

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: P368539

Luminaire Tested: **MSA-SA4C-760-U-SL2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368539
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-SA4C-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: 19721 lumens
Efficiency: N/A
Efficacy: 87.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G3

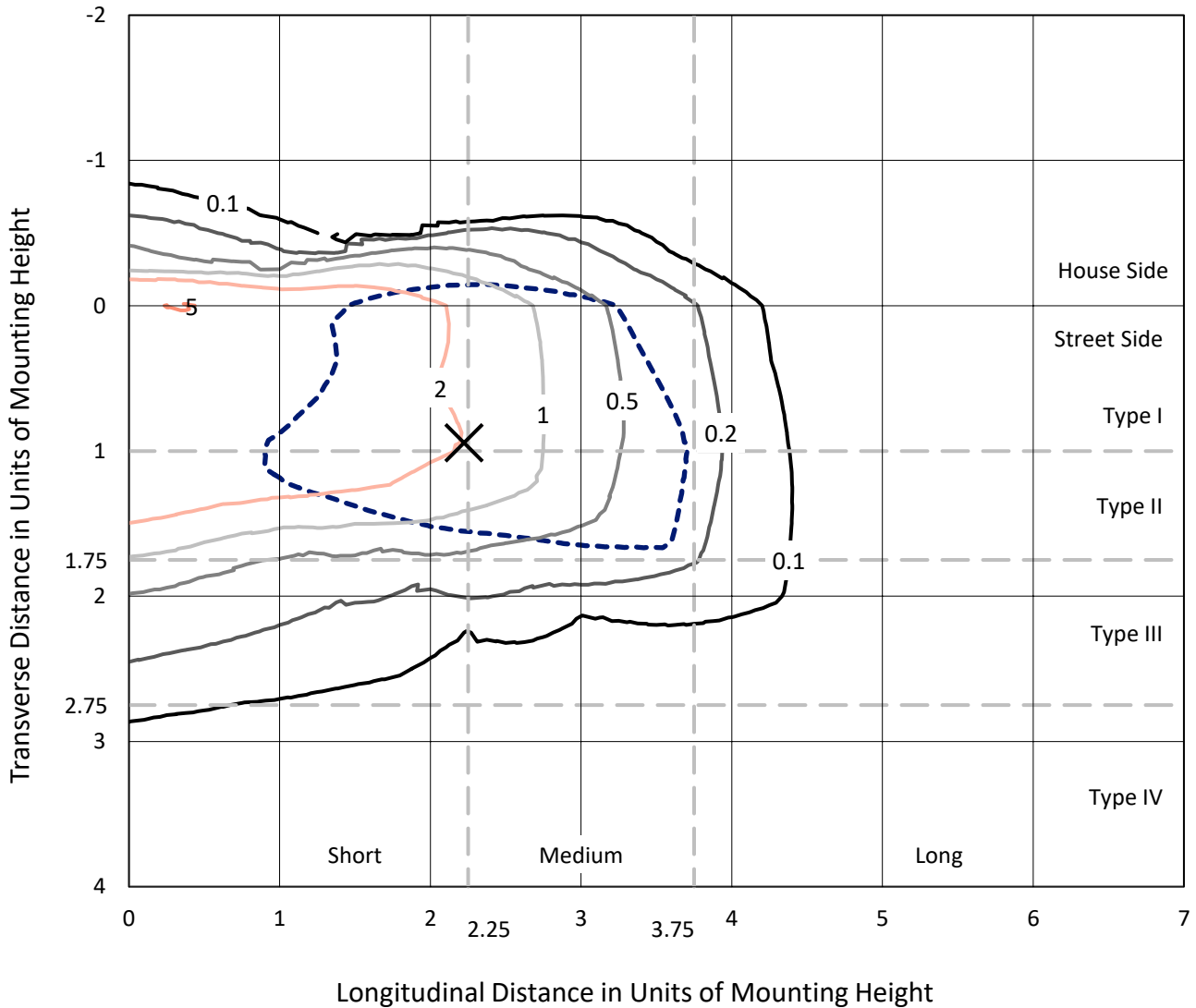
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

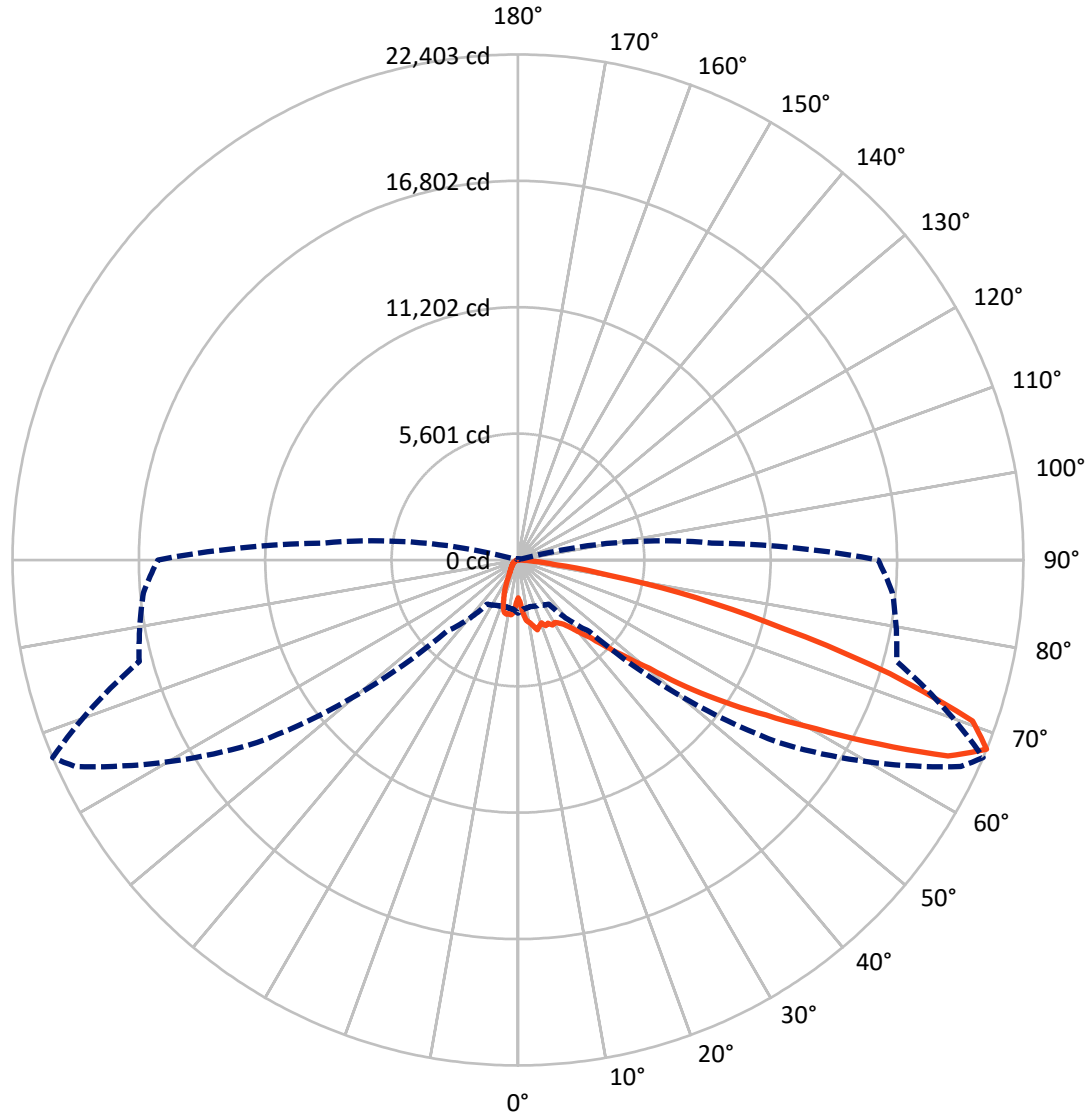
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 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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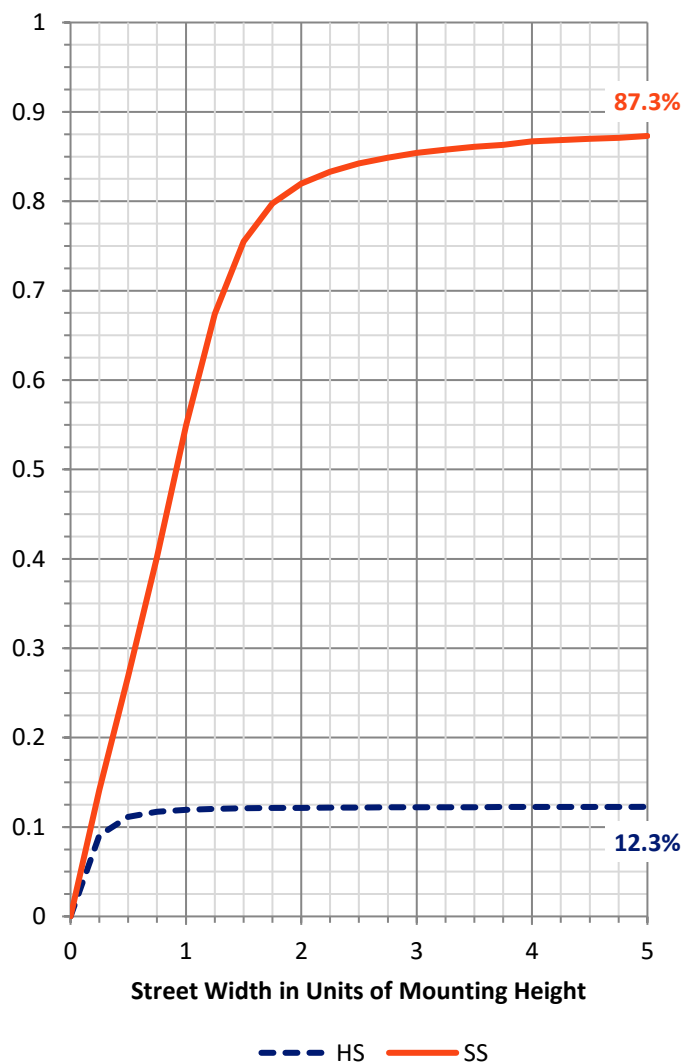
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2438.9	0.0	2438.9
	% Fixture	12.4	0.0	12.4
Street Side	Lumens	17282.1	0.0	17282.1
	% Fixture	87.6	0.0	87.6
Total	Lumens	19721.0	0.0	19721.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.8	1.1
10°-20°	623.8	3.2
20°-30°	977.7	5.0
30°-40°	1576.4	8.0
40°-50°	2896.7	14.7
50°-60°	4892.2	24.8
60°-70°	5408.5	27.4
70°-80°	2830.8	14.4
80°-90°	304.0	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°	19721.0	100.0
0°-180°	19721.0	100.0

