

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: P368175

Luminaire Tested: **MSA-SA3D-830-U-T2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368175
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3D-830-U-T2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11930 lumens
Efficiency: N/A
Efficacy: 62.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G2

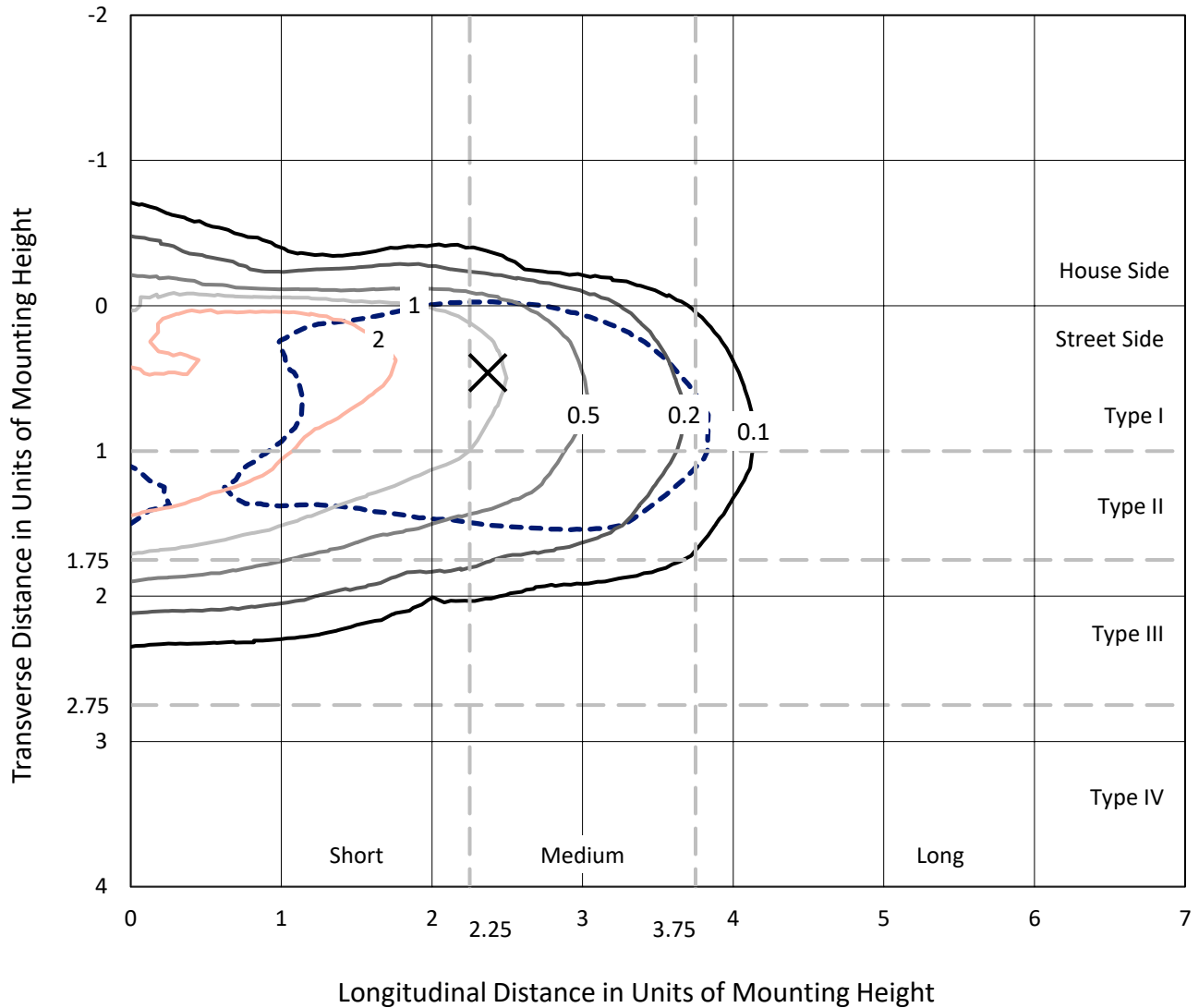
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

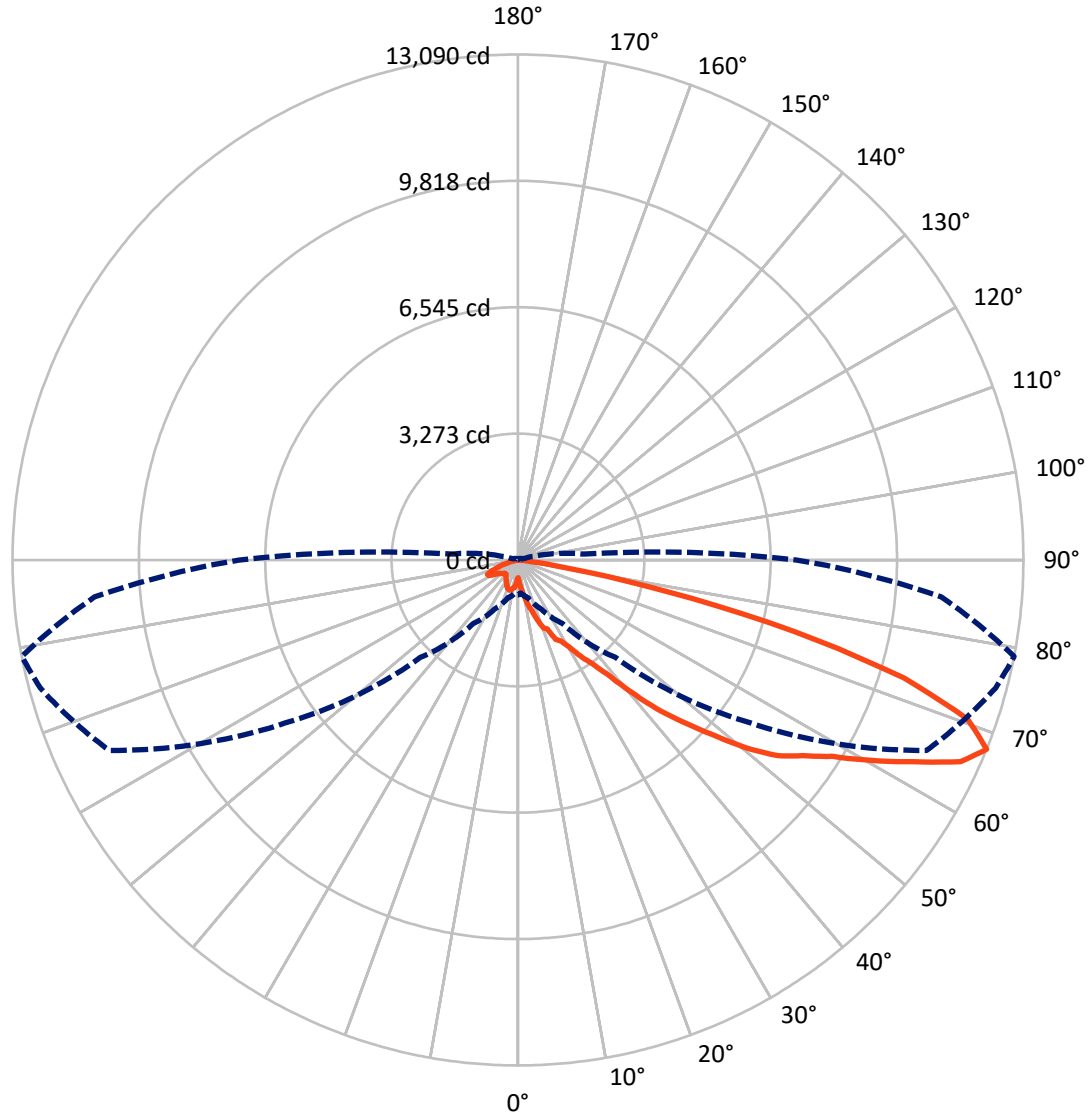
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 fc
 Type II - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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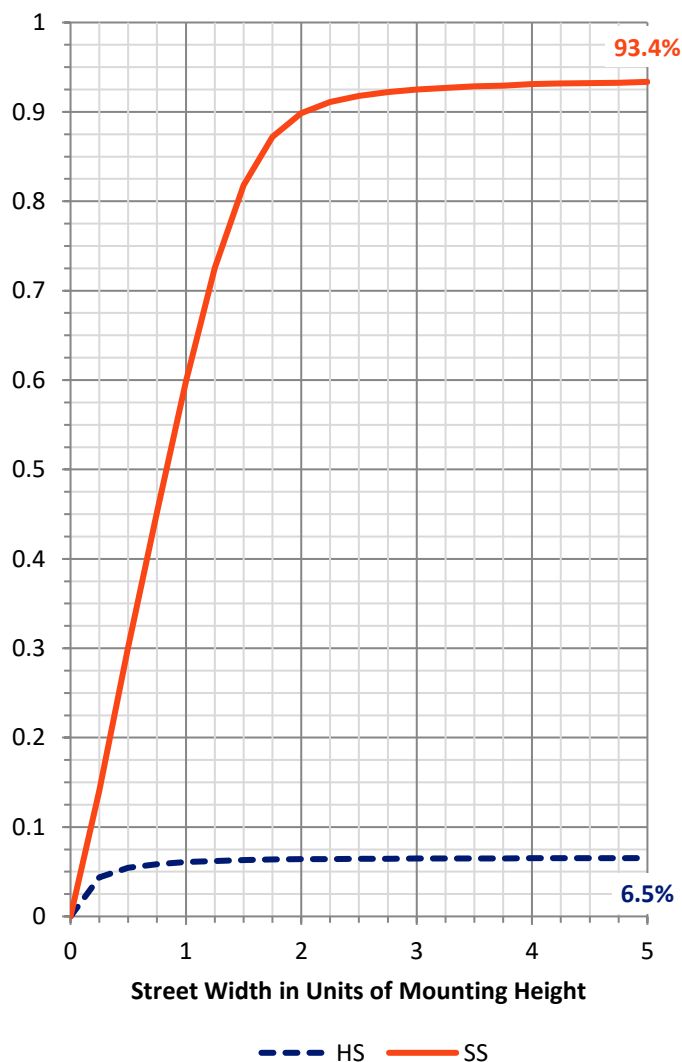
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	783.9	0.0	783.9
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	11146.1	0.0	11146.1
	% Fixture	93.4	0.0	93.4
Total	Lumens	11930.0	0.0	11930.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.9	0.6
10°-20°	266.6	2.2
20°-30°	514.3	4.3
30°-40°	1010.2	8.5
40°-50°	2023.7	17.0
50°-60°	3234.6	27.1
60°-70°	3254.6	27.3
70°-80°	1468.3	12.3
80°-90°	90.8	0.8
