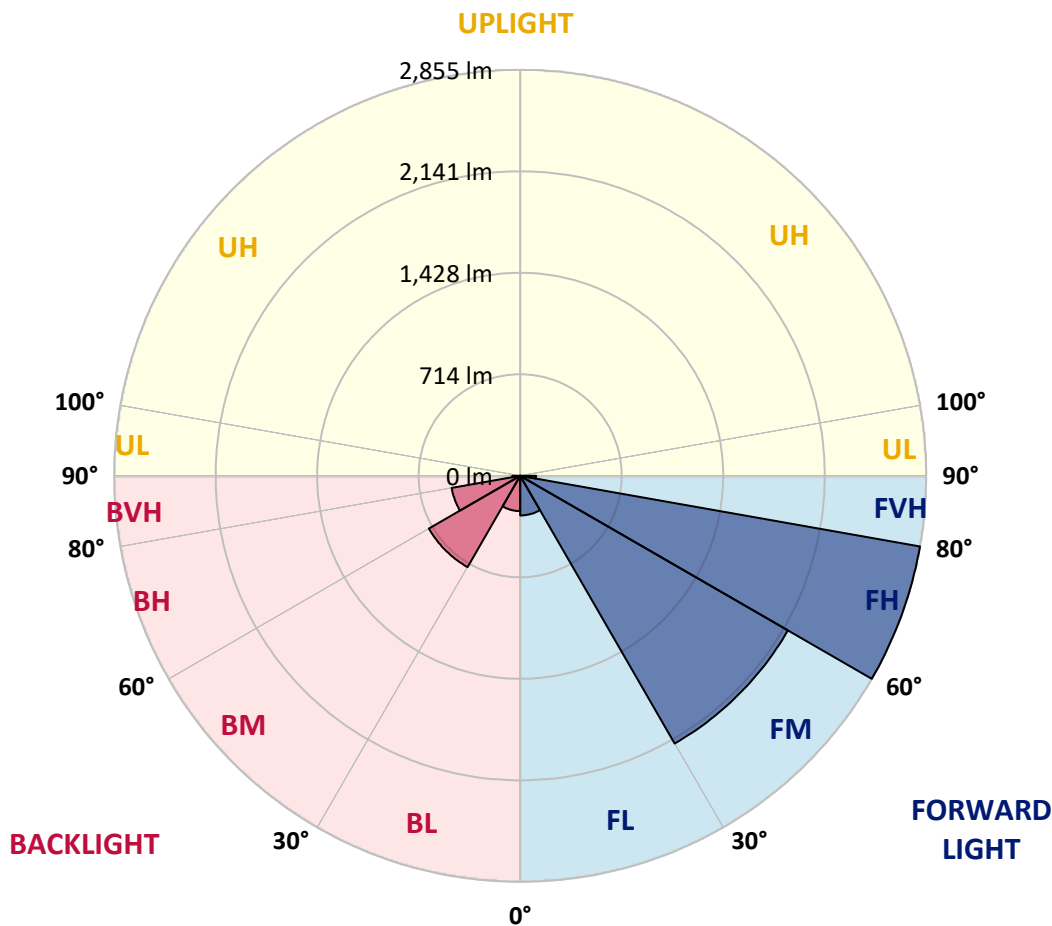


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	278.6	4.0			
FM (30°-60°)	2174.0	31.3			
FH (60°-80°)	2855.1	41.1			G2/5000
FVH (80°-90°)	111.1	1.6			G2/225
BL (0°-30°)	247.9	3.6	B1/500		
BM (30°-60°)	741.4	10.7	B1/1000		
BH (60°-80°)	489.2	7.0	B1/500		G1/500
BVH (80°-90°)	55.6	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





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3
2.5°	286.8	281.1	267.4	272.0	277.7	280.0	279.4	278.8	270.0	266.8	282.5
5°	389.7	377.2	367.2	363.2	350.1	339.8	333.6	350.1	347.5	351.8	362.6
7.5°	486.7	478.7	456.1	448.2	421.4	403.7	401.7	414.8	418.2	411.4	429.9
10°	549.1	535.4	530.8	511.7	493.2	490.4	488.6	482.7	474.4	473.8	457.3
12.5°	597.6	604.7	608.4	586.4	587.0	597.3	591.9	567.6	553.6	529.1	531.1
15°	684.5	694.8	665.4	651.4	624.6	640.0	638.0	617.8	615.8	599.8	581.3
17.5°	760.3	764.9	715.9	683.9	674.8	652.6	658.6	659.1	632.9	661.4	644.9
20°	766.6	782.9	726.4	662.8	690.2	687.4	688.2	682.5	648.0	695.1	688.8
22.5°	797.4	772.6	721.9	675.4	682.5	686.8	690.8	683.9	681.9	708.2	727.3
25°	791.7	783.7	732.4	693.1	693.9	694.8	696.8	717.3	715.0	750.6	760.6
27.5°	845.0	832.8	735.5	725.8	703.6	698.8	685.1	727.8	761.2	760.3	815.4
30°	946.5	934.0	808.5	780.3	740.1	690.5	716.7	773.7	800.0	808.8	878.7
32.5°	1105.0	1125.5	952.2	838.5	788.6	777.7	774.9	769.2	834.2	877.8	941.4
35°	1332.5	1316.3	1121.6	963.0	839.6	793.1	799.4	834.2	911.4	939.7	998.4
37.5°	1593.1	1559.5	1338.5	1104.2	986.7	928.5	907.7	941.4	958.5	980.7	1100.7
40°	1857.9	1775.8	1551.5	1289.8	1075.1	1031.2	1012.9	971.6	1011.8	1056.8	1209.4
42.5°	2113.7	2050.1	1783.3	1511.3	1223.9	1067.4	1057.4	1016.9	1141.5	1189.1	1366.2
45°	2381.7	2234.3	2020.7	1761.3	1441.4	1245.0	1230.2	1157.5	1317.1	1416.3	1587.4
47.5°	2561.8	2425.3	2238.3	1964.3	1623.6	1542.1	1513.8	1389.5	1534.4	1663.2	1929.2
50°	2732.3	2591.8	2395.3	2186.4	1953.5	1859.7	1799.5	1592.5	1804.9	2014.7	2367.4
