

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: P368619

Luminaire Tested: **MSA-SA4D-730-U-T4FT-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368619  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-730-U-T4FT-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17941 lumens  
Efficiency: N/A  
Efficacy: 69.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G4

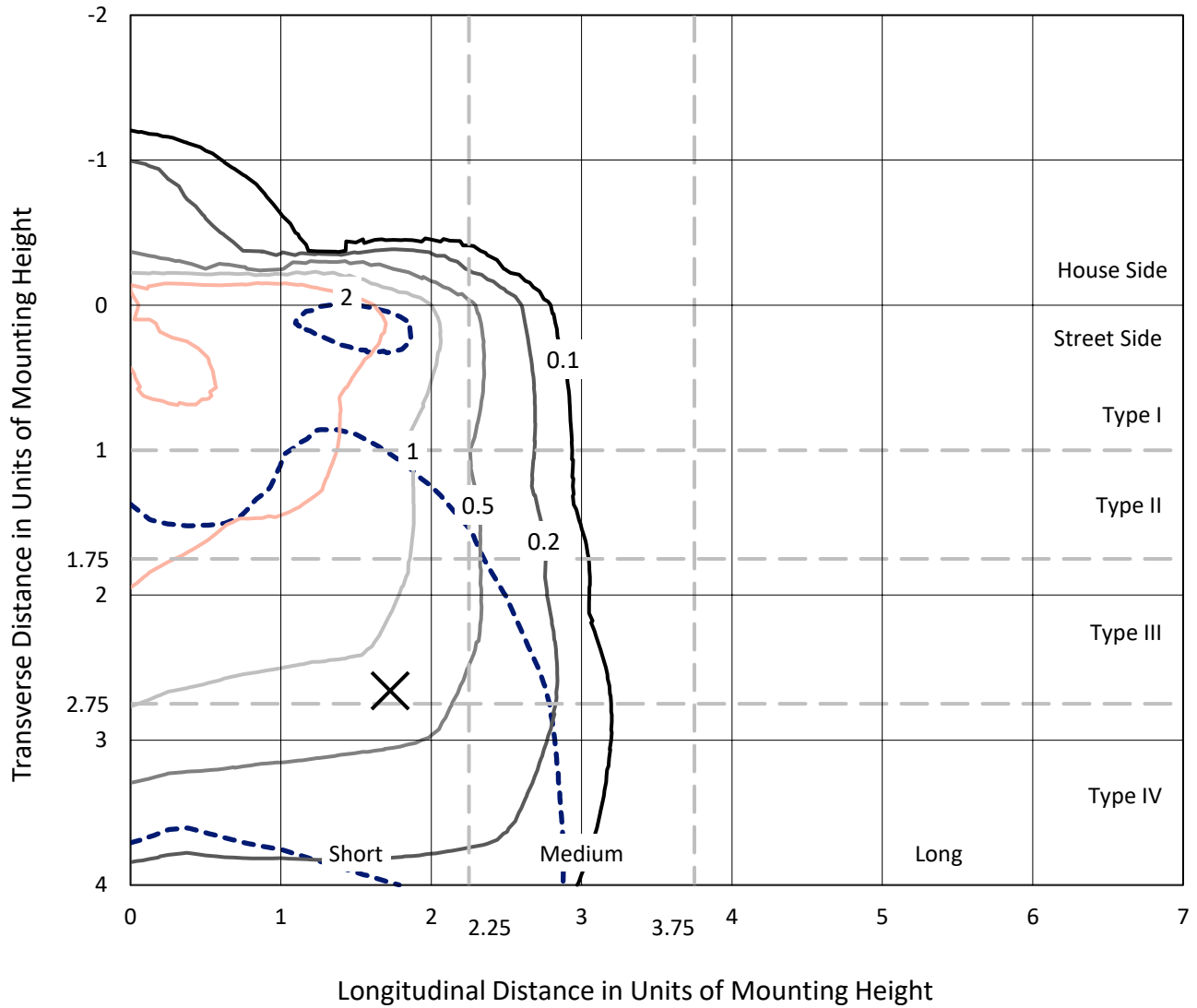
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

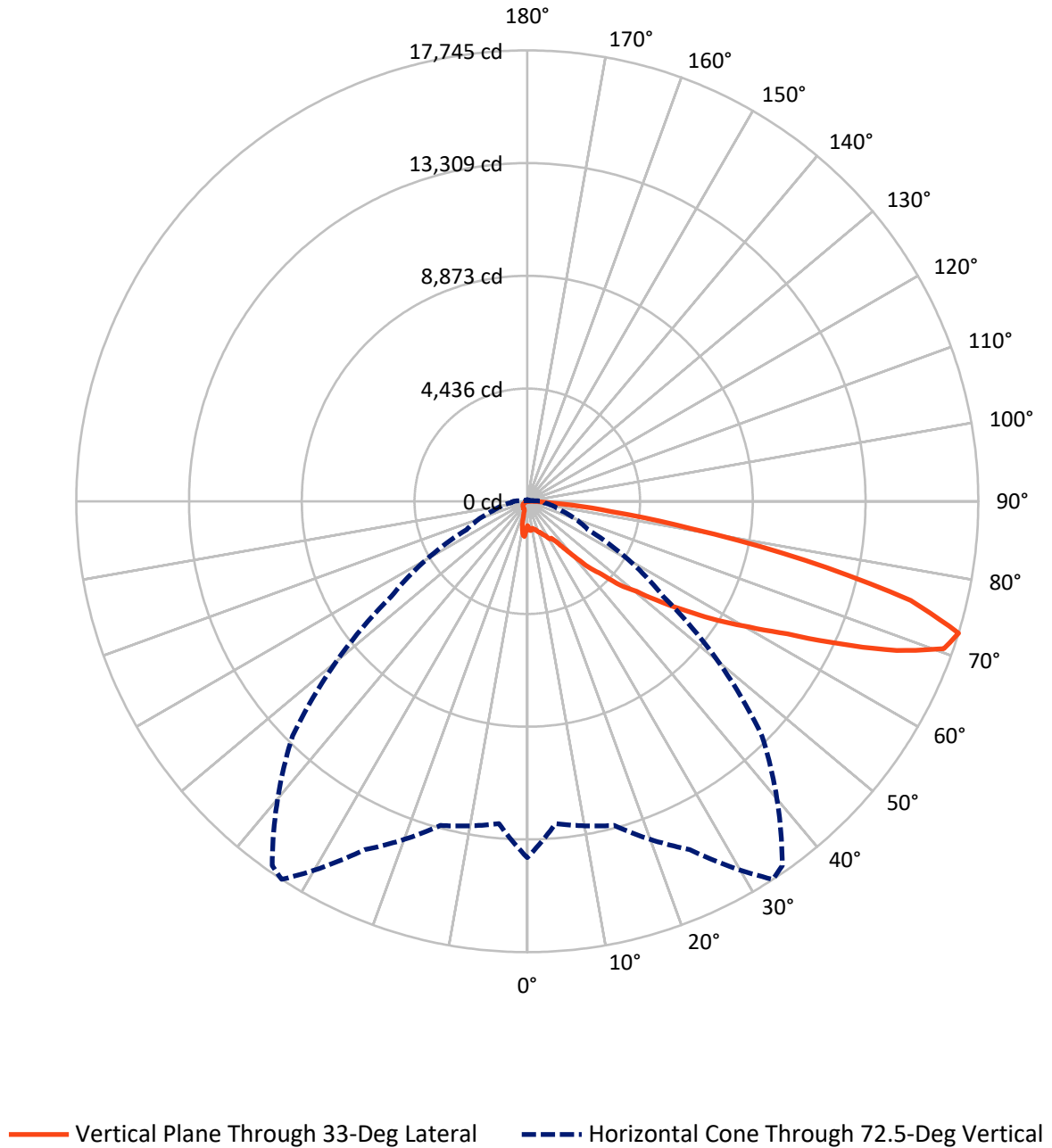
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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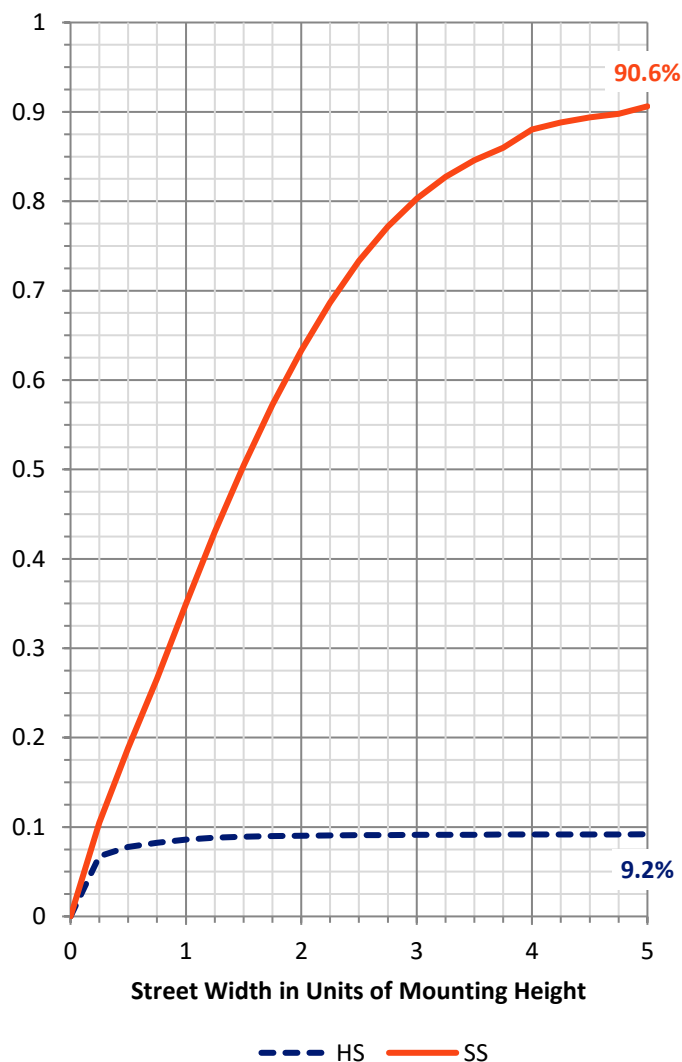
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1658.9	0.0	1658.9
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	16282.1	0.0	16282.1
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	17941.0	0.0	17941.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.5	0.7
10°-20°	368.0	2.1
20°-30°	624.2	3.5
30°-40°	1142.3	6.4
40°-50°	2410.9	13.4
50°-60°	4033.6	22.5
60°-70°	5399.1	30.1
70°-80°	3526.8	19.7
80°-90°	312.7	1.7
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°	17941.0	100.0
0°-180°	17941.0	100.0

