

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: P596819

Luminaire Tested: **MSA-SA4D-827-U-T2-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596819  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-827-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14586 lumens  
Efficiency: N/A  
Efficacy: 56.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G3

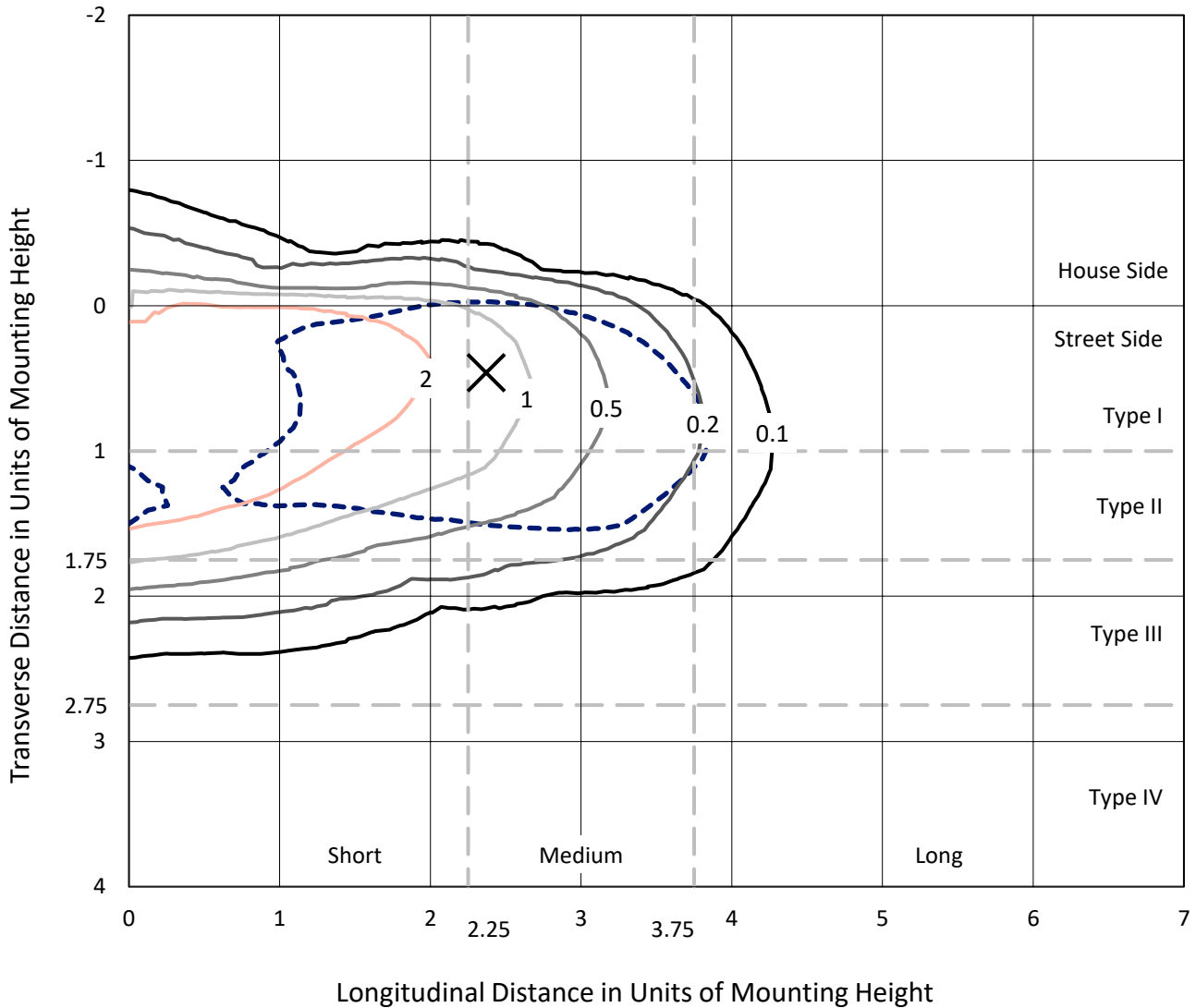
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

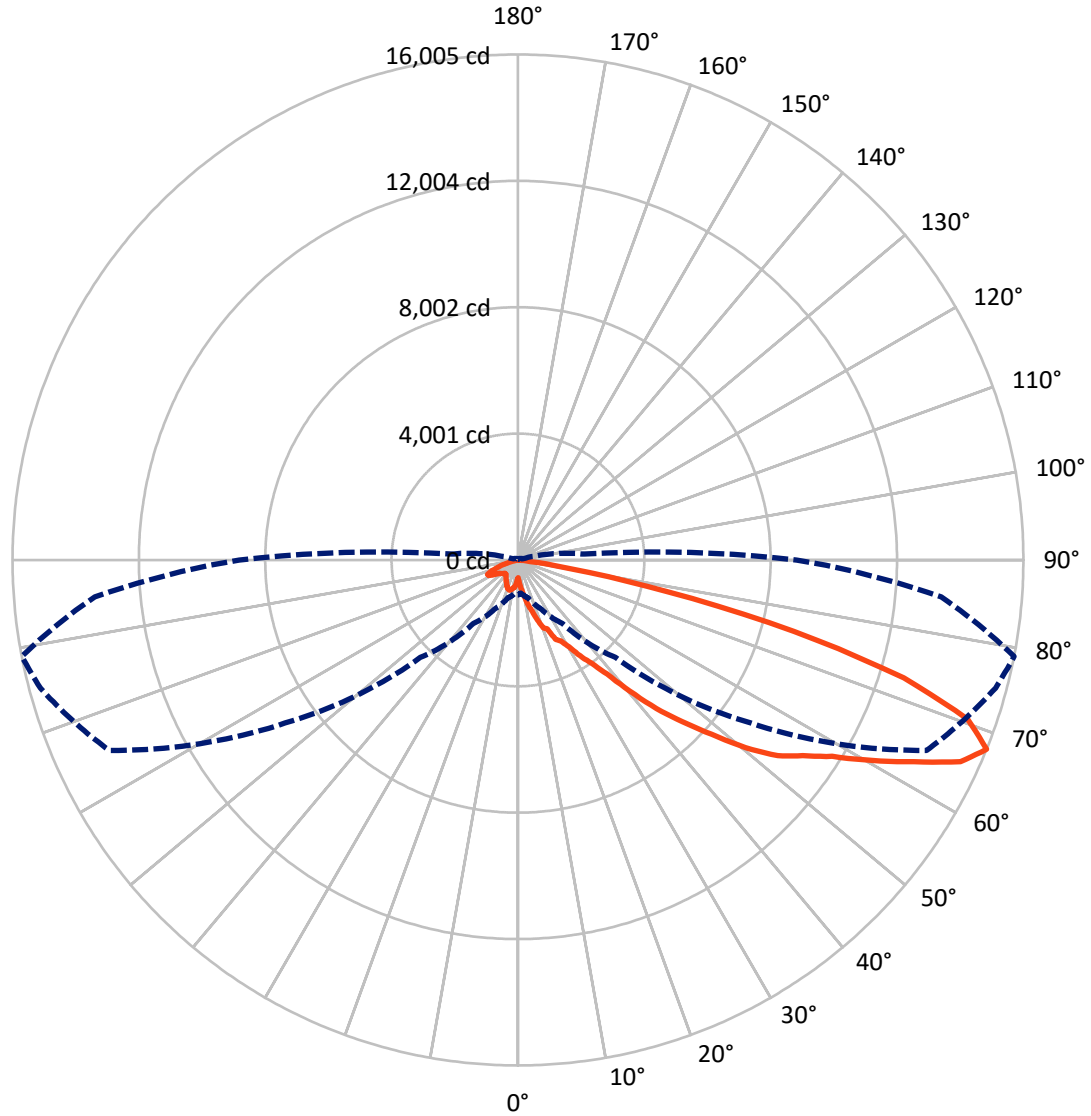
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.4 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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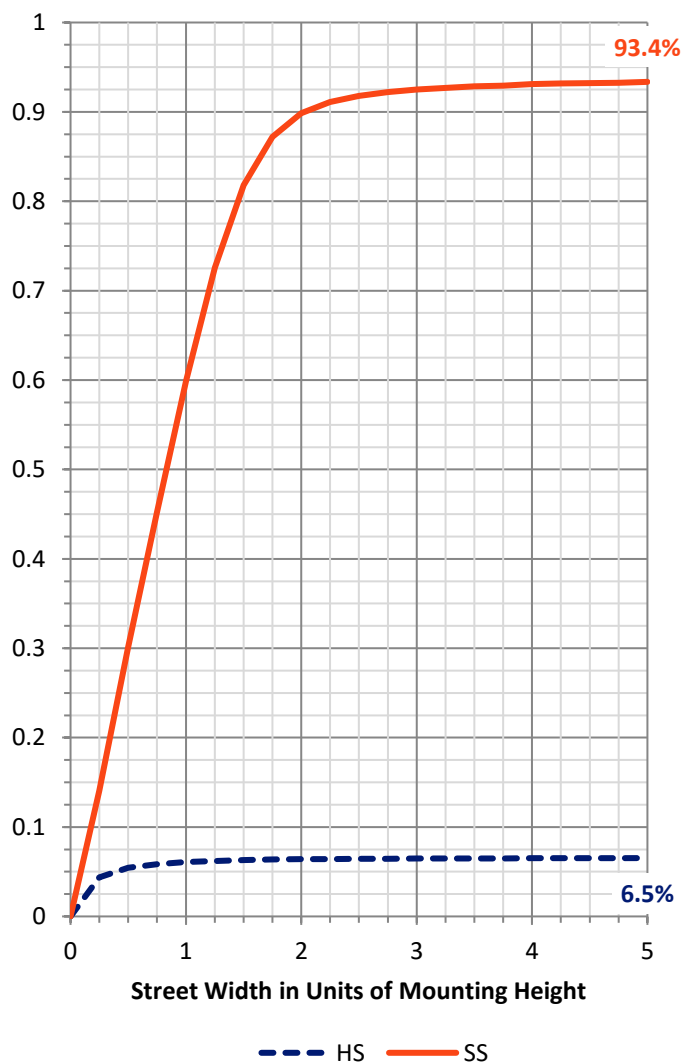
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	958.4	0.0	958.4
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	13627.6	0.0	13627.6
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	14586.0	0.0	14586.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.7	0.6
10°-20°	325.9	2.2
20°-30°	628.8	4.3
30°-40°	1235.1	8.5
40°-50°	2474.3	17.0
50°-60°	3954.8	27.1
60°-70°	3979.2	27.3
70°-80°	1795.1	12.3
80°-90°	111.1	0.8
