

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: P367110

Luminaire Tested: **MSA-SA1D-830-U-SL2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367110  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-830-U-SL2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

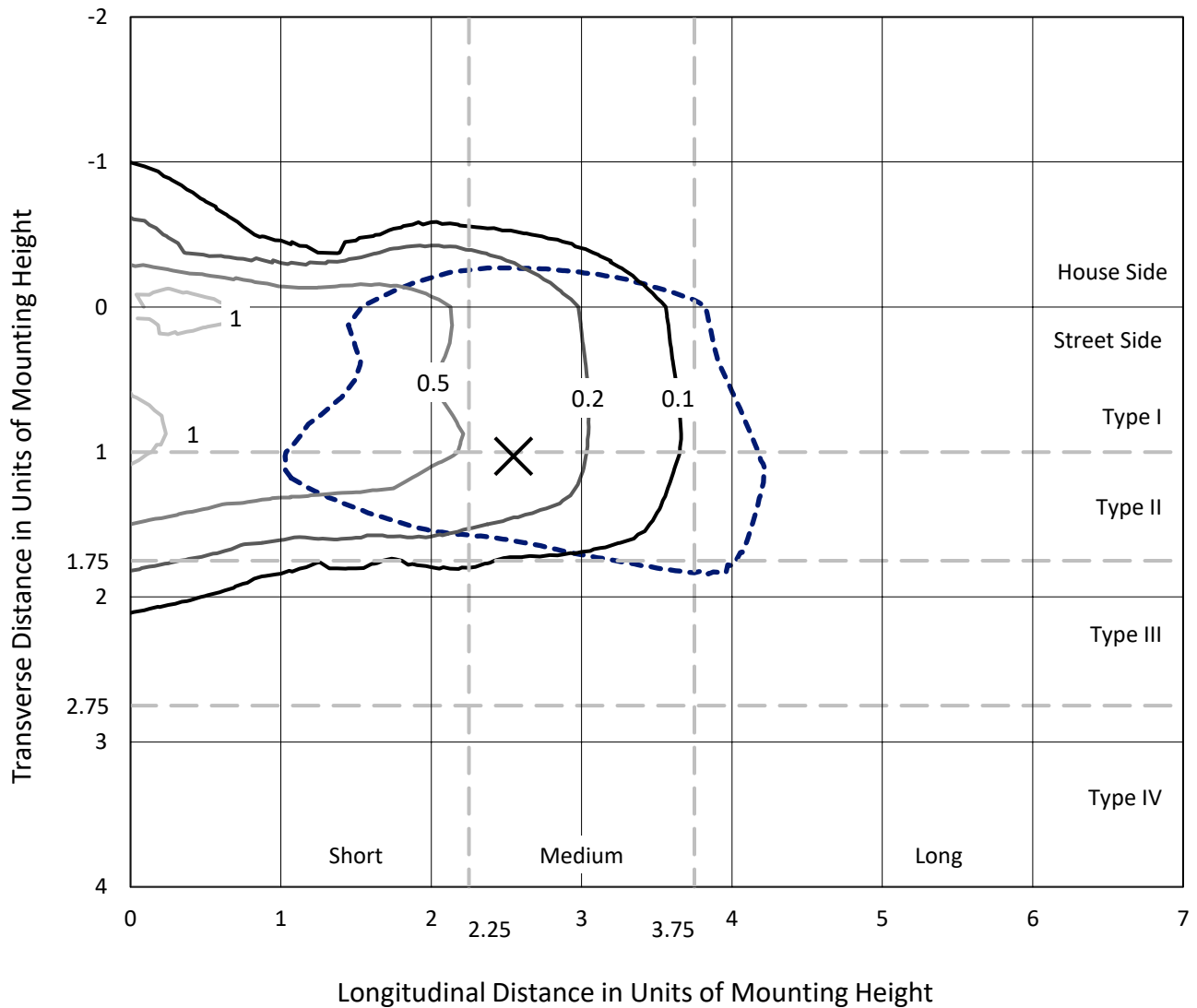
Lumens per Lamp: N/A  
Luminaire Lumens: 5413 lumens  
Efficiency: N/A  
Efficacy: 80.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

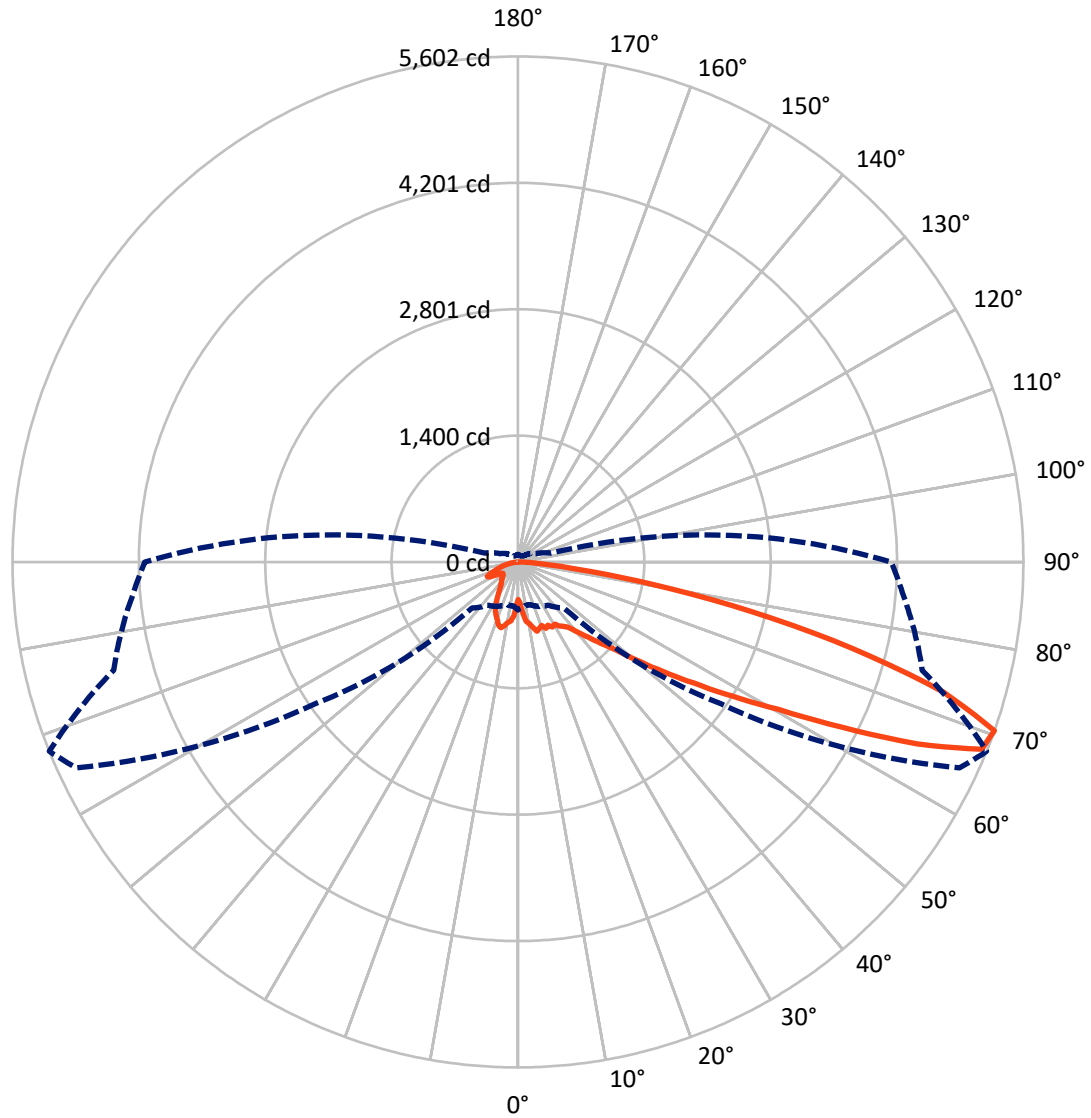
× Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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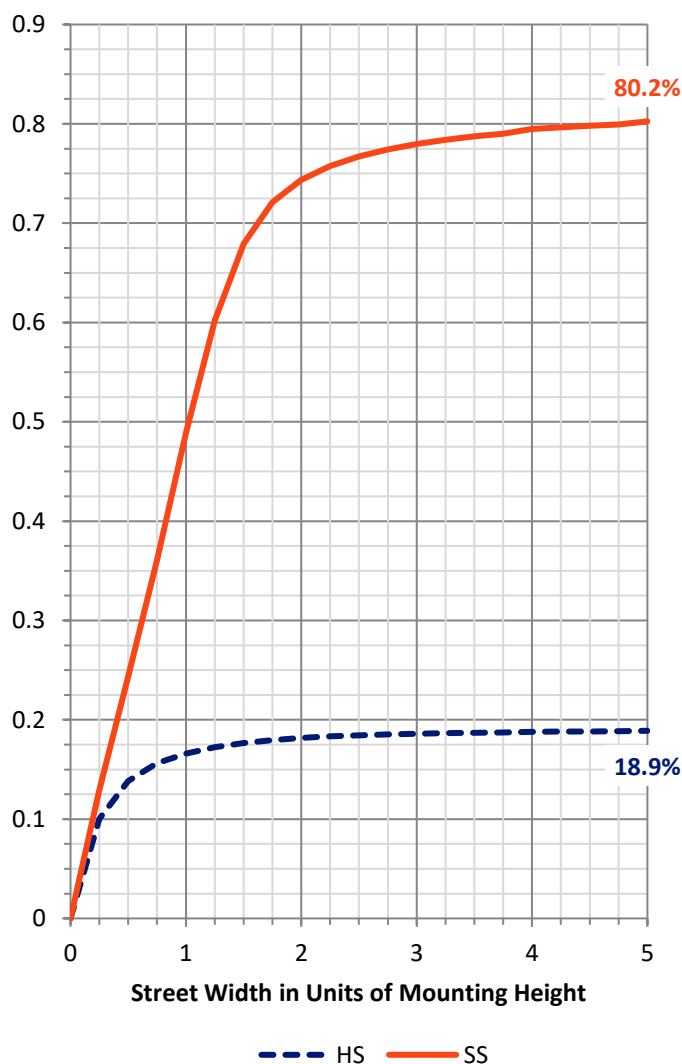
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1033.5	0.0	1033.5
	% Fixture	19.1	0.0	19.1
<b>Street Side</b>	Lumens	4379.5	0.0	4379.5
	% Fixture	80.9	0.0	80.9
<b>Total</b>	Lumens	5413.0	0.0	5413.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.4	1.0
10°-20°	180.7	3.3
20°-30°	274.8	5.1
30°-40°	419.8	7.8
40°-50°	721.8	13.3
50°-60°	1194.7	22.1
60°-70°	1472.9	27.2
70°-80°	946.2	17.5
80°-90°	146.8	2.7
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°	5413.0	100.0
0°-180°	5413.0	100.0

