

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: P367253

Luminaire Tested: **MSA-SA2A-830-U-T3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367253  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2A-830-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

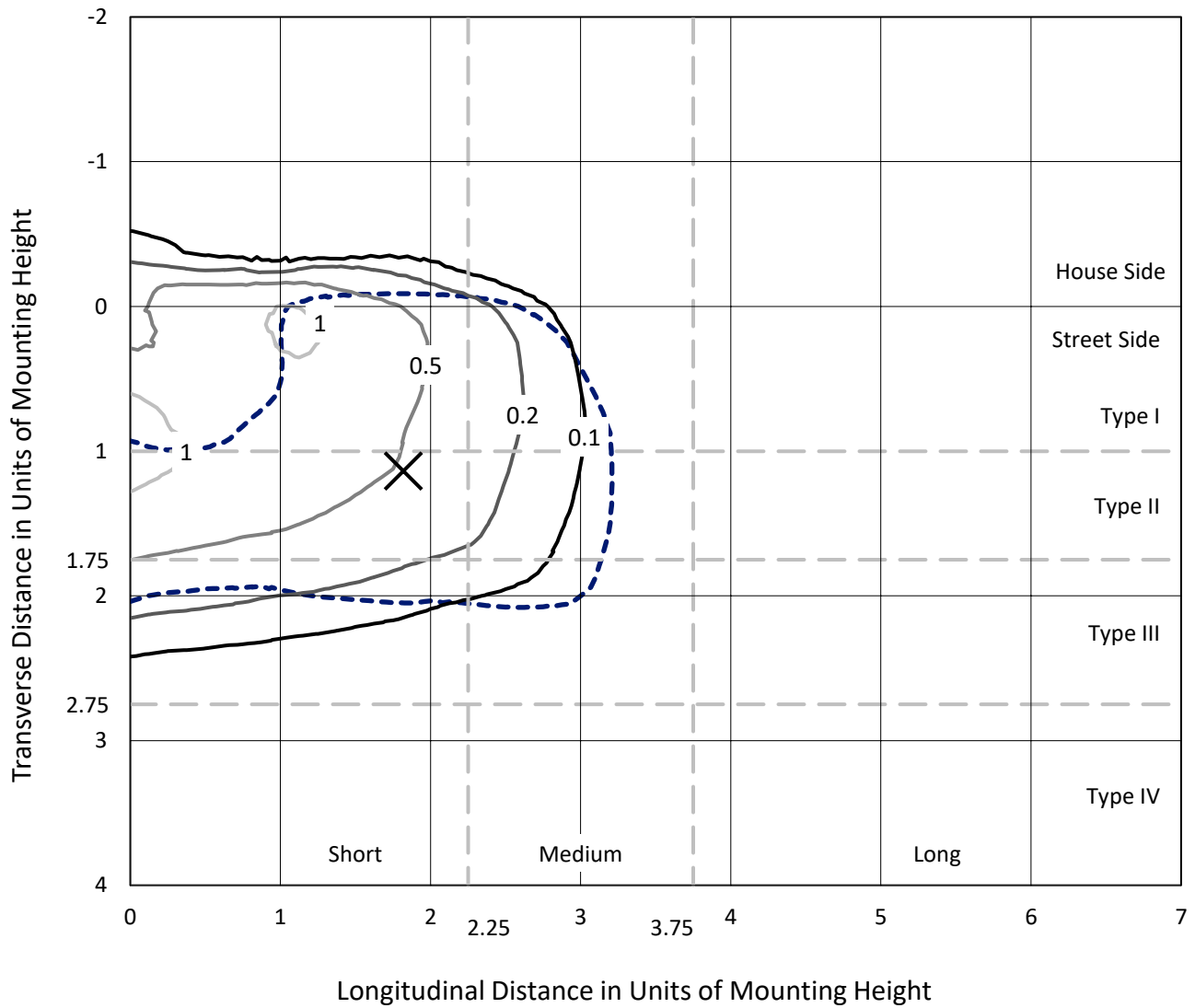
Lumens per Lamp: N/A  
Luminaire Lumens: 4664 lumens  
Efficiency: N/A  
Efficacy: 70.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

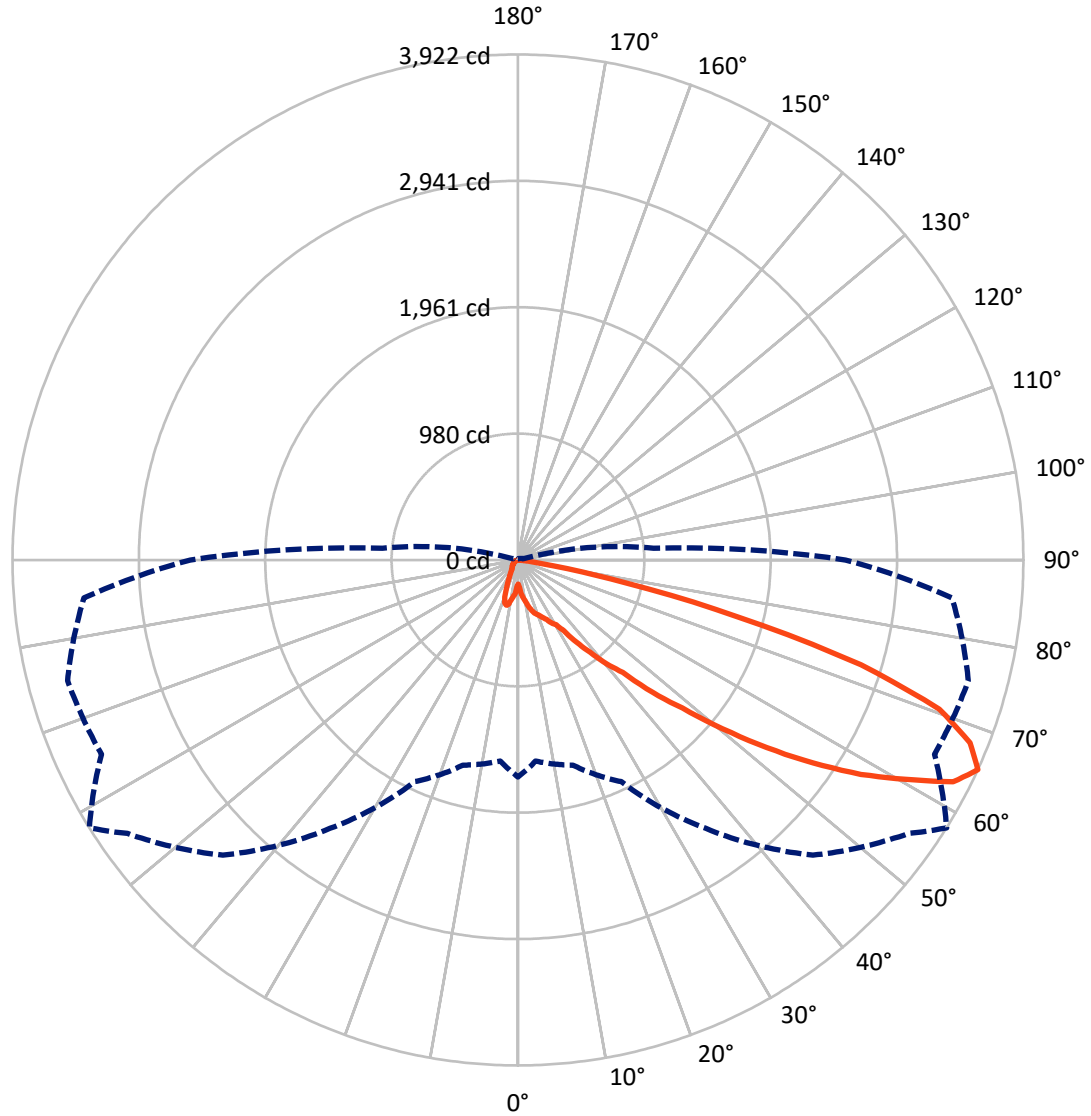
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 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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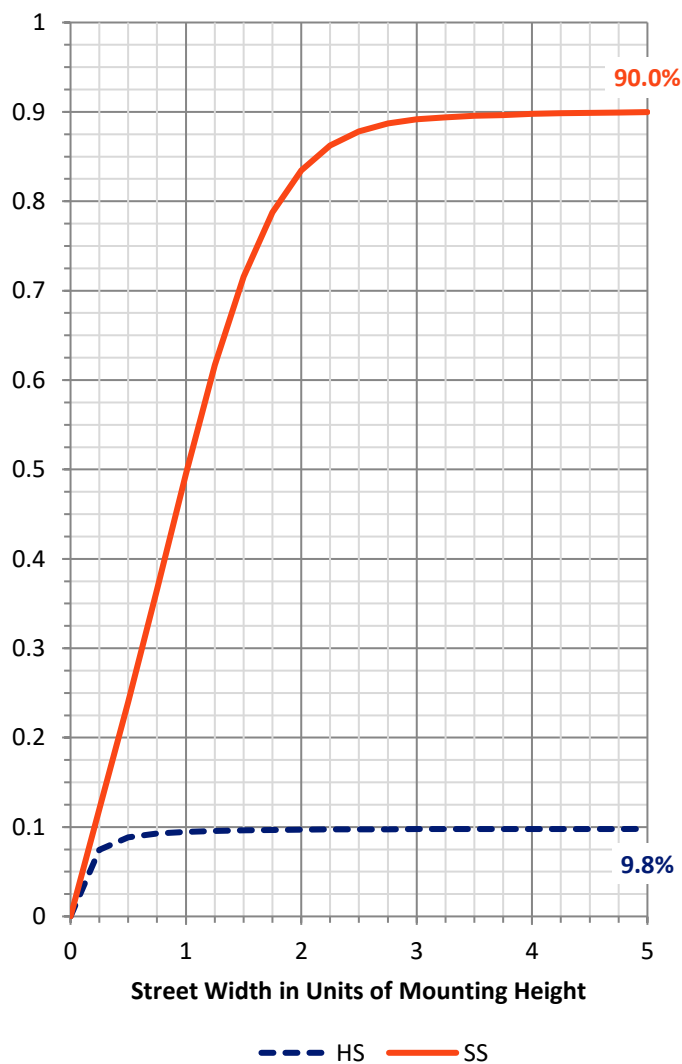
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	460.2	0.0	460.2
	% Fixture	9.9	0.0	9.9
<b>Street Side</b>	Lumens	4203.8	0.0	4203.8
	% Fixture	90.1	0.0	90.1
<b>Total</b>	Lumens	4664.0	0.0	4664.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	26.2	0.6
10°-20°	95.7	2.1
20°-30°	185.3	4.0
30°-40°	369.7	7.9
40°-50°	755.9	16.2
50°-60°	1340.7	28.7
60°-70°	1413.4	30.3
70°-80°	458.2	9.8
80°-90°	18.7	0.4
