

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: P368301

Luminaire Tested: **MSA-SA4A-830-U-SL4-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368301
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4A-830-U-SL4-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10189 lumens
Efficiency: N/A
Efficacy: 79.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

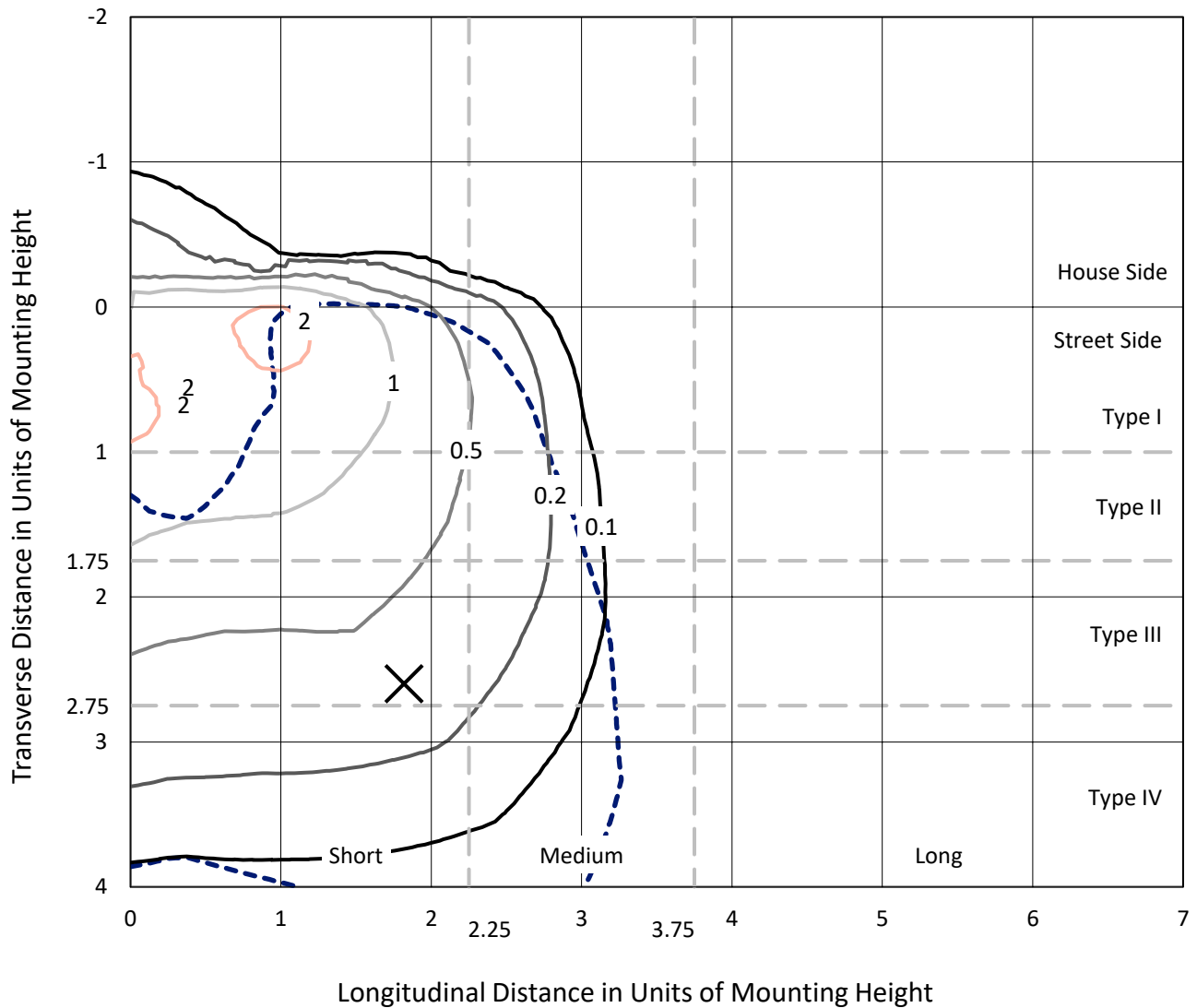
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

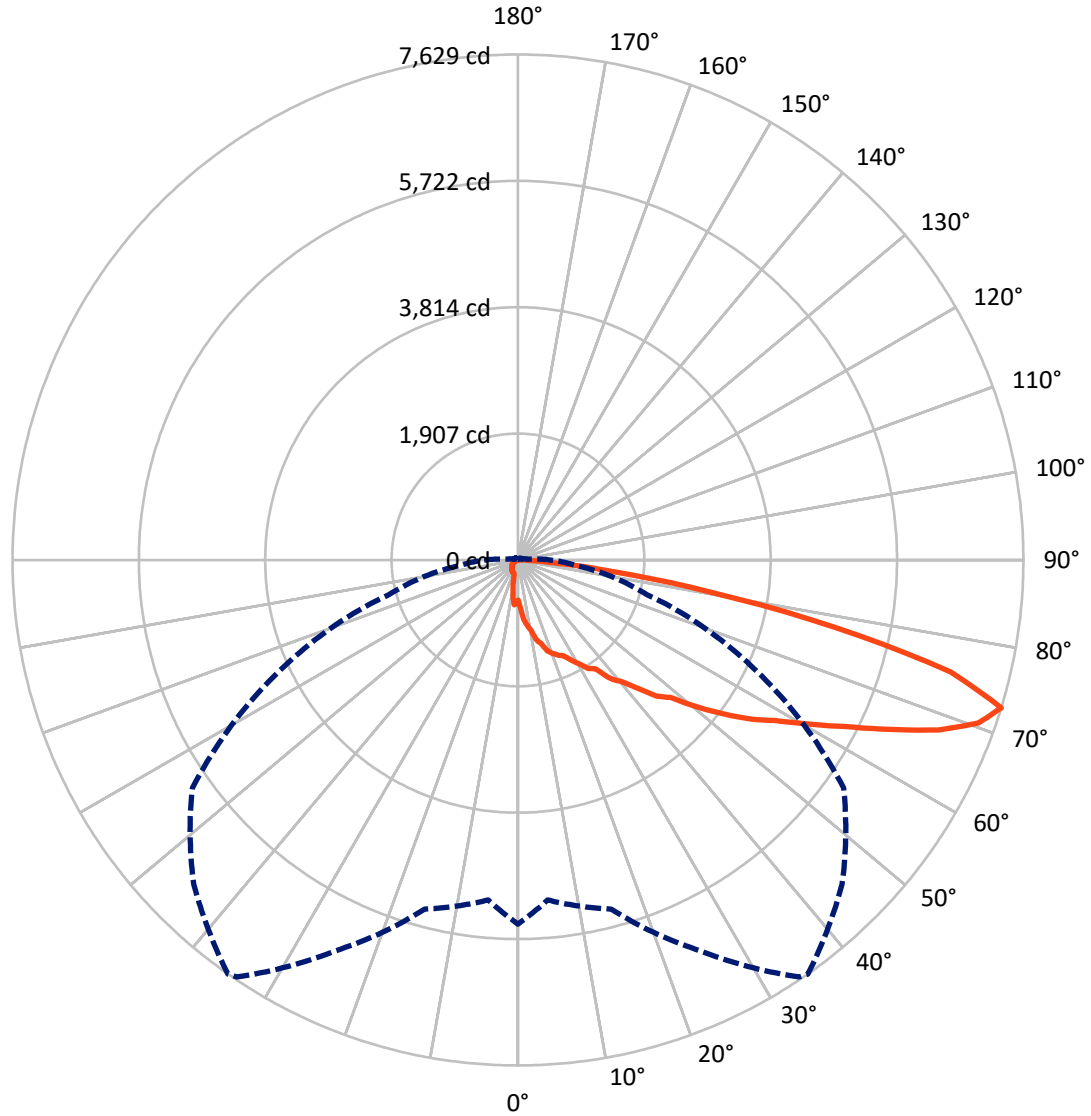
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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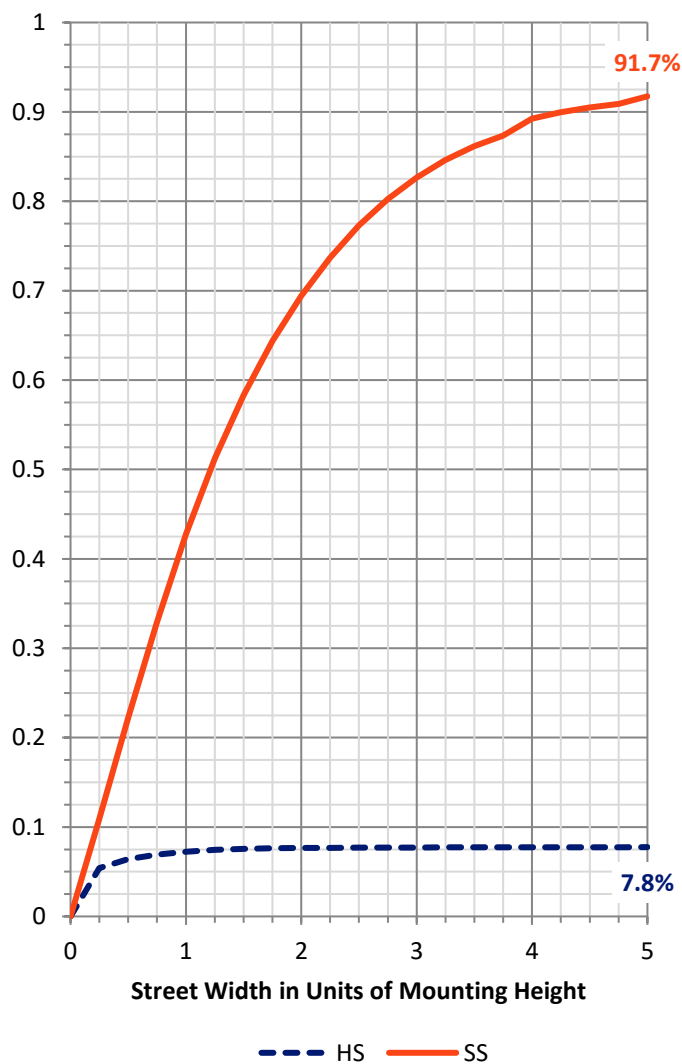
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	794.7	0.0	794.7
	% Fixture	7.8	0.0	7.8
Street Side	Lumens	9394.3	0.0	9394.3
	% Fixture	92.2	0.0	92.2
Total	Lumens	10189.0	0.0	10189.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.4	0.8
10°-20°	260.8	2.6
20°-30°	474.9	4.7
30°-40°	819.1	8.0
40°-50°	1456.0	14.3
50°-60°	2172.7	21.3
60°-70°	2775.9	27.2
70°-80°	1931.3	19.0
80°-90°	220.9	2.2
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°	10189.0	100.0
0°-180°	10189.0	100.0

