

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: P367650

Luminaire Tested: **MSA-SA2D-830-U-T3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367650  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2D-830-U-T3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10702 lumens  
Efficiency: N/A  
Efficacy: 83.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G2

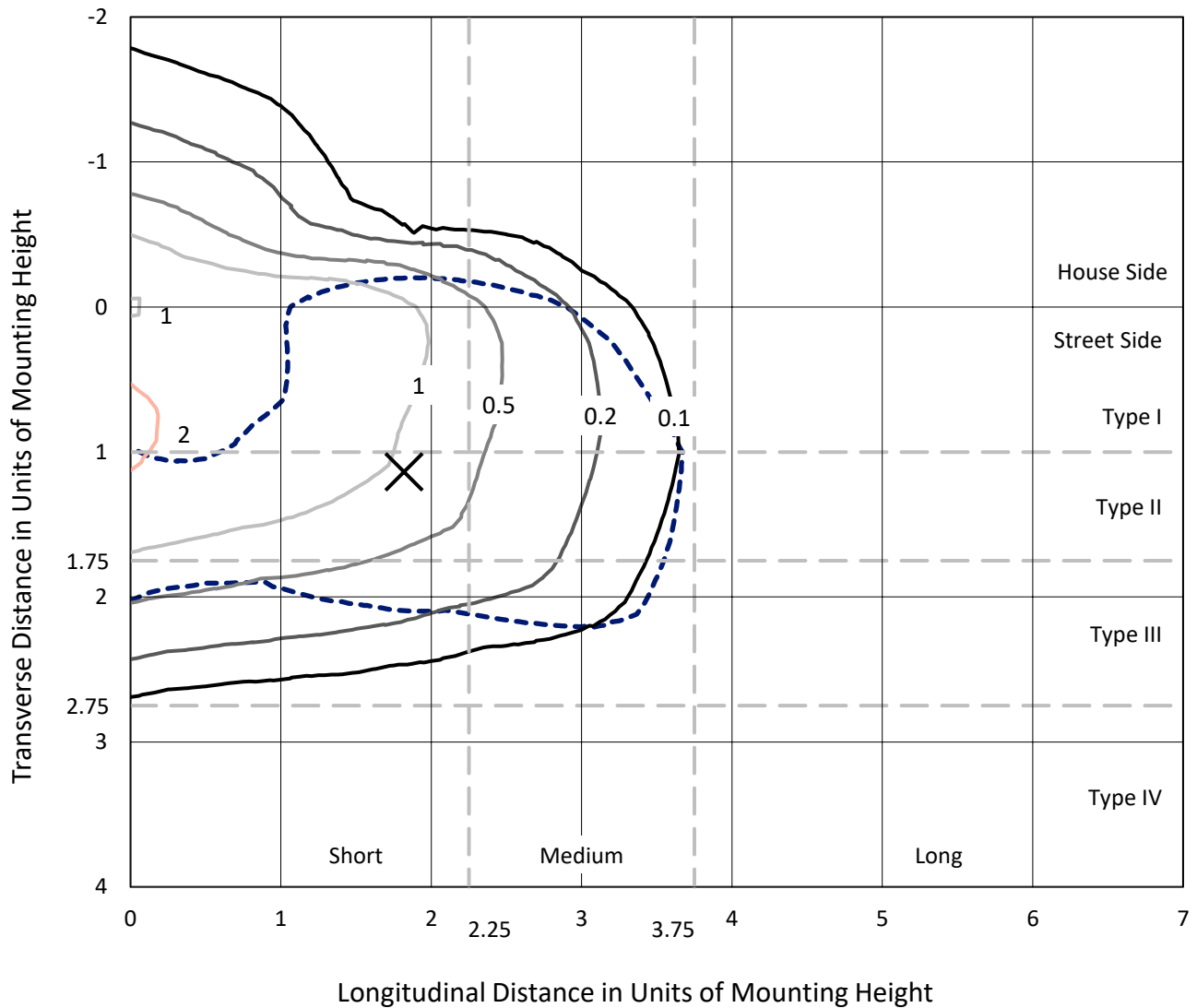
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

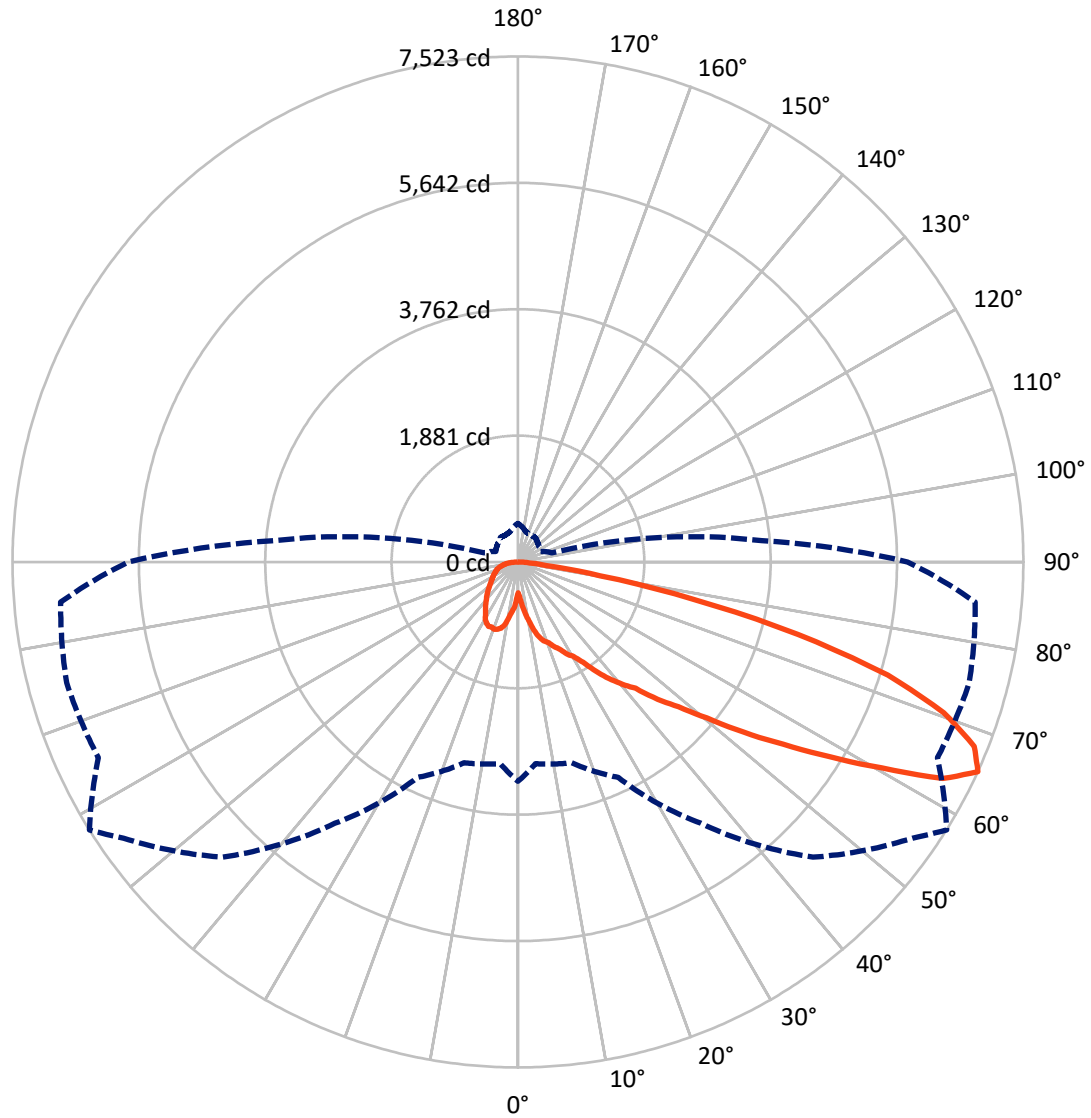
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.2 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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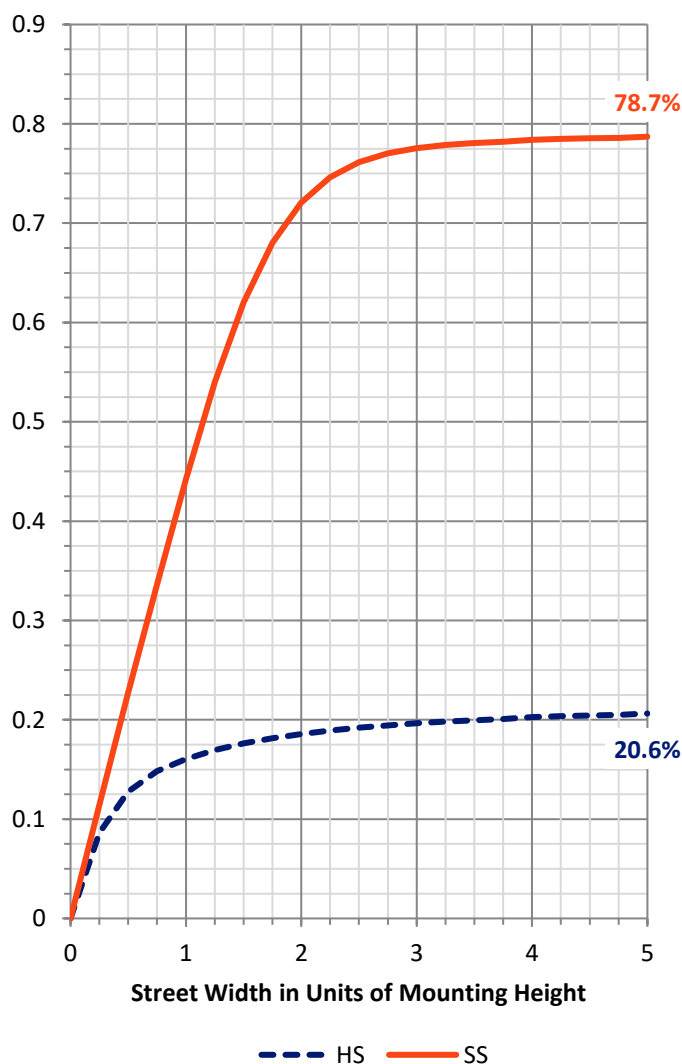
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2254.2	0.0	2254.2
	% Fixture	21.1	0.0	21.1
<b>Street Side</b>	Lumens	8447.8	0.0	8447.8
	% Fixture	78.9	0.0	78.9
<b>Total</b>	Lumens	10702.0	0.0	10702.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.0	0.7
10°-20°	305.4	2.9
20°-30°	586.1	5.5
30°-40°	967.5	9.0
40°-50°	1608.2	15.0
50°-60°	2655.9	24.8
60°-70°	2979.4	27.8
70°-80°	1354.7	12.7
80°-90°	174.7	1.6
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°	10702.0	100.0
