

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: P368145

Luminaire Tested: **MSA-SA3D-760-U-SL3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368145
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3D-760-U-SL3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16345 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G3

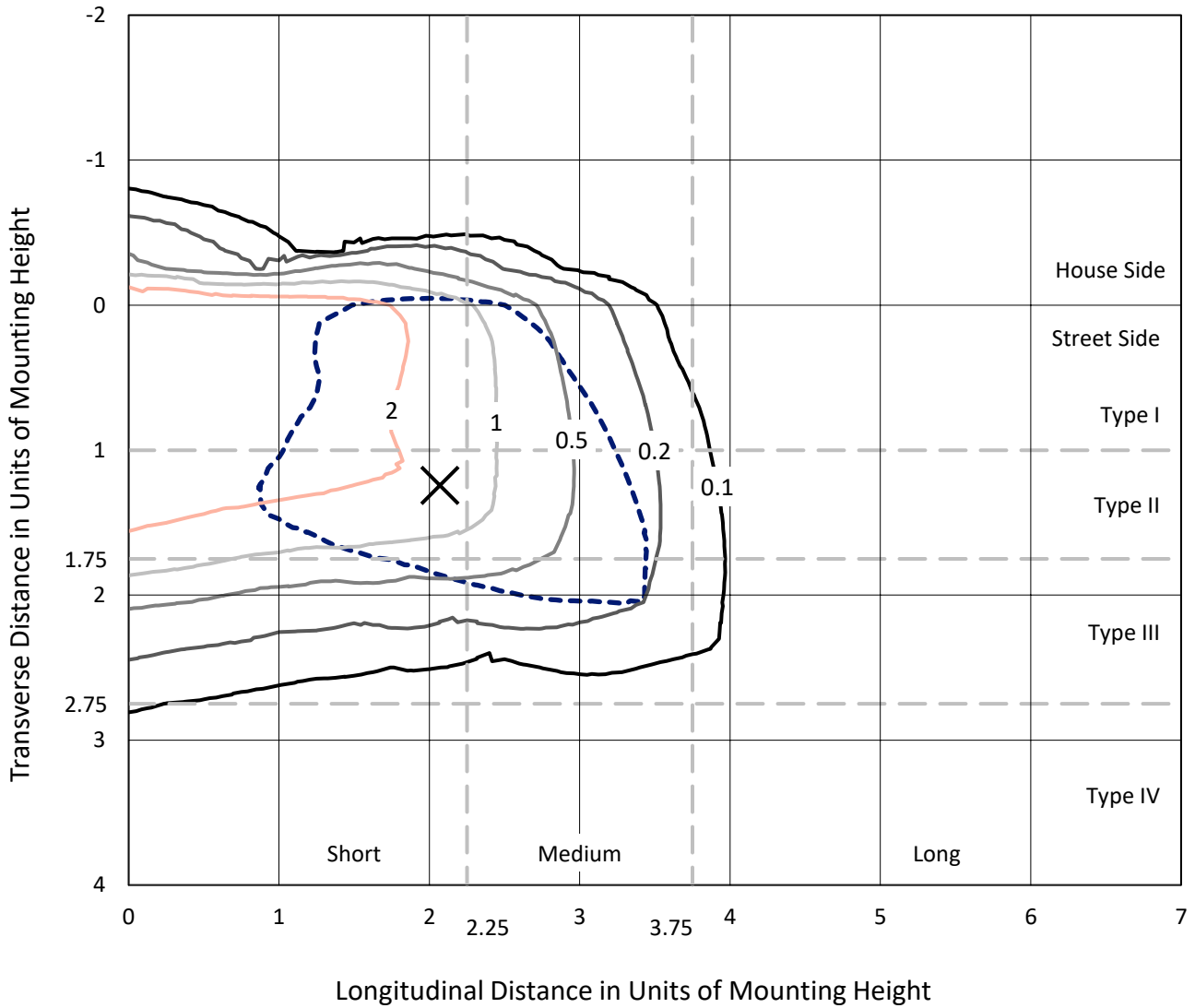
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

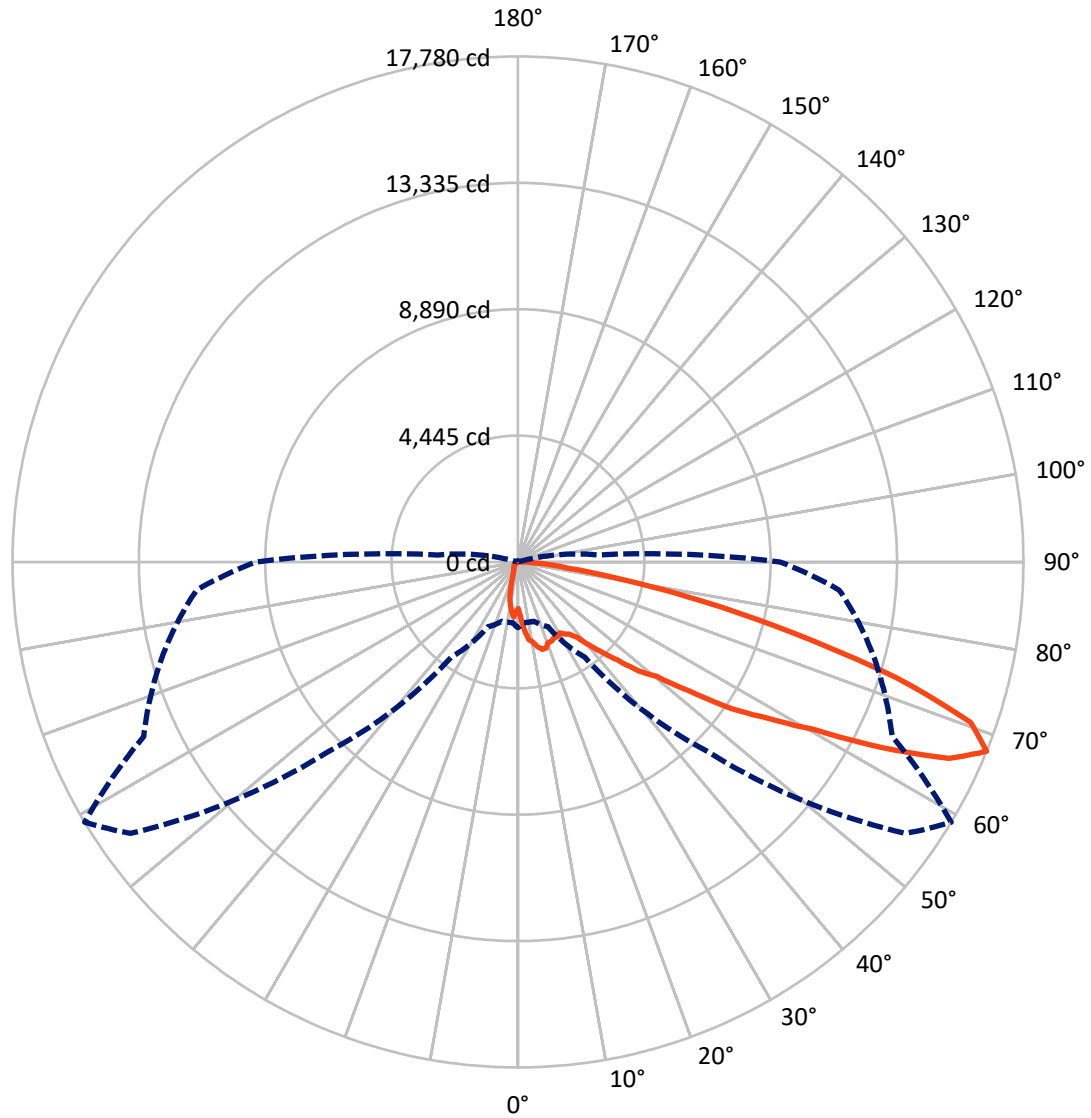
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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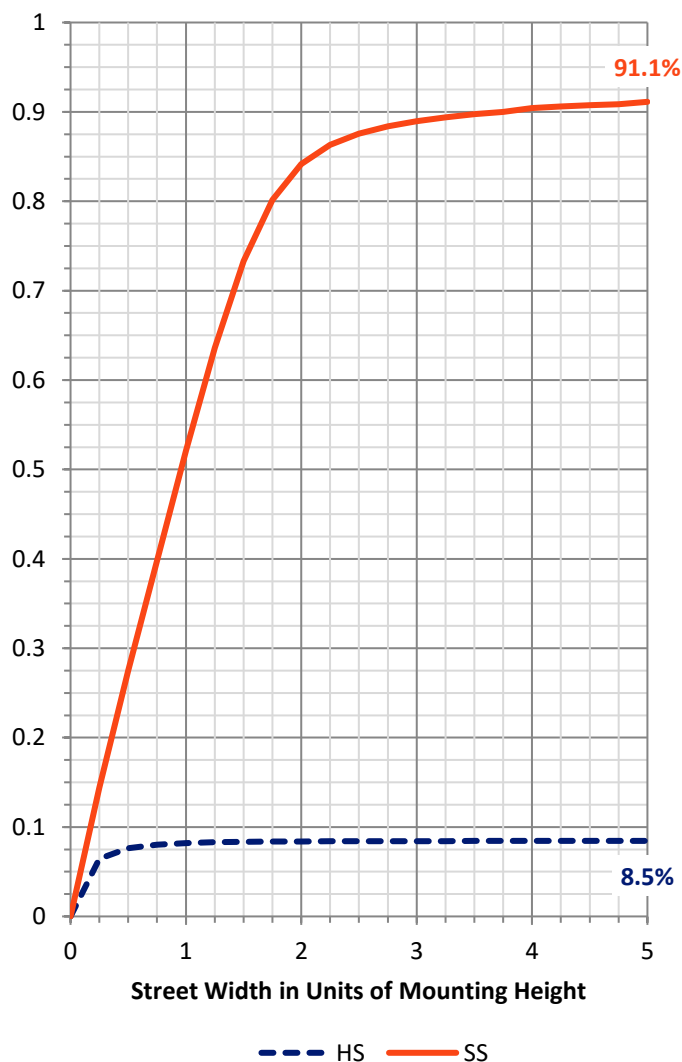
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1390.0	0.0	1390.0
	% Fixture	8.5	0.0	8.5
Street Side	Lumens	14955.0	0.0	14955.0
	% Fixture	91.5	0.0	91.5
Total	Lumens	16345.0	0.0	16345.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.8	1.2
10°-20°	559.9	3.4
20°-30°	832.8	5.1
30°-40°	1284.8	7.9
40°-50°	2293.0	14.0
50°-60°	4080.4	25.0
60°-70°	4752.3	29.1
70°-80°	2113.4	12.9
80°-90°	229.5	1.4
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°	16345.0	100.0
0°-180°	16345.0	100.0

Coefficient of Utilization



