

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: P368410

Luminaire Tested: **MSA-SA4B-760-U-SL3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368410  
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-SA4B-760-U-SL3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 19064 lumens  
Efficiency: N/A  
Efficacy: 111.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G3

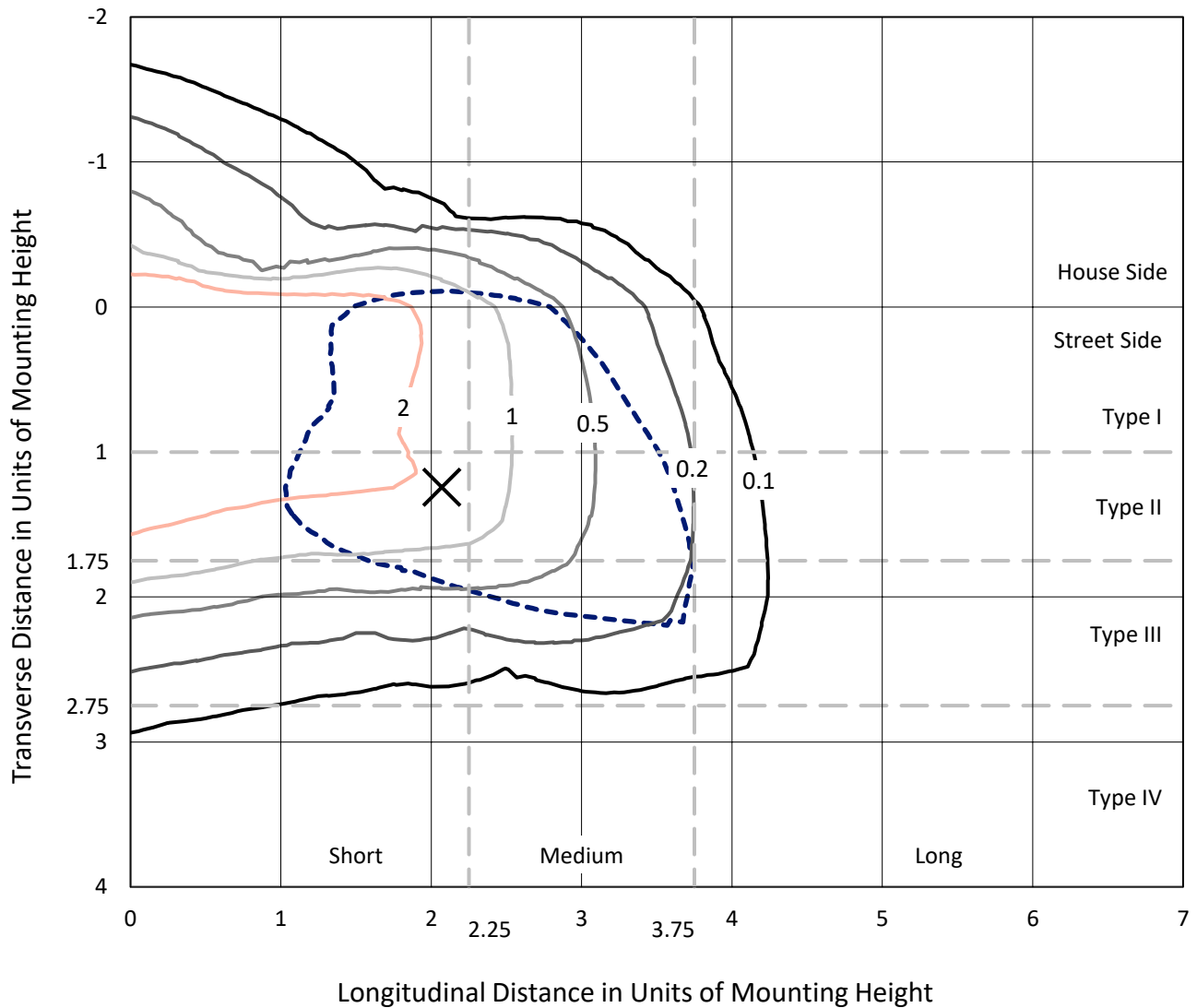
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

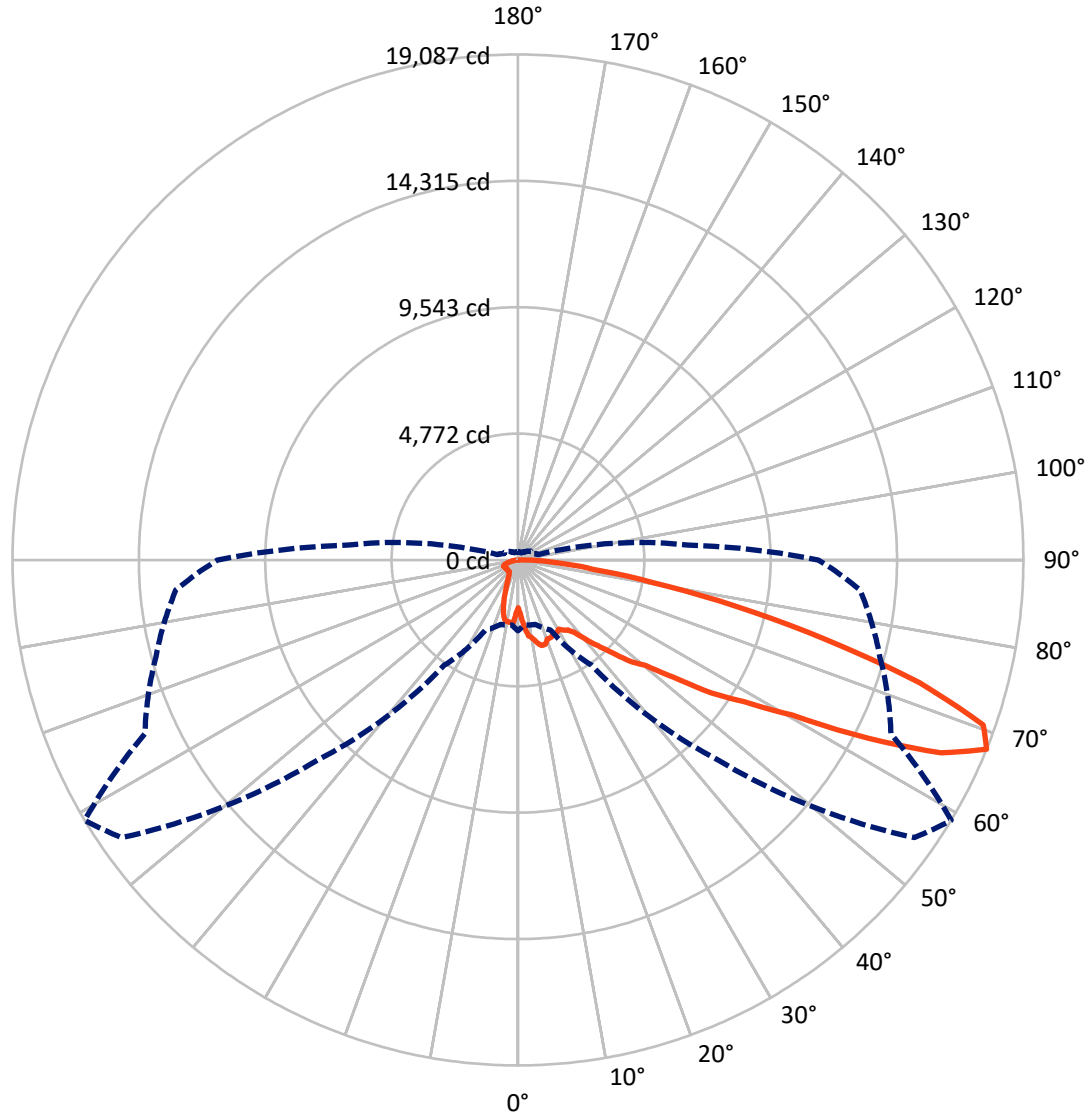
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.9 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	2869.5	0.0	2869.5
	% Fixture	15.1	0.0	15.1
<b>Street Side</b>	Lumens	16194.5	0.0	16194.5
	% Fixture	84.9	0.0	84.9
<b>Total</b>	Lumens	19064.0	0.0	19064.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	235.6	1.2
10°-20°	697.2	3.7
20°-30°	995.7	5.2
30°-40°	1467.2	7.7
40°-50°	2478.8	13.0
50°-60°	4313.7	22.6
60°-70°	5496.9	28.8
70°-80°	2910.7	15.3
80°-90°	468.2	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°	19064.0	100.0
0°-180°	19064.0	100.0

**Coefficient of Utilization**



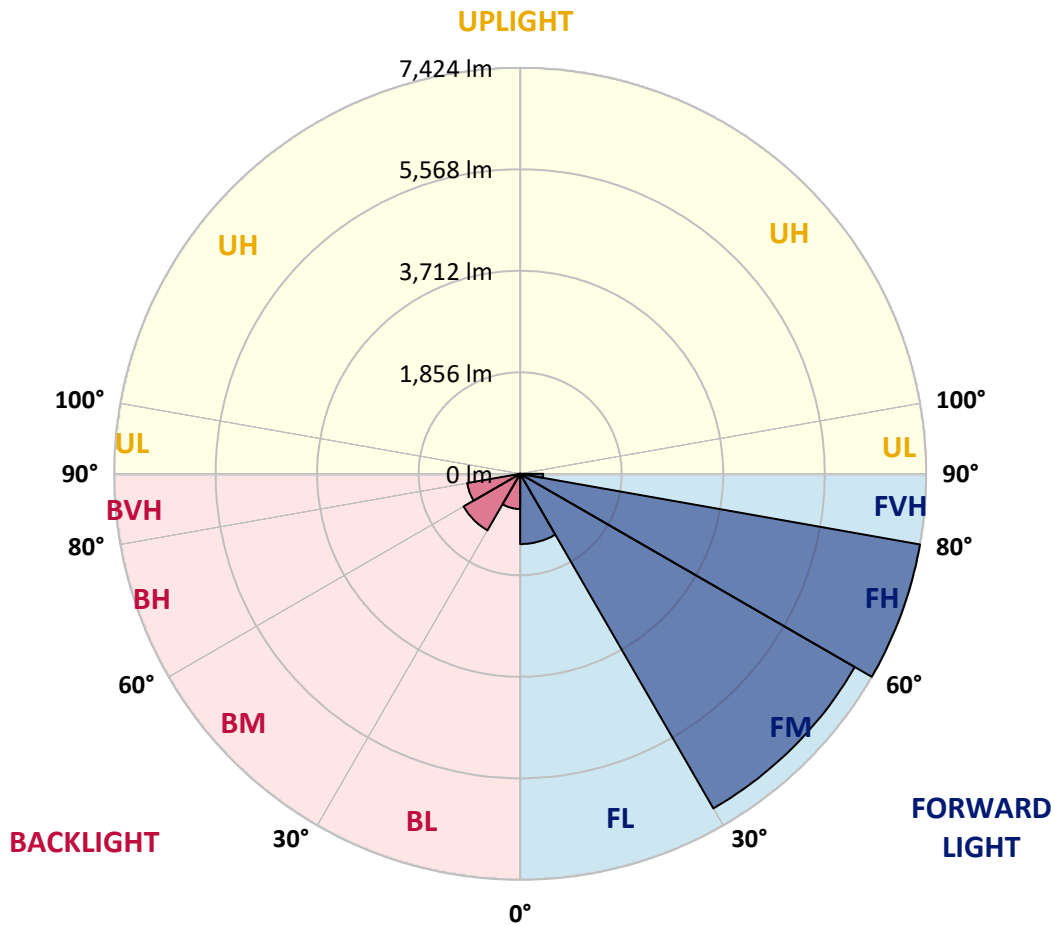
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1285.0	6.7			
FM (30°-60°)	7064.9	37.1			
FH (60°-80°)	7424.1	38.9			G3/7500
FVH (80°-90°)	420.6	2.2			G3/500
BL (0°-30°)	643.5	3.4	B2/1000		
BM (30°-60°)	1194.9	6.3	B2/2500		
BH (60°-80°)	983.5	5.2	B2/1000		G2/1000
