

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: P368319

Luminaire Tested: **MSA-SA4B-727-U-SL2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368319
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-727-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: 13317 lumens
Efficiency: N/A
Efficacy: 77.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G2

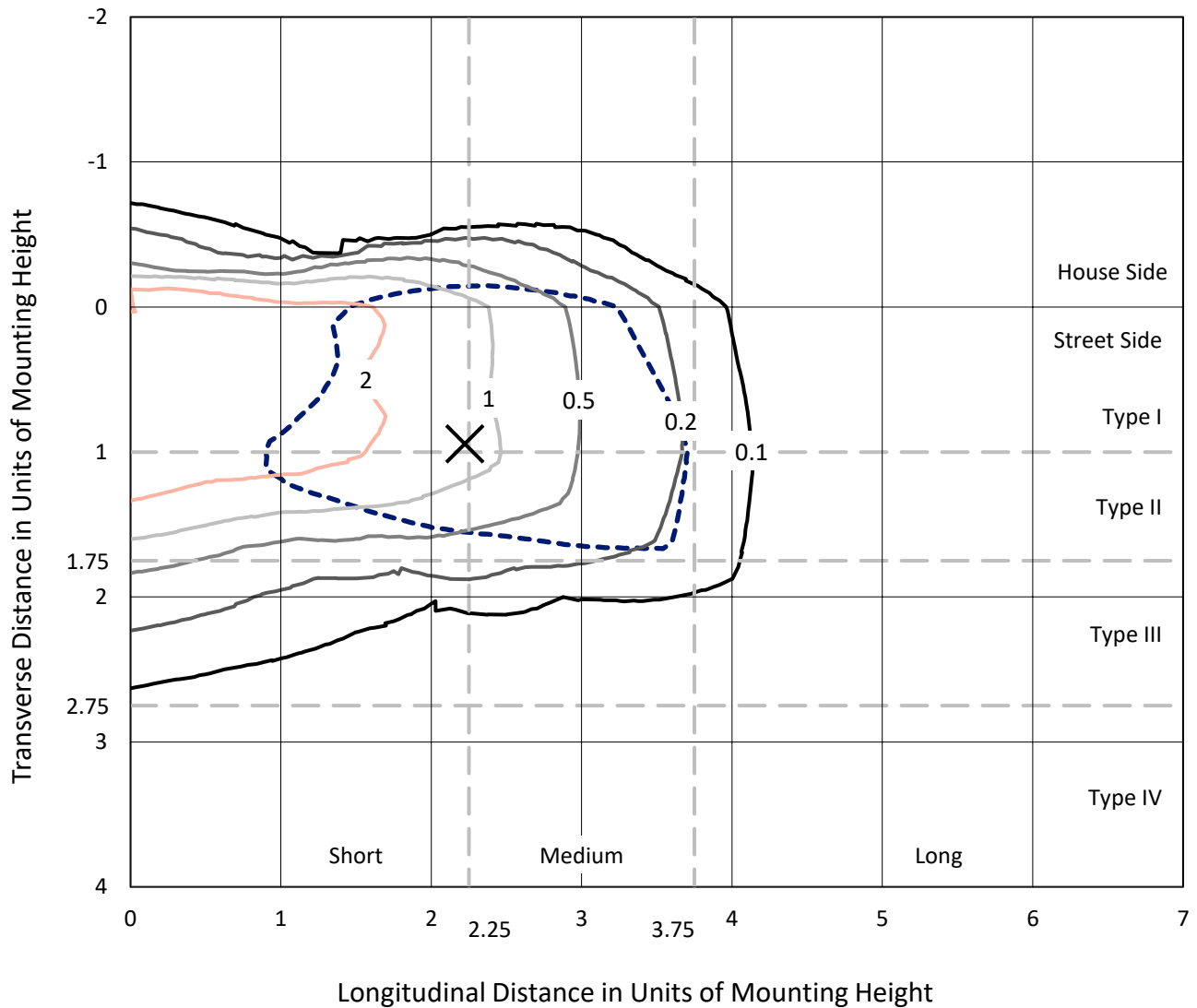
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

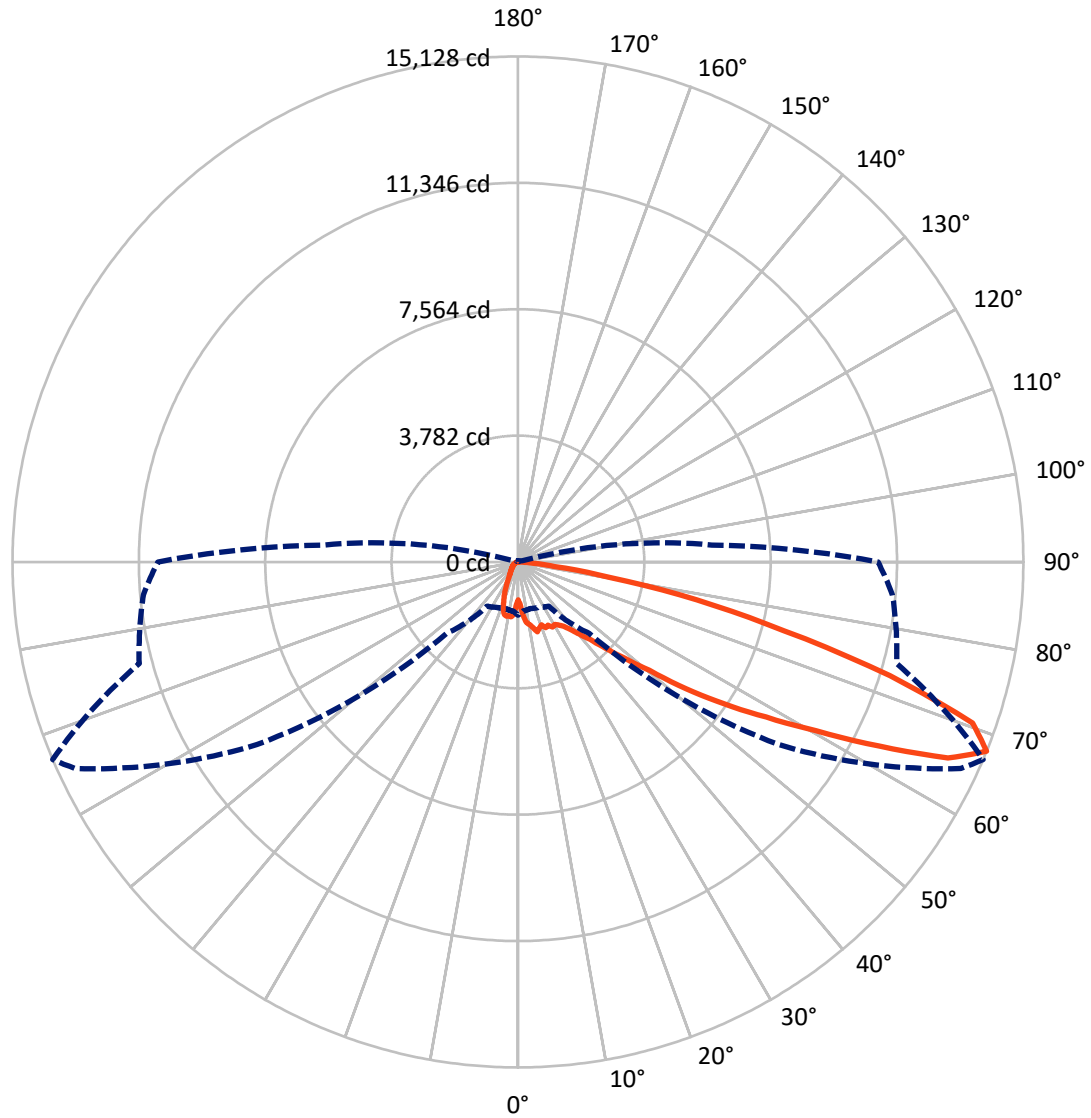
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.5 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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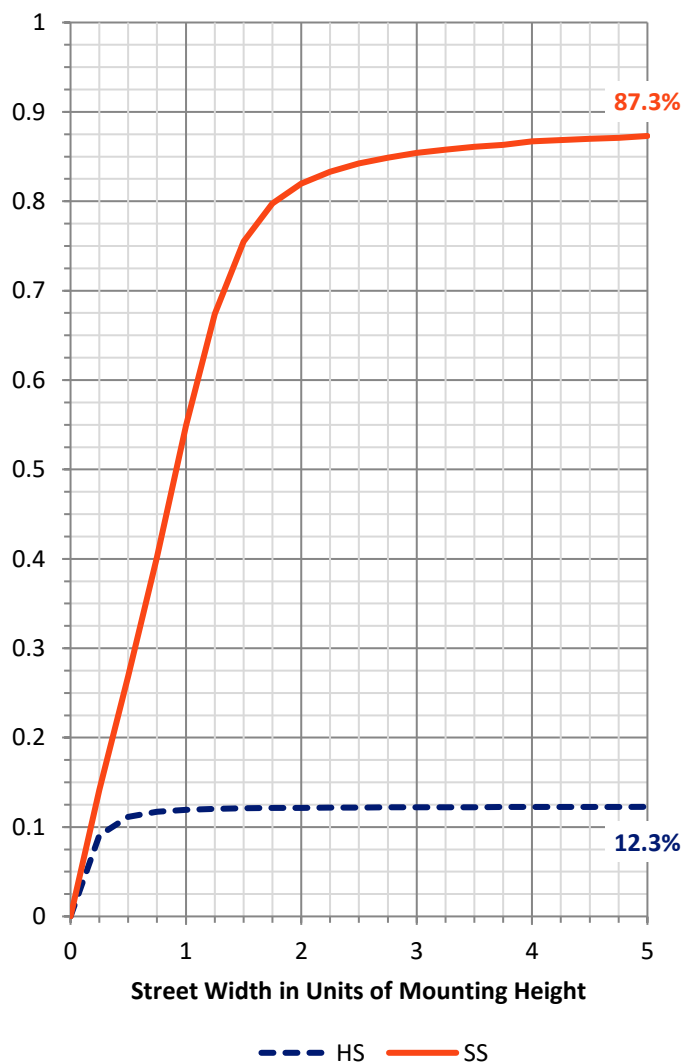
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1646.9	0.0	1646.9
	% Fixture	12.4	0.0	12.4
Street Side	Lumens	11670.1	0.0	11670.1
	% Fixture	87.6	0.0	87.6
Total	Lumens	13317.0	0.0	13317.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.4	1.1
10°-20°	421.3	3.2
20°-30°	660.2	5.0
30°-40°	1064.5	8.0
40°-50°	1956.1	14.7
50°-60°	3303.6	24.8
60°-70°	3652.2	27.4
70°-80°	1911.5	14.4
80°-90°	205.3	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°	13317.0	100.0
