

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: P596809

Luminaire Tested: **MSA-SA4D-827-U-SL2-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596809
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-827-U-SL2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15850 lumens
Efficiency: N/A
Efficacy: 61.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G3

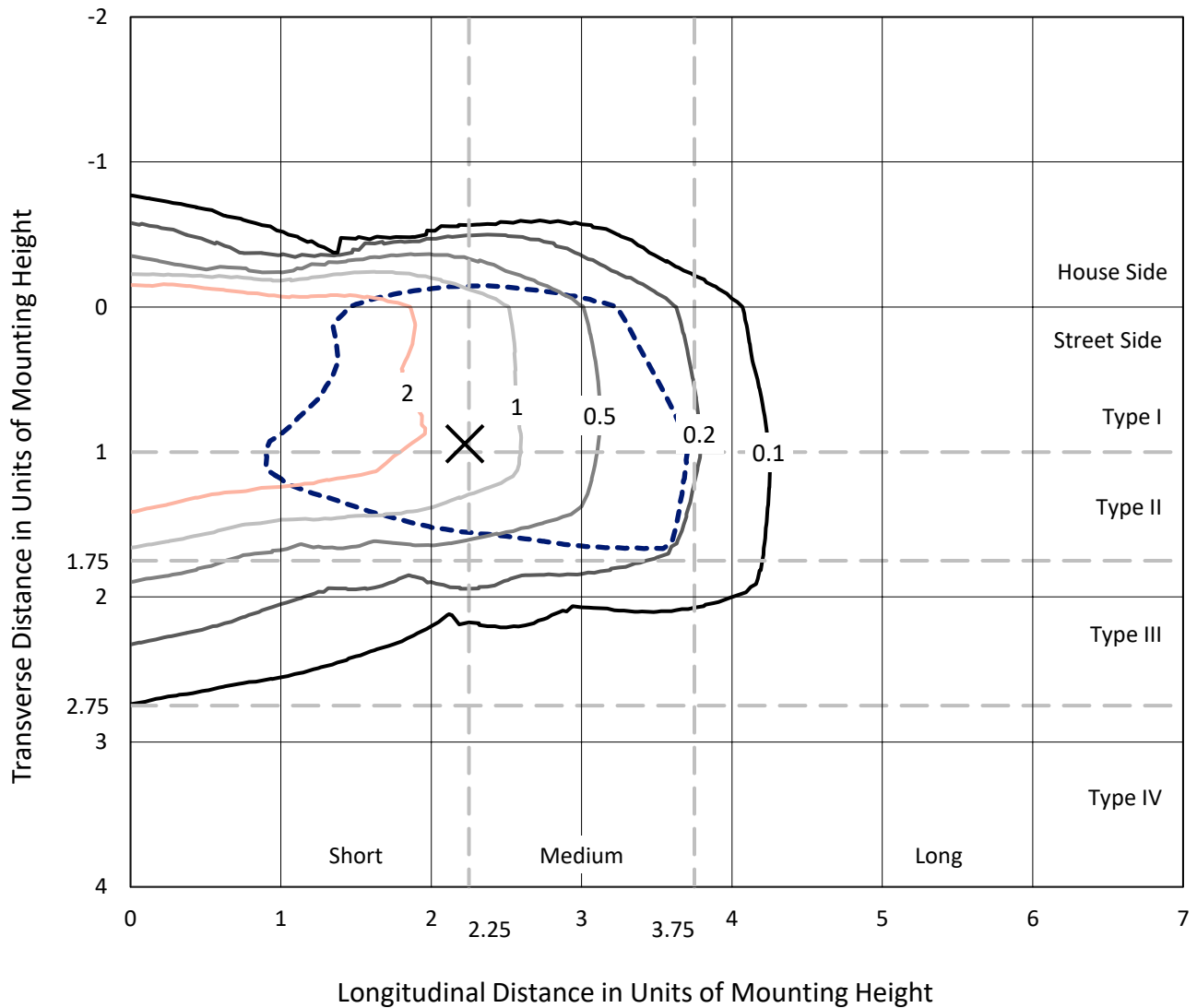
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

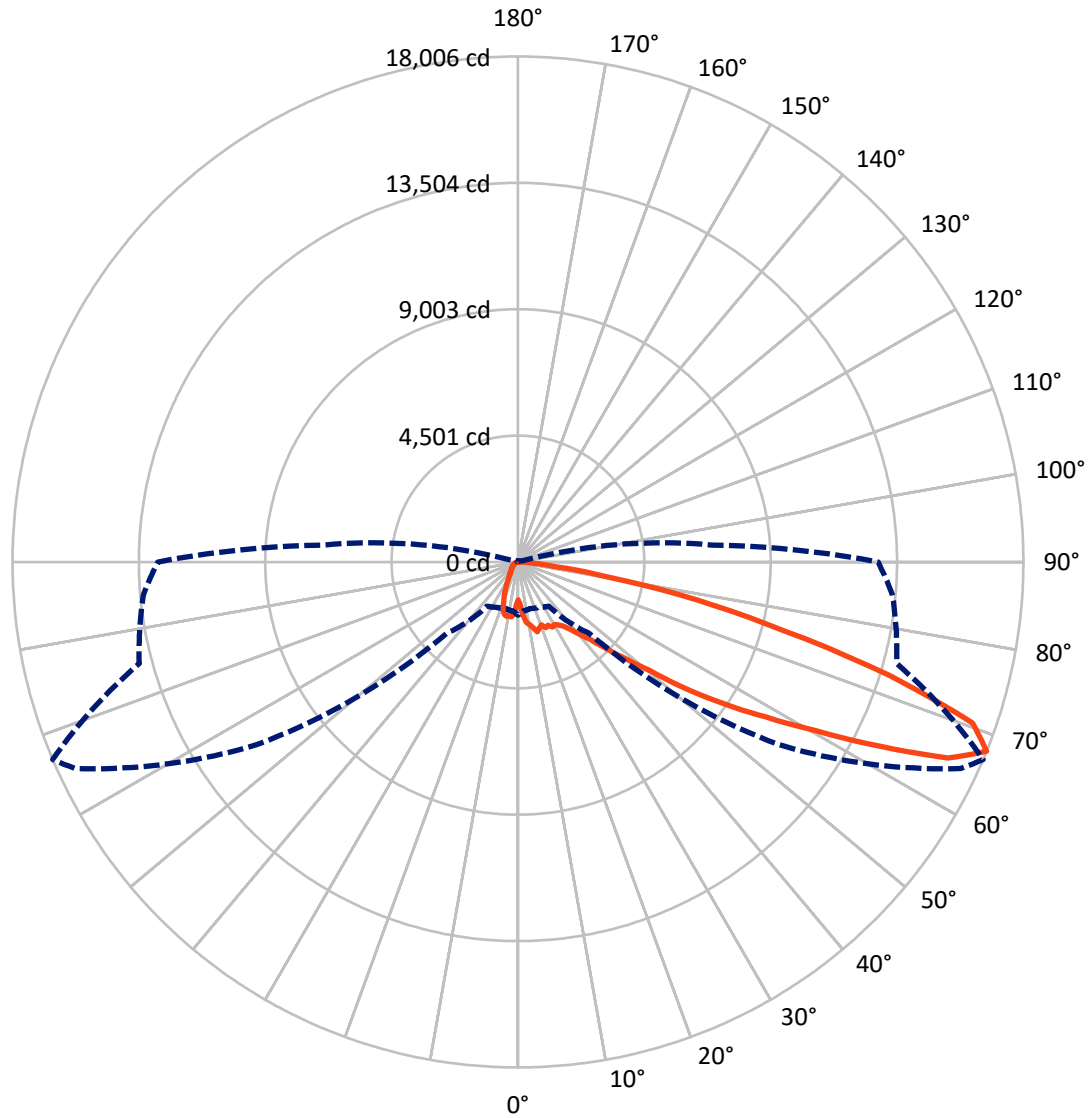
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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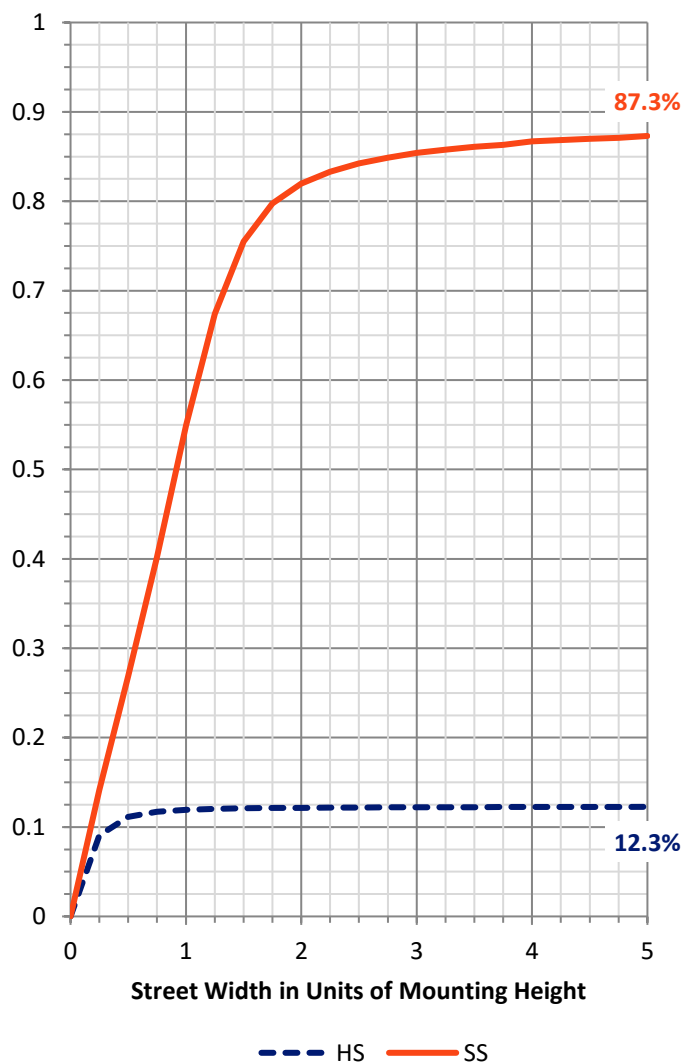
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1960.2	0.0	1960.2
	% Fixture	12.4	0.0	12.4
Street Side	Lumens	13889.8	0.0	13889.8
	% Fixture	87.6	0.0	87.6
Total	Lumens	15850.0	0.0	15850.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.4	1.1
10°-20°	501.4	3.2
20°-30°	785.8	5.0
30°-40°	1267.0	8.0
40°-50°	2328.1	14.7
50°-60°	3931.9	24.8
60°-70°	4346.9	27.4
70°-80°	2275.1	14.4
80°-90°	244.3	1.5
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°	15850.0	100.0
0°-180°	15850.0	100.0

Coefficient of Utilization

