

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: P596645

Luminaire Tested: **MSA-SA2D-827-U-T3-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596645
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2D-827-U-T3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7322 lumens
Efficiency: N/A
Efficacy: 56.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

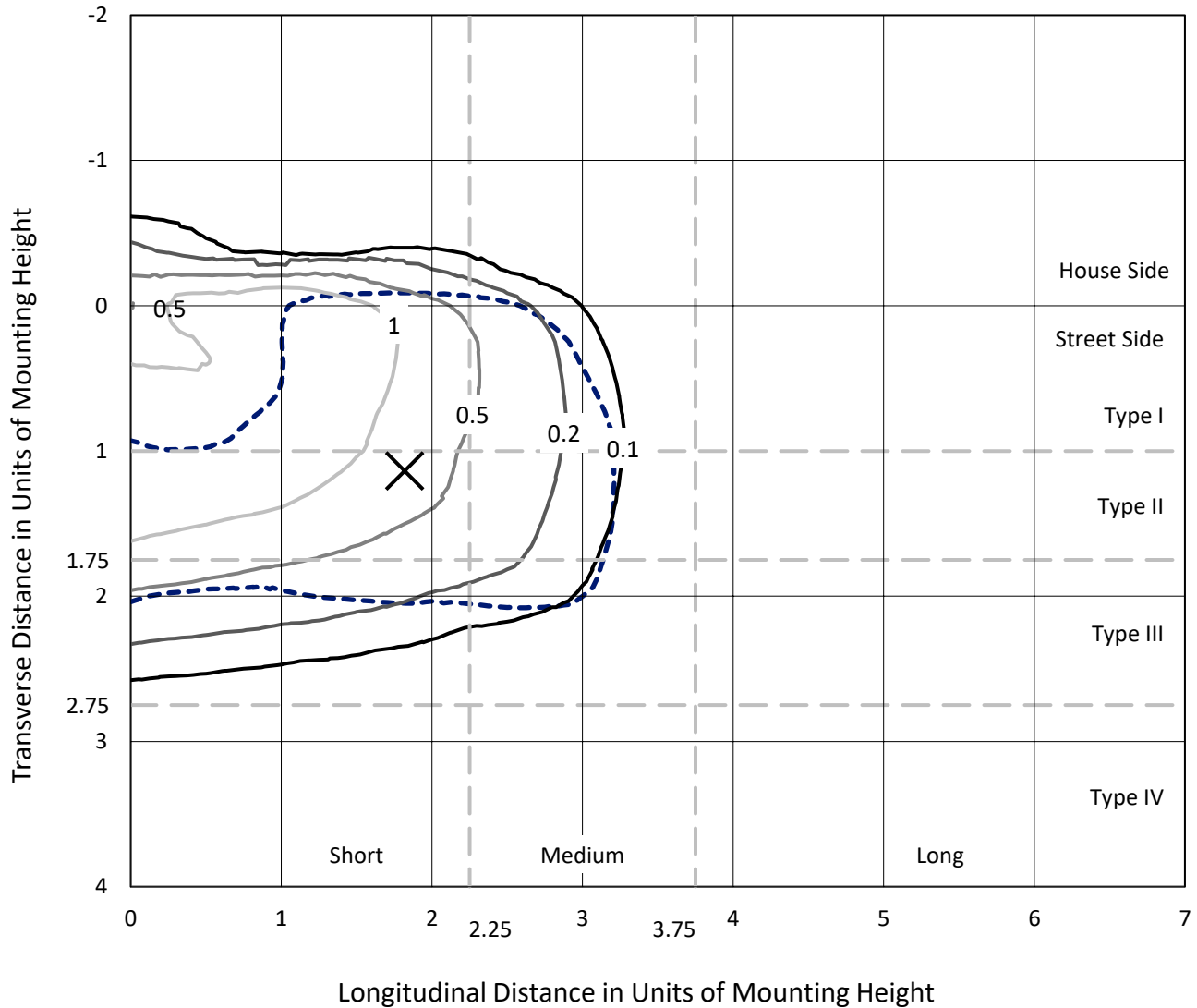
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

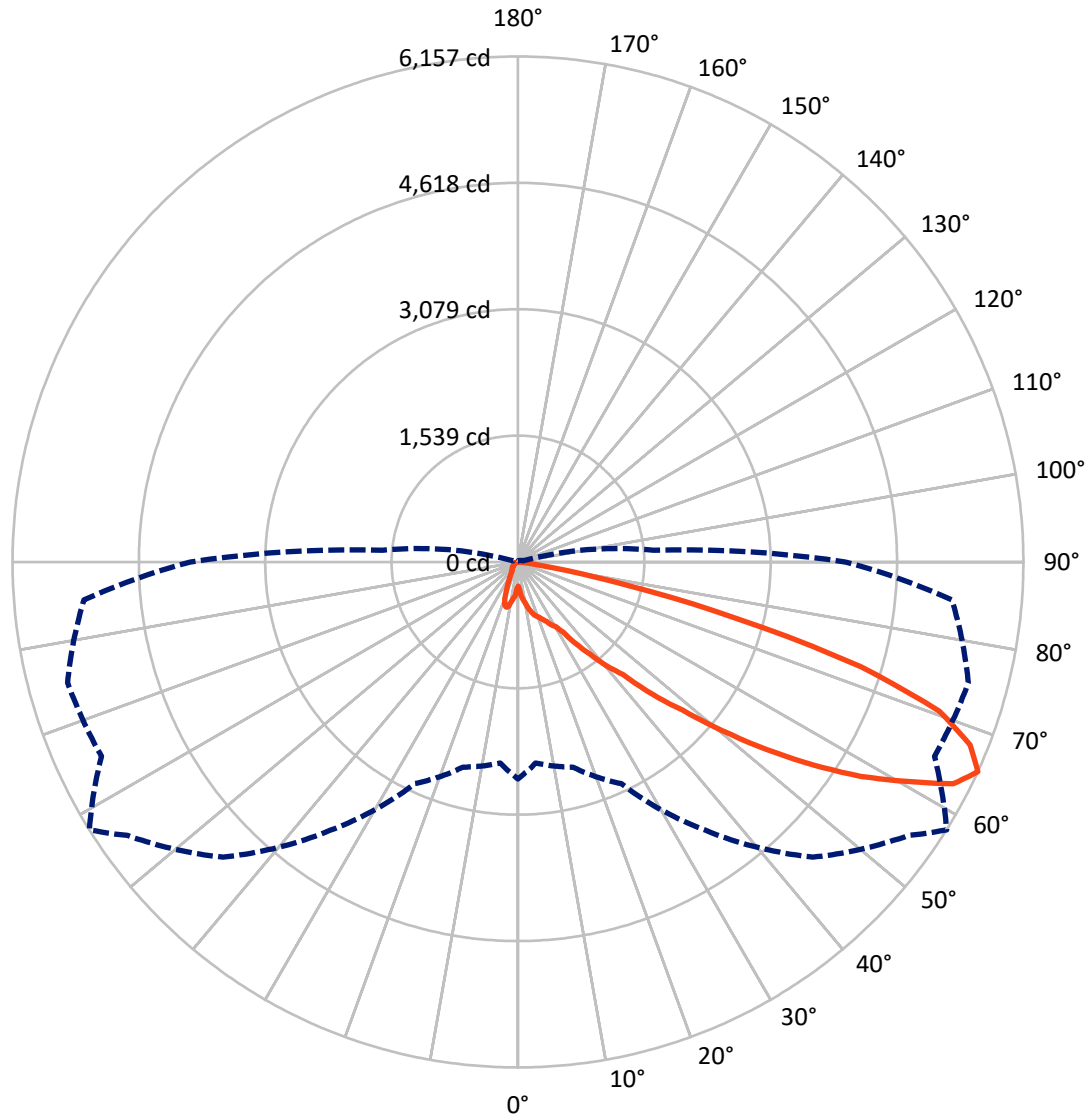
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.9 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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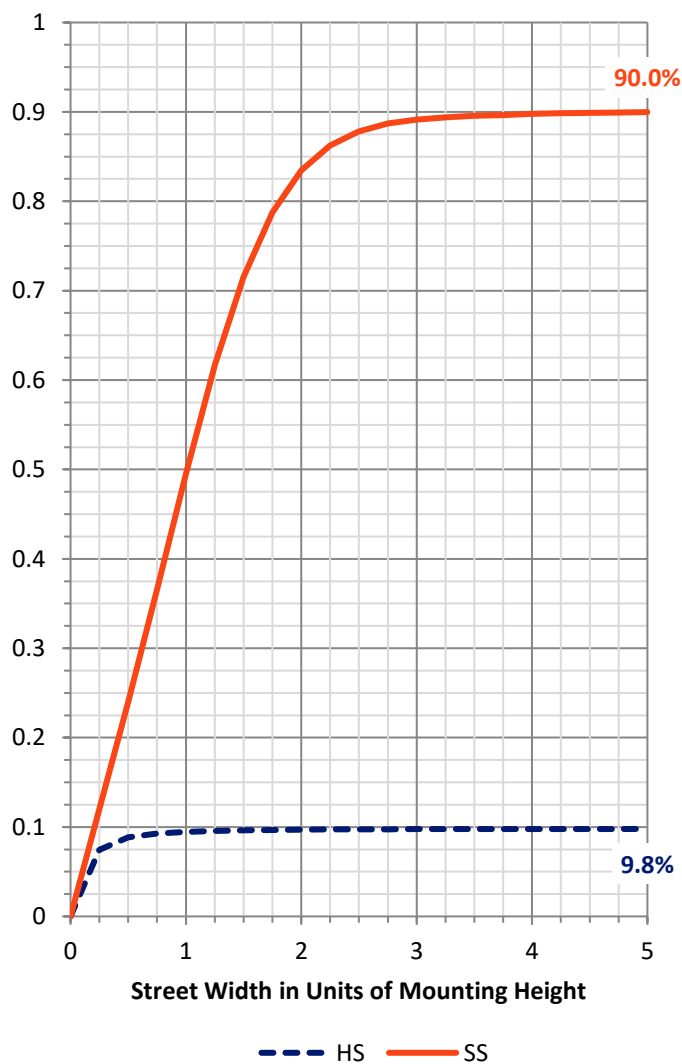
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	722.5	0.0	722.5
	% Fixture	9.9	0.0	9.9
Street Side	Lumens	6599.5	0.0	6599.5
	% Fixture	90.1	0.0	90.1
Total	Lumens	7322.0	0.0	7322.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.2	0.6
10°-20°	150.3	2.1
20°-30°	290.9	4.0
30°-40°	580.4	7.9
40°-50°	1186.6	16.2
50°-60°	2104.7	28.7
60°-70°	2219.0	30.3
70°-80°	719.4	9.8
80°-90°	29.4	0.4
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°	7322.0	100.0