0°-180°	10702.0	100.0

**Coefficient of Utilization**



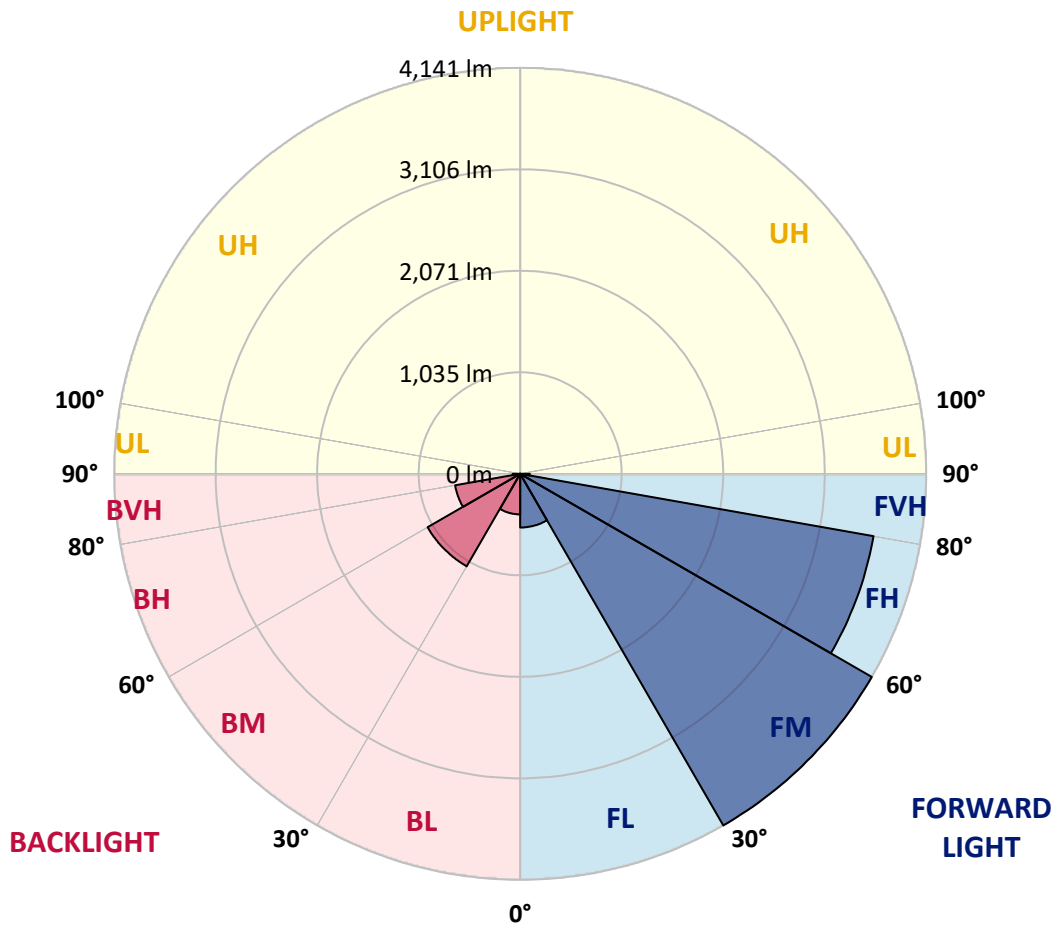
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	547.7	5.1			
FM (30°-60°)	4141.5	38.7			
FH (60°-80°)	3660.3	34.2			G2/5000
FVH (80°-90°)	98.4	0.9			G1/100
BL (0°-30°)	413.8	3.9	B1/500		
BM (30°-60°)	1090.2	10.2	B2/2500		
BH (60°-80°)	673.8	6.3	B2/1000		G2/1000
BVH (80°-90°)	76.3	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5
2.5°	548.6	532.1	504.5	511.2	527.2	536.2	530.8	523.7	514.3	512.5	553.5
5°	710.4	678.8	665.8	660.5	640.9	629.3	649.4	646.7	657.4	677.0	717.1
7.5°	828.5	806.2	784.8	782.6	744.7	731.4	758.1	772.4	791.5	792.0	846.3
10°	891.8	872.6	872.2	852.1	849.0	874.4	874.9	885.6	887.8	910.5	899.8
12.5°	960.4	959.1	983.6	983.2	1011.7	1053.6	1032.6	1032.6	1038.9	1011.2	1045.1
15°	1124.0	1138.3	1092.4	1099.9	1099.9	1140.9	1139.6	1147.6	1166.8	1159.7	1144.5
17.5°	1294.3	1303.2	1252.4	1205.1	1208.7	1199.8	1231.9	1235.0	1216.7	1299.6	1281.3
20°	1403.9	1438.7	1331.7	1272.4	1284.0	1294.3	1295.6	1276.4	1267.1	1394.5	1369.6
22.5°	1539.4	1510.0	1411.9	1346.4	1363.8	1350.0	1347.3	1362.0	1374.9	1423.1	1463.6
