

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: P368561

Luminaire Tested: **MSA-SA4C-830-U-SL2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368561
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4C-830-U-SL2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15671 lumens
Efficiency: N/A
Efficacy: 69.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G3

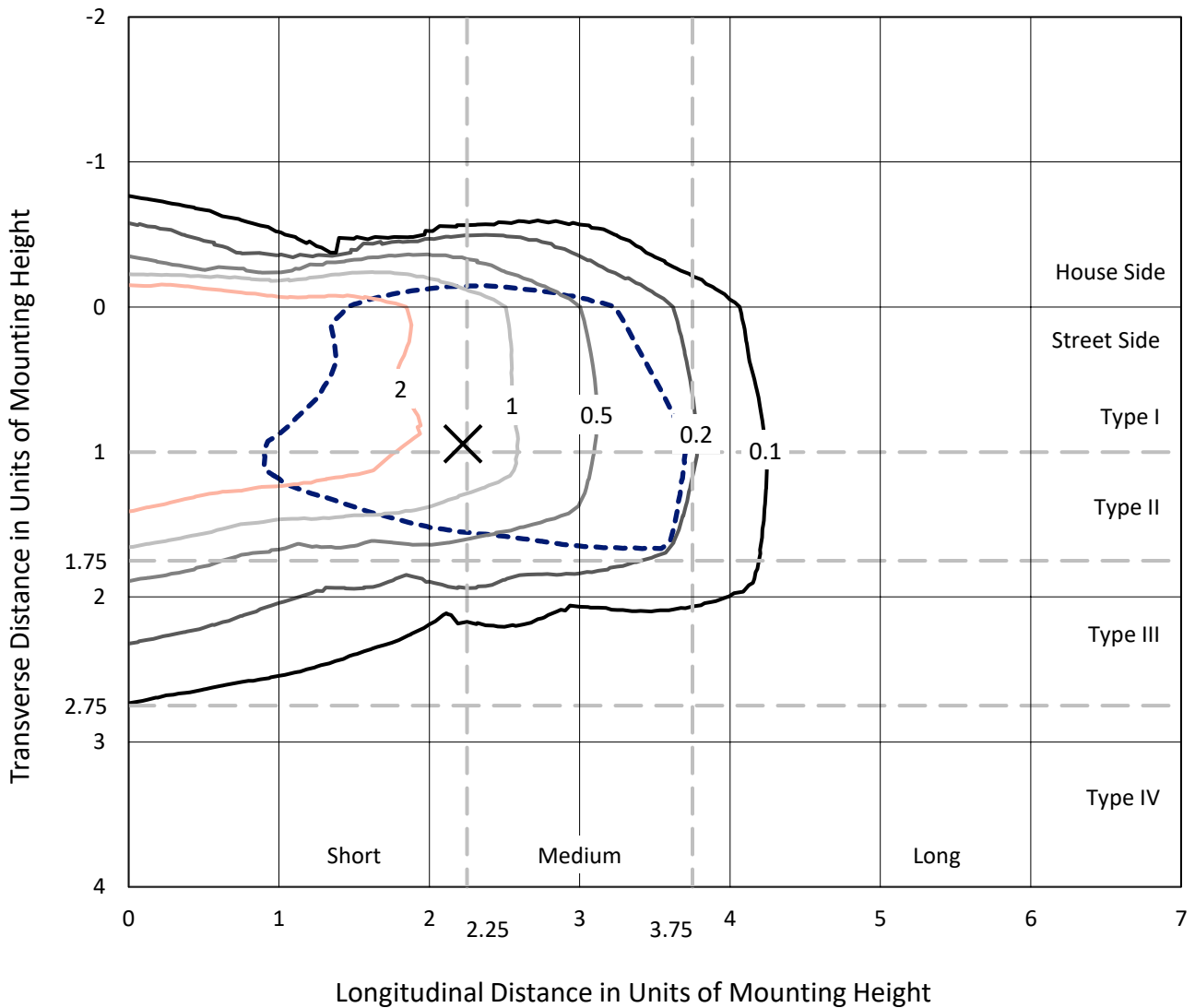
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

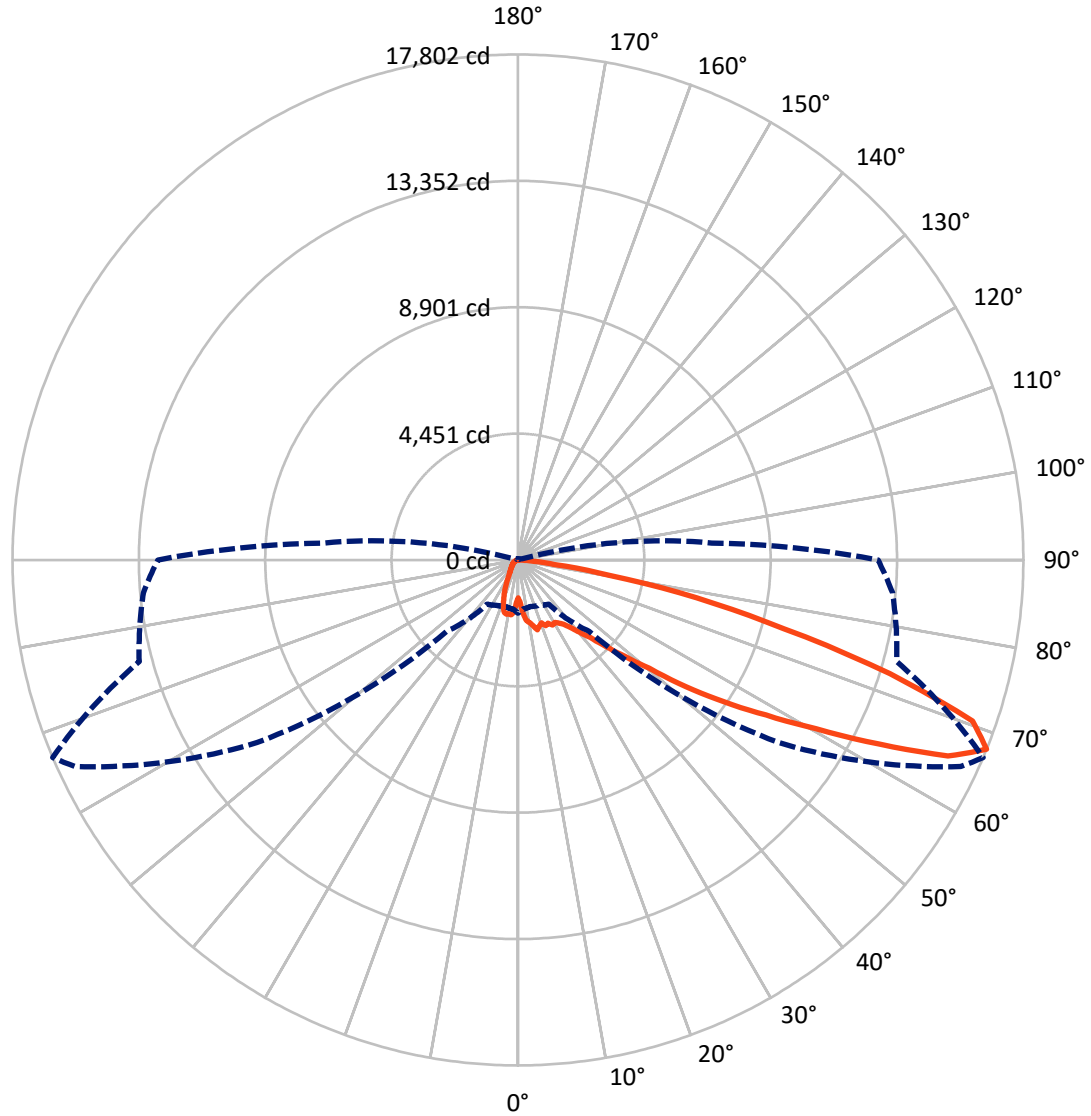
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.1 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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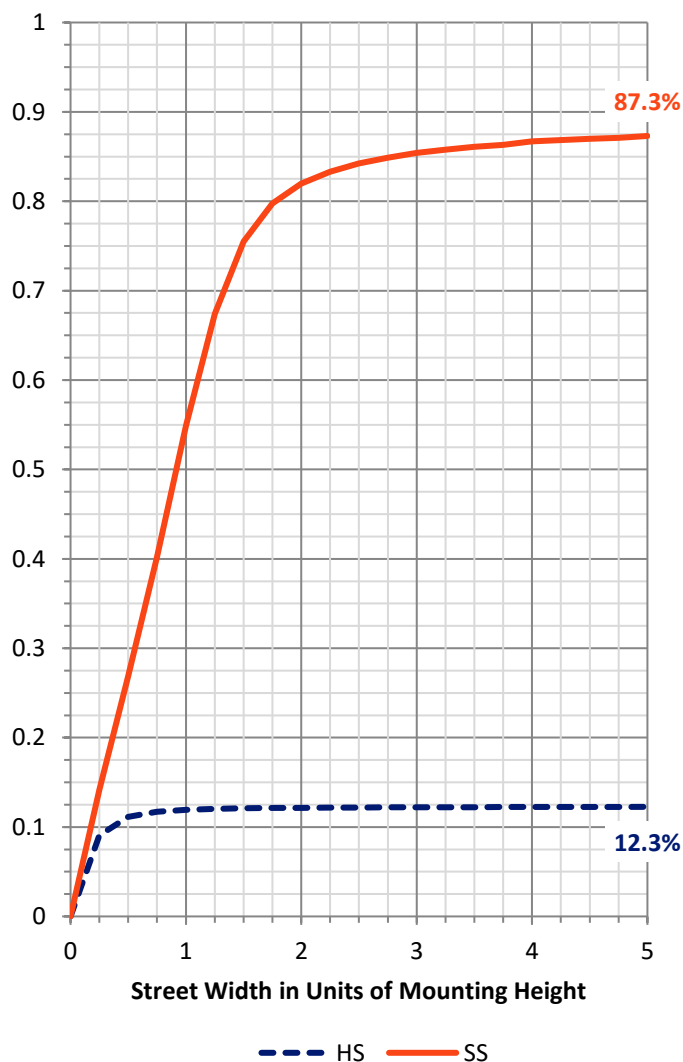
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1938.0	0.0	1938.0
	% Fixture	12.4	0.0	12.4
Street Side	Lumens	13732.9	0.0	13732.9
	% Fixture	87.6	0.0	87.6
Total	Lumens	15671.0	0.0	15671.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.5	1.1
10°-20°	495.7	3.2
20°-30°	776.9	5.0
30°-40°	1252.7	8.0
40°-50°	2301.8	14.7
50°-60°	3887.5	24.8
60°-70°	4297.8	27.4
70°-80°	2249.4	14.4
80°-90°	241.6	1.5
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°	15671.0	100.0