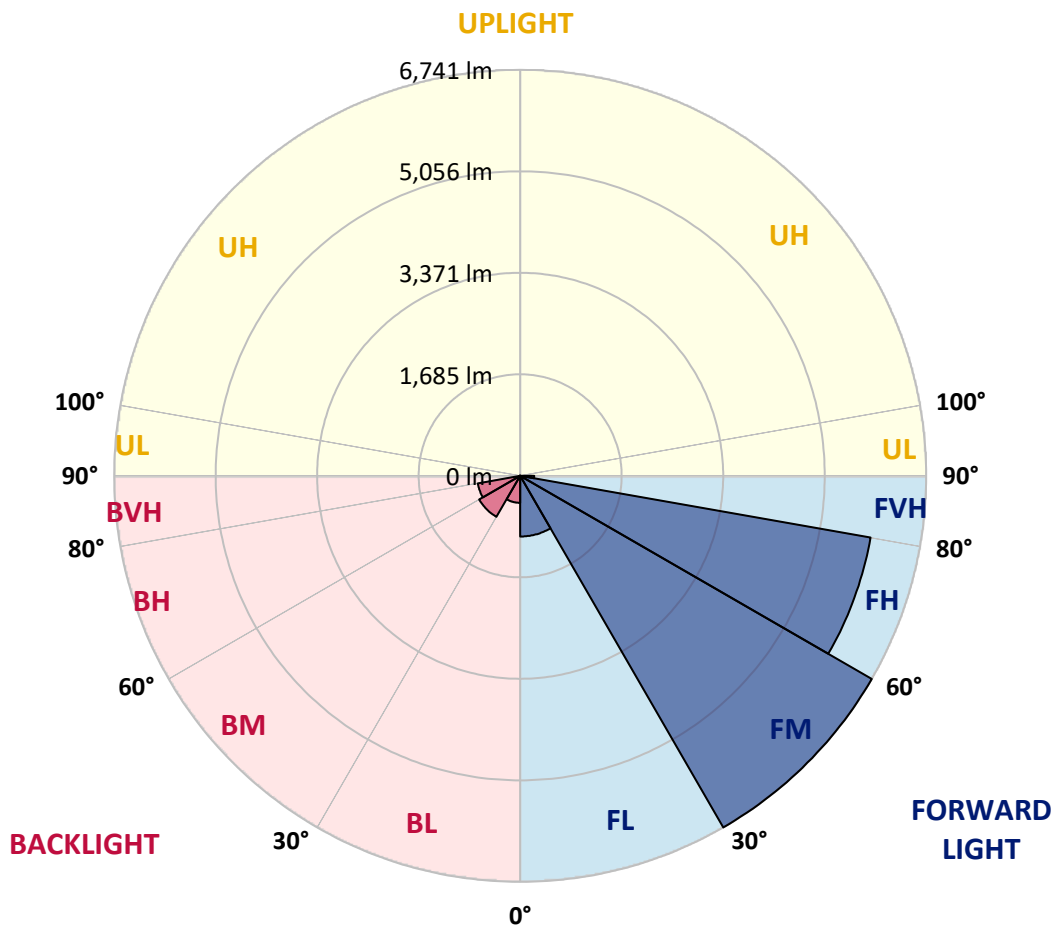


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1007.8	6.4			
FM (30°-60°)	6741.1	42.5			
FH (60°-80°)	5907.0	37.3			G3/7500
FVH (80°-90°)	233.9	1.5			G3/500
BL (0°-30°)	448.8	2.8	B1/500		
BM (30°-60°)	786.0	5.0	B1/1000		
BH (60°-80°)	715.0	4.5	B2/1000		G2/1000
BVH (80°-90°)	10.4	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3
 Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0
2.5°	1593.6	1539.7	1448.1	1474.6	1527.7	1571.9	1551.0	1510.0	1510.8	1469.0	1619.3
5°	1854.1	1781.7	1728.7	1747.2	1744.8	1743.1	1842.0	1879.8	1895.9	1965.1	2067.2
7.5°	1928.9	1903.2	1847.7	1864.6	1809.1	1813.1	1986.8	2150.8	2176.5	2219.1	2400.8
10°	1899.9	1850.1	1870.2	1870.2	1871.0	1961.0	2077.6	2234.4	2265.8	2429.8	2449.1
12.5°	1868.6	1871.0	1950.6	1936.1	2045.5	2207.1	2246.5	2422.6	2407.3	2549.6	2761.1
15°	1985.2	2046.3	1994.8	2014.9	2025.4	2215.1	2278.6	2512.6	2580.1	2760.3	2897.7
17.5°	2185.4	2193.4	2086.5	2057.5	2133.1	2187.0	2314.8	2427.4	2472.4	2945.2	3139.8
20°	2221.5	2273.0	2164.5	1997.2	2157.2	2231.2	2320.4	2374.3	2393.6	3002.3	3276.4
22.5°	2439.4	2382.4	2208.7	2081.6	2127.5	2207.9	2263.4	2425.8	2541.6	2894.5	3407.5