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°	4664.0	100.0
0°-180°	4664.0	100.0

**Coefficient of Utilization**



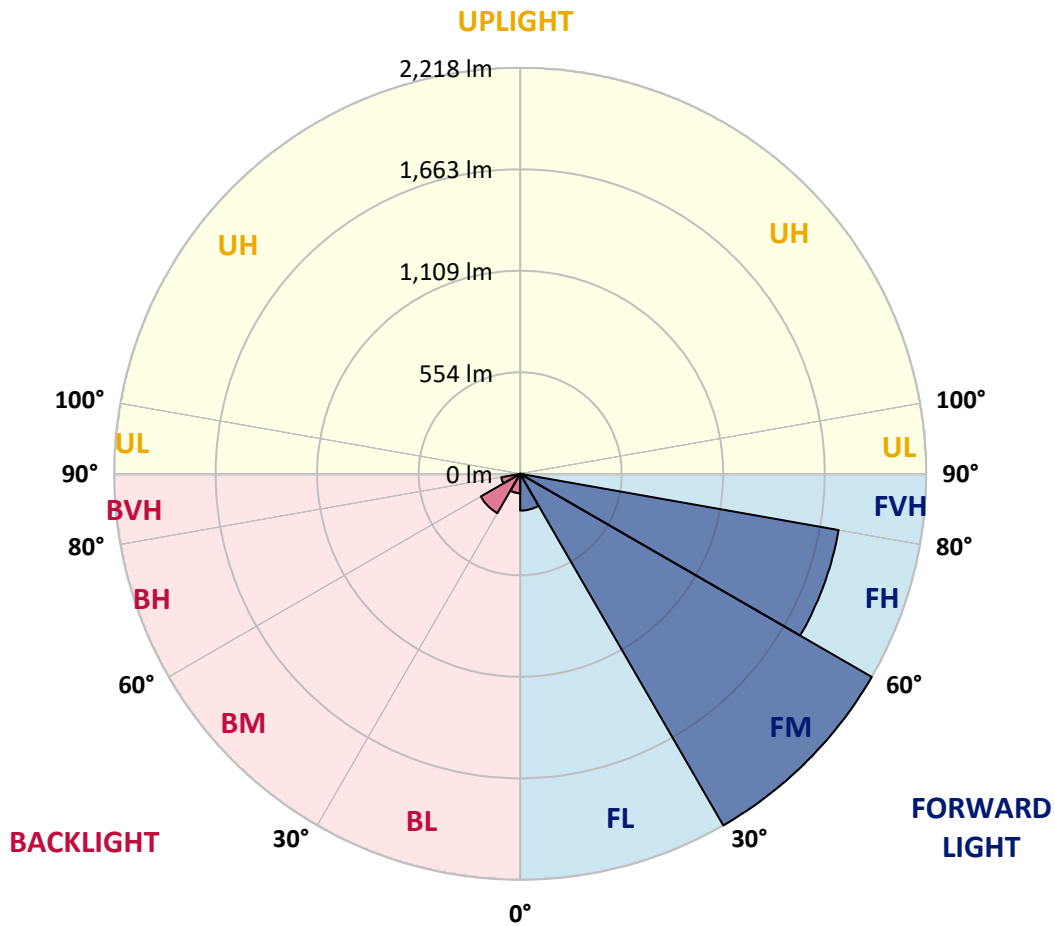
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	201.2	4.3			
FM (30°-60°)	2218.0	47.6			
FH (60°-80°)	1766.7	37.9			G1/1800
FVH (80°-90°)	17.9	0.4			G1/100
BL (0°-30°)	106.1	2.3	B0/110		
BM (30°-60°)	248.3	5.3	B1/1000		
BH (60°-80°)	105.0	2.3	B0/110		G0/110
BVH (80°-90°)	0.8	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-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	186.7	186.7	186.7	186.7	186.7	186.7	186.7	186.7	186.7	186.7	186.7
2.5°	227.9	221.1	210.3	212.2	214.3	218.5	215.1	211.9	208.5	204.0	221.1
5°	275.2	263.9	262.9	260.5	258.7	258.4	262.6	261.3	263.1	271.5	280.2
7.5°	292.5	287.8	278.9	282.6	276.8	272.3	291.0	297.0	308.6	312.5	335.1
10°	290.7	283.9	287.5	289.4	293.3	309.6	321.4	328.0	338.0	359.5	355.0
12.5°	299.1	305.1	309.1	309.3	329.6	359.5	367.9	373.4	391.3	399.7	421.7
15°	327.2	337.2	330.9	333.5	340.1	376.6	396.3	408.3	433.5	460.9	466.4
17.5°	367.4	373.7	360.5	351.1	369.2	389.2	424.9	437.5	453.5	517.3	529.1