**Coefficient of Utilization**



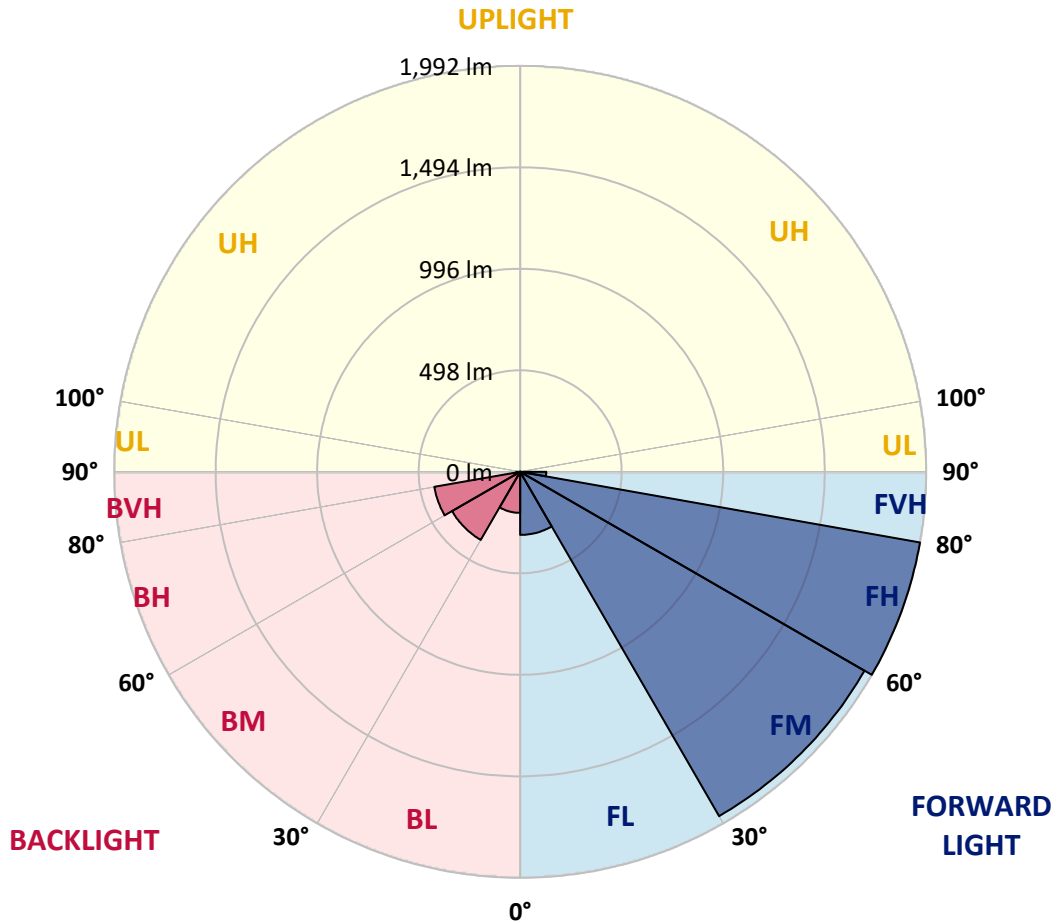
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	309.5	5.7			
FM (30°-60°)	1950.5	36.0			
FH (60°-80°)	1991.6	36.8			G2/5000
FVH (80°-90°)	127.9	2.4			G2/225
BL (0°-30°)	201.4	3.7	B1/500		
BM (30°-60°)	385.7	7.1	B1/1000		
BH (60°-80°)	427.5	7.9	B1/500		G1/500
BVH (80°-90°)	18.8	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 III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	415.0	415.0	415.0	415.0	415.0	415.0	415.0	415.0	415.0	415.0	415.0
2.5°	476.9	457.6	438.1	447.7	462.8	476.2	473.5	475.1	456.7	454.2	502.5
5°	561.8	528.8	528.1	528.5	529.9	514.5	552.1	571.6	575.9	595.8	643.2
7.5°	591.3	577.9	564.3	571.1	553.9	555.5	601.7	652.5	664.5	679.0	743.8
10°	585.2	572.5	576.6	577.7	580.9	606.5	636.1	684.9	695.0	741.3	758.0
12.5°	586.1	583.8	602.8	603.5	637.5	683.5	695.3	740.1	744.2	778.2	848.2
15°	617.1	632.7	622.1	627.8	634.3	689.4	706.4	770.7	795.2	838.9	891.5
17.5°	677.6	682.1	650.2	641.8	663.3	680.1	718.8	746.7	772.3	894.4	966.9
20°	691.6	703.9	665.8	622.6	668.1	691.4	718.4	731.1	751.0	902.6	1005.4
22.5°	751.9	726.5	680.5	642.9	657.9	680.5	700.0	747.8	800.2	879.2	1043.9