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°	14586.0	100.0
0°-180°	14586.0	100.0

**Coefficient of Utilization**



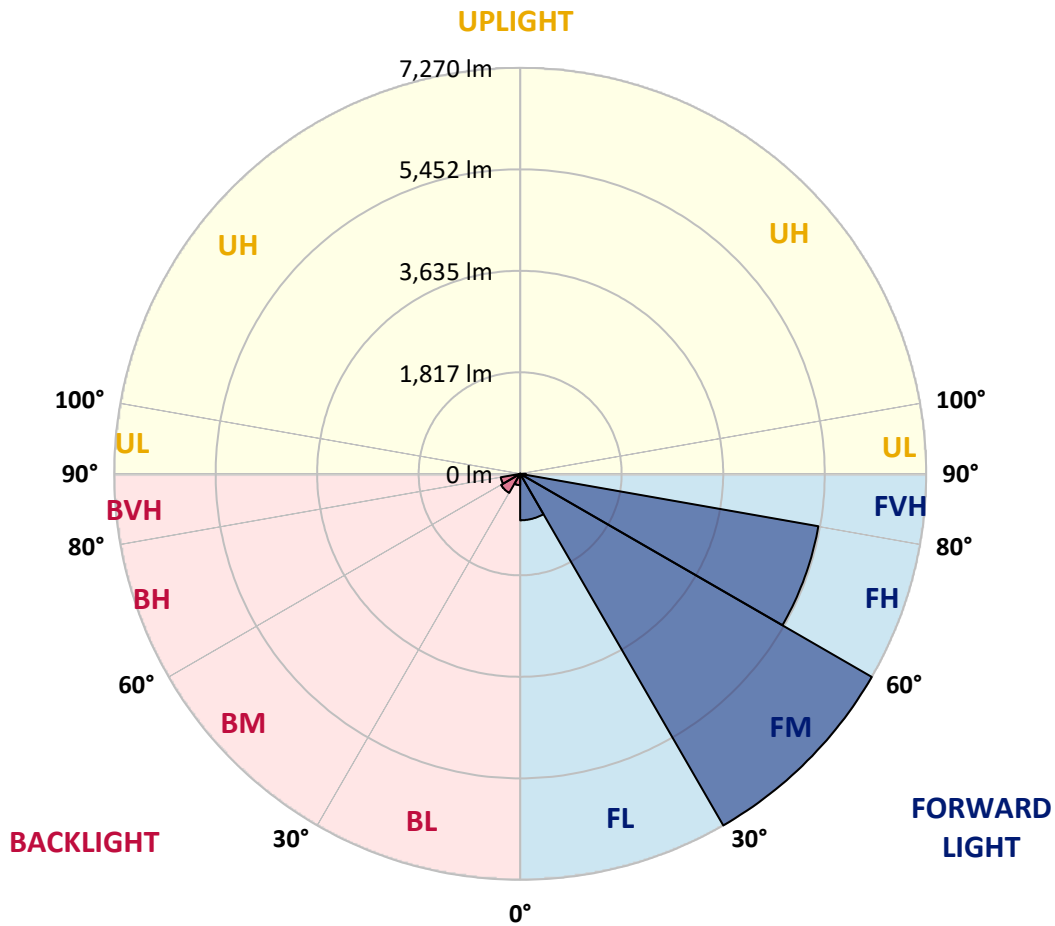
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	832.7	5.7			
FM (30°-60°)	7269.9	49.8			
FH (60°-80°)	5421.0	37.2			G3/7500
FVH (80°-90°)	104.0	0.7			G2/225
BL (0°-30°)	203.7	1.4	B1/500		
BM (30°-60°)	394.3	2.7	B1/1000		
BH (60°-80°)	353.3	2.4	B1/500		G1/500
BVH (80°-90°)	7.1	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-G3**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0
2.5°	759.0	731.7	687.5	712.4	710.8	723.7	699.5	673.0	630.4	673.0	676.2
5°	1092.7	1042.1	1009.9	1003.5	968.1	935.1	927.9	900.5	879.6	841.8	875.6
7.5°	1361.3	1338.0	1280.9	1274.4	1187.6	1139.4	1154.6	1142.6	1063.0	1023.6	1056.5
10°	1475.4	1435.2	1443.3	1435.2	1398.3	1411.9	1380.6	1344.4	1280.9	1215.7	1133.7
12.5°	1519.7	1513.2	1580.0	1571.9	1658.8	1763.3	1693.3	1633.0	1485.9	1469.8	1358.1
15°	1614.5	1654.8	1645.1	1678.9	1734.4	1912.0	1910.4	1924.9	1768.9	1685.3	1523.7
17.5°	1699.0	1728.7	1680.5	1719.1	1870.2	1978.0	2121.9	2065.6	2083.3	1998.1	1748.0
20°	1662.8	1696.6	1648.3	1625.0	1891.1	2095.4	2287.5	2246.5	2352.7	2299.6	1954.7
