

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: P367136

Luminaire Tested: **MSA-SA2A-727-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367136
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2A-727-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6475 lumens
Efficiency: N/A
Efficacy: 98.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

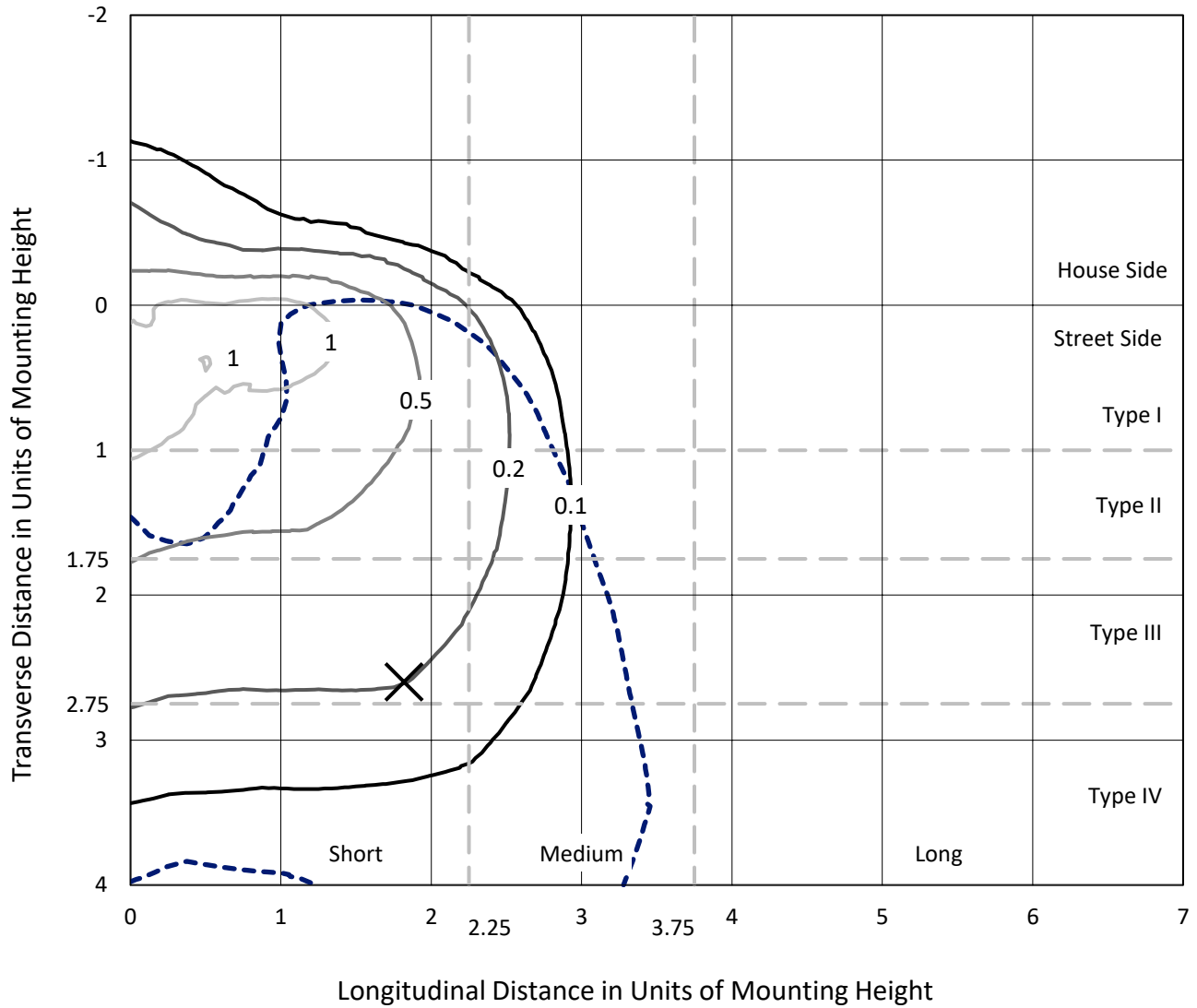
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

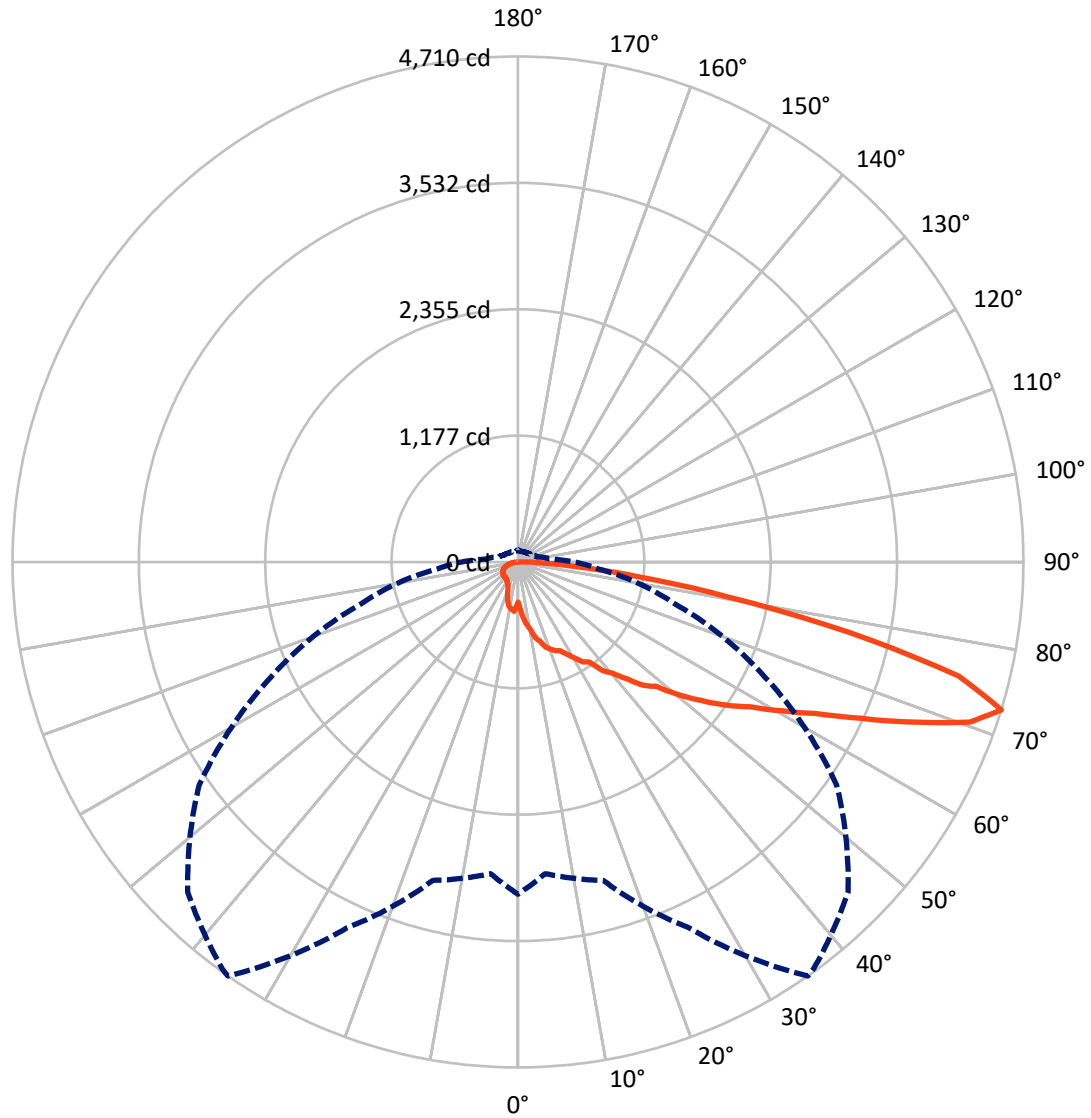
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.3 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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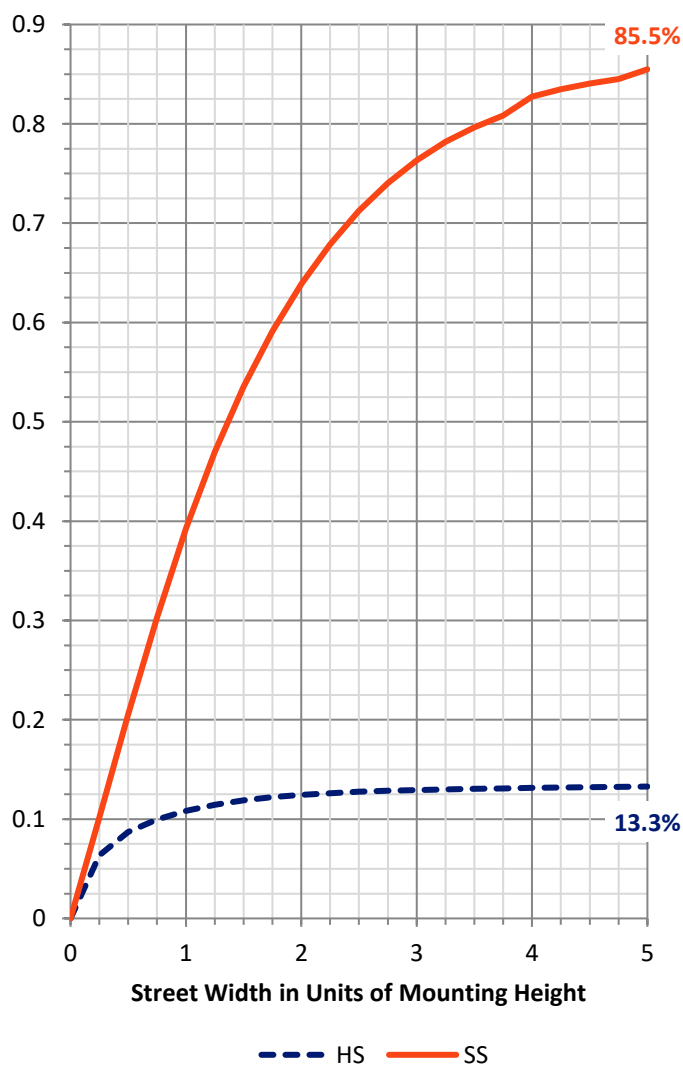
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	868.9	0.0	868.9
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	5606.1	0.0	5606.1
	% Fixture	86.6	0.0	86.6
Total	Lumens	6475.0	0.0	6475.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.7	0.8
10°-20°	175.2	2.7
20°-30°	304.4	4.7
30°-40°	508.7	7.9
40°-50°	883.0	13.6
50°-60°	1334.8	20.6
60°-70°	1729.3	26.7
70°-80°	1276.0	19.7
80°-90°	213.9	3.3
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°	6475.0	100.0
