

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: P368672

Luminaire Tested: **MSA-SA4D-760-U-SL2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368672
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-760-U-SL2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 26134 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G4

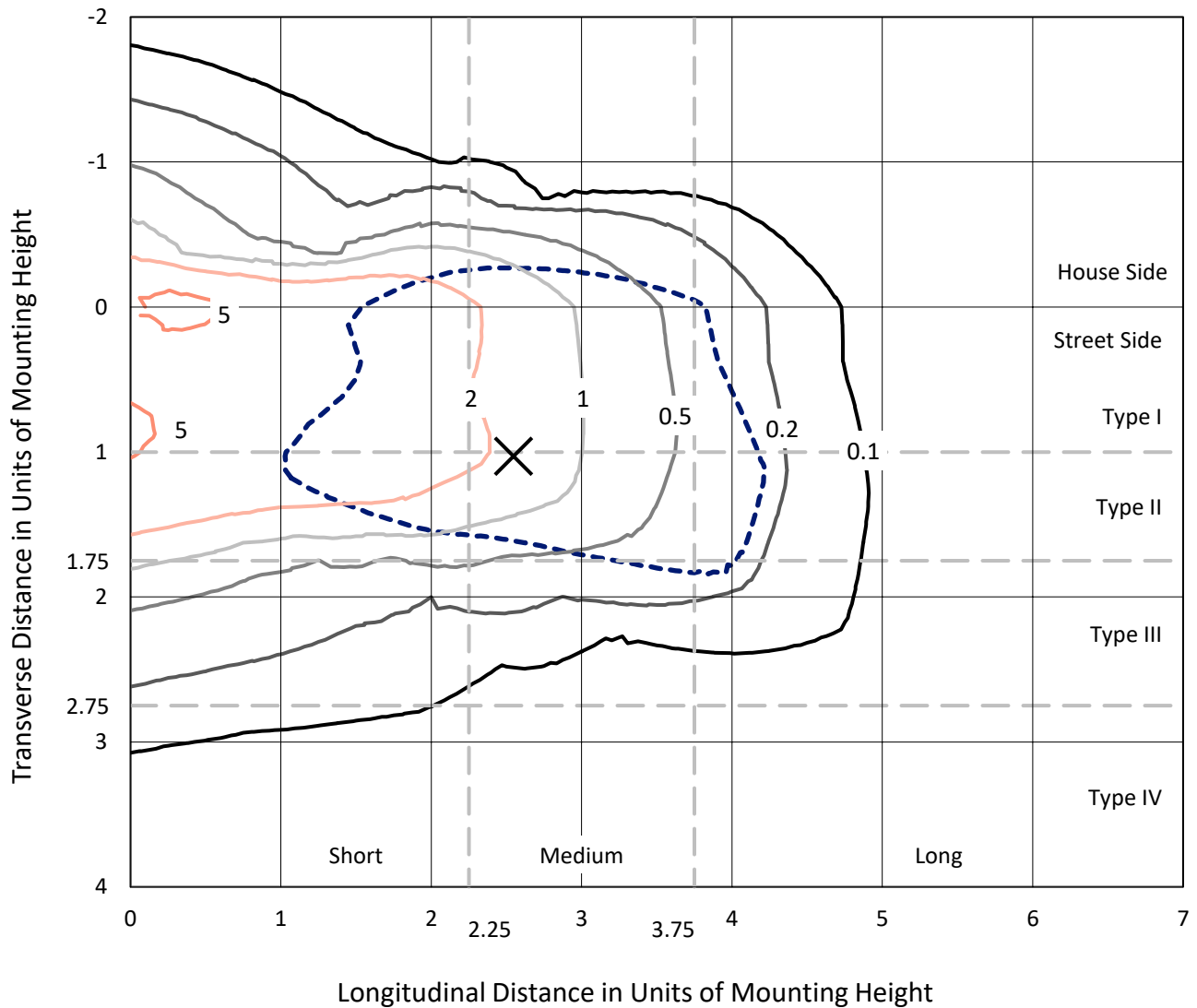
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

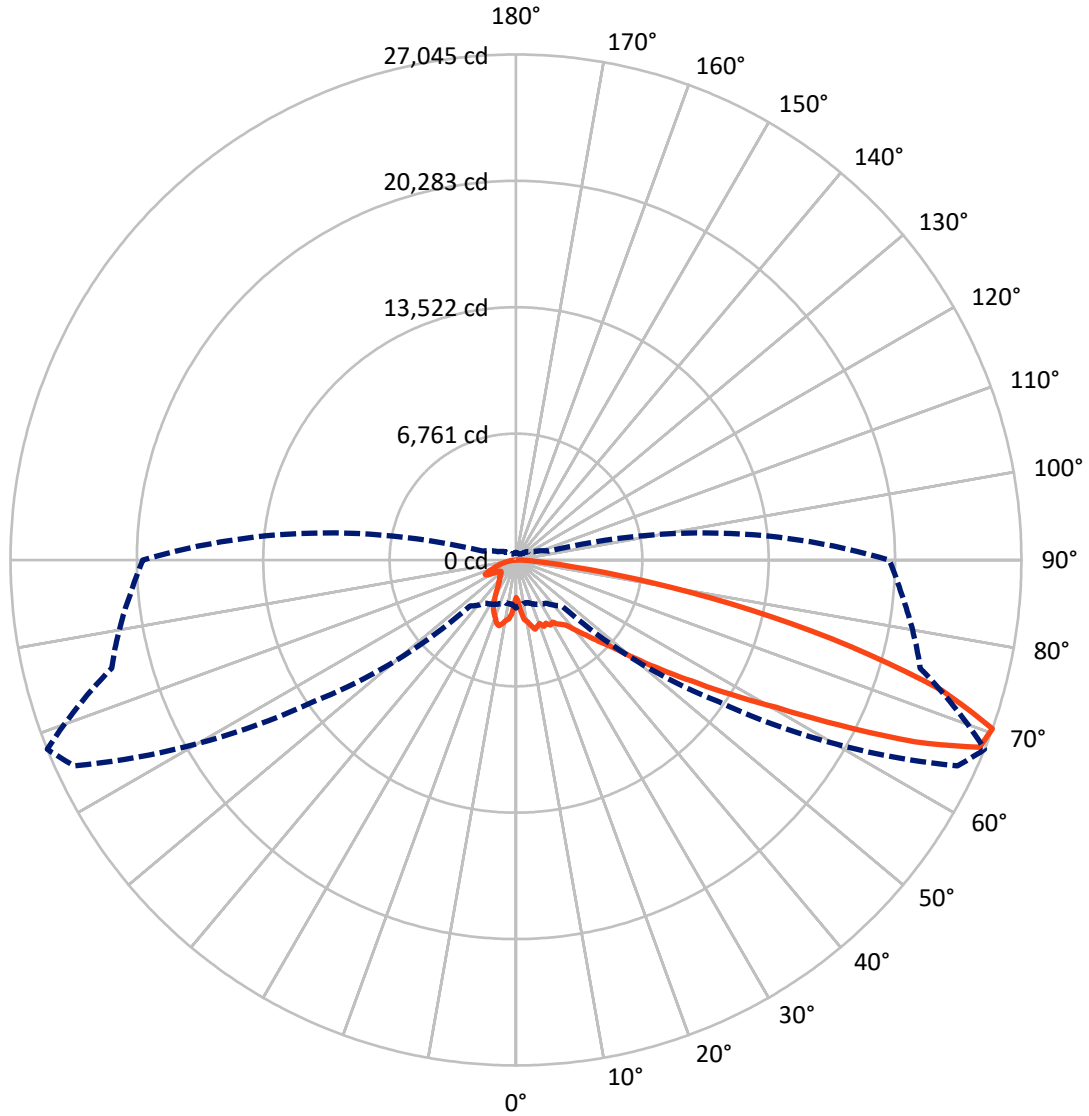
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.3 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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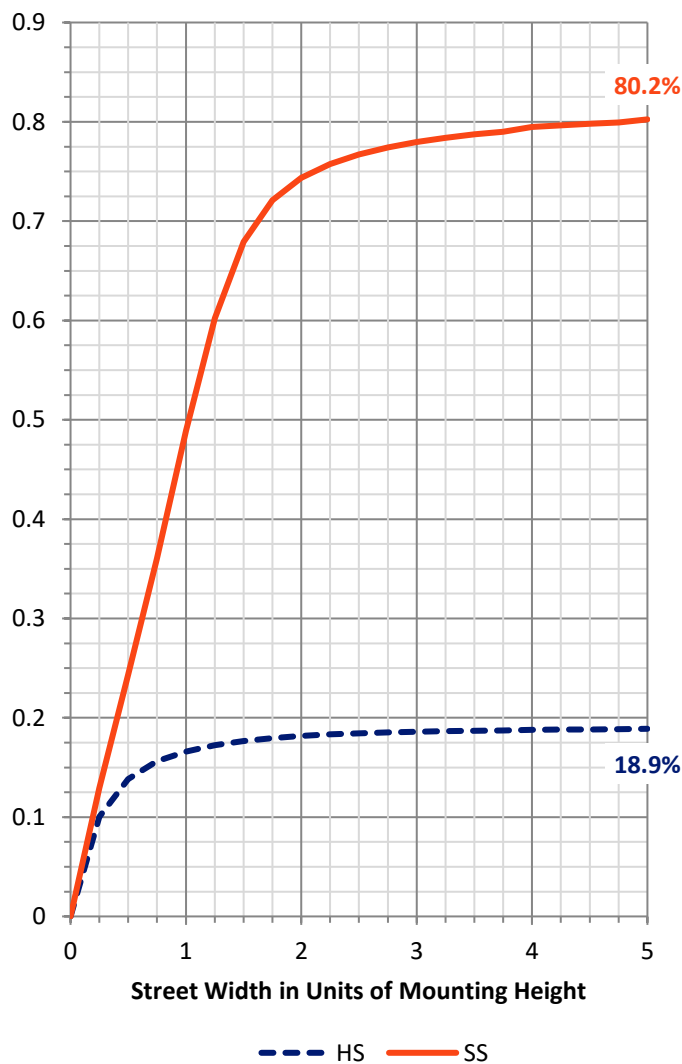
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4989.6	0.0	4989.6
	% Fixture	19.1	0.0	19.1
Street Side	Lumens	21144.4	0.0	21144.4
	% Fixture	80.9	0.0	80.9
Total	Lumens	26134.0	0.0	26134.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	267.6	1.0
10°-20°	872.2	3.3
20°-30°	1326.8	5.1
30°-40°	2026.7	7.8
40°-50°	3484.8	13.3
50°-60°	5768.0	22.1
60°-70°	7111.2	27.2
70°-80°	4568.1	17.5
80°-90°	708.6	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°	26134.0	100.0
0°-180°	26134.0	100.0

Coefficient of Utilization