Coefficient of Utilization

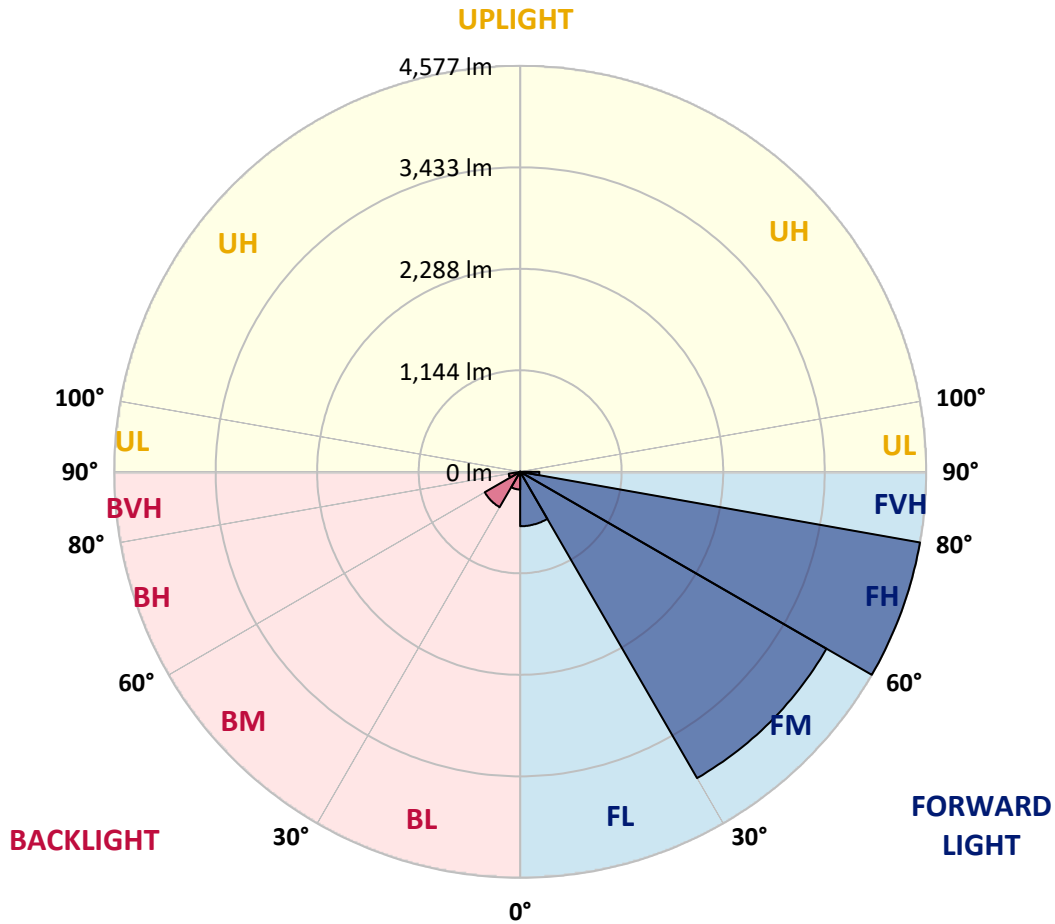


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	613.1	6.0			
FM (30°-60°)	3987.0	39.1			
FH (60°-80°)	4576.9	44.9			G2/5000
FVH (80°-90°)	217.2	2.1			G2/225
BL (0°-30°)	199.9	2.0	B1/500		
BM (30°-60°)	460.8	4.5	B1/1000		
BH (60°-80°)	130.3	1.3	B1/500		G1/500
BVH (80°-90°)	3.7	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-G2
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	607.0	607.0	607.0	607.0	607.0	607.0	607.0	607.0	607.0	607.0	607.0
2.5°	772.4	742.2	693.0	696.6	718.6	723.2	729.9	712.5	697.1	670.0	722.7
5°	989.6	946.0	918.4	909.7	896.9	897.9	866.6	877.9	874.8	894.8	918.9
7.5°	1112.0	1087.9	1053.1	1043.4	996.2	991.1	952.7	1004.4	1009.5	1002.4	1041.8
10°	1160.6	1128.9	1133.0	1096.6	1073.1	1079.2	1085.4	1089.5	1096.1	1102.8	1054.6
12.5°	1189.3	1195.0	1250.8	1212.9	1236.5	1236.5	1277.9	1233.9	1235.4	1187.3	1195.5
15°	1318.4	1349.6	1324.5	1324.0	1298.4	1305.1	1353.2	1318.4	1336.3	1322.0	1266.7
17.5°	1480.3	1486.4	1438.8	1417.8	1440.8	1441.3	1420.8	1419.3	1356.8	1462.3	1395.2
20°	1532.0	1566.8	1499.2	1417.3	1513.0	1508.4	1506.9	1482.8	1378.8	1525.3	1470.0
