

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: P368549

Luminaire Tested: **MSA-SA4C-760-U-T2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368549
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4C-760-U-T2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS
EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18148 lumens
Efficiency: N/A
Efficacy: 80.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G3

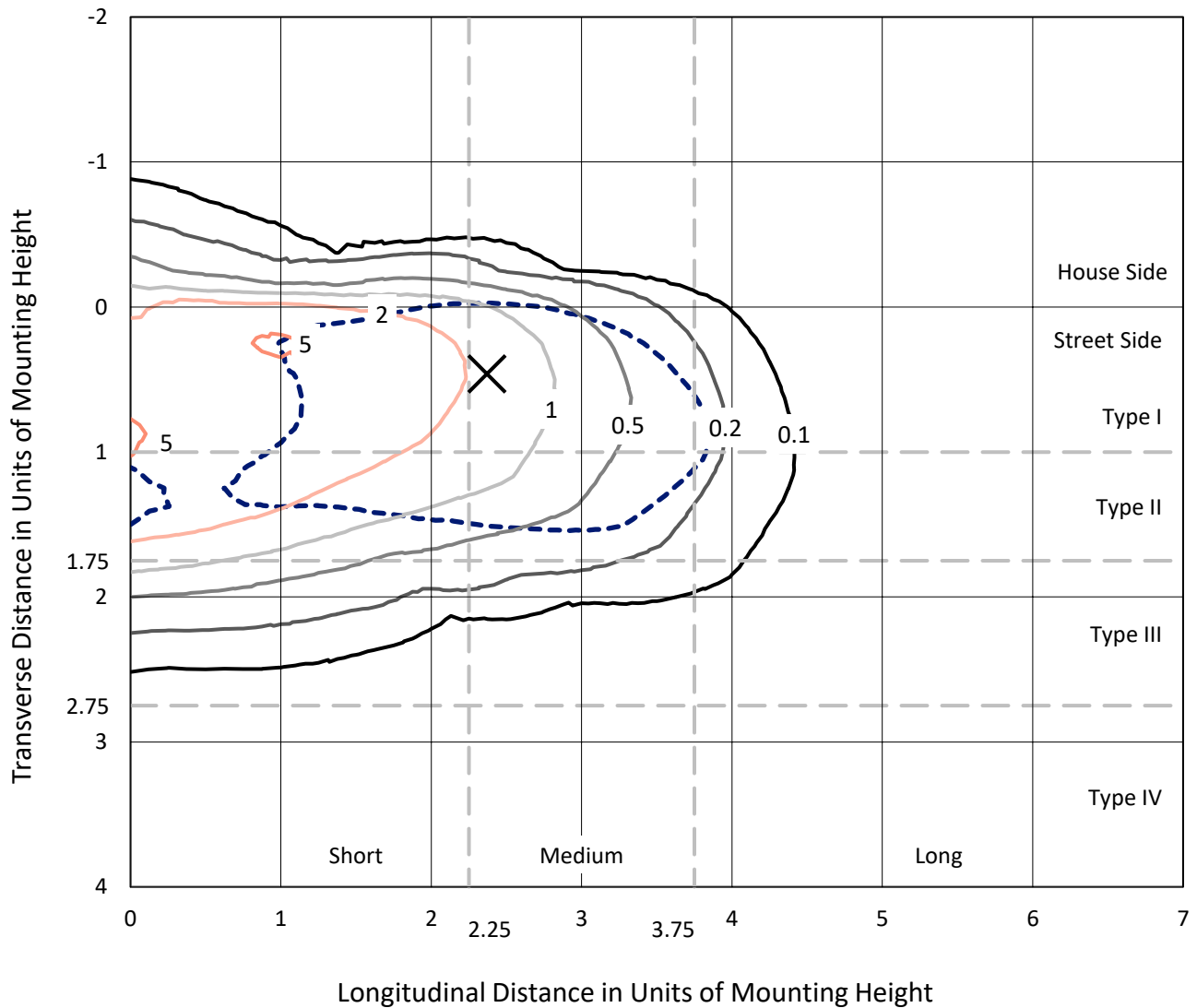
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

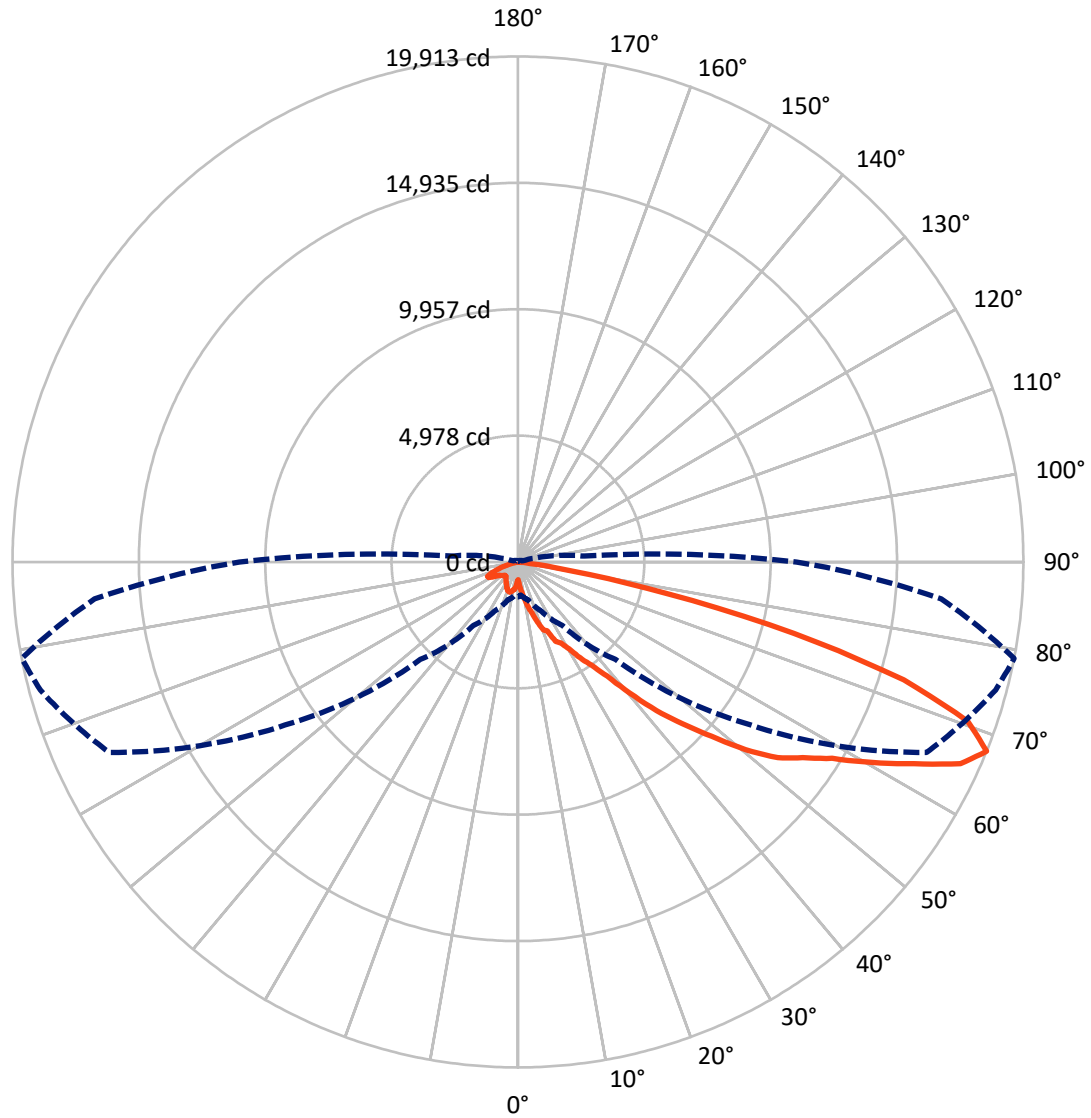
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.5 fc
 Type II - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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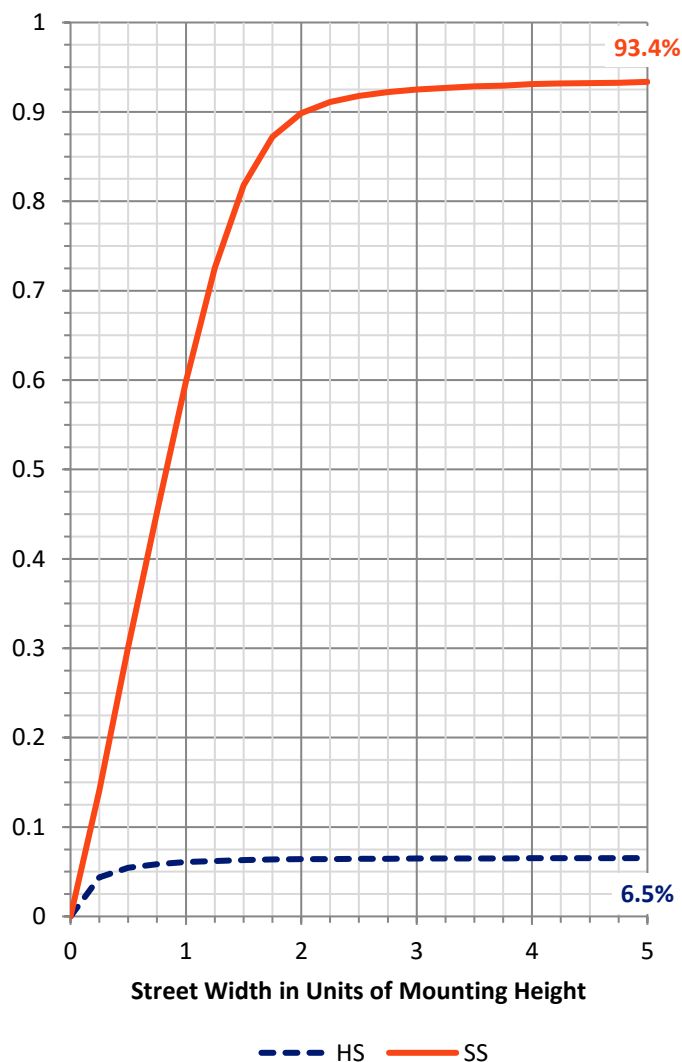
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1192.4	0.0	1192.4
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	16955.5	0.0	16955.5
	% Fixture	93.4	0.0	93.4
Total	Lumens	18148.0	0.0	18148.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.7	0.6
10°-20°	405.5	2.2
20°-30°	782.3	4.3
30°-40°	1536.8	8.5
40°-50°	3078.5	17.0
50°-60°	4920.6	27.1
60°-70°	4950.9	27.3
70°-80°	2233.5	12.3
80°-90°	138.2	0.8