25°	1629.8	1627.6	1510.0	1438.2	1419.0	1415.0	1442.2	1436.4	1467.2	1554.5	1529.1
27.5°	1761.3	1802.3	1593.7	1611.6	1527.3	1438.7	1526.0	1552.3	1607.6	1593.3	1649.9
30°	2016.3	1985.5	1767.6	1762.7	1667.3	1592.9	1653.5	1631.2	1730.6	1727.5	1769.3
32.5°	2224.4	2245.8	1971.7	1920.4	1849.6	1760.0	1719.9	1781.8	1835.3	1923.1	1946.7
35°	2444.5	2439.6	2180.7	2077.3	1960.1	1923.1	1972.6	1998.4	2112.1	2192.7	2136.6
37.5°	2786.8	2748.1	2451.7	2256.0	2168.2	2154.9	2239.5	2202.1	2325.1	2344.3	2375.9
40°	3105.0	2988.3	2699.5	2475.3	2335.8	2385.7	2388.4	2393.3	2459.3	2511.4	2667.8
42.5°	3407.7	3325.7	2951.3	2782.8	2577.4	2528.8	2559.1	2569.3	2736.0	2842.5	3059.1
45°	3821.3	3601.5	3313.2	3140.3	2910.3	2848.3	2826.9	2915.2	3076.1	3318.5	3504.4
47.5°	4171.1	3972.8	3697.8	3470.1	3212.9	3389.8	3268.6	3219.1	3435.3	3735.7	4031.6
50°	4461.2	4242.9	3973.2	3841.8	3800.8	3958.5	3643.9	3649.7	3847.5	4271.4	4610.5
52.5°	4685.9	4452.8	4213.9	4147.0	4376.1	4467.0	4239.7	4205.4	4349.8	4850.8	5258.1
55°	4895.8	4648.4	4463.9	4600.3	4986.3	4996.5	4980.5	4790.2	4964.0	5471.6	5928.4
57.5°	4949.7	4683.2	4560.6	4756.3	5278.2	5684.2	5843.7	5470.3	5647.2	6036.3	6502.5
60°	4672.1	4443.9	4394.8	4660.5	5435.9	6029.6	6446.3	6223.0	6156.6	6489.5	6904.5