**Coefficient of Utilization**

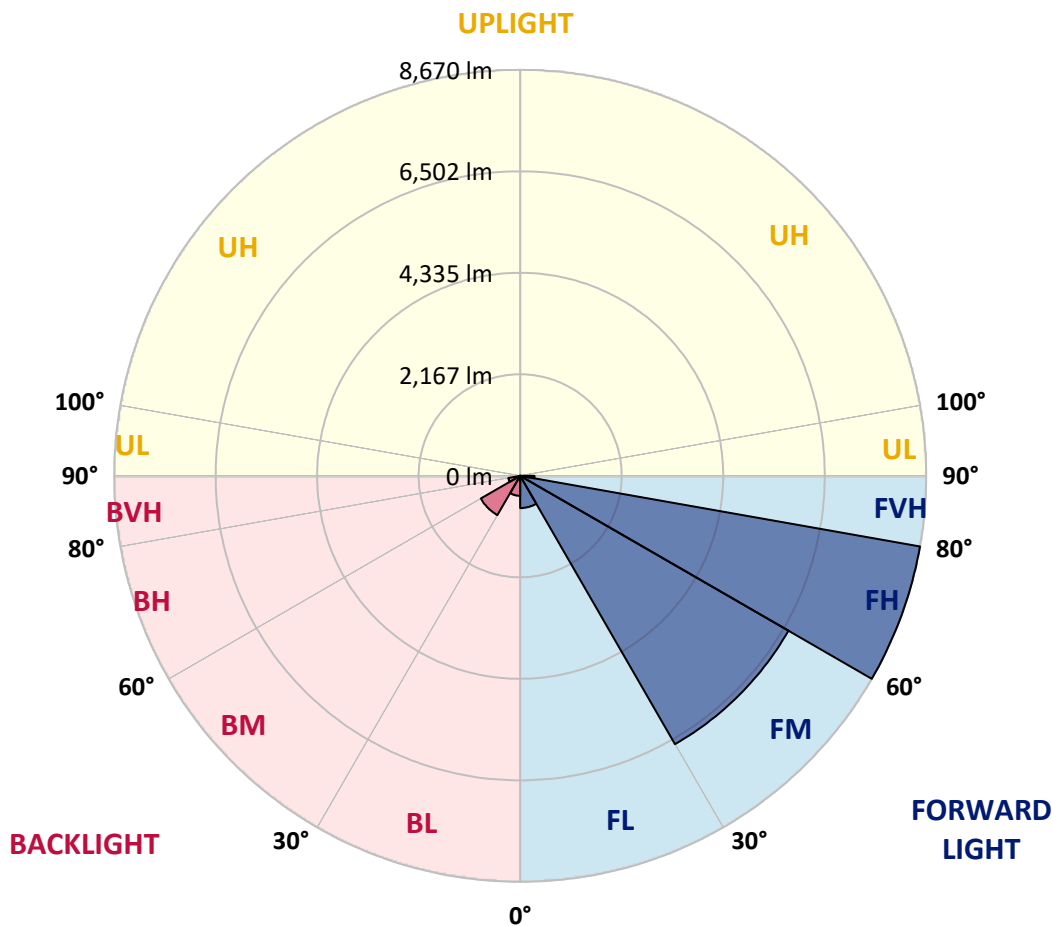


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	688.7	3.8			
FM (30°-60°)	6616.9	36.9			
FH (60°-80°)	8669.9	48.3			G4/12000
FVH (80°-90°)	306.6	1.7			G3/500
BL (0°-30°)	427.0	2.4	B1/500		
BM (30°-60°)	969.8	5.4	B1/1000		
BH (60°-80°)	256.1	1.4	B1/500		G1/500
BVH (80°-90°)	6.1	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-G4**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	954.3	954.3	954.3	954.3	954.3	954.3	954.3	954.3	954.3	954.3	954.3
2.5°	1137.5	1093.7	1030.0	1033.9	1044.9	1053.9	1077.8	1067.8	1048.9	1047.9	1137.5
5°	1205.3	1156.5	1152.5	1158.5	1155.5	1171.4	1151.5	1216.2	1271.0	1336.8	1442.3
7.5°	1172.4	1149.5	1120.6	1150.5	1149.5	1141.5	1154.5	1286.0	1418.4	1502.1	1676.4
10°	1077.8	1051.9	1073.8	1083.7	1076.8	1111.6	1198.3	1305.9	1464.3	1639.6	1724.2
12.5°	1050.9	1066.8	1074.8	1074.8	1141.5	1159.4	1291.9	1393.5	1581.8	1720.2	1966.3
15°	1155.5	1186.3	1131.6	1119.6	1140.5	1150.5	1297.9	1420.4	1661.5	1914.5	2120.7
17.5°	1321.8	1319.8	1235.1	1188.3	1221.2	1245.1	1326.8	1470.2	1611.7	2066.9	2365.7
20°	1436.4	1438.4	1286.0	1188.3	1296.9	1310.9	1401.5	1516.0	1627.6	2143.6	2526.1
