

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: P368102

Luminaire Tested: **MSA-SA3D-740-U-SL3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368102
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-SA3D-740-U-SL3
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 19531 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G4

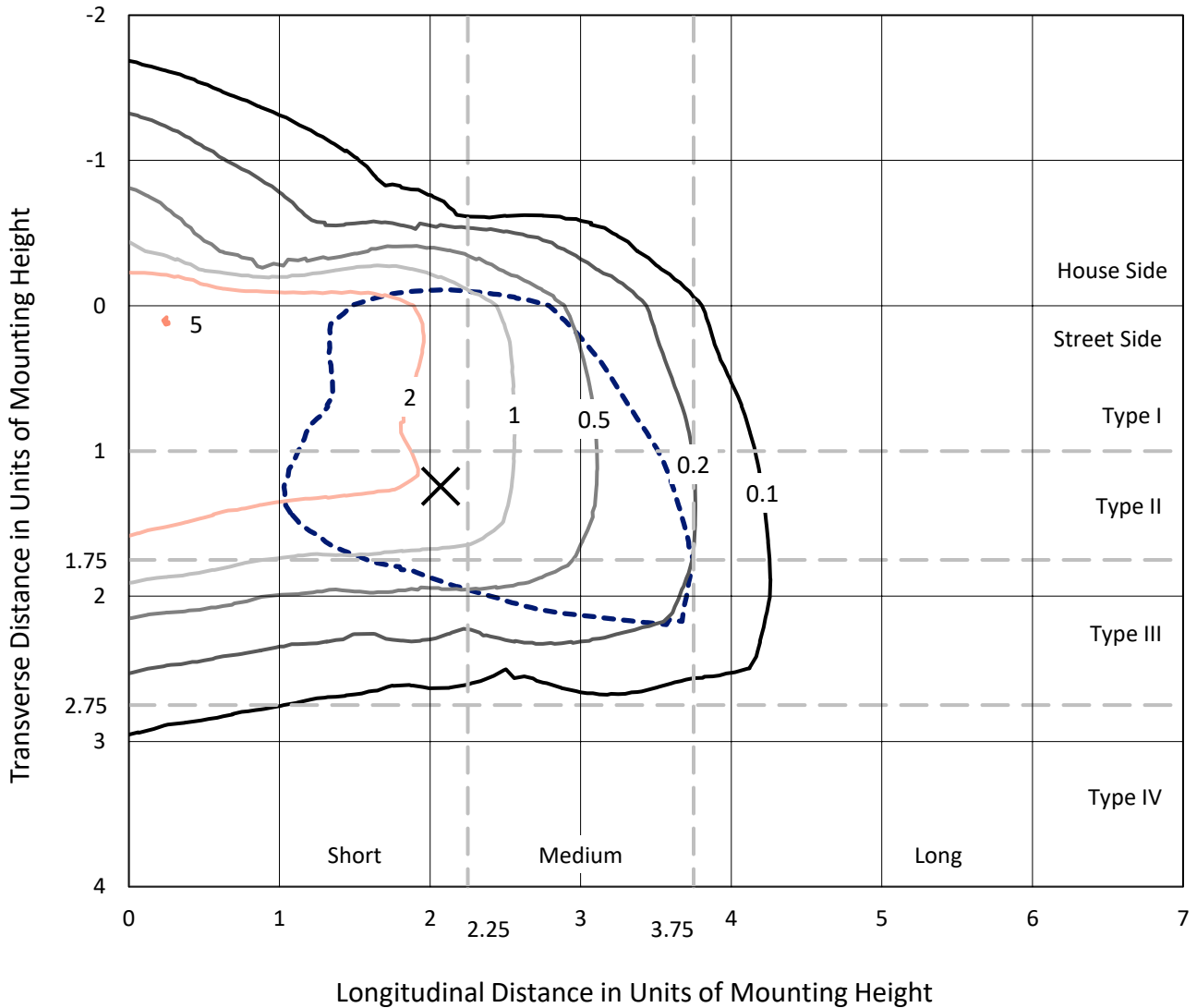
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

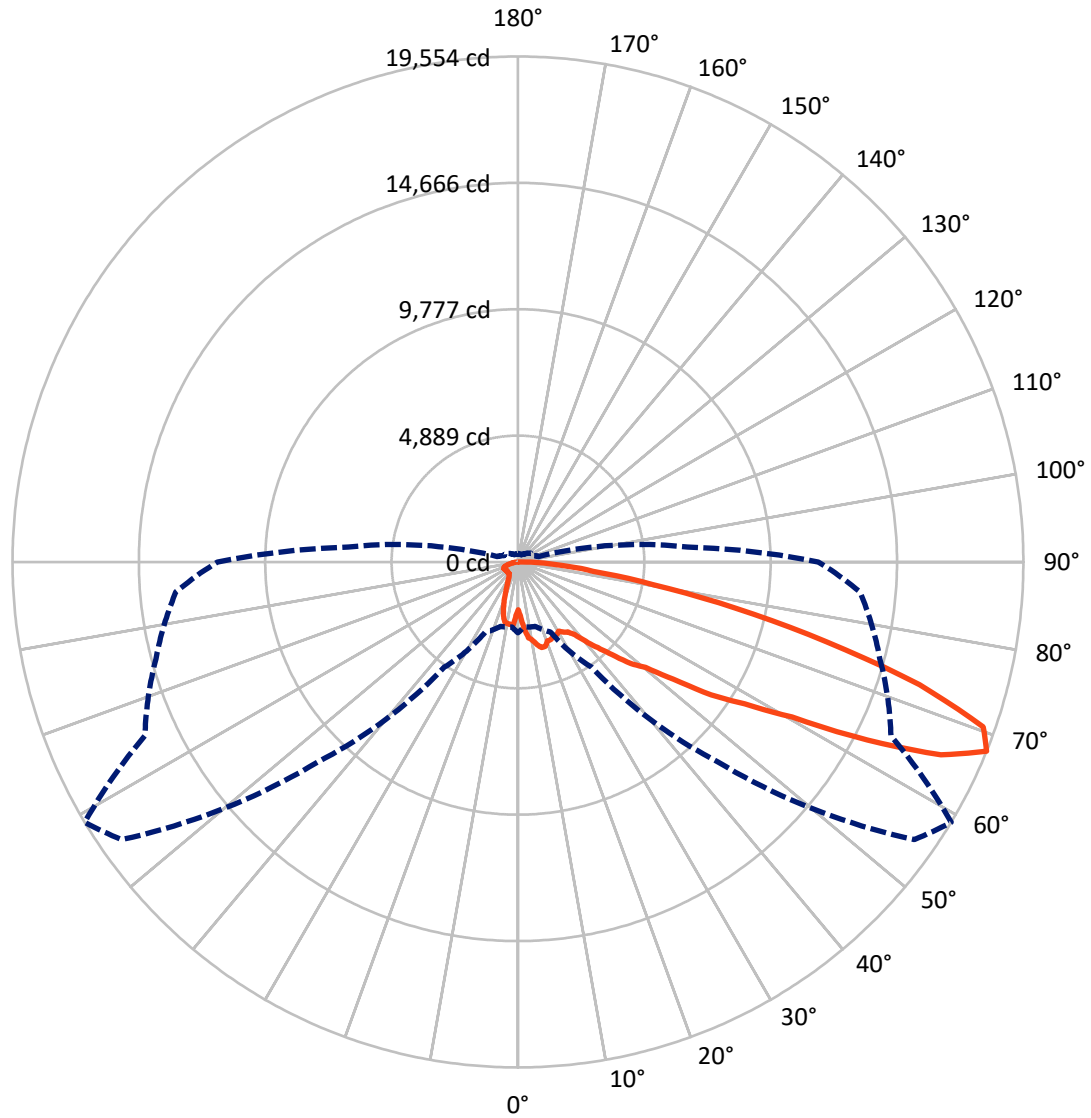
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 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
House Side	Lumens	2939.8	0.0	2939.8
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	16591.2	0.0	16591.2
	% Fixture	84.9	0.0	84.9
Total	Lumens	19531.0	0.0	19531.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.4	1.2
10°-20°	714.3	3.7
20°-30°	1020.1	5.2
30°-40°	1503.1	7.7
40°-50°	2539.6	13.0
50°-60°	4419.3	22.6
60°-70°	5631.6	28.8
70°-80°	2982.0	15.3
80°-90°	479.7	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°	19531.0	100.0
0°-180°	19531.0	100.0

Coefficient of Utilization



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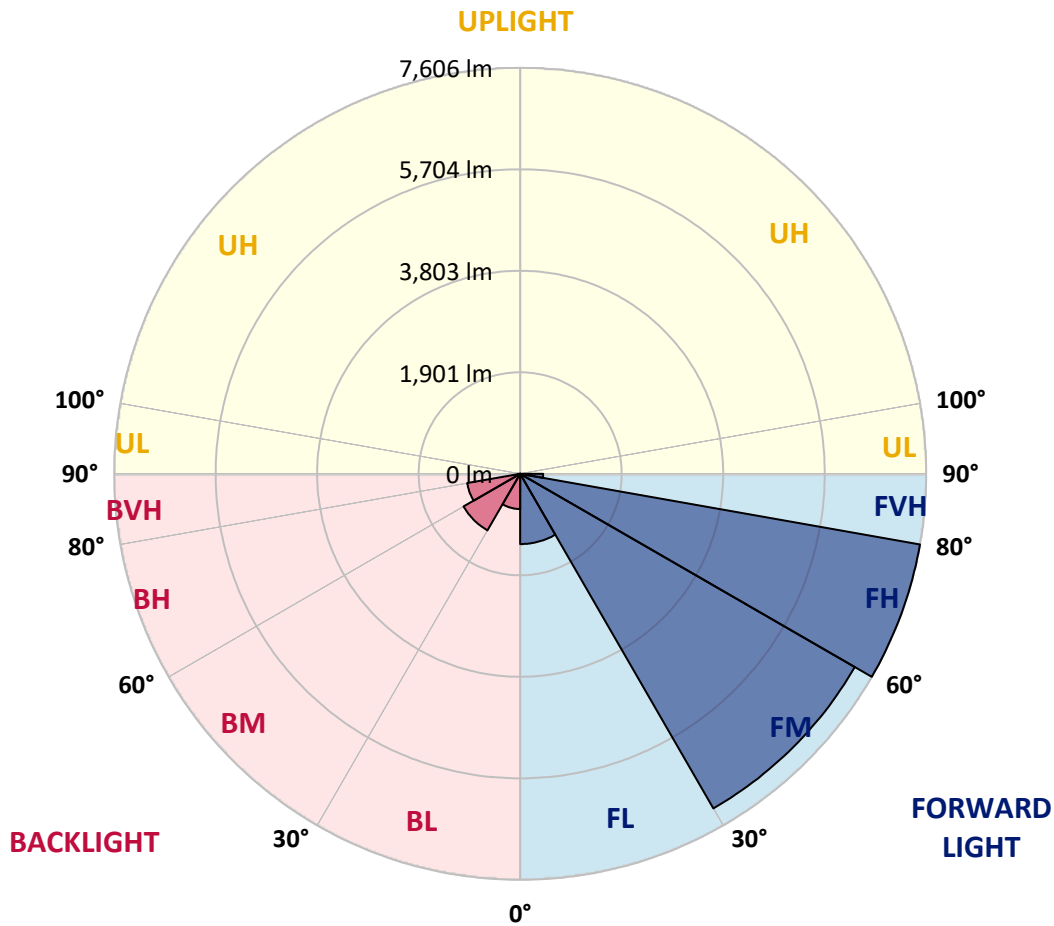
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1316.4	6.7			
FM (30°-60°)	7237.9	37.1			
FH (60°-80°)	7606.0	38.9			G4/12000
FVH (80°-90°)	430.9	2.2			G3/500
BL (0°-30°)	659.3	3.4	B2/1000		
BM (30°-60°)	1224.1	6.3	B2/2500		