22.5°	1672.8	1623.2	1577.1	1523.3	1560.7	1560.7	1555.0	1502.3	1461.8	1519.7	1543.3
25°	1716.9	1723.0	1663.1	1645.7	1646.7	1600.6	1596.5	1574.0	1535.1	1633.9	1586.8
27.5°	1868.5	1865.9	1722.0	1770.7	1708.7	1709.2	1596.0	1646.7	1653.4	1639.6	1692.3
30°	2017.6	2059.0	1841.9	1903.3	1838.3	1818.8	1708.2	1753.3	1765.0	1749.2	1815.8
32.5°	2207.6	2268.5	2057.5	1997.1	1897.7	1953.0	1876.7	1770.2	1828.6	1970.4	2007.8
35°	2408.9	2438.6	2213.7	2129.2	2017.0	2016.5	2014.0	2022.7	2087.2	2247.0	2278.8
37.5°	2770.5	2700.3	2497.0	2303.4	2328.5	2272.6	2233.7	2274.7	2341.8	2605.1	2740.8
40°	2972.3	2921.6	2635.3	2520.5	2396.1	2416.6	2522.1	2517.5	2696.2	2971.8	3175.1
42.5°	3168.5	3120.3	2838.6	2745.9	2586.1	2641.9	2688.0	2746.4	3112.6	3557.2	3668.9
45°	3343.1	3201.8	3003.0	3006.6	2923.6	2930.3	3011.7	3065.5	3595.1	4051.0	4129.4
47.5°	3448.6	3332.4	3141.8	3138.3	3133.1	3101.9	3485.5	3534.7	3979.8	4521.2	4528.4
50°	3597.2	3451.7	3284.7	3287.8	3406.1	3472.2	3930.1	3925.0	4351.1	4913.5	4748.1
52.5°	3782.1	3604.4	3420.5	3557.2	3740.1	3847.6	4219.5	4371.1	4750.1	5159.9	4834.1
55°	4018.7	3796.4	3619.2	3794.4	4193.4	4234.9	4502.8	4822.9	5185.0	5411.4	4861.8
