

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: P367585

Luminaire Tested: **MSA-SA2D-740-U-T4FT-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367585  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2D-740-U-T4FT-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10100 lumens  
Efficiency: N/A  
Efficacy: 78.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

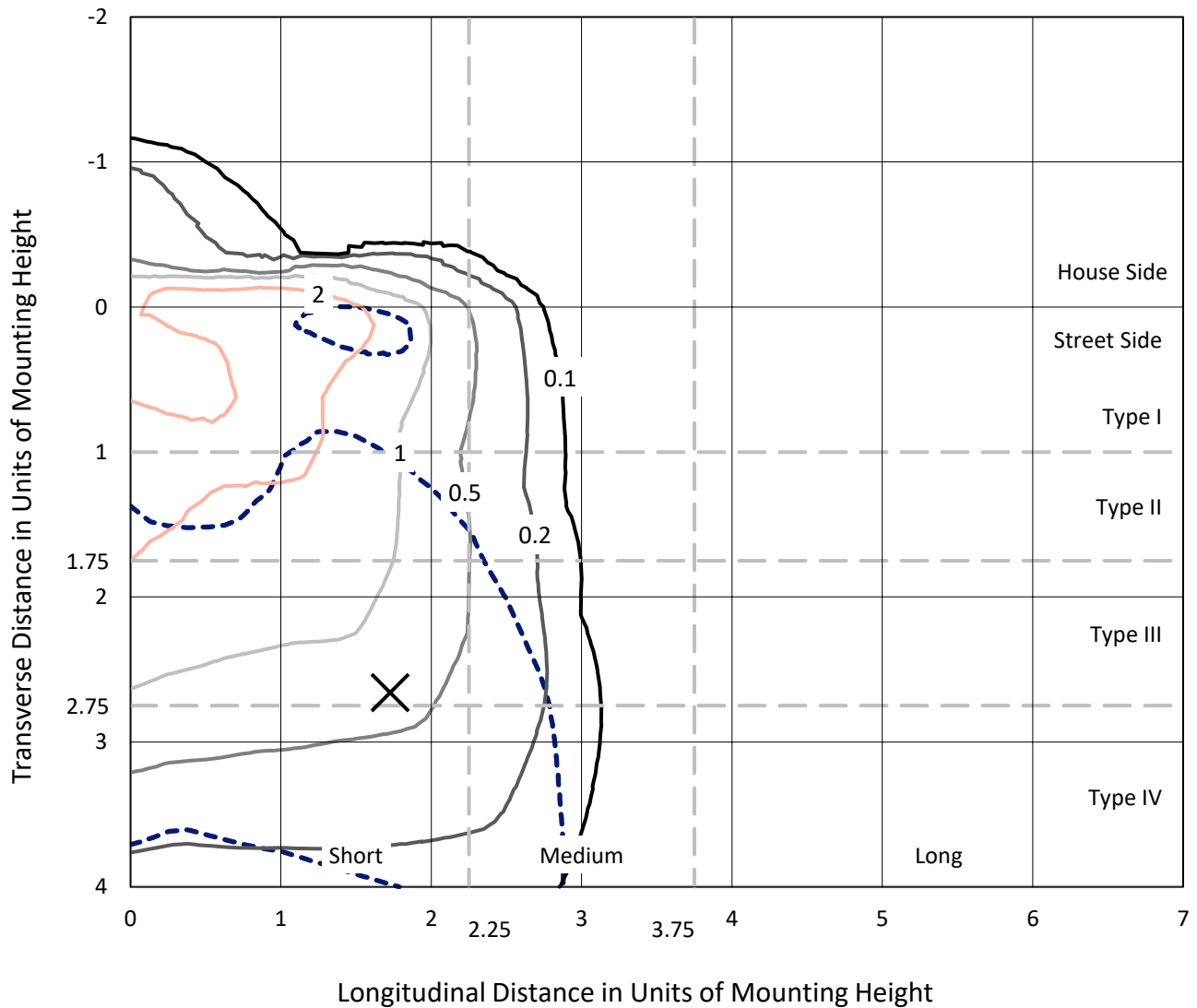
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

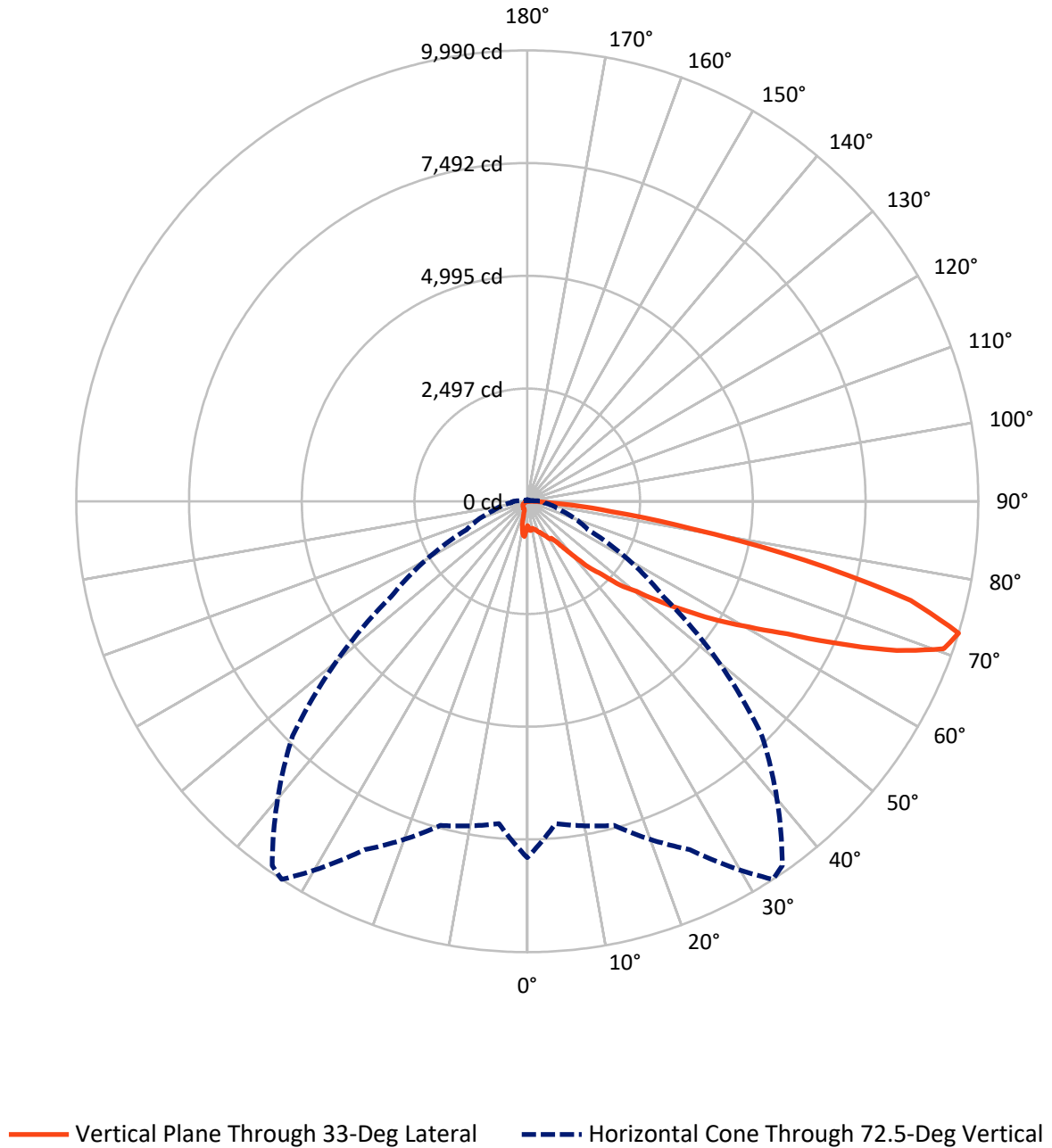
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	933.9	0.0	933.9
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	9166.1	0.0	9166.1
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	10100.0	0.0	10100.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.5	0.7
10°-20°	207.2	2.1
20°-30°	351.4	3.5
30°-40°	643.1	6.4
40°-50°	1357.2	13.4
50°-60°	2270.7	22.5
60°-70°	3039.5	30.1
70°-80°	1985.4	19.7
80°-90°	176.0	1.7
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°	10100.0	100.0
0°-180°	10100.0	100.0

**Coefficient of Utilization**

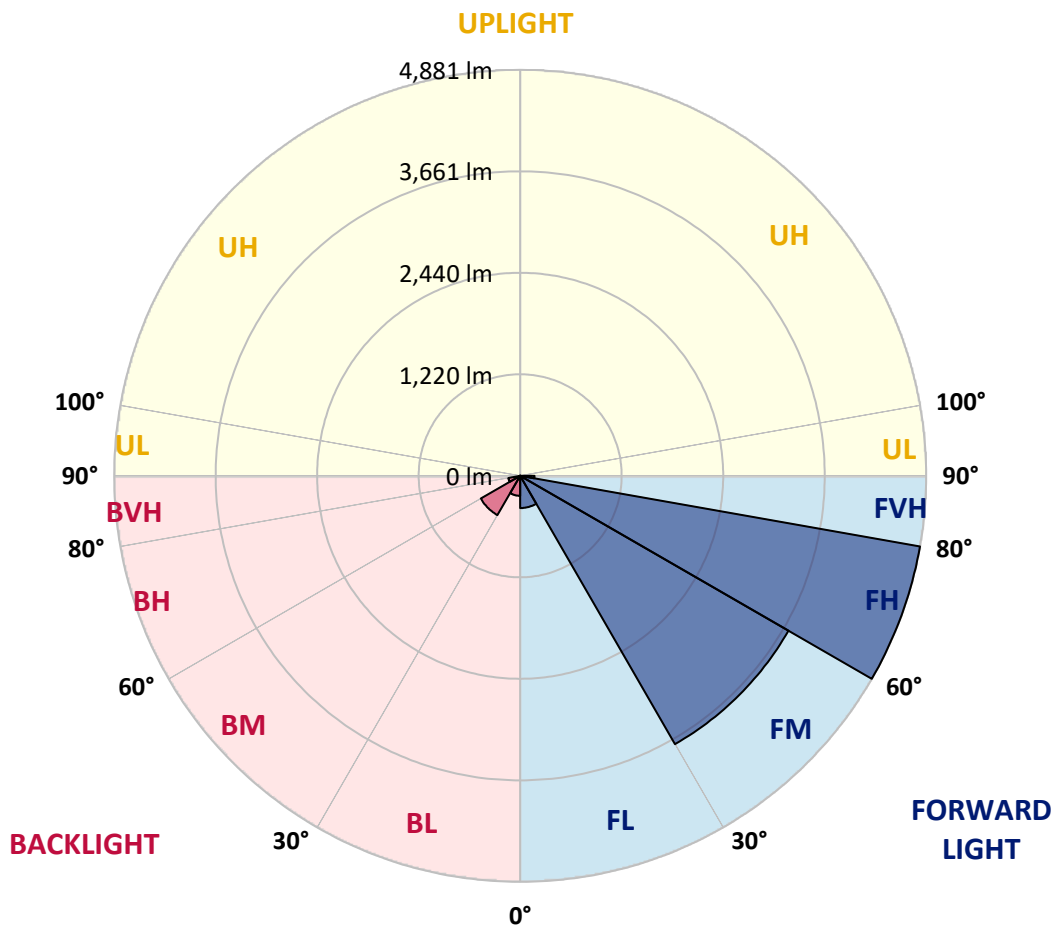


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	387.7	3.8			
FM (30°-60°)	3725.0	36.9			
FH (60°-80°)	4880.8	48.3			G2/5000
FVH (80°-90°)	172.6	1.7			G2/225
BL (0°-30°)	240.4	2.4	B1/500		
BM (30°-60°)	546.0	5.4	B1/1000		
