

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: P368311

Luminaire Tested: **MSA-SA4A-830-U-T4FT-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368311  
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-SA4A-830-U-T4FT-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 9225 lumens  
Efficiency: N/A  
Efficacy: 71.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

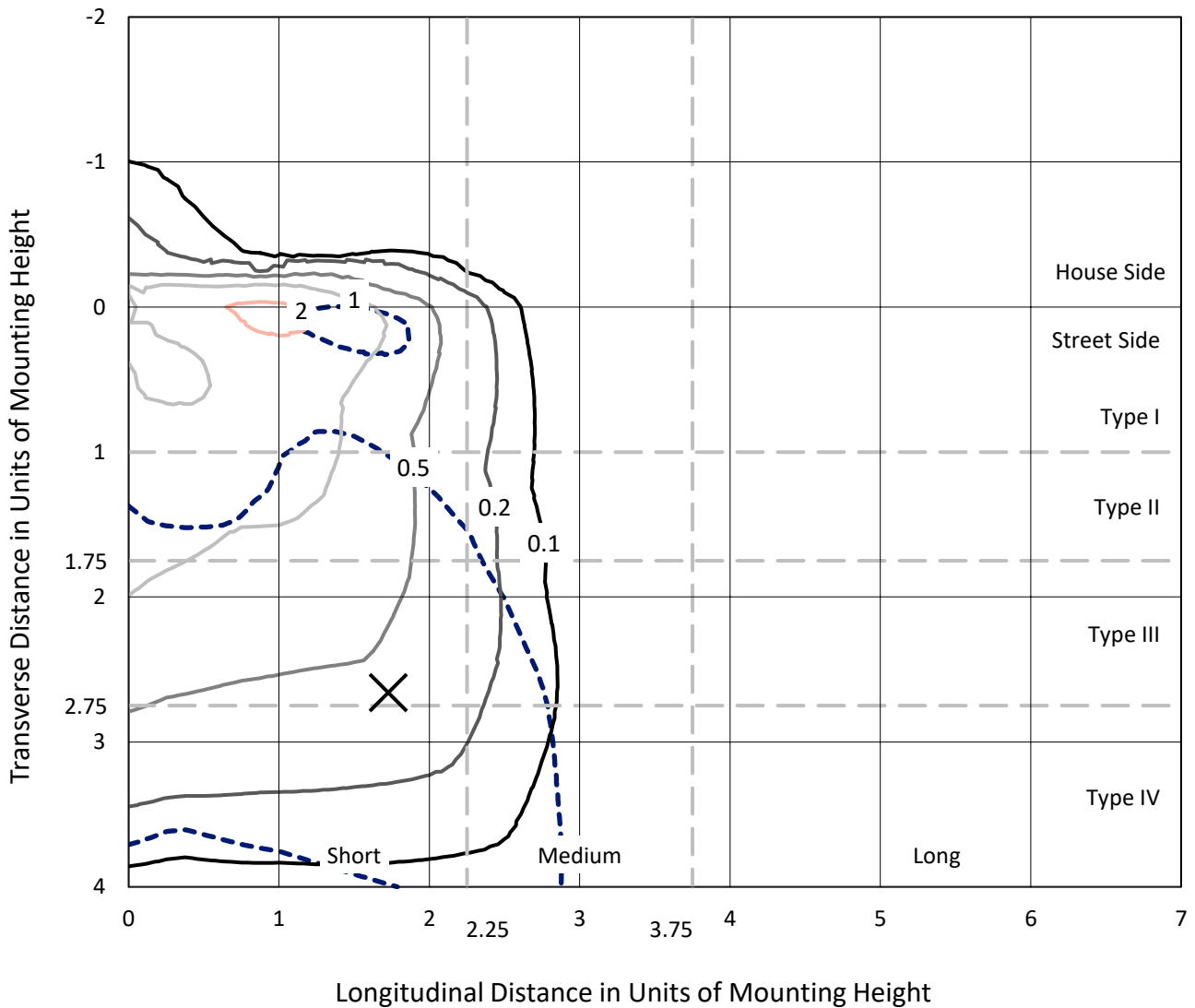
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

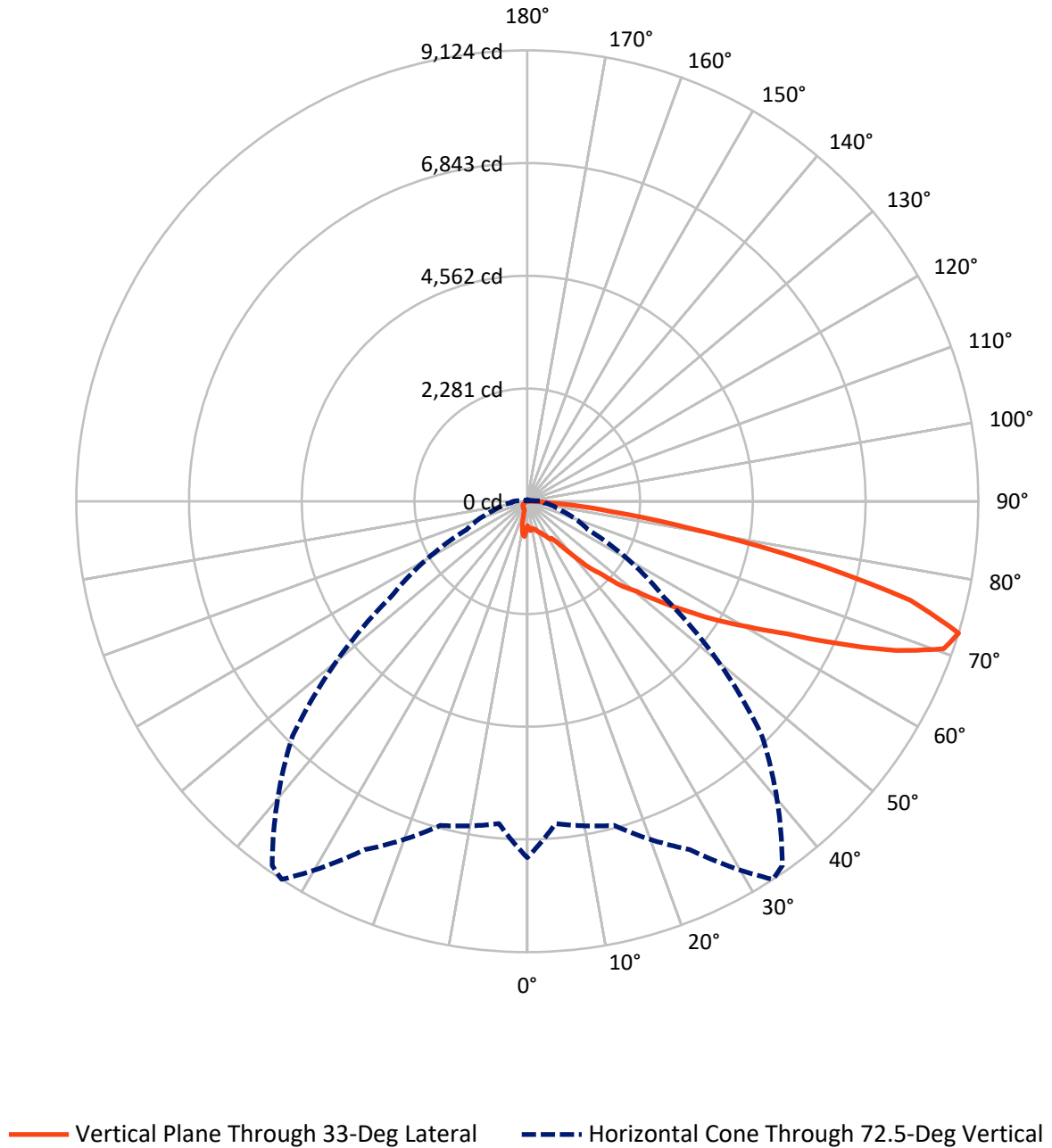
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 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	853.0	0.0	853.0
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	8372.0	0.0	8372.0
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	9225.0	0.0	9225.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.5	0.7
10°-20°	189.2	2.1
20°-30°	320.9	3.5
30°-40°	587.3	6.4
40°-50°	1239.6	13.4
50°-60°	2074.0	22.5
60°-70°	2776.2	30.1
70°-80°	1813.4	19.7
80°-90°	160.8	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°	9225.0	100.0
0°-180°	9225.0	100.0

**Coefficient of Utilization**

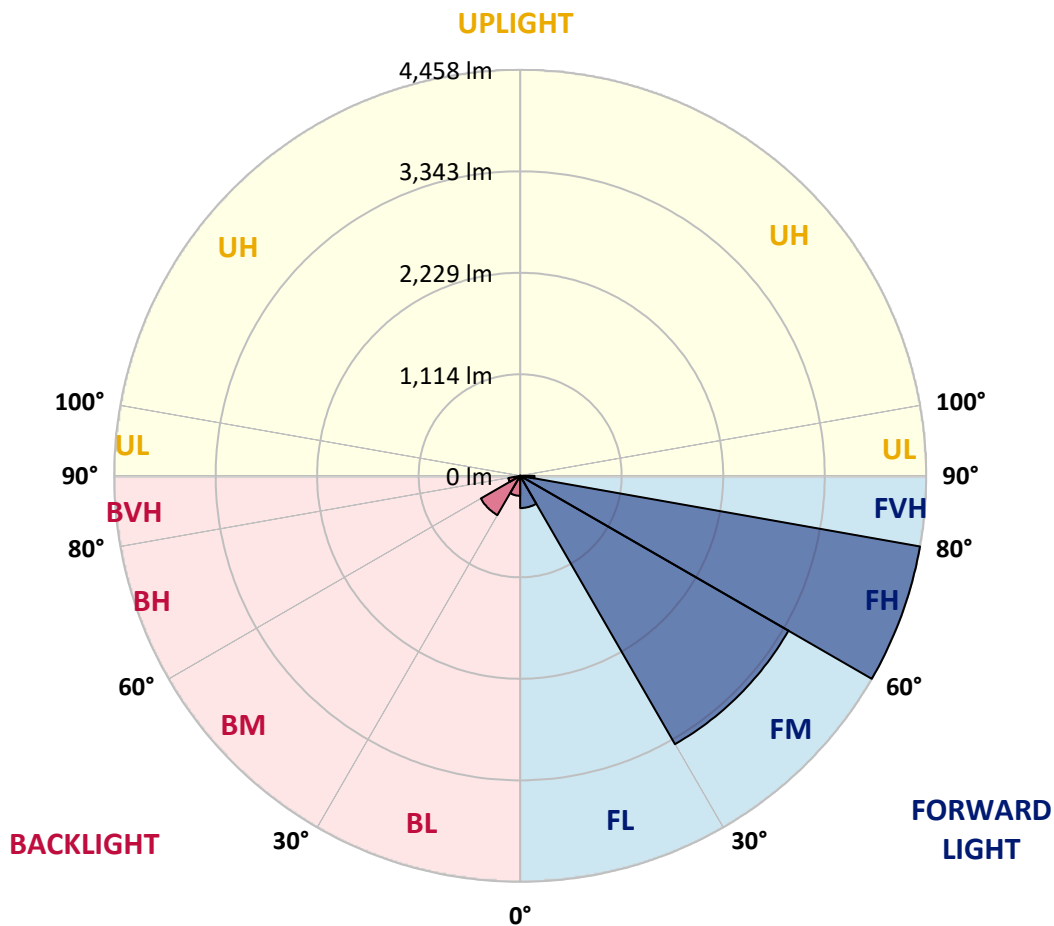


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	354.1	3.8			
FM (30°-60°)	3402.3	36.9			
FH (60°-80°)	4457.9	48.3			G2/5000
FVH (80°-90°)	157.7	1.7			G2/225
BL (0°-30°)	219.5	2.4	B1/500		
