

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: P368431

Luminaire Tested: **MSA-SA4B-830-U-SL3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368431
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-830-U-SL3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12678 lumens
Efficiency: N/A
Efficacy: 74.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G3

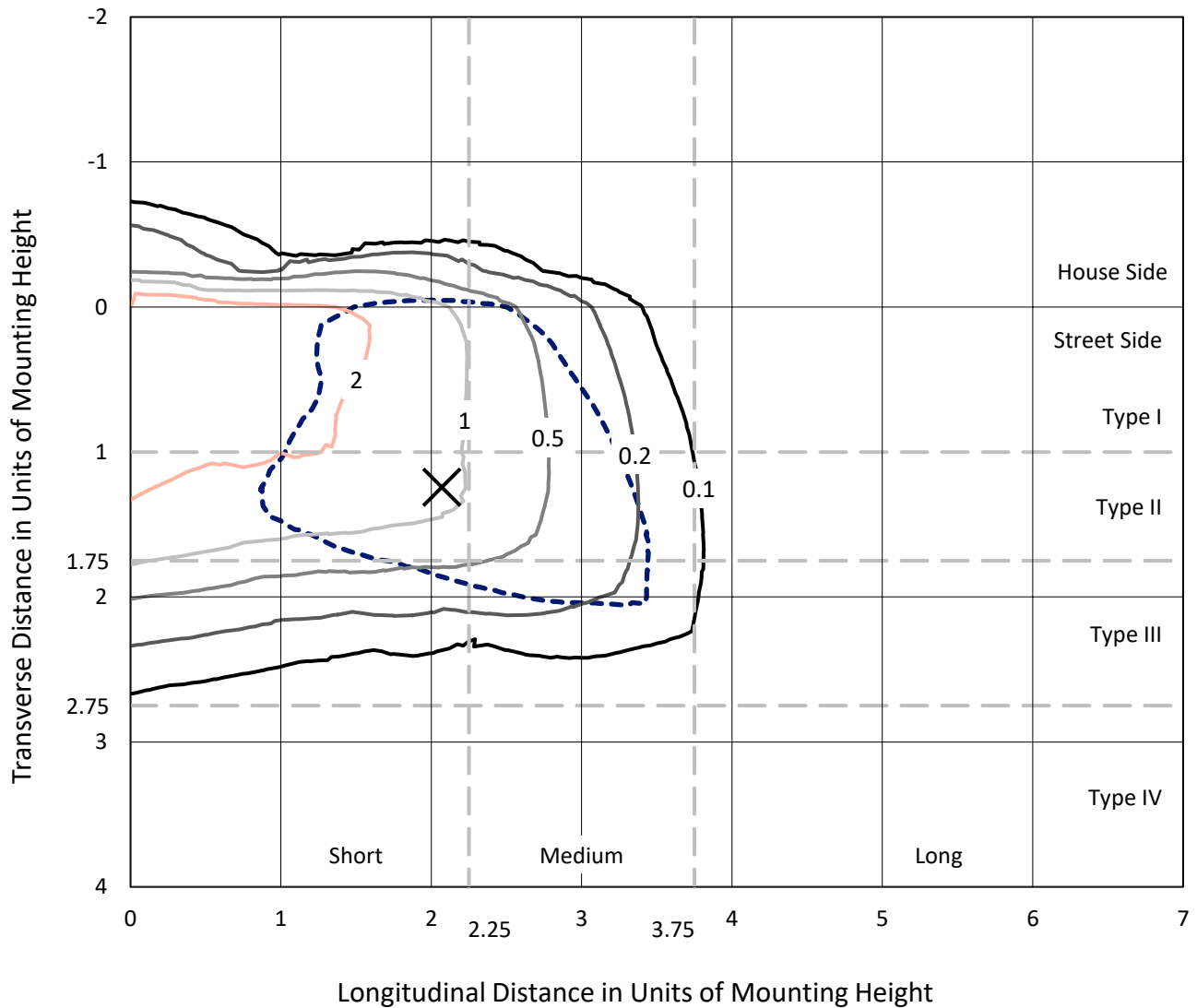
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