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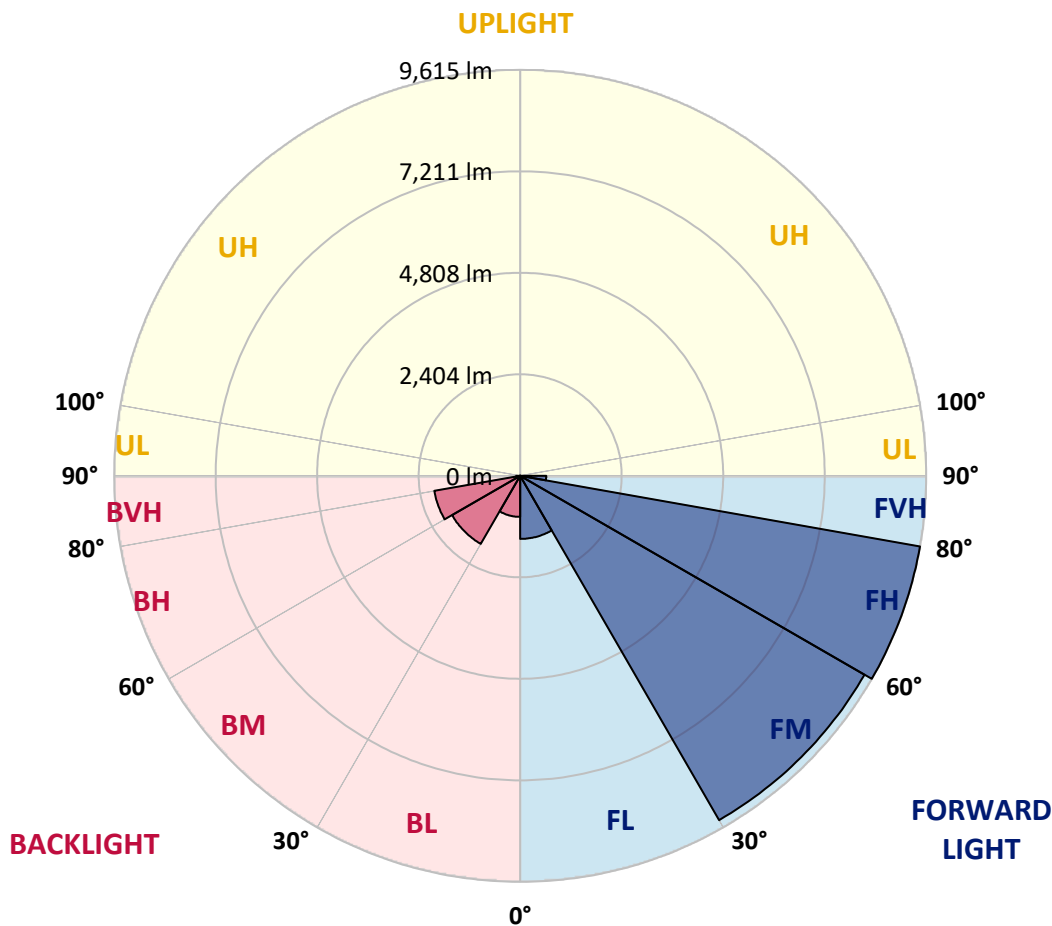
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1494.4	5.7			
FM (30°-60°)	9417.1	36.0			
FH (60°-80°)	9615.3	36.8			G4/12000
FVH (80°-90°)	617.6	2.4			G4/750
BL (0°-30°)	972.3	3.7	B2/1000		
BM (30°-60°)	1862.4	7.1	B2/2500		
BH (60°-80°)	2064.0	7.9	B3/2500		G3/2500
BVH (80°-90°)	90.9	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-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8
2.5°	2302.4	2209.4	2115.4	2161.3	2234.6	2299.1	2286.0	2293.6	2205.0	2193.0	2426.0
5°	2712.5	2552.9	2549.6	2551.8	2558.3	2484.0	2665.5	2759.6	2780.4	2876.6	3105.2
7.5°	2854.7	2790.2	2724.6	2757.4	2674.3	2681.9	2905.1	3150.1	3208.0	3278.0	3590.8
10°	2825.2	2764.0	2783.6	2789.1	2804.4	2928.0	3071.3	3306.5	3355.7	3578.8	3659.8
12.5°	2829.6	2818.6	2910.5	2913.8	3077.9	3299.9	3356.8	3573.3	3593.0	3757.1	4095.1
15°	2979.4	3054.9	3003.5	3030.8	3062.6	3328.3	3410.4	3721.0	3839.1	4050.2	4304.0
17.5°	3271.5	3293.3	3139.1	3098.6	3202.6	3283.5	3470.5	3605.1	3728.7	4318.2	4668.2
20°	3339.3	3398.3	3214.6	3005.7	3225.5	3338.2	3468.3	3529.6	3625.8	4357.6	4854.2
22.5°	3630.2	3507.7	3285.7	3104.1	3176.3	3285.7	3379.7	3610.5	3863.2	4244.9	5040.1