25°	2551.2	2535.9	2370.3	2261.8	2215.1	2208.7	2335.7	2458.7	2495.7	3006.3	3439.7
27.5°	2818.9	2784.4	2463.6	2449.9	2296.3	2161.2	2338.1	2559.2	2628.4	2901.0	3560.3
30°	3183.2	3170.3	2743.4	2734.5	2490.1	2247.3	2468.4	2621.2	2579.3	2954.8	3640.7
32.5°	3549.8	3654.3	3217.7	2968.5	2785.2	2563.3	2431.4	2601.9	2676.6	3085.9	3788.6
35°	3992.8	4068.4	3623.8	3442.9	3035.2	2711.2	2676.6	2786.0	2818.1	3241.9	3956.7
37.5°	4767.9	4653.8	4275.1	3967.1	3753.2	3239.5	3069.0	2982.2	3056.9	3453.3	4300.0
40°	5340.4	5268.0	4801.7	4617.6	4125.5	3824.8	3379.4	3298.2	3381.8	3670.4	4538.8
42.5°	6031.1	5880.7	5441.7	5317.1	4810.5	4230.8	3779.0	3807.1	3754.8	4099.0	4957.7
45°	6655.8	6316.5	6072.1	6100.2	5830.1	5046.9	4445.5	4431.8	4388.4	4719.7	5398.3
47.5°	7076.3	6779.6	6541.6	6463.6	6431.5	6482.1	5408.7	5165.9	5133.8	5371.8	6092.2
50°	7302.2	6977.4	6683.1	6699.2	7352.1	7843.4	6402.5	6057.6	6069.7	6318.1	7040.9
52.5°	7150.3	6782.8	6472.5	6774.0	8066.1	8751.1	8047.6	7222.6	7502.5	7438.9	8313.7
55°	6448.4	6129.2	5908.9	6448.4	8144.1	9728.0	10073.0	8976.3	8913.5	8768.8	9611.4
57.5°	5267.2	4992.3	4856.4	5425.6	7291.0	10515.2	12107.2	10958.2	10423.5	9817.3	10688.8