BM (30°-60°)	498.7	5.4	B1/1000		
BH (60°-80°)	131.7	1.4	B1/500		G1/500
BVH (80°-90°)	3.1	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°	490.7	490.7	490.7	490.7	490.7	490.7	490.7	490.7	490.7	490.7	490.7
2.5°	584.9	562.4	529.6	531.6	537.3	541.9	554.2	549.1	539.3	538.8	584.9
5°	619.7	594.6	592.6	595.7	594.1	602.3	592.1	625.4	653.5	687.3	741.6
7.5°	602.8	591.0	576.2	591.6	591.0	587.0	593.6	661.2	729.3	772.4	862.0
10°	554.2	540.9	552.1	557.2	553.7	571.6	616.1	671.5	752.9	843.0	886.6
12.5°	540.3	548.5	552.6	552.6	587.0	596.2	664.3	716.5	813.3	884.5	1011.0
15°	594.1	610.0	581.8	575.7	586.4	591.6	667.4	730.4	854.3	984.4	1090.4
17.5°	679.7	678.6	635.1	611.0	627.9	640.2	682.2	756.0	828.7	1062.8	1216.4
20°	738.6	739.6	661.2	611.0	666.9	674.0	720.6	779.5	836.9	1102.2	1298.9
22.5°	814.4	787.2	700.7	652.0	689.9	696.6	747.8	794.4	878.9	1097.6	1404.4
25°	876.3	858.9	749.8	716.0	749.8	740.6	787.2	857.4	924.0	1170.8	1466.4
27.5°	972.6	942.9	784.7	790.8	788.7	795.4	806.2	913.7	1003.3	1174.4	1609.8
30°	1062.2	1044.8	862.5	862.5	882.5	869.7	877.4	1007.4	1080.2	1257.4	1771.1
32.5°	1155.0	1156.0	954.2	905.5	889.6	942.4	994.1	1053.0	1172.9	1399.8	2018.0
35°	1400.3	1379.8	1129.9	1008.5	995.7	992.6	1075.6	1234.9	1337.3	1585.2	2350.4
37.5°	1894.5	1823.3	1507.8	1242.0	1193.9	1177.5	1271.7	1435.1	1537.0	1857.7	2899.9