0°-180°	13317.0	100.0

Coefficient of Utilization

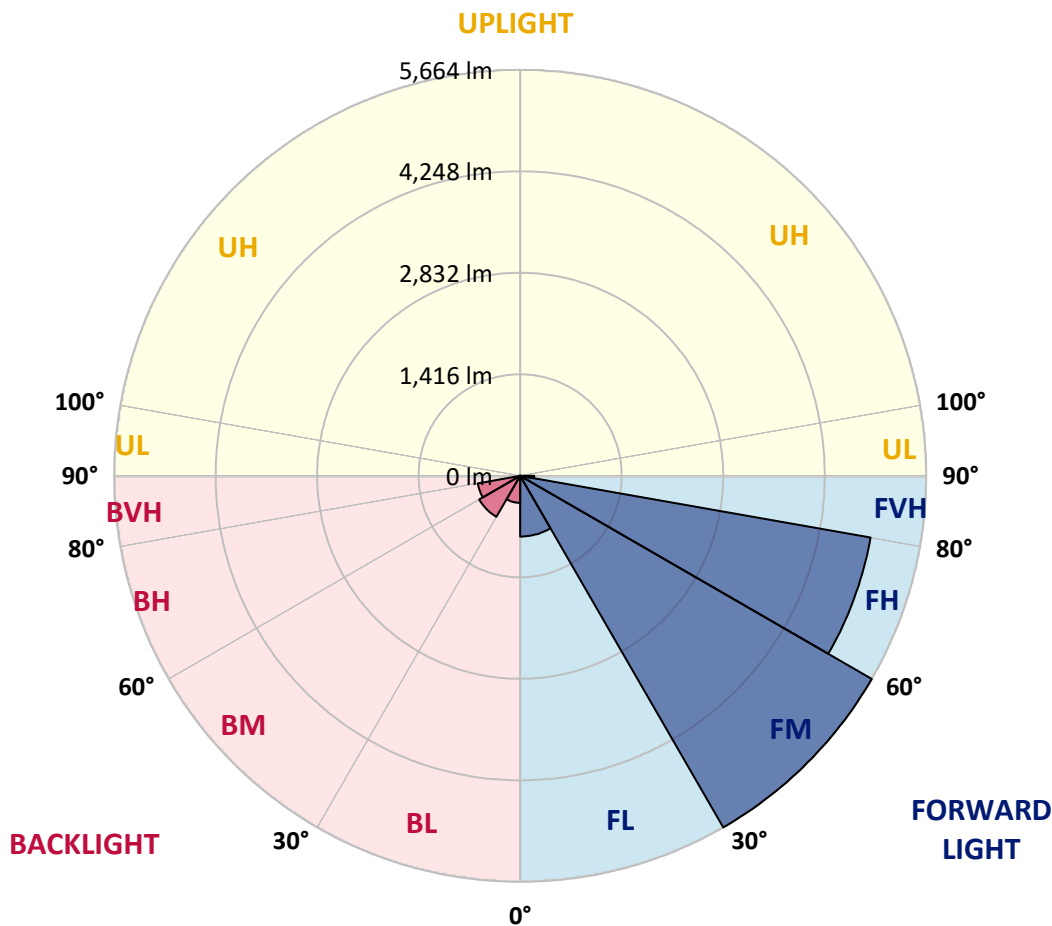


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	846.8	6.4			
FM (30°-60°)	5663.8	42.5			
FH (60°-80°)	4963.0	37.3			G2/5000
FVH (80°-90°)	196.5	1.5			G2/225
BL (0°-30°)	377.1	2.8	B1/500		
BM (30°-60°)	660.4	5.0	B1/1000		
BH (60°-80°)	600.7	4.5	B2/1000		G2/1000
BVH (80°-90°)	8.8	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2
 Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2
2.5°	1338.9	1293.7	1216.7	1238.9	1283.5	1320.7	1303.1	1268.7	1269.3	1234.2	1360.5
5°	1557.8	1497.0	1452.4	1468.0	1465.9	1464.6	1547.7	1579.4	1592.9	1651.0	1736.8
7.5°	1620.6	1599.0	1552.4	1566.6	1520.0	1523.3	1669.3	1807.1	1828.7	1864.5	2017.2
10°	1596.3	1554.4	1571.3	1571.3	1572.0	1647.6	1745.6	1877.3	1903.7	2041.5	2057.7
12.5°	1570.0	1572.0	1638.9	1626.7	1718.6	1854.4	1887.5	2035.4	2022.6	2142.1	2319.8
15°	1667.9	1719.3	1676.0	1692.9	1701.7	1861.1	1914.5	2111.1	2167.8	2319.1	2434.7
17.5°	1836.1	1842.9	1753.0	1728.7	1792.2	1837.5	1944.9	2039.5	2077.3	2474.5	2638.0
20°	1866.5	1909.8	1818.6	1678.0	1812.5	1874.6	1949.6	1994.9	2011.1	2522.5	2752.8
