

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: P596594

Luminaire Tested: **MSA-SA2B-827-U-SL4**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596594  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2B-827-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: 7133 lumens  
Efficiency: N/A  
Efficacy: 83.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

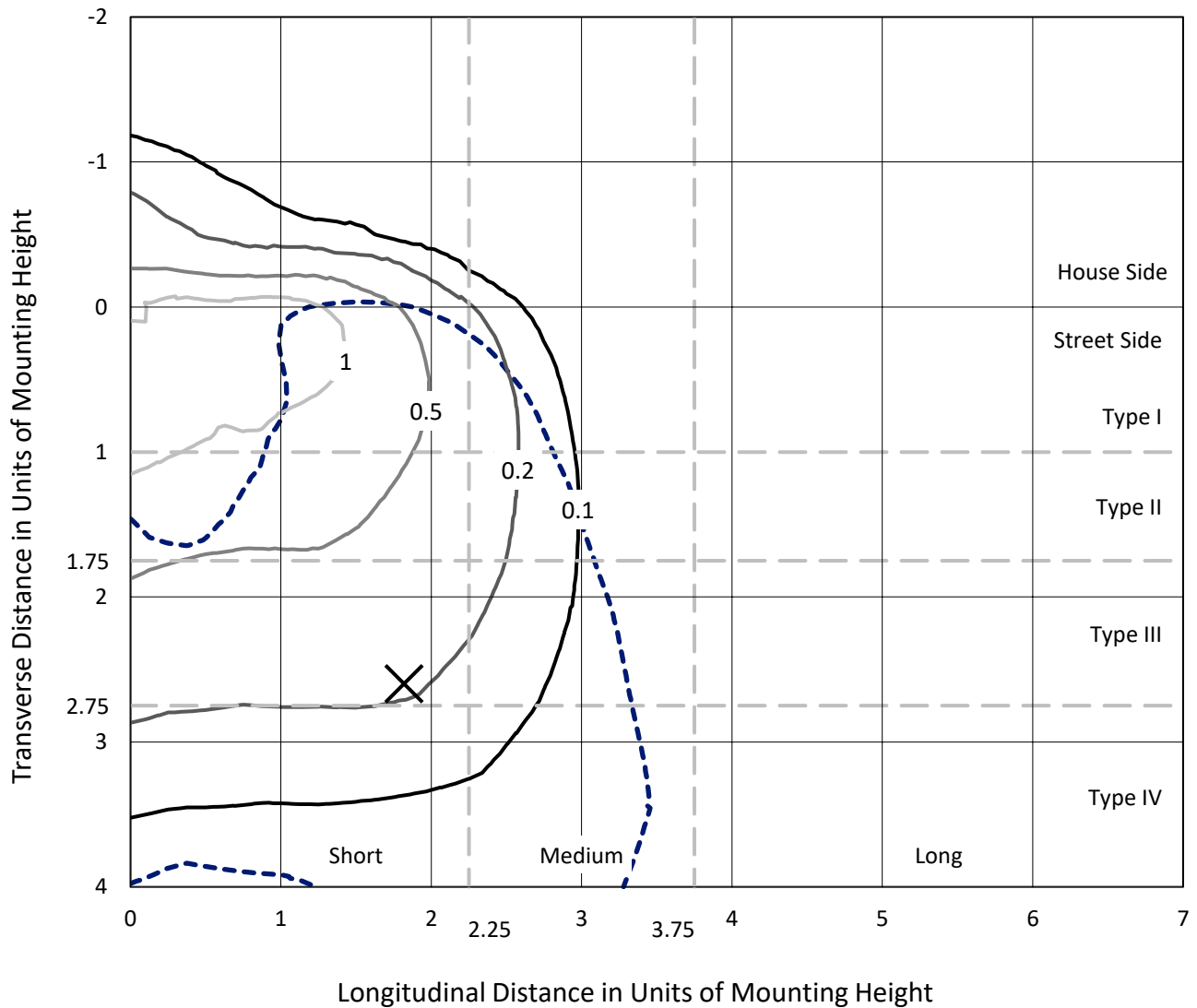
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

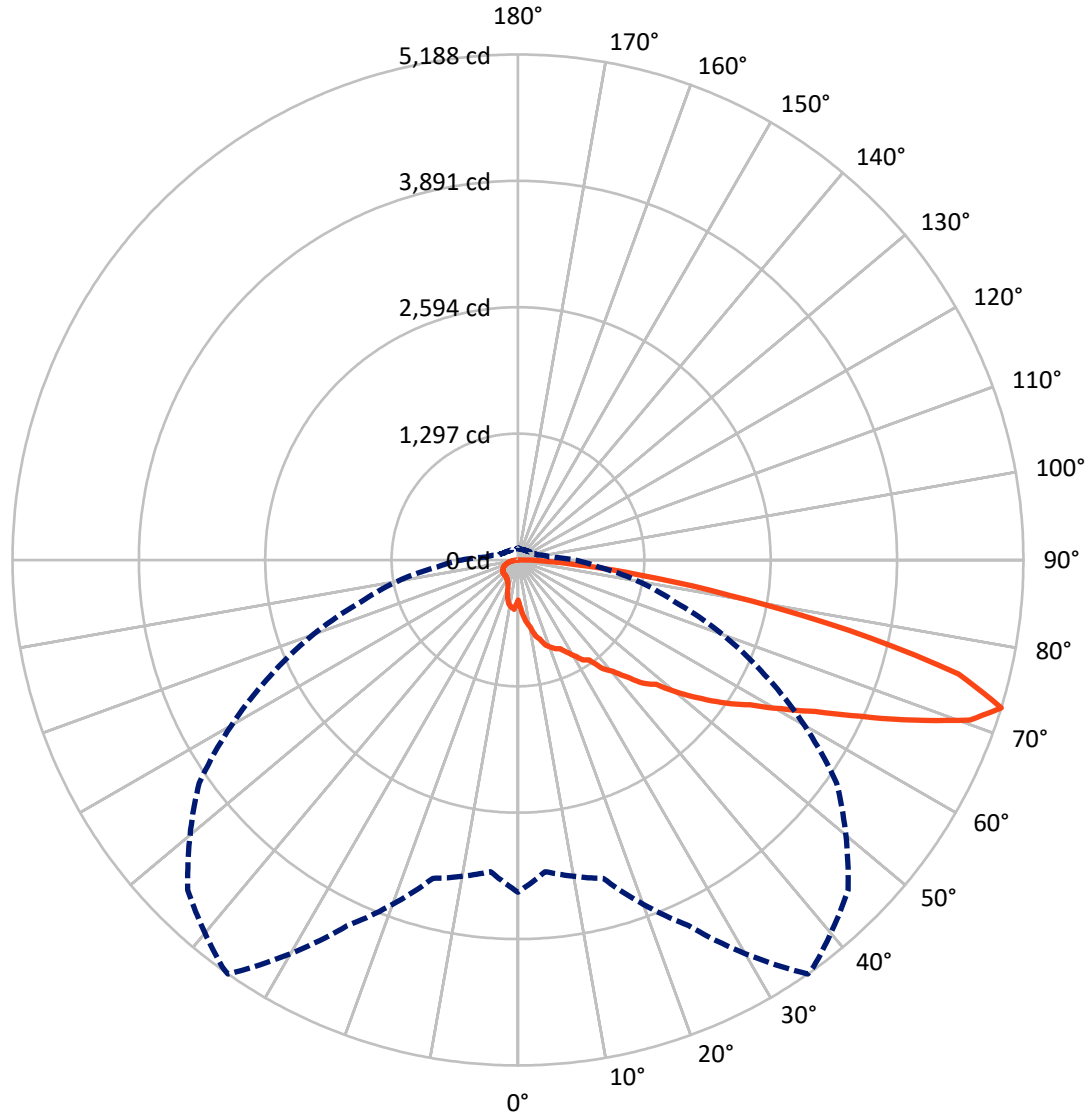
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 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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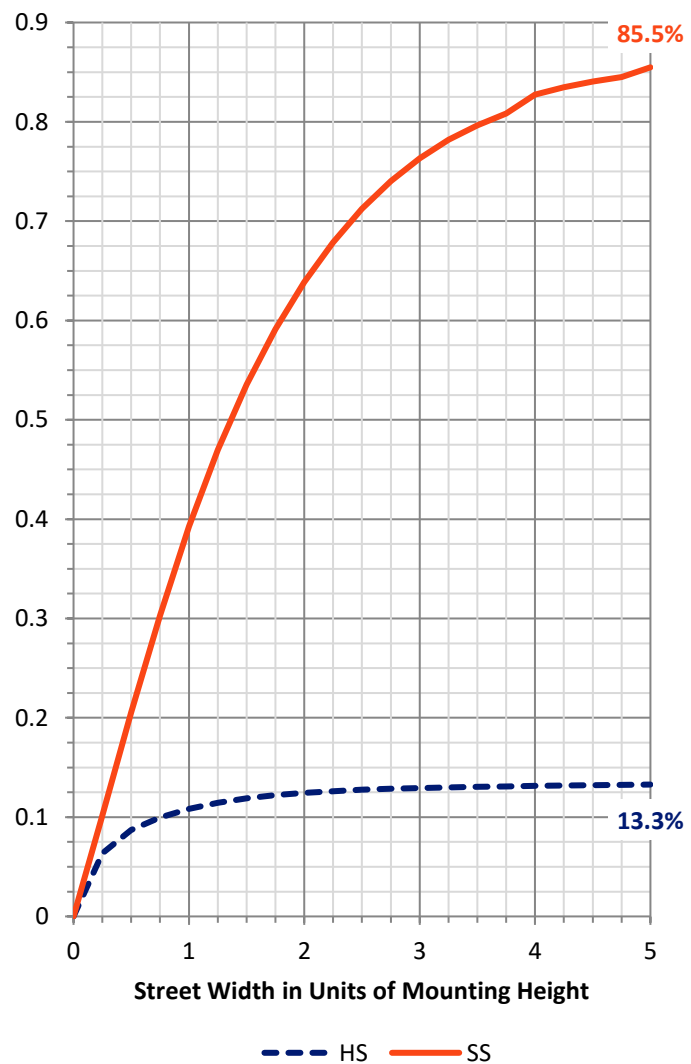
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	957.2	0.0	957.2
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	6175.8	0.0	6175.8
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	7133.0	0.0	7133.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.8	0.8
10°-20°	193.0	2.7
20°-30°	335.3	4.7
30°-40°	560.4	7.9
40°-50°	972.7	13.6
50°-60°	1470.5	20.6
60°-70°	1905.0	26.7
70°-80°	1405.7	19.7
80°-90°	235.6	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°	7133.0	100.0
