

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: P368157

Luminaire Tested: **MSA-SA3D-760-U-T4FT-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368157  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3D-760-U-T4FT-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

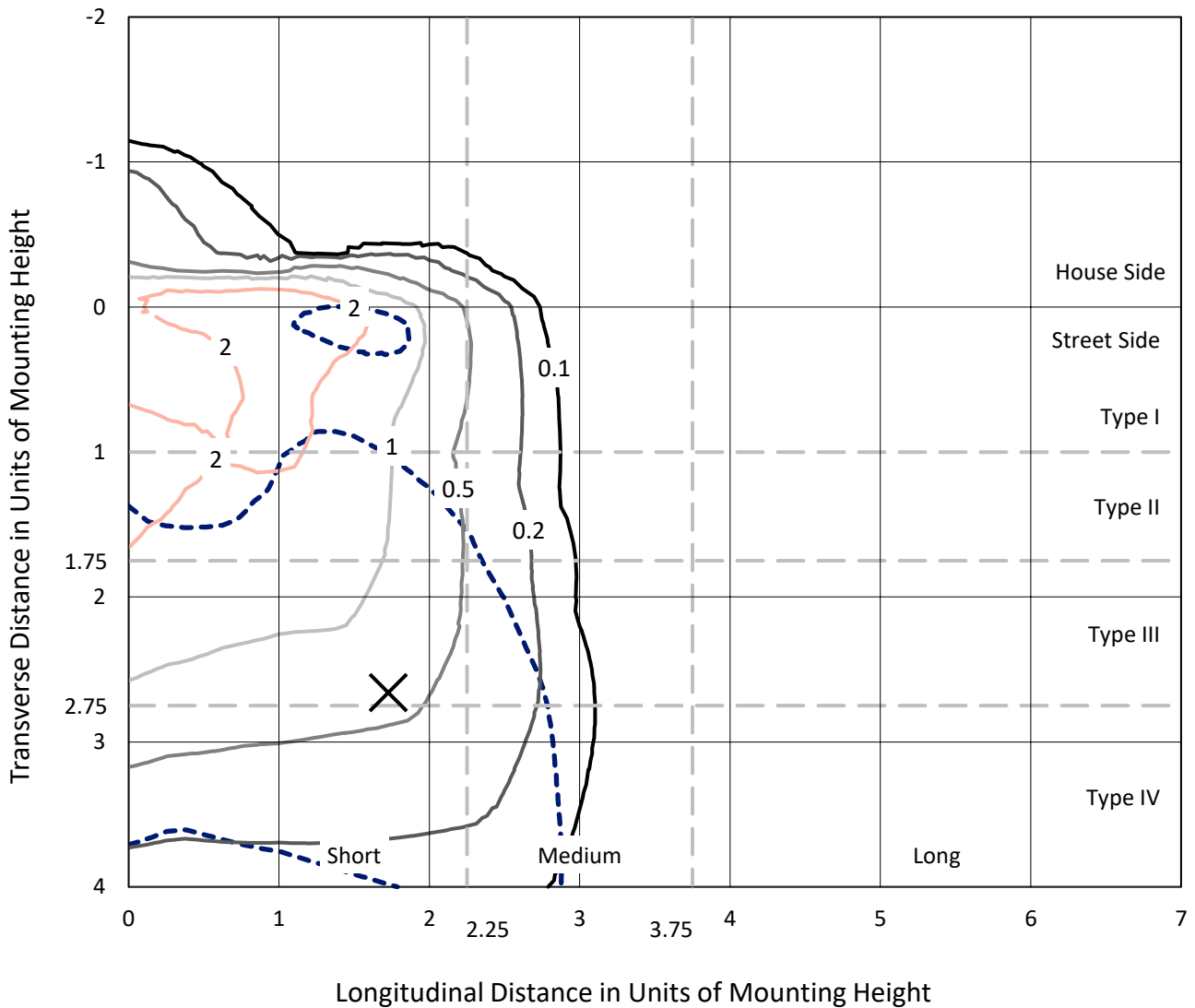
Lumens per Lamp: N/A  
Luminaire Lumens: 14905 lumens  
Efficiency: N/A  
Efficacy: 77.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3  
  
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

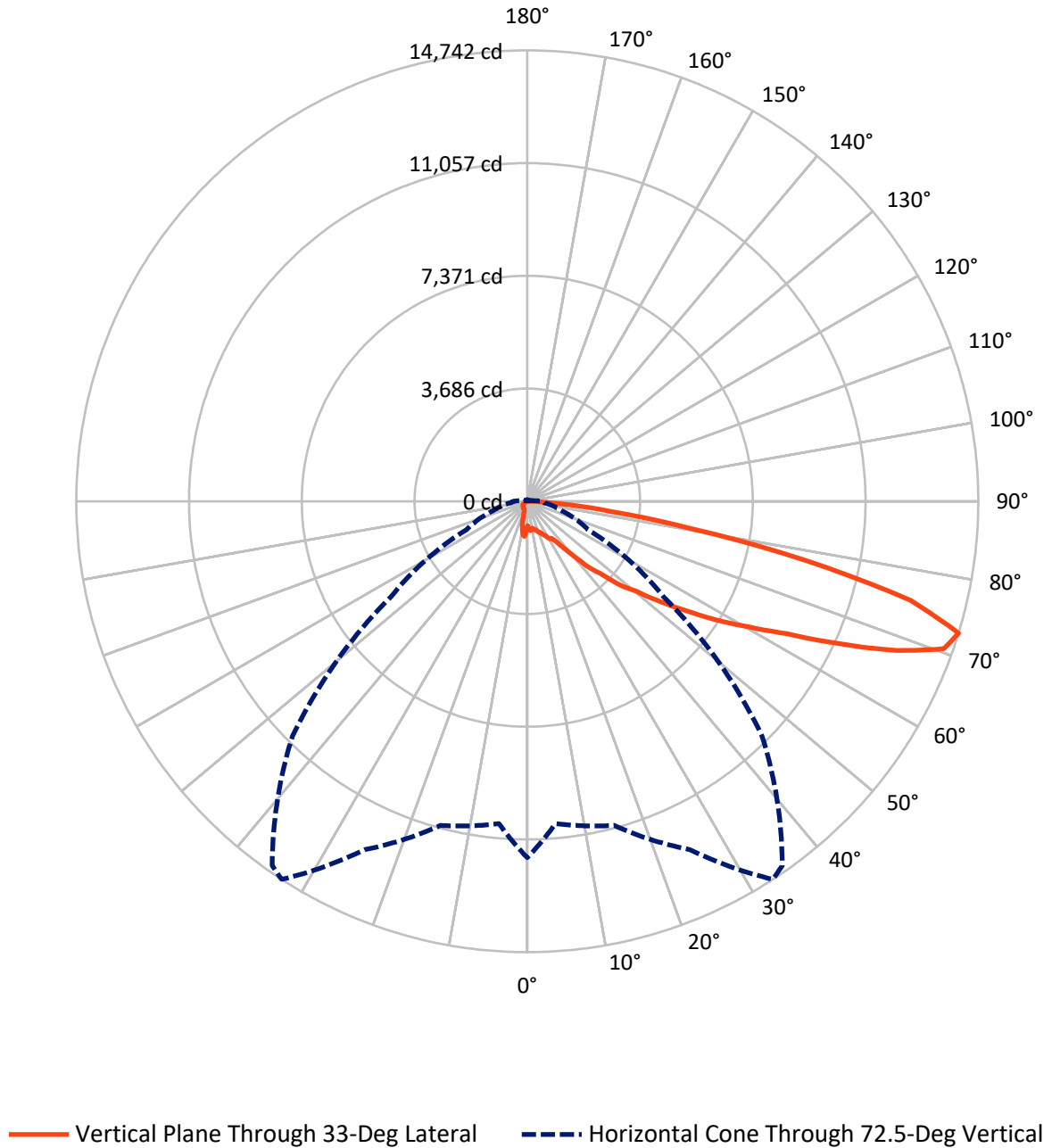
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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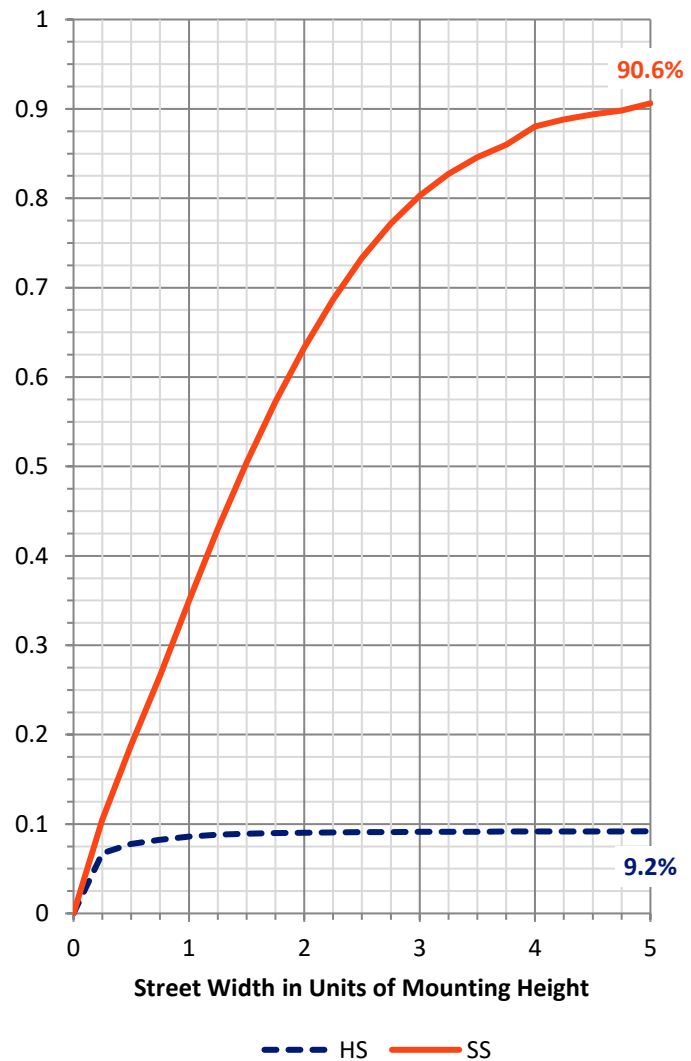
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1378.2	0.0	1378.2
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	13526.8	0.0	13526.8
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	14905.0	0.0	14905.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.6	0.7
10°-20°	305.8	2.1
20°-30°	518.5	3.5
30°-40°	949.0	6.4
40°-50°	2002.9	13.4
50°-60°	3351.0	22.5
60°-70°	4485.5	30.1
70°-80°	2930.0	19.7
80°-90°	259.8	1.7
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°	14905.0	100.0
