

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: P368693

Luminaire Tested: **MSA-SA4D-830-U-SL2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368693
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-SA4D-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: 17134 lumens
Efficiency: N/A
Efficacy: 66.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G3

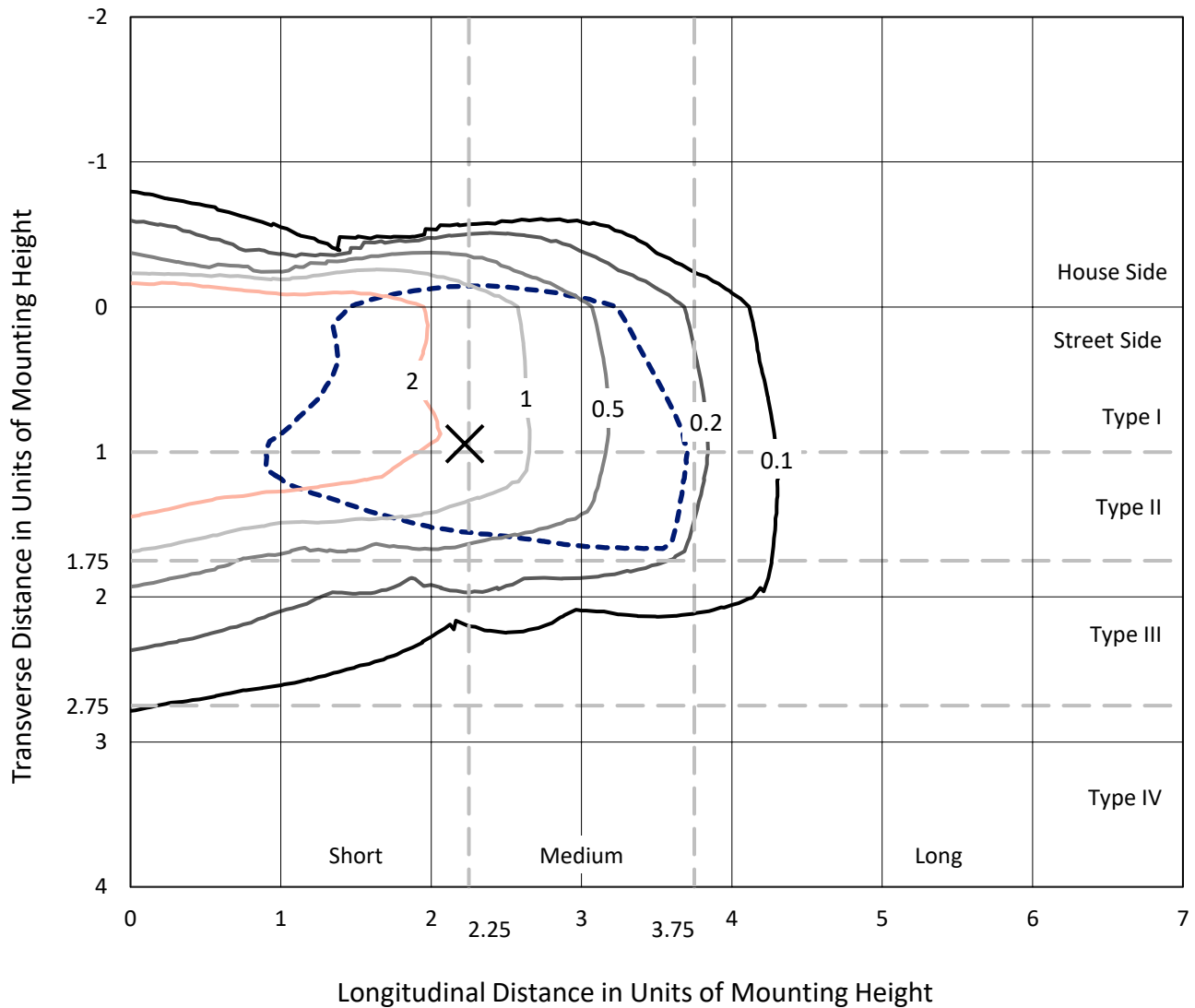
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

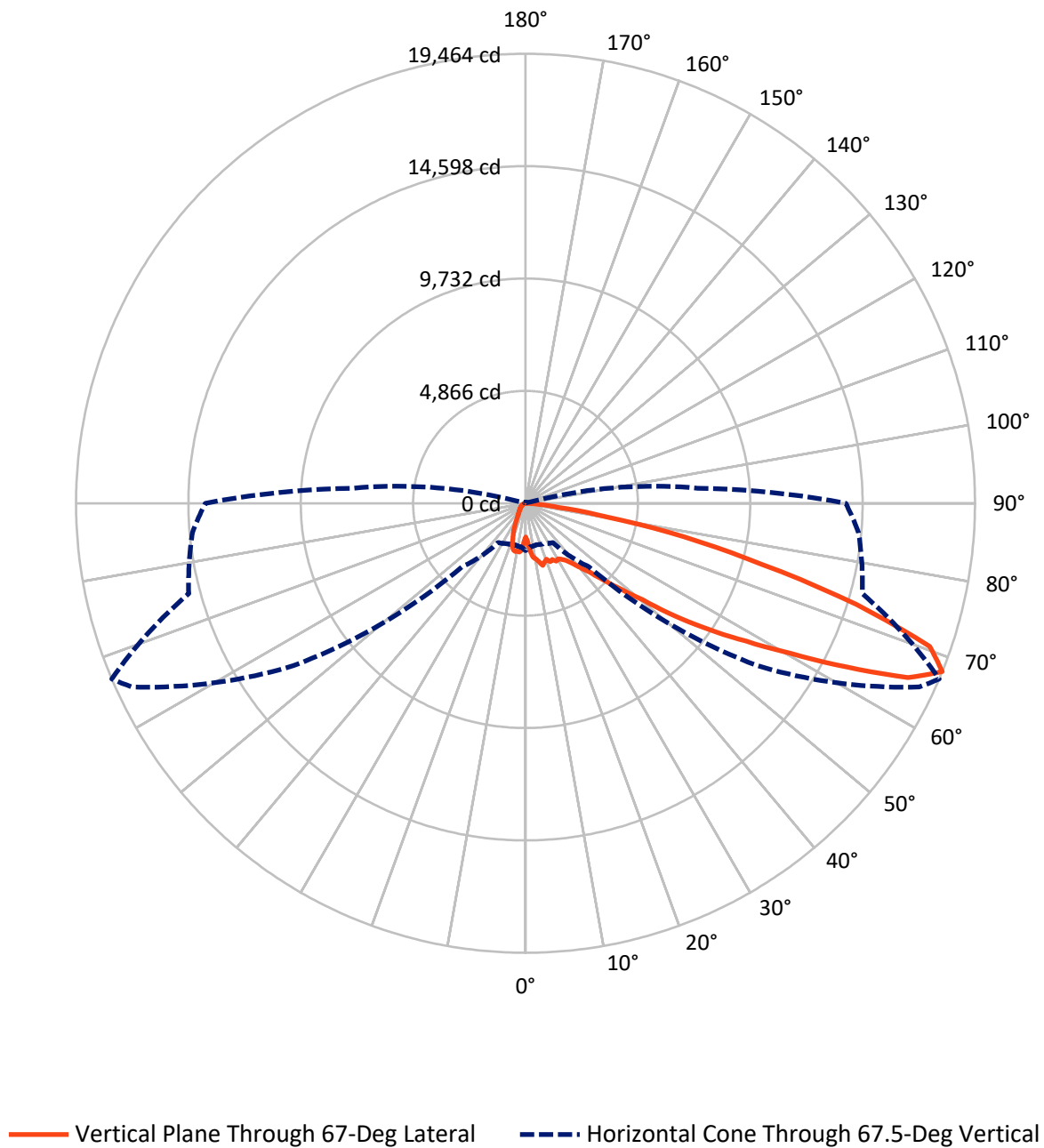
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



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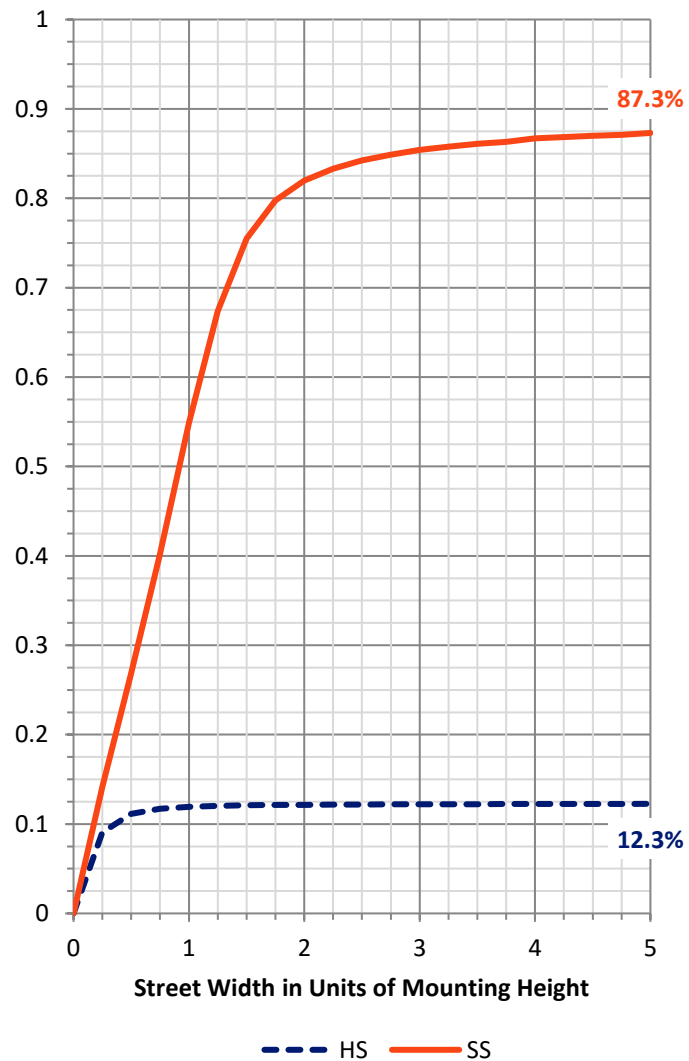
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2119.0	0.0	2119.0
	% Fixture	12.4	0.0	12.4
Street Side	Lumens	15015.0	0.0	15015.0
	% Fixture	87.6	0.0	87.6
Total	Lumens	17134.0	0.0	17134.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.2	1.1
10°-20°	542.0	3.2
20°-30°	849.4	5.0
30°-40°	1369.6	8.0
40°-50°	2516.7	14.7
50°-60°	4250.4	24.8
60°-70°	4699.0	27.4
70°-80°	2459.4	14.4
80°-90°	264.1	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°	17134.0	100.0
0°-180°	17134.0	100.0

Coefficient of Utilization