0°-180°	7133.0	100.0

**Coefficient of Utilization**



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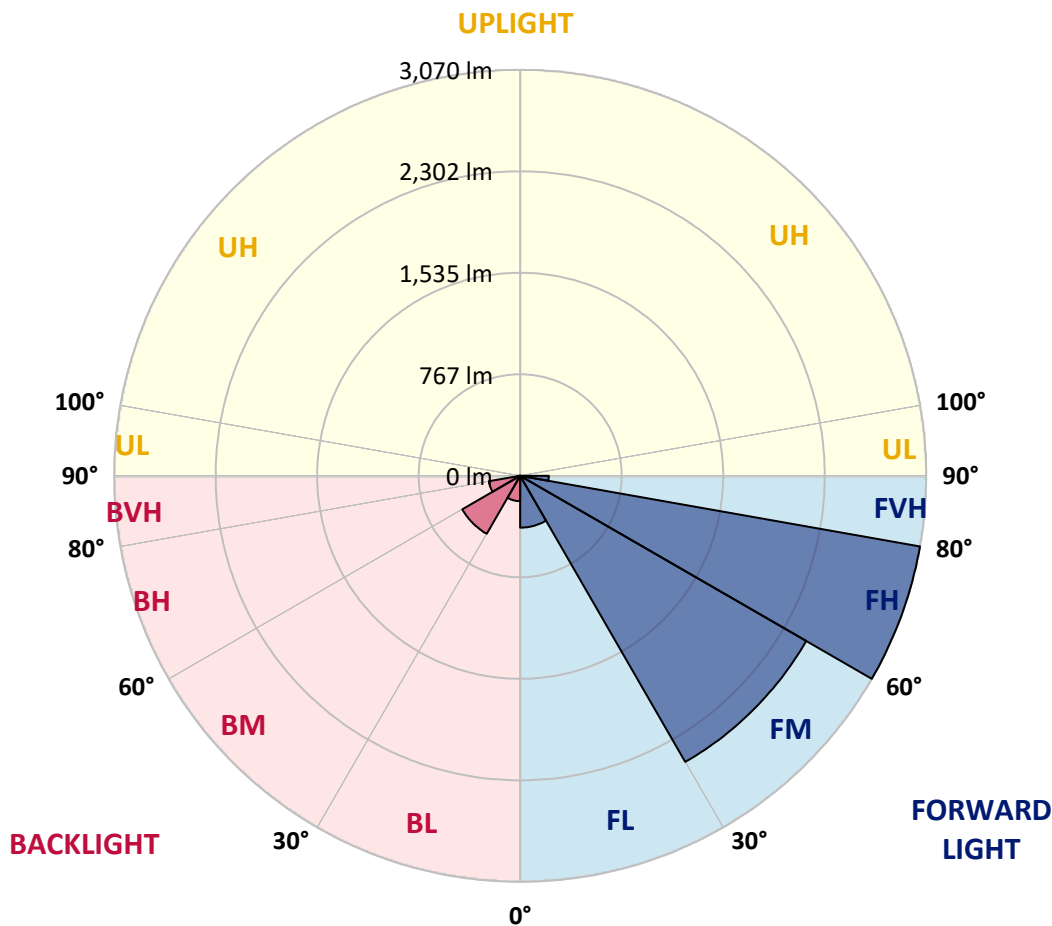
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	391.8	5.5			
FM (30°-60°)	2497.7	35.0			
FH (60°-80°)	3070.0	43.0			G2/5000
FVH (80°-90°)	216.3	3.0			G2/225
BL (0°-30°)	191.3	2.7	B1/500		
BM (30°-60°)	505.9	7.1	B1/1000		
BH (60°-80°)	240.7	3.4	B1/500		G1/500
BVH (80°-90°)	19.3	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°	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2
2.5°	514.2	489.5	468.2	467.3	487.1	494.7	491.7	485.0	477.1	460.3	496.9
5°	644.2	608.9	602.2	594.3	576.3	581.2	552.0	574.2	581.2	597.3	621.7
7.5°	720.9	700.2	684.1	677.4	646.3	642.7	621.1	652.7	666.1	664.0	700.2
10°	751.1	732.2	733.4	711.5	701.4	705.7	708.1	708.7	717.0	723.7	705.4
12.5°	766.6	773.9	800.7	785.8	798.6	803.7	829.3	803.1	804.0	769.6	788.5
15°	844.8	863.1	847.6	847.0	843.0	851.5	873.5	855.8	869.5	858.5	834.2
17.5°	939.2	944.7	914.9	902.7	918.5	915.8	910.3	913.0	878.9	942.3	912.4
20°	968.1	989.8	950.5	902.7	955.0	962.0	960.8	949.0	890.5	981.8	952.9
22.5°	1052.2	1022.9	991.9	961.4	988.2	992.2	985.5	957.2	937.7	972.4	995.2