0°-180°	7322.0	100.0

Coefficient of Utilization



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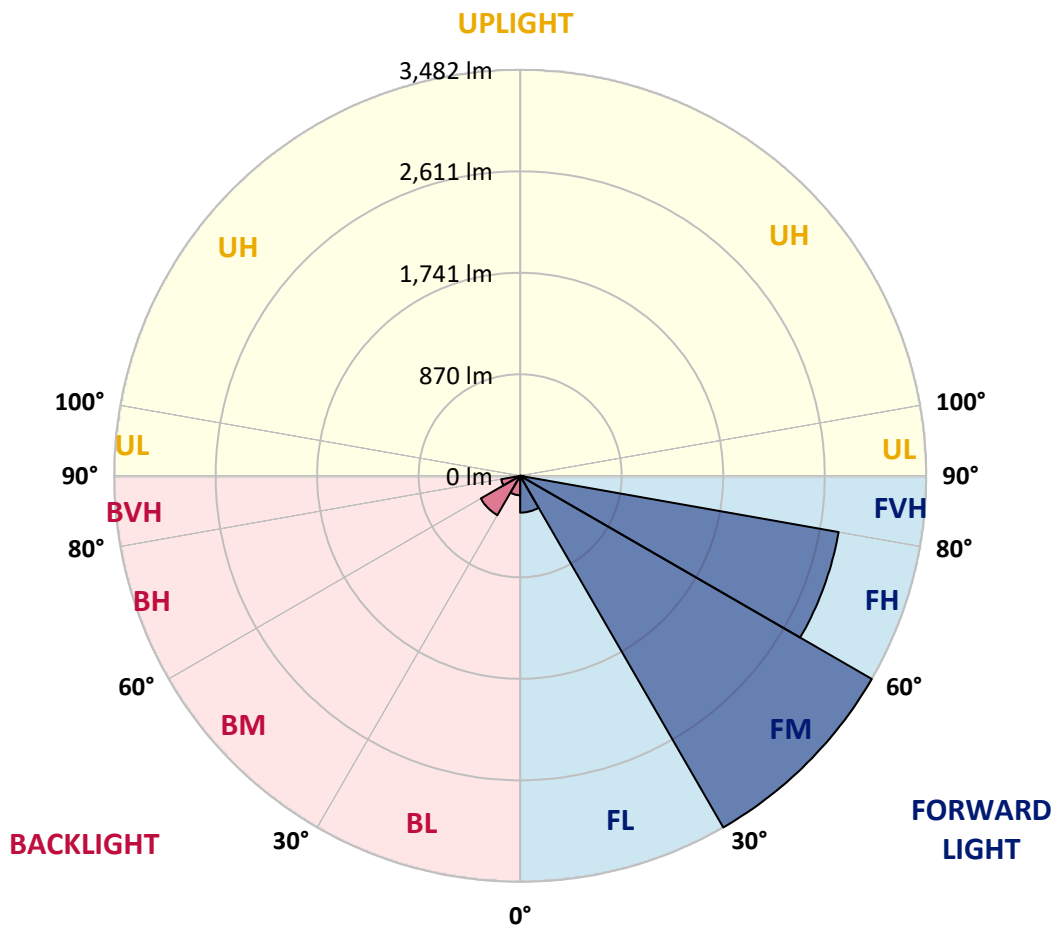
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	315.9	4.3			
FM (30°-60°)	3482.0	47.6			
FH (60°-80°)	2773.5	37.9			G2/5000
FVH (80°-90°)	28.2	0.4			G1/100
BL (0°-30°)	166.5	2.3	B1/500		
BM (30°-60°)	389.8	5.3	B1/1000		
BH (60°-80°)	164.9	2.3	B1/500		G1/500
BVH (80°-90°)	1.2	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-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	293.1	293.1	293.1	293.1	293.1	293.1	293.1	293.1	293.1	293.1	293.1
2.5°	357.8	347.1	330.2	333.1	336.4	343.0	337.6	332.7	327.3	320.3	347.1
5°	432.0	414.3	412.7	409.0	406.1	405.7	412.3	410.2	413.1	426.3	439.9
7.5°	459.2	451.8	437.8	443.6	434.5	427.5	456.8	466.3	484.4	490.6	526.0
10°	456.4	445.6	451.4	454.3	460.5	486.0	504.6	514.9	530.6	564.4	557.4
12.5°	469.6	479.0	485.2	485.6	517.4	564.4	577.6	586.2	614.3	627.4	662.1
15°	513.7	529.3	519.4	523.6	533.9	591.2	622.1	641.1	680.6	723.5	732.2
17.5°	576.7	586.6	566.0	551.2	579.6	611.0	667.0	686.8	712.0	812.1	830.7