0°-180°	6475.0	100.0

Coefficient of Utilization



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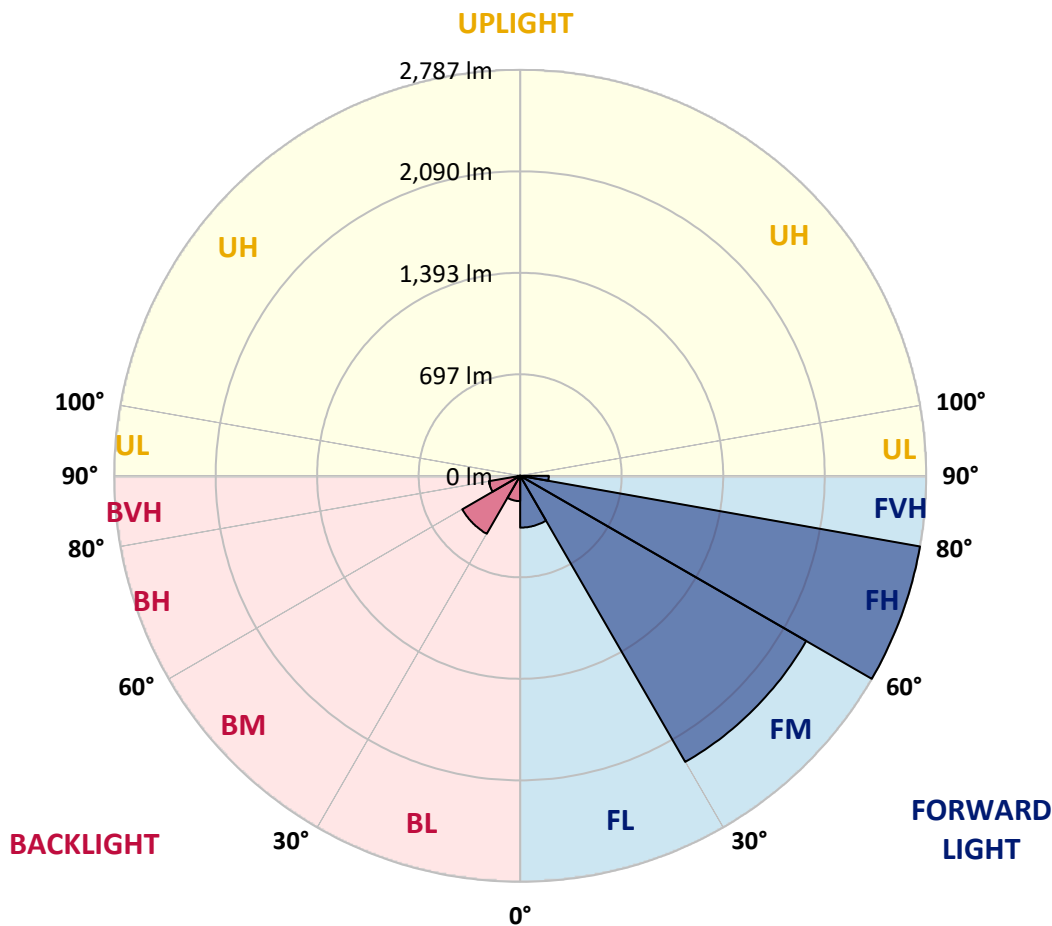
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	355.6	5.5			
FM (30°-60°)	2267.3	35.0			
FH (60°-80°)	2786.8	43.0			G2/5000
FVH (80°-90°)	196.4	3.0			G2/225
BL (0°-30°)	173.7	2.7	B1/500		
BM (30°-60°)	459.2	7.1	B1/1000		
BH (60°-80°)	218.5	3.4	B1/500		G1/500
BVH (80°-90°)	17.5	0.3			G1/100
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°	35°	36°	45°	55°	65°	75°	85°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	466.8	444.4	425.0	424.2	442.2	449.1	446.3	440.2	433.1	417.9	451.0
5°	584.8	552.7	546.6	539.5	523.2	527.6	501.0	521.2	527.6	542.2	564.3
7.5°	654.4	635.6	621.0	614.9	586.7	583.4	563.8	592.5	604.7	602.7	635.6
10°	681.8	664.6	665.8	645.9	636.7	640.6	642.8	643.4	650.8	656.9	640.3
12.5°	695.9	702.5	726.8	713.3	724.9	729.6	752.8	729.0	729.9	698.6	715.8
15°	766.9	783.5	769.4	768.8	765.2	773.0	792.9	776.9	789.3	779.3	757.2
17.5°	852.6	857.5	830.5	819.4	833.8	831.3	826.3	828.8	797.9	855.3	828.3
20°	878.8	898.5	862.8	819.4	866.9	873.3	872.2	861.4	808.4	891.3	865.0