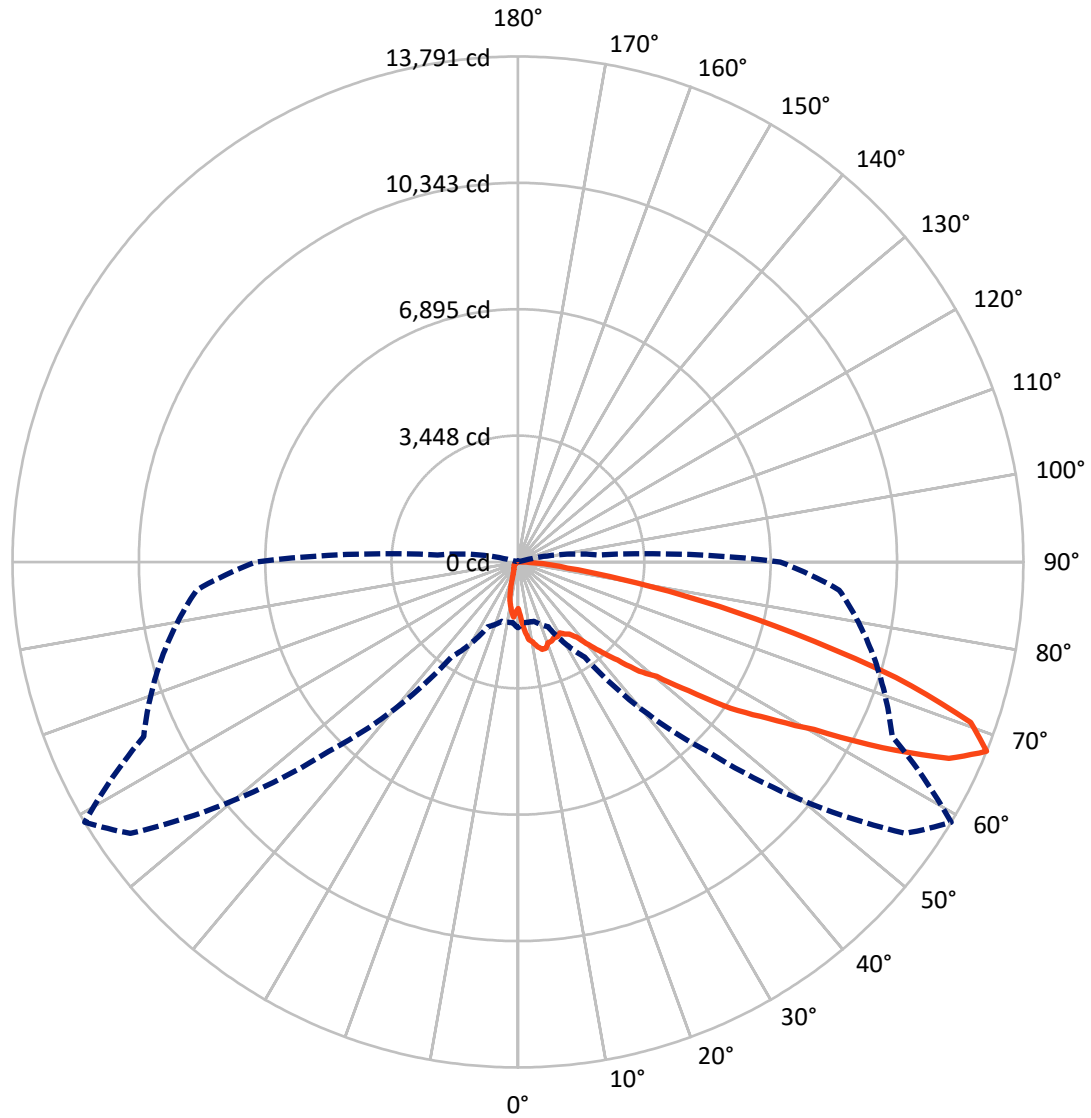
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 fc
 Type III - Short - N/A

REPORT NUMBER: P368431
CATALOG NUMBER: MSA-SA4B-830-U-SL3-HSS

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	1078.2	0.0	1078.2
	% Fixture	8.5	0.0	8.5
Street Side	Lumens	11599.8	0.0	11599.8
	% Fixture	91.5	0.0	91.5
Total	Lumens	12678.0	0.0	12678.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.2	1.2
10°-20°	434.3	3.4
20°-30°	645.9	5.1
30°-40°	996.6	7.9
40°-50°	1778.6	14.0
50°-60°	3165.0	25.0
60°-70°	3686.1	29.1
70°-80°	1639.3	12.9
80°-90°	178.0	1.4
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°	12678.0	100.0
0°-180°	12678.0	100.0