62.5°	4103.4	3838.6	3878.3	4247.3	5269.7	6166.4	6922.3	7096.5	6694.5	6850.1	7080.1
65°	3265.9	3013.2	3093.5	3537.4	4747.8	6211.9	7165.6	7523.1	6888.9	6952.1	6831.4
67.5°	2303.3	2073.7	2174.9	2748.9	3949.6	5629.8	7207.5	7324.3	6682.1	6661.1	6152.2
70°	1304.9	1161.0	1270.6	1749.3	2787.7	4484.9	6879.1	6725.3	6311.3	6014.4	5147.6
72.5°	598.5	549.1	601.7	890.5	1604.9	2984.3	5616.0	5755.5	5438.2	5066.9	3916.2
75°	318.2	300.8	323.1	444.8	751.0	1623.6	3990.2	4303.9	4135.0	3843.1	2554.6
77.5°	236.7	223.3	234.0	288.4	401.1	635.1	2267.2	2662.9	2727.1	2458.4	1418.6
80°	181.4	170.7	181.4	217.9	277.7	301.7	969.4	1241.2	1413.7	1142.3	563.8
82.5°	134.6	127.5	144.0	163.6	195.2	188.5	344.1	428.3	552.2	377.5	219.7
85°	107.0	98.0	104.3	111.0	124.8	103.4	157.3	176.0	186.3	156.0	81.1
87.5°	41.9	38.8	75.8	59.7	50.8	31.2	47.2	53.5	54.8	52.6	23.6
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°	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5
2.5°	558.0	553.5	527.2	535.7	549.5	552.2	558.0	541.9	533.9	563.3	564.7
5°	720.7	696.6	684.1	685.5	676.5	662.7	683.7	697.5	702.8	724.7	732.7
7.5°	846.8	817.8	796.9	772.8	738.9	717.1	753.6	780.4	794.6	840.1	857.9