BH (60°-80°)	144.1	1.4	B1/500		G1/500
BVH (80°-90°)	3.4	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°	33°	35°	45°	55°	65°	75°	85°
0°	537.2	537.2	537.2	537.2	537.2	537.2	537.2	537.2	537.2	537.2	537.2
2.5°	640.4	615.7	579.8	582.1	588.2	593.3	606.7	601.1	590.5	589.9	640.4
5°	678.5	651.0	648.8	652.2	650.5	659.4	648.2	684.7	715.5	752.5	812.0
7.5°	660.0	647.1	630.8	647.7	647.1	642.6	649.9	723.9	798.5	845.6	943.7
10°	606.7	592.2	604.5	610.1	606.2	625.8	674.6	735.1	824.3	923.0	970.7
12.5°	591.6	600.6	605.1	605.1	642.6	652.7	727.3	784.5	890.5	968.4	1106.9
15°	650.5	667.9	637.0	630.3	642.1	647.7	730.7	799.6	935.3	1077.8	1193.8
17.5°	744.1	743.0	695.3	669.0	687.5	700.9	746.9	827.7	907.3	1163.6	1331.8
20°	808.6	809.7	723.9	669.0	730.1	738.0	789.0	853.5	916.3	1206.7	1422.1
22.5°	891.6	861.9	767.1	713.8	755.3	762.6	818.7	869.7	962.3	1201.7	1537.6
25°	959.5	940.4	820.9	783.9	820.9	810.9	861.9	938.7	1011.6	1281.9	1605.4
27.5°	1064.9	1032.3	859.1	865.8	863.6	870.9	882.6	1000.4	1098.5	1285.8	1762.5
30°	1163.0	1143.9	944.3	944.3	966.2	952.2	960.6	1103.0	1182.6	1376.7	1939.1
32.5°	1264.5	1265.6	1044.7	991.4	974.0	1031.8	1088.4	1152.9	1284.1	1532.5	2209.4
35°	1533.1	1510.7	1237.0	1104.1	1090.1	1086.7	1177.6	1352.0	1464.1	1735.5	2573.3
37.5°	2074.2	1996.3	1650.9	1359.8	1307.1	1289.2	1392.4	1571.2	1682.8	2033.9	3175.0
40°	2629.4	2486.4	2102.8	1774.8	1603.8	1526.4	1646.4	1798.3	1996.8	2363.6	3731.8
