

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: P367618

Luminaire Tested: **MSA-SA2D-760-U-SL3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367618  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2D-760-U-SL3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

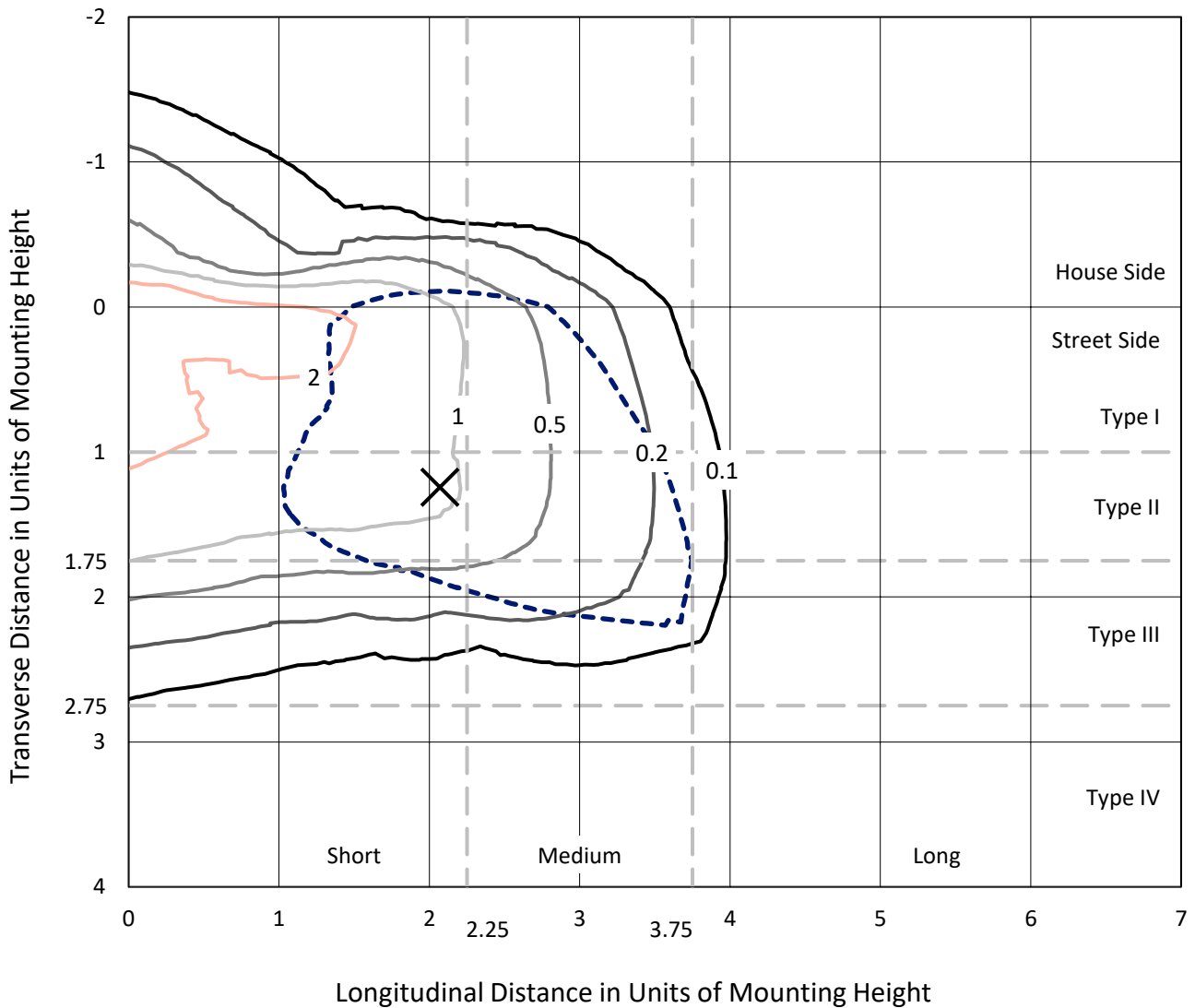
Lumens per Lamp: N/A  
Luminaire Lumens: 13234 lumens  
Efficiency: N/A  
Efficacy: 102.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G3  
  
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

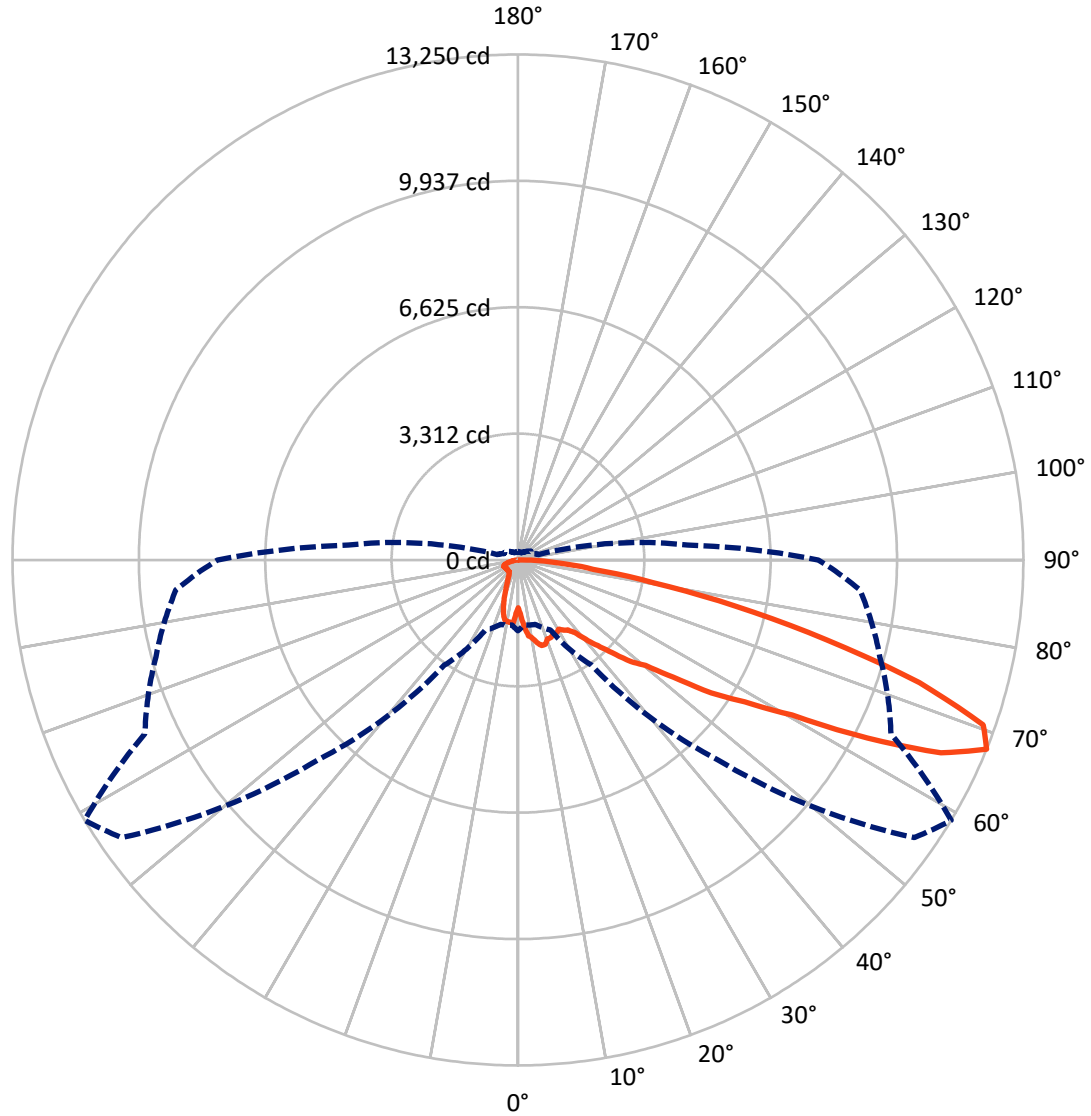
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.4 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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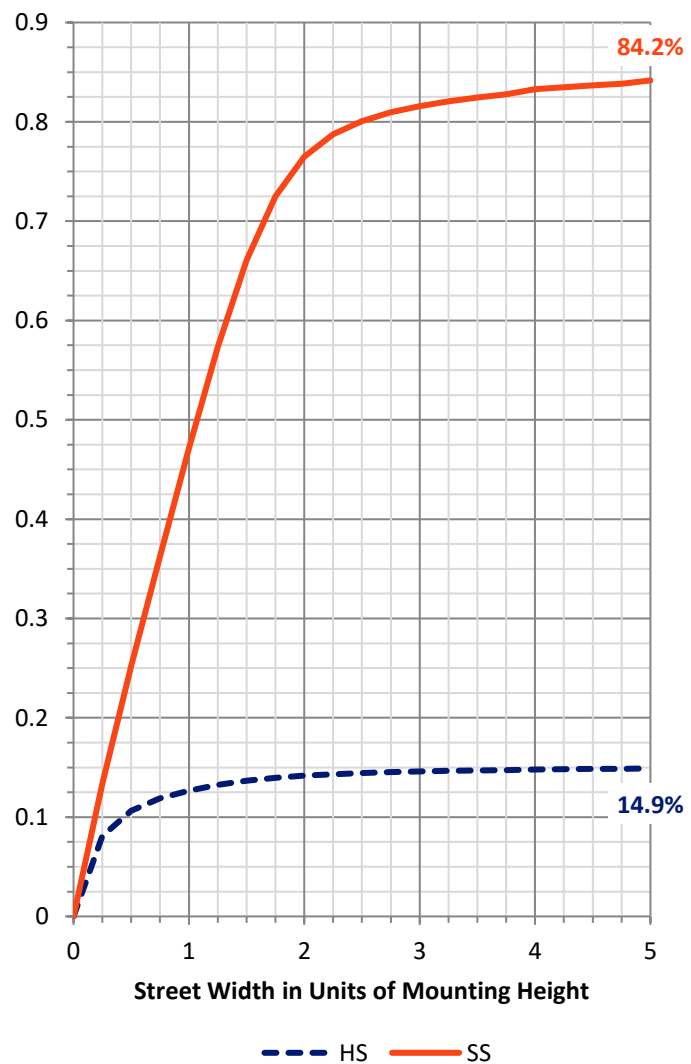
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1992.0	0.0	1992.0
	% Fixture	15.1	0.0	15.1
<b>Street Side</b>	Lumens	11242.0	0.0	11242.0
	% Fixture	84.9	0.0	84.9
<b>Total</b>	Lumens	13234.0	0.0	13234.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	163.6	1.2
10°-20°	484.0	3.7
20°-30°	691.2	5.2
30°-40°	1018.5	7.7
40°-50°	1720.8	13.0
50°-60°	2994.5	22.6
60°-70°	3815.9	28.8
70°-80°	2020.6	15.3
80°-90°	325.0	2.5
