

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: P368541

Luminaire Tested: **MSA-SA4C-760-U-SL3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368541
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-SA4C-760-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: 19759 lumens
Efficiency: N/A
Efficacy: 87.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G4

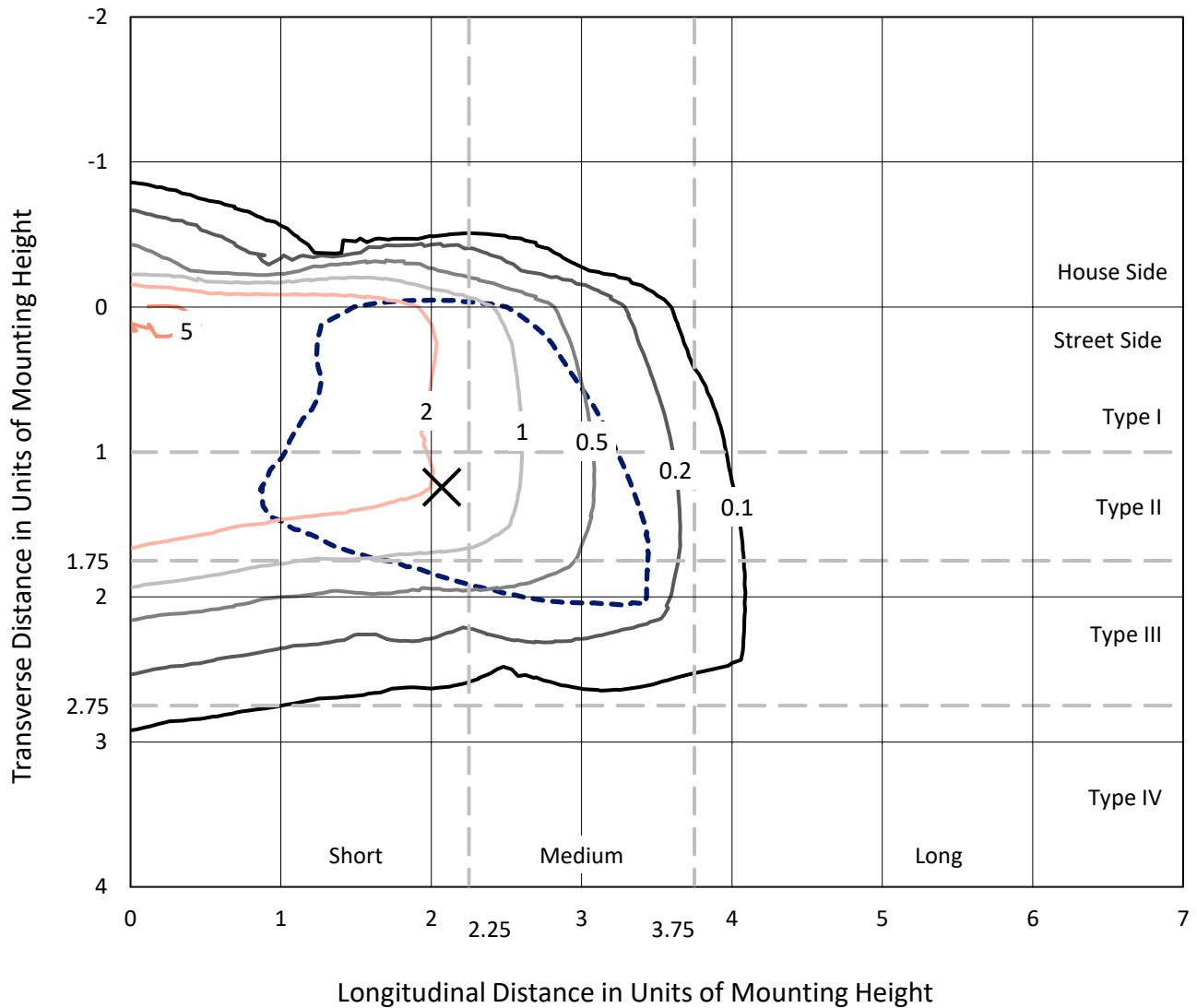
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

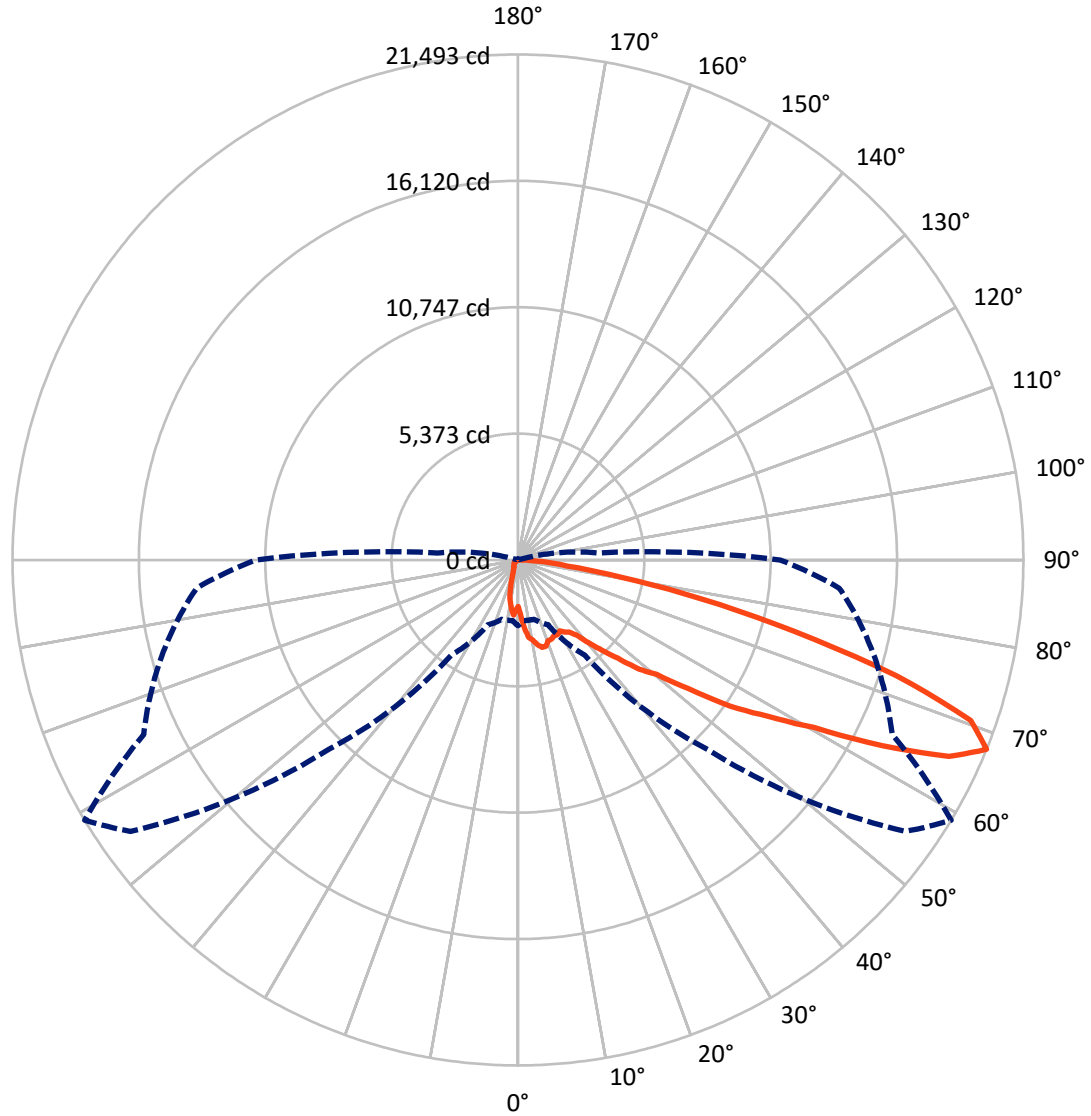
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 fc
 Type III - Short - N/A

REPORT NUMBER: P368541
CATALOG NUMBER: MSA-SA4C-760-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	1680.4	0.0	1680.4
	% Fixture	8.5	0.0	8.5
Street Side	Lumens	18078.6	0.0	18078.6
	% Fixture	91.5	0.0	91.5
Total	Lumens	19759.0	0.0	19759.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	240.4	1.2
10°-20°	676.8	3.4
20°-30°	1006.7	5.1
30°-40°	1553.2	7.9
40°-50°	2771.9	14.0
50°-60°	4932.7	25.0
60°-70°	5744.9	29.1
70°-80°	2554.8	12.9
80°-90°	277.5	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°	19759.0	100.0
0°-180°	19759.0	100.0

Coefficient of Utilization



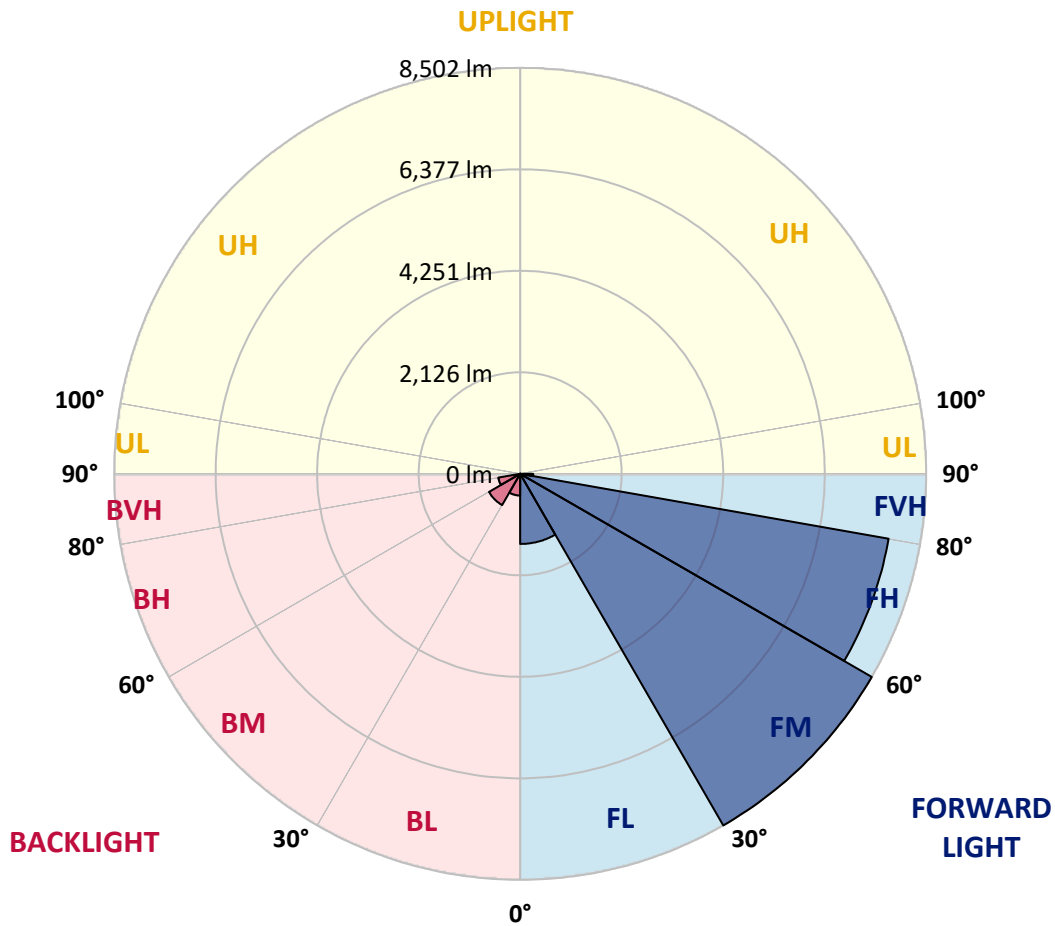
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1469.5	7.4			
FM (30°-60°)	8502.3	43.0			
FH (60°-80°)	7834.3	39.6			G4/12000
FVH (80°-90°)	272.5	1.4			G3/500
BL (0°-30°)	454.4	2.3	B1/500		