25°	786.1	771.4	730.4	690.1	677.4	678.1	715.7	758.5	776.6	913.4	1051.6
27.5°	868.8	845.2	753.0	745.3	697.5	660.4	718.2	784.8	816.5	886.7	1089.2
30°	972.3	954.4	833.5	823.3	750.3	685.5	749.9	804.2	799.7	904.1	1115.3
32.5°	1056.2	1086.1	964.0	883.5	831.7	769.6	739.9	800.8	845.9	944.7	1159.5
35°	1175.8	1203.9	1065.7	1011.3	898.7	808.5	809.5	847.5	875.4	992.0	1208.9
37.5°	1382.8	1358.1	1246.9	1161.1	1089.0	954.4	914.1	900.8	923.2	1050.0	1305.6
40°	1532.1	1511.3	1380.4	1331.4	1191.2	1113.0	1002.5	989.8	1029.4	1109.9	1384.7
42.5°	1709.1	1671.9	1550.0	1509.7	1363.1	1222.2	1110.8	1118.0	1137.3	1222.7	1491.6
45°	1889.2	1799.0	1729.9	1726.7	1628.9	1434.3	1284.5	1278.6	1279.3	1388.7	1611.7
47.5°	2032.1	1951.0	1872.0	1834.4	1785.0	1801.0	1536.9	1467.8	1447.0	1555.9	1791.8
50°	2128.9	2035.5	1946.0	1937.2	2069.1	2155.8	1773.9	1700.0	1712.9	1795.2	2031.9
52.5°	2130.9	2020.1	1926.8	1988.6	2299.2	2423.4	2182.1	1975.7	2016.9	2072.9	2345.2
55°	1982.7	1867.9	1807.2	1948.1	2389.2	2740.8	2755.7	2417.5	2369.9	2390.5	2719.7
57.5°	1670.3	1554.3	1519.0	1687.8	2218.6	3046.8	3448.5	2945.3	2805.8	2719.7	3103.5