BH (60°-80°)	1007.6	5.2	B3/2500		G3/2500
BVH (80°-90°)	48.8	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1
2.5°	2307.5	2199.9	2085.7	2118.0	2183.3	2213.1	2180.9	2149.4	2108.9	2060.9	2224.7
5°	2798.3	2638.6	2615.4	2614.6	2591.4	2498.7	2617.9	2609.6	2657.6	2707.3	2834.7
7.5°	2938.2	2878.6	2814.0	2844.6	2727.9	2723.0	2908.4	2961.3	3054.0	3023.4	3194.7
10°	2866.2	2799.1	2833.1	2820.6	2831.4	2953.9	3067.3	3070.6	3169.9	3267.6	3157.5
12.5°	2739.5	2744.5	2879.4	2874.4	3048.2	3275.8	3309.8	3283.3	3445.5	3379.3	3473.7
15°	2829.7	2890.2	2856.2	2885.2	2953.9	3243.6	3337.9	3433.9	3587.9	3647.5	3553.1
17.5°	2973.8	3006.0	2853.7	2838.0	2979.5	3116.9	3351.2	3433.1	3457.1	3881.7	3748.4
20°	2912.5	2977.9	2828.9	2637.7	2872.8	3054.9	3285.8	3260.9	3377.6	3899.9	3789.0
22.5°	3086.3	2977.9	2788.4	2652.6	2735.4	2902.6	3098.7	3261.8	3400.0	3793.1	3847.8
25°	3119.4	3068.1	2891.0	2756.1	2727.9	2787.5	3067.3	3174.0	3407.4	3938.8	3816.3
27.5°	3321.4	3244.4	2883.5	2887.7	2747.8	2642.7	2968.0	3192.3	3491.9	3848.6	3893.3
30°	3572.1	3513.4	3060.7	3077.2	2883.5	2689.9	3035.8	3103.7	3540.7	3989.3	3990.1
32.5°	3760.0	3863.5	3409.1	3184.0	3115.3	2970.4	2931.5	3236.9	3483.6	4244.2	4155.6
35°	4098.5	4178.8	3677.3	3496.8	3264.3	3101.2	3214.6	3324.7	3721.1	4579.4	4401.5
37.5°	4725.1	4632.4	4175.5	3891.6	3804.7	3569.7	3632.6	3555.6	3979.4	4956.0	4883.1
40°	5087.6	5007.3	4526.4	4369.2	4024.9	4054.7	3976.0	4032.3	4324.5	5356.6	5333.4
