

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: P366992

Luminaire Tested: **MSA-SA1C-830-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366992  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1C-830-U-T4FT  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4996 lumens  
Efficiency: N/A  
Efficacy: 84.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

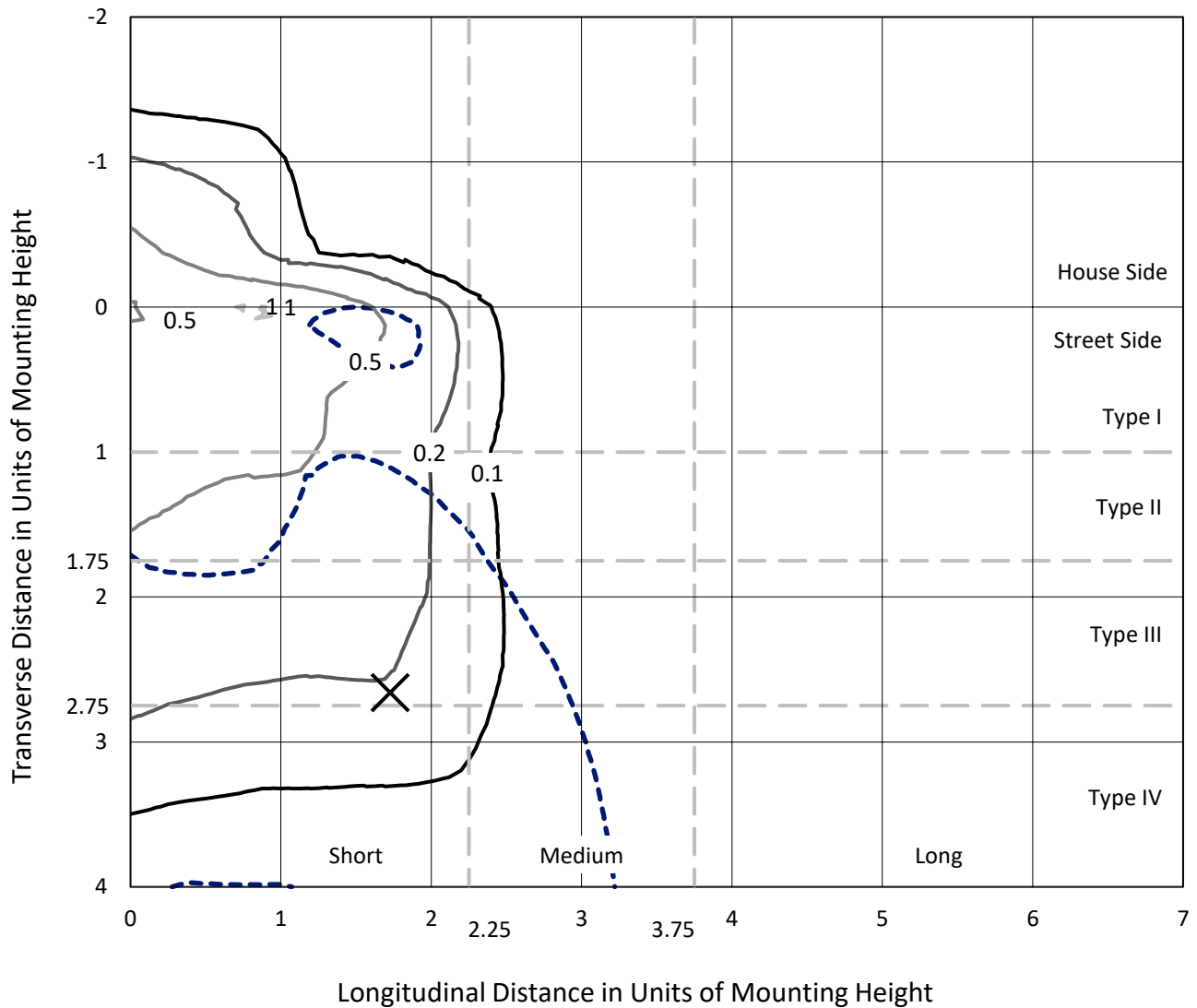
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

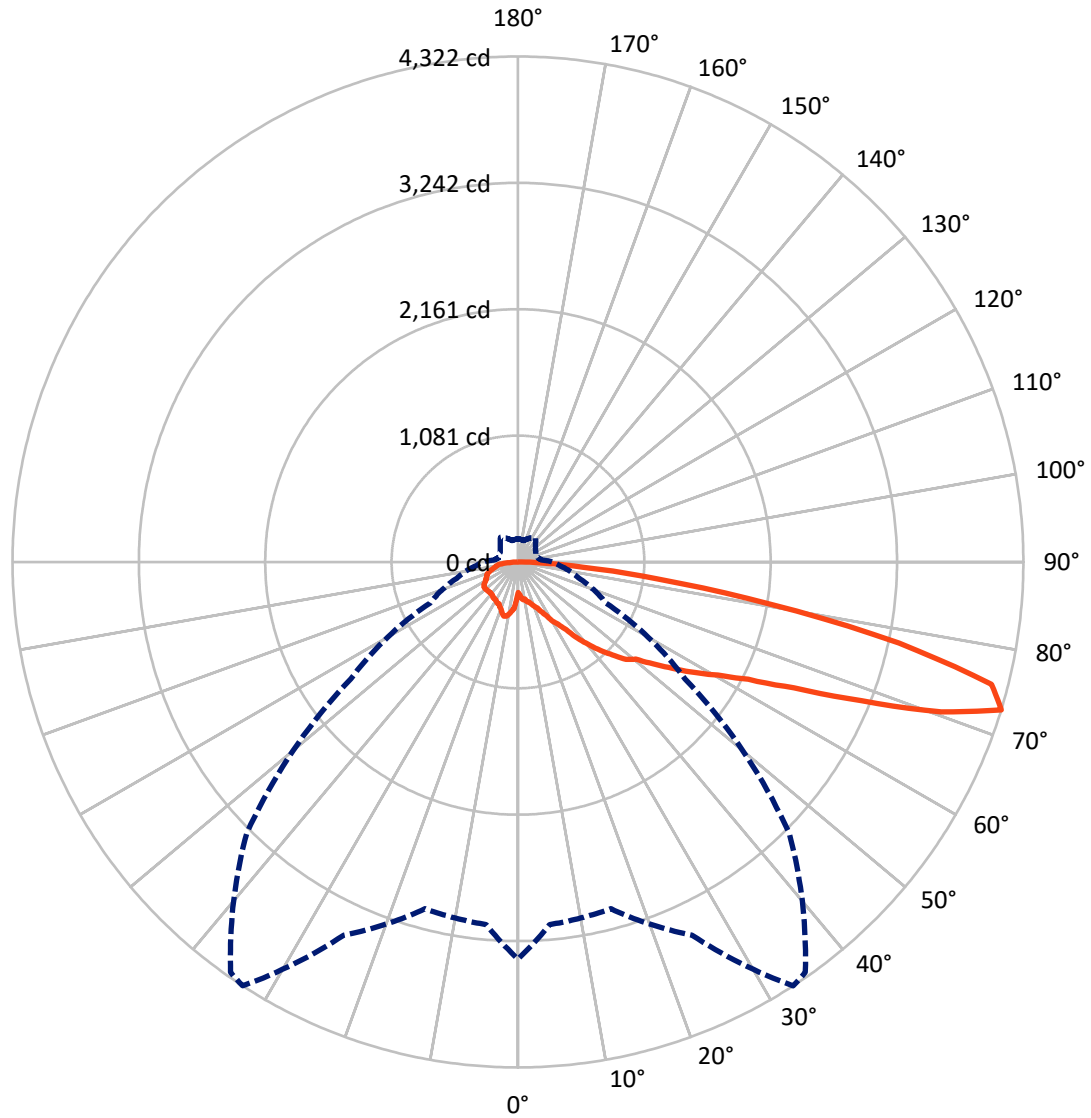
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral      - - - Horizontal Cone Through 72.5-Deg Vertical

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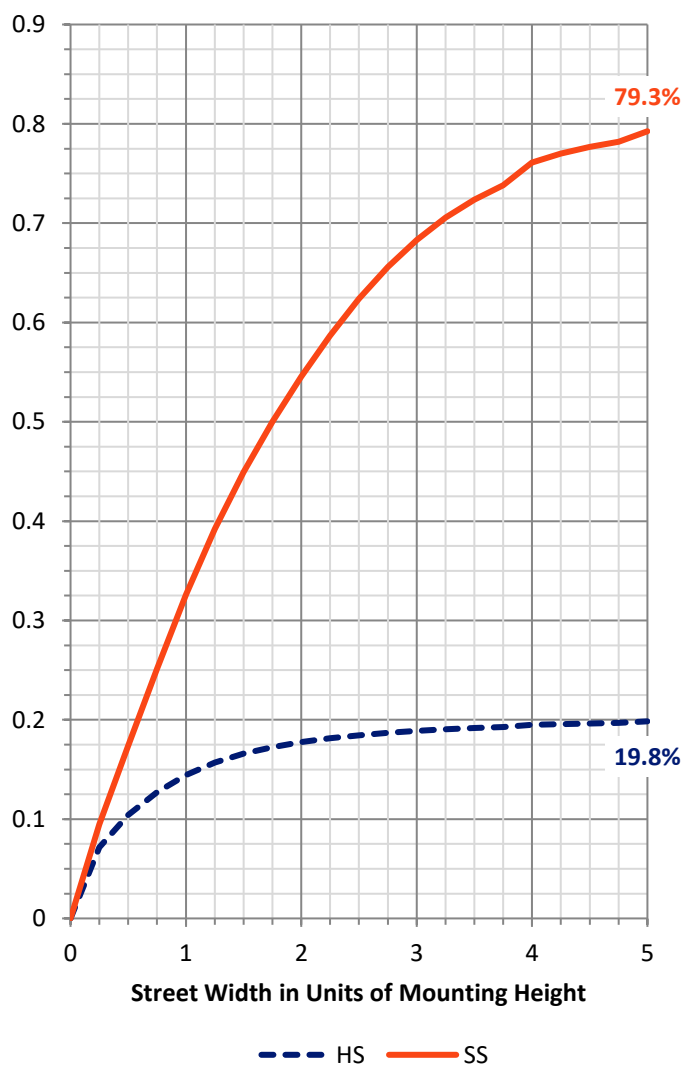
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1010.7	0.0	1010.7
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	3985.3	0.0	3985.3
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	4996.0	0.0	4996.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.0	0.7
10°-20°	133.1	2.7
20°-30°	242.7	4.9
30°-40°	410.6	8.2
40°-50°	683.2	13.7
50°-60°	1002.6	20.1
60°-70°	1282.6	25.7
70°-80°	1043.5	20.9
80°-90°	161.6	3.2
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°	4996.0	100.0