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°	11930.0	100.0
0°-180°	11930.0	100.0

Coefficient of Utilization

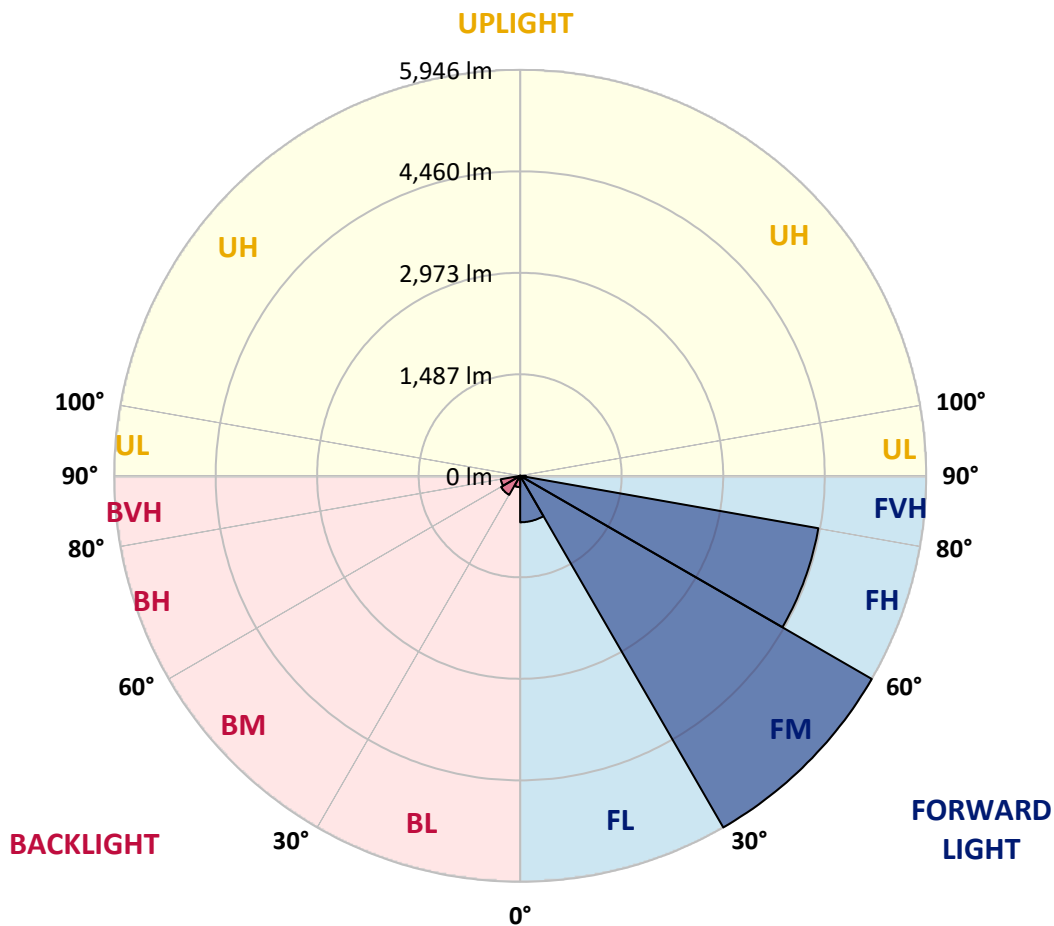


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	681.1	5.7			
FM (30°-60°)	5946.1	49.8			
FH (60°-80°)	4433.9	37.2			G2/5000
FVH (80°-90°)	85.1	0.7			G1/100
BL (0°-30°)	166.6	1.4	B1/500		
BM (30°-60°)	322.5	2.7	B1/1000		
BH (60°-80°)	289.0	2.4	B1/500		G1/500
BVH (80°-90°)	5.8	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-G2
 Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7
2.5°	620.8	598.5	562.3	582.7	581.4	591.9	572.2	550.4	515.6	550.4	553.1
5°	893.7	852.3	826.0	820.7	791.8	764.8	758.9	736.6	719.5	688.6	716.2
7.5°	1113.4	1094.3	1047.6	1042.4	971.3	931.9	944.4	934.5	869.4	837.2	864.1
10°	1206.8	1173.9	1180.5	1173.9	1143.6	1154.8	1129.2	1099.6	1047.6	994.4	927.3
12.5°	1242.9	1237.7	1292.3	1285.7	1356.7	1442.2	1385.0	1335.7	1215.3	1202.2	1110.8
15°	1320.6	1353.4	1345.5	1373.2	1418.5	1563.9	1562.6	1574.4	1446.8	1378.4	1246.2
17.5°	1389.6	1413.9	1374.5	1406.0	1529.7	1617.8	1735.5	1689.5	1704.0	1634.2	1429.7
20°	1360.0	1387.6	1348.2	1329.1	1546.8	1713.8	1871.0	1837.5	1924.3	1880.9	1598.7