22.5°	1888.7	1825.2	1703.8	1628.2	1826.8	2093.0	2346.2	2517.5	2499.0	2368.8	2146.8
25°	2167.7	2129.1	1983.6	1850.1	1867.8	2078.5	2531.2	2782.8	2837.5	2782.0	2329.4
27.5°	2544.0	2535.2	2237.7	2179.8	2007.7	2015.0	2560.1	3117.3	2992.7	2905.9	2542.4
30°	3035.3	2965.4	2612.4	2536.8	2282.7	2158.1	2737.0	3406.0	3314.3	3196.1	2742.6
32.5°	3563.6	3574.0	3123.8	2874.5	2670.3	2522.3	2667.1	3541.1	3712.3	3616.7	2992.7
35°	4163.4	4210.0	3659.3	3366.6	2969.4	2751.5	2967.8	3956.0	4263.1	4011.4	3328.0
37.5°	5087.3	5085.7	4442.4	3859.5	3570.8	3334.4	3468.7	4333.1	4940.1	4586.3	3929.4
40°	5900.2	5723.3	5125.1	4455.3	4005.0	3940.7	3843.4	4849.3	5663.0	5449.9	4464.1
42.5°	6507.2	6382.6	5659.8	5138.7	4580.7	4376.5	4341.9	5605.9	6730.0	6431.7	5227.2
45°	7233.3	6824.8	6292.6	5823.0	5254.5	5195.0	5113.8	6373.8	7971.4	7299.2	5890.5
47.5°	7883.8	7499.4	6996.1	6393.1	5740.2	6230.6	5918.7	7048.4	8874.4	8243.2	6622.2
50°	8431.4	8022.9	7459.2	7000.1	6720.3	7053.2	6533.0	7604.0	9849.7	9338.3	7306.5
52.5°	8710.4	8248.0	7812.2	7528.4	7699.7	7624.9	7366.0	8277.0	10681.1	10298.4	7912.7
55°	8481.2	8029.3	7846.8	7987.5	8507.7	8291.4	8312.4	9319.8	11465.9	10938.4	8440.2