25°	1090.2	1083.2	1043.6	1040.0	1010.5	996.5	1008.0	999.8	980.6	1042.4	1017.2
27.5°	1177.3	1169.1	1078.0	1115.5	1072.6	1068.9	1007.7	1035.1	1054.3	1049.7	1087.5
30°	1275.9	1285.4	1152.3	1189.8	1140.1	1133.5	1072.0	1106.7	1119.8	1124.0	1171.2
32.5°	1385.5	1411.4	1279.3	1248.5	1222.0	1226.6	1174.6	1111.2	1162.1	1261.6	1282.0
35°	1504.3	1514.9	1376.4	1330.1	1261.0	1256.1	1257.1	1265.0	1316.4	1430.0	1445.8
37.5°	1723.8	1674.5	1553.0	1435.8	1412.6	1367.3	1398.0	1422.4	1473.8	1648.0	1714.3
40°	1858.9	1822.4	1637.3	1569.4	1505.5	1509.7	1567.3	1567.0	1688.5	1868.1	1969.5
42.5°	1984.1	1944.2	1769.7	1701.5	1641.0	1655.9	1672.3	1701.2	1934.1	2223.7	2269.9
45°	2084.8	1997.5	1872.0	1856.8	1806.9	1787.1	1856.8	1903.1	2227.9	2511.4	2538.2
47.5°	2153.3	2081.5	1958.8	1945.4	1908.6	1957.0	2147.3	2177.1	2455.7	2800.3	2798.2
50°	2257.5	2159.1	2048.3	2041.3	2145.1	2171.0	2403.0	2399.9	2677.3	3040.2	2990.0
52.5°	2377.4	2253.5	2133.2	2208.4	2366.8	2379.5	2580.8	2662.7	2919.3	3271.6	3140.4
55°	2515.3	2376.8	2260.5	2361.0	2596.6	2558.9	2762.5	2962.6	3222.3	3515.4	3249.0
57.5°	2686.1	2518.1	2424.0	2576.8	2806.4	2839.9	3022.8	3274.6	3466.1	3667.0	3328.2