22.5°	1544.8	1492.9	1393.6	1331.7	1494.2	1711.9	1919.0	2059.1	2044.0	1937.4	1755.9
25°	1773.0	1741.4	1622.4	1513.2	1527.7	1700.0	2070.3	2276.1	2320.8	2275.5	1905.2
27.5°	2080.8	2073.6	1830.2	1782.9	1642.1	1648.1	2093.9	2549.7	2447.8	2376.7	2079.5
30°	2482.6	2425.4	2136.7	2074.9	1867.1	1765.1	2238.6	2785.8	2710.8	2614.1	2243.2
32.5°	2914.7	2923.2	2555.0	2351.1	2184.0	2063.0	2181.4	2896.3	3036.3	2958.1	2447.8
35°	3405.3	3443.4	2992.9	2753.6	2428.7	2250.5	2427.4	3235.6	3486.8	3281.0	2722.0
37.5°	4160.9	4159.6	3633.5	3156.7	2920.6	2727.3	2837.1	3544.0	4040.6	3751.2	3213.9
40°	4825.8	4681.1	4191.8	3644.0	3275.7	3223.1	3143.5	3966.3	4631.8	4457.5	3651.2
42.5°	5322.3	5220.4	4629.2	4203.0	3746.6	3579.6	3551.3	4585.1	5504.5	5260.5	4275.4
45°	5916.2	5582.1	5146.7	4762.7	4297.7	4249.0	4182.6	5213.2	6519.9	5970.1	4817.9
47.5°	6448.2	6133.9	5722.2	5228.9	4694.9	5096.1	4840.9	5764.9	7258.4	6742.2	5416.4
50°	6896.1	6562.0	6101.0	5725.5	5496.6	5768.9	5343.4	6219.4	8056.2	7637.9	5976.0
52.5°	7124.3	6746.1	6389.7	6157.5	6297.6	6236.4	6024.7	6769.8	8736.2	8423.1	6471.9
55°	6936.8	6567.2	6418.0	6533.0	6958.5	6781.6	6798.7	7622.8	9378.0	8946.6	6903.3