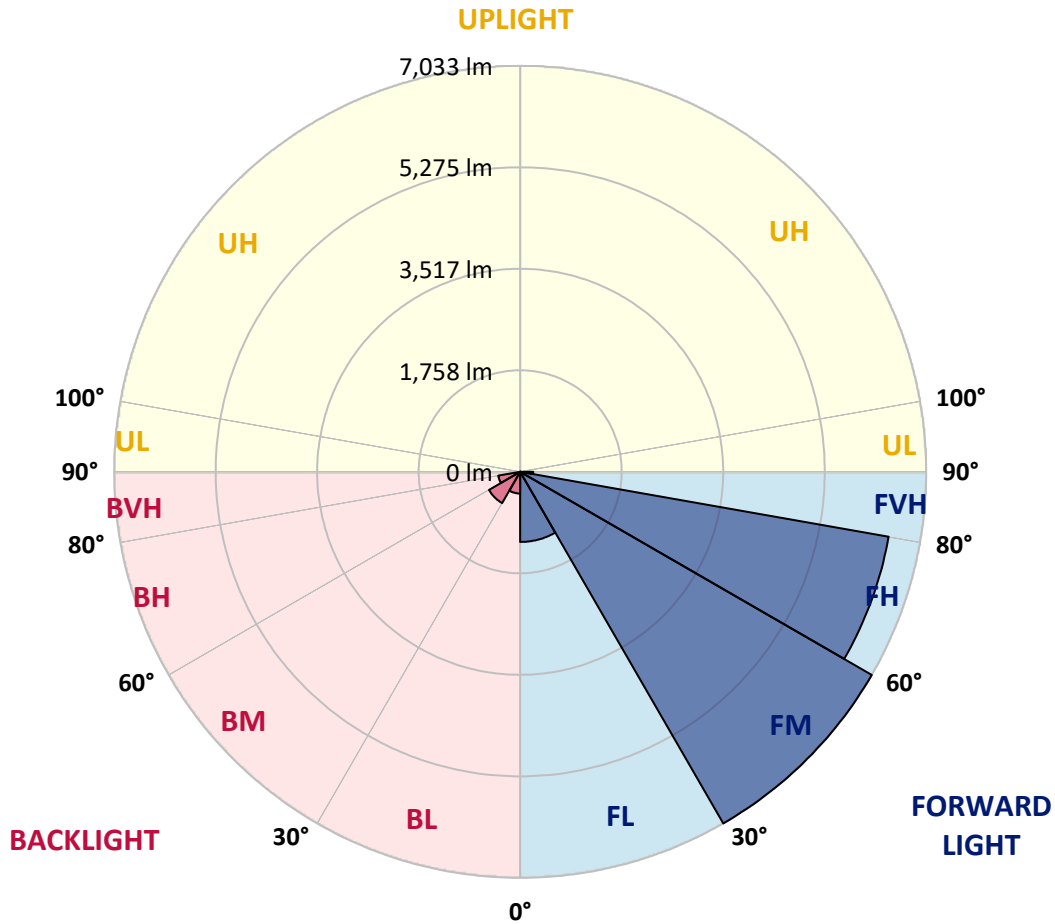
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1215.6	7.4			
FM (30°-60°)	7033.3	43.0			
FH (60°-80°)	6480.7	39.6			G3/7500
FVH (80°-90°)	225.4	1.4			G3/500
BL (0°-30°)	375.9	2.3	B1/500		
BM (30°-60°)	625.0	3.8	B1/1000		
BH (60°-80°)	385.0	2.4	B1/500		G1/500
BVH (80°-90°)	4.1	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-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4
2.5°	2131.9	2051.7	1937.4	1971.4	2002.0	2031.0	1983.0	1955.7	1942.4	1824.9	1972.2
5°	2617.8	2517.6	2465.5	2452.2	2419.1	2345.5	2468.0	2413.3	2431.5	2454.7	2502.7
7.5°	2765.9	2720.4	2645.1	2673.2	2547.4	2536.6	2706.3	2753.5	2815.6	2773.3	2831.3
10°	2689.8	2611.1	2646.7	2636.8	2631.8	2742.7	2861.9	2864.4	2957.1	3001.8	2805.6
12.5°	2539.1	2548.2	2675.7	2665.8	2831.3	3053.1	3080.4	3051.4	3202.9	3125.1	3095.3
15°	2639.3	2713.8	2643.4	2667.4	2726.2	3003.4	3100.3	3189.6	3332.8	3379.2	3178.0
17.5°	2760.1	2767.5	2639.3	2609.5	2757.6	2886.7	3115.1	3188.8	3202.9	3609.2	3364.3
20°	2694.7	2758.4	2605.3	2417.5	2647.5	2823.0	3054.7	3031.6	3125.9	3677.1	3406.5
22.5°	2868.5	2777.5	2581.3	2439.8	2517.6	2677.3	2873.5	3024.9	3166.5	3514.9	3461.1