20°	656.3	673.2	628.7	569.7	607.2	644.3	705.4	714.8	741.6	872.3	901.6
22.5°	842.2	817.1	749.1	657.1	646.0	662.5	720.6	757.7	803.1	906.1	974.2
25°	1025.7	1017.0	916.8	814.2	740.0	702.9	780.0	800.6	874.8	986.5	1024.0
27.5°	1229.7	1247.1	1079.7	1017.4	871.9	750.7	817.1	868.6	956.4	1015.8	1106.1
30°	1498.9	1471.3	1275.1	1212.8	1046.7	882.2	913.1	916.4	1045.5	1112.3	1198.0
32.5°	1710.0	1727.7	1481.2	1385.6	1252.8	1084.6	985.3	1028.2	1120.5	1269.3	1350.5
35°	1938.4	1936.8	1696.4	1567.8	1394.2	1249.9	1199.2	1230.6	1346.4	1515.0	1536.5
37.5°	2279.8	2250.5	1966.9	1778.5	1630.9	1507.6	1468.9	1427.2	1546.8	1707.5	1787.9
40°	2601.7	2500.7	2238.5	2015.1	1826.3	1776.0	1635.8	1661.4	1696.8	1909.1	2131.3
42.5°	2927.0	2864.3	2513.9	2326.7	2094.7	1975.1	1883.6	1871.6	2040.2	2291.7	2521.3
45°	3356.1	3164.4	2884.1	2719.6	2450.8	2330.9	2257.1	2301.2	2452.9	2820.2	2973.2
47.5°	3716.4	3540.0	3299.3	3049.4	2767.4	2902.3	2763.7	2694.1	2902.3	3281.9	3485.2
50°	4026.1	3829.4	3585.8	3400.7	3354.9	3484.4	3204.0	3229.6	3364.8	3810.9	3925.5
52.5°	4251.1	4044.2	3831.5	3742.0	3929.6	3994.7	3854.1	3797.7	3920.5	4261.9	4317.5
55°	4420.6	4208.7	4042.5	4165.8	4528.6	4507.1	4556.6	4363.7	4481.2	4732.2	4705.9