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°	18148.0	100.0
0°-180°	18148.0	100.0

Coefficient of Utilization



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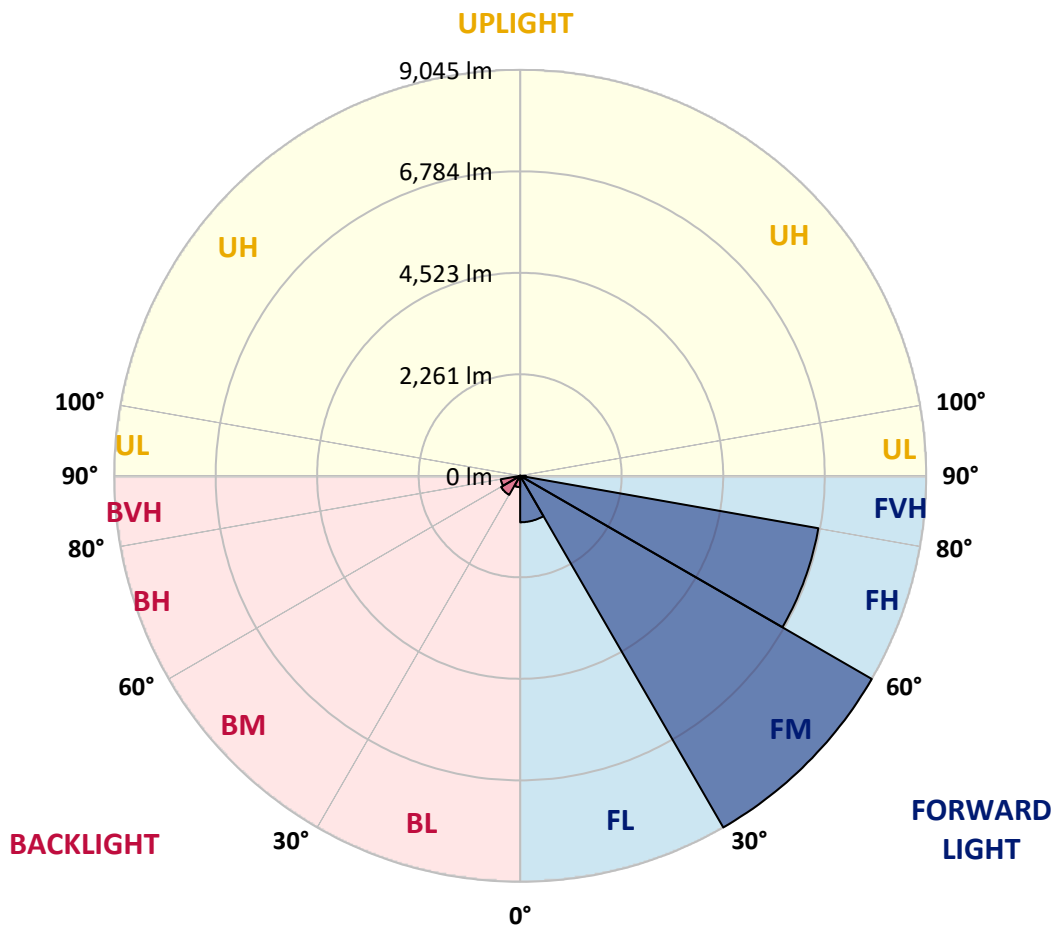
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1036.1	5.7			
FM (30°-60°)	9045.2	49.8			
FH (60°-80°)	6744.9	37.2			G3/7500
FVH (80°-90°)	129.4	0.7			G2/225
BL (0°-30°)	253.5	1.4	B1/500		
BM (30°-60°)	490.6	2.7	B1/1000		
BH (60°-80°)	439.6	2.4	B1/500		G1/500
BVH (80°-90°)	8.8	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	699.3	699.3	699.3	699.3	699.3	699.3	699.3	699.3	699.3	699.3	699.3
2.5°	944.4	910.4	855.4	886.4	884.4	900.4	870.4	837.3	784.3	837.3	841.3
5°	1359.6	1296.5	1256.5	1248.5	1204.5	1163.5	1154.5	1120.5	1094.5	1047.4	1089.5
7.5°	1693.7	1664.7	1593.7	1585.7	1477.6	1417.6	1436.6	1421.6	1322.5	1273.5	1314.5
10°	1835.8	1785.7	1795.7	1785.7	1739.7	1756.7	1717.7	1672.7	1593.7	1512.6	1410.6
12.5°	1890.8	1882.8	1965.8	1955.8	2063.9	2193.9	2106.9	2031.8	1848.8	1828.8	1689.7
15°	2008.8	2058.9	2046.8	2088.9	2157.9	2379.0	2377.0	2395.0	2200.9	2096.9	1895.8
17.5°	2113.9	2150.9	2090.9	2138.9	2327.0	2461.0	2640.1	2570.1	2592.1	2486.0	2174.9