42.5°	3116.7	2940.0	2443.2	2222.3	1999.7	1966.0	1853.3	2100.6	2445.4	2843.6	4277.4
45°	3591.6	3244.0	2746.0	2571.1	2300.8	2319.8	2281.7	2495.9	2911.4	3369.6	4761.4
47.5°	3918.6	3606.2	3117.2	2890.1	2781.9	2670.3	2973.1	3195.7	3326.4	3703.8	5179.7
50°	4270.7	3954.4	3436.3	3277.6	3135.2	3247.9	3641.0	3670.7	3660.0	4015.6	5464.6
52.5°	4725.5	4352.6	3802.5	3623.0	3703.8	3815.9	4269.6	4275.2	3956.7	4278.0	5669.8
55°	5146.0	4732.8	4290.3	4121.0	4289.8	4384.5	4887.5	4703.0	4129.4	4456.3	5770.7
57.5°	5738.8	5260.4	4939.1	4640.8	4982.9	4892.0	5430.9	5156.7	4323.4	4574.6	5733.7
60°	6487.9	5924.9	5603.1	5287.4	5654.1	5715.8	5961.4	5383.2	4398.6	4613.3	5511.1
62.5°	7250.0	6683.6	6260.3	6046.1	6462.1	6665.1	6452.6	5496.0	4308.3	4537.6	5007.0
65°	8195.4	7470.4	6975.8	6850.2	7621.2	7919.5	7033.5	5523.4	4133.9	4121.0	4025.7
67.5°	8843.1	8137.1	7683.5	7893.7	8825.2	8849.3	7555.0	5531.8	3546.8	3226.6	2642.3
70°	8996.7	8240.8	8037.9	8656.9	9785.7	9482.4	7723.3	5105.7	2630.5	1915.0	1207.9
72.5°	7897.7	7169.8	7433.9	8512.8	9989.8	9850.8	7351.5	3683.6	1481.0	766.0	370.7
75°	4844.4	4404.2	5576.7	7217.5	8769.1	8679.4	5735.4	1903.2	596.6	306.2	138.5
77.5°	2106.8	1956.5	2910.3	4788.8	6301.2	6221.0	3360.6	700.9	308.4	215.3	70.1
80°	697.0	676.3	1102.4	2267.7	3690.9	3620.2	1415.9	291.6	219.8	172.7	39.3