25°	3795.4	3724.3	3526.3	3331.6	3270.4	3273.7	3455.2	3661.9	3749.4	4410.1	5077.3
27.5°	4194.6	4080.9	3635.7	3598.5	3367.7	3188.3	3467.3	3788.8	3941.9	4281.0	5258.8
30°	4694.5	4608.1	4024.0	3974.8	3622.6	3309.7	3620.4	3882.9	3861.0	4365.2	5384.6
32.5°	5099.2	5243.5	4654.0	4265.7	4015.2	3715.5	3572.3	3866.5	4084.1	4561.0	5597.9
35°	5676.7	5812.3	5145.1	4882.6	4339.0	3903.7	3908.0	4091.8	4226.3	4789.6	5836.4
37.5°	6676.4	6557.2	6020.1	5605.6	5257.8	4608.1	4413.4	4348.8	4457.1	5069.6	6303.4
40°	7397.2	7296.5	6664.3	6428.1	5751.0	5373.7	4839.9	4778.7	4970.1	5358.4	6685.1
42.5°	8251.4	8072.0	7483.6	7288.9	6581.2	5900.9	5362.8	5397.8	5490.7	5903.1	7201.4
45°	9120.9	8685.6	8352.0	8336.7	7864.2	6924.7	6201.7	6173.2	6176.5	6704.8	7781.1
47.5°	9811.1	9419.5	9037.8	8856.3	8617.8	8695.5	7420.1	7086.5	6985.9	7512.0	8650.6
50°	10278.2	9827.5	9395.5	9352.8	9989.4	10408.3	8564.2	8207.6	8270.0	8667.0	9810.0
52.5°	10288.0	9753.1	9302.5	9601.1	11100.7	11700.1	10535.2	9538.8	9737.8	10008.0	11322.7
55°	9572.7	9018.1	8725.0	9405.3	11534.9	13232.4	13304.6	11671.6	11441.9	11541.5	13130.7
57.5°	8064.4	7504.4	7333.7	8148.6	10711.3	14710.1	16649.4	14220.1	13546.3	13130.7	14983.6
60°	6070.4	5585.9	5479.8	5999.3	8880.3	14275.9	19357.5	17392.0	16019.4	14905.9	16841.9
