

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: P368543

Luminaire Tested: **MSA-SA4C-760-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368543  
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-SA4C-760-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 19900 lumens  
Efficiency: N/A  
Efficacy: 88.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G4

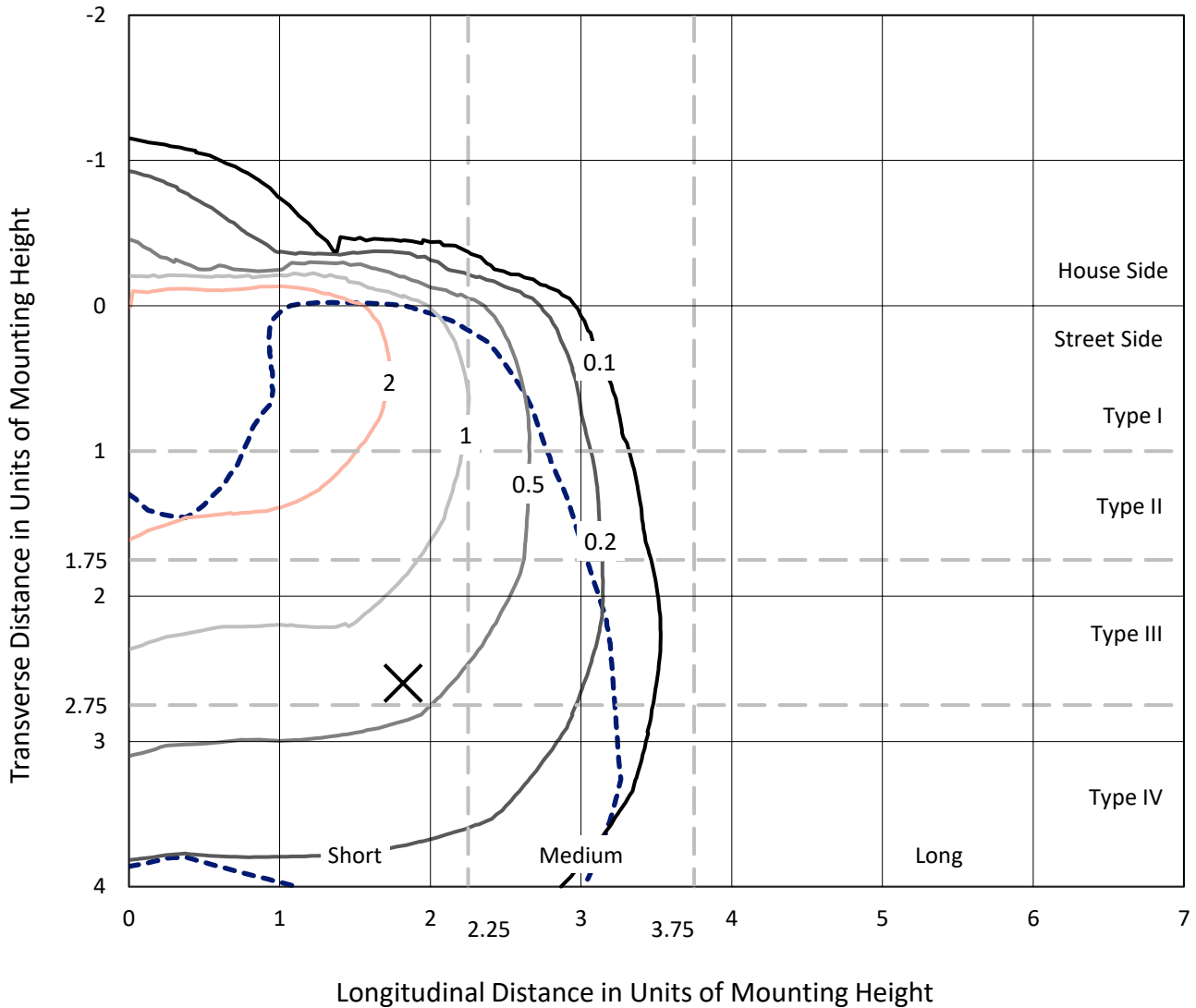
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