20°	2068.9	2110.9	2050.8	2021.8	2353.0	2607.1	2846.2	2795.2	2927.2	2861.2	2432.0
22.5°	2350.0	2270.9	2119.9	2025.8	2272.9	2604.1	2919.2	3132.3	3109.3	2947.2	2671.1
25°	2697.1	2649.1	2468.0	2302.0	2324.0	2586.1	3149.3	3462.4	3530.5	3461.4	2898.2
27.5°	3165.3	3154.3	2784.2	2712.1	2498.0	2507.0	3185.3	3878.6	3723.5	3615.5	3163.3
30°	3776.6	3689.5	3250.3	3156.3	2840.2	2685.1	3405.4	4237.8	4123.7	3976.6	3412.4
32.5°	4433.8	4446.8	3886.6	3576.5	3322.4	3138.3	3318.4	4405.8	4618.9	4499.9	3723.5
35°	5180.1	5238.2	4552.9	4188.7	3694.5	3423.4	3692.5	4922.0	5304.2	4991.1	4140.7
37.5°	6329.6	6327.6	5527.3	4802.0	4442.8	4148.7	4315.8	5391.2	6146.5	5706.4	4889.0
40°	7341.0	7120.9	6376.6	5543.3	4983.1	4903.0	4782.0	6033.5	7045.9	6780.8	5554.3
42.5°	8096.4	7941.3	7041.9	6393.6	5699.4	5445.3	5402.2	6974.9	8373.5	8002.3	6503.7
45°	8999.7	8491.5	7829.2	7245.0	6537.7	6463.7	6362.6	7930.3	9918.1	9081.8	7329.0
47.5°	9809.1	9330.9	8704.6	7954.3	7142.0	7752.2	7364.1	8769.6	11041.6	10256.2	8239.4
50°	10490.3	9982.1	9280.8	8709.6	8361.5	8775.6	8128.4	9460.9	12255.1	11618.8	9090.8
52.5°	10837.5	10262.3	9720.0	9366.9	9580.0	9486.9	9164.8	10298.3	13289.5	12813.3	9845.1
55°	10552.4	9990.1	9763.0	9938.1	10585.4	10316.3	10342.3	11595.8	14265.9	13609.6	10501.4