62.5°	4552.3	4204.5	4044.8	4119.1	6144.8	12863.8	21136.0	21399.6	19456.0	16844.1	18657.5
65°	3699.1	3418.0	3275.8	3179.6	3821.6	9946.7	20814.4	24772.8	23470.1	18879.6	20070.7
67.5°	3089.9	2840.5	2774.9	2869.0	3021.0	5770.7	18298.8	26659.5	26748.1	20887.7	20896.5
70°	2564.9	2380.0	2356.0	2622.9	2823.0	3482.6	13217.1	26066.7	27044.6	22393.8	20702.9
72.5°	1981.9	1882.4	1879.1	2298.0	2804.4	2968.5	7870.8	22518.5	23832.2	21912.6	18808.5
75°	1374.9	1306.0	1358.5	1888.9	2739.9	3011.1	4492.1	17539.7	18523.0	18646.6	15066.7
77.5°	946.1	888.1	945.0	1366.1	2446.8	3083.3	3142.4	12682.3	12791.6	12504.0	8629.8
80°	658.4	618.0	661.7	966.9	1904.3	3051.6	2675.4	7984.5	7326.1	5580.4	2762.9
82.5°	408.0	395.9	444.1	689.1	1341.0	2776.0	2535.4	4120.2	3145.7	1540.0	986.6
85°	214.4	196.9	258.1	449.5	838.9	2178.8	2375.7	1880.2	1214.1	546.9	395.9
87.5°	63.4	56.9	99.5	181.6	355.5	976.7	1359.6	797.4	452.8	160.8	123.6
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°	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8	2003.8
2.5°	2442.4	2430.4	2268.5	2289.3	2324.3	2333.0	2331.9	2272.9	2210.5	2384.4	2378.9
5°	3110.7	3002.4	2921.5	2904.0	2804.4	2704.9	2739.9	2727.9	2712.5	2791.3	2801.1
7.5°	3591.9	3442.1	3348.0	3106.3	2876.6	2677.5	2741.0	2760.7	2721.3	2863.5	2906.1