25°	2885.1	2852.0	2677.3	2551.5	2538.3	2578.9	2852.0	2949.6	3171.4	3660.5	3414.7
27.5°	3071.3	3033.2	2675.7	2688.1	2564.0	2439.0	2747.7	2976.9	3261.6	3572.0	3513.2
30°	3311.3	3314.6	2853.6	2892.5	2715.4	2514.3	2832.9	2895.8	3322.9	3713.5	3586.1
32.5°	3554.6	3654.8	3205.4	2999.3	2943.8	2799.8	2727.0	3017.5	3255.8	3955.2	3768.1
35°	3924.6	3992.4	3495.0	3310.5	3092.8	2928.9	3015.0	3119.3	3496.7	4275.5	4007.3
37.5°	4551.1	4428.6	4014.8	3693.7	3641.5	3399.8	3442.9	3349.4	3742.5	4652.9	4480.7
40°	4903.6	4792.7	4362.4	4205.9	3873.2	3910.5	3774.8	3829.4	4099.2	5046.0	4911.9
42.5°	5271.1	5165.2	4787.8	4676.9	4359.9	4205.9	4144.7	4340.8	4646.2	5700.6	5530.1
45°	5640.2	5371.2	5211.5	5266.9	5124.6	4820.0	4748.9	4923.5	5243.8	6505.1	6182.3
47.5°	5951.4	5724.6	5604.6	5579.0	5523.5	5946.4	5656.8	5733.7	5875.2	7216.8	6995.0
50°	6512.5	6289.1	6101.2	6049.0	6318.8	6918.9	6472.0	6323.0	6606.0	8076.7	7936.8
52.5°	7322.7	7038.0	6739.3	6740.1	7249.1	7578.5	7790.4	7528.8	7581.8	9022.7	8960.6
55°	7974.1	7612.4	7365.0	7560.3	8319.2	8503.8	9312.3	9083.1	9014.4	9899.9	9823.8
57.5°	8063.5	7629.8	7512.3	7854.9	8893.6	10072.1	10941.9	10369.2	10264.1	10634.0	10785.5