20°	418.1	428.8	400.5	362.9	386.8	410.4	449.3	455.3	472.4	555.7	574.3
22.5°	536.5	520.5	477.1	418.6	411.5	422.0	459.0	482.7	511.5	577.2	620.5
25°	653.3	647.8	584.0	518.6	471.4	447.7	496.8	510.0	557.2	628.4	652.3
27.5°	783.3	794.4	687.7	648.1	555.4	478.2	520.5	553.3	609.2	647.0	704.6
30°	954.8	937.2	812.2	772.6	666.7	562.0	581.7	583.8	665.9	708.5	763.1
32.5°	1089.3	1100.5	943.5	882.6	798.0	690.9	627.6	654.9	713.7	808.5	860.3
35°	1234.7	1233.7	1080.6	998.7	888.1	796.2	763.9	783.9	857.6	965.0	978.7
37.5°	1452.2	1433.5	1252.9	1132.8	1038.8	960.3	935.6	909.1	985.3	1087.7	1138.9
40°	1657.3	1592.9	1425.9	1283.6	1163.3	1131.3	1042.0	1058.3	1080.9	1216.1	1357.6
42.5°	1864.4	1824.5	1601.3	1482.1	1334.3	1258.1	1199.8	1192.2	1299.6	1459.8	1606.0
45°	2137.8	2015.7	1837.1	1732.4	1561.1	1484.7	1437.7	1465.8	1562.5	1796.4	1893.9
47.5°	2367.3	2254.9	2101.6	1942.4	1762.8	1848.7	1760.5	1716.1	1848.7	2090.5	2220.0
50°	2564.5	2439.3	2284.1	2166.2	2137.0	2219.5	2040.9	2057.2	2143.3	2427.5	2500.5
52.5°	2707.9	2576.1	2440.6	2383.6	2503.1	2544.6	2455.0	2419.1	2497.3	2714.7	2750.2
55°	2815.8	2680.9	2575.0	2653.6	2884.6	2871.0	2902.5	2779.6	2854.4	3014.4	2997.6