0°-180°	15671.0	100.0

Coefficient of Utilization

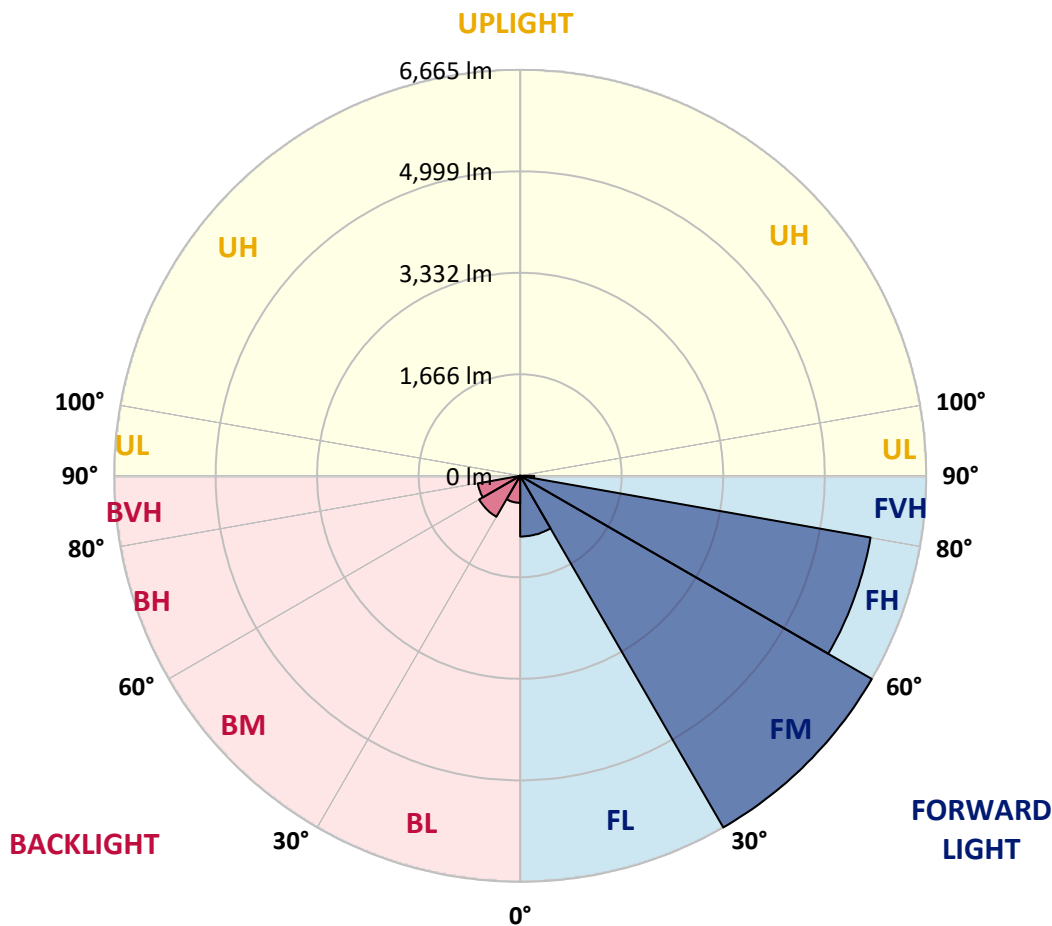


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	996.4	6.4			
FM (30°-60°)	6664.9	42.5			
FH (60°-80°)	5840.3	37.3			G3/7500
FVH (80°-90°)	231.3	1.5			G3/500
BL (0°-30°)	443.7	2.8	B1/500		
BM (30°-60°)	777.1	5.0	B1/1000		
BH (60°-80°)	706.9	4.5	B2/1000		G2/1000
BVH (80°-90°)	10.3	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3
 Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7
2.5°	1575.6	1522.3	1431.7	1457.9	1510.4	1554.1	1533.5	1492.9	1493.7	1452.4	1601.0
5°	1833.2	1761.6	1709.2	1727.4	1725.1	1723.5	1821.2	1858.6	1874.5	1942.9	2043.8
7.5°	1907.1	1881.7	1826.8	1843.5	1788.6	1792.6	1964.3	2126.5	2151.9	2194.1	2373.7
10°	1878.5	1829.2	1849.1	1849.1	1849.9	1938.9	2054.2	2209.2	2240.2	2402.4	2421.4
12.5°	1847.5	1849.9	1928.6	1914.3	2022.4	2182.2	2221.1	2395.2	2380.1	2520.8	2729.9
15°	1962.7	2023.2	1972.3	1992.2	2002.5	2190.1	2252.9	2484.2	2551.0	2729.1	2865.0
17.5°	2160.7	2168.6	2062.9	2034.3	2109.0	2162.3	2288.7	2400.0	2444.5	2911.9	3104.3
20°	2196.5	2247.3	2140.0	1974.7	2132.9	2206.0	2294.2	2347.5	2366.6	2968.4	3239.4