10°	3718.8	3600.7	3499.0	3188.3	3061.5	2945.5	2773.8	2578.0	2551.8	2469.7	2479.6
12.5°	4045.9	4029.4	3682.7	3409.3	3244.1	3013.3	2642.5	2405.2	2201.8	2211.6	2152.5
15°	4304.0	4312.7	3896.0	3513.2	3070.2	2718.0	2281.6	1986.3	1777.4	1735.8	1693.2
17.5°	4650.7	4633.2	3913.5	3388.5	2827.4	2311.1	1776.3	1483.2	1448.2	1472.2	1435.0
20°	4801.6	4647.4	3801.9	3079.0	2447.9	1755.5	1342.1	1186.7	1254.6	1350.8	1353.0
22.5°	4937.3	4673.7	3744.0	2829.6	1942.5	1276.4	1077.4	1048.9	1128.8	1258.9	1269.9
25°	4931.8	4795.1	3640.1	2578.0	1506.1	996.4	936.3	957.0	1052.2	1187.8	1195.5
27.5°	5180.1	4702.1	3369.9	2247.7	1134.2	853.1	868.5	906.7	951.6	1080.6	1105.8
30°	5177.9	4874.9	3234.3	1846.3	911.1	782.0	821.4	854.2	891.4	1009.5	1023.8
32.5°	5300.4	4762.3	3152.2	1436.1	817.0	764.5	774.4	807.2	860.8	940.6	950.5
35°	5448.1	4890.2	2889.7	1140.8	782.0	749.2	756.9	775.5	824.7	898.0	907.8
37.5°	5921.7	4914.3	2785.8	961.4	779.9	742.7	741.6	751.4	807.2	873.9	903.5
40°	6106.5	5134.2	2482.9	898.0	772.2	742.7	727.4	732.8	778.8	864.1	887.0
42.5°	6549.5	5207.4	2258.6	876.1	772.2	729.5	705.5	714.2	767.8	843.3	879.4
45°	7005.6	5311.3	1991.8	871.7	771.1	728.5	682.5	702.2	746.0	809.4	848.8
47.5°	7655.3	5685.4	1724.9	858.6	762.4	733.9	677.0	675.9	714.2	768.9	806.1