22.5°	2049.6	2001.6	1855.7	1749.0	1787.5	1855.0	1901.7	2038.1	2135.4	2432.0	2862.9
25°	2143.5	2130.7	1991.5	1900.3	1861.1	1855.7	1962.4	2065.8	2096.9	2525.9	2890.0
27.5°	2368.4	2339.4	2069.9	2058.4	1929.3	1815.9	1964.5	2150.2	2208.3	2437.4	2991.3
30°	2674.5	2663.7	2304.9	2297.5	2092.2	1888.1	2073.9	2202.3	2167.1	2482.6	3058.9
32.5°	2982.5	3070.3	2703.5	2494.1	2340.1	2153.6	2042.8	2186.1	2248.9	2592.7	3183.2
35°	3354.7	3418.2	3044.7	2892.7	2550.2	2277.9	2248.9	2340.8	2367.8	2723.8	3324.3
37.5°	4006.0	3910.0	3591.9	3333.1	3153.4	2721.8	2578.5	2505.6	2568.4	2901.5	3612.8
40°	4486.9	4426.2	4034.3	3879.6	3466.2	3213.6	2839.3	2771.1	2841.3	3083.8	3813.4
42.5°	5067.2	4940.9	4572.1	4467.4	4041.8	3554.7	3175.0	3198.7	3154.8	3443.9	4165.4
45°	5592.1	5307.1	5101.7	5125.3	4898.4	4240.4	3735.1	3723.6	3687.1	3965.4	4535.6
47.5°	5945.4	5696.2	5496.2	5430.7	5403.7	5446.2	4544.4	4340.4	4313.3	4513.3	5118.6
50°	6135.3	5862.4	5615.1	5628.6	6177.2	6589.9	5379.3	5089.5	5099.7	5308.4	5915.7
52.5°	6007.6	5698.9	5438.1	5691.4	6777.0	7352.6	6761.5	6068.4	6303.5	6250.1	6985.1
55°	5417.8	5149.7	4964.6	5417.8	6842.6	8173.4	8463.2	7541.7	7489.1	7367.5	8075.4
57.5°	4425.5	4194.4	4080.3	4558.6	6125.8	8834.7	10172.3	9207.0	8757.7	8248.4	8980.7