57.5°	2822.4	2662.5	2600.5	2726.8	3044.0	3255.4	3347.6	3138.6	3181.1	3248.6	3210.8
60°	2616.0	2456.9	2451.9	2631.2	3090.3	3355.0	3556.6	3454.7	3397.8	3447.9	3376.2
62.5°	2204.8	2093.4	2145.4	2343.7	2918.3	3300.1	3668.0	3790.6	3568.7	3580.0	3478.1
65°	1683.5	1566.7	1648.1	1897.8	2542.2	3238.6	3699.5	3921.9	3565.6	3617.5	3380.4
67.5°	1115.0	1047.2	1139.4	1414.6	2021.2	2858.9	3683.2	3784.0	3452.4	3470.8	3017.8
70°	575.6	559.1	633.6	850.8	1358.9	2196.4	3523.3	3468.1	3222.6	2989.9	2327.7
72.5°	184.3	185.1	256.8	388.6	732.6	1337.1	2708.2	2783.8	2578.7	2187.2	1421.2
75°	81.7	80.4	107.4	163.1	305.4	599.5	1682.5	1764.1	1605.5	1203.2	597.4
77.5°	58.8	57.0	68.8	95.3	151.3	203.3	788.8	851.3	727.9	417.0	136.8
80°	41.5	41.2	49.9	67.0	94.5	90.3	249.2	279.4	223.7	101.1	40.2
82.5°	23.4	24.2	34.7	47.3	57.5	45.2	70.1	77.2	75.4	53.8	17.6
85°	11.3	12.6	22.6	34.1	30.2	17.6	24.9	27.0	31.5	31.2	8.9
87.5°	0.0	0.0	9.2	15.5	8.1	2.6	7.6	8.7	8.4	10.0	2.1
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°	186.7	186.7	186.7	186.7	186.7	186.7	186.7	186.7	186.7	186.7	186.7