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°	13234.0	100.0
0°-180°	13234.0	100.0

**Coefficient of Utilization**



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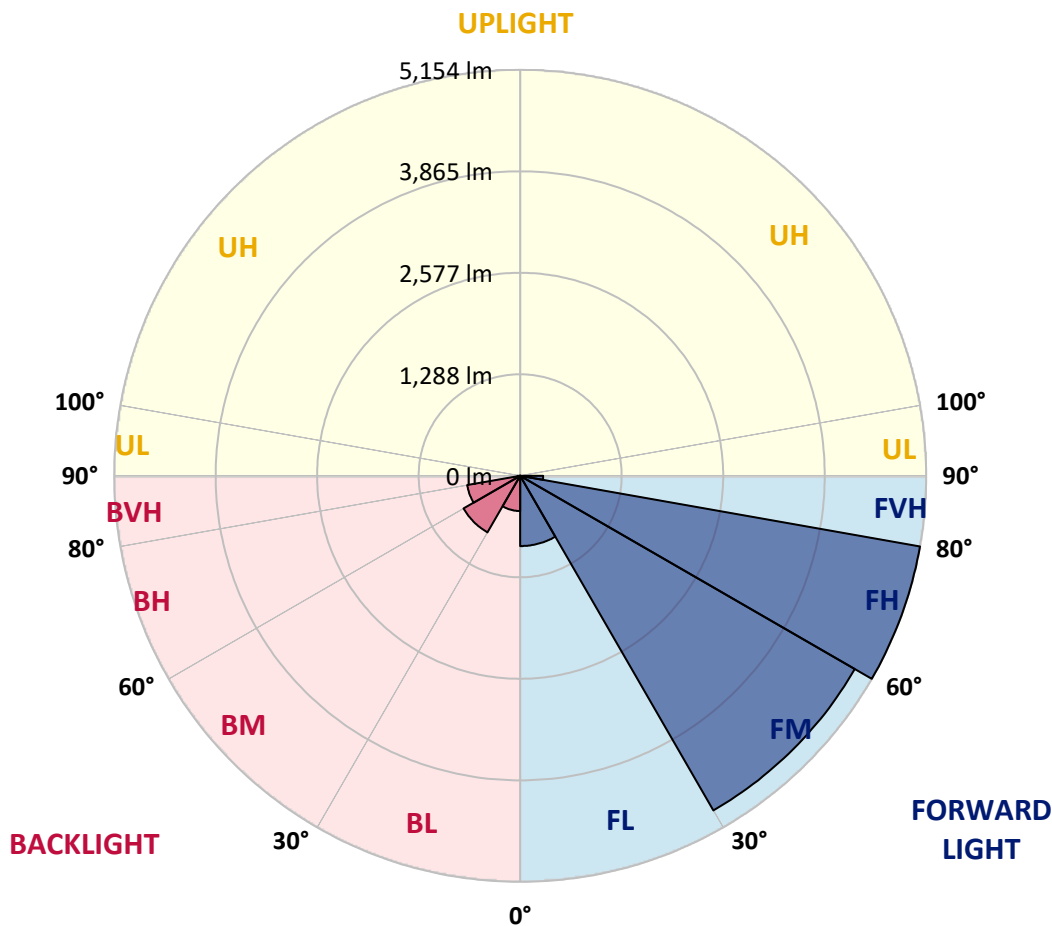
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	892.0	6.7			
FM (30°-60°)	4904.3	37.1			
FH (60°-80°)	5153.7	38.9			G3/7500
FVH (80°-90°)	291.9	2.2			G3/500
BL (0°-30°)	446.7	3.4	B1/500		
BM (30°-60°)	829.4	6.3	B1/1000		
BH (60°-80°)	682.7	5.2	B2/1000		G2/1000
BVH (80°-90°)	33.1	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3
2.5°	1563.5	1490.6	1413.2	1435.1	1479.4	1499.6	1477.7	1456.4	1428.9	1396.4	1507.5
5°	1896.1	1787.9	1772.2	1771.6	1755.9	1693.1	1773.8	1768.2	1800.8	1834.4	1920.8
7.5°	1990.9	1950.5	1906.7	1927.5	1848.4	1845.1	1970.7	2006.6	2069.4	2048.6	2164.7
10°	1942.1	1896.7	1919.6	1911.2	1918.5	2001.5	2078.4	2080.6	2147.9	2214.1	2139.5
12.5°	1856.3	1859.6	1951.1	1947.7	2065.5	2219.7	2242.7	2224.7	2334.6	2289.8	2353.7
15°	1917.4	1958.3	1935.3	1955.0	2001.5	2197.8	2261.7	2326.8	2431.1	2471.5	2407.6
17.5°	2015.0	2036.9	1933.7	1923.0	2018.9	2112.0	2270.7	2326.2	2342.5	2630.2	2539.9
20°	1973.5	2017.8	1916.8	1787.3	1946.6	2069.9	2226.4	2209.6	2288.7	2642.5	2567.4