BM (30°-60°)	755.5	3.8	B1/1000		
BH (60°-80°)	465.5	2.4	B1/500		G1/500
BVH (80°-90°)	4.9	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-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0
2.5°	2577.2	2480.2	2342.1	2383.1	2420.2	2455.2	2397.2	2364.1	2348.1	2206.1	2384.1
5°	3164.5	3043.5	2980.4	2964.4	2924.4	2835.4	2983.4	2917.4	2939.4	2967.4	3025.5
7.5°	3343.6	3288.6	3197.5	3231.6	3079.5	3066.5	3271.6	3328.6	3403.6	3352.6	3422.6
10°	3251.6	3156.5	3199.5	3187.5	3181.5	3315.6	3459.7	3462.7	3574.7	3628.7	3391.6
12.5°	3069.5	3080.5	3234.6	3222.6	3422.6	3690.8	3723.8	3688.8	3871.9	3777.8	3741.8
15°	3190.5	3280.6	3195.5	3224.6	3295.6	3630.7	3747.8	3855.9	4028.9	4085.0	3841.8
17.5°	3336.6	3345.6	3190.5	3154.5	3333.6	3489.7	3765.8	3854.9	3871.9	4363.1	4067.0
20°	3257.6	3334.6	3149.5	2922.4	3200.5	3412.6	3692.8	3664.8	3778.8	4445.1	4118.0
22.5°	3467.7	3357.6	3120.5	2949.4	3043.5	3236.6	3473.7	3656.8	3827.8	4249.0	4184.0
25°	3487.7	3447.7	3236.6	3084.5	3068.5	3117.5	3447.7	3565.7	3833.8	4425.1	4128.0
27.5°	3712.8	3666.8	3234.6	3249.6	3099.5	2948.4	3321.6	3598.7	3942.9	4318.1	4247.0
30°	4002.9	4006.9	3449.7	3496.7	3282.6	3039.5	3424.6	3500.7	4016.9	4489.2	4335.1
32.5°	4297.1	4418.1	3874.9	3625.7	3558.7	3384.6	3296.6	3647.8	3935.9	4781.3	4555.2
35°	4744.3	4826.3	4225.0	4001.9	3738.8	3540.7	3644.8	3770.8	4227.0	5168.5	4844.3
37.5°	5501.6	5353.6	4853.3	4465.1	4402.1	4110.0	4162.0	4048.9	4524.2	5624.7	5416.6
