

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: P368671

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

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368671
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)
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-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21562 lumens
Efficiency: N/A
Efficacy: 83.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G4

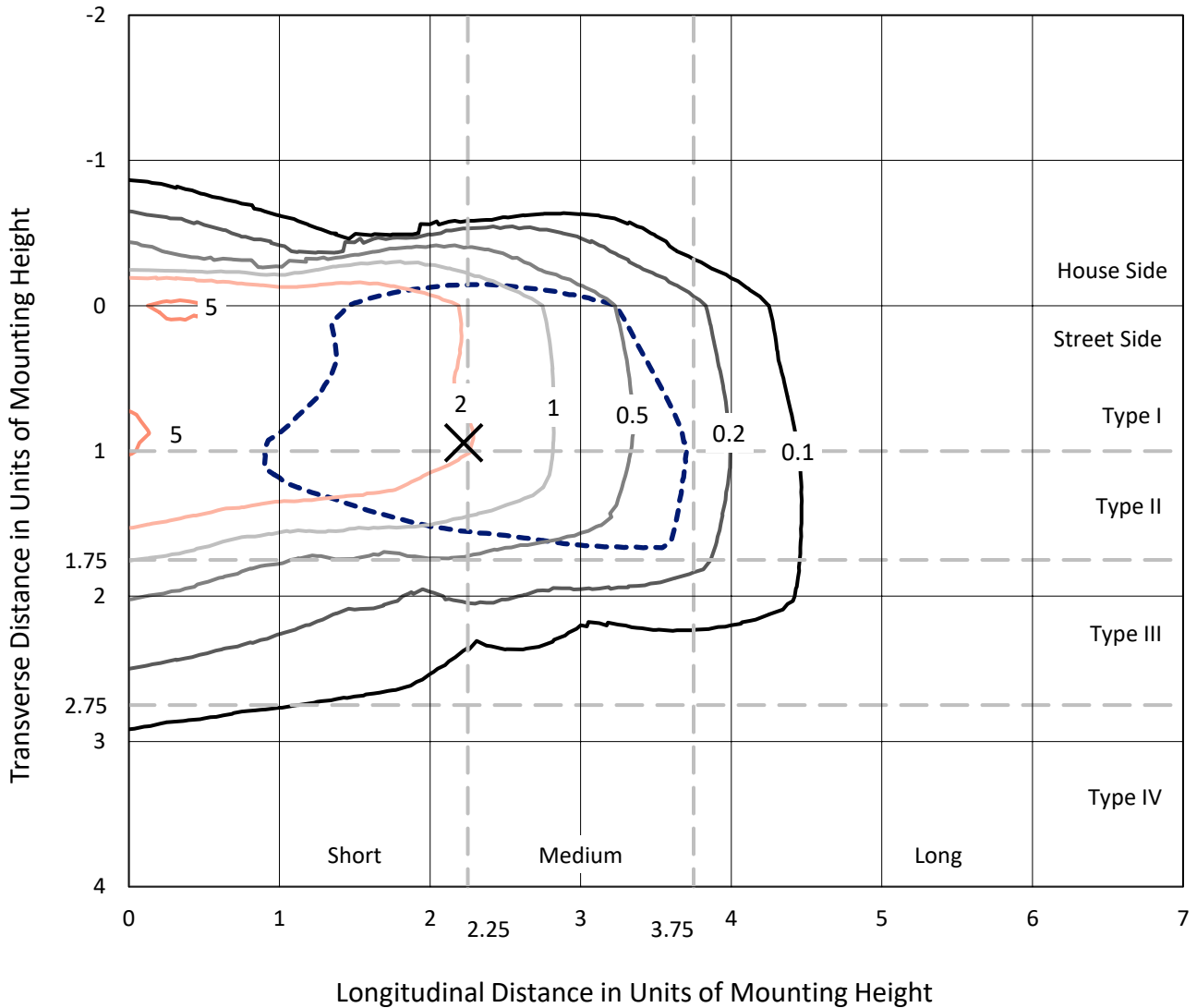
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

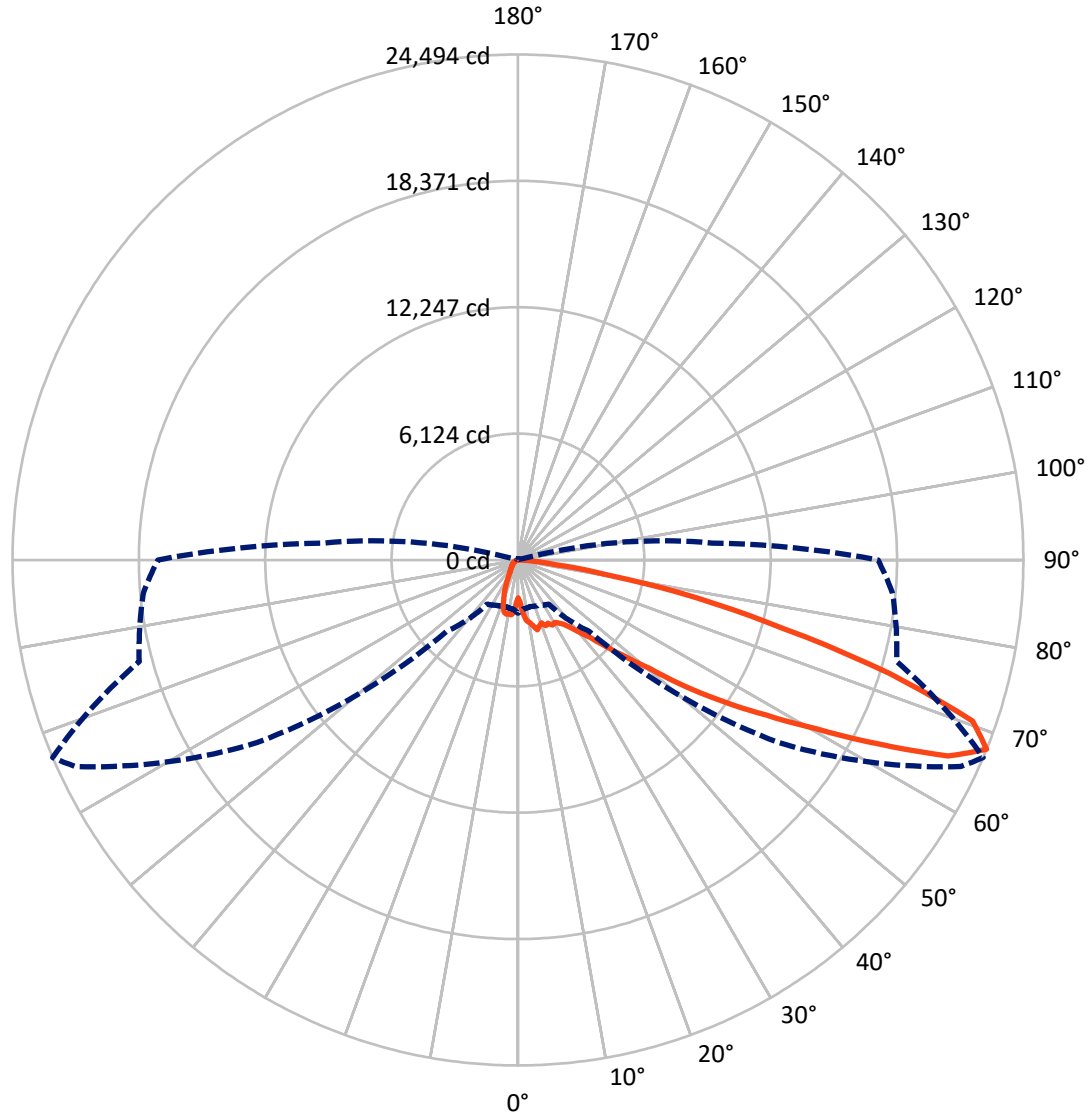
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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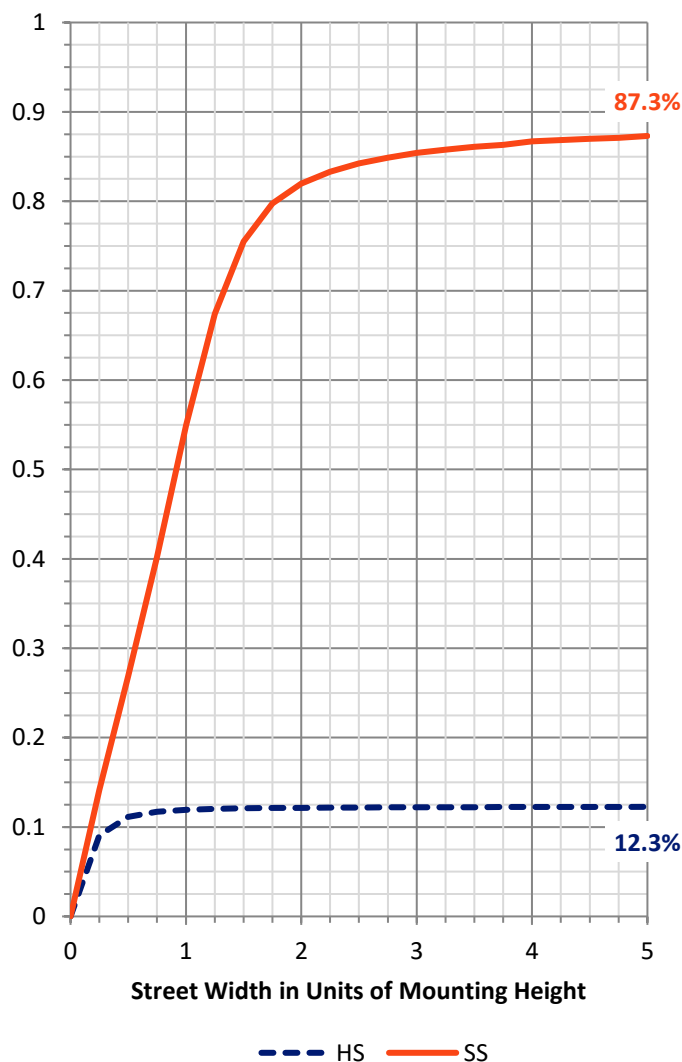
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2666.6	0.0	2666.6
	% Fixture	12.4	0.0	12.4
Street Side	Lumens	18895.4	0.0	18895.4
	% Fixture	87.6	0.0	87.6
Total	Lumens	21562.0	0.0	21562.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.5	1.1
10°-20°	682.1	3.2
20°-30°	1069.0	5.0
30°-40°	1723.6	8.0
40°-50°	3167.1	14.7
50°-60°	5348.9	24.8
60°-70°	5913.4	27.4
70°-80°	3095.1	14.4
80°-90°	332.4	1.5
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°	21562.0	100.0