22.5°	2091.3	2017.8	1889.4	1797.4	1853.5	1966.8	2099.7	2210.1	2303.8	2570.2	2607.2
25°	2113.7	2078.9	1958.9	1867.5	1848.4	1888.8	2078.4	2150.7	2308.8	2668.9	2585.9
27.5°	2250.5	2198.4	1953.9	1956.7	1861.9	1790.7	2011.1	2163.0	2366.1	2607.8	2638.0
30°	2420.4	2380.6	2073.9	2085.1	1953.9	1822.6	2057.0	2103.0	2399.1	2703.1	2703.7
32.5°	2547.8	2617.9	2310.0	2157.4	2110.9	2012.7	1986.4	2193.3	2360.4	2875.8	2815.8
35°	2777.1	2831.5	2491.7	2369.4	2211.8	2101.3	2178.2	2252.8	2521.4	3103.0	2982.4
37.5°	3201.7	3138.8	2829.3	2636.9	2578.0	2418.8	2461.4	2409.2	2696.4	3358.1	3308.8
40°	3447.3	3392.9	3067.1	2960.5	2727.2	2747.4	2694.1	2732.3	2930.2	3629.6	3613.8
42.5°	3689.6	3616.7	3341.3	3267.3	3034.5	2935.8	2945.4	3068.7	3290.8	4068.1	4015.9
45°	3929.0	3742.3	3621.7	3641.3	3529.2	3326.7	3340.7	3456.8	3684.5	4569.5	4449.5
47.5°	4112.4	3958.2	3864.0	3839.9	3784.3	4055.2	3934.1	3981.2	4081.6	5015.9	4970.4
50°	4459.5	4279.5	4156.7	4121.9	4310.4	4687.2	4440.5	4339.0	4552.6	5592.9	5569.4
52.5°	5015.3	4791.0	4586.3	4584.0	4856.6	5101.1	5275.0	5100.0	5178.5	6184.0	6251.3
55°	5500.4	5240.8	5056.8	5158.3	5546.4	5696.1	6286.7	6149.8	6083.7	6780.7	6973.1
57.5°	5681.6	5378.2	5258.1	5407.9	5979.9	6749.3	7373.5	7013.5	6949.0	7455.9	7859.2