57.5°	4296.3	4031.0	3887.6	4169.8	4567.8	4568.8	4915.1	5304.3	5451.9	5513.8	4830.6
60°	4595.5	4286.1	4141.7	4395.7	4980.6	5022.6	5373.5	5570.2	5722.8	5565.6	4774.7
62.5°	4858.7	4517.1	4404.9	4703.5	5433.4	5532.8	5773.0	5744.8	5918.5	5630.6	4632.9
65°	5172.2	4816.2	4742.5	5183.5	6024.5	6161.3	6221.7	6054.7	5984.0	5580.4	4263.6
67.5°	5482.6	5149.7	5147.6	5715.6	6799.5	6846.6	6783.1	6491.6	5907.7	5137.9	3586.9
70°	5701.3	5343.8	5478.5	6298.5	7503.7	7371.6	7104.2	6698.0	5356.6	3937.8	2343.3
72.5°	5495.9	5151.2	5454.9	6506.0	7590.8	7628.7	6918.3	5999.9	3979.8	2014.0	848.2
75°	4176.5	3965.5	4736.3	5772.0	6739.5	6748.2	5774.5	4231.8	1959.7	547.0	234.6
77.5°	2103.6	2036.5	2997.9	4097.6	4917.1	4902.8	3967.5	2267.0	630.5	181.8	118.3
80°	1064.9	1011.1	1275.9	2210.7	2920.1	2941.6	2265.5	1015.2	318.1	98.9	82.0
82.5°	654.1	620.8	698.1	1000.3	1417.3	1451.6	859.5	642.8	197.2	58.4	74.8
85°	126.5	133.2	401.1	500.9	566.0	552.7	254.6	529.1	59.4	34.8	54.3
87.5°	0.0	2.0	92.7	163.4	163.9	145.5	57.9	117.3	8.2	9.7	6.7
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°	607.0	607.0	607.0	607.0	607.0	607.0	607.0	607.0	607.0	607.0	607.0
2.5°	731.4	723.7	659.7	652.5	654.1	643.3	639.7	617.2	611.6	646.4	652.5