40°	5927.9	5793.8	5273.5	5084.4	4682.3	4727.3	4563.2	4629.2	4955.4	6099.9	5937.9
42.5°	6372.1	6244.0	5787.8	5653.7	5270.5	5084.4	5010.4	5247.5	5616.7	6891.3	6685.2
45°	6818.3	6493.1	6300.0	6367.1	6195.0	5826.8	5740.8	5951.9	6339.1	7863.8	7473.6
47.5°	7194.5	6920.3	6775.3	6744.2	6677.2	7188.5	6838.3	6931.3	7102.4	8724.2	8456.1
50°	7872.8	7602.7	7375.5	7312.5	7638.7	8364.0	7823.8	7643.7	7985.8	9763.7	9594.6
52.5°	8852.3	8508.1	8146.9	8147.9	8763.2	9161.4	9417.5	9101.4	9165.4	10907.2	10832.2
55°	9639.6	9202.4	8903.3	9139.4	10056.8	10279.9	11257.4	10980.3	10897.2	11967.8	11875.7
57.5°	9747.7	9223.4	9081.4	9495.6	10751.2	12175.9	13227.4	12535.0	12408.0	12855.2	13038.3
60°	8739.2	8182.9	8290.0	8956.3	10977.3	13331.4	15036.2	14471.0	13663.6	13894.7	14020.7
62.5°	6518.1	6073.9	6374.1	7256.5	10105.9	14105.8	17130.2	17392.4	15120.3	14675.1	14648.0
65°	4229.0	3950.9	4148.0	4871.3	7647.7	14017.7	19001.1	20137.7	16267.8	15311.4	14845.1
67.5°	2797.3	2586.2	2614.3	3042.5	4945.4	11400.5	20119.7	21493.3	17558.4	15672.5	13715.6
70°	2085.0	1918.9	1928.9	2161.0	2935.4	7518.6	18559.9	20423.8	18029.7	14420.9	11070.3
72.5°	1503.7	1392.7	1485.7	1743.8	2339.1	3975.9	13833.7	16820.1	15721.6	11374.5	7458.6
75°	1041.5	968.5	1120.5	1458.7	2135.0	2468.2	9141.4	12107.8	11019.3	7136.4	3371.6
77.5°	577.3	555.3	774.4	1188.6	1937.9	2023.0	5599.7	7955.8	6111.9	2558.2	802.4
80°	252.1	244.1	375.2	892.4	1628.8	1827.9	3152.5	4411.1	2404.2	456.2	259.1