60°	7229.2	6769.1	6857.6	7408.8	9080.6	11028.0	12438.2	11970.6	11302.8	11493.9	11598.2
62.5°	5391.9	5024.5	5272.7	6002.7	8359.8	11668.6	14170.4	14387.3	12507.8	12139.5	12117.1
65°	3498.3	3268.3	3431.3	4029.7	6326.3	11595.7	15718.1	16658.3	13457.0	12665.8	12280.2
67.5°	2314.0	2139.4	2162.6	2516.8	4090.9	9430.7	16643.4	17779.7	14524.7	12964.6	11345.8
70°	1724.8	1587.4	1595.6	1787.7	2428.2	6219.5	15353.1	16895.0	14914.5	11929.3	9157.6
72.5°	1243.9	1152.0	1229.0	1442.5	1935.0	3288.9	11443.4	13913.9	13005.2	9409.2	6169.9
75°	861.5	801.1	926.9	1206.7	1766.1	2041.7	7561.9	10015.8	9115.4	5903.4	2789.1
77.5°	477.5	459.3	640.6	983.2	1603.1	1673.4	4632.2	6581.2	5055.9	2116.2	663.7
80°	208.6	201.9	310.4	738.2	1347.4	1512.1	2607.8	3649.0	1988.8	377.4	214.4
82.5°	89.4	86.1	132.4	444.4	979.1	1264.6	1608.1	1756.2	684.4	116.7	121.7
85°	15.7	17.4	53.0	234.2	595.9	642.2	1164.5	1039.5	344.3	55.5	86.9
87.5°	0.0	0.0	8.3	45.5	111.7	183.7	504.8	364.2	65.4	18.2	14.9
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°	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4
2.5°	1992.9	1946.6	1770.3	1747.9	1723.9	1688.3	1675.1	1599.0	1589.0	1686.7	1686.7