60°	2866.4	2669.1	2582.9	2728.4	3100.2	3138.5	3317.5	3534.0	3739.5	3809.8	3313.3
62.5°	3038.4	2824.9	2747.0	2926.6	3425.9	3520.9	3653.0	3791.0	3966.9	3844.5	3132.7
65°	3229.9	3016.1	2967.1	3236.6	3867.7	3962.1	4134.7	4093.3	4044.9	3721.5	2834.1
67.5°	3432.6	3215.6	3224.7	3596.1	4388.6	4404.7	4669.9	4394.7	3953.2	3395.8	2332.7
70°	3541.6	3319.4	3413.4	3979.4	4918.6	4895.5	4949.7	4475.7	3579.7	2684.3	1607.8
72.5°	3409.5	3211.3	3383.6	4140.8	5188.4	5163.4	4792.6	3994.9	2798.8	1669.3	833.6
75°	2886.8	2695.6	2959.2	3691.1	4670.8	4693.9	4078.7	2970.8	1602.3	671.3	346.2
77.5°	1961.5	1862.9	2088.8	2751.3	3469.5	3549.5	3026.2	1737.2	672.8	278.0	209.5
80°	1036.6	989.8	1156.6	1584.9	2196.9	2256.5	1779.5	865.2	344.6	179.9	149.5
82.5°	563.2	543.4	632.9	815.0	1248.2	1300.3	922.8	574.8	232.3	112.6	91.3
85°	378.4	370.8	430.2	437.8	590.3	607.4	483.5	442.7	139.4	55.1	60.3
87.5°	189.4	181.8	226.5	200.0	225.3	225.6	221.6	282.5	35.3	18.3	11.0
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°	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2
2.5°	497.5	486.8	450.0	449.7	455.1	451.5	454.2	439.3	432.9	462.1	460.6
5°	618.3	586.4	555.6	545.0	532.5	505.4	506.9	507.2	502.6	520.0	521.2