60°	1257.3	1157.0	1135.0	1242.6	1839.3	2956.9	4009.4	3602.3	3318.0	3087.4	3488.4
62.5°	942.9	870.8	837.8	853.2	1272.7	2664.4	4377.8	4432.4	4029.8	3488.8	3864.4
65°	766.2	708.0	678.5	658.6	791.6	2060.2	4311.2	5131.1	4861.2	3910.4	4157.1
67.5°	640.0	588.3	574.7	594.2	625.7	1195.3	3790.1	5521.9	5540.2	4326.4	4328.2
70°	531.3	493.0	488.0	543.3	584.7	721.3	2737.6	5399.1	5601.6	4638.3	4288.1
72.5°	410.5	389.9	389.2	476.0	580.9	614.8	1630.2	4664.1	4936.2	4538.6	3895.7
75°	284.8	270.5	281.4	391.2	567.5	623.7	930.4	3632.9	3836.6	3862.2	3120.7
77.5°	196.0	184.0	195.7	283.0	506.8	638.6	650.9	2626.8	2649.5	2589.9	1787.5
80°	136.4	128.0	137.1	200.3	394.4	632.1	554.1	1653.8	1517.4	1155.8	572.3
82.5°	84.5	82.0	92.0	142.7	277.7	575.0	525.1	853.4	651.5	319.0	204.3
85°	44.4	40.8	53.5	93.1	173.8	451.3	492.1	389.4	251.5	113.3	82.0
87.5°	13.1	11.8	20.6	37.6	73.6	202.3	281.6	165.2	93.8	33.3	25.6
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°	415.0	415.0	415.0	415.0	415.0	415.0	415.0	415.0	415.0	415.0	415.0
2.5°	505.9	503.4	469.9	474.2	481.4	483.2	483.0	470.8	457.9	493.9	492.7
5°	644.3	621.9	605.1	601.5	580.9	560.3	567.5	565.0	561.8	578.1	580.2
7.5°	744.0	712.9	693.5	643.4	595.8	554.6	567.7	571.8	563.6	593.1	601.9