0°-180°	14905.0	100.0

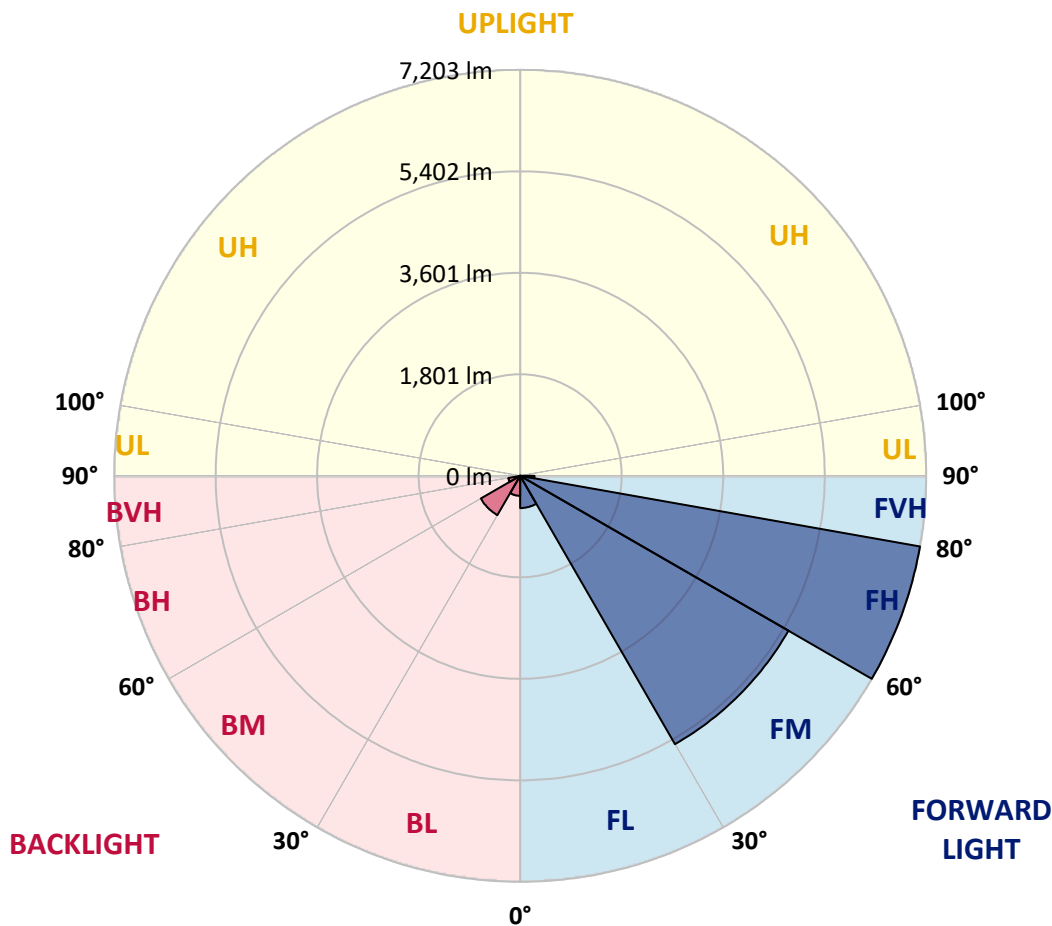


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	572.2	3.8			
FM (30°-60°)	5497.2	36.9			
FH (60°-80°)	7202.7	48.3			G3/7500
FVH (80°-90°)	254.7	1.7			G3/500
BL (0°-30°)	354.7	2.4	B1/500		
BM (30°-60°)	805.7	5.4	B1/1000		
BH (60°-80°)	212.7	1.4	B1/500		G1/500
BVH (80°-90°)	5.0	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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	792.8	792.8	792.8	792.8	792.8	792.8	792.8	792.8	792.8	792.8	792.8
2.5°	945.0	908.6	855.7	859.0	868.1	875.5	895.4	887.1	871.4	870.6	945.0
5°	1001.3	960.8	957.5	962.4	959.9	973.2	956.6	1010.4	1055.9	1110.5	1198.3
7.5°	974.0	955.0	931.0	955.8	955.0	948.3	959.1	1068.3	1178.4	1247.9	1392.7
10°	895.4	873.9	892.1	900.4	894.6	923.5	995.5	1084.9	1216.5	1362.1	1432.5
12.5°	873.0	886.3	892.9	892.9	948.3	963.2	1073.3	1157.7	1314.1	1429.1	1633.5
15°	959.9	985.6	940.1	930.1	947.5	955.8	1078.3	1180.1	1380.3	1590.5	1761.8
17.5°	1098.1	1096.5	1026.1	987.2	1014.6	1034.4	1102.3	1221.4	1338.9	1717.1	1965.4
20°	1193.3	1195.0	1068.3	987.2	1077.4	1089.0	1164.3	1259.5	1352.2	1780.8	2098.6