0°-180°	21562.0	100.0

Coefficient of Utilization



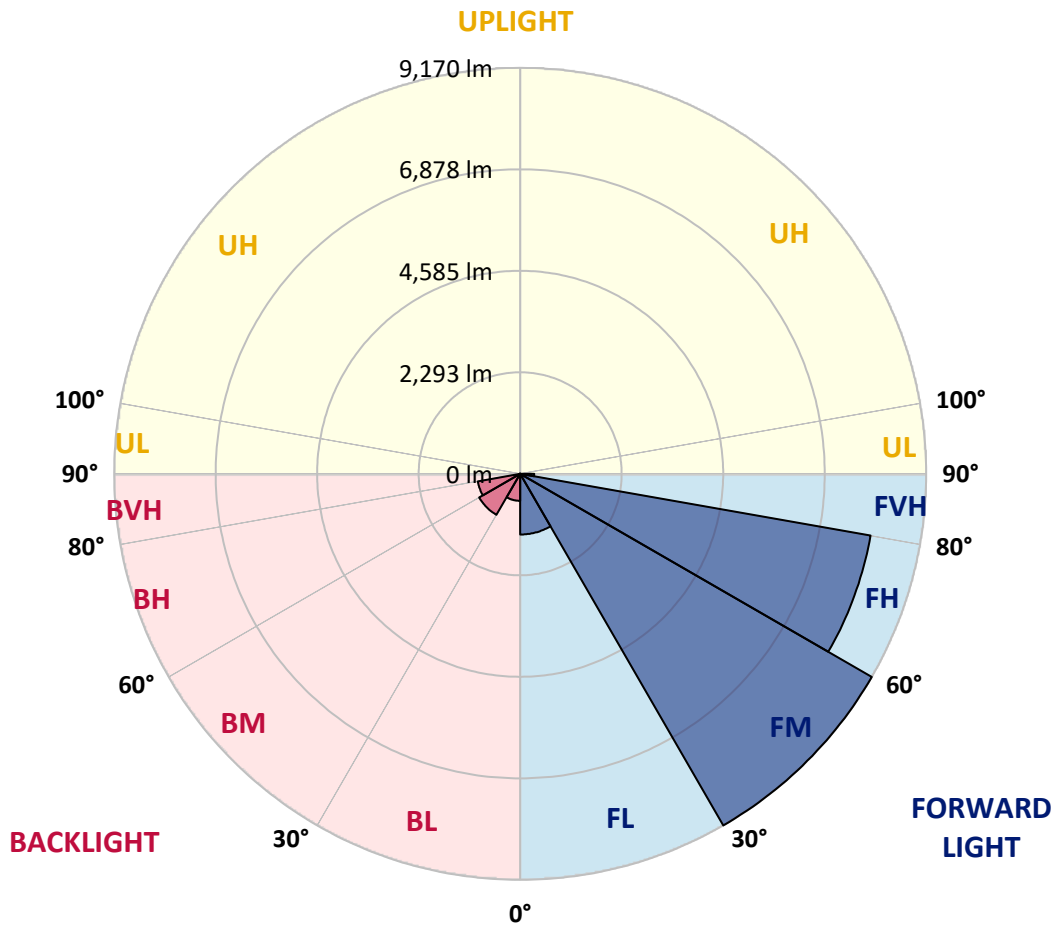
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1371.0	6.4			
FM (30°-60°)	9170.4	42.5			
FH (60°-80°)	8035.8	37.3			G4/12000
FVH (80°-90°)	318.2	1.5			G3/500
BL (0°-30°)	610.6	2.8	B2/1000		
BM (30°-60°)	1069.2	5.0	B2/2500		
BH (60°-80°)	972.7	4.5	B2/1000		G2/1000
BVH (80°-90°)	14.2	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5
2.5°	2167.9	2094.6	1969.9	2006.0	2078.2	2138.4	2109.9	2054.1	2055.2	1998.4	2202.9
5°	2522.3	2423.8	2351.7	2376.8	2373.5	2371.3	2505.9	2557.3	2579.2	2673.2	2812.1
7.5°	2624.0	2589.0	2513.5	2536.5	2461.0	2466.5	2702.8	2925.9	2960.9	3018.9	3266.1
10°	2584.6	2516.8	2544.2	2544.2	2545.3	2667.8	2826.4	3039.6	3082.3	3305.4	3331.7
12.5°	2542.0	2545.3	2653.5	2633.9	2782.6	3002.5	3056.1	3295.6	3274.8	3468.4	3756.1
15°	2700.6	2783.7	2713.7	2741.0	2755.3	3013.4	3099.8	3418.1	3510.0	3755.0	3942.0
17.5°	2972.9	2983.9	2838.4	2799.0	2901.8	2975.1	3149.0	3302.2	3363.4	4006.6	4271.3
20°	3022.1	3092.2	2944.5	2717.0	2934.6	3035.3	3156.7	3230.0	3256.2	4084.2	4457.2
22.5°	3318.6	3240.9	3004.6	2831.8	2894.2	3003.6	3079.0	3300.0	3457.5	3937.7	4635.5