Coefficient of Utilization

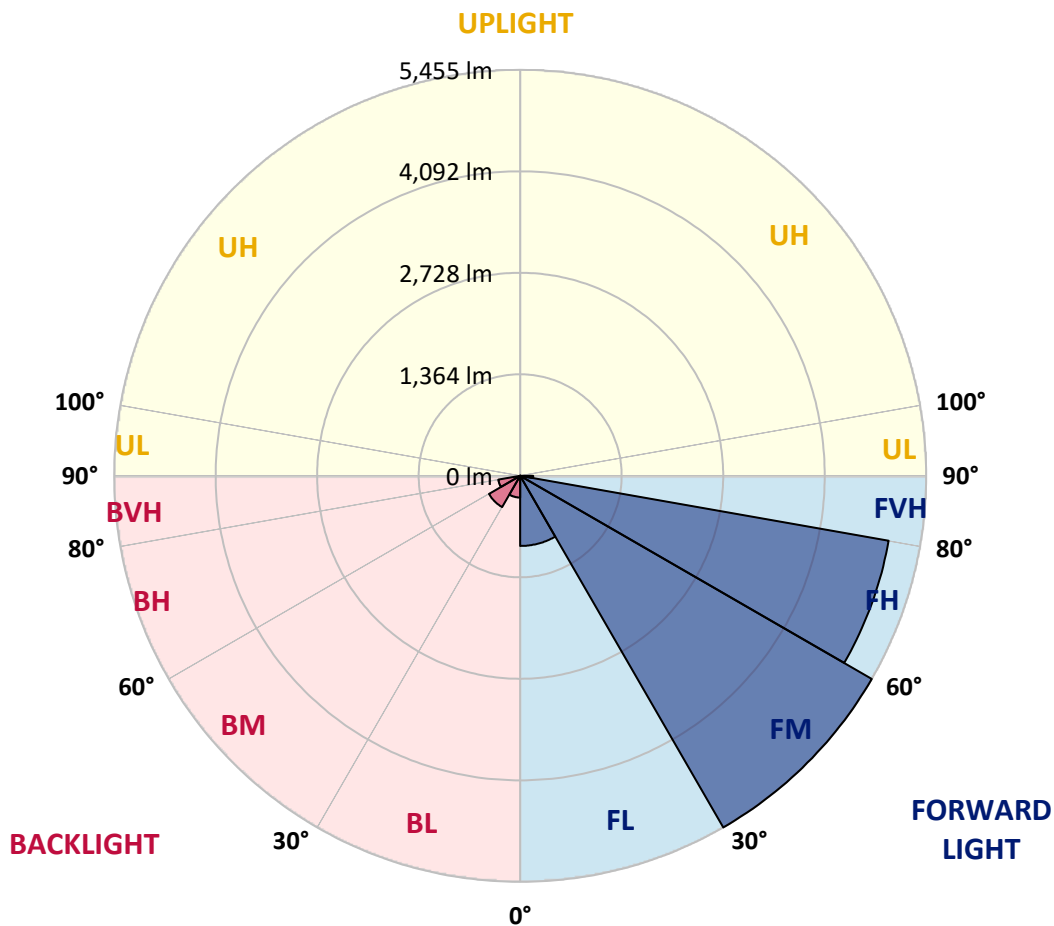


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	942.9	7.4			
FM (30°-60°)	5455.3	43.0			
FH (60°-80°)	5026.7	39.6			G3/7500
FVH (80°-90°)	174.9	1.4			G2/225
BL (0°-30°)	291.6	2.3	B1/500		
BM (30°-60°)	484.8	3.8	B1/1000		
BH (60°-80°)	298.7	2.4	B1/500		G1/500
BVH (80°-90°)	3.2	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-G3
 Type III Short