0°-180°	4996.0	100.0

**Coefficient of Utilization**



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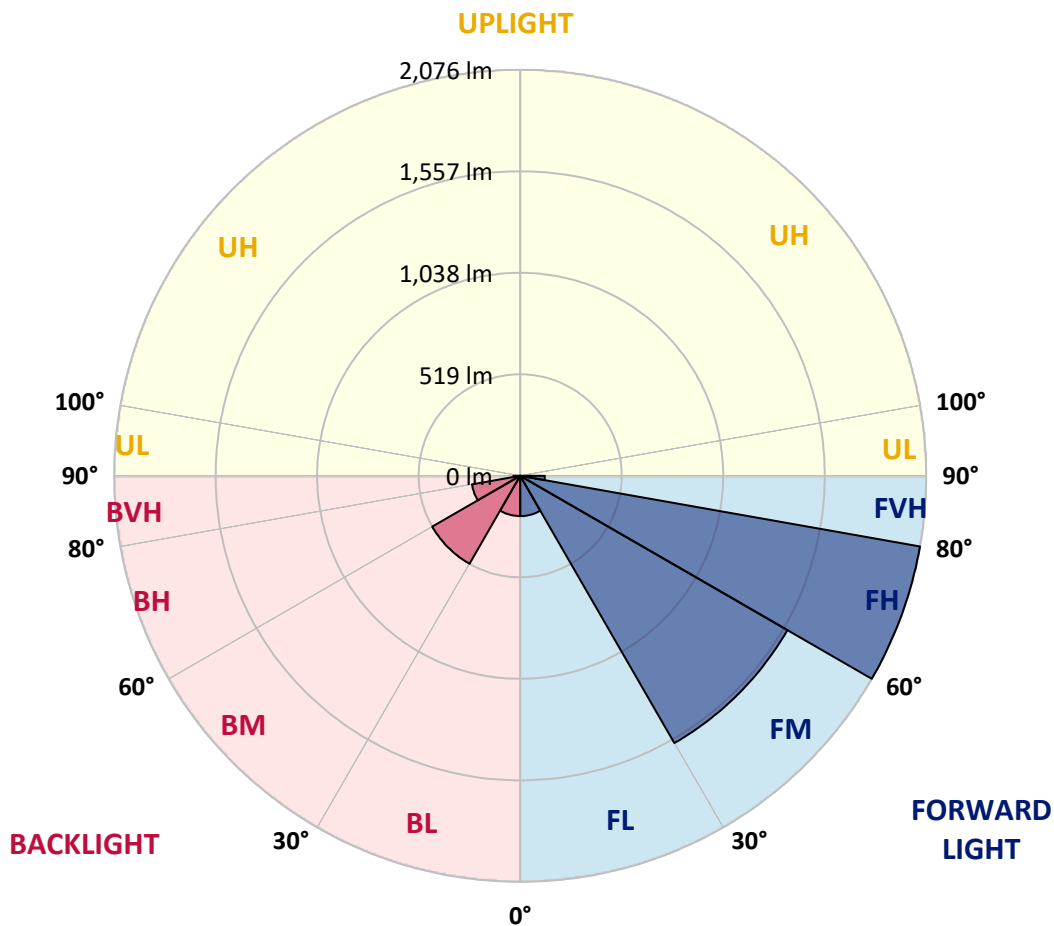
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	206.2	4.1			
FM (30°-60°)	1577.3	31.6			
FH (60°-80°)	2075.6	41.5			G2/5000
FVH (80°-90°)	126.1	2.5			G2/225
BL (0°-30°)	205.7	4.1	B1/500		
BM (30°-60°)	519.1	10.4	B1/1000		
BH (60°-80°)	250.4	5.0	B1/500		G1/500
BVH (80°-90°)	35.5	0.7			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°	33°	35°	45°	55°	65°	75°	85°
0°	262.0	262.0	262.0	262.0	262.0	262.0	262.0	262.0	262.0	262.0	262.0
2.5°	297.0	287.7	272.3	271.9	280.4	282.3	287.9	288.3	290.4	287.0	310.7
5°	327.7	317.7	311.7	313.8	309.8	314.6	314.6	328.3	346.5	367.7	397.7
7.5°	334.9	327.7	320.8	326.0	326.8	322.3	326.6	358.8	391.7	412.9	460.9
10°	320.4	313.2	318.3	320.0	319.8	330.2	352.7	378.4	415.1	454.1	480.0
12.5°	317.7	322.9	325.4	328.3	348.0	351.1	385.3	411.8	448.7	482.9	550.3
15°	357.7	364.6	349.2	348.2	354.6	357.5	393.0	419.7	473.6	531.0	591.5
17.5°	414.7	417.2	389.6	375.5	380.3	382.6	398.1	431.7	464.9	571.0	646.4
20°	469.8	471.5	419.7	388.2	405.0	407.5	422.0	441.2	467.4	593.4	683.5