Coefficient of Utilization

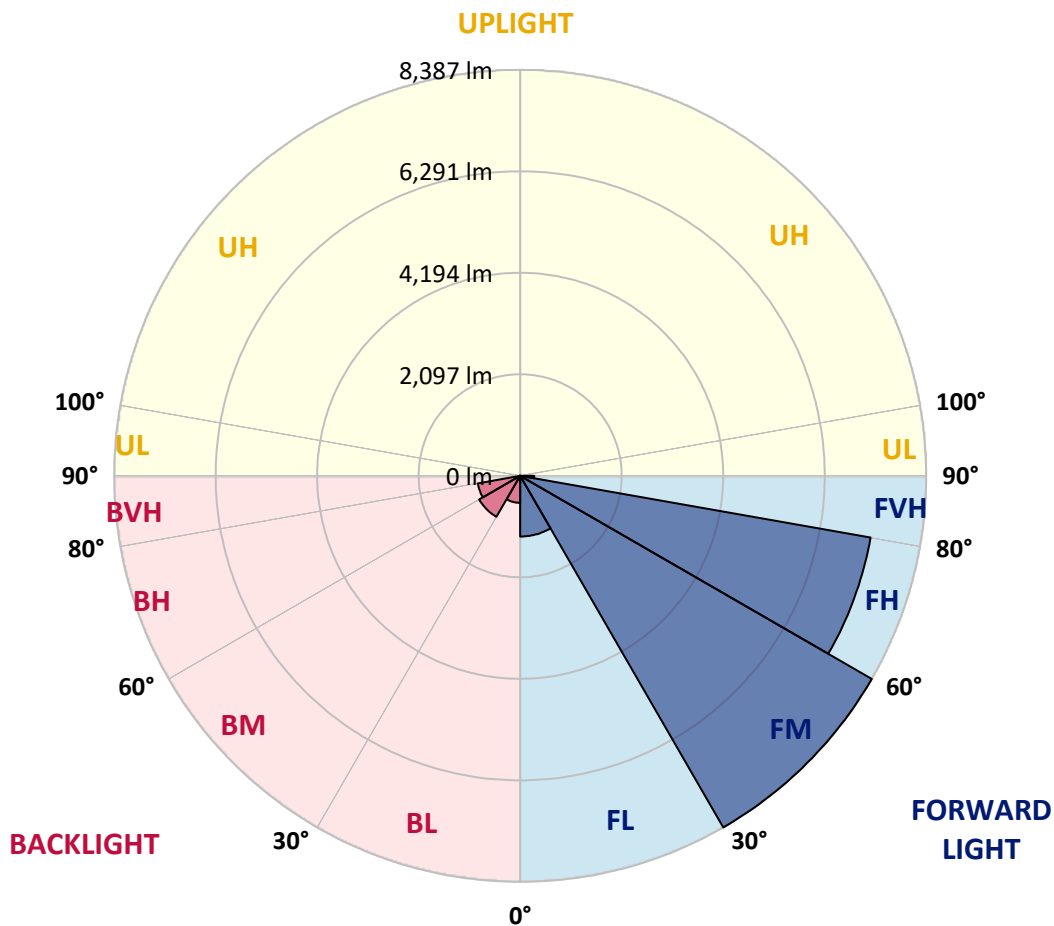


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1253.9	6.4			
FM (30°-60°)	8387.4	42.5			
FH (60°-80°)	7349.7	37.3			G3/7500
FVH (80°-90°)	291.0	1.5			G3/500
BL (0°-30°)	558.4	2.8	B2/1000		
BM (30°-60°)	977.9	5.0	B1/1000		
BH (60°-80°)	889.6	4.5	B2/1000		G2/1000
BVH (80°-90°)	13.0	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-G3
 Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7
2.5°	1982.8	1915.8	1801.7	1834.7	1900.8	1955.8	1929.8	1878.8	1879.8	1827.7	2014.8
5°	2306.9	2216.9	2150.9	2173.9	2170.9	2168.9	2291.9	2338.9	2358.9	2445.0	2572.0
7.5°	2400.0	2368.0	2298.9	2319.9	2250.9	2255.9	2472.0	2676.1	2708.1	2761.1	2987.2
10°	2364.0	2301.9	2326.9	2326.9	2327.9	2440.0	2585.0	2780.1	2819.1	3023.2	3047.2
12.5°	2324.9	2327.9	2427.0	2409.0	2545.0	2746.1	2795.1	3014.2	2995.2	3172.3	3435.4
15°	2470.0	2546.0	2482.0	2507.0	2520.0	2756.1	2835.1	3126.3	3210.3	3434.4	3605.5
17.5°	2719.1	2729.1	2596.0	2560.0	2654.1	2721.1	2880.2	3020.2	3076.2	3664.5	3906.6
20°	2764.1	2828.1	2693.1	2485.0	2684.1	2776.1	2887.2	2954.2	2978.2	3735.5	4076.6
22.5°	3035.2	2964.2	2748.1	2590.0	2647.1	2747.1	2816.1	3018.2	3162.3	3601.4	4239.7