57.5°	4430.9	4179.8	4082.5	4280.8	4778.8	5110.7	5255.4	4927.2	4994.0	5100.0	5040.6
60°	4106.9	3857.0	3849.2	4130.8	4851.4	5266.9	5583.5	5423.6	5334.1	5412.9	5300.3
62.5°	3461.3	3286.5	3368.1	3679.3	4581.4	5180.8	5758.3	5950.9	5602.5	5620.2	5460.3
65°	2642.9	2459.5	2587.3	2979.3	3991.0	5084.3	5807.8	6157.0	5597.6	5679.2	5306.9
67.5°	1750.4	1644.1	1788.8	2220.8	3173.1	4488.2	5782.2	5940.5	5419.9	5448.7	4737.6
70°	903.7	877.7	994.8	1335.7	2133.4	3448.1	5531.2	5444.6	5059.2	4693.9	3654.2
72.5°	289.4	290.6	403.2	610.1	1150.2	2099.2	4251.6	4370.3	4048.3	3433.6	2231.1
75°	128.2	126.1	168.6	256.0	479.4	941.2	2641.3	2769.5	2520.5	1888.9	937.9
77.5°	92.3	89.5	108.0	149.6	237.5	319.1	1238.4	1336.5	1142.8	654.7	214.8
80°	65.1	64.7	78.3	105.1	148.4	141.8	391.2	438.6	351.2	158.7	63.1
82.5°	36.7	37.9	54.4	74.2	90.3	70.9	110.1	121.2	118.3	84.5	27.6
85°	17.7	19.8	35.5	53.6	47.4	27.6	39.2	42.5	49.5	49.1	14.0
87.5°	0.0	0.0	14.4	24.3	12.8	4.1	12.0	13.6	13.2	15.7	3.3
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°	293.1	293.1	293.1	293.1	293.1	293.1	293.1	293.1	293.1	293.1	293.1
2.5°	352.5	350.0	318.7	321.1	328.2	325.3	327.7	322.0	315.4	342.2	341.8