22.5°	955.1	928.6	900.4	872.7	897.1	900.7	894.6	868.9	851.2	882.7	903.4
25°	989.6	983.3	947.4	944.0	917.2	904.5	915.0	907.6	890.2	946.3	923.3
27.5°	1068.7	1061.2	978.6	1012.6	973.6	970.3	914.8	939.6	957.0	952.9	987.2
30°	1158.2	1166.8	1046.0	1080.0	1035.0	1028.9	973.1	1004.6	1016.5	1020.3	1063.2
32.5°	1257.7	1281.2	1161.3	1133.4	1109.3	1113.5	1066.2	1008.7	1054.9	1145.2	1163.8
35°	1365.5	1375.2	1249.4	1207.4	1144.7	1140.3	1141.1	1148.3	1195.0	1298.1	1312.4
37.5°	1564.8	1520.0	1409.7	1303.3	1282.3	1241.1	1269.1	1291.2	1337.9	1495.9	1556.2
40°	1687.5	1654.3	1486.3	1424.6	1366.6	1370.5	1422.7	1422.4	1532.7	1695.8	1787.8
42.5°	1801.0	1764.8	1606.5	1544.6	1489.6	1503.1	1518.1	1544.3	1755.7	2018.5	2060.5
45°	1892.5	1813.2	1699.3	1685.5	1640.2	1622.2	1685.5	1727.5	2022.4	2279.7	2304.0
47.5°	1954.7	1889.5	1778.1	1765.9	1732.5	1776.4	1949.2	1976.3	2229.1	2542.0	2540.0
50°	2049.2	1960.0	1859.4	1853.0	1947.2	1970.7	2181.3	2178.6	2430.3	2759.7	2714.1
52.5°	2158.1	2045.6	1936.5	2004.7	2148.4	2160.0	2342.7	2417.1	2650.0	2969.8	2850.7
55°	2283.3	2157.6	2052.0	2143.2	2357.1	2322.8	2507.7	2689.3	2925.0	3191.1	2949.3
57.5°	2438.3	2285.8	2200.4	2339.1	2547.5	2577.9	2744.0	2972.5	3146.4	3328.8	3021.2