25°	3470.6	3449.8	3224.5	3076.8	3013.4	3004.6	3177.5	3344.8	3395.1	4089.7	4679.2
27.5°	3834.8	3787.8	3351.4	3332.8	3123.9	2940.1	3180.7	3481.5	3575.6	3946.4	4843.3
30°	4330.3	4312.8	3732.0	3720.0	3387.5	3057.1	3357.9	3565.8	3508.9	4019.7	4952.7
32.5°	4829.1	4971.3	4377.4	4038.3	3788.9	3487.0	3307.6	3539.5	3641.2	4198.0	5153.9
35°	5431.8	5534.6	4929.7	4683.6	4129.1	3688.3	3641.2	3790.0	3833.7	4410.2	5382.6
37.5°	6486.2	6330.9	5815.7	5396.8	5105.8	4406.9	4175.0	4056.9	4158.6	4697.8	5849.6
40°	7265.0	7166.5	6532.1	6281.6	5612.2	5203.2	4597.2	4486.7	4600.5	4993.2	6174.5
42.5°	8204.5	8000.0	7402.8	7233.2	6544.2	5755.5	5140.8	5179.1	5108.0	5576.2	6744.3
45°	9054.4	8592.8	8260.3	8298.6	7931.1	6865.7	6047.6	6029.0	5969.9	6420.6	7343.7
47.5°	9626.5	9222.9	8899.1	8793.0	8749.2	8818.2	7357.9	7027.6	6983.9	7307.6	8287.7
50°	9933.8	9491.9	9091.6	9113.5	10001.6	10669.9	8709.9	8240.6	8257.0	8595.0	9578.3
52.5°	9727.1	9227.2	8805.0	9215.2	10972.9	11904.8	10947.8	9825.5	10206.2	10119.8	11309.8
55°	8772.2	8338.0	8038.3	8772.2	11079.0	13233.8	13703.0	12211.1	12125.8	11928.9	13075.2
57.5°	7165.4	6791.4	6606.5	7380.9	9918.5	14304.6	16470.3	14907.3	14179.9	13355.2	14540.9