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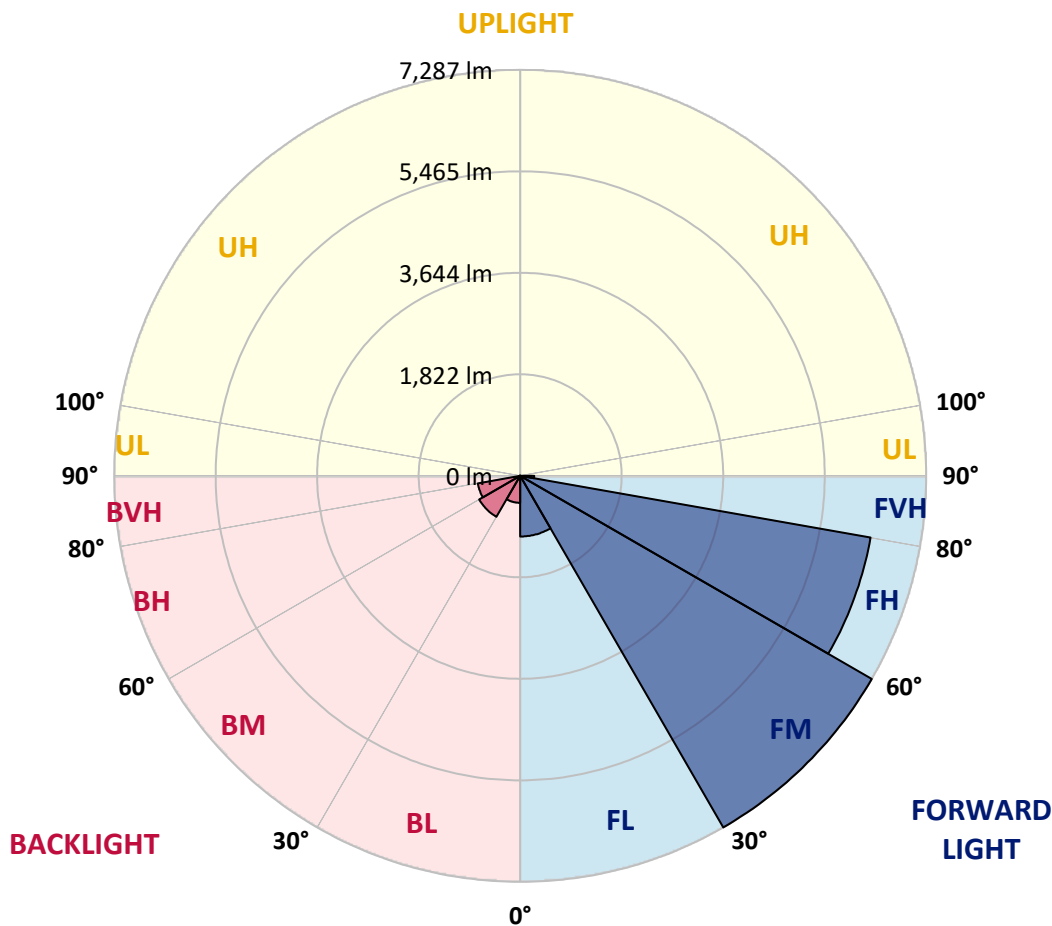
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1089.4	6.4			
FM	(30°-60°)	7287.2	42.5			
FH	(60°-80°)	6385.5	37.3			G3/7500
FVH	(80°-90°)	252.9	1.5			G3/500
BL	(0°-30°)	485.2	2.8	B1/500		
BM	(30°-60°)	849.6	5.0	B1/1000		
BH	(60°-80°)	772.9	4.5	B2/1000		G2/1000
BVH	(80°-90°)	11.3	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°	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3
2.5°	1722.7	1664.5	1565.4	1594.1	1651.4	1699.2	1676.6	1632.3	1633.2	1588.0	1750.5
5°	2004.3	1926.1	1868.7	1888.7	1886.1	1884.4	1991.3	2032.1	2049.5	2124.3	2234.6
7.5°	2085.1	2057.3	1997.4	2015.6	1955.6	1960.0	2147.7	2325.0	2352.8	2398.9	2595.3
10°	2053.8	2000.0	2021.7	2021.7	2022.6	2119.9	2245.9	2415.4	2449.3	2626.6	2647.5
12.5°	2020.0	2022.6	2108.6	2093.0	2211.2	2385.9	2428.5	2618.8	2602.3	2756.1	2984.7
15°	2146.0	2212.0	2156.4	2178.1	2189.4	2394.6	2463.2	2716.2	2789.2	2983.9	3132.5
17.5°	2362.4	2371.1	2255.5	2224.2	2305.9	2364.1	2502.3	2624.0	2672.7	3183.8	3394.1
20°	2401.5	2457.1	2339.8	2159.0	2332.0	2411.9	2508.4	2566.7	2587.5	3245.5	3541.9
22.5°	2637.1	2575.4	2387.6	2250.3	2299.8	2386.7	2446.7	2622.3	2747.4	3129.0	3683.5