10°	902.9	879.8	875.3	845.0	844.1	843.7	841.9	832.5	863.3	858.8	871.3
12.5°	1018.8	1013.9	971.6	959.5	960.9	959.5	922.1	920.3	920.8	961.8	947.1
15°	1126.7	1127.6	1088.8	1045.1	1005.9	993.9	979.2	972.5	982.3	1005.5	991.2
17.5°	1259.9	1264.4	1153.4	1084.3	1032.6	1031.3	996.1	954.6	1014.4	1028.6	1013.0
20°	1346.0	1327.2	1190.9	1075.0	1060.3	1020.2	976.5	919.4	971.1	1005.9	1015.7
22.5°	1427.5	1395.0	1225.6	1091.5	1021.1	973.4	931.0	894.0	910.5	949.3	943.1
25°	1482.8	1473.9	1273.8	1131.1	1019.7	913.6	856.6	833.0	841.4	901.6	895.8
27.5°	1614.7	1518.4	1265.3	1141.4	976.9	832.1	803.6	778.2	769.7	834.8	852.6
30°	1702.9	1663.3	1321.9	1125.3	923.0	765.2	723.3	718.0	720.7	794.6	799.5
32.5°	1852.7	1749.7	1414.6	1063.8	844.6	715.8	667.6	669.9	681.9	735.8	747.0
35°	2008.7	1947.2	1427.1	1019.7	780.8	663.2	643.6	628.0	634.6	681.9	684.1
37.5°	2298.4	2085.8	1503.7	951.5	734.0	643.1	605.7	591.9	595.4	622.2	641.3
40°	2553.3	2364.3	1468.1	885.6	676.1	616.4	569.6	559.3	548.6	574.9	587.0
42.5°	2962.0	2563.1	1456.0	812.9	648.9	580.3	548.2	521.0	510.7	533.0	554.9
45°	3370.7	2773.9	1390.5	739.4	610.6	577.6	517.0	491.1	493.8	513.9	536.2
47.5°	3826.2	3056.9	1279.5	668.1	568.7	564.7	485.8	474.6	482.7	505.0	527.2