5°	2480.4	2314.8	2146.8	2014.4	1896.1	1732.2	1685.9	1637.9	1599.0	1589.0	1619.6
7.5°	2737.8	2535.8	2271.8	1935.0	1661.9	1424.3	1325.0	1255.5	1177.7	1200.9	1213.3
10°	2723.7	2509.3	2172.5	1739.6	1436.7	1174.4	922.0	774.6	692.7	652.2	647.2
12.5°	2861.9	2660.0	2105.5	1584.1	1197.6	835.1	580.2	475.1	414.6	415.5	410.5
15°	2942.2	2722.0	2027.7	1387.1	843.3	537.1	402.2	379.0	370.8	379.9	374.9
17.5°	3083.7	2787.4	1851.4	1093.3	580.2	405.5	369.9	360.8	371.6	390.6	385.7
20°	3072.9	2674.0	1600.6	770.5	428.7	365.0	350.1	336.0	358.4	378.2	374.9
22.5°	3063.0	2563.1	1364.7	568.6	358.4	332.7	320.3	314.5	326.1	349.3	354.2
25°	2975.3	2508.5	1125.6	427.0	324.4	302.1	296.3	291.3	295.5	314.5	313.7
27.5°	3082.9	2370.3	869.0	358.4	300.4	273.9	269.0	260.7	252.4	269.0	271.5
30°	3060.5	2389.3	681.1	315.3	276.4	240.8	242.5	225.1	210.2	225.1	225.1
32.5°	3141.6	2250.3	545.4	286.4	252.4	226.8	206.1	187.9	177.1	186.2	187.9
35°	3260.0	2256.1	427.0	268.1	231.7	201.9	177.1	158.9	149.0	153.1	155.6
37.5°	3656.4	2216.4	356.7	254.1	224.3	187.0	161.4	137.4	130.8	135.7	138.2
40°	3914.6	2322.3	314.5	246.6	205.2	172.1	138.2	120.8	115.0	117.5	121.7
42.5°	4401.3	2381.1	293.8	238.4	187.9	147.3	118.3	108.4	100.1	103.5	106.8