82.5°	108.1	104.1	160.1	537.3	1183.6	1528.7	1943.9	2123.0	827.4	141.1	147.1
85°	19.0	21.0	64.0	283.1	720.3	776.4	1407.7	1256.6	416.2	67.0	105.1
87.5°	0.0	0.0	10.0	55.0	135.1	222.1	610.3	440.2	79.0	22.0	18.0
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°	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0	1977.0
2.5°	2409.2	2353.1	2140.0	2113.0	2084.0	2041.0	2025.0	1932.9	1920.9	2039.0	2039.0
5°	2998.4	2798.3	2595.2	2435.2	2292.1	2094.0	2038.0	1980.0	1932.9	1920.9	1957.9
7.5°	3309.6	3065.5	2746.3	2339.1	2009.0	1721.8	1601.8	1517.7	1423.7	1451.7	1466.7
10°	3292.6	3033.5	2626.3	2103.0	1736.8	1419.7	1114.5	936.5	837.4	788.4	782.4
12.5°	3459.7	3215.5	2545.2	1914.9	1447.7	1009.5	701.3	574.3	501.2	502.2	496.2
15°	3556.7	3290.6	2451.2	1676.8	1019.5	649.3	486.2	458.2	448.2	459.2	453.2
17.5°	3727.8	3369.6	2238.1	1321.6	701.3	490.2	447.2	436.2	449.2	472.2	466.2
20°	3714.8	3232.6	1934.9	931.4	518.2	441.2	423.2	406.2	433.2	457.2	453.2
22.5°	3702.8	3098.5	1649.8	687.3	433.2	402.2	387.2	380.2	394.2	422.2	428.2
25°	3596.7	3032.5	1360.7	516.2	392.2	365.2	358.2	352.2	357.2	380.2	379.2
27.5°	3726.8	2865.4	1050.5	433.2	363.2	331.2	325.2	315.2	305.1	325.2	328.2
30°	3699.8	2888.4	823.4	381.2	334.2	291.1	293.1	272.1	254.1	272.1	272.1
32.5°	3797.8	2720.3	659.3	346.2	305.1	274.1	249.1	227.1	214.1	225.1	227.1
35°	3940.9	2727.3	516.2	324.2	280.1	244.1	214.1	192.1	180.1	185.1	188.1
