

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: P367541

Luminaire Tested: **MSA-SA2D-727-U-T4FT-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367541  
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-727-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**

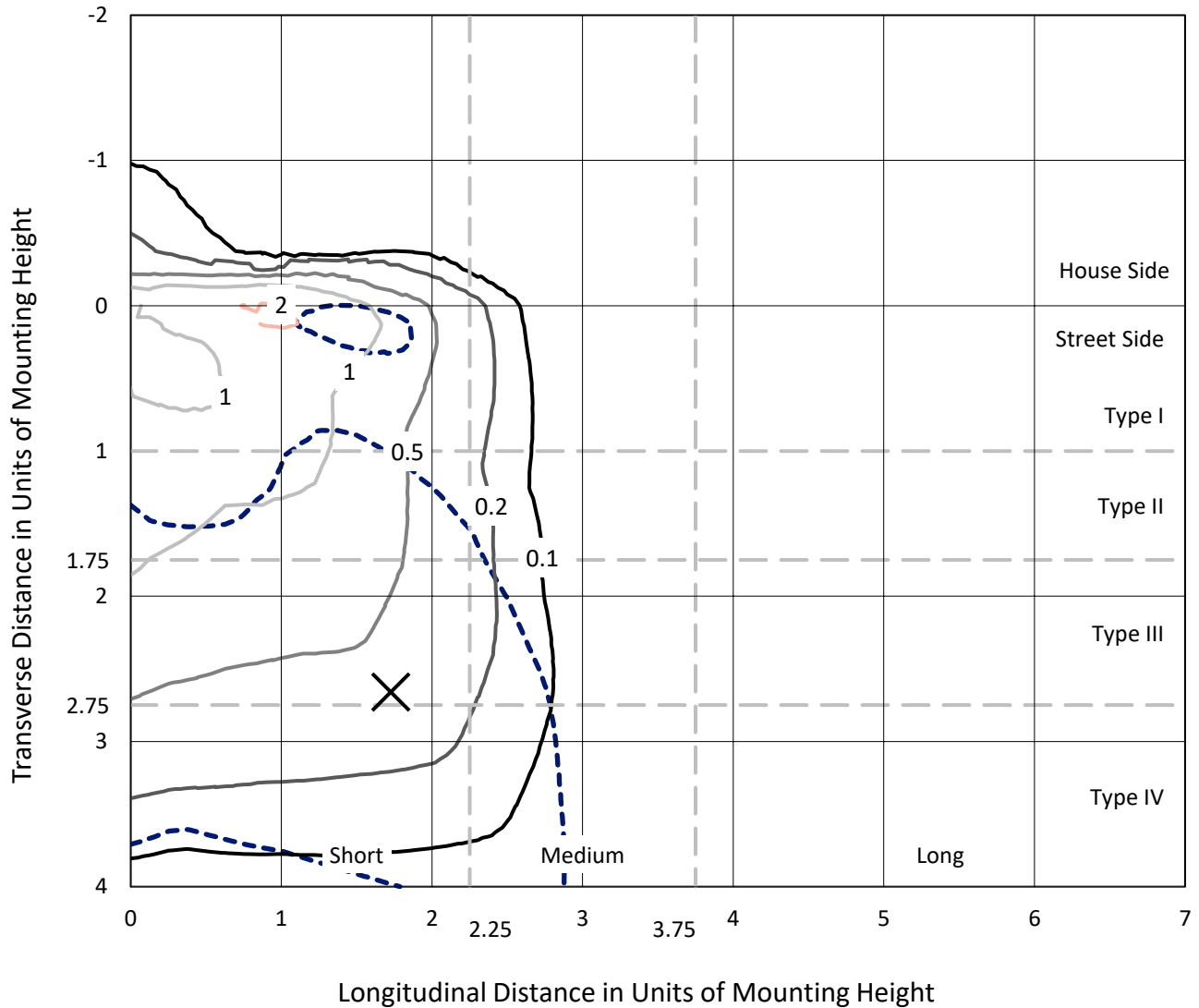
Lumens per Lamp: N/A  
Luminaire Lumens: 8447 lumens  
Efficiency: N/A  
Efficacy: 65.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

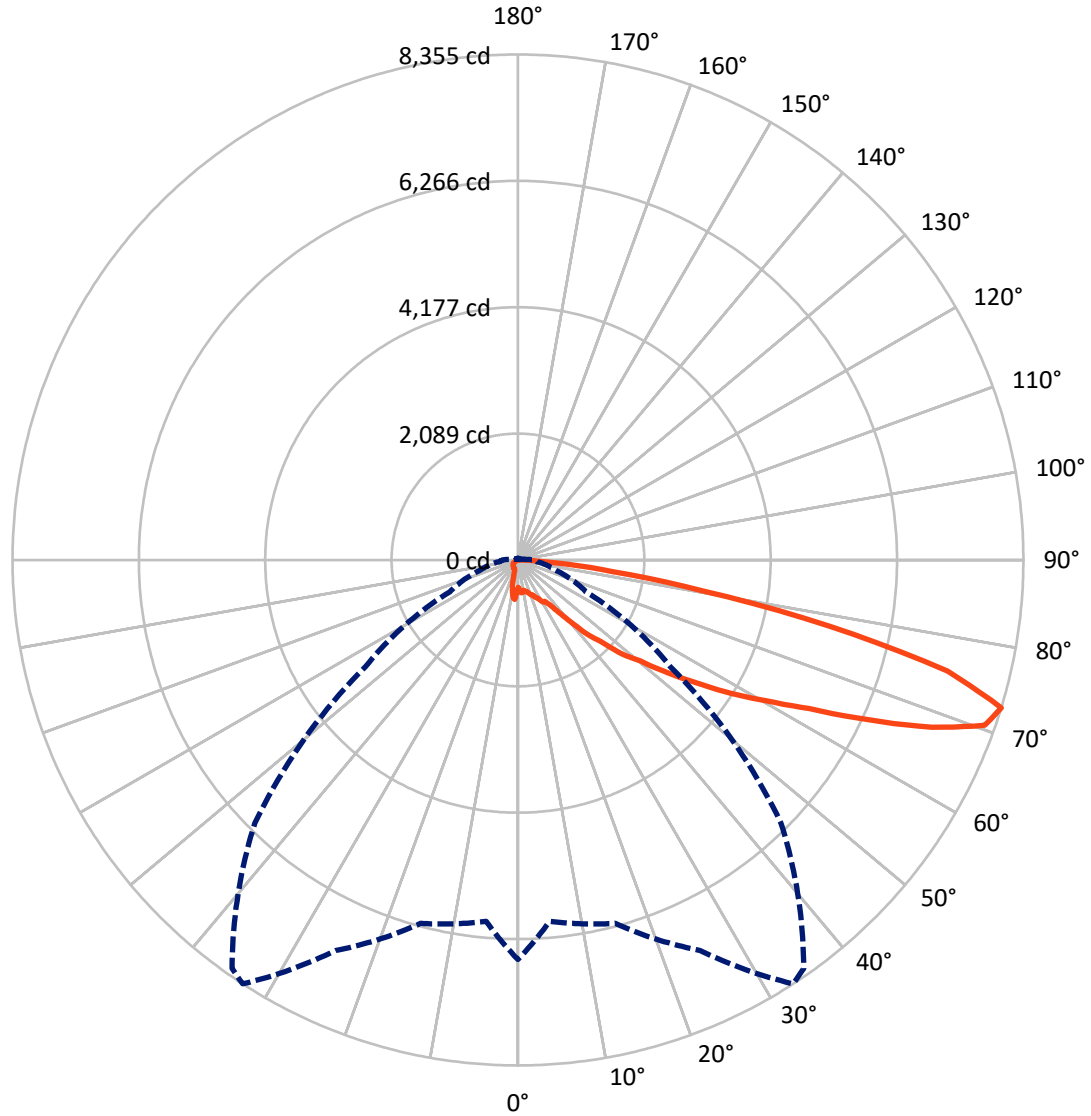
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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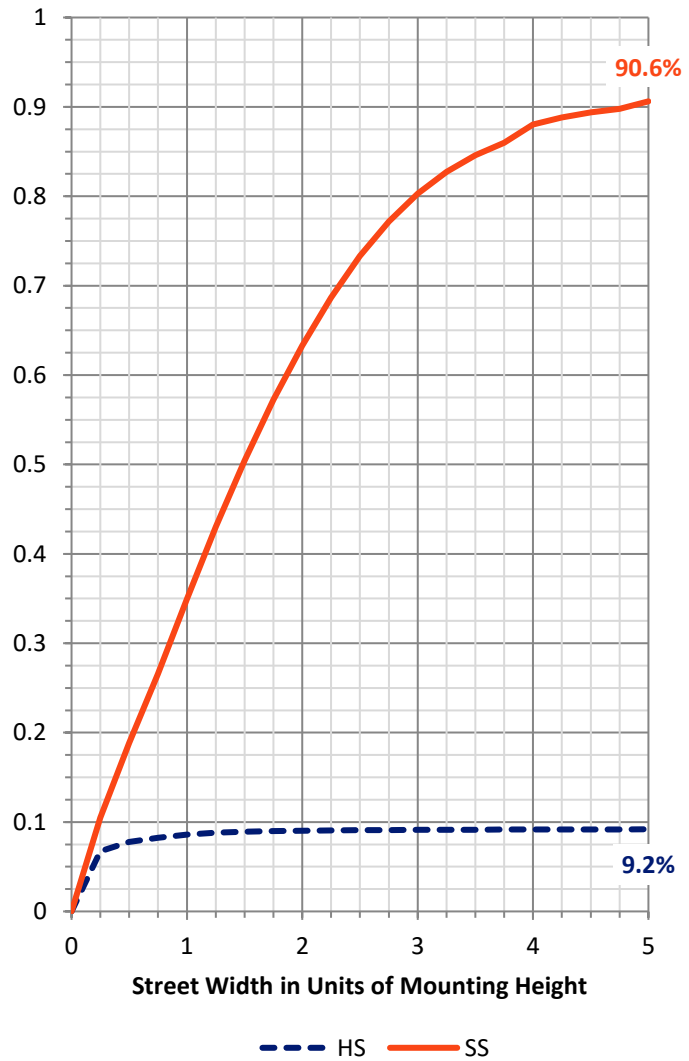
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	781.0	0.0	781.0
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	7666.0	0.0	7666.0
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	8447.0	0.0	8447.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.2	0.7
10°-20°	173.3	2.1
20°-30°	293.9	3.5
30°-40°	537.8	6.4
40°-50°	1135.1	13.4
50°-60°	1899.1	22.5
60°-70°	2542.0	30.1
70°-80°	1660.5	19.7
80°-90°	147.2	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°	8447.0	100.0