5°	908.6	857.4	798.0	776.5	743.2	686.9	678.7	664.3	648.4	654.6	650.0
7.5°	1017.2	949.1	885.6	772.4	678.7	596.7	583.4	558.8	534.2	534.7	550.6
10°	1034.6	977.3	889.7	751.9	644.9	542.4	453.3	388.8	359.6	333.4	341.1
12.5°	1135.5	1082.3	920.9	745.8	595.7	435.9	319.1	256.1	228.4	219.2	218.2
15°	1216.5	1174.5	974.2	726.8	486.6	306.8	228.4	210.0	204.9	213.6	211.0
17.5°	1336.8	1261.0	968.6	648.4	370.8	233.1	210.5	208.0	214.1	219.2	220.8
20°	1389.6	1280.5	930.2	525.5	277.6	213.6	205.4	200.3	211.5	226.9	223.8
22.5°	1442.9	1313.8	885.1	430.2	223.3	204.4	199.8	195.7	204.4	219.2	222.8
25°	1466.9	1367.1	834.9	336.0	207.4	193.6	190.5	192.1	199.2	212.6	211.0
27.5°	1588.3	1373.2	739.1	265.3	200.8	185.9	185.9	189.5	189.5	207.4	205.9
30°	1664.1	1477.2	661.3	223.3	193.1	175.2	181.3	182.9	180.3	199.8	201.3
32.5°	1797.3	1505.9	585.4	204.9	180.8	173.6	172.6	173.6	175.7	194.6	195.1
35°	2002.2	1647.2	482.0	197.7	174.7	166.0	158.8	164.4	169.5	183.4	185.9
37.5°	2402.7	1792.2	392.9	192.1	171.6	158.8	156.2	155.2	164.4	180.3	185.4
40°	2727.0	2048.8	319.6	187.5	165.4	154.7	148.0	148.5	156.7	168.5	176.2
42.5°	3185.9	2234.2	271.0	180.3	156.7	146.0	138.3	142.9	146.5	158.8	163.9