22.5°	2411.9	2355.5	2183.7	2058.1	2103.5	2182.9	2237.8	2398.4	2512.9	2861.8	3369.0
25°	2522.4	2507.3	2343.5	2236.2	2190.1	2183.7	2309.3	2431.0	2467.5	2972.3	3400.8
27.5°	2787.1	2752.9	2435.7	2422.2	2270.4	2136.8	2311.7	2530.3	2598.7	2868.2	3520.1
30°	3147.2	3134.5	2712.4	2703.6	2462.0	2221.9	2440.5	2591.6	2550.2	2921.5	3599.6
32.5°	3509.7	3613.1	3181.4	2935.0	2753.7	2534.3	2403.9	2572.5	2646.4	3051.0	3745.8
35°	3947.7	4022.5	3582.9	3404.0	3001.0	2680.6	2646.4	2754.5	2786.3	3205.3	3912.0
37.5°	4714.1	4601.2	4226.8	3922.3	3710.9	3202.9	3034.3	2948.5	3022.4	3414.3	4251.4
40°	5280.1	5208.5	4747.5	4565.4	4078.9	3781.6	3341.2	3260.9	3343.6	3629.0	4487.5
42.5°	5963.0	5814.3	5380.3	5257.0	4756.2	4183.1	3736.3	3764.1	3712.4	4052.7	4901.7
45°	6580.6	6245.2	6003.5	6031.3	5764.2	4989.9	4395.3	4381.8	4338.9	4666.4	5337.3
47.5°	6996.4	6703.1	6467.8	6390.6	6358.8	6408.9	5347.7	5107.6	5075.8	5311.1	6023.4
50°	7219.8	6898.6	6607.7	6623.6	7269.1	7754.8	6330.2	5989.2	6001.1	6246.8	6961.4
52.5°	7069.5	6706.2	6399.4	6697.5	7975.0	8652.3	7956.7	7141.1	7417.7	7354.9	8219.8
55°	6375.5	6059.9	5842.1	6375.5	8052.1	9618.2	9959.2	8874.9	8812.9	8669.8	9502.9
57.5°	5207.8	4935.9	4801.5	5364.4	7208.7	10396.4	11970.4	10834.4	10305.8	9706.4	10568.1