60°	3297.3	3127.1	3008.2	3260.8	4826.7	8192.3	11291.7	10776.2	10256.1	9097.5	9794.0
62.5°	2442.1	2303.6	2177.3	2200.2	3323.7	7045.9	11721.3	12438.8	12140.2	9994.0	10561.4
65°	1948.9	1822.6	1734.1	1683.5	2058.4	5301.0	11123.5	13801.3	14145.8	10838.4	11115.4
67.5°	1591.6	1484.8	1440.9	1499.0	1614.5	3021.7	9526.5	14628.2	15128.1	11734.2	11251.8
70°	1295.0	1207.2	1202.5	1359.2	1486.9	1842.2	7007.4	14057.4	14433.6	11886.8	10433.7
72.5°	902.5	864.0	925.5	1147.7	1473.4	1534.2	4024.2	11632.8	11646.3	10498.6	8582.1
75°	510.7	504.6	601.9	915.4	1434.9	1518.6	2243.5	8220.7	8226.7	7940.3	5945.4
77.5°	281.0	262.8	350.6	618.8	1232.2	1483.5	1447.0	5613.1	5469.2	4418.7	2715.7
80°	129.7	122.3	189.8	396.5	901.2	1403.1	1159.9	3085.2	2781.9	1439.6	662.7
82.5°	53.4	50.7	87.1	254.7	569.5	1130.2	977.5	1368.6	1098.4	273.6	204.7
85°	9.5	10.1	35.8	154.0	318.9	520.8	792.4	649.9	477.6	75.7	112.1
87.5°	0.0	0.0	7.4	37.2	77.0	142.5	321.6	181.7	125.0	22.3	33.1
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°	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2	1134.2
2.5°	1385.5	1374.1	1257.9	1263.3	1271.4	1263.9	1262.6	1230.2	1200.4	1298.4	1297.0