57.5°	7464.9	7052.4	7133.6	7518.7	8515.8	9081.8	9391.4	10332.9	12095.4	11736.0	9253.9
60°	5646.9	5314.8	5615.5	6299.0	7714.9	8924.2	10156.9	11346.1	12995.2	12882.6	10485.7
62.5°	3448.6	3268.5	3694.6	4546.9	6147.8	8151.5	10603.1	12696.9	13957.6	14077.4	11792.3
65°	1759.3	1678.1	2033.5	2782.8	4153.8	6696.2	10280.7	13536.3	14952.3	15394.5	13037.8
67.5°	1108.0	1055.7	1245.5	1697.4	2450.8	4367.6	9001.4	14270.4	15655.0	16004.8	13453.5
70°	767.9	734.9	898.9	1165.1	1546.2	2352.7	6683.3	13585.4	15097.8	15113.9	12447.6
72.5°	487.3	461.5	621.5	862.8	1141.0	1214.9	3831.3	10660.2	12923.6	12774.9	10080.5
75°	316.0	303.1	394.8	632.0	876.4	749.4	1893.6	7193.1	9266.8	9033.6	6695.4
77.5°	226.7	218.7	264.5	422.1	623.9	524.2	849.1	4287.2	5313.2	4803.4	3250.0
80°	136.7	135.9	191.4	264.5	443.8	369.9	392.4	1946.6	2060.0	1679.7	993.0
82.5°	68.3	70.8	106.9	170.5	285.4	242.0	179.3	648.1	553.2	407.7	201.0
85°	16.1	20.1	56.3	117.4	143.1	96.5	85.2	169.7	152.0	115.0	58.7
87.5°	0.0	0.0	17.7	28.1	38.6	16.1	28.9	32.2	41.0	32.2	12.1
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°	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0
2.5°	677.0	667.4	608.7	593.4	591.8	574.9	578.9	562.8	563.6	599.8	599.8