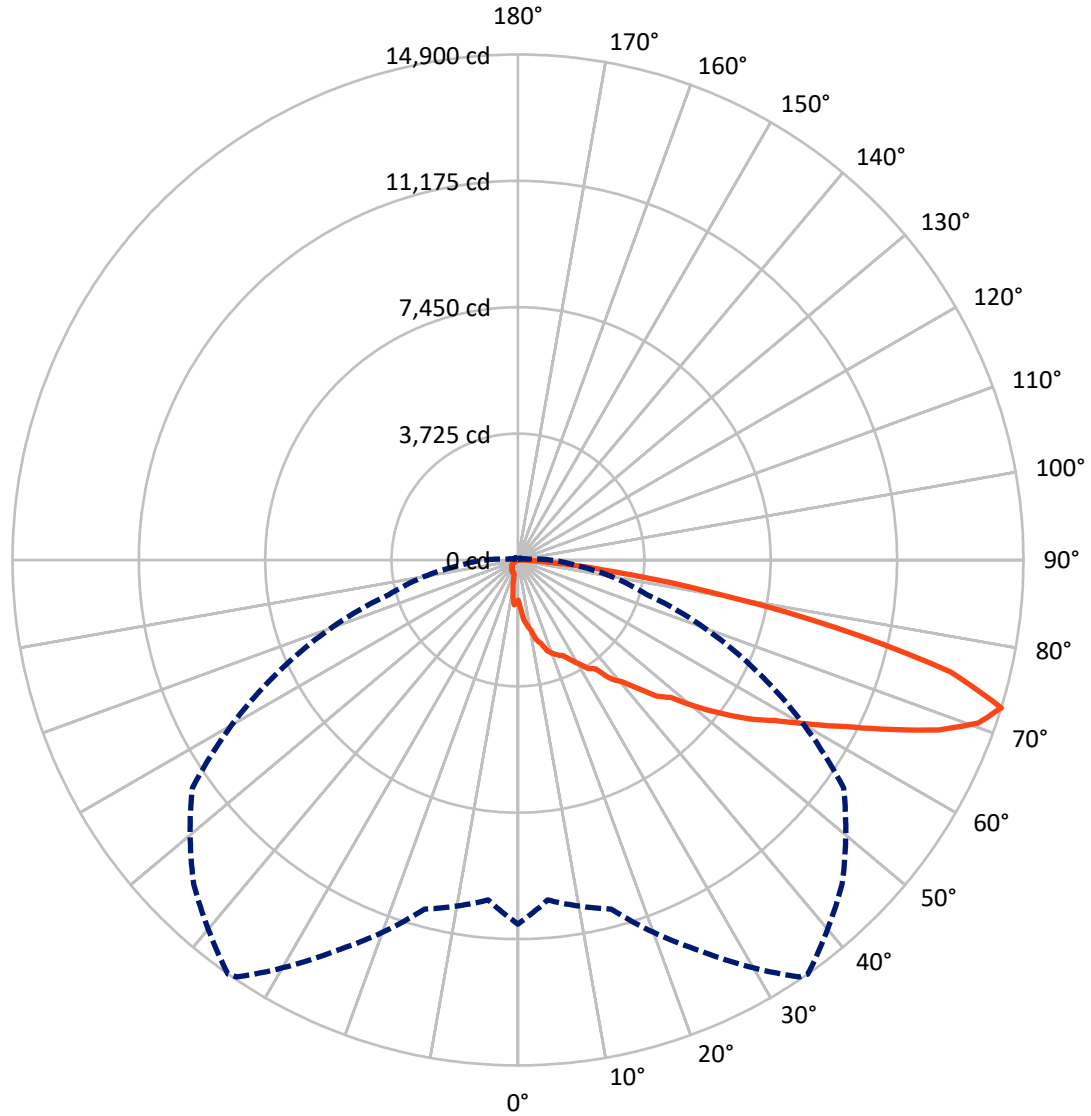
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc  
 Type IV - Short - N/A

REPORT NUMBER: P368543  
CATALOG NUMBER: MSA-SA4C-760-U-SL4-HSS

### 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
<b>House Side</b>	Lumens	1552.2	0.0	1552.2
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	18347.8	0.0	18347.8
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	19900.0	0.0	19900.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.2	0.8
10°-20°	509.3	2.6
20°-30°	927.4	4.7
30°-40°	1599.7	8.0
40°-50°	2843.7	14.3
50°-60°	4243.6	21.3
60°-70°	5421.6	27.2
70°-80°	3772.0	19.0
80°-90°	431.5	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°	19900.0	100.0
0°-180°	19900.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P368543