57.5°	9287.8	8774.6	8875.7	9354.9	10595.4	11299.7	11684.8	12856.3	15049.2	14602.0	11513.8
60°	7025.9	6612.7	6986.9	7837.2	9599.0	11103.6	12637.2	14116.8	16168.7	16028.6	13046.4
62.5°	4290.8	4066.7	4596.9	5657.3	7649.2	10142.2	13192.5	15797.5	17366.2	17515.3	14672.1
65°	2188.9	2087.9	2530.0	3462.4	5168.1	8331.5	12791.3	16842.0	18603.7	19153.9	16221.7
67.5°	1378.6	1313.5	1549.6	2111.9	3049.3	5434.3	11199.6	17755.4	19478.1	19913.2	16738.9
70°	955.4	914.4	1118.5	1449.6	1923.8	2927.2	8315.4	16903.0	18784.8	18804.8	15487.4
72.5°	606.3	574.2	773.3	1073.4	1419.6	1511.6	4767.0	13263.5	16079.7	15894.6	12542.2
75°	393.2	377.2	491.2	786.3	1090.5	932.4	2356.0	8949.7	11529.8	11239.7	8330.5
77.5°	282.1	272.1	329.1	525.2	776.3	652.3	1056.4	5334.2	6610.7	5976.5	4043.7
80°	170.1	169.1	238.1	329.1	552.2	460.2	488.2	2422.0	2563.1	2089.9	1235.5
82.5°	85.0	88.0	133.1	212.1	355.1	301.1	223.1	806.3	688.3	507.2	250.1
85°	20.0	25.0	70.0	146.1	178.1	120.0	106.0	211.1	189.1	143.1	73.0
87.5°	0.0	0.0	22.0	35.0	48.0	20.0	36.0	40.0	51.0	40.0	15.0
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°	699.3	699.3	699.3	699.3	699.3	699.3	699.3	699.3	699.3	699.3	699.3
2.5°	842.3	830.3	757.3	738.3	736.3	715.3	720.3	700.3	701.3	746.3	746.3