60°	3880.2	3679.8	3539.9	3837.2	5680.0	9640.4	13287.7	12681.1	12069.0	10705.7	11525.3
62.5°	2873.8	2710.8	2562.1	2589.2	3911.2	8291.4	13793.3	14637.5	14286.1	11760.6	12428.3
65°	2293.4	2144.8	2040.6	1981.0	2422.2	6238.0	13089.7	16240.9	16646.4	12754.3	13080.2
67.5°	1872.9	1747.3	1695.6	1764.0	1899.9	3555.8	11210.5	17214.0	17802.2	13808.4	13240.8
70°	1523.9	1420.6	1415.0	1599.4	1749.7	2167.8	8246.1	16542.2	16985.0	13988.0	12278.1
72.5°	1062.1	1016.7	1089.1	1350.6	1733.8	1805.3	4735.5	13689.1	13705.0	12354.4	10099.1
75°	601.0	593.8	708.3	1077.2	1688.5	1787.1	2640.0	9673.8	9681.0	9343.9	6996.4
77.5°	330.7	309.2	412.6	728.2	1450.0	1745.7	1702.8	6605.3	6436.0	5199.8	3195.7
80°	152.6	143.9	223.4	466.6	1060.5	1651.1	1364.9	3630.6	3273.6	1694.0	779.9
82.5°	62.8	59.6	102.5	299.7	670.1	1330.0	1150.3	1610.6	1292.6	322.0	240.9
85°	11.1	11.9	42.1	181.2	375.2	612.9	932.5	764.7	562.0	89.0	132.0
87.5°	0.0	0.0	8.7	43.7	90.6	167.7	378.4	213.8	147.1	26.2	39.0
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°	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7
2.5°	1630.5	1616.9	1480.2	1486.6	1496.1	1487.4	1485.8	1447.6	1412.6	1527.9	1526.3