10°	770.3	745.8	724.7	660.4	634.1	610.1	574.5	534.0	528.5	511.5	513.6
12.5°	838.0	834.6	762.8	706.1	671.9	624.1	547.3	498.2	456.0	458.1	445.8
15°	891.5	893.3	807.0	727.7	635.9	563.0	472.6	411.4	368.1	359.5	350.7
17.5°	963.3	959.7	810.6	701.8	585.6	478.7	367.9	307.2	299.9	304.9	297.2
20°	994.5	962.6	787.5	637.7	507.0	363.6	278.0	245.8	259.8	279.8	280.2
22.5°	1022.6	968.0	775.5	586.1	402.3	264.4	223.1	217.3	233.8	260.8	263.0
25°	1021.5	993.2	753.9	534.0	312.0	206.4	193.9	198.2	217.9	246.0	247.6
27.5°	1072.9	973.9	698.0	465.6	234.9	176.7	179.9	187.8	197.1	223.8	229.0
30°	1072.5	1009.7	669.9	382.4	188.7	162.0	170.1	176.9	184.6	209.1	212.0
32.5°	1097.8	986.4	652.9	297.5	169.2	158.4	160.4	167.2	178.3	194.8	196.9
35°	1128.4	1012.9	598.5	236.3	162.0	155.2	156.8	160.6	170.8	186.0	188.0
37.5°	1226.5	1017.9	577.0	199.1	161.5	153.8	153.6	155.6	167.2	181.0	187.1
40°	1264.8	1063.4	514.3	186.0	159.9	153.8	150.7	151.8	161.3	179.0	183.7
42.5°	1356.6	1078.6	467.8	181.5	159.9	151.1	146.1	147.9	159.0	174.7	182.1
45°	1451.0	1100.1	412.5	180.6	159.7	150.9	141.4	145.4	154.5	167.6	175.8
47.5°	1585.6	1177.6	357.3	177.8	157.9	152.0	140.2	140.0	147.9	159.3	167.0