BVH (80°-90°)	47.7	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°	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0
2.5°	2252.3	2147.3	2035.8	2067.3	2131.1	2160.2	2128.7	2098.0	2058.4	2011.6	2171.5
5°	2731.4	2575.5	2552.8	2552.0	2529.4	2438.9	2555.3	2547.2	2594.0	2642.5	2766.9
7.5°	2867.9	2809.7	2746.7	2776.6	2662.7	2657.9	2838.8	2890.5	2981.0	2951.1	3118.3
10°	2797.6	2732.2	2765.3	2753.2	2763.7	2883.3	2993.9	2997.2	3094.1	3189.4	3082.0
12.5°	2674.0	2678.9	2810.6	2805.7	2975.4	3197.5	3230.6	3204.8	3363.1	3298.5	3390.6
15°	2762.1	2821.1	2787.9	2816.2	2883.3	3166.0	3258.1	3351.8	3502.1	3560.3	3468.2
17.5°	2902.6	2934.2	2785.5	2770.2	2908.3	3042.4	3271.0	3351.0	3374.4	3788.9	3658.8
20°	2842.9	2906.7	2761.3	2574.7	2804.1	2981.8	3207.2	3183.0	3296.9	3806.6	3698.4
22.5°	3012.5	2906.7	2721.7	2589.2	2670.0	2833.2	3024.6	3183.8	3318.7	3702.4	3755.8
25°	3044.8	2994.7	2821.9	2690.2	2662.7	2720.9	2993.9	3098.2	3326.0	3844.6	3725.1
27.5°	3242.0	3166.8	2814.6	2818.6	2682.1	2579.5	2897.0	3115.9	3408.4	3756.6	3800.2
30°	3486.7	3429.4	2987.5	3003.6	2814.6	2625.6	2963.2	3029.5	3456.0	3893.9	3894.7
32.5°	3670.1	3771.1	3327.6	3107.8	3040.8	2899.4	2861.4	3159.6	3400.3	4142.7	4056.3
35°	4000.5	4078.9	3589.3	3413.2	3186.2	3027.1	3137.7	3245.2	3632.1	4469.9	4296.2
37.5°	4612.1	4521.6	4075.7	3798.6	3713.7	3484.3	3545.7	3470.6	3884.2	4837.5	4766.4
40°	4965.9	4887.6	4418.2	4264.7	3928.6	3957.7	3881.0	3935.9	4221.1	5228.5	5205.9
