

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: P368069

Luminaire Tested: **MSA-SA3D-727-U-T4FT-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368069
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-727-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: 12466 lumens
Efficiency: N/A
Efficacy: 64.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

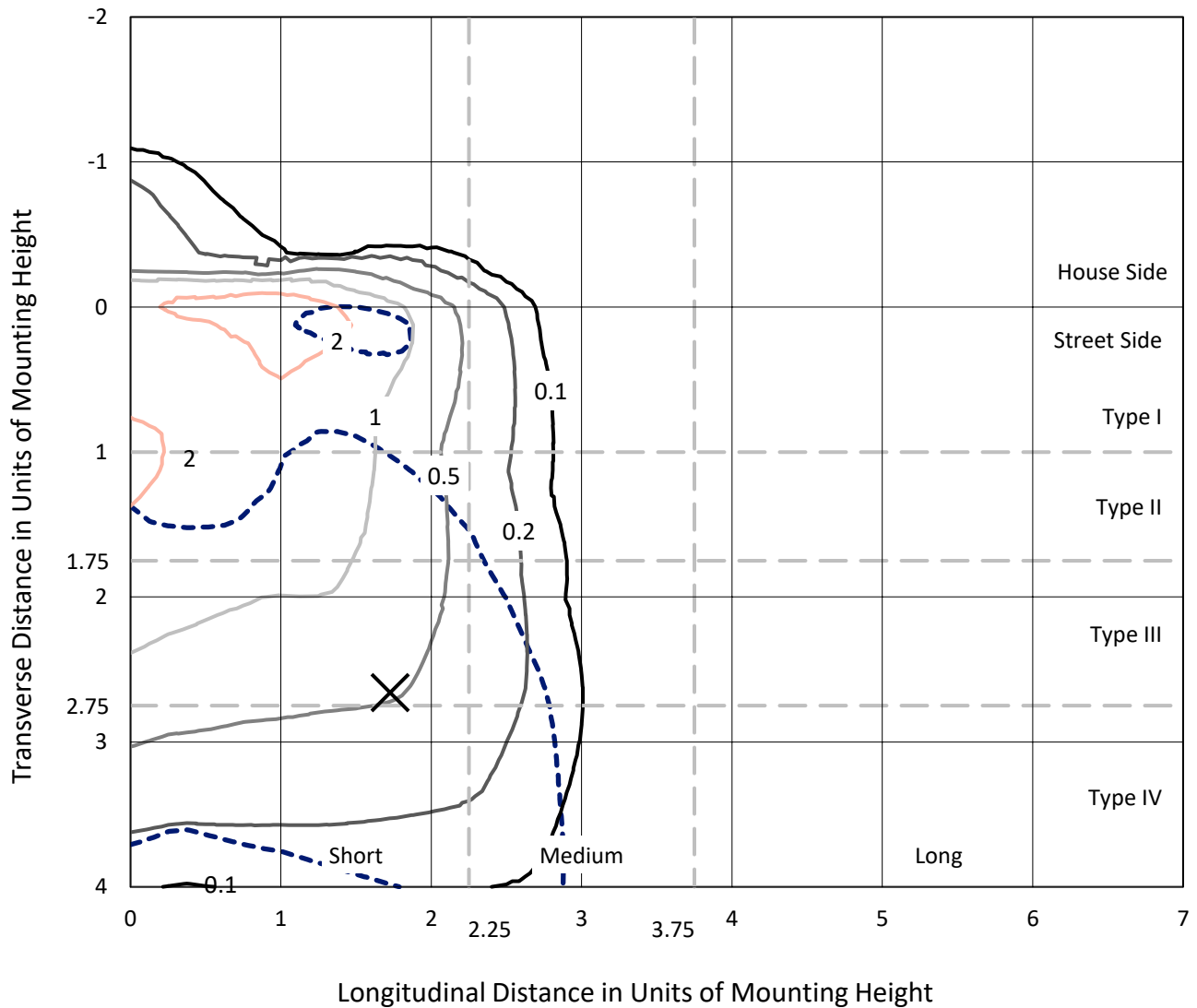
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

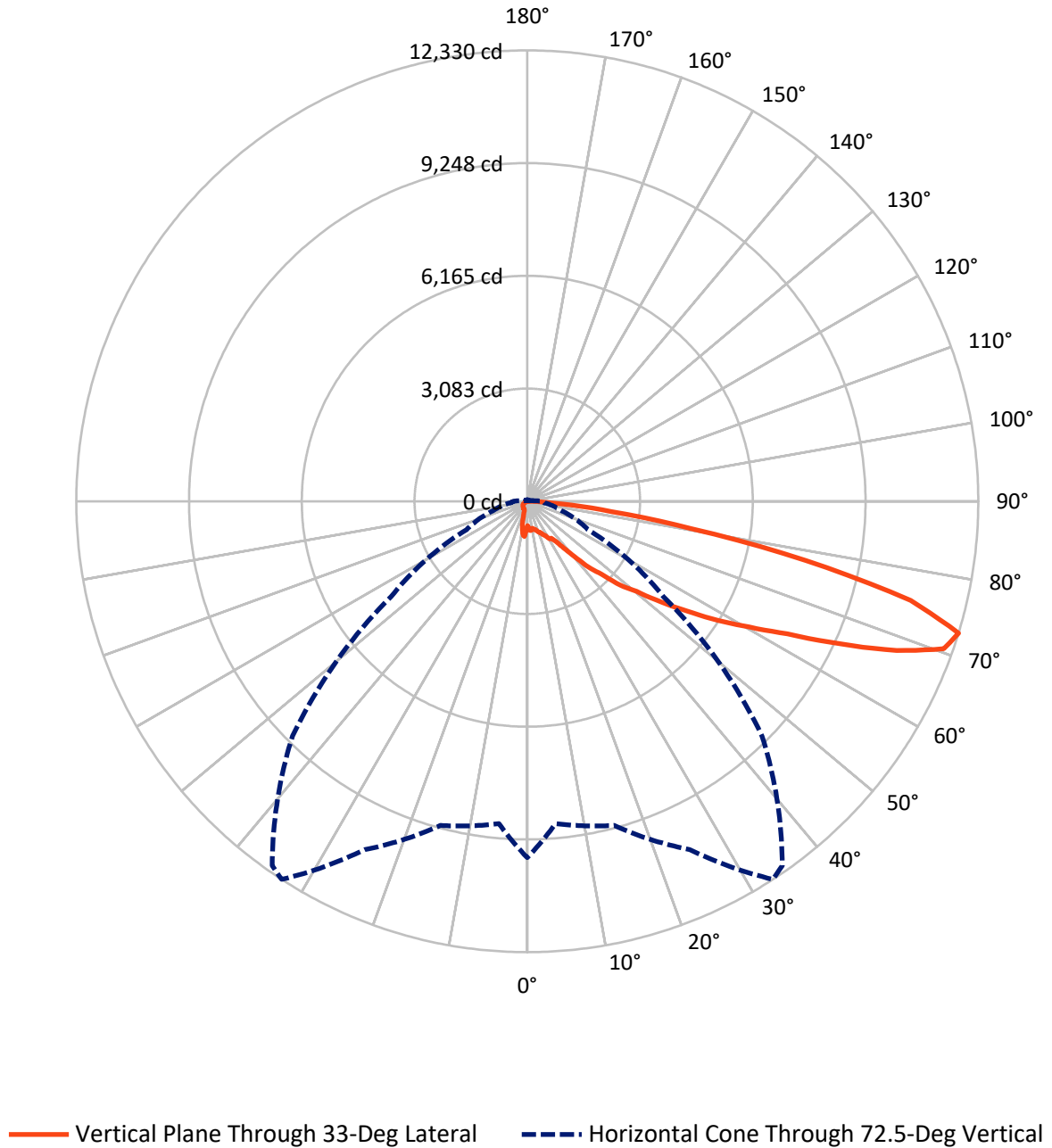
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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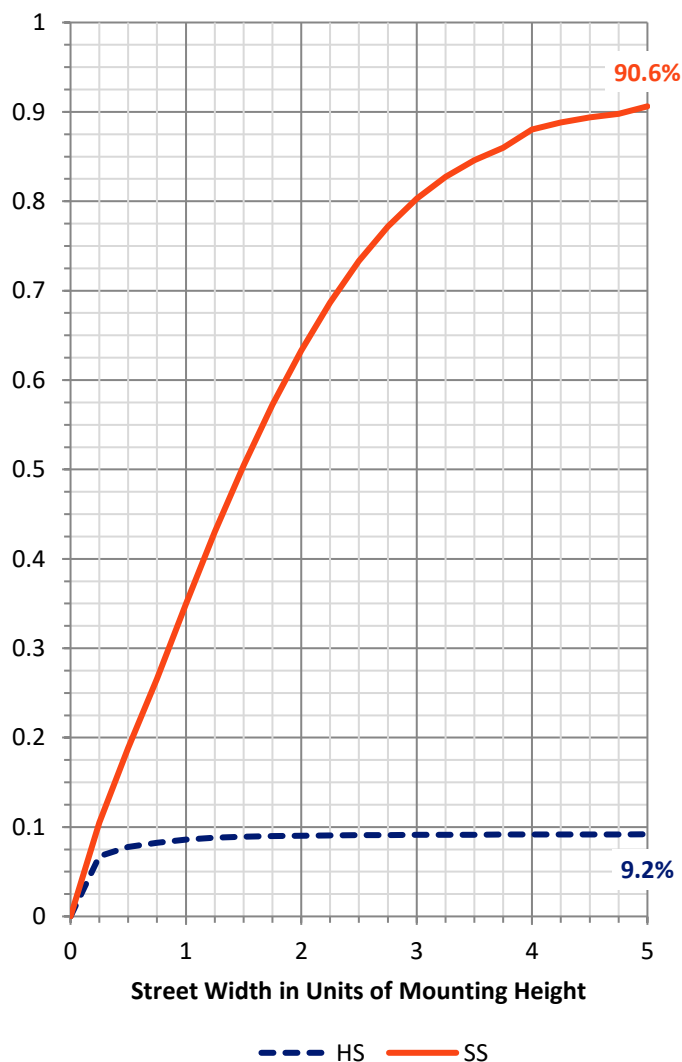
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1152.7	0.0	1152.7
	% Fixture	9.2	0.0	9.2
Street Side	Lumens	11313.3	0.0	11313.3
	% Fixture	90.8	0.0	90.8
Total	Lumens	12466.0	0.0	12466.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.8	0.7
10°-20°	255.7	2.1
20°-30°	433.7	3.5
30°-40°	793.7	6.4
40°-50°	1675.2	13.4
50°-60°	2802.7	22.5
60°-70°	3751.5	30.1
70°-80°	2450.5	19.7
80°-90°	217.3	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°	12466.0	100.0
0°-180°	12466.0	100.0

Coefficient of Utilization



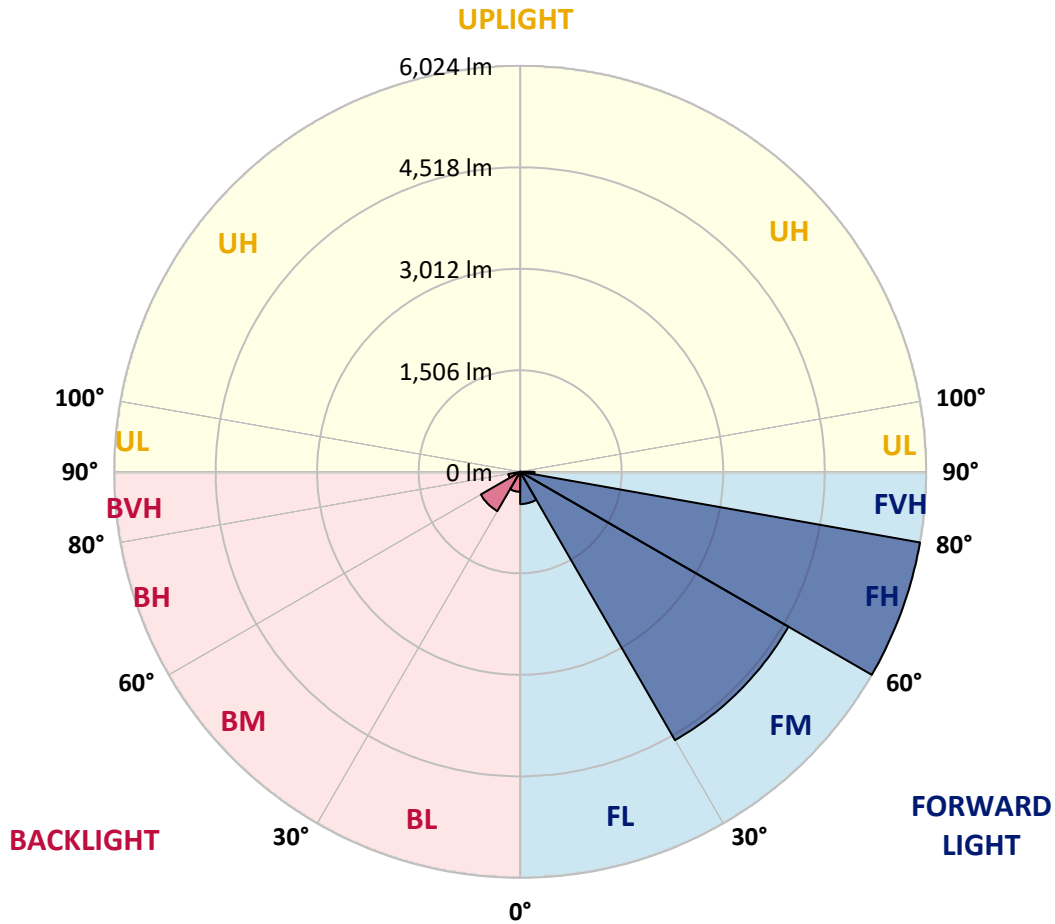