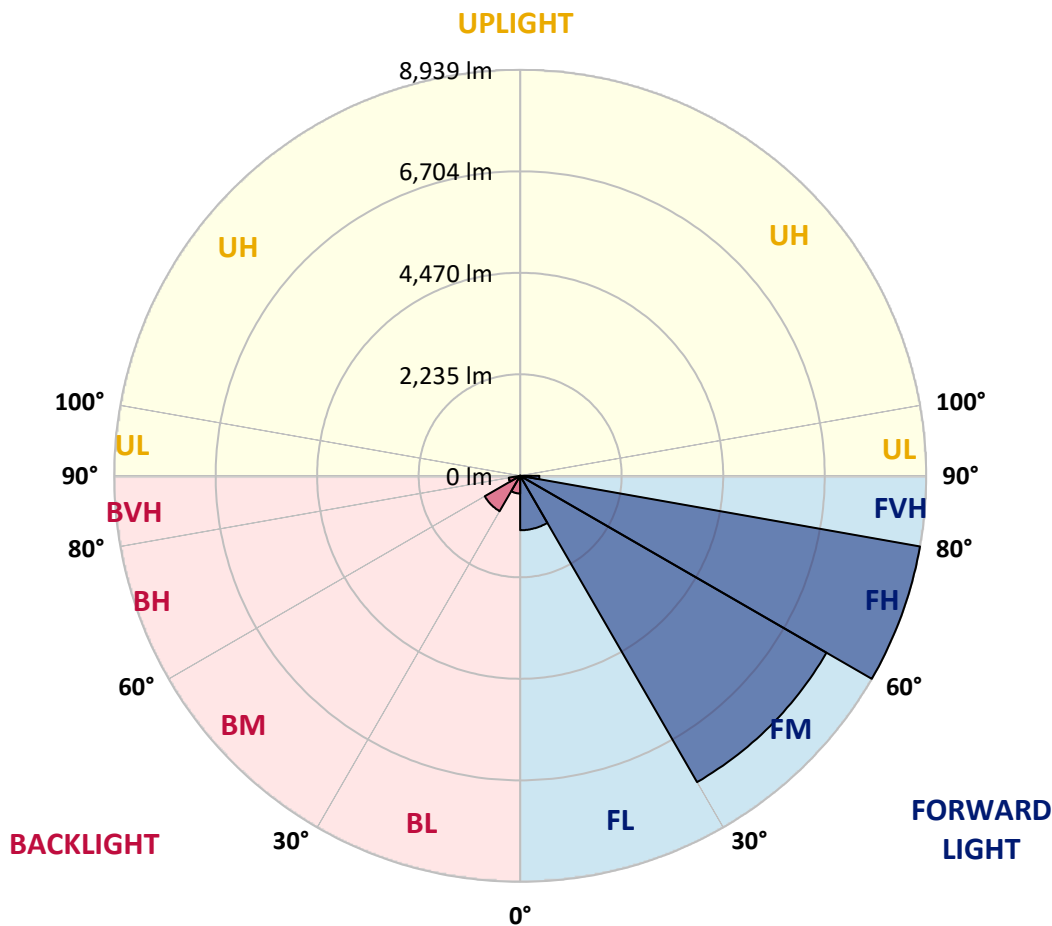
CATALOG NUMBER: MSA-SA4C-760-U-SL4-HSS

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1197.5	6.0			
FM (30°-60°)	7787.0	39.1			
FH (60°-80°)	8939.1	44.9			G4/12000
FVH (80°-90°)	424.2	2.1			G3/500
BL (0°-30°)	390.4	2.0	B1/500		
BM (30°-60°)	900.0	4.5	B1/1000		
BH (60°-80°)	254.5	1.3	B1/500		G1/500
BVH (80°-90°)	7.3	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 IV Short