60°	5283.9	4963.2	4970.4	5252.5	6243.5	7522.7	8561.9	8256.2	7878.2	8296.6	8690.3
62.5°	4151.1	3861.2	4050.2	4479.2	6022.5	8274.2	10154.6	10283.5	8939.8	8993.7	9151.3
65°	2821.4	2620.7	2791.1	3211.2	4884.6	8684.1	11671.5	12188.6	9906.7	9450.2	9350.4
67.5°	1856.8	1715.0	1748.0	2027.3	3362.6	7403.2	12686.0	13249.7	10790.5	9824.8	8999.3
70°	1437.9	1323.5	1308.9	1455.3	1994.2	5143.2	12084.9	12941.8	11328.9	9473.7	7844.0
72.5°	1128.3	1041.4	1049.3	1190.0	1544.5	2853.4	9351.5	11005.3	10518.0	8170.4	6026.4
75°	879.9	808.7	848.5	1009.5	1428.4	1773.3	6452.1	8352.7	8131.7	6050.0	3437.2
77.5°	638.8	592.8	649.4	859.7	1342.6	1521.5	4016.5	5827.4	5209.3	3106.3	1179.4
80°	418.9	393.1	439.7	701.0	1217.5	1464.3	2482.1	3570.7	2574.1	872.6	446.4
82.5°	246.8	235.5	274.2	474.4	978.6	1372.3	1655.5	1984.1	1053.2	369.0	237.2
85°	129.5	121.1	162.6	272.6	674.7	1252.8	1303.3	1187.8	508.7	160.4	113.3
87.5°	43.2	42.1	69.0	105.4	255.2	665.1	695.4	564.2	209.7	46.5	24.7
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°	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3	1252.3
2.5°	1522.6	1500.2	1371.2	1389.1	1405.9	1397.5	1392.5	1334.2	1328.6	1411.6	1404.8
5°	1918.5	1825.4	1715.5	1710.5	1638.1	1564.1	1578.7	1555.1	1561.9	1596.1	1599.4