60°	2601.9	2422.9	2344.6	2476.7	2814.2	2849.0	3011.5	3208.0	3394.5	3458.4	3007.6
62.5°	2758.1	2564.4	2493.6	2656.7	3109.9	3196.1	3316.1	3441.2	3601.0	3489.9	2843.8
65°	2931.9	2737.9	2693.4	2938.0	3510.9	3596.6	3753.3	3715.7	3671.7	3378.2	2572.6
67.5°	3116.0	2918.9	2927.2	3264.4	3983.7	3998.4	4239.1	3989.3	3588.6	3082.5	2117.5
70°	3214.9	3013.2	3098.6	3612.3	4464.9	4443.9	4493.1	4062.8	3249.5	2436.7	1459.5
72.5°	3095.0	2915.1	3071.5	3758.8	4709.7	4687.1	4350.5	3626.4	2540.6	1515.3	756.7
75°	2620.5	2446.9	2686.2	3350.6	4239.9	4260.9	3702.4	2696.7	1454.5	609.4	314.2
77.5°	1780.6	1691.1	1896.1	2497.5	3149.4	3222.1	2747.0	1576.9	610.8	252.3	190.1
80°	941.0	898.5	1049.9	1438.7	1994.2	2048.4	1615.3	785.4	312.8	163.3	135.7
82.5°	511.3	493.3	574.6	739.8	1133.1	1180.3	837.7	521.8	210.9	102.3	82.9
85°	343.5	336.6	390.5	397.4	535.9	551.3	438.9	401.8	126.6	50.0	54.7
87.5°	171.9	165.0	205.6	181.6	204.5	204.8	201.2	256.5	32.1	16.6	9.9
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°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	451.6	441.9	408.5	408.2	413.2	409.8	412.3	398.8	393.0	419.5	418.1
5°	561.3	532.3	504.4	494.7	483.4	458.8	460.1	460.4	456.3	472.0	473.1