25°	3174.3	3155.3	2949.2	2814.1	2756.1	2748.1	2906.2	3059.2	3105.2	3740.5	4279.7
27.5°	3507.4	3464.4	3065.2	3048.2	2857.1	2689.1	2909.2	3184.3	3270.3	3609.5	4429.8
30°	3960.6	3944.6	3413.4	3402.4	3098.2	2796.1	3071.2	3261.3	3209.3	3676.5	4529.8
32.5°	4416.8	4546.8	4003.6	3693.5	3465.4	3189.3	3025.2	3237.3	3330.3	3839.5	4713.9
35°	4968.0	5062.0	4508.8	4283.7	3776.5	3373.4	3330.3	3466.4	3506.4	4033.6	4923.0
37.5°	5932.4	5790.3	5319.1	4936.0	4669.9	4030.6	3818.5	3710.5	3803.5	4296.7	5350.2
40°	6644.7	6554.6	5974.4	5745.3	5133.1	4758.9	4204.7	4103.7	4207.7	4566.8	5647.3
42.5°	7504.0	7316.9	6770.7	6615.7	5985.4	5264.1	4701.9	4736.9	4671.9	5100.1	6168.5
45°	8281.3	7859.2	7555.0	7590.1	7253.9	6279.5	5531.2	5514.2	5460.2	5872.4	6716.7
47.5°	8804.5	8435.4	8139.3	8042.2	8002.2	8065.2	6729.7	6427.6	6387.6	6683.7	7580.1
50°	9085.7	8681.5	8315.3	8335.4	9147.7	9758.9	7966.2	7537.0	7552.0	7861.2	8760.5
52.5°	8896.6	8439.4	8053.2	8428.4	10036.0	10888.4	10013.0	8986.6	9334.8	9255.7	10344.2
55°	8023.2	7626.1	7352.0	8023.2	10133.1	12103.9	12533.0	11168.5	11090.5	10910.4	11958.8
57.5°	6553.6	6211.5	6042.4	6750.7	9071.7	13083.3	15064.1	13634.5	12969.2	12214.9	13299.4