2.5°	224.5	222.9	203.0	204.6	209.0	207.2	208.8	205.1	200.9	218.0	217.7
5°	283.9	272.1	265.7	260.0	261.0	249.2	256.0	259.2	258.7	268.4	271.0
7.5°	335.9	320.1	307.5	295.4	277.0	260.5	270.7	277.3	281.8	298.6	305.1
10°	360.3	347.4	342.4	318.8	305.7	295.4	283.1	274.2	277.8	273.4	277.8
12.5°	413.9	405.2	386.0	362.1	346.4	325.4	279.4	241.1	217.4	217.7	216.1
15°	462.7	462.2	433.5	393.9	348.2	288.3	216.6	168.3	146.0	139.7	137.6
17.5°	526.5	518.6	466.4	407.8	325.6	223.2	147.6	115.3	113.2	116.9	115.3
20°	567.2	555.7	482.7	387.6	268.4	151.0	111.3	102.2	108.5	113.7	112.4
22.5°	607.9	590.6	495.0	362.9	190.9	110.6	100.6	99.0	102.9	109.5	110.6
25°	630.2	626.8	519.2	316.7	130.8	96.9	96.9	96.4	97.7	102.4	101.6
27.5°	695.1	648.9	501.0	247.1	101.1	89.0	90.3	89.8	85.1	89.8	90.1
30°	735.5	714.3	502.3	175.9	89.0	78.8	82.2	78.0	70.9	74.8	74.1
32.5°	816.9	763.9	498.4	118.7	81.1	75.1	69.9	63.8	58.6	60.1	58.8
35°	911.7	871.3	445.1	95.3	75.6	66.4	58.0	52.0	46.5	47.8	47.5
37.5°	1100.3	971.9	401.0	85.9	72.0	60.9	51.2	42.8	39.9	40.7	41.5
40°	1274.9	1139.7	318.8	81.7	65.6	54.4	42.3	36.2	34.4	34.9	35.7
42.5°	1535.9	1273.1	240.8	77.5	59.3	46.0	35.2	31.2	29.4	30.5	31.0