0°-180°	8447.0	100.0

**Coefficient of Utilization**

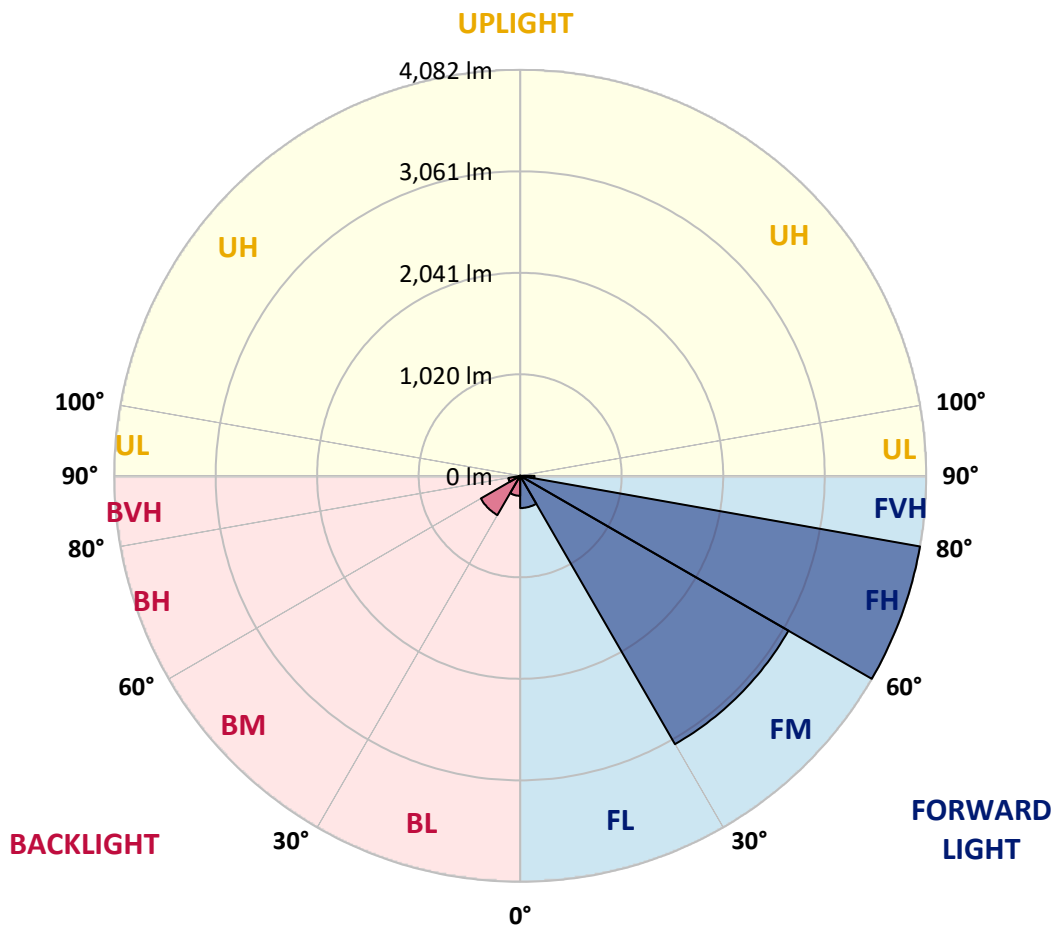


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	324.3	3.8			
FM (30°-60°)	3115.4	36.9			
FH (60°-80°)	4082.0	48.3			G2/5000
FVH (80°-90°)	144.4	1.7			G2/225
BL (0°-30°)	201.0	2.4	B1/500		
BM (30°-60°)	456.6	5.4	B1/1000		
BH (60°-80°)	120.6	1.4	B1/500		G1/500
BVH (80°-90°)	2.8	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°	449.3	449.3	449.3	449.3	449.3	449.3	449.3	449.3	449.3	449.3	449.3
2.5°	535.6	514.9	484.9	486.8	492.0	496.2	507.4	502.7	493.8	493.4	535.6
5°	567.5	544.5	542.6	545.4	544.0	551.5	542.1	572.6	598.4	629.4	679.1
7.5°	552.0	541.2	527.6	541.7	541.2	537.5	543.5	605.5	667.8	707.2	789.3
10°	507.4	495.2	505.6	510.2	507.0	523.4	564.2	614.8	689.4	771.9	811.8
12.5°	494.8	502.3	506.0	506.0	537.5	545.9	608.3	656.1	744.7	809.9	925.8
15°	544.0	558.6	532.8	527.1	537.0	541.7	611.1	668.8	782.3	901.4	998.5
17.5°	622.3	621.4	581.5	559.5	575.0	586.2	624.7	692.2	758.8	973.1	1113.8
20°	676.3	677.2	605.5	559.5	610.6	617.2	659.9	713.8	766.3	1009.2	1189.3
22.5°	745.7	720.8	641.6	597.0	631.7	637.8	684.7	727.4	804.8	1005.0	1285.9