60°	5338.8	5063.2	4870.7	5279.7	7815.1	13264.4	18282.7	17448.2	16606.0	14730.1	15857.8
62.5°	3954.1	3729.8	3525.3	3562.5	5381.5	11408.3	18978.4	20140.0	19656.5	16181.6	17100.4
65°	3155.6	2951.1	2807.8	2725.7	3332.8	8583.0	18010.4	22346.2	22904.0	17548.8	17997.3
67.5°	2577.0	2404.2	2333.1	2427.1	2614.2	4892.5	15424.7	23685.0	24494.4	18999.2	18218.2
70°	2096.8	1954.6	1947.0	2200.7	2407.4	2982.8	11345.9	22760.7	23370.0	19246.4	16893.6
72.5°	1461.3	1399.0	1498.5	1858.4	2385.6	2484.0	6515.7	18835.1	18857.0	16998.6	13895.5
75°	826.9	817.1	974.6	1482.1	2323.2	2458.8	3632.5	13310.4	13320.2	12856.4	9626.5
77.5°	455.0	425.5	567.7	1001.9	1995.1	2402.0	2342.9	9088.3	8855.3	7154.5	4397.0
80°	210.0	198.0	307.4	642.1	1459.1	2271.8	1878.0	4995.4	4504.2	2330.9	1073.0
82.5°	86.4	82.0	141.1	412.4	922.1	1829.9	1582.7	2216.0	1778.5	443.0	331.4
85°	15.3	16.4	58.0	249.4	516.3	843.3	1283.0	1052.2	773.3	122.5	181.6
87.5°	0.0	0.0	12.0	60.2	124.7	230.8	520.6	294.2	202.4	36.1	53.6
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°	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5	1836.5
2.5°	2243.4	2224.8	2036.6	2045.4	2058.5	2046.5	2044.3	1991.8	1943.7	2102.3	2100.1
5°	2837.3	2704.9	2574.8	2524.5	2416.2	2274.0	2275.1	2230.2	2184.3	2248.8	2248.8