60°	3924.5	3721.9	3580.4	3881.1	5744.8	9750.5	13439.5	12826.0	12206.9	10827.9	11656.9
62.5°	2906.6	2741.8	2591.4	2618.7	3955.9	8386.1	13950.8	14804.7	14449.3	11894.9	12570.3
65°	2319.6	2169.3	2064.0	2003.7	2449.9	6309.3	13239.2	16426.4	16836.5	12899.9	13229.6
67.5°	1894.3	1767.3	1715.0	1784.2	1921.6	3596.5	11338.5	17410.6	18005.6	13966.1	13392.0
70°	1541.3	1436.8	1431.2	1617.7	1769.7	2192.6	8340.3	16731.2	17179.0	14147.8	12418.3
72.5°	1074.2	1028.4	1101.5	1366.1	1753.6	1826.0	4789.6	13845.5	13861.6	12495.5	10214.5
75°	607.9	600.6	716.4	1089.5	1707.8	1807.5	2670.2	9784.3	9791.5	9450.6	7076.3
77.5°	334.5	312.8	417.3	736.5	1466.6	1765.7	1722.2	6680.7	6509.5	5259.2	3232.2
80°	154.4	145.5	225.9	472.0	1072.6	1670.0	1380.5	3672.0	3311.0	1713.4	788.8
82.5°	63.5	60.3	103.7	303.1	677.8	1345.2	1163.4	1629.0	1307.4	325.6	243.6
85°	11.3	12.1	42.6	183.3	379.5	619.9	943.1	773.5	568.5	90.1	133.5
87.5°	0.0	0.0	8.8	44.2	91.7	169.7	382.7	216.3	148.7	26.5	39.4
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°	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0
2.5°	1649.1	1635.4	1497.1	1503.5	1513.2	1504.4	1502.7	1464.1	1428.8	1545.4	1543.7
5°	2085.7	1988.4	1892.7	1855.7	1776.1	1671.6	1672.4	1639.4	1605.7	1653.1	1653.1
