

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: P367773

Luminaire Tested: **MSA-SA3A-830-U-SL4-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367773
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3A-830-U-SL4-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7709 lumens
Efficiency: N/A
Efficacy: 80.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

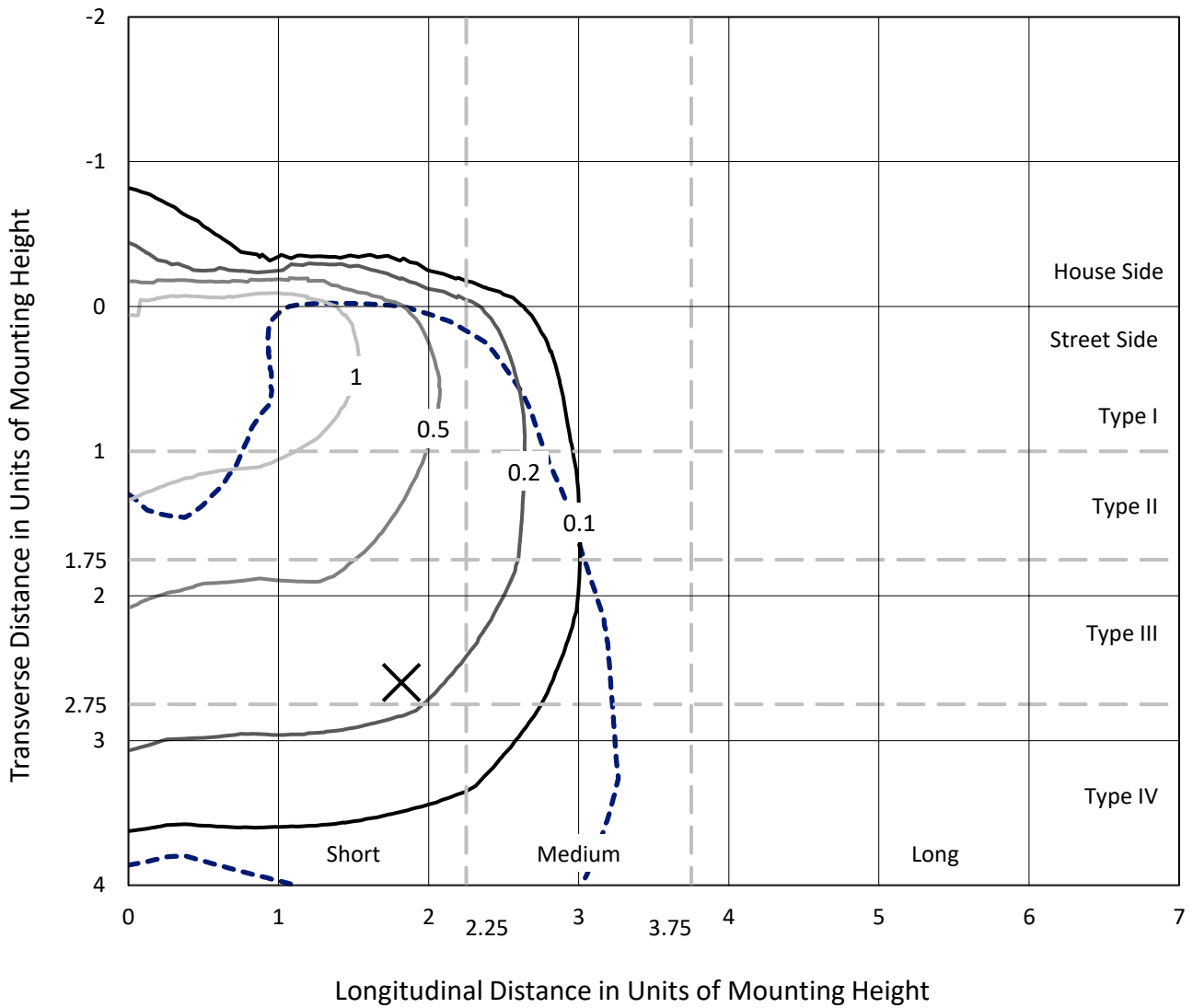
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

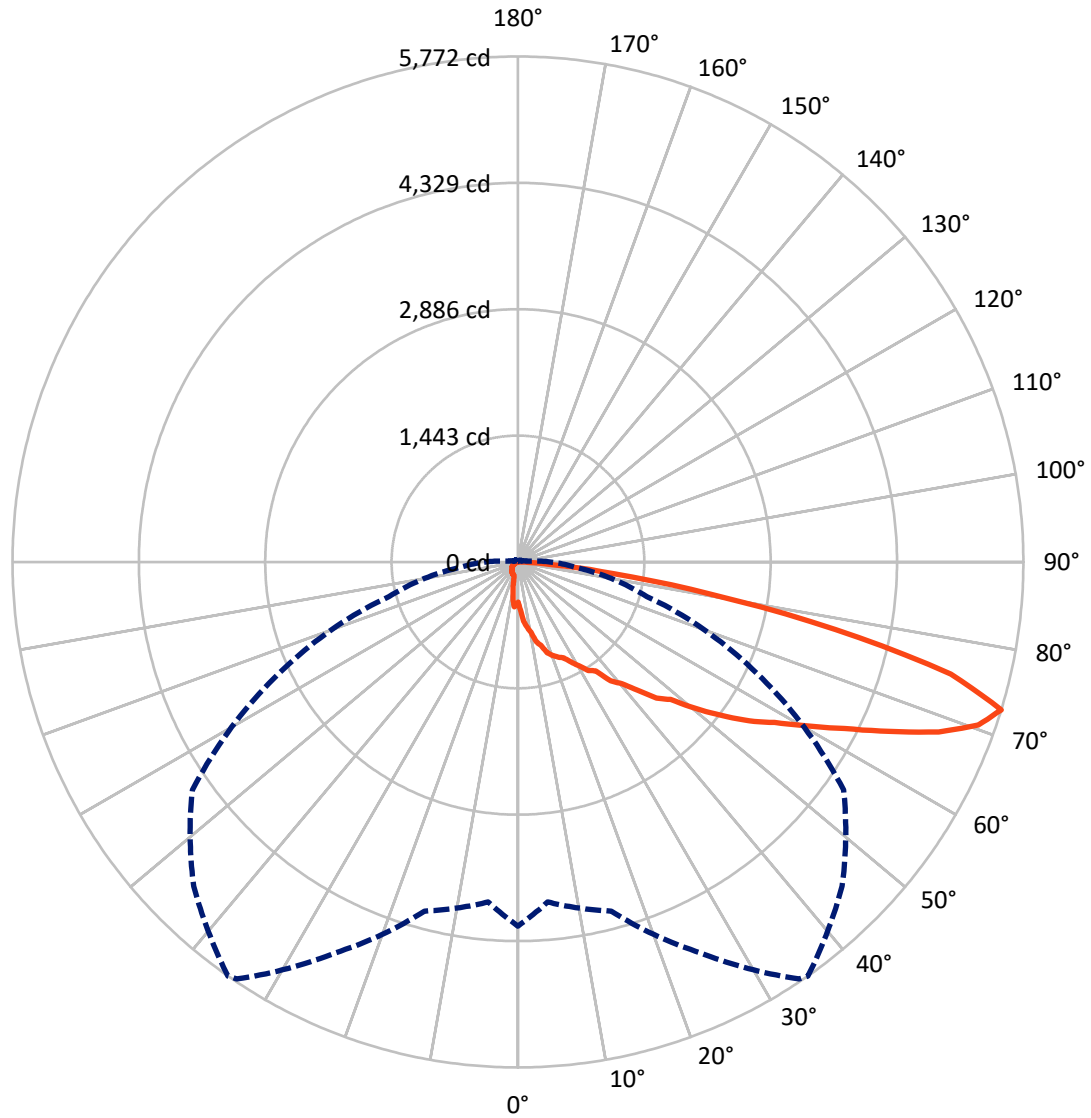
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	601.3	0.0	601.3
	% Fixture	7.8	0.0	7.8
Street Side	Lumens	7107.7	0.0	7107.7
	% Fixture	92.2	0.0	92.2
Total	Lumens	7709.0	0.0	7709.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.6	0.8
10°-20°	197.3	2.6
20°-30°	359.3	4.7
30°-40°	619.7	8.0
40°-50°	1101.6	14.3
50°-60°	1643.9	21.3
60°-70°	2100.3	27.2
70°-80°	1461.2	19.0
80°-90°	167.2	2.2
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°	7709.0	100.0
0°-180°	7709.0	100.0

Coefficient of Utilization



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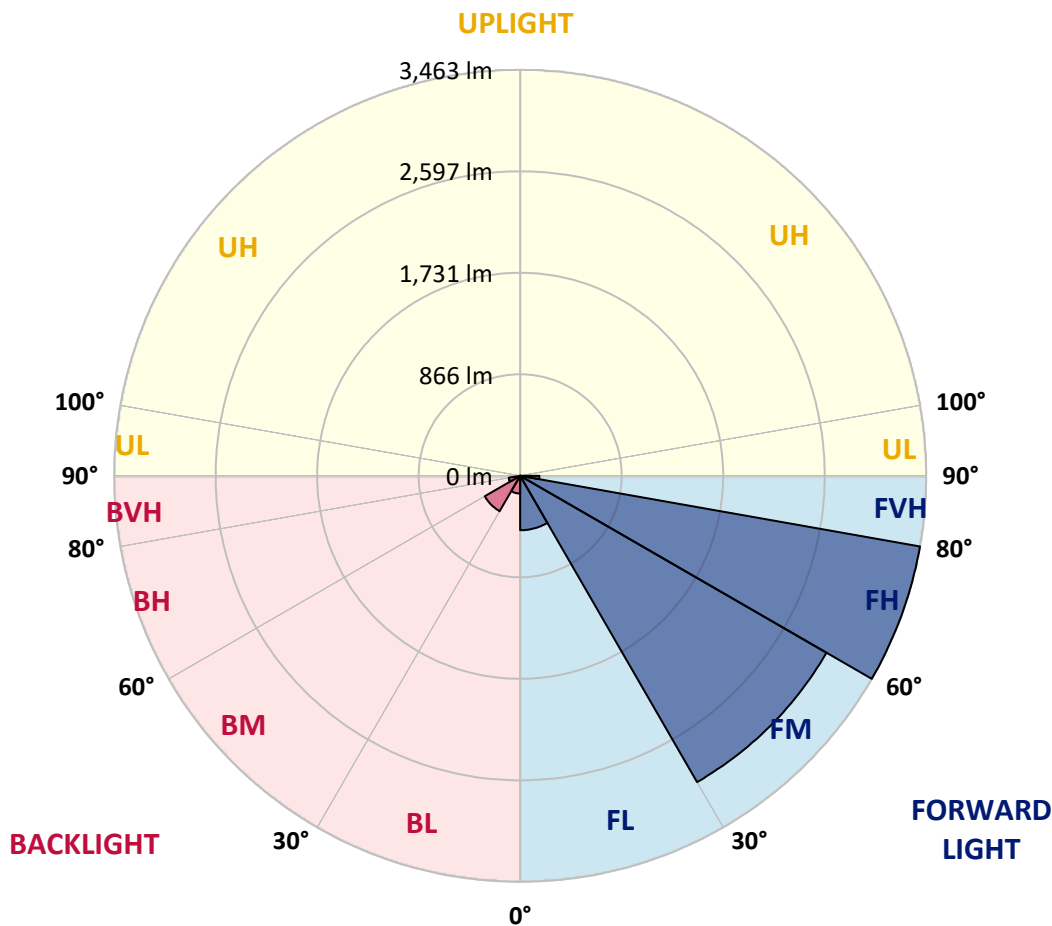
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	463.9	6.0			
FM (30°-60°)	3016.6	39.1			
FH (60°-80°)	3462.9	44.9			G2/5000
FVH (80°-90°)	164.3	2.1			G2/225
BL (0°-30°)	151.2	2.0	B1/500		
BM (30°-60°)	348.7	4.5	B1/1000		