22.5°	1583.8	1531.0	1362.6	1268.0	1341.7	1354.7	1454.3	1544.9	1709.3	2134.6	2731.3
25°	1704.3	1670.4	1458.3	1392.5	1458.3	1440.3	1531.0	1667.5	1796.9	2277.1	2851.8
27.5°	1891.6	1833.8	1526.0	1538.0	1534.0	1546.9	1567.8	1777.0	1951.3	2284.0	3130.7
30°	2065.9	2032.0	1677.4	1677.4	1716.3	1691.4	1706.3	1959.3	2100.8	2445.4	3444.5
32.5°	2246.2	2248.2	1855.7	1761.1	1730.2	1832.8	1933.4	2048.0	2281.0	2722.3	3924.6
35°	2723.3	2683.5	2197.4	1961.3	1936.4	1930.4	2091.8	2401.6	2600.8	3082.9	4571.1
37.5°	3684.5	3546.1	2932.5	2415.5	2321.9	2290.0	2473.3	2791.0	2989.3	3612.8	5639.9
40°	4670.7	4416.7	3735.3	3152.6	2848.8	2711.4	2924.5	3194.5	3547.1	4198.5	6629.0
42.5°	5536.3	5222.5	4340.0	3947.5	3552.1	3492.3	3292.1	3731.3	4343.9	5051.2	7598.2
45°	6379.9	5762.4	4877.8	4567.1	4087.0	4120.8	4053.1	4433.6	5171.7	5985.5	8457.8
47.5°	6960.7	6405.8	5537.3	5133.8	4941.6	4743.4	5281.3	5676.7	5908.8	6579.2	9200.9
50°	7586.2	7024.4	6104.0	5822.1	5569.1	5769.3	6467.6	6520.4	6501.5	7133.0	9706.9
52.5°	8394.0	7731.6	6754.5	6435.7	6579.2	6778.4	7584.2	7594.2	7028.4	7599.2	10071.5
55°	9141.1	8407.0	7621.1	7320.3	7620.1	7788.4	8681.9	8354.2	7335.2	7915.9	10250.7
57.5°	10194.0	9344.3	8773.5	8243.6	8851.2	8689.9	9647.1	9160.0	7679.8	8126.1	10185.0