25°	2757.9	2741.4	2562.3	2445.0	2394.6	2387.6	2524.9	2657.9	2697.9	3249.8	3718.3
27.5°	3047.3	3009.9	2663.1	2648.4	2482.3	2336.3	2527.5	2766.6	2841.3	3136.0	3848.7
30°	3441.0	3427.1	2965.6	2956.0	2691.8	2429.3	2668.4	2833.5	2788.3	3194.2	3935.6
32.5°	3837.4	3950.4	3478.4	3209.0	3010.8	2770.9	2628.4	2812.6	2893.5	3335.9	4095.5
35°	4316.3	4398.0	3917.3	3721.8	3281.1	2930.8	2893.5	3011.7	3046.4	3504.5	4277.2
37.5°	5154.2	5030.8	4621.4	4288.5	4057.3	3501.9	3317.6	3223.8	3304.6	3733.1	4648.3
40°	5773.0	5694.8	5190.7	4991.6	4459.7	4134.6	3653.1	3565.3	3655.7	3967.8	4906.5
42.5°	6519.6	6357.1	5882.5	5747.8	5200.2	4573.6	4085.1	4115.5	4059.0	4431.0	5359.3
45°	7195.0	6828.2	6564.0	6594.4	6302.4	5455.8	4805.6	4790.9	4743.9	5102.0	5835.6
47.5°	7649.6	7328.8	7071.6	6987.3	6952.5	7007.2	5846.9	5584.4	5549.6	5806.9	6585.7
50°	7893.8	7542.7	7224.5	7241.9	7947.7	8478.8	6921.2	6548.3	6561.4	6829.9	7611.3
52.5°	7729.5	7332.3	6996.8	7322.8	8719.5	9460.0	8699.5	7807.8	8110.2	8041.6	8987.2
55°	6970.7	6625.7	6387.5	6970.7	8803.8	10516.1	10889.0	9703.4	9635.6	9479.2	10390.1
57.5°	5693.9	5396.7	5249.8	5865.2	7881.6	11367.0	13088.0	11845.9	11267.9	10612.6	11554.7