45°	4921.8	2481.2	278.1	229.2	174.6	129.1	104.3	96.0	85.2	86.1	89.4
47.5°	5561.6	2719.5	259.9	213.5	156.4	117.5	92.7	80.3	70.3	69.5	73.7
50°	6420.6	3038.2	243.3	193.7	144.8	107.6	81.1	65.4	57.1	54.6	57.9
52.5°	7337.6	3450.3	225.9	179.6	130.8	94.3	69.5	53.0	45.5	43.9	46.3
55°	8246.4	3845.9	209.4	170.5	115.9	81.1	58.8	43.9	37.2	35.6	37.2
57.5°	9281.7	4273.8	187.9	152.3	101.8	70.3	48.8	36.4	30.6	29.0	29.8
60°	10061.3	4424.4	169.7	132.4	88.6	62.1	41.4	29.0	24.8	23.2	24.0
62.5°	10431.3	4178.6	152.3	115.0	77.8	53.8	34.8	24.0	20.7	19.0	19.0
65°	10335.3	3634.1	134.9	98.5	67.0	44.7	27.3	20.7	18.2	15.7	14.9
67.5°	9226.3	2843.7	115.0	82.8	56.3	36.4	23.2	19.9	16.6	14.9	12.4
70°	7317.0	2059.1	93.5	68.7	47.2	29.8	18.2	18.2	15.7	14.9	11.6
72.5°	4796.0	1296.0	76.1	55.5	38.9	23.2	14.1	16.6	14.9	14.9	10.8
75°	2078.1	463.5	61.2	44.7	32.3	15.7	12.4	14.9	15.7	14.9	12.4
77.5°	486.6	144.0	48.0	35.6	26.5	10.8	12.4	14.9	15.7	14.1	10.8
80°	182.9	61.2	31.4	23.2	20.7	6.6	10.8	9.1	8.3	5.8	1.7
82.5°	110.9	25.7	16.6	11.6	9.9	1.7	5.0	3.3	1.7	1.7	0.0
85°	78.6	12.4	9.1	8.3	5.0	0.0	0.8	0.0	0.0	0.8	0.0
87.5°	10.8	3.3	4.1	4.1	3.3	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)