7.5°	625.7	590.9	565.2	513.8	473.4	441.9	446.0	450.7	446.0	467.1	474.8
10°	635.1	607.4	576.8	519.6	492.8	464.3	435.5	410.1	407.1	397.4	400.4
12.5°	690.9	668.0	603.8	541.1	509.9	466.2	413.7	384.7	360.4	364.5	356.8
15°	736.8	720.5	643.6	561.6	486.9	432.8	377.0	337.2	315.3	312.8	305.1
17.5°	799.0	775.7	647.2	547.5	457.4	392.4	329.4	284.4	275.0	271.1	267.2
20°	828.8	787.1	634.2	503.3	422.8	344.3	282.4	243.8	241.0	247.9	246.5
22.5°	854.8	796.5	622.6	476.4	368.9	295.7	250.4	225.0	221.9	230.8	232.4
25°	870.0	823.3	609.9	449.1	335.5	259.5	226.3	212.0	212.5	224.1	222.7
27.5°	938.5	832.7	577.9	416.8	297.1	232.7	214.7	207.3	204.2	220.3	221.6
30°	981.6	894.0	570.7	382.5	268.6	213.1	204.2	201.2	200.6	220.0	221.4
32.5°	1061.8	914.5	574.0	345.2	242.9	207.0	196.5	196.2	201.7	220.3	222.5
35°	1172.9	1000.7	558.0	323.9	228.8	197.6	190.4	192.6	202.0	222.2	225.2
37.5°	1389.5	1082.0	562.9	304.0	224.1	194.6	188.8	190.1	205.3	227.2	235.5
40°	1561.2	1229.3	555.2	294.0	217.8	194.0	185.2	190.7	205.1	229.9	237.4
42.5°	1809.9	1346.7	556.0	284.1	217.5	191.8	184.6	191.2	204.5	227.4	237.7
45°	2023.2	1452.0	567.9	278.3	214.7	195.4	183.8	192.1	200.9	218.6	229.9
47.5°	2198.2	1569.5	580.1	272.8	213.6	198.7	183.0	186.3	194.8	208.7	218.9