40°	2401.6	2271.0	1920.7	1621.0	1464.8	1394.1	1503.7	1642.5	1823.9	2158.8	3408.5
42.5°	2846.7	2685.3	2231.5	2029.7	1826.4	1795.7	1692.7	1918.6	2233.6	2597.2	3906.9
45°	3280.5	2962.9	2508.1	2348.3	2101.5	2118.9	2084.0	2279.7	2659.2	3077.7	4348.9
47.5°	3579.1	3293.8	2847.2	2639.7	2540.9	2439.0	2715.5	2918.9	3038.2	3382.9	4731.0
50°	3900.7	3611.9	3138.6	2993.7	2863.6	2966.5	3325.5	3352.7	3343.0	3667.7	4991.1
52.5°	4316.1	3975.5	3473.1	3309.2	3382.9	3485.3	3899.7	3904.8	3613.9	3907.4	5178.6
55°	4700.2	4322.8	3918.6	3764.0	3918.1	4004.7	4464.1	4295.6	3771.7	4070.2	5270.8
57.5°	5241.6	4804.7	4511.2	4238.8	4551.2	4468.2	4960.4	4710.0	3948.9	4178.3	5237.0
60°	5925.9	5411.6	5117.6	4829.3	5164.3	5220.6	5444.9	4916.9	4017.5	4213.7	5033.6
62.5°	6621.9	6104.6	5717.9	5522.3	5902.3	6087.7	5893.6	5019.8	3935.0	4144.5	4573.2
65°	7485.4	6823.2	6371.4	6256.7	6961.0	7233.4	6424.2	5044.9	3775.7	3764.0	3676.9
67.5°	8077.0	7432.2	7017.8	7209.9	8060.6	8082.6	6900.5	5052.6	3239.5	2947.1	2413.4
70°	8217.3	7526.9	7341.5	7906.9	8938.0	8660.9	7054.2	4663.3	2402.6	1749.1	1103.2
72.5°	7213.5	6548.7	6789.9	7775.3	9124.4	8997.4	6714.6	3364.5	1352.7	699.6	338.5
75°	4424.7	4022.6	5093.6	6592.2	8009.4	7927.4	5238.5	1738.3	545.0	279.6	126.5
77.5°	1924.2	1787.0	2658.2	4374.0	5755.3	5682.1	3069.5	640.2	281.7	196.7	64.0
80°	636.6	617.7	1006.9	2071.2	3371.1	3306.6	1293.2	266.3	200.8	157.7	35.9