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	478.5	3.8			
FM (30°-60°)	4597.6	36.9			
FH (60°-80°)	6024.1	48.3			G3/7500
FVH (80°-90°)	213.1	1.7			G2/225
BL (0°-30°)	296.7	2.4	B1/500		
BM (30°-60°)	673.9	5.4	B1/1000		
BH (60°-80°)	177.9	1.4	B1/500		G1/500
BVH (80°-90°)	4.2	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°	663.0	663.0	663.0	663.0	663.0	663.0	663.0	663.0	663.0	663.0	663.0
2.5°	790.4	759.9	715.6	718.4	726.0	732.3	748.9	741.9	728.8	728.1	790.4
5°	837.5	803.5	800.8	804.9	802.9	813.9	800.1	845.1	883.1	928.8	1002.2
7.5°	814.6	798.7	778.6	799.4	798.7	793.2	802.2	893.5	985.6	1043.7	1164.8
10°	748.9	730.9	746.1	753.0	748.2	772.4	832.6	907.4	1017.4	1139.2	1198.1
12.5°	730.2	741.3	746.8	746.8	793.2	805.6	897.7	968.3	1099.1	1195.3	1366.2
15°	802.9	824.3	786.2	777.9	792.5	799.4	901.8	987.0	1154.4	1330.2	1473.5
17.5°	918.4	917.1	858.2	825.7	848.5	865.1	921.9	1021.6	1119.8	1436.1	1643.8
20°	998.0	999.4	893.5	825.7	901.1	910.8	973.8	1053.4	1130.9	1489.4	1755.2
22.5°	1100.5	1063.8	946.8	881.1	932.3	941.3	1010.5	1073.5	1187.7	1483.2	1897.8
25°	1184.2	1160.7	1013.3	967.6	1013.3	1000.8	1063.8	1158.6	1248.6	1582.2	1981.5
27.5°	1314.3	1274.2	1060.3	1068.6	1065.9	1074.9	1089.4	1234.7	1355.9	1587.0	2175.3