60°	4242.4	4023.4	3870.4	4195.5	6210.2	10540.4	14528.2	13865.0	13195.7	11705.1	12601.2
62.5°	3142.0	2963.9	2801.3	2830.9	4276.3	9065.4	15081.0	16004.0	15619.9	12858.5	13588.6
65°	2507.6	2345.0	2231.2	2166.0	2648.4	6820.4	14311.8	17757.1	18200.4	13945.0	14301.3
67.5°	2047.8	1910.4	1853.9	1928.7	2077.3	3887.8	12257.0	18821.0	19464.2	15097.5	14476.9
70°	1666.2	1553.2	1547.1	1748.8	1913.0	2370.2	9015.9	18086.6	18570.7	15293.9	13424.3
72.5°	1161.2	1111.7	1190.8	1476.7	1895.7	1973.9	5177.6	14967.1	14984.5	13507.8	11041.9
75°	657.1	649.3	774.4	1177.7	1846.1	1953.9	2886.5	10576.9	10584.7	10216.2	7649.6
77.5°	361.6	338.1	451.1	796.2	1585.4	1908.7	1861.8	7221.9	7036.8	5685.2	3494.1
80°	166.9	157.3	244.2	510.2	1159.5	1805.3	1492.4	3969.5	3579.2	1852.2	852.7
82.5°	68.7	65.2	112.1	327.7	732.7	1454.1	1257.7	1760.9	1413.3	352.0	263.4
85°	12.2	13.0	46.1	198.2	410.2	670.1	1019.5	836.1	614.5	97.3	144.3
87.5°	0.0	0.0	9.6	47.8	99.1	183.4	413.7	233.8	160.8	28.7	42.6
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°	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3	1459.3
2.5°	1782.7	1767.9	1618.4	1625.3	1635.8	1626.2	1624.5	1582.8	1544.5	1670.5	1668.8
5°	2254.6	2149.5	2046.0	2006.0	1920.0	1807.0	1807.9	1772.2	1735.7	1787.0	1787.0