57.5°	6105.6	5768.2	5834.6	6149.6	6965.1	7428.1	7681.3	8451.4	9893.0	9599.0	7568.8
60°	4618.6	4347.0	4593.0	5152.0	6310.1	7299.2	8307.4	9280.0	10628.9	10536.8	8576.4
62.5°	2820.6	2673.3	3021.9	3719.0	5028.4	6667.2	8672.4	10384.9	11416.1	11514.1	9645.0
65°	1438.9	1372.5	1663.2	2276.1	3397.4	5476.9	8408.7	11071.5	12229.6	12591.3	10663.7
67.5°	906.2	863.5	1018.7	1388.3	2004.5	3572.3	7362.3	11671.9	12804.4	13090.4	11003.7
70°	628.1	601.1	735.2	952.9	1264.7	1924.3	5466.3	11111.6	12348.6	12361.8	10181.0
72.5°	398.5	377.5	508.4	705.7	933.2	993.7	3133.7	8719.1	10570.3	10448.7	8244.9
75°	258.5	247.9	322.9	516.9	716.8	612.9	1548.8	5883.3	7579.4	7388.6	5476.2
77.5°	185.5	178.9	216.4	345.3	510.3	428.8	694.5	3506.6	4345.7	3928.8	2658.2
80°	111.8	111.1	156.5	216.4	363.0	302.5	320.9	1592.2	1684.9	1373.8	812.2
82.5°	55.9	57.9	87.5	139.4	233.5	198.0	146.7	530.1	452.5	333.4	164.4
85°	13.2	16.4	46.0	96.0	117.1	78.9	69.7	138.8	124.3	94.0	48.0
87.5°	0.0	0.0	14.5	23.0	31.6	13.2	23.7	26.3	33.5	26.3	9.9
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°	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7
2.5°	553.7	545.8	497.8	485.3	484.0	470.2	473.5	460.4	461.0	490.6	490.6