7.5°	689.3	650.9	622.6	566.0	521.5	486.8	491.4	496.6	491.4	514.5	523.0
10°	699.6	669.2	635.4	572.4	542.8	511.5	479.8	451.8	448.4	437.8	441.1
12.5°	761.1	735.8	665.2	596.1	561.7	513.6	455.8	423.8	397.0	401.6	393.0
15°	811.7	793.7	709.1	618.6	536.4	476.8	415.3	371.4	347.4	344.6	336.1
17.5°	880.2	854.6	713.0	603.1	503.9	432.3	362.9	313.3	302.9	298.7	294.4
20°	913.0	867.1	698.7	554.4	465.8	379.3	311.1	268.5	265.5	273.1	271.6
22.5°	941.6	877.4	685.9	524.9	406.4	325.8	275.8	247.8	244.5	254.2	256.0
25°	958.4	906.9	671.9	494.7	369.6	285.9	249.3	233.5	234.1	246.9	245.4
27.5°	1033.9	917.3	636.6	459.1	327.3	256.3	236.6	228.3	225.0	242.6	244.2
30°	1081.4	984.9	628.7	421.4	295.9	234.7	225.0	221.6	221.0	242.3	243.9
32.5°	1169.7	1007.4	632.3	380.3	267.6	228.0	216.5	216.2	222.2	242.6	245.1
35°	1292.1	1102.4	614.7	356.8	252.1	217.7	209.8	212.2	222.5	244.8	248.1
37.5°	1530.8	1191.9	620.2	334.9	246.9	214.3	207.9	209.5	226.2	250.3	259.4
40°	1719.8	1354.2	611.6	323.9	239.9	213.7	204.0	210.1	225.9	253.3	261.5
42.5°	1993.8	1483.6	612.5	313.0	239.6	211.3	203.4	210.7	225.3	250.6	261.8
45°	2228.8	1599.6	625.6	306.6	236.6	215.2	202.5	211.6	221.3	240.8	253.3
47.5°	2421.6	1728.9	639.0	300.5	235.3	218.9	201.5	205.2	214.6	229.9	241.1