5°	445.6	427.1	417.2	408.1	409.8	391.2	401.9	406.9	406.1	421.3	425.4
7.5°	527.3	502.5	482.7	463.8	434.9	409.0	425.0	435.3	442.3	468.7	479.0
10°	565.6	545.4	537.6	500.5	479.9	463.8	444.4	430.4	436.2	429.2	436.2
12.5°	649.7	636.1	606.0	568.5	543.8	510.8	438.6	378.4	341.3	341.8	339.3
15°	726.4	725.6	680.6	618.4	546.6	452.7	340.1	264.3	229.2	219.3	216.0
17.5°	826.6	814.2	732.2	640.2	511.2	350.4	231.7	181.0	177.7	183.5	181.0
20°	890.5	872.3	757.7	608.5	421.3	237.0	174.8	160.4	170.3	178.5	176.4
22.5°	954.4	927.2	777.1	569.7	299.7	173.6	157.9	155.4	161.6	171.9	173.6
25°	989.4	984.0	815.0	497.2	205.3	152.1	152.1	151.3	153.4	160.8	159.5
27.5°	1091.2	1018.7	786.6	387.9	158.7	139.8	141.8	141.0	133.6	141.0	141.4
30°	1154.7	1121.3	788.6	276.2	139.8	123.7	129.0	122.4	111.3	117.5	116.3
32.5°	1282.5	1199.2	782.5	186.3	127.4	117.9	109.7	100.2	91.9	94.4	92.3
35°	1431.3	1367.9	698.8	149.6	118.7	104.3	91.1	81.6	73.0	75.0	74.6
37.5°	1727.3	1525.7	629.5	134.8	113.0	95.6	80.4	67.2	62.7	63.9	65.1
40°	2001.5	1789.2	500.5	128.2	103.1	85.3	66.4	56.9	54.0	54.8	56.1
42.5°	2411.3	1998.6	378.0	121.6	93.2	72.1	55.2	49.1	46.2	47.8	48.6