82.5°	165.4	164.3	384.7	1043.6	1880.2	1821.3	434.6	160.9	159.3	136.3	20.7
85°	41.5	42.6	106.5	426.7	763.7	673.5	113.3	80.2	112.2	92.5	10.7
87.5°	0.0	0.0	27.5	61.1	115.5	72.3	12.3	21.3	31.4	33.1	5.6
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°	537.2	537.2	537.2	537.2	537.2	537.2	537.2	537.2	537.2	537.2	537.2
2.5°	651.6	645.4	595.0	607.3	626.4	624.7	637.0	627.5	619.1	660.6	656.6
5°	828.8	795.1	779.4	801.3	789.5	762.1	785.1	781.1	774.4	788.4	799.1
7.5°	961.7	930.9	916.8	870.9	804.1	751.4	759.8	740.2	721.7	743.6	766.0
10°	1005.4	988.6	986.9	897.2	834.4	758.1	667.9	589.9	569.2	541.7	554.0
12.5°	1124.3	1134.4	1071.0	966.2	845.1	698.7	538.3	427.9	383.0	353.8	355.5
15°	1221.9	1257.2	1165.2	976.8	743.6	532.7	358.3	259.1	231.0	223.7	221.5
17.5°	1367.1	1401.3	1194.4	901.1	599.4	361.1	230.5	201.9	203.6	208.6	207.5
20°	1474.8	1469.7	1169.2	767.1	441.9	236.6	192.9	189.0	197.9	212.5	209.2
22.5°	1578.5	1543.8	1153.5	643.2	286.0	190.1	186.2	185.6	194.0	208.0	212.0
25°	1652.5	1658.2	1127.1	503.6	208.0	176.6	180.0	185.0	193.5	208.6	206.4
27.5°	1864.5	1707.5	1017.2	365.6	175.5	169.3	177.8	187.9	190.7	209.7	210.3
30°	2001.9	1893.7	945.4	246.2	162.1	156.5	173.3	186.7	190.1	214.8	216.5
32.5°	2241.3	1973.9	862.4	182.8	150.8	152.5	163.2	181.1	196.8	223.2	224.3
35°	2539.1	2231.2	712.2	164.3	146.9	144.1	149.2	169.9	195.7	224.3	229.9
37.5°	3106.0	2385.4	564.7	159.3	146.9	141.9	146.9	159.3	192.3	235.5	247.3