60°	4883.0	4630.9	4454.8	4828.9	7147.9	12131.9	16721.7	15958.4	15188.1	13472.4	14503.8
62.5°	3616.5	3411.4	3224.3	3258.3	4922.0	10434.2	17358.0	18420.4	17978.2	14800.0	15640.3
65°	2886.2	2699.1	2568.0	2493.0	3048.2	7850.2	16472.6	20438.2	20948.4	16050.5	16460.6
67.5°	2356.9	2198.9	2133.9	2219.9	2391.0	4474.8	14107.7	21662.7	22403.0	17377.0	16662.7
70°	1917.8	1787.7	1780.7	2012.8	2201.9	2728.1	10377.2	20817.4	21374.6	17603.1	15451.2
72.5°	1336.5	1279.5	1370.6	1699.7	2181.9	2271.9	5959.4	17226.9	17246.9	15547.3	12709.1
75°	756.3	747.3	891.4	1355.5	2124.9	2248.9	3322.3	12173.9	12182.9	11758.7	8804.5
77.5°	416.2	389.2	519.2	916.4	1824.7	2196.9	2142.9	8312.3	8099.3	6543.6	4021.6
80°	192.1	181.1	281.1	587.2	1334.5	2077.8	1717.7	4568.8	4119.7	2131.9	981.4
82.5°	79.0	75.0	129.1	377.2	843.3	1673.7	1447.6	2026.8	1626.7	405.2	303.1
85°	14.0	15.0	53.0	228.1	472.2	771.3	1173.5	962.4	707.3	112.0	166.1
87.5°	0.0	0.0	11.0	55.0	114.0	211.1	476.2	269.1	185.1	33.0	49.0
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°	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7	1679.7
2.5°	2051.8	2034.8	1862.7	1870.8	1882.8	1871.8	1869.8	1821.7	1777.7	1922.8	1920.8
5°	2595.0	2474.0	2354.9	2308.9	2209.9	2079.8	2080.8	2039.8	1997.8	2056.8	2056.8