22.5°	527.7	517.1	460.3	420.5	430.3	430.9	439.4	450.0	487.1	589.8	728.7
25°	590.9	584.3	512.7	474.6	474.2	465.7	466.1	481.2	508.0	627.6	758.3
27.5°	674.8	675.7	571.8	551.3	519.2	513.6	485.6	513.8	544.3	628.0	822.4
30°	783.6	763.5	654.1	620.9	589.2	577.4	539.5	563.5	576.8	663.8	892.0
32.5°	872.1	866.3	739.9	689.7	637.9	651.6	609.7	588.6	612.4	725.6	997.5
35°	956.9	937.8	830.7	765.4	710.9	702.6	675.4	679.0	693.5	803.7	1135.3
37.5°	1083.3	1073.0	959.2	854.7	829.2	795.4	778.2	789.2	777.8	903.8	1342.0
40°	1224.7	1164.6	1066.5	973.5	925.8	902.0	908.0	897.6	888.9	1016.2	1527.3
42.5°	1360.0	1305.3	1137.8	1096.0	1033.8	1043.7	1010.8	1018.0	1042.7	1175.6	1698.7
45°	1507.4	1389.0	1213.5	1176.6	1132.0	1144.7	1171.0	1163.1	1203.5	1363.5	1860.1
47.5°	1580.9	1468.4	1306.3	1246.2	1245.6	1219.3	1379.5	1396.9	1333.7	1502.8	2024.1
50°	1651.8	1541.2	1375.3	1334.7	1305.3	1361.7	1579.5	1539.5	1451.4	1662.6	2204.4
52.5°	1750.5	1624.3	1454.5	1411.2	1447.7	1499.9	1739.1	1731.2	1566.9	1827.0	2361.1
55°	1825.7	1698.3	1573.7	1533.5	1603.1	1654.3	1901.6	1854.1	1665.7	1947.6	2460.3
57.5°	1957.5	1826.7	1749.6	1660.3	1785.5	1784.7	2058.3	2021.6	1771.4	2046.6	2500.3