42.5°	5314.9	5209.9	4813.2	4706.6	4371.3	4229.2	4242.9	4420.6	4740.5	5860.2	5785.1
45°	5659.9	5390.9	5217.2	5245.5	5083.9	4792.2	4812.4	4979.7	5307.7	6582.5	6409.6
47.5°	5924.1	5701.9	5566.2	5531.4	5451.5	5841.7	5667.2	5735.0	5879.6	7225.5	7160.1
50°	6424.1	6164.8	5987.9	5937.8	6209.2	6752.1	6396.7	6250.4	6558.2	8056.8	8022.9
52.5°	7224.7	6901.6	6606.7	6603.5	6996.1	7348.3	7598.8	7346.7	7459.8	8908.3	9005.2
55°	7923.5	7549.5	7284.5	7430.7	7989.8	8205.5	9056.1	8859.0	8763.7	9767.9	10045.0
57.5°	8184.5	7747.4	7574.5	7790.2	8614.2	9722.6	10621.8	10103.1	10010.2	10740.5	11321.4
60°	7611.7	7149.6	7160.1	7566.4	8993.9	10836.7	12333.6	11893.4	11348.9	11951.5	12518.6
62.5°	5979.8	5562.1	5834.4	6452.4	8675.6	11919.2	14628.0	14813.8	12878.1	12955.7	13182.7
65°	4064.4	3775.1	4020.7	4625.8	7036.5	12509.8	16813.2	17558.1	14270.9	13613.3	13469.5
67.5°	2674.8	2470.4	2518.1	2920.4	4843.9	10664.6	18274.7	19086.6	15544.1	14152.9	12963.8
70°	2071.4	1906.6	1885.6	2096.4	2872.8	7408.9	17408.6	18643.0	16319.6	13647.2	11299.6
72.5°	1625.4	1500.2	1511.5	1714.3	2224.9	4110.4	13471.1	15853.5	15151.5	11769.7	8681.3
75°	1267.5	1164.9	1222.3	1454.2	2057.6	2554.5	9294.5	12032.3	11714.0	8715.2	4951.4
77.5°	920.2	853.9	935.5	1238.5	1934.0	2191.7	5785.9	8394.5	7504.2	4474.8	1698.9
80°	603.5	566.3	633.4	1009.8	1753.9	2109.3	3575.6	5143.7	3708.1	1257.0	643.1
82.5°	355.5	339.3	395.0	683.5	1409.7	1976.8	2384.8	2858.2	1517.2	531.6	341.7