30°	1435.4	1411.9	1165.5	1165.5	1192.5	1175.2	1185.6	1361.4	1459.7	1699.1	2393.3
32.5°	1560.7	1562.1	1289.4	1223.7	1202.2	1273.5	1343.4	1423.0	1584.9	1891.6	2726.9
35°	1892.2	1864.6	1526.8	1362.8	1345.5	1341.3	1453.4	1668.7	1807.1	2142.1	3176.1
37.5°	2560.1	2463.9	2037.6	1678.4	1613.3	1591.2	1718.5	1939.3	2077.0	2510.3	3918.8
40°	3245.3	3068.8	2595.4	2190.5	1979.4	1883.9	2032.1	2219.6	2464.6	2917.3	4606.0
42.5°	3846.8	3628.8	3015.5	2742.9	2468.1	2426.6	2287.4	2592.7	3018.3	3509.7	5279.5
45°	4433.0	4003.9	3389.3	3173.3	2839.7	2863.3	2816.2	3080.6	3593.5	4158.9	5876.8
47.5°	4836.5	4451.0	3847.5	3567.2	3433.6	3295.9	3669.6	3944.4	4105.6	4571.4	6393.1
50°	5271.1	4880.8	4241.3	4045.4	3869.6	4008.7	4493.9	4530.6	4517.4	4956.2	6744.7
52.5°	5832.5	5372.2	4693.2	4471.8	4571.4	4709.8	5269.8	5276.7	4883.6	5280.1	6998.0
55°	6351.5	5841.5	5295.4	5086.4	5294.7	5411.6	6032.5	5804.8	5096.7	5500.2	7122.6
57.5°	7083.1	6492.7	6096.2	5727.9	6150.1	6038.0	6703.1	6364.7	5336.2	5646.3	7076.9
60°	8007.8	7312.9	6915.6	6526.0	6978.6	7054.7	7357.9	6644.3	5429.0	5694.0	6802.1
62.5°	8948.4	8249.3	7726.8	7462.4	7975.9	8226.5	7964.2	6783.4	5317.5	5600.6	6179.9
65°	10115.3	9220.4	8609.9	8454.9	9406.5	9774.7	8681.2	6817.3	5102.3	5086.4	4968.7