82.5°	151.1	150.1	351.4	953.2	1717.3	1663.5	396.9	147.0	145.5	124.5	19.0
85°	37.9	38.9	97.3	389.8	697.6	615.1	103.5	73.2	102.4	84.5	9.7
87.5°	0.0	0.0	25.1	55.8	105.5	66.1	11.3	19.5	28.7	30.2	5.1
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°	490.7	490.7	490.7	490.7	490.7	490.7	490.7	490.7	490.7	490.7	490.7
2.5°	595.1	589.5	543.4	554.7	572.1	570.6	581.8	573.1	565.4	603.3	599.8
5°	757.0	726.3	711.9	731.9	721.1	696.0	717.0	713.5	707.3	720.1	729.8
7.5°	878.4	850.2	837.4	795.4	734.5	686.3	694.0	676.1	659.2	679.1	699.6
10°	918.3	903.0	901.4	819.5	762.1	692.5	610.0	538.8	519.9	494.8	506.0
12.5°	1026.9	1036.1	978.3	882.5	771.8	638.2	491.7	390.8	349.8	323.2	324.7
15°	1116.0	1148.3	1064.3	892.2	679.1	486.6	327.3	236.6	211.0	204.4	202.3
17.5°	1248.7	1279.9	1090.9	823.1	547.5	329.8	210.5	184.4	185.9	190.5	189.5
20°	1347.0	1342.4	1067.9	700.7	403.6	216.1	176.2	172.6	180.8	194.1	191.0
22.5°	1441.8	1410.0	1053.5	587.5	261.2	173.6	170.0	169.5	177.2	190.0	193.6
25°	1509.4	1514.5	1029.5	459.9	190.0	161.3	164.4	169.0	176.7	190.5	188.5
27.5°	1703.0	1559.6	929.1	333.9	160.3	154.7	162.4	171.6	174.1	191.6	192.1
30°	1828.5	1729.6	863.5	224.8	148.0	142.9	158.3	170.6	173.6	196.2	197.7
32.5°	2047.2	1802.9	787.7	167.0	137.8	139.3	149.0	165.4	179.8	203.8	204.9
35°	2319.1	2037.9	650.5	150.1	134.2	131.6	136.2	155.2	178.7	204.9	210.0