85°	186.6	174.5	234.3	392.6	971.9	1804.8	1877.5	1711.1	732.7	231.0	163.2
87.5°	62.2	60.6	99.4	151.9	367.6	958.1	1001.7	812.7	302.1	67.1	35.5
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°	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0	1804.0
2.5°	2193.3	2161.0	1975.2	2001.1	2025.3	2013.2	2005.9	1921.9	1913.8	2033.4	2023.7
5°	2763.7	2629.6	2471.3	2464.0	2359.8	2253.1	2274.1	2240.2	2249.9	2299.2	2304.0
7.5°	3065.0	2897.8	2746.7	2501.1	2292.7	2123.9	2150.5	2142.5	2120.6	2232.1	2262.0
10°	3059.4	2910.7	2740.3	2443.0	2302.4	2165.1	2000.3	1844.4	1798.3	1743.4	1748.2
12.5°	3261.3	3129.7	2758.0	2455.1	2264.4	2027.7	1719.1	1548.7	1385.5	1382.3	1341.1
15°	3324.4	3227.4	2796.0	2385.6	1998.7	1659.3	1340.2	1155.2	1037.3	1013.9	979.1
17.5°	3483.5	3331.6	2680.5	2161.0	1690.0	1297.4	1007.4	878.1	868.5	884.6	866.8
20°	3494.0	3247.6	2472.1	1829.0	1358.0	983.2	821.6	757.0	791.7	831.3	829.7
22.5°	3485.1	3141.8	2291.9	1546.2	1020.3	790.1	719.8	705.3	737.6	796.6	803.8
25°	3394.6	3107.0	2066.5	1270.0	828.1	677.0	657.6	666.5	706.9	776.4	776.4
27.5°	3489.2	2965.7	1783.8	1033.3	696.4	602.7	616.4	639.0	668.9	748.1	762.6
30°	3458.5	3012.5	1555.9	832.1	614.0	551.0	581.7	604.3	638.2	720.6	727.9
32.5°	3540.9	2887.3	1364.5	699.6	559.8	530.8	538.0	568.7	613.2	677.8	690.7
35°	3666.9	2933.3	1144.7	629.3	533.2	507.3	521.1	545.3	589.7	652.8	663.3
37.5°	4069.2	2930.9	992.9	590.5	528.3	502.5	509.0	525.9	577.6	635.0	659.2
40°	4327.7	3099.0	854.7	581.7	522.7	500.1	494.4	513.0	554.2	622.1	639.0