22.5°	1315.8	1271.9	1132.1	1053.4	1114.7	1125.4	1208.2	1283.5	1420.0	1773.4	2269.1
25°	1415.9	1387.8	1211.5	1156.9	1211.5	1196.6	1271.9	1385.3	1492.9	1891.7	2369.2
27.5°	1571.5	1523.5	1267.8	1277.7	1274.4	1285.2	1302.5	1476.3	1621.1	1897.5	2600.9
30°	1716.3	1688.2	1393.6	1393.6	1425.8	1405.1	1417.6	1627.7	1745.3	2031.6	2861.6
32.5°	1866.1	1867.7	1541.7	1463.1	1437.4	1522.7	1606.2	1701.4	1895.0	2261.6	3260.5
35°	2262.5	2229.4	1825.5	1629.4	1608.7	1603.8	1737.8	1995.2	2160.7	2561.2	3797.5
37.5°	3061.0	2946.0	2436.2	2006.8	1929.0	1902.5	2054.8	2318.7	2483.4	3001.4	4685.5
40°	3880.3	3669.3	3103.2	2619.1	2366.7	2252.5	2429.6	2653.9	2946.8	3488.0	5507.2
42.5°	4599.4	4338.7	3605.5	3279.5	2951.0	2901.3	2735.0	3099.9	3608.9	4196.4	6312.4
45°	5300.3	4787.3	4052.4	3794.2	3395.4	3423.5	3367.2	3683.3	4296.5	4972.6	7026.5
47.5°	5782.8	5321.8	4600.2	4265.1	4105.4	3940.7	4387.6	4716.1	4908.9	5465.8	7643.9
50°	6302.5	5835.7	5071.1	4836.9	4626.7	4793.0	5373.1	5417.0	5401.3	5925.9	8064.3
52.5°	6973.6	6423.3	5611.5	5346.7	5465.8	5631.3	6300.8	6309.1	5839.0	6313.2	8367.1
55°	7594.2	6984.3	6331.4	6081.5	6330.6	6470.5	7212.7	6940.5	6093.9	6576.4	8516.1
57.5°	8468.9	7763.1	7288.9	6848.6	7353.4	7219.4	8014.6	7610.0	6380.2	6751.0	8461.5