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CATALOG NUMBER: MSA-SA4B-830-U-SL3-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5
2.5°	1653.6	1591.4	1502.8	1529.1	1552.9	1575.3	1538.1	1516.9	1506.6	1415.5	1529.7
5°	2030.5	1952.8	1912.3	1902.1	1876.4	1819.3	1914.3	1871.9	1886.0	1904.0	1941.2
7.5°	2145.4	2110.1	2051.6	2073.5	1975.9	1967.5	2099.1	2135.7	2183.9	2151.1	2196.1
10°	2086.3	2025.3	2052.9	2045.2	2041.4	2127.4	2219.8	2221.8	2293.7	2328.3	2176.2
12.5°	1969.5	1976.5	2075.4	2067.7	2196.1	2368.1	2389.3	2366.8	2484.3	2424.0	2400.9
15°	2047.1	2104.9	2050.4	2069.0	2114.6	2329.6	2404.7	2474.0	2585.1	2621.0	2465.1
17.5°	2140.9	2146.6	2047.1	2024.0	2138.9	2239.1	2416.3	2473.4	2484.3	2799.5	2609.5
20°	2090.2	2139.6	2020.8	1875.1	2053.6	2189.7	2369.4	2351.4	2424.6	2852.1	2642.2
22.5°	2225.0	2154.4	2002.2	1892.4	1952.8	2076.7	2228.8	2346.3	2456.1	2726.3	2684.6
25°	2237.8	2212.1	2076.7	1979.1	1968.8	2000.3	2212.1	2287.9	2459.9	2839.3	2648.6
27.5°	2382.2	2352.7	2075.4	2085.0	1988.7	1891.8	2131.2	2309.1	2529.9	2770.6	2725.0
30°	2568.4	2571.0	2213.4	2243.6	2106.2	1950.2	2197.4	2246.1	2577.4	2880.4	2781.5
32.5°	2757.1	2834.8	2486.2	2326.4	2283.4	2171.7	2115.2	2340.5	2525.4	3067.8	2922.8
35°	3044.1	3096.7	2710.9	2567.8	2398.9	2271.8	2338.6	2419.5	2712.2	3316.3	3108.3
37.5°	3530.0	3435.0	3114.1	2865.0	2824.5	2637.1	2670.5	2597.9	2902.9	3609.0	3475.5
40°	3803.5	3717.5	3383.7	3262.3	3004.3	3033.2	2927.9	2970.3	3179.5	3913.9	3809.9
42.5°	4088.5	4006.4	3713.6	3627.6	3381.7	3262.3	3214.8	3367.0	3603.9	4421.7	4289.4
45°	4374.8	4166.2	4042.3	4085.3	3974.9	3738.7	3683.5	3818.9	4067.3	5045.7	4795.3
47.5°	4616.2	4440.3	4347.2	4327.3	4284.3	4612.3	4387.7	4447.4	4557.1	5597.7	5425.7
50°	5051.4	4878.1	4732.4	4691.9	4901.2	5366.6	5020.0	4904.4	5124.0	6264.7	6156.2
52.5°	5679.9	5459.1	5227.3	5228.0	5622.8	5878.2	6042.6	5839.7	5880.8	6998.4	6950.3
55°	6185.1	5904.6	5712.6	5864.1	6452.8	6595.9	7223.1	7045.3	6992.0	7678.9	7619.8
57.5°	6254.4	5918.0	5826.9	6092.7	6898.3	7812.4	8487.1	8042.9	7961.3	8248.3	8365.8
60°	5607.4	5250.4	5319.1	5746.7	7043.4	8553.9	9647.7	9285.0	8767.0	8915.3	8996.2
62.5°	4182.2	3897.2	4089.8	4656.0	6484.2	9050.7	10991.3	11159.5	9701.6	9416.0	9398.7
65°	2713.5	2535.0	2661.5	3125.6	4907.0	8994.2	12191.7	12921.0	10438.0	9824.3	9525.1
67.5°	1794.9	1659.4	1677.4	1952.1	3173.1	7314.9	12909.4	13790.8	11266.1	10056.0	8800.4
70°	1337.8	1231.2	1237.7	1386.6	1883.5	4824.2	11908.6	13104.6	11568.4	9252.9	7103.1
72.5°	964.8	893.6	953.3	1118.9	1500.9	2551.1	8876.1	10792.3	10087.5	7298.2	4785.7
75°	668.3	621.4	719.0	935.9	1369.9	1583.7	5865.4	7768.8	7070.3	4579.0	2163.3
77.5°	370.4	356.3	496.9	762.6	1243.4	1298.0	3592.9	5104.7	3921.6	1641.4	514.8
80°	161.8	156.6	240.7	572.6	1045.1	1172.8	2022.8	2830.3	1542.6	292.7	166.3