25°	802.4	786.5	686.6	655.6	686.6	678.1	720.8	785.1	846.0	1072.1	1342.7
27.5°	890.6	863.4	718.5	724.1	722.2	728.3	738.2	836.7	918.7	1075.4	1474.0
30°	972.7	956.7	789.8	789.8	808.1	796.3	803.4	922.5	989.1	1151.3	1621.7
32.5°	1057.5	1058.5	873.7	829.2	814.6	862.9	910.3	964.2	1074.0	1281.7	1847.8
35°	1282.2	1263.4	1034.6	923.4	911.7	908.9	984.9	1130.7	1224.5	1451.5	2152.1
37.5°	1734.8	1669.6	1380.7	1137.3	1093.2	1078.2	1164.5	1314.1	1407.4	1701.0	2655.4
40°	2199.0	2079.5	1758.7	1484.3	1341.3	1276.6	1376.9	1504.0	1670.0	1976.7	3121.1
42.5°	2606.6	2458.9	2043.3	1858.6	1672.4	1644.2	1550.0	1756.8	2045.2	2378.2	3577.4
45°	3003.8	2713.0	2296.6	2150.3	1924.2	1940.2	1908.3	2087.4	2434.9	2818.1	3982.1
47.5°	3277.2	3016.0	2607.1	2417.1	2326.6	2233.3	2486.5	2672.7	2782.0	3097.6	4332.0
50°	3571.7	3307.2	2873.9	2741.2	2622.1	2716.3	3045.1	3069.9	3061.0	3358.4	4570.2
52.5°	3952.1	3640.2	3180.1	3030.1	3097.6	3191.4	3570.8	3575.5	3309.1	3577.8	4741.9
55°	4303.8	3958.2	3588.2	3446.5	3587.7	3667.0	4087.6	3933.3	3453.6	3727.0	4826.3
57.5°	4799.5	4399.5	4130.8	3881.3	4167.4	4091.4	4542.1	4312.7	3615.8	3825.9	4795.3