60°	9574.5	8743.7	8268.7	7802.8	8344.0	8435.0	8797.5	7944.3	6491.1	6808.1	8133.0
62.5°	10699.1	9863.3	9238.5	8922.4	9536.4	9836.0	9522.4	8110.6	6357.9	6696.4	7389.0
65°	12094.3	11024.3	10294.5	10109.1	11246.9	11687.2	10379.7	8151.2	6100.5	6081.5	5940.8
67.5°	13050.1	12008.3	11338.8	11649.1	13023.7	13059.2	11149.3	8163.6	5234.1	4761.6	3899.3
70°	13276.9	12161.4	11861.8	12775.4	14441.2	13993.5	11397.6	7534.7	3881.9	2826.0	1782.5
72.5°	11654.9	10580.8	10970.6	12562.7	14742.4	14537.2	10848.9	5436.0	2185.5	1130.4	547.0
75°	7149.0	6499.4	8229.8	10651.1	12940.9	12808.5	8464.0	2808.6	880.5	451.8	204.4
77.5°	3109.0	2887.2	4294.9	7067.1	9298.9	9180.6	4959.4	1034.4	455.1	317.8	103.4
80°	1028.6	998.0	1626.9	3346.5	5446.8	5342.5	2089.5	430.3	324.4	254.9	57.9
82.5°	244.1	242.5	567.7	1540.0	2774.7	2687.8	641.3	237.5	235.0	201.1	30.6
85°	61.2	62.9	157.2	629.7	1127.1	993.9	167.2	118.3	165.5	136.5	15.7
87.5°	0.0	0.0	40.5	90.2	170.5	106.8	18.2	31.4	46.3	48.8	8.3
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°	792.8	792.8	792.8	792.8	792.8	792.8	792.8	792.8	792.8	792.8	792.8
2.5°	961.6	952.5	878.0	896.2	924.4	921.9	940.1	926.0	913.6	974.8	969.0