7.5°	2396.8	2262.6	2141.1	1924.9	1714.2	1523.6	1506.8	1461.7	1410.3	1472.2	1484.2
10°	2469.2	2352.6	2195.8	1878.2	1678.8	1493.1	1288.9	1120.8	1042.8	1006.7	1000.2
12.5°	2691.9	2605.1	2254.5	1903.2	1616.1	1301.7	967.3	767.9	632.0	621.5	607.0
15°	2840.7	2779.6	2312.4	1841.2	1350.8	935.9	607.9	466.3	411.7	406.8	399.6
17.5°	3071.4	2965.3	2256.9	1644.3	1056.5	617.5	408.4	368.2	374.7	389.2	377.9
20°	3165.5	2958.0	2136.3	1358.8	742.1	414.1	354.6	332.9	349.8	363.4	357.0
22.5°	3262.0	2979.0	2029.4	1120.0	484.8	342.5	316.0	304.7	306.3	320.0	320.8
25°	3261.2	3036.8	1905.6	872.4	361.0	304.7	285.4	271.0	265.3	275.0	272.6
27.5°	3419.6	2970.1	1679.6	647.2	317.6	272.6	254.1	236.4	216.3	225.9	225.9
30°	3420.4	3078.7	1522.0	464.7	291.1	242.8	226.7	199.4	176.1	184.1	184.9
32.5°	3511.2	2984.6	1376.5	355.4	270.2	225.1	189.8	164.8	151.2	156.0	156.0
35°	3614.9	3065.0	1153.0	313.6	249.3	200.2	162.4	142.3	131.9	135.9	135.9
37.5°	3957.5	3048.1	997.8	291.9	235.6	180.9	147.9	125.4	120.6	123.0	126.2
40°	4081.3	3167.9	787.2	279.0	213.1	163.2	130.3	113.4	106.9	108.5	109.3
42.5°	4396.5	3194.4	628.8	268.5	193.0	141.5	115.8	103.7	95.7	95.7	98.1