5°	1752.4	1670.6	1590.2	1559.2	1492.3	1404.5	1405.1	1377.4	1349.1	1388.9	1388.9
7.5°	2013.8	1901.0	1799.0	1617.2	1440.3	1280.2	1266.0	1228.1	1184.9	1236.9	1247.1
10°	2074.6	1976.6	1844.9	1578.1	1410.5	1254.5	1082.9	941.7	876.2	845.8	840.4
12.5°	2261.7	2188.8	1894.2	1599.0	1357.8	1093.7	812.7	645.1	531.0	522.2	510.0
15°	2386.7	2335.3	1942.9	1547.0	1134.9	786.3	510.7	391.8	345.9	341.8	335.7
17.5°	2580.6	2491.4	1896.2	1381.5	887.7	518.8	343.2	309.4	314.8	327.0	317.5
20°	2659.6	2485.3	1794.9	1141.7	623.5	347.9	297.9	279.7	293.9	305.3	299.9
22.5°	2740.7	2502.9	1705.1	941.0	407.4	287.8	265.5	256.0	257.4	268.9	269.5
25°	2740.0	2551.5	1601.0	733.0	303.3	256.0	239.8	227.7	222.9	231.0	229.0
27.5°	2873.1	2495.5	1411.2	543.8	266.8	229.0	213.5	198.6	181.7	189.8	189.8
30°	2873.8	2586.6	1278.8	390.5	244.5	204.0	190.5	167.5	147.9	154.7	155.4
32.5°	2950.1	2507.6	1156.5	298.6	227.0	189.2	159.4	138.5	127.0	131.1	131.1
35°	3037.2	2575.2	968.7	263.5	209.4	168.2	136.5	119.6	110.8	114.2	114.2
37.5°	3325.0	2561.0	838.3	245.2	197.9	152.0	124.3	105.4	101.3	103.4	106.1
40°	3429.1	2661.6	661.4	234.4	179.0	137.1	109.4	95.3	89.8	91.2	91.9
42.5°	3693.9	2683.9	528.3	225.6	162.1	118.9	97.3	87.1	80.4	80.4	82.4