50°	2340.8	1652.1	595.6	271.7	213.6	197.0	180.7	180.5	187.6	198.7	208.4
52.5°	2451.9	1710.4	606.1	273.0	213.6	190.7	178.0	175.8	180.2	188.2	197.9
55°	2532.3	1728.4	597.5	276.6	213.4	184.9	173.0	171.1	173.3	178.8	187.9
57.5°	2564.6	1681.1	546.4	270.3	213.4	180.7	166.9	164.7	166.9	171.1	180.2
60°	2483.7	1529.1	472.6	254.0	209.2	175.2	160.0	158.6	161.9	165.5	174.4
62.5°	2280.5	1327.1	393.8	234.6	200.6	170.5	153.4	153.7	158.9	163.9	172.7
65°	1964.9	1082.8	328.3	215.0	189.9	163.1	146.5	148.4	155.9	162.5	171.3
67.5°	1546.2	802.3	276.4	195.9	174.7	150.9	138.7	139.3	144.5	150.9	159.5
70°	1033.6	510.4	227.2	173.6	154.8	135.1	126.8	124.9	123.5	129.1	136.5
72.5°	524.3	301.5	186.5	148.4	133.2	118.0	111.6	106.7	102.8	106.1	111.9
75°	274.7	210.9	150.6	123.3	110.0	100.3	95.6	89.0	86.2	88.2	92.3
77.5°	194.3	165.0	121.9	97.6	89.5	79.6	80.4	73.5	71.3	72.4	76.8
80°	149.2	130.7	93.7	73.8	69.1	59.4	62.2	58.0	55.3	54.7	58.0
82.5°	101.7	98.4	66.6	51.7	48.4	41.5	45.3	43.7	40.1	37.9	39.5
85°	68.5	65.2	40.6	29.8	28.5	21.6	27.6	26.5	23.5	20.2	20.5
87.5°	11.9	21.8	11.6	7.5	6.9	2.5	6.4	6.1	5.5	2.8	2.2
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)