5°	705.7	659.6	613.6	572.8	545.2	505.7	491.3	485.3	480.1	491.9	499.2
7.5°	828.6	760.9	678.0	589.3	507.0	450.5	442.6	428.1	422.9	434.7	443.9
10°	883.2	799.0	685.3	555.7	478.8	432.7	394.6	374.2	370.3	369.6	372.9
12.5°	999.0	894.4	693.2	543.2	459.7	409.1	365.7	331.5	299.9	303.2	299.9
15°	1091.7	968.1	693.2	513.0	413.7	363.0	286.7	269.6	265.0	272.3	266.3
17.5°	1231.8	1041.1	658.3	459.0	374.2	282.1	253.2	251.9	261.1	271.6	265.0
20°	1315.9	1050.9	599.8	397.2	307.1	244.6	234.1	223.6	236.8	245.3	242.0
22.5°	1403.4	1051.6	541.2	364.3	247.3	222.9	205.8	197.3	199.3	207.2	208.5
25°	1440.9	1025.9	486.7	320.9	224.3	199.3	181.5	172.3	169.0	173.0	171.6
27.5°	1542.8	976.6	427.5	273.6	213.1	176.9	160.5	149.3	139.4	146.0	147.3
30°	1557.3	960.8	395.2	243.3	198.6	156.5	142.1	130.2	123.0	132.2	132.2
32.5°	1603.3	874.0	378.8	230.8	183.5	144.7	125.0	116.4	115.1	121.0	121.7
35°	1674.4	835.9	354.5	221.0	169.7	130.9	112.5	108.5	107.2	111.8	111.8
37.5°	1915.1	788.5	327.5	212.4	157.8	123.6	109.2	102.6	103.3	107.2	109.8
40°	2074.9	794.4	287.4	201.9	144.0	117.1	102.6	98.0	97.3	99.3	101.3
42.5°	2371.5	799.0	269.6	190.7	133.5	109.2	96.0	92.7	90.1	92.1	94.0