50°	2578.7	1820.0	656.1	299.3	235.3	217.1	199.1	198.8	206.7	218.9	229.6
52.5°	2701.0	1884.2	667.6	300.8	235.3	210.1	196.1	193.6	198.5	207.3	218.0
55°	2789.6	1904.0	658.2	304.7	235.0	203.7	190.6	188.5	190.9	197.0	207.0
57.5°	2825.3	1851.9	601.9	297.7	235.0	199.1	183.9	181.4	183.9	188.5	198.5
60°	2736.1	1684.5	520.6	279.8	230.5	193.0	176.3	174.8	178.4	182.4	192.1
62.5°	2512.3	1461.9	433.8	258.5	221.0	187.8	169.0	169.3	175.1	180.5	190.3
65°	2164.6	1192.8	361.7	236.9	209.2	179.6	161.4	163.5	171.7	179.0	188.8
67.5°	1703.4	883.8	304.4	215.9	192.4	166.2	152.8	153.4	159.2	166.2	175.7
70°	1138.6	562.3	250.3	191.2	170.5	148.9	139.7	137.6	136.1	142.2	150.4
72.5°	577.5	332.2	205.5	163.5	146.7	130.0	123.0	117.5	113.3	116.9	123.3
75°	302.6	232.3	165.9	135.8	121.2	110.5	105.3	98.0	95.0	97.1	101.7
77.5°	214.0	181.8	134.3	107.5	98.6	87.7	88.6	81.0	78.5	79.8	84.6
80°	164.4	144.0	103.2	81.3	76.1	65.5	68.5	63.9	60.9	60.3	63.9
82.5°	112.0	108.4	73.4	56.9	53.3	45.7	49.9	48.1	44.1	41.7	43.5
85°	75.5	71.8	44.8	32.9	31.4	23.7	30.4	29.2	25.9	22.2	22.5
87.5°	13.1	24.1	12.8	8.2	7.6	2.7	7.0	6.7	6.1	3.0	2.4
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)