5°	2062.1	1965.9	1871.3	1834.8	1756.1	1652.7	1653.5	1620.9	1587.5	1634.4	1634.4
7.5°	2369.8	2237.0	2117.0	1903.1	1694.8	1506.4	1489.7	1445.2	1394.4	1455.6	1467.5
10°	2441.3	2326.0	2171.0	1857.0	1659.9	1476.2	1274.3	1108.2	1031.1	995.3	988.9
12.5°	2661.5	2575.7	2229.1	1881.7	1597.9	1287.0	956.3	759.2	624.8	614.5	600.2
15°	2808.6	2748.2	2286.3	1820.4	1335.5	925.3	601.0	461.1	407.0	402.2	395.1
17.5°	3036.7	2931.8	2231.4	1625.7	1044.6	610.5	403.8	364.1	370.4	384.8	373.6
20°	3129.7	2924.6	2112.2	1343.5	733.7	409.4	350.6	329.1	345.8	359.3	353.0
22.5°	3225.1	2945.3	2006.5	1107.4	479.4	338.7	312.4	301.3	302.9	316.4	317.2
25°	3224.3	3002.5	1884.0	862.5	356.9	301.3	282.2	267.9	262.3	271.9	269.5
27.5°	3380.9	2936.6	1660.7	639.9	314.0	269.5	251.2	233.7	213.8	223.4	223.4
30°	3381.7	3043.9	1504.8	459.5	287.8	240.1	224.2	197.1	174.1	182.0	182.8
32.5°	3471.6	2950.9	1361.0	351.4	267.1	222.6	187.6	163.0	149.5	154.2	154.2
35°	3574.1	3030.4	1140.0	310.0	246.4	197.9	160.6	140.7	130.4	134.3	134.3
37.5°	3912.8	3013.7	986.5	288.6	232.9	178.9	146.3	124.0	119.2	121.6	124.8
40°	4035.2	3132.1	778.3	275.8	210.7	161.4	128.8	112.1	105.7	107.3	108.1
42.5°	4346.8	3158.4	621.7	265.5	190.8	139.9	114.5	102.5	94.6	94.6	97.0