50°	8715.2	6269.5	1518.2	842.2	763.5	729.5	666.1	650.8	675.9	724.1	760.2
52.5°	10190.7	7264.8	1437.2	833.5	754.7	712.0	647.5	623.4	637.7	675.9	711.0
55°	11903.5	8609.1	1517.1	833.5	737.2	684.7	621.3	592.8	600.5	626.7	660.6
57.5°	13905.1	10279.2	1903.2	821.4	715.3	651.9	589.5	556.7	558.9	581.9	612.5
60°	15995.3	12145.2	2768.3	811.6	700.0	615.8	552.4	518.4	515.2	537.0	564.4
62.5°	18088.8	13866.8	3678.3	834.5	695.6	585.2	513.0	479.1	478.0	497.7	520.6
65°	19753.5	15043.7	3904.8	927.5	724.1	550.2	472.5	440.8	438.6	455.0	480.2
67.5°	20570.5	15214.3	2966.3	1043.5	784.2	517.4	433.1	403.6	401.4	418.9	440.8
70°	19965.7	14048.4	1831.0	1055.5	781.0	479.1	392.7	367.5	363.1	381.7	398.1
72.5°	17727.8	12288.5	1391.3	934.1	675.9	424.4	352.2	330.3	323.8	340.2	355.5
75°	14228.9	9756.4	1114.6	753.6	532.7	357.7	311.7	290.9	283.3	298.6	311.7
77.5°	8288.6	5488.5	814.9	588.4	402.5	292.0	265.8	247.2	238.4	254.8	264.7
80°	2695.0	1828.8	511.9	422.2	294.2	228.6	215.5	202.3	193.6	204.5	207.8
82.5°	968.0	680.3	283.3	259.2	195.8	164.1	163.0	155.3	144.4	148.8	148.8
85°	428.8	310.6	168.4	138.9	117.0	87.5	102.8	97.3	86.4	84.2	80.9
87.5°	120.3	102.8	61.3	47.0	38.3	14.2	32.8	29.5	24.1	21.9	15.3
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)