5°	862.8	806.5	750.2	700.3	666.6	618.3	600.6	593.4	587.0	601.4	610.3
7.5°	1013.1	930.3	829.0	720.4	619.9	550.8	541.1	523.4	517.0	531.5	542.7
10°	1079.8	976.9	837.8	679.4	585.4	529.1	482.4	457.5	452.7	451.9	455.9
12.5°	1221.4	1093.5	847.5	664.2	562.0	500.1	447.1	405.2	366.7	370.7	366.7
15°	1334.7	1183.6	847.5	627.2	505.8	443.8	350.6	329.7	324.0	332.9	325.6
17.5°	1506.0	1272.8	804.9	561.2	457.5	344.9	309.6	308.0	319.2	332.1	324.0
20°	1608.9	1284.9	733.3	485.7	375.5	299.1	286.2	273.4	289.5	299.9	295.9
22.5°	1715.9	1285.7	661.7	445.4	302.3	272.6	251.7	241.2	243.6	253.3	254.9
25°	1761.7	1254.3	595.0	392.4	274.2	243.6	221.9	210.7	206.6	211.5	209.9
27.5°	1886.3	1194.0	522.6	334.5	260.5	216.3	196.2	182.5	170.5	178.5	180.1
30°	1904.0	1174.7	483.2	297.5	242.8	191.4	173.7	159.2	150.4	161.6	161.6
32.5°	1960.3	1068.6	463.1	282.2	224.3	176.9	152.8	142.3	140.7	147.9	148.8
35°	2047.1	1022.0	433.4	270.2	207.4	160.0	137.5	132.7	131.1	136.7	136.7
37.5°	2341.4	964.1	400.4	259.7	193.0	151.2	133.5	125.4	126.2	131.1	134.3
40°	2536.8	971.3	351.4	246.8	176.1	143.1	125.4	119.8	119.0	121.4	123.8
42.5°	2899.4	976.9	329.7	233.2	163.2	133.5	117.4	113.4	110.2	112.6	115.0