45°	3986.4	2740.0	420.2	218.2	147.9	106.7	87.8	79.7	69.6	68.2	70.9
47.5°	4409.9	2954.8	342.5	203.3	131.1	99.3	81.1	68.9	60.8	58.1	60.8
50°	5118.6	3319.6	302.6	185.1	118.9	93.2	71.6	58.8	52.7	49.3	51.3
52.5°	6118.4	3949.9	281.7	168.2	108.1	83.8	64.2	51.3	45.3	42.6	43.9
55°	7229.0	4672.7	271.6	151.3	98.6	73.6	56.1	45.3	39.9	36.5	37.2
57.5°	8255.8	5352.3	261.4	135.1	89.2	65.5	49.3	39.9	34.5	31.1	31.8
60°	9267.8	5894.8	237.1	116.2	80.4	58.8	43.2	34.5	31.1	27.0	27.0
62.5°	10162.9	6219.0	202.0	100.7	72.3	52.0	38.5	31.1	28.4	24.3	24.3
65°	10772.2	6233.9	162.8	86.5	63.5	44.6	33.8	29.0	26.3	21.6	20.9
67.5°	10781.0	5828.6	130.4	77.0	56.1	39.2	30.4	27.7	24.3	20.3	18.9
70°	9649.4	4815.3	108.8	67.6	48.6	34.5	26.3	26.3	23.6	19.6	17.6
72.5°	7718.7	3679.7	91.2	58.8	43.2	29.7	24.3	25.0	23.0	19.6	17.6
75°	5188.2	2110.4	75.7	50.0	37.8	25.0	23.6	24.3	23.6	19.6	16.9
77.5°	2389.4	672.2	58.8	41.2	32.4	20.9	23.0	23.0	21.6	17.6	14.9
80°	538.4	165.5	42.6	30.4	26.3	15.5	20.9	18.9	16.9	12.2	8.8
82.5°	195.9	50.7	25.7	18.9	16.2	6.1	13.5	13.5	12.2	8.8	5.4
85°	112.1	26.3	14.2	12.2	8.8	2.7	7.4	8.1	6.8	6.1	2.7
87.5°	36.5	6.1	6.8	7.4	6.8	1.4	2.7	2.7	2.0	1.4	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)