7.5°	2127.7	2011.6	1906.7	1736.3	1591.6	1474.4	1492.9	1487.3	1472.1	1549.5	1570.3
10°	2123.8	2020.6	1902.3	1695.9	1598.3	1503.0	1388.6	1280.3	1248.4	1210.2	1213.6
12.5°	2264.0	2172.6	1914.6	1704.3	1571.9	1407.6	1193.4	1075.1	961.8	959.5	930.9
15°	2307.7	2240.4	1941.0	1656.1	1387.4	1151.9	930.4	802.0	720.1	703.8	679.7
17.5°	2418.2	2312.8	1860.8	1500.2	1173.2	900.7	699.3	609.6	602.9	614.1	601.7
20°	2425.5	2254.4	1716.1	1269.7	942.7	682.5	570.3	525.5	549.6	577.1	576.0
22.5°	2419.3	2181.0	1591.0	1073.4	708.3	548.5	499.7	489.6	512.0	553.0	558.0
25°	2356.5	2156.9	1434.5	881.6	574.8	470.0	456.5	462.7	490.7	538.9	538.9
27.5°	2422.1	2058.7	1238.3	717.3	483.4	418.4	427.9	443.6	464.3	519.3	529.4
30°	2400.8	2091.3	1080.1	577.6	426.2	382.5	403.8	419.5	443.0	500.2	505.3
32.5°	2458.0	2004.3	947.2	485.7	388.6	368.5	373.5	394.8	425.7	470.5	479.5
35°	2545.5	2036.3	794.7	436.9	370.1	352.2	361.7	378.5	409.4	453.1	460.4
37.5°	2824.8	2034.6	689.2	410.0	366.8	348.8	353.3	365.1	401.0	440.8	457.6
40°	3004.3	2151.3	593.3	403.8	362.8	347.1	343.2	356.1	384.7	431.8	443.6
42.5°	3341.3	2222.5	551.8	401.5	362.3	337.6	333.7	348.8	376.9	420.6	438.6
45°	3697.4	2324.0	518.7	400.4	360.6	335.9	324.1	343.2	366.8	408.8	429.6