45°	2702.9	823.4	260.4	181.5	127.6	104.6	90.1	88.1	82.2	83.5	86.2
47.5°	3022.5	912.2	249.2	168.4	122.3	101.9	84.2	79.6	75.6	75.0	77.6
50°	3385.6	998.3	236.8	153.9	117.1	98.0	78.3	71.0	68.4	68.4	70.4
52.5°	3710.4	1080.5	224.9	144.0	113.1	90.8	73.0	65.8	63.8	63.8	66.4
55°	4052.4	1166.7	214.4	134.8	107.9	83.5	68.4	61.8	61.2	59.8	61.8
57.5°	4656.1	1354.7	201.2	126.9	100.6	77.6	64.4	57.9	56.6	54.6	56.6
60°	5535.4	1643.5	184.1	119.0	92.1	73.7	61.2	53.3	51.3	48.0	48.7
62.5°	6394.9	1876.9	164.4	109.2	84.2	69.7	55.9	48.0	44.7	40.8	41.4
65°	7131.5	1969.0	143.4	97.3	76.3	60.5	48.7	42.1	37.5	32.2	31.6
67.5°	7218.3	1738.8	123.0	86.2	68.4	51.3	41.4	37.5	30.3	25.6	24.3
70°	6496.2	1295.6	102.6	76.3	59.2	43.4	35.5	32.9	28.3	24.3	22.4
72.5°	5173.0	956.2	86.2	67.7	52.0	36.8	30.3	30.9	28.3	23.7	21.0
75°	3421.1	547.2	70.4	56.6	43.4	29.6	27.6	27.6	27.0	22.4	19.7
77.5°	1646.1	236.1	53.9	44.7	34.9	22.4	25.0	25.0	25.6	20.4	16.4
80°	466.9	71.0	33.5	30.3	25.6	15.1	19.7	19.1	17.1	11.8	7.2
82.5°	83.5	27.6	15.1	15.8	14.5	5.9	11.2	10.5	8.5	4.6	0.7
85°	23.0	10.5	8.5	9.2	7.2	2.0	4.6	5.9	4.6	2.6	0.0
87.5°	5.9	4.6	5.9	6.6	5.3	0.7	2.0	0.7	2.0	0.7	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)