BH (60°-80°)	98.6	1.3	B0/110		G0/110
BVH (80°-90°)	2.8	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	459.2	459.2	459.2	459.2	459.2	459.2	459.2	459.2	459.2	459.2	459.2
2.5°	584.4	561.5	524.3	527.0	543.7	547.2	552.2	539.1	527.4	506.9	546.8
5°	748.7	715.8	694.8	688.3	678.6	679.3	655.7	664.2	661.9	677.0	695.2
7.5°	841.3	823.1	796.8	789.4	753.7	749.9	720.8	759.9	763.8	758.4	788.2
10°	878.1	854.1	857.2	829.7	811.9	816.5	821.2	824.3	829.3	834.4	797.9
12.5°	899.8	904.1	946.4	917.7	935.5	935.5	966.9	933.6	934.7	898.3	904.5
15°	997.5	1021.1	1002.2	1001.8	982.4	987.4	1023.9	997.5	1011.1	1000.2	958.4
17.5°	1120.0	1124.6	1088.6	1072.7	1090.1	1090.5	1075.0	1073.8	1026.6	1106.4	1055.6
20°	1159.1	1185.5	1134.3	1072.3	1144.8	1141.3	1140.1	1121.9	1043.2	1154.1	1112.2
22.5°	1265.7	1228.1	1193.2	1152.5	1180.8	1180.8	1176.5	1136.6	1106.0	1149.8	1167.6
25°	1299.0	1303.7	1258.3	1245.1	1245.9	1211.0	1207.9	1190.9	1161.4	1236.2	1200.6
27.5°	1413.7	1411.8	1302.9	1339.7	1292.8	1293.2	1207.5	1245.9	1250.9	1240.5	1280.4
30°	1526.5	1557.9	1393.6	1440.1	1390.8	1376.1	1292.4	1326.5	1335.4	1323.4	1373.8
32.5°	1670.3	1716.4	1556.7	1511.0	1435.8	1477.7	1419.9	1339.3	1383.5	1490.8	1519.1
35°	1822.6	1845.0	1674.9	1611.0	1526.1	1525.7	1523.8	1530.4	1579.2	1700.1	1724.1
37.5°	2096.2	2043.1	1889.2	1742.7	1761.7	1719.5	1690.0	1721.0	1771.8	1971.0	2073.7