60°	2167.1	2013.5	1932.9	1829.9	1964.0	2011.8	2237.3	2131.6	1846.2	2109.2	2428.2
62.5°	2461.2	2278.8	2148.0	2046.0	2209.5	2296.2	2458.5	2211.8	1851.0	2091.4	2238.6
65°	2824.9	2603.1	2431.7	2324.0	2593.8	2717.5	2725.8	2261.4	1807.1	1907.2	1839.8
67.5°	3179.7	2930.4	2751.5	2772.0	3166.0	3224.7	3015.6	2302.8	1571.0	1531.4	1277.5
70°	3413.3	3143.0	3023.9	3241.5	3840.0	3779.9	3250.4	2193.6	1237.1	992.8	719.4
72.5°	3395.7	3112.8	3069.9	3520.4	4322.1	4284.6	3279.0	1744.5	828.6	542.8	358.8
75°	2766.4	2546.5	2644.0	3332.7	4183.2	4181.4	2846.9	1079.8	425.1	278.8	226.7
77.5°	1529.5	1444.2	1730.4	2523.3	3330.8	3347.8	1923.5	489.7	229.2	197.5	170.8
80°	535.8	527.9	749.8	1361.7	2191.1	2195.2	894.5	224.0	166.6	149.4	125.4
82.5°	195.9	194.2	310.9	632.5	1206.4	1203.7	339.3	139.5	123.5	105.7	82.7
85°	78.1	76.5	142.2	280.8	554.2	545.3	131.8	79.2	80.8	63.0	40.6
87.5°	21.6	22.4	48.3	87.9	169.7	157.3	33.2	26.7	32.7	25.7	12.8
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°	262.0	262.0	262.0	262.0	262.0	262.0	262.0	262.0	262.0	262.0	262.0
2.5°	314.8	316.9	296.4	303.6	313.0	317.9	320.4	309.8	313.4	328.3	327.7
5°	403.9	395.7	387.8	395.9	390.5	382.8	395.2	394.6	402.7	410.8	412.6