47.5°	4116.3	2538.8	500.2	396.5	357.2	338.2	320.8	330.3	356.7	398.7	419.5
50°	4664.8	2823.1	504.2	390.9	362.3	338.7	315.7	320.2	344.3	385.3	406.6
52.5°	5331.6	3263.3	529.4	393.1	365.6	335.9	313.5	311.2	332.0	367.9	389.2
55°	6135.2	3888.1	605.1	403.8	365.6	335.4	310.1	300.0	315.7	344.9	365.6
57.5°	7104.9	4611.5	753.2	408.8	362.8	332.0	302.8	284.9	294.4	318.5	338.2
60°	7937.7	5195.3	905.7	412.2	368.5	324.1	288.3	265.8	272.0	290.5	307.9
62.5°	8362.2	5359.1	951.7	409.4	383.6	319.1	270.9	245.6	246.2	261.9	277.6
65°	8441.8	5140.9	767.2	406.6	403.2	318.5	258.5	228.2	224.3	235.5	249.0
67.5°	7874.3	4462.4	553.5	400.4	405.5	315.2	250.1	214.2	204.1	212.0	223.2
70°	6686.0	3593.7	464.9	388.1	378.5	298.4	235.5	199.6	186.2	191.8	200.2
72.5°	4984.5	2658.8	405.5	361.7	329.8	255.2	213.1	183.4	169.4	173.3	179.5
75°	2769.3	1418.3	339.3	314.6	269.2	206.4	181.7	162.6	150.3	152.0	158.7
77.5°	919.7	523.2	249.0	249.6	203.6	159.3	149.7	139.1	129.5	130.1	135.7
80°	416.7	289.4	178.3	179.5	141.9	115.5	115.0	111.6	105.4	103.7	107.7
82.5°	241.7	175.5	122.3	116.6	91.4	75.1	83.6	81.9	80.2	74.0	75.1
85°	118.9	94.2	63.9	60.6	50.5	37.6	44.9	46.5	44.9	38.1	37.6
87.5°	29.2	30.8	15.7	14.6	8.4	3.9	6.7	6.7	8.4	5.6	2.8
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)