60°	11524.7	10524.7	9952.9	9392.1	10043.6	10153.1	10589.4	9562.5	7813.3	8194.8	9789.6
62.5°	12878.4	11872.4	11120.3	10739.8	11478.9	11839.5	11462.0	9762.7	7652.9	8060.3	8894.1
65°	14557.8	13269.9	12391.3	12168.2	13537.8	14067.8	12493.9	9811.5	7343.2	7320.3	7150.9
67.5°	15708.3	14454.2	13648.4	14021.9	15676.4	15719.3	13420.3	9826.4	6300.3	5731.5	4693.6
70°	15981.2	14638.5	14277.9	15377.6	17382.7	16843.9	13719.1	9069.4	4672.7	3401.6	2145.6
72.5°	14028.9	12736.0	13205.1	15121.6	17745.3	17498.3	13058.7	6543.3	2630.7	1360.7	658.4
75°	8605.2	7823.3	9906.1	12820.7	15576.8	15417.5	10188.0	3380.7	1059.8	543.9	246.0
77.5°	3742.3	3475.4	5169.7	8506.6	11193.0	11050.6	5969.6	1245.1	547.8	382.5	124.5
80°	1238.1	1201.3	1958.3	4028.2	6556.3	6430.7	2515.1	518.0	390.5	306.8	69.7
82.5°	293.8	291.9	683.3	1853.7	3339.9	3235.3	772.0	285.9	282.9	242.0	36.9
85°	73.7	75.7	189.3	758.0	1356.7	1196.3	201.2	142.4	199.2	164.4	18.9
87.5°	0.0	0.0	48.8	108.6	205.2	128.5	21.9	37.9	55.8	58.8	10.0
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°	954.3	954.3	954.3	954.3	954.3	954.3	954.3	954.3	954.3	954.3	954.3
2.5°	1157.5	1146.5	1056.8	1078.8	1112.6	1109.6	1131.6	1114.6	1099.7	1173.4	1166.4