45°	3304.7	1006.7	318.4	221.9	156.0	127.8	110.2	107.7	100.5	102.1	105.3
47.5°	3695.5	1115.2	304.7	205.8	149.6	124.6	102.9	97.3	92.5	91.7	94.9
50°	4139.3	1220.6	289.5	188.1	143.1	119.8	95.7	86.8	83.6	83.6	86.0
52.5°	4536.5	1321.1	275.0	176.1	138.3	111.0	89.3	80.4	78.0	78.0	81.2
55°	4954.6	1426.4	262.1	164.8	131.9	102.1	83.6	75.6	74.8	73.2	75.6
57.5°	5692.7	1656.4	246.0	155.2	123.0	94.9	78.8	70.8	69.1	66.7	69.1
60°	6767.8	2009.3	225.1	145.5	112.6	90.1	74.8	65.1	62.7	58.7	59.5
62.5°	7818.7	2294.8	201.0	133.5	102.9	85.2	68.3	58.7	54.7	49.9	50.7
65°	8719.2	2407.3	175.3	119.0	93.3	74.0	59.5	51.5	45.8	39.4	38.6
67.5°	8825.3	2125.9	150.4	105.3	83.6	62.7	50.7	45.8	37.0	31.4	29.8
70°	7942.5	1584.0	125.4	93.3	72.4	53.1	43.4	40.2	34.6	29.8	27.3
72.5°	6324.7	1169.1	105.3	82.8	63.5	45.0	37.0	37.8	34.6	28.9	25.7
75°	4182.7	669.0	86.0	69.1	53.1	36.2	33.8	33.8	33.0	27.3	24.1
77.5°	2012.6	288.7	65.9	54.7	42.6	27.3	30.6	30.6	31.4	24.9	20.1
80°	570.9	86.8	41.0	37.0	31.4	18.5	24.1	23.3	20.9	14.5	8.8
82.5°	102.1	33.8	18.5	19.3	17.7	7.2	13.7	12.9	10.5	5.6	0.8
85°	28.1	12.9	10.5	11.3	8.8	2.4	5.6	7.2	5.6	3.2	0.0
87.5°	7.2	5.6	7.2	8.0	6.4	0.8	2.4	0.8	2.4	0.8	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)