5°	1223.1	1173.4	1150.3	1182.5	1165.2	1124.6	1158.5	1152.7	1142.8	1163.5	1179.2
7.5°	1419.2	1373.7	1353.0	1285.2	1186.7	1108.9	1121.3	1092.3	1065.0	1097.3	1130.4
10°	1483.8	1458.9	1456.5	1324.0	1231.4	1118.8	985.6	870.6	839.9	799.4	817.6
12.5°	1659.2	1674.1	1580.6	1425.8	1247.1	1031.1	794.4	631.4	565.2	522.2	524.7
15°	1803.2	1855.3	1719.6	1441.6	1097.3	786.2	528.8	382.3	340.9	330.2	326.9
17.5°	2017.5	2068.0	1762.6	1329.8	884.6	532.9	340.1	297.9	300.4	307.8	306.2
20°	2176.4	2169.0	1725.4	1132.1	652.1	349.2	284.7	278.9	292.1	313.6	308.7
22.5°	2329.5	2278.2	1702.2	949.2	422.0	280.5	274.7	273.9	286.3	307.0	312.8
25°	2438.7	2447.0	1663.3	743.1	307.0	260.7	265.6	273.1	285.5	307.8	304.5
27.5°	2751.5	2519.8	1501.1	539.5	259.0	249.9	262.3	277.2	281.4	309.5	310.3
30°	2954.3	2794.6	1395.2	363.3	239.2	230.9	255.7	275.6	280.5	316.9	319.4
32.5°	3307.6	2912.9	1272.7	269.8	222.6	225.1	240.8	267.3	290.5	329.4	331.0
35°	3747.1	3292.7	1051.0	242.5	216.8	212.7	220.1	250.7	288.8	331.0	339.3
37.5°	4583.7	3520.3	833.3	235.0	216.8	209.4	216.8	235.0	283.8	347.6	364.9
40°	5143.9	3983.7	600.8	233.4	212.7	206.1	208.5	226.7	269.8	337.6	363.3
42.5°	5834.1	4179.0	442.7	229.2	208.5	198.6	200.3	223.4	255.7	316.9	336.0