45°	4744.6	3261.2	500.1	259.7	176.1	127.0	104.5	94.9	82.8	81.2	84.4
47.5°	5248.7	3516.9	407.6	242.0	156.0	118.2	96.5	82.0	72.4	69.1	72.4
50°	6092.2	3951.0	360.2	220.3	141.5	111.0	85.2	70.0	62.7	58.7	61.1
52.5°	7282.1	4701.2	335.3	200.2	128.6	99.7	76.4	61.1	53.9	50.7	52.3
55°	8604.0	5561.5	323.2	180.1	117.4	87.6	66.7	53.9	47.4	43.4	44.2
57.5°	9826.1	6370.4	311.2	160.8	106.1	78.0	58.7	47.4	41.0	37.0	37.8
60°	11030.6	7016.0	282.2	138.3	95.7	70.0	51.5	41.0	37.0	32.2	32.2
62.5°	12095.9	7401.9	240.4	119.8	86.0	61.9	45.8	37.0	33.8	28.9	28.9
65°	12821.1	7419.6	193.8	102.9	75.6	53.1	40.2	34.6	31.4	25.7	24.9
67.5°	12831.6	6937.2	155.2	91.7	66.7	46.6	36.2	33.0	28.9	24.1	22.5
70°	11484.8	5731.2	129.4	80.4	57.9	41.0	31.4	31.4	28.1	23.3	20.9
72.5°	9186.9	4379.6	108.5	70.0	51.5	35.4	28.9	29.7	27.3	23.3	20.9
75°	6175.0	2511.8	90.1	59.5	45.0	29.7	28.1	28.9	28.1	23.3	20.1
77.5°	2843.9	800.0	70.0	49.0	38.6	24.9	27.3	27.3	25.7	20.9	17.7
80°	640.8	197.0	50.7	36.2	31.4	18.5	24.9	22.5	20.1	14.5	10.5
82.5°	233.2	60.3	30.6	22.5	19.3	7.2	16.1	16.1	14.5	10.5	6.4
85°	133.5	31.4	16.9	14.5	10.5	3.2	8.8	9.6	8.0	7.2	3.2
87.5°	43.4	7.2	8.0	8.8	8.0	1.6	3.2	3.2	2.4	1.6	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)