7.5°	470.5	459.7	456.0	437.7	419.5	401.0	417.0	426.9	429.0	449.1	457.6
10°	494.5	490.4	491.8	467.8	465.5	467.4	452.6	436.7	446.4	438.1	444.4
12.5°	550.1	560.4	534.7	518.3	516.9	505.5	476.1	465.7	454.7	466.1	460.3
15°	594.6	613.9	586.3	557.5	525.0	507.4	482.3	466.5	459.3	461.8	454.7
17.5°	659.9	677.9	607.9	563.7	530.2	504.3	465.9	432.3	450.2	451.6	443.5
20°	703.2	704.5	615.1	548.4	518.1	473.2	435.9	406.4	426.9	447.9	457.0
22.5°	745.5	736.2	624.0	536.2	474.4	430.9	412.6	410.8	426.1	443.7	445.8
25°	777.2	778.7	629.2	531.6	448.7	389.4	389.4	402.9	416.4	458.2	456.2
27.5°	854.1	797.5	609.1	510.7	413.1	365.2	389.6	407.7	414.1	459.5	464.0
30°	910.1	873.2	613.3	474.8	377.0	353.8	373.9	396.5	414.3	466.7	465.1
32.5°	1003.9	904.7	623.0	424.5	350.1	349.4	367.3	391.1	412.4	458.9	461.4
35°	1107.8	997.5	595.9	386.1	343.6	346.9	370.0	379.5	404.6	455.8	458.0
37.5°	1299.9	1046.0	578.7	356.5	339.5	349.0	357.7	372.4	397.7	440.2	455.1
40°	1412.7	1145.9	514.8	339.3	330.8	347.4	351.7	364.1	377.8	421.6	431.1
42.5°	1561.0	1177.4	460.3	320.2	326.4	340.5	353.6	356.7	365.8	392.1	409.5
45°	1684.8	1201.0	402.5	304.9	311.7	355.7	356.5	355.0	353.4	363.1	377.4
47.5°	1812.9	1264.5	349.2	287.9	306.1	368.1	357.9	344.7	337.8	339.1	352.3