45°	1788.6	1386.5	179.9	73.8	54.1	39.7	29.7	27.0	24.9	25.7	26.8
47.5°	2040.9	1512.6	134.2	68.0	48.3	34.1	25.5	23.6	22.3	22.6	23.9
50°	2266.7	1571.4	105.6	60.9	43.6	29.7	23.1	21.3	20.7	21.0	22.1
52.5°	2432.7	1571.9	89.0	54.6	39.1	26.3	21.8	19.7	19.4	20.0	21.0
55°	2582.7	1529.9	77.2	49.1	35.2	23.9	20.7	18.9	18.9	19.4	20.5
57.5°	2682.2	1452.7	67.0	43.3	31.8	22.6	20.0	18.1	17.9	17.6	18.4
60°	2730.8	1347.4	56.7	38.1	28.6	21.8	19.4	16.0	15.8	15.2	15.8
62.5°	2700.0	1215.6	47.5	32.8	25.5	20.7	17.1	13.9	13.4	12.3	13.1
65°	2543.0	1055.4	40.2	28.1	22.1	17.6	14.4	11.8	10.5	9.2	8.9
67.5°	2221.8	857.4	33.6	24.2	18.9	14.4	11.8	10.5	8.1	7.1	6.8
70°	1665.1	585.3	27.8	20.7	15.8	12.3	10.0	9.5	7.6	6.8	6.3
72.5°	976.9	315.9	23.4	18.1	13.4	10.2	8.1	8.7	7.6	6.3	5.8
75°	390.2	105.0	18.6	14.4	10.8	7.4	6.8	7.1	6.8	5.8	4.7
77.5°	89.0	33.1	14.4	11.3	8.4	4.7	5.5	6.0	6.0	4.7	3.4
80°	27.8	13.1	8.4	7.1	6.0	2.6	3.9	4.2	2.9	1.3	0.0
82.5°	8.9	3.7	2.9	2.9	2.6	0.5	0.8	0.5	0.0	0.0	0.0
85°	3.4	2.4	1.8	1.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	1.3	1.1	0.8	1.1	0.5	0.0	0.0	0.0	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)