5°	1472.2	1412.5	1384.6	1423.4	1402.5	1353.7	1394.5	1387.6	1375.6	1400.5	1419.4
7.5°	1708.3	1653.5	1628.6	1546.9	1428.4	1334.8	1349.7	1314.8	1282.0	1320.8	1360.7
10°	1786.0	1756.1	1753.1	1593.7	1482.2	1346.7	1186.3	1047.9	1011.0	962.2	984.1
12.5°	1997.2	2015.1	1902.5	1716.3	1501.1	1241.1	956.2	760.0	680.3	628.5	631.5
15°	2170.5	2233.2	2069.9	1735.2	1320.8	946.3	636.5	460.2	410.4	397.4	393.5
17.5°	2428.5	2489.2	2121.7	1600.7	1064.8	641.5	409.4	358.6	361.6	370.5	368.6
20°	2619.7	2610.7	2076.8	1362.6	784.9	420.3	342.7	335.7	351.6	377.5	371.5
22.5°	2804.0	2742.2	2049.0	1142.5	508.0	337.7	330.7	329.7	344.6	369.5	376.5
25°	2935.5	2945.4	2002.1	894.5	369.5	313.8	319.7	328.7	343.7	370.5	366.6
27.5°	3312.0	3033.1	1806.9	649.4	311.8	300.8	315.8	333.7	338.7	372.5	373.5
30°	3556.0	3363.8	1679.4	437.3	287.9	277.9	307.8	331.7	337.7	381.5	384.5
32.5°	3981.4	3506.2	1532.0	324.7	267.9	270.9	289.9	321.7	349.6	396.4	398.4
35°	4510.3	3963.4	1265.0	291.9	261.0	256.0	265.0	301.8	347.6	398.4	408.4
37.5°	5517.3	4237.4	1003.1	282.9	261.0	252.0	261.0	282.9	341.7	418.4	439.3
40°	6191.7	4795.2	723.2	280.9	256.0	248.0	251.0	272.9	324.7	406.4	437.3
42.5°	7022.4	5030.2	532.9	275.9	251.0	239.1	241.1	268.9	307.8	381.5	404.4