42.5°	5445.1	5337.5	4931.2	4821.9	4478.4	4332.8	4346.8	4528.9	4856.7	6003.8	5926.8
45°	5798.5	5522.9	5345.0	5373.9	5208.4	4909.6	4930.3	5101.6	5437.7	6743.7	6566.6
47.5°	6069.2	5841.6	5702.5	5666.9	5585.0	5984.8	5806.0	5875.5	6023.7	7402.5	7335.5
50°	6581.5	6315.8	6134.6	6083.2	6361.3	6917.5	6553.4	6403.5	6718.9	8254.2	8219.4
52.5°	7401.7	7070.6	6768.5	6765.2	7167.5	7528.3	7784.9	7526.7	7642.5	9126.5	9225.8
55°	8117.6	7734.4	7462.9	7612.7	8185.5	8406.5	9278.0	9076.0	8978.4	10007.1	10291.0
57.5°	8384.9	7937.2	7760.1	7981.1	8825.3	9960.8	10882.0	10350.6	10255.4	11003.6	11598.7
60°	7798.1	7324.7	7335.5	7751.8	9214.3	11102.1	12635.8	12184.7	11626.9	12244.3	12825.3
62.5°	6126.3	5698.4	5977.3	6610.5	8888.2	12211.2	14986.3	15176.7	13193.6	13273.1	13505.6
65°	4163.9	3867.6	4119.2	4739.1	7208.9	12816.2	17225.1	17988.2	14620.5	13946.8	13799.4
67.5°	2740.4	2531.0	2579.8	2992.0	4962.6	10925.8	18722.3	19554.1	15924.9	14499.6	13281.3
70°	2122.1	1953.3	1931.7	2147.8	2943.1	7590.4	17835.1	19099.7	16719.4	13981.5	11576.4
72.5°	1665.2	1537.0	1548.5	1756.3	2279.4	4211.1	13801.1	16241.8	15522.6	12058.1	8894.0
75°	1298.6	1193.5	1252.2	1489.8	2108.0	2617.0	9522.1	12327.1	12001.0	8928.7	5072.7
77.5°	942.7	874.8	958.4	1268.8	1981.4	2245.4	5927.6	8600.1	7688.1	4584.4	1740.6
80°	618.3	580.2	648.9	1034.6	1796.8	2161.0	3663.2	5269.7	3798.9	1287.8	658.8
82.5°	364.2	347.6	404.7	700.2	1444.3	2025.3	2443.2	2928.2	1554.3	544.6	350.1
85°	191.2	178.8	240.0	402.2	995.7	1849.0	1923.5	1753.0	750.7	236.7	167.2