40°	2248.8	2210.5	1993.8	1907.0	1812.9	1828.4	1908.2	1904.7	2040.0	2248.5	2402.3
42.5°	2397.3	2360.8	2147.7	2077.6	1956.6	1998.9	2033.8	2077.9	2355.0	2691.4	2775.9
45°	2529.4	2422.5	2272.1	2274.8	2212.0	2217.1	2278.7	2319.4	2720.1	3065.0	3124.3
47.5°	2609.2	2521.3	2377.1	2374.4	2370.5	2346.9	2637.1	2674.4	3011.1	3420.7	3426.2
50°	2721.6	2611.6	2485.2	2487.6	2577.1	2627.1	2973.5	2969.6	3292.1	3717.6	3592.4
52.5°	2861.5	2727.1	2587.9	2691.4	2829.8	2911.1	3192.5	3307.2	3594.0	3904.0	3657.5
55°	3040.6	2872.4	2738.3	2870.8	3172.7	3204.1	3406.8	3649.0	3923.0	4094.3	3678.4
57.5°	3250.6	3049.9	2941.4	3154.9	3456.0	3456.8	3718.7	4013.3	4124.9	4171.8	3654.8
60°	3476.9	3242.9	3133.6	3325.8	3768.4	3800.1	4065.6	4214.4	4329.9	4210.9	3612.6
62.5°	3676.1	3417.6	3332.8	3558.7	4110.9	4186.1	4367.9	4346.5	4477.9	4260.1	3505.2
65°	3913.3	3644.0	3588.1	3921.8	4558.1	4661.6	4707.3	4581.0	4527.5	4222.1	3225.8
67.5°	4148.1	3896.2	3894.7	4324.5	5144.5	5180.1	5132.1	4911.6	4469.8	3887.3	2713.9
70°	4313.6	4043.1	4145.0	4765.5	5677.3	5577.3	5375.1	5067.7	4052.8	2979.3	1773.0
72.5°	4158.2	3897.4	4127.2	4922.4	5743.2	5771.9	5234.4	4539.5	3011.1	1523.8	641.8
75°	3159.9	3000.3	3583.5	4367.1	5099.1	5105.7	4369.0	3201.8	1482.7	413.9	177.5
77.5°	1591.6	1540.8	2268.2	3100.2	3720.3	3709.4	3001.8	1715.2	477.1	137.6	89.5
80°	805.7	765.0	965.3	1672.6	2209.3	2225.6	1714.0	768.1	240.7	74.8	62.0