82.5°	69.3	66.8	102.7	344.7	759.4	980.9	1247.3	1362.2	530.9	90.5	94.4
85°	12.2	13.5	41.1	181.7	462.2	498.1	903.2	806.3	267.0	43.0	67.4
87.5°	0.0	0.0	6.4	35.3	86.7	142.5	391.6	282.5	50.7	14.1	11.6
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°	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5	1268.5
2.5°	1545.8	1509.8	1373.1	1355.8	1337.2	1309.6	1299.3	1240.2	1232.5	1308.3	1308.3
5°	1923.9	1795.5	1665.2	1562.5	1470.7	1343.6	1307.6	1270.4	1240.2	1232.5	1256.3
7.5°	2123.5	1966.9	1762.1	1500.9	1289.0	1104.8	1027.7	973.8	913.5	931.5	941.1
10°	2112.6	1946.4	1685.1	1349.4	1114.4	910.9	715.1	600.9	537.3	505.8	502.0
12.5°	2219.8	2063.2	1633.1	1228.7	928.9	647.7	450.0	368.5	321.6	322.3	318.4
15°	2282.1	2111.3	1572.8	1075.9	654.1	416.6	312.0	294.0	287.6	294.7	290.8
17.5°	2391.9	2162.1	1436.0	848.0	450.0	314.6	286.9	279.9	288.2	303.0	299.1
20°	2383.5	2074.1	1241.5	597.6	332.5	283.1	271.5	260.6	278.0	293.4	290.8
22.5°	2375.8	1988.1	1058.6	441.0	278.0	258.1	248.4	243.9	252.9	270.9	274.8
25°	2307.8	1945.7	873.0	331.2	251.6	234.3	229.8	226.0	229.2	243.9	243.3
27.5°	2391.2	1838.5	674.0	278.0	233.0	212.5	208.6	202.2	195.8	208.6	210.6
30°	2373.9	1853.3	528.3	244.6	214.4	186.8	188.1	174.6	163.1	174.6	174.6
32.5°	2436.8	1745.4	423.0	222.1	195.8	175.9	159.8	145.7	137.4	144.4	145.7
35°	2528.6	1749.9	331.2	208.0	179.7	156.6	137.4	123.3	115.5	118.8	120.7
37.5°	2836.1	1719.1	276.7	197.1	174.0	145.1	125.2	106.6	101.4	105.3	107.2
40°	3036.4	1801.3	243.9	191.3	159.2	133.5	107.2	93.7	89.2	91.2	94.4
42.5°	3413.8	1846.9	227.9	184.9	145.7	114.3	91.8	84.1	77.7	80.2	82.8
45°	3817.6	1924.5	215.7	177.8	135.4	100.1	80.9	74.5	66.1	66.8	69.3
47.5°	4313.8	2109.4	201.6	165.6	121.3	91.2	71.9	62.3	54.6	53.9	57.1
50°	4980.2	2356.6	188.7	150.2	112.3	83.5	62.9	50.7	44.3	42.4	44.9
52.5°	5691.4	2676.3	175.2	139.3	101.4	73.2	53.9	41.1	35.3	34.0	35.9
55°	6396.3	2983.1	162.4	132.2	89.9	62.9	45.6	34.0	28.9	27.6	28.9
57.5°	7199.4	3315.0	145.7	118.1	79.0	54.6	37.9	28.2	23.8	22.5	23.1
60°	7804.1	3431.8	131.6	102.7	68.7	48.1	32.1	22.5	19.3	18.0	18.6
62.5°	8091.0	3241.2	118.1	89.2	60.3	41.7	27.0	18.6	16.0	14.8	14.8
65°	8016.6	2818.8	104.6	76.4	52.0	34.7	21.2	16.0	14.1	12.2	11.6
67.5°	7156.4	2205.7	89.2	64.2	43.7	28.2	18.0	15.4	12.8	11.6	9.6
70°	5675.4	1597.1	72.5	53.3	36.6	23.1	14.1	14.1	12.2	11.6	9.0
72.5°	3720.0	1005.3	59.1	43.0	30.2	18.0	10.9	12.8	11.6	11.6	8.3
75°	1611.9	359.5	47.5	34.7	25.0	12.2	9.6	11.6	12.2	11.6	9.6
77.5°	377.5	111.7	37.2	27.6	20.5	8.3	9.6	11.6	12.2	10.9	8.3
80°	141.9	47.5	24.4	18.0	16.0	5.1	8.3	7.1	6.4	4.5	1.3
82.5°	86.0	19.9	12.8	9.0	7.7	1.3	3.9	2.6	1.3	1.3	0.0
85°	61.0	9.6	7.1	6.4	3.9	0.0	0.6	0.0	0.0	0.6	0.0
87.5°	8.3	2.6	3.2	3.2	2.6	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)