45°	4691.0	3224.3	494.5	256.8	174.1	125.6	103.3	93.8	81.9	80.3	83.5
47.5°	5189.5	3477.1	403.0	239.3	154.2	116.9	95.4	81.1	71.5	68.4	71.5
50°	6023.4	3906.4	356.1	217.8	139.9	109.7	84.3	69.2	62.0	58.0	60.4
52.5°	7199.9	4648.1	331.5	197.9	127.2	98.6	75.5	60.4	53.3	50.1	51.7
55°	8506.8	5498.7	319.6	178.1	116.1	86.7	66.0	53.3	46.9	42.9	43.7
57.5°	9715.1	6298.4	307.6	159.0	104.9	77.1	58.0	46.9	40.5	36.6	37.4
60°	10906.0	6936.8	279.0	136.7	94.6	69.2	50.9	40.5	36.6	31.8	31.8
62.5°	11959.3	7318.4	237.7	118.4	85.1	61.2	45.3	36.6	33.4	28.6	28.6
65°	12676.4	7335.8	191.6	101.8	74.7	52.5	39.7	34.2	31.0	25.4	24.6
67.5°	12686.7	6858.9	153.4	90.6	66.0	46.1	35.8	32.6	28.6	23.8	22.3
70°	11355.1	5666.4	128.0	79.5	57.2	40.5	31.0	31.0	27.8	23.1	20.7
72.5°	9083.2	4330.1	107.3	69.2	50.9	35.0	28.6	29.4	27.0	23.1	20.7
75°	6105.3	2483.4	89.0	58.8	44.5	29.4	27.8	28.6	27.8	23.1	19.9
77.5°	2811.8	791.0	69.2	48.5	38.2	24.6	27.0	27.0	25.4	20.7	17.5
80°	633.6	194.8	50.1	35.8	31.0	18.3	24.6	22.3	19.9	14.3	10.3
82.5°	230.5	59.6	30.2	22.3	19.1	7.2	15.9	15.9	14.3	10.3	6.4
85°	132.0	31.0	16.7	14.3	10.3	3.2	8.7	9.5	7.9	7.2	3.2
87.5°	42.9	7.2	7.9	8.7	7.9	1.6	3.2	3.2	2.4	1.6	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)