67.5°	10914.7	10043.3	9483.4	9742.9	10892.5	10922.3	9324.9	6827.7	4377.6	3982.4	3261.2
70°	11104.3	10171.3	9920.8	10684.9	12078.1	11703.7	9532.5	6301.7	3246.7	2363.6	1490.8
72.5°	9747.8	8849.4	9175.4	10507.0	12330.0	12158.4	9073.6	4546.5	1827.9	945.4	457.5
75°	5979.2	5435.9	6883.1	8908.2	10823.3	10712.6	7079.0	2349.0	736.4	377.9	171.0
77.5°	2600.3	2414.8	3592.1	5910.7	7777.3	7678.3	4147.8	865.1	380.7	265.8	86.5
80°	860.3	834.7	1360.7	2798.9	4555.5	4468.3	1747.6	359.9	271.3	213.2	48.4
82.5°	204.2	202.8	474.8	1288.0	2320.7	2248.0	536.4	198.6	196.6	168.2	25.6
85°	51.2	52.6	131.5	526.7	942.7	831.2	139.8	99.0	138.4	114.2	13.2
87.5°	0.0	0.0	33.9	75.4	142.6	89.3	15.2	26.3	38.8	40.8	6.9
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°	663.0	663.0	663.0	663.0	663.0	663.0	663.0	663.0	663.0	663.0	663.0
2.5°	804.2	796.6	734.3	749.6	773.1	771.0	786.2	774.5	764.1	815.3	810.5
5°	1022.9	981.4	962.0	989.0	974.5	940.6	969.0	964.1	955.8	973.1	986.3
7.5°	1187.0	1148.9	1131.6	1074.9	992.5	927.4	937.8	913.6	890.8	917.7	945.4
10°	1241.0	1220.2	1218.1	1107.4	1029.9	935.7	824.3	728.1	702.5	668.6	683.8
12.5°	1387.7	1400.1	1321.9	1192.5	1043.0	862.4	664.4	528.1	472.7	436.7	438.8
15°	1508.1	1551.7	1438.2	1205.7	917.7	657.5	442.3	319.8	285.2	276.2	273.4