82.5°	494.9	469.7	528.2	756.8	1072.3	1098.3	650.3	486.4	149.2	44.2	56.6
85°	95.7	100.8	303.4	379.0	428.2	418.1	192.6	400.3	45.0	26.4	41.1
87.5°	0.0	1.6	70.1	123.6	124.0	110.1	43.8	88.7	6.2	7.4	5.0
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°	459.2	459.2	459.2	459.2	459.2	459.2	459.2	459.2	459.2	459.2	459.2
2.5°	553.4	547.6	499.1	493.7	494.9	486.7	484.0	467.0	462.7	489.1	493.7
5°	687.5	648.7	603.8	587.5	562.3	519.7	513.5	502.6	490.6	495.3	491.8
7.5°	769.6	718.1	670.0	584.4	513.5	451.5	441.4	422.8	404.2	404.6	416.6
10°	782.8	739.4	673.1	568.9	487.9	410.4	343.0	294.1	272.0	252.3	258.1
12.5°	859.2	818.9	696.8	564.2	450.7	329.8	241.4	193.8	172.8	165.9	165.1
15°	920.4	888.6	737.1	549.9	368.2	232.1	172.8	158.9	155.0	161.6	159.7
17.5°	1011.5	954.1	732.8	490.6	280.6	176.3	159.3	157.3	162.0	165.9	167.0
20°	1051.4	968.8	703.8	397.6	210.0	161.6	155.4	151.5	160.1	171.7	169.4
22.5°	1091.7	994.0	669.7	325.5	169.0	154.6	151.1	148.0	154.6	165.9	168.6
25°	1109.9	1034.3	631.7	254.2	157.0	146.5	144.2	145.3	150.7	160.8	159.7
27.5°	1201.7	1039.0	559.2	200.7	151.9	140.7	140.7	143.4	143.4	157.0	155.8
30°	1259.1	1117.6	500.3	169.0	146.1	132.5	137.2	138.3	136.4	151.1	152.3
32.5°	1359.8	1139.3	442.9	155.0	136.8	131.4	130.6	131.4	132.9	147.3	147.6
35°	1514.9	1246.3	364.7	149.6	132.1	125.6	120.1	124.4	128.3	138.7	140.7