7.5°	2591.0	2445.8	2314.6	2080.8	1853.1	1647.1	1628.8	1580.2	1524.5	1591.4	1604.5
10°	2669.2	2543.2	2373.7	2030.4	1814.8	1614.0	1393.3	1211.6	1127.3	1088.2	1081.2
12.5°	2910.0	2816.1	2437.2	2057.3	1747.0	1407.2	1045.6	830.1	683.2	671.9	656.2
15°	3070.8	3004.7	2499.7	1990.4	1460.2	1011.7	657.1	504.1	445.0	439.8	432.0
17.5°	3320.2	3205.5	2439.8	1777.5	1142.1	667.5	441.5	398.1	405.0	420.7	408.5
20°	3421.9	3197.7	2309.4	1468.9	802.2	447.6	383.3	359.8	378.1	392.9	385.9
22.5°	3526.2	3220.3	2193.8	1210.8	524.1	370.3	341.6	329.4	331.2	345.9	346.8
25°	3525.4	3282.9	2059.9	943.0	390.3	329.4	308.6	292.9	286.8	297.3	294.6
27.5°	3696.6	3210.7	1815.7	699.7	343.3	294.6	274.7	255.5	233.8	244.2	244.2
30°	3697.4	3328.1	1645.3	502.4	314.6	262.5	245.1	215.6	190.3	199.0	199.9
32.5°	3795.7	3226.4	1488.0	384.2	292.0	243.4	205.1	178.2	163.4	168.6	168.6
35°	3907.8	3313.3	1246.4	339.0	269.4	216.4	175.6	153.8	142.5	146.9	146.9
37.5°	4278.1	3295.0	1078.6	315.5	254.7	195.6	159.9	135.6	130.4	133.0	136.5
40°	4411.9	3424.5	850.9	301.6	230.3	176.4	140.8	122.6	115.6	117.3	118.2
42.5°	4752.6	3453.2	679.7	290.3	208.6	153.0	125.2	112.1	103.4	103.4	106.0