7.5°	2982.2	2815.1	2664.1	2395.0	2132.9	1895.8	1874.8	1818.7	1754.7	1831.7	1846.7
10°	3072.2	2927.2	2732.1	2336.9	2088.8	1857.7	1603.6	1394.6	1297.5	1252.5	1244.5
12.5°	3349.3	3241.3	2805.1	2368.0	2010.8	1619.7	1203.5	955.4	786.3	773.3	755.3
15°	3534.4	3458.4	2877.2	2290.9	1680.7	1164.5	756.3	580.2	512.2	506.2	497.2
17.5°	3821.5	3689.5	2808.1	2045.8	1314.5	768.3	508.2	458.2	466.2	484.2	470.2
20°	3938.6	3680.5	2658.1	1690.7	923.4	515.2	441.2	414.2	435.2	452.2	444.2
22.5°	4058.6	3706.5	2525.0	1393.6	603.2	426.2	393.2	379.2	381.2	398.2	399.2
25°	4057.6	3778.5	2371.0	1085.4	449.2	379.2	355.1	337.1	330.1	342.1	339.1
27.5°	4254.7	3695.5	2089.8	805.3	395.2	339.1	316.1	294.1	269.1	281.1	281.1
30°	4255.7	3830.5	1893.8	578.2	362.1	302.1	282.1	248.1	219.1	229.1	230.1
32.5°	4368.8	3713.5	1712.7	442.2	336.1	280.1	236.1	205.1	188.1	194.1	194.1
35°	4497.8	3813.5	1434.6	390.2	310.1	249.1	202.1	177.1	164.1	169.1	169.1
37.5°	4924.0	3792.5	1241.5	363.1	293.1	225.1	184.1	156.1	150.1	153.1	157.1
40°	5078.0	3941.6	979.4	347.1	265.1	203.1	162.1	141.1	133.1	135.1	136.1
42.5°	5470.2	3974.6	782.3	334.1	240.1	176.1	144.1	129.1	119.0	119.0	122.0