45°	3569.0	2378.1	238.7	175.7	148.0	137.8	131.6	136.8	133.2	139.3	146.5
47.5°	3873.8	2503.6	214.6	164.4	142.4	133.2	125.5	124.0	117.8	119.3	126.0
50°	4041.3	2482.6	194.6	153.1	135.2	128.6	117.8	107.0	98.9	98.3	102.4
52.5°	4100.7	2370.5	178.2	143.4	126.5	118.3	106.0	91.2	83.0	80.4	84.0
55°	4117.1	2209.1	163.4	132.7	118.3	105.5	92.7	76.8	68.1	64.0	67.6
57.5°	4063.8	1960.7	149.1	122.4	108.6	93.2	79.4	63.0	54.8	49.7	52.8
60°	3932.2	1645.2	136.2	109.6	98.3	82.5	67.1	50.7	42.0	37.4	38.9
62.5°	3640.7	1289.7	122.4	97.8	87.6	72.2	56.3	40.0	31.8	27.7	28.2
65°	3197.2	961.4	106.5	86.6	77.9	62.5	45.1	30.7	24.1	20.5	20.0
67.5°	2547.2	651.5	90.7	74.8	69.1	52.8	35.9	24.1	19.0	16.4	15.4
70°	1497.2	328.3	75.3	64.5	59.4	44.0	28.2	19.5	17.4	15.4	14.3
72.5°	493.8	141.9	58.9	53.3	49.2	35.3	22.0	17.9	16.9	14.9	13.8
75°	172.1	82.0	43.5	41.0	38.9	26.6	18.4	16.4	16.4	14.3	12.8
77.5°	112.7	63.5	32.3	29.7	29.2	19.5	15.9	15.4	14.3	11.8	9.7
80°	93.7	35.9	22.5	21.0	20.5	12.3	12.8	11.3	8.7	5.1	2.0
82.5°	86.6	21.5	11.8	12.8	11.8	4.6	7.2	6.1	4.6	2.0	0.0
85°	50.7	9.7	6.7	6.7	5.1	1.0	3.6	3.6	2.0	0.5	0.0
87.5°	5.6	4.6	3.6	3.6	2.6	0.0	1.5	1.0	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)