45°	6399.3	4321.4	348.4	227.6	198.6	195.3	198.6	221.0	242.5	272.3	289.6
47.5°	6828.8	4486.9	279.7	216.8	196.1	195.3	191.2	206.9	220.1	227.6	239.2
50°	7143.2	4449.6	231.7	200.3	187.8	192.8	185.4	187.8	191.2	187.0	200.3
52.5°	7336.0	4315.6	192.8	180.4	177.9	182.1	173.0	165.5	159.7	156.4	164.7
55°	7406.4	4046.6	163.9	154.7	160.5	162.2	154.7	141.5	131.6	126.6	133.2
57.5°	7273.2	3637.0	142.3	128.3	141.5	141.5	131.6	117.5	105.9	97.6	104.3
60°	6935.5	3184.3	126.6	106.8	120.8	121.6	110.1	95.2	86.1	77.8	81.9
62.5°	6306.6	2691.1	110.9	92.7	104.3	105.1	91.0	77.0	70.3	61.2	64.5
65°	5048.8	2058.1	94.3	81.9	90.2	87.7	75.3	65.4	57.1	48.8	50.5
67.5°	3277.0	1270.3	81.9	74.5	76.1	73.7	63.7	57.1	48.0	41.4	42.2
70°	1467.2	547.0	72.0	67.0	66.2	62.1	53.8	53.0	47.2	41.4	41.4
72.5°	452.7	206.1	62.1	60.4	57.1	52.1	47.2	50.5	46.3	39.7	38.9
75°	178.7	94.3	51.3	51.3	49.7	43.0	42.2	45.5	43.0	36.4	34.8
77.5°	93.5	59.6	42.2	43.9	43.0	33.1	38.1	41.4	39.7	30.6	25.7
80°	55.4	36.4	31.4	35.6	34.8	23.2	29.0	26.5	19.0	9.1	2.5
82.5°	30.6	16.6	14.1	20.7	20.7	8.3	14.9	13.2	7.4	0.0	0.0
85°	14.9	11.6	10.8	11.6	8.3	2.5	7.4	7.4	4.1	0.0	0.0
87.5°	7.4	6.6	5.0	4.1	3.3	0.0	2.5	3.3	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)