50°	1805.1	1298.6	314.4	174.4	158.1	151.1	138.0	134.8	140.0	150.0	157.5
52.5°	2110.7	1504.7	297.7	172.6	156.3	147.5	134.1	129.1	132.1	140.0	147.3
55°	2465.5	1783.2	314.2	172.6	152.7	141.8	128.7	122.8	124.4	129.8	136.8
57.5°	2880.1	2129.1	394.2	170.1	148.2	135.0	122.1	115.3	115.8	120.5	126.9
60°	3313.0	2515.6	573.4	168.1	145.0	127.5	114.4	107.4	106.7	111.2	116.9
62.5°	3746.6	2872.2	761.9	172.9	144.1	121.2	106.3	99.2	99.0	103.1	107.8
65°	4091.4	3115.9	808.8	192.1	150.0	114.0	97.9	91.3	90.8	94.2	99.5
67.5°	4260.7	3151.3	614.4	216.1	162.4	107.2	89.7	83.6	83.1	86.8	91.3
70°	4135.4	2909.8	379.2	218.6	161.8	99.2	81.3	76.1	75.2	79.1	82.5
72.5°	3671.9	2545.3	288.2	193.5	140.0	87.9	72.9	68.4	67.1	70.5	73.6
75°	2947.1	2020.8	230.9	156.1	110.3	74.1	64.6	60.3	58.7	61.8	64.6
77.5°	1716.8	1136.8	168.8	121.9	83.4	60.5	55.1	51.2	49.4	52.8	54.8
80°	558.2	378.8	106.0	87.4	60.9	47.3	44.6	41.9	40.1	42.4	43.0
82.5°	200.5	140.9	58.7	53.7	40.6	34.0	33.8	32.2	29.9	30.8	30.8
85°	88.8	64.3	34.9	28.8	24.2	18.1	21.3	20.2	17.9	17.4	16.8
87.5°	24.9	21.3	12.7	9.7	7.9	2.9	6.8	6.1	5.0	4.5	3.2
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)