50°	4364.5	3357.3	1187.7	603.9	538.8	525.9	481.8	468.4	476.0	502.3	524.1
52.5°	4953.3	3686.7	1120.9	544.6	505.0	495.1	487.1	474.2	483.1	505.8	528.6
55°	5538.5	3987.5	1075.4	504.1	476.0	482.2	498.3	488.9	493.4	510.3	533.0
57.5°	5972.5	4146.2	984.1	460.8	452.4	474.6	499.6	484.0	486.7	510.3	534.8
60°	6224.8	4176.5	833.9	425.6	433.6	459.5	485.8	465.7	464.0	502.7	533.5
62.5°	6197.2	4000.4	661.4	393.5	412.3	436.8	464.8	445.7	450.6	503.6	536.2
65°	5801.4	3640.8	525.9	366.3	386.4	411.8	447.5	439.9	463.5	539.3	574.5
67.5°	5106.1	3115.3	422.5	340.9	362.3	394.9	459.5	479.6	489.8	575.8	611.9
70°	4138.1	2420.5	352.1	318.7	343.2	402.9	494.3	490.2	481.8	558.4	587.0
72.5°	2989.6	1659.3	309.7	296.8	319.6	378.8	495.1	473.8	463.1	509.9	530.4
75°	1870.5	989.9	270.5	269.2	283.5	339.6	472.9	453.7	424.7	447.9	474.6
77.5°	1068.3	506.7	227.7	239.8	248.2	294.6	423.4	406.0	380.2	390.0	416.3
80°	407.8	245.1	192.1	213.0	210.8	249.6	358.8	354.8	325.3	328.5	344.5
82.5°	192.1	137.3	159.6	183.2	171.1	198.8	291.5	290.1	264.3	239.3	252.3
85°	71.3	73.1	116.8	139.5	119.0	128.4	210.8	205.0	180.1	152.0	168.0
87.5°	16.0	26.3	57.5	72.6	41.4	39.7	85.1	74.0	71.3	42.3	44.6
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)