37.5°	2836.9	2178.8	515.8	145.5	134.2	129.6	134.2	145.5	175.7	215.1	225.9
40°	3183.7	2465.6	371.8	144.4	131.6	127.5	129.1	140.3	167.0	209.0	224.8
42.5°	3610.8	2586.5	274.0	141.9	129.1	122.9	123.9	138.3	158.3	196.2	207.9
45°	3960.6	2674.6	215.6	140.8	122.9	120.9	122.9	136.8	150.1	168.5	179.3
47.5°	4226.5	2777.0	173.1	134.2	121.4	120.9	118.3	128.0	136.2	140.8	148.0
50°	4421.1	2754.0	143.4	123.9	116.3	119.3	114.7	116.3	118.3	115.8	123.9
52.5°	4540.4	2671.0	119.3	111.7	110.1	112.7	107.0	102.4	98.8	96.8	101.9
55°	4584.0	2504.5	101.4	95.8	99.4	100.4	95.8	87.6	81.4	78.4	82.5
57.5°	4501.5	2251.0	88.1	79.4	87.6	87.6	81.4	72.7	65.6	60.4	64.5
60°	4292.5	1970.8	78.4	66.1	74.8	75.3	68.1	58.9	53.3	48.1	50.7
62.5°	3903.3	1665.6	68.6	57.4	64.5	65.0	56.3	47.6	43.5	37.9	39.9
65°	3124.8	1273.8	58.4	50.7	55.8	54.3	46.6	40.5	35.3	30.2	31.2
67.5°	2028.2	786.2	50.7	46.1	47.1	45.6	39.4	35.3	29.7	25.6	26.1
70°	908.1	338.5	44.6	41.5	41.0	38.4	33.3	32.8	29.2	25.6	25.6
72.5°	280.2	127.5	38.4	37.4	35.3	32.3	29.2	31.2	28.7	24.6	24.1
75°	110.6	58.4	31.8	31.8	30.7	26.6	26.1	28.2	26.6	22.5	21.5
77.5°	57.9	36.9	26.1	27.1	26.6	20.5	23.6	25.6	24.6	19.0	15.9
80°	34.3	22.5	19.5	22.0	21.5	14.3	17.9	16.4	11.8	5.6	1.5
82.5°	19.0	10.2	8.7	12.8	12.8	5.1	9.2	8.2	4.6	0.0	0.0
85°	9.2	7.2	6.7	7.2	5.1	1.5	4.6	4.6	2.6	0.0	0.0
87.5°	4.6	4.1	3.1	2.6	2.0	0.0	1.5	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)