7.5°	3260.6	3077.9	2912.8	2618.5	2332.0	2072.7	2049.8	1988.5	1918.5	2002.7	2019.1
10°	3359.0	3200.4	2987.1	2555.1	2283.8	2031.2	1753.3	1524.7	1418.6	1369.4	1360.7
12.5°	3662.0	3543.9	3067.0	2589.0	2198.5	1770.8	1315.8	1044.6	859.7	845.5	825.8
15°	3864.4	3781.2	3145.7	2504.8	1837.6	1273.2	826.9	634.4	560.0	553.5	543.6
17.5°	4178.3	4033.9	3070.3	2236.8	1437.2	840.0	555.6	501.0	509.7	529.4	514.1
20°	4306.3	4024.1	2906.2	1848.5	1009.6	563.3	482.4	452.8	475.8	494.4	485.6
22.5°	4437.5	4052.5	2760.7	1523.7	659.6	466.0	429.9	414.5	416.7	435.3	436.4
25°	4436.4	4131.3	2592.3	1186.8	491.1	414.5	388.3	368.6	361.0	374.1	370.8
27.5°	4651.9	4040.5	2284.9	880.5	432.0	370.8	345.6	321.6	294.2	307.4	307.4
30°	4653.0	4188.1	2070.5	632.2	396.0	330.3	308.4	271.3	239.5	250.5	251.6
32.5°	4776.6	4060.2	1872.6	483.5	367.5	306.3	258.1	224.2	205.6	212.2	212.2
35°	4917.7	4169.5	1568.5	426.6	339.1	272.4	220.9	193.6	179.4	184.9	184.9
37.5°	5383.6	4146.6	1357.4	397.0	320.5	246.1	201.3	170.6	164.1	167.4	171.7
40°	5552.1	4309.5	1070.8	379.5	289.9	222.0	177.2	154.2	145.5	147.7	148.8
42.5°	5980.9	4345.6	855.3	365.3	262.5	192.5	157.5	141.1	130.2	130.2	133.4
45°	6454.5	4436.4	680.3	353.3	239.5	172.8	142.2	129.1	112.7	110.5	114.8