52.5°	2976.4	2850.6	2577.8	2410.2	2307.8	2077.2	2032.4	1918.7	2121.4	2404.5	2846.4
55°	3237.2	3065.9	2818.7	2725.8	2684.4	2389.1	2352.6	2280.2	2542.7	2803.3	3311.9
57.5°	3352.4	3173.6	3037.4	2981.8	2978.4	2842.4	2800.5	2750.0	2973.5	3145.4	3750.1
60°	3443.9	3252.0	3197.6	3228.7	3341.6	3252.0	3197.6	3153.1	3324.2	3483.5	4107.6
62.5°	3427.1	3234.7	3262.6	3357.2	3645.5	3671.7	3629.8	3522.0	3671.7	3760.7	4312.6
65°	3155.7	2977.8	3140.6	3365.2	3928.0	4137.5	4135.3	3853.3	3905.2	3905.2	4290.9
67.5°	2680.2	2496.0	2762.5	3294.8	4123.3	4506.7	4507.3	4204.5	3926.6	3890.7	3955.7
70°	2001.3	1834.6	2134.2	2869.5	3921.7	4685.5	4659.6	4487.9	3867.8	3554.0	3304.2
72.5°	1195.4	1087.6	1363.3	2088.9	3345.3	4356.8	4425.8	4161.5	3540.8	2955.6	2362.0
75°	542.8	496.1	640.6	1200.0	2388.2	3634.1	3709.1	3512.1	2812.4	2125.6	1365.0
77.5°	232.4	219.8	279.7	532.3	1316.8	2485.2	2638.8	2510.0	1905.6	1235.3	603.8
80°	149.4	141.4	171.9	256.0	611.5	1342.8	1475.1	1426.9	970.7	480.4	212.7
82.5°	89.2	86.7	114.9	160.8	333.6	591.0	666.0	683.7	403.1	215.5	121.7
85°	48.8	49.3	63.0	97.5	200.1	230.1	246.3	268.0	189.9	124.9	59.0
87.5°	16.3	18.8	25.4	39.6	71.3	65.0	65.3	75.8	80.1	51.9	18.8
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°	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3
2.5°	285.1	280.0	266.8	267.7	272.5	273.7	275.1	266.8	265.1	280.8	282.2
5°	364.3	347.5	339.8	337.3	329.9	327.3	341.0	347.2	353.5	365.8	371.8
7.5°	427.9	409.1	395.1	382.3	371.5	365.2	388.3	406.0	416.8	441.9	453.3
10°	457.0	440.8	435.6	425.4	433.6	452.4	456.7	457.3	481.2	480.7	485.5
12.5°	514.9	504.3	487.5	491.2	512.9	532.3	526.9	535.1	543.7	564.2	554.8
15°	567.6	564.8	549.1	551.7	555.9	580.2	583.3	591.6	604.7	620.9	609.8
17.5°	632.6	631.5	593.3	589.9	599.8	623.5	616.1	601.5	644.9	662.3	657.7
20°	676.8	668.3	619.2	604.7	630.1	633.2	624.6	601.5	639.2	677.1	687.4
22.5°	713.6	703.6	653.1	624.6	619.5	620.9	620.9	616.7	635.2	666.3	666.0