40°	3485.6	2699.5	407.1	158.1	144.1	139.6	141.3	153.6	182.8	228.8	246.2
42.5°	3953.3	2831.8	300.0	155.3	141.3	134.6	135.7	151.4	173.3	214.8	227.7
45°	4336.3	2928.3	236.1	154.2	134.6	132.3	134.6	149.7	164.3	184.5	196.3
47.5°	4627.3	3040.4	189.5	146.9	132.9	132.3	129.5	140.2	149.2	154.2	162.1
50°	4840.4	3015.2	157.0	135.7	127.3	130.7	125.6	127.3	129.5	126.7	135.7
52.5°	4971.1	2924.3	130.7	122.2	120.6	123.4	117.2	112.2	108.2	106.0	111.6
55°	5018.8	2742.1	111.0	104.9	108.8	109.9	104.9	95.9	89.2	85.8	90.3
57.5°	4928.5	2464.5	96.4	86.9	95.9	95.9	89.2	79.6	71.8	66.2	70.7
60°	4699.7	2157.8	85.8	72.3	81.9	82.4	74.6	64.5	58.3	52.7	55.5
62.5°	4273.5	1823.6	75.1	62.8	70.7	71.2	61.7	52.2	47.7	41.5	43.7
65°	3421.2	1394.6	63.9	55.5	61.1	59.4	51.0	44.3	38.7	33.1	34.2
67.5°	2220.6	860.8	55.5	50.5	51.6	49.9	43.2	38.7	32.5	28.0	28.6
70°	994.2	370.7	48.8	45.4	44.9	42.1	36.4	35.9	32.0	28.0	28.0
72.5°	306.7	139.6	42.1	40.9	38.7	35.3	32.0	34.2	31.4	26.9	26.4
75°	121.1	63.9	34.8	34.8	33.6	29.2	28.6	30.8	29.2	24.7	23.6
77.5°	63.4	40.4	28.6	29.7	29.2	22.4	25.8	28.0	26.9	20.7	17.4
80°	37.6	24.7	21.3	24.1	23.6	15.7	19.6	17.9	12.9	6.2	1.7
82.5°	20.7	11.2	9.5	14.0	14.0	5.6	10.1	9.0	5.0	0.0	0.0
85°	10.1	7.9	7.3	7.9	5.6	1.7	5.0	5.0	2.8	0.0	0.0
87.5°	5.0	4.5	3.4	2.8	2.2	0.0	1.7	2.2	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)