5°	1073.4	1003.4	933.4	871.4	829.3	769.3	747.3	738.3	730.3	748.3	759.3
7.5°	1260.5	1157.5	1031.4	896.4	771.3	685.3	673.3	651.3	643.3	661.3	675.3
10°	1343.6	1215.5	1042.4	845.4	728.3	658.3	600.2	569.2	563.2	562.2	567.2
12.5°	1519.6	1360.6	1054.4	826.3	699.3	622.3	556.2	504.2	456.2	461.2	456.2
15°	1660.7	1472.6	1054.4	780.3	629.3	552.2	436.2	410.2	403.2	414.2	405.2
17.5°	1873.8	1583.7	1001.4	698.3	569.2	429.2	385.2	383.2	397.2	413.2	403.2
20°	2001.8	1598.7	912.4	604.3	467.2	372.2	356.1	340.1	360.1	373.2	368.2
22.5°	2134.9	1599.7	823.3	554.2	376.2	339.1	313.1	300.1	303.1	315.1	317.1
25°	2191.9	1560.6	740.3	488.2	341.1	303.1	276.1	262.1	257.1	263.1	261.1
27.5°	2347.0	1485.6	650.3	416.2	324.1	269.1	244.1	227.1	212.1	222.1	224.1
30°	2369.0	1461.6	601.2	370.2	302.1	238.1	216.1	198.1	187.1	201.1	201.1
32.5°	2439.0	1329.6	576.2	351.1	279.1	220.1	190.1	177.1	175.1	184.1	185.1
35°	2547.1	1271.5	539.2	336.1	258.1	199.1	171.1	165.1	163.1	170.1	170.1
37.5°	2913.2	1199.5	498.2	323.1	240.1	188.1	166.1	156.1	157.1	163.1	167.1
40°	3156.3	1208.5	437.2	307.1	219.1	178.1	156.1	149.1	148.1	151.1	154.1
42.5°	3607.5	1215.5	410.2	290.1	203.1	166.1	146.1	141.1	137.1	140.1	143.1