87.5°	63.7	62.1	101.8	155.6	376.6	981.6	1026.3	832.6	309.5	68.7	36.4
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°	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1	1848.1
2.5°	2247.1	2214.0	2023.6	2050.1	2074.9	2062.5	2055.1	1969.0	1960.7	2083.2	2073.3
5°	2831.4	2694.0	2531.8	2524.3	2417.6	2308.3	2329.8	2295.1	2305.0	2355.5	2360.5
7.5°	3140.1	2968.8	2814.0	2562.4	2348.9	2175.9	2203.2	2194.9	2172.6	2286.8	2317.4
10°	3134.3	2982.0	2807.4	2502.8	2358.8	2218.1	2049.3	1889.5	1842.4	1786.1	1791.0
12.5°	3341.2	3206.3	2825.6	2515.2	2319.9	2077.4	1761.2	1586.6	1419.4	1416.1	1373.9
15°	3405.8	3306.5	2864.5	2444.1	2047.6	1700.0	1373.1	1183.5	1062.7	1038.7	1003.1
17.5°	3568.8	3413.2	2746.2	2214.0	1731.4	1329.2	1032.1	899.7	889.7	906.3	888.1
20°	3579.6	3327.2	2532.6	1873.8	1391.3	1007.3	841.7	775.5	811.1	851.7	850.0
22.5°	3570.5	3218.7	2348.0	1584.1	1045.3	809.4	737.4	722.5	755.6	816.1	823.5
25°	3477.8	3183.2	2117.1	1301.1	848.3	693.6	673.7	682.8	724.2	795.4	795.4
27.5°	3574.6	3038.3	1827.5	1058.6	713.4	617.4	631.5	654.7	685.3	766.4	781.3
30°	3543.2	3086.3	1594.1	852.5	629.0	564.5	595.9	619.1	653.8	738.3	745.7
32.5°	3627.6	2958.0	1397.9	716.7	573.6	543.8	551.2	582.7	628.2	694.4	707.6
35°	3756.7	3005.2	1172.8	644.7	546.3	519.8	533.8	558.7	604.2	668.7	679.5
37.5°	4168.9	3002.7	1017.2	605.0	541.3	514.8	521.4	538.8	591.8	650.5	675.4
40°	4433.7	3174.9	875.7	595.9	535.5	512.3	506.5	525.6	567.8	637.3	654.7