25°	743.2	752.6	688.5	661.1	633.8	599.5	595.3	599.0	609.5	669.4	667.4
27.5°	817.6	791.7	700.5	679.9	623.8	569.9	581.6	587.3	590.7	656.3	667.1
30°	866.1	874.1	743.2	691.1	609.2	536.8	540.8	557.4	577.3	654.9	658.0
32.5°	931.4	914.3	809.9	672.5	570.5	516.9	509.5	531.7	561.3	631.8	640.3
35°	992.1	1012.4	838.2	669.1	543.4	486.9	494.9	502.6	533.4	606.1	616.1
37.5°	1134.7	1088.5	917.4	652.6	520.9	471.8	463.3	475.0	501.2	557.4	580.4
40°	1243.0	1245.9	934.5	631.8	477.8	450.2	431.9	443.6	454.7	499.5	509.5
42.5°	1446.3	1384.1	976.4	586.2	450.7	417.7	407.4	412.5	414.2	433.1	449.6
45°	1704.9	1559.2	993.0	524.9	415.1	404.3	383.4	380.9	371.5	374.0	388.6
47.5°	2062.6	1832.3	981.0	459.6	383.4	386.9	356.9	345.2	332.1	335.3	349.0
50°	2525.3	2181.2	980.1	404.3	361.8	364.1	339.5	318.4	305.3	311.9	323.9
52.5°	3044.5	2531.3	984.1	366.3	338.1	337.0	328.1	302.5	291.9	298.8	312.5
55°	3541.1	2832.4	1013.8	342.4	313.6	315.6	319.0	297.4	285.7	291.9	306.2
57.5°	3973.3	3070.2	1002.7	317.0	290.8	299.9	309.0	290.2	281.4	290.5	304.8
60°	4275.5	3180.5	914.9	292.8	274.0	286.5	304.2	289.4	288.2	307.9	325.0
62.5°	4385.9	3139.7	743.8	273.7	264.0	284.8	315.3	308.2	309.3	333.6	357.2
65°	4224.8	2925.3	554.8	261.4	256.3	293.1	341.0	319.3	303.6	323.6	345.2
67.5°	3766.6	2544.2	405.4	250.9	247.5	306.2	364.6	318.2	289.1	309.3	327.0
70°	3047.4	2008.2	313.9	237.5	235.8	297.4	366.9	309.6	273.4	286.5	296.5
72.5°	2088.0	1375.0	260.0	224.7	215.5	263.4	348.4	290.5	254.6	262.3	270.6
75°	1166.9	771.7	218.7	208.7	188.7	234.6	326.7	279.1	240.6	242.9	254.3
77.5°	523.7	333.8	185.6	187.6	164.5	207.5	298.5	260.9	219.2	214.1	225.5
80°	198.1	162.8	150.5	158.5	138.3	179.9	269.1	244.3	196.7	190.2	196.7
82.5°	114.9	98.6	111.8	122.0	109.8	165.4	256.9	229.2	173.3	156.8	162.5
85°	53.3	51.0	67.0	79.3	76.7	128.9	219.8	172.5	123.4	104.3	115.5
87.5°	14.0	15.7	23.7	27.9	28.5	44.2	84.7	64.1	48.2	36.5	35.1
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)