47.5°	7140.3	4784.2	554.6	329.2	212.2	160.8	131.3	111.6	98.4	94.1	98.4
50°	8287.7	5374.9	490.0	299.7	192.5	150.9	115.9	95.2	85.3	79.8	83.1
52.5°	9906.5	6395.4	456.1	272.4	175.0	135.6	103.9	83.1	73.3	68.9	71.1
55°	11704.7	7565.8	439.7	245.0	159.7	119.2	90.8	73.3	64.5	59.1	60.2
57.5°	13367.2	8666.1	423.3	218.8	144.4	106.1	79.8	64.5	55.8	50.3	51.4
60°	15005.7	9544.4	383.9	188.1	130.2	95.2	70.0	55.8	50.3	43.8	43.8
62.5°	16455.0	10069.5	327.0	163.0	117.0	84.2	62.3	50.3	45.9	39.4	39.4
65°	17441.6	10093.5	263.6	140.0	102.8	72.2	54.7	47.0	42.7	35.0	33.9
67.5°	17455.8	9437.2	211.1	124.7	90.8	63.4	49.2	44.8	39.4	32.8	30.6
70°	15623.7	7796.6	176.1	109.4	78.8	55.8	42.7	42.7	38.3	31.7	28.4
72.5°	12497.7	5957.9	147.7	95.2	70.0	48.1	39.4	40.5	37.2	31.7	28.4
75°	8400.3	3417.0	122.5	80.9	61.3	40.5	38.3	39.4	38.3	31.7	27.3
77.5°	3868.7	1088.3	95.2	66.7	52.5	33.9	37.2	37.2	35.0	28.4	24.1
80°	871.8	268.0	68.9	49.2	42.7	25.2	33.9	30.6	27.3	19.7	14.2
82.5°	317.2	82.0	41.6	30.6	26.3	9.8	21.9	21.9	19.7	14.2	8.8
85°	181.6	42.7	23.0	19.7	14.2	4.4	12.0	13.1	10.9	9.8	4.4
87.5°	59.1	9.8	10.9	12.0	10.9	2.2	4.4	4.4	3.3	2.2	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)