45°	5129.0	3525.4	540.6	280.7	190.3	137.3	113.0	102.6	89.5	87.8	91.3
47.5°	5673.9	3801.7	440.7	261.6	168.6	127.8	104.3	88.7	78.2	74.7	78.2
50°	6585.7	4271.1	389.4	238.2	153.0	119.9	92.1	75.6	67.8	63.4	66.1
52.5°	7872.1	5082.0	362.4	216.4	139.1	107.8	82.6	66.1	58.2	54.8	56.5
55°	9301.0	6012.0	349.4	194.7	126.9	94.7	72.1	58.2	51.3	46.9	47.8
57.5°	10622.1	6886.4	336.4	173.8	114.7	84.3	63.4	51.3	44.3	40.0	40.9
60°	11924.1	7584.4	305.1	149.5	103.4	75.6	55.6	44.3	40.0	34.8	34.8
62.5°	13075.8	8001.6	259.9	129.5	93.0	66.9	49.5	40.0	36.5	31.3	31.3
65°	13859.8	8020.7	209.5	111.3	81.7	57.4	43.5	37.4	33.9	27.8	26.9
67.5°	13871.1	7499.2	167.7	99.1	72.1	50.4	39.1	35.6	31.3	26.1	24.3
70°	12415.2	6195.4	139.9	86.9	62.6	44.3	33.9	33.9	30.4	25.2	22.6
72.5°	9931.1	4734.4	117.3	75.6	55.6	38.2	31.3	32.2	29.6	25.2	22.6
75°	6675.2	2715.3	97.3	64.3	48.7	32.2	30.4	31.3	30.4	25.2	21.7
77.5°	3074.3	864.8	75.6	53.0	41.7	26.9	29.6	29.6	27.8	22.6	19.1
80°	692.7	212.9	54.8	39.1	33.9	20.0	26.9	24.3	21.7	15.6	11.3
82.5°	252.1	65.2	33.0	24.3	20.9	7.8	17.4	17.4	15.6	11.3	7.0
85°	144.3	33.9	18.3	15.6	11.3	3.5	9.6	10.4	8.7	7.8	3.5
87.5°	46.9	7.8	8.7	9.6	8.7	1.7	3.5	3.5	2.6	1.7	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)