60°	5426.1	4955.2	4686.0	4422.0	4728.7	4780.3	4985.7	4502.2	3678.7	3858.3	4609.1
62.5°	6063.4	5589.8	5235.7	5056.5	5404.5	5574.3	5396.5	4596.5	3603.2	3795.0	4187.5
65°	6854.1	6247.7	5834.1	5729.1	6373.9	6623.4	5882.4	4619.4	3457.3	3446.5	3366.8
67.5°	7395.8	6805.4	6426.0	6601.8	7380.8	7401.0	6318.6	4626.5	2966.3	2698.5	2209.8
70°	7524.3	6892.1	6722.4	7240.1	8184.2	7930.4	6459.3	4270.1	2200.0	1601.6	1010.2
72.5°	6605.1	5996.4	6217.3	7119.6	8354.9	8238.6	6148.3	3080.7	1238.6	640.6	310.0
75°	4051.5	3683.4	4664.0	6036.2	7333.9	7258.9	4796.7	1591.7	499.0	256.1	115.8
77.5°	1762.0	1636.3	2434.0	4005.1	5269.9	5202.9	2810.6	586.2	257.9	180.1	58.6
80°	582.9	565.6	922.0	1896.6	3086.8	3027.7	1184.2	243.9	183.8	144.4	32.8
82.5°	138.3	137.4	321.7	872.8	1572.5	1523.2	363.5	134.6	133.2	114.0	17.4
85°	34.7	35.6	89.1	356.9	638.7	563.2	94.7	67.1	93.8	77.4	8.9
87.5°	0.0	0.0	23.0	51.1	96.6	60.5	10.3	17.8	26.3	27.7	4.7
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°	449.3	449.3	449.3	449.3	449.3	449.3	449.3	449.3	449.3	449.3	449.3
2.5°	545.0	539.8	497.6	507.9	523.9	522.4	532.8	524.8	517.8	552.5	549.2
5°	693.2	665.0	651.9	670.2	660.3	637.3	656.6	653.3	647.7	659.4	668.3