45°	5903.4	4057.6	622.3	323.1	219.1	158.1	130.1	118.0	103.0	101.0	105.0
47.5°	6530.6	4375.8	507.2	301.1	194.1	147.1	120.0	102.0	90.0	86.0	90.0
50°	7580.1	4916.0	448.2	274.1	176.1	138.1	106.0	87.0	78.0	73.0	76.0
52.5°	9060.6	5849.4	417.2	249.1	160.1	124.0	95.0	76.0	67.0	63.0	65.0
55°	10705.3	6919.8	402.2	224.1	146.1	109.0	83.0	67.0	59.0	54.0	55.0
57.5°	12225.9	7926.2	387.2	200.1	132.1	97.0	73.0	59.0	51.0	46.0	47.0
60°	13724.5	8729.5	351.1	172.1	119.0	87.0	64.0	51.0	46.0	40.0	40.0
62.5°	15050.1	9209.7	299.1	149.1	107.0	77.0	57.0	46.0	42.0	36.0	36.0
65°	15952.4	9231.7	241.1	128.1	94.0	66.0	50.0	43.0	39.0	32.0	31.0
67.5°	15965.4	8631.5	193.1	114.0	83.0	58.0	45.0	41.0	36.0	30.0	28.0
70°	14289.8	7130.9	161.1	100.0	72.0	51.0	39.0	39.0	35.0	29.0	26.0
72.5°	11430.6	5449.2	135.1	87.0	64.0	44.0	36.0	37.0	34.0	29.0	26.0
75°	7683.1	3125.3	112.0	74.0	56.0	37.0	35.0	36.0	35.0	29.0	25.0
77.5°	3538.4	995.4	87.0	61.0	48.0	31.0	34.0	34.0	32.0	26.0	22.0
80°	797.3	245.1	63.0	45.0	39.0	23.0	31.0	28.0	25.0	18.0	13.0
82.5°	290.1	75.0	38.0	28.0	24.0	9.0	20.0	20.0	18.0	13.0	8.0
85°	166.1	39.0	21.0	18.0	13.0	4.0	11.0	12.0	10.0	9.0	4.0
87.5°	54.0	9.0	10.0	11.0	10.0	2.0	4.0	4.0	3.0	2.0	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)