37.5°	1817.9	1356.0	297.2	145.3	129.8	120.1	118.2	117.4	124.4	136.4	140.3
40°	2063.2	1550.1	241.8	141.8	125.2	117.0	112.0	112.4	118.6	127.5	133.3
42.5°	2410.4	1690.4	205.0	136.4	118.6	110.4	104.6	108.1	110.8	120.1	124.0
45°	2700.3	1799.3	180.6	132.9	112.0	104.2	99.6	103.5	100.8	105.4	110.8
47.5°	2930.9	1894.3	162.4	124.4	107.7	100.8	94.9	93.8	89.1	90.3	95.3
50°	3057.6	1878.4	147.3	115.9	102.3	97.3	89.1	81.0	74.8	74.4	77.5
52.5°	3102.6	1793.5	134.9	108.5	95.7	89.5	80.2	69.0	62.8	60.8	63.6
55°	3115.0	1671.4	123.6	100.4	89.5	79.8	70.1	58.1	51.5	48.4	51.2
57.5°	3074.7	1483.5	112.8	92.6	82.2	70.5	60.1	47.7	41.5	37.6	39.9
60°	2975.1	1244.7	103.1	82.9	74.4	62.4	50.8	38.4	31.8	28.3	29.5
62.5°	2754.6	975.8	92.6	74.0	66.3	54.6	42.6	30.2	24.0	20.9	21.3
65°	2419.0	727.4	80.6	65.5	58.9	47.3	34.1	23.3	18.2	15.5	15.1
67.5°	1927.2	492.9	68.6	56.6	52.3	39.9	27.1	18.2	14.3	12.4	11.6
70°	1132.8	248.4	57.0	48.8	45.0	33.3	21.3	14.7	13.2	11.6	10.9
72.5°	373.6	107.3	44.6	40.3	37.2	26.7	16.7	13.6	12.8	11.2	10.5
75°	130.2	62.0	32.9	31.0	29.5	20.2	14.0	12.4	12.4	10.9	9.7
77.5°	85.3	48.1	24.4	22.5	22.1	14.7	12.0	11.6	10.9	8.9	7.4
80°	70.9	27.1	17.1	15.9	15.5	9.3	9.7	8.5	6.6	3.9	1.6
82.5°	65.5	16.3	8.9	9.7	8.9	3.5	5.4	4.7	3.5	1.6	0.0
85°	38.4	7.4	5.0	5.0	3.9	0.8	2.7	2.7	1.6	0.4	0.0
87.5°	4.3	3.5	2.7	2.7	1.9	0.0	1.2	0.8	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)