7.5°	804.3	778.5	766.8	728.3	672.5	628.4	635.5	619.1	603.6	621.9	640.6
10°	840.9	826.8	825.4	750.4	697.8	634.1	558.6	493.4	476.0	453.0	463.4
12.5°	940.3	948.7	895.8	808.1	706.8	584.3	450.2	357.8	320.3	295.9	297.3
15°	1021.9	1051.5	974.5	817.0	621.9	445.5	299.7	216.7	193.2	187.1	185.2
17.5°	1143.4	1172.0	998.9	753.6	501.3	302.0	192.8	168.8	170.2	174.5	173.5
20°	1233.4	1229.2	977.8	641.6	369.6	197.9	161.3	158.0	165.5	177.7	174.9
22.5°	1320.2	1291.1	964.7	537.9	239.2	159.0	155.7	155.2	162.3	174.0	177.3
25°	1382.1	1386.8	942.6	421.1	174.0	147.7	150.5	154.8	161.8	174.5	172.6
27.5°	1559.4	1428.0	850.7	305.8	146.8	141.6	148.7	157.1	159.5	175.4	175.9
30°	1674.3	1583.7	790.7	205.9	135.5	130.8	144.9	156.2	159.0	179.6	181.0
32.5°	1874.5	1650.8	721.3	152.9	126.2	127.6	136.5	151.5	164.6	186.7	187.6
35°	2123.5	1866.1	595.6	137.4	122.9	120.5	124.7	142.1	163.7	187.6	192.3
37.5°	2597.7	1995.0	472.3	133.2	122.9	118.7	122.9	133.2	160.9	197.0	206.8
40°	2915.2	2257.7	340.5	132.3	120.5	116.8	118.2	128.5	152.9	191.3	205.9
42.5°	3306.3	2368.3	250.9	129.9	118.2	112.6	113.5	126.6	144.9	179.6	190.4