45°	7702.8	5201.6	419.4	273.9	239.1	235.1	239.1	266.0	291.9	327.7	348.6
47.5°	8219.7	5400.8	336.7	261.0	236.1	235.1	230.1	249.0	265.0	273.9	287.9
50°	8598.2	5356.0	278.9	241.1	226.1	232.1	223.1	226.1	230.1	225.1	241.1
52.5°	8830.3	5194.6	232.1	217.1	214.2	219.1	208.2	199.2	192.2	188.3	198.2
55°	8915.0	4870.9	197.2	186.3	193.2	195.2	186.3	170.3	158.4	152.4	160.4
57.5°	8754.6	4377.8	171.3	154.4	170.3	170.3	158.4	141.4	127.5	117.5	125.5
60°	8348.2	3832.9	152.4	128.5	145.4	146.4	132.5	114.6	103.6	93.6	98.6
62.5°	7591.2	3239.3	133.5	111.6	125.5	126.5	109.6	92.6	84.7	73.7	77.7
65°	6077.1	2477.3	113.6	98.6	108.6	105.6	90.6	78.7	68.7	58.8	60.8
67.5°	3944.5	1529.0	98.6	89.6	91.6	88.7	76.7	68.7	57.8	49.8	50.8
70°	1766.1	658.4	86.7	80.7	79.7	74.7	64.7	63.7	56.8	49.8	49.8
72.5°	544.9	248.0	74.7	72.7	68.7	62.8	56.8	60.8	55.8	47.8	46.8
75°	215.2	113.6	61.8	61.8	59.8	51.8	50.8	54.8	51.8	43.8	41.8
77.5°	112.6	71.7	50.8	52.8	51.8	39.8	45.8	49.8	47.8	36.9	30.9
80°	66.7	43.8	37.9	42.8	41.8	27.9	34.9	31.9	22.9	11.0	3.0
82.5°	36.9	19.9	16.9	24.9	24.9	10.0	17.9	15.9	9.0	0.0	0.0
85°	17.9	13.9	12.9	13.9	10.0	3.0	9.0	9.0	5.0	0.0	0.0
87.5°	9.0	8.0	6.0	5.0	4.0	0.0	3.0	4.0	0.0	0.0	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)