REPORT NUMBER: P368543  
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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4
2.5°	1508.6	1449.5	1353.5	1360.5	1403.5	1412.5	1425.5	1391.5	1361.5	1308.5	1411.5
5°	1932.7	1847.7	1793.7	1776.7	1751.7	1753.7	1692.6	1714.6	1708.6	1747.6	1794.7
7.5°	2171.8	2124.8	2056.8	2037.8	1945.7	1935.7	1860.7	1961.7	1971.7	1957.7	2034.8
10°	2266.8	2204.8	2212.8	2141.8	2095.8	2107.8	2119.8	2127.8	2140.8	2153.8	2059.8
12.5°	2322.9	2333.9	2442.9	2368.9	2414.9	2414.9	2495.9	2409.9	2412.9	2318.9	2334.9
15°	2575.0	2636.0	2587.0	2586.0	2535.9	2548.9	2643.0	2575.0	2610.0	2582.0	2473.9
17.5°	2891.1	2903.1	2810.0	2769.0	2814.0	2815.0	2775.0	2772.0	2650.0	2856.1	2725.0
20°	2992.1	3060.1	2928.1	2768.0	2955.1	2946.1	2943.1	2896.1	2693.0	2979.1	2871.1
22.5°	3267.2	3170.2	3080.1	2975.1	3048.1	3048.1	3037.1	2934.1	2855.1	2968.1	3014.1
25°	3353.2	3365.2	3248.2	3214.2	3216.2	3126.2	3118.2	3074.1	2998.1	3191.2	3099.2
27.5°	3649.4	3644.4	3363.2	3458.3	3337.2	3338.2	3117.2	3216.2	3229.2	3202.2	3305.2
30°	3940.5	4021.5	3597.3	3717.4	3590.3	3552.3	3336.2	3424.3	3447.3	3416.3	3546.3
32.5°	4311.6	4430.6	4018.5	3900.4	3706.4	3814.4	3665.4	3457.3	3571.3	3848.4	3921.5
35°	4704.7	4762.8	4323.6	4158.5	3939.5	3938.5	3933.5	3950.5	4076.5	4388.6	4450.7
37.5°	5411.0	5274.0	4876.8	4498.7	4547.7	4438.6	4362.6	4442.7	4573.7	5087.9	5353.0
40°	5805.2	5706.1	5146.9	4922.8	4679.7	4719.8	4925.8	4916.8	5266.0	5804.2	6201.3
42.5°	6188.3	6094.3	5544.1	5363.0	5050.9	5159.9	5249.9	5364.0	6079.3	6947.6	7165.7
45°	6529.4	6253.3	5865.2	5872.2	5710.1	5723.1	5882.2	5987.2	7021.6	7911.9	8065.0
47.5°	6735.5	6508.4	6136.3	6129.3	6119.3	6058.3	6807.5	6903.6	7772.9	8830.3	8844.3
50°	7025.6	6741.5	6415.4	6421.4	6652.5	6781.5	7675.9	7665.8	8498.2	9596.6	9273.4
52.5°	7386.7	7039.6	6680.5	6947.6	7304.7	7514.8	8241.1	8537.2	9277.4	10077.7	9441.5
55°	7848.9	7414.8	7068.6	7410.8	8190.0	8271.1	8794.3	9419.5	10126.8	10568.9	9495.5
57.5°	8391.1	7872.9	7592.8	8144.0	8921.3	8923.3	9599.6	10359.8	10648.0	10769.0	9434.5
60°	8975.3	8371.1	8089.0	8585.2	9727.6	9809.6	10494.9	10879.0	11177.2	10870.0	9325.5
62.5°	9489.5	8822.3	8603.2	9186.4	10611.9	10806.0	11275.2	11220.2	11559.3	10997.1	9048.4
65°	10101.8	9406.5	9262.4	10123.8	11766.4	12033.5	12151.5	11825.4	11687.3	10899.0	8327.1
67.5°	10708.0	10057.7	10053.7	11163.1	13279.9	13372.0	13247.9	12678.7	11538.3	10034.7	7005.6
70°	11135.1	10436.9	10700.0	12301.6	14655.4	14397.3	13875.2	13081.9	10461.9	7690.9	4576.7
72.5°	10734.0	10060.7	10654.0	12706.7	14825.5	14899.5	13512.0	11718.4	7772.9	3933.5	1656.6
75°	8157.0	7744.9	9250.4	11273.2	13162.9	13179.9	11278.2	8265.1	3827.4	1068.4	458.2
77.5°	4108.5	3977.5	5855.2	8003.0	9603.6	9575.6	7748.9	4427.6	1231.5	355.1	231.1
80°	2079.8	1974.7	2491.9	4317.6	5703.1	5745.1	4424.6	1982.7	621.2	193.1	160.1