45°	3626.6	2449.0	197.4	129.0	112.6	110.7	112.6	125.2	137.4	154.3	164.1
47.5°	3870.0	2542.8	158.5	122.9	111.1	110.7	108.3	117.2	124.7	129.0	135.5
50°	4048.2	2521.7	131.3	113.5	106.5	109.3	105.1	106.5	108.3	106.0	113.5
52.5°	4157.5	2445.7	109.3	102.2	100.8	103.2	98.0	93.8	90.5	88.6	93.3
55°	4197.4	2293.3	92.9	87.7	91.0	91.9	87.7	80.2	74.6	71.8	75.5
57.5°	4121.9	2061.2	80.7	72.7	80.2	80.2	74.6	66.6	60.0	55.3	59.1
60°	3930.5	1804.6	71.8	60.5	68.5	68.9	62.4	53.9	48.8	44.1	46.4
62.5°	3574.1	1525.1	62.8	52.5	59.1	59.6	51.6	43.6	39.9	34.7	36.6
65°	2861.2	1166.4	53.5	46.4	51.1	49.7	42.7	37.0	32.4	27.7	28.6
67.5°	1857.2	719.9	46.4	42.2	43.1	41.7	36.1	32.4	27.2	23.4	23.9
70°	831.5	310.0	40.8	38.0	37.5	35.2	30.5	30.0	26.7	23.4	23.4
72.5°	256.5	116.8	35.2	34.2	32.4	29.5	26.7	28.6	26.3	22.5	22.0
75°	101.3	53.5	29.1	29.1	28.1	24.4	23.9	25.8	24.4	20.6	19.7
77.5°	53.0	33.8	23.9	24.9	24.4	18.8	21.6	23.4	22.5	17.4	14.5
80°	31.4	20.6	17.8	20.2	19.7	13.1	16.4	15.0	10.8	5.2	1.4
82.5°	17.4	9.4	8.0	11.7	11.7	4.7	8.4	7.5	4.2	0.0	0.0
85°	8.4	6.6	6.1	6.6	4.7	1.4	4.2	4.2	2.3	0.0	0.0
87.5°	4.2	3.8	2.8	2.3	1.9	0.0	1.4	1.9	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)