42.5°	4813.2	3201.6	794.9	578.4	521.9	486.3	480.7	502.5	542.9	605.9	631.7
45°	5326.2	3347.8	747.3	576.8	519.5	483.9	466.9	494.4	528.3	588.9	618.8
47.5°	5929.7	3657.2	720.6	571.2	514.6	487.1	462.1	475.8	513.8	574.4	604.3
50°	6719.8	4066.8	726.3	563.1	521.9	487.9	454.8	461.3	496.0	555.0	585.7
52.5°	7680.3	4701.0	762.6	566.3	526.7	483.9	451.6	448.4	478.3	530.0	560.7
55°	8838.0	5600.9	871.7	581.7	526.7	483.1	446.7	432.2	454.8	496.8	526.7
57.5°	10234.8	6643.1	1085.0	588.9	522.7	478.3	436.2	410.4	424.1	458.9	487.1
60°	11434.5	7484.0	1304.7	593.8	530.8	466.9	415.2	382.9	391.8	418.5	443.5
62.5°	12046.0	7719.9	1370.9	589.7	552.6	459.7	390.2	353.8	354.7	377.3	399.9
65°	12160.8	7405.7	1105.2	585.7	580.9	458.9	372.4	328.8	323.1	339.3	358.7
67.5°	11343.2	6428.2	797.4	576.8	584.1	454.0	360.3	308.6	294.1	305.4	321.5
70°	9631.3	5176.8	669.7	559.0	545.3	429.8	339.3	287.6	268.2	276.3	288.4
72.5°	7180.3	3830.1	584.1	521.1	475.0	367.6	307.0	264.2	244.0	249.6	258.5
75°	3989.2	2043.1	488.8	453.2	387.8	297.3	261.7	234.3	216.5	218.9	228.6
77.5°	1324.9	753.7	358.7	359.5	293.3	229.4	215.7	200.3	186.6	187.4	195.5
80°	600.2	416.9	256.9	258.5	204.4	166.4	165.6	160.8	151.9	149.5	155.1
82.5°	348.2	252.9	176.1	168.0	131.7	108.3	120.4	117.9	115.5	106.6	108.3
85°	171.3	135.7	92.1	87.2	72.7	54.1	64.6	67.1	64.6	54.9	54.1
87.5°	42.0	44.4	22.6	21.0	12.1	5.7	9.7	9.7	12.1	8.1	4.0
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)