50°	1954.2	1310.5	311.5	274.0	307.4	368.1	365.0	334.1	320.4	316.9	330.8
52.5°	2078.6	1315.9	282.9	262.8	302.2	355.4	369.7	327.5	304.5	296.0	309.0
55°	2146.3	1247.7	262.2	252.6	288.9	344.0	367.3	323.7	285.2	278.8	290.4
57.5°	2144.9	1134.5	244.6	238.6	273.8	328.1	353.4	303.4	273.4	269.6	281.0
60°	2067.6	1001.9	231.1	226.9	258.2	304.9	328.5	290.2	262.0	260.1	272.5
62.5°	1892.2	864.9	218.0	214.7	243.7	288.5	316.7	275.4	250.2	249.9	261.8
65°	1549.6	694.3	205.8	205.0	230.3	272.3	305.5	263.0	237.9	242.1	254.1
67.5°	1067.8	487.9	192.7	195.2	217.8	256.8	297.0	254.7	225.1	233.6	244.4
70°	585.9	301.8	178.2	183.2	202.1	238.8	283.7	241.2	208.3	221.3	228.8
72.5°	298.0	201.2	160.2	168.1	182.8	212.2	258.9	221.8	190.3	195.2	199.2
75°	200.2	151.5	140.1	148.8	159.4	186.9	229.6	203.5	173.1	172.4	176.8
77.5°	151.3	118.3	119.0	128.9	135.8	164.4	206.4	188.2	158.6	157.1	163.5
80°	110.7	89.7	95.8	106.1	112.3	147.6	191.3	171.2	138.9	133.1	138.4
82.5°	73.4	63.6	70.9	81.2	86.2	123.3	173.7	145.3	113.2	98.4	99.3
85°	34.6	33.4	42.3	47.3	53.7	76.5	129.9	100.5	72.1	59.7	62.4
87.5°	7.9	10.6	13.9	13.7	16.0	20.5	40.4	28.2	20.9	14.3	9.5
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)