82.5°	1277.5	1212.5	1363.5	1953.7	2768.0	2835.1	1678.6	1255.5	385.1	114.0	146.1
85°	247.1	260.1	783.3	978.4	1105.4	1079.4	497.2	1033.4	116.0	68.0	106.0
87.5°	0.0	4.0	181.1	319.1	320.1	284.1	113.0	229.1	16.0	19.0	13.0
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°	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4	1185.4
2.5°	1428.5	1413.5	1288.5	1274.5	1277.5	1256.5	1249.5	1205.4	1194.4	1262.5	1274.5
5°	1774.7	1674.6	1558.6	1516.6	1451.5	1341.5	1325.5	1297.5	1266.5	1278.5	1269.5
7.5°	1986.7	1853.7	1729.6	1508.6	1325.5	1165.4	1139.4	1091.4	1043.4	1044.4	1075.4
10°	2020.8	1908.7	1737.6	1468.5	1259.5	1059.4	885.3	759.3	702.3	651.2	666.2
12.5°	2217.8	2113.8	1798.7	1456.5	1163.4	851.3	623.2	500.2	446.2	428.2	426.2
15°	2375.9	2293.9	1902.7	1419.5	950.4	599.2	446.2	410.2	400.1	417.2	412.2
17.5°	2611.0	2462.9	1891.7	1266.5	724.3	455.2	411.2	406.2	418.2	428.2	431.2
20°	2714.0	2500.9	1816.7	1026.4	542.2	417.2	401.1	391.1	413.2	443.2	437.2
22.5°	2818.0	2566.0	1728.6	840.3	436.2	399.1	390.1	382.1	399.1	428.2	435.2
25°	2865.1	2670.0	1630.6	656.2	405.2	378.1	372.1	375.1	389.1	415.2	412.2
27.5°	3102.2	2682.0	1443.5	518.2	392.1	363.1	363.1	370.1	370.1	405.2	402.1
30°	3250.2	2885.1	1291.5	436.2	377.1	342.1	354.1	357.1	352.1	390.1	393.1
32.5°	3510.3	2941.1	1143.4	400.1	353.1	339.1	337.1	339.1	343.1	380.1	381.1
35°	3910.5	3217.2	941.3	386.1	341.1	324.1	310.1	321.1	331.1	358.1	363.1
37.5°	4692.7	3500.3	767.3	375.1	335.1	310.1	305.1	303.1	321.1	352.1	362.1
40°	5326.0	4001.5	624.2	366.1	323.1	302.1	289.1	290.1	306.1	329.1	344.1
42.5°	6222.3	4363.6	529.2	352.1	306.1	285.1	270.1	279.1	286.1	310.1	320.1
45°	6970.6	4644.7	466.2	343.1	289.1	269.1	257.1	267.1	260.1	272.1	286.1
47.5°	7565.8	4889.8	419.2	321.1	278.1	260.1	245.1	242.1	230.1	233.1	246.1
50°	7892.9	4848.8	380.1	299.1	264.1	251.1	230.1	209.1	193.1	192.1	200.1
52.5°	8009.0	4629.7	348.1	280.1	247.1	231.1	207.1	178.1	162.1	157.1	164.1
55°	8041.0	4314.6	319.1	259.1	231.1	206.1	181.1	150.1	133.0	125.0	132.0
57.5°	7936.9	3829.4	291.1	239.1	212.1	182.1	155.1	123.0	107.0	97.0	103.0
60°	7679.9	3213.2	266.1	214.1	192.1	161.1	131.0	99.0	82.0	73.0	76.0
62.5°	7110.6	2518.9	239.1	191.1	171.1	141.1	110.0	78.0	62.0	54.0	55.0
65°	6244.3	1877.7	208.1	169.1	152.1	122.0	88.0	60.0	47.0	40.0	39.0
67.5°	4974.8	1272.5	177.1	146.1	135.1	103.0	70.0	47.0	37.0	32.0	30.0
70°	2924.1	641.2	147.1	126.0	116.0	86.0	55.0	38.0	34.0	30.0	28.0
72.5°	964.4	277.1	115.0	104.0	96.0	69.0	43.0	35.0	33.0	29.0	27.0
75°	336.1	160.1	85.0	80.0	76.0	52.0	36.0	32.0	32.0	28.0	25.0
77.5°	220.1	124.0	63.0	58.0	57.0	38.0	31.0	30.0	28.0	23.0	19.0
80°	183.1	70.0	44.0	41.0	40.0	24.0	25.0	22.0	17.0	10.0	4.0
82.5°	169.1	42.0	23.0	25.0	23.0	9.0	14.0	12.0	9.0	4.0	0.0
85°	99.0	19.0	13.0	13.0	10.0	2.0	7.0	7.0	4.0	1.0	0.0
87.5°	11.0	9.0	7.0	7.0	5.0	0.0	3.0	2.0	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)