37.5°	4420.1	2679.3	431.2	307.1	271.1	226.1	195.1	166.1	158.1	164.1	167.1
40°	4732.3	2807.4	380.2	298.1	248.1	208.1	167.1	146.1	139.1	142.1	147.1
42.5°	5320.6	2878.4	355.2	288.1	227.1	178.1	143.1	131.1	121.1	125.1	129.1
45°	5949.9	2999.4	336.2	277.1	211.1	156.1	126.1	116.1	103.0	104.1	108.1
47.5°	6723.2	3287.6	314.2	258.1	189.1	142.1	112.1	97.0	85.0	84.0	89.0
50°	7761.7	3672.8	294.1	234.1	175.1	130.1	98.0	79.0	69.0	66.0	70.0
52.5°	8870.3	4171.0	273.1	217.1	158.1	114.1	84.0	64.0	55.0	53.0	56.0
55°	9968.8	4649.2	253.1	206.1	140.1	98.0	71.0	53.0	45.0	43.0	45.0
57.5°	11220.4	5166.5	227.1	184.1	123.1	85.0	59.0	44.0	37.0	35.0	36.0
60°	12162.9	5348.6	205.1	160.1	107.1	75.0	50.0	35.0	30.0	28.0	29.0
62.5°	12610.1	5051.4	184.1	139.1	94.0	65.0	42.0	29.0	25.0	23.0	23.0
65°	12494.0	4393.1	163.1	119.1	81.0	54.0	33.0	25.0	22.0	19.0	18.0
67.5°	11153.4	3437.7	139.1	100.0	68.0	44.0	28.0	24.0	20.0	18.0	15.0
70°	8845.3	2489.2	113.1	83.0	57.0	36.0	22.0	22.0	19.0	18.0	14.0
72.5°	5797.8	1566.8	92.0	67.0	47.0	28.0	17.0	20.0	18.0	18.0	13.0
75°	2512.2	560.3	74.0	54.0	39.0	19.0	15.0	18.0	19.0	18.0	15.0
77.5°	588.3	174.1	58.0	43.0	32.0	13.0	15.0	18.0	19.0	17.0	13.0
80°	221.1	74.0	38.0	28.0	25.0	8.0	13.0	11.0	10.0	7.0	2.0
82.5°	134.1	31.0	20.0	14.0	12.0	2.0	6.0	4.0	2.0	2.0	0.0
85°	95.0	15.0	11.0	10.0	6.0	0.0	1.0	0.0	0.0	1.0	0.0
87.5°	13.0	4.0	5.0	5.0	4.0	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)