42.5°	4931.2	3280.0	814.4	592.6	534.7	498.2	492.5	514.8	556.2	620.7	647.2
45°	5456.7	3429.8	765.6	590.9	532.2	495.8	478.4	506.5	541.3	603.4	634.0
47.5°	6075.0	3746.8	738.3	585.2	527.2	499.1	473.4	487.5	526.4	588.5	619.1
50°	6884.4	4166.4	744.1	576.9	534.7	499.9	466.0	472.6	508.2	568.6	600.0
52.5°	7868.5	4816.1	781.3	580.2	539.6	495.8	462.7	459.3	490.0	542.9	574.4
55°	9054.5	5738.1	893.0	595.9	539.6	494.9	457.7	442.8	466.0	509.0	539.6
57.5°	10485.5	6805.8	1111.5	603.4	535.5	490.0	446.9	420.4	434.5	470.1	499.1
60°	11714.6	7667.4	1336.7	608.3	543.8	478.4	425.4	392.3	401.4	428.7	454.4
62.5°	12341.1	7909.0	1404.5	604.2	566.1	470.9	399.8	362.5	363.3	386.5	409.7
65°	12458.6	7587.1	1132.2	600.0	595.1	470.1	381.5	336.9	331.1	347.6	367.5
67.5°	11621.1	6585.6	816.9	590.9	598.4	465.1	369.1	316.2	301.3	312.9	329.4
70°	9867.3	5303.6	686.1	572.7	558.7	440.3	347.6	294.6	274.8	283.1	295.5
72.5°	7356.2	3923.9	598.4	533.8	486.7	376.6	314.5	270.6	250.0	255.7	264.8
75°	4086.9	2093.1	500.7	464.3	397.3	304.6	268.2	240.0	221.8	224.3	234.2
77.5°	1357.3	772.2	367.5	368.3	300.4	235.1	221.0	205.3	191.2	192.0	200.3
80°	614.9	427.1	263.2	264.8	209.4	170.5	169.7	164.7	155.6	153.1	158.9
82.5°	356.7	259.1	180.4	172.2	134.9	110.9	123.3	120.8	118.4	109.3	110.9
85°	175.5	139.0	94.4	89.4	74.5	55.5	66.2	68.7	66.2	56.3	55.5
87.5°	43.0	45.5	23.2	21.5	12.4	5.8	9.9	9.9	12.4	8.3	4.1
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)