45°	4111.7	1252.5	396.2	276.1	194.1	159.1	137.1	134.1	125.1	127.1	131.1
47.5°	4597.9	1387.6	379.2	256.1	186.1	155.1	128.1	121.1	115.0	114.0	118.0
50°	5150.1	1518.6	360.1	234.1	178.1	149.1	119.0	108.0	104.0	104.0	107.0
52.5°	5644.3	1643.7	342.1	219.1	172.1	138.1	111.0	100.0	97.0	97.0	101.0
55°	6164.6	1774.7	326.1	205.1	164.1	127.1	104.0	94.0	93.0	91.0	94.0
57.5°	7082.9	2060.9	306.1	193.1	153.1	118.0	98.0	88.0	86.0	83.0	86.0
60°	8420.5	2500.0	280.1	181.1	140.1	112.0	93.0	81.0	78.0	73.0	74.0
62.5°	9728.0	2855.2	250.1	166.1	128.1	106.0	85.0	73.0	68.0	62.0	63.0
65°	10848.5	2995.2	218.1	148.1	116.0	92.0	74.0	64.0	57.0	49.0	48.0
67.5°	10980.5	2645.1	187.1	131.1	104.0	78.0	63.0	57.0	46.0	39.0	37.0
70°	9882.1	1970.8	156.1	116.0	90.0	66.0	54.0	50.0	43.0	37.0	34.0
72.5°	7869.3	1454.6	131.1	103.0	79.0	56.0	46.0	47.0	43.0	36.0	32.0
75°	5204.2	832.3	107.0	86.0	66.0	45.0	42.0	42.0	41.0	34.0	30.0
77.5°	2504.0	359.1	82.0	68.0	53.0	34.0	38.0	38.0	39.0	31.0	25.0
80°	710.3	108.0	51.0	46.0	39.0	23.0	30.0	29.0	26.0	18.0	11.0
82.5°	127.1	42.0	23.0	24.0	22.0	9.0	17.0	16.0	13.0	7.0	1.0
85°	35.0	16.0	13.0	14.0	11.0	3.0	7.0	9.0	7.0	4.0	0.0
87.5°	9.0	7.0	9.0	10.0	8.0	1.0	3.0	1.0	3.0	1.0	0.0
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)