45°	2807.8	2176.7	282.4	115.8	84.9	62.3	46.6	42.5	39.2	40.4	42.0
47.5°	3204.0	2374.6	210.7	106.8	75.9	53.6	40.0	37.1	35.0	35.5	37.5
50°	3558.6	2466.9	165.7	95.6	68.4	46.6	36.3	33.4	32.6	33.0	34.6
52.5°	3819.1	2467.7	139.8	85.7	61.4	41.2	34.2	30.9	30.5	31.3	33.0
55°	4054.5	2401.8	121.2	77.1	55.2	37.5	32.6	29.7	29.7	30.5	32.2
57.5°	4210.7	2280.6	105.1	68.0	49.9	35.5	31.3	28.4	28.0	27.6	28.9
60°	4287.0	2115.3	89.0	59.8	44.9	34.2	30.5	25.1	24.7	23.9	24.7
62.5°	4238.8	1908.3	74.6	51.5	40.0	32.6	26.8	21.8	21.0	19.4	20.6
65°	3992.2	1656.8	63.1	44.1	34.6	27.6	22.7	18.6	16.5	14.4	14.0
67.5°	3488.1	1346.0	52.8	37.9	29.7	22.7	18.6	16.5	12.8	11.1	10.7
70°	2614.1	918.9	43.7	32.6	24.7	19.4	15.7	14.8	12.0	10.7	9.9
72.5°	1533.6	495.9	36.7	28.4	21.0	16.1	12.8	13.6	12.0	9.9	9.1
75°	612.6	164.9	29.3	22.7	16.9	11.5	10.7	11.1	10.7	9.1	7.4
77.5°	139.8	51.9	22.7	17.7	13.2	7.4	8.7	9.5	9.5	7.4	5.4
80°	43.7	20.6	13.2	11.1	9.5	4.1	6.2	6.6	4.5	2.1	0.0
82.5°	14.0	5.8	4.5	4.5	4.1	0.8	1.2	0.8	0.0	0.0	0.0
85°	5.4	3.7	2.9	2.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	2.1	1.6	1.2	1.6	0.8	0.0	0.0	0.0	0.0	0.0	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)