17.5°	1687.4	1729.6	1474.2	1112.2	739.9	445.7	284.5	249.2	251.2	257.5	256.1
20°	1820.3	1814.0	1443.1	946.8	545.4	292.1	238.1	233.2	244.3	262.3	258.2
22.5°	1948.3	1905.4	1423.7	793.9	353.0	234.6	229.8	229.1	239.5	256.8	261.6
25°	2039.7	2046.6	1391.2	621.5	256.8	218.0	222.2	228.4	238.8	257.5	254.7
27.5°	2301.3	2107.5	1255.5	451.3	216.6	209.0	219.4	231.9	235.3	258.9	259.5
30°	2470.9	2337.3	1166.9	303.8	200.0	193.1	213.9	230.5	234.6	265.1	267.2
32.5°	2766.4	2436.2	1064.5	225.6	186.2	188.3	201.4	223.6	242.9	275.5	276.8
35°	3133.9	2753.9	879.0	202.8	181.3	177.9	184.1	209.7	241.5	276.8	283.8
37.5°	3833.6	2944.3	697.0	196.6	181.3	175.1	181.3	196.6	237.4	290.7	305.2
40°	4302.2	3331.8	502.5	195.2	177.9	172.3	174.4	189.6	225.6	282.4	303.8
42.5°	4879.4	3495.2	370.3	191.7	174.4	166.1	167.5	186.9	213.9	265.1	281.0
45°	5352.1	3614.2	291.4	190.3	166.1	163.3	166.1	184.8	202.8	227.7	242.2
47.5°	5711.3	3752.6	233.9	181.3	164.0	163.3	159.9	173.0	184.1	190.3	200.0
50°	5974.3	3721.5	193.8	167.5	157.1	161.3	155.0	157.1	159.9	156.4	167.5
52.5°	6135.6	3609.4	161.3	150.9	148.8	152.3	144.7	138.4	133.6	130.8	137.7
55°	6194.4	3384.4	137.0	129.4	134.3	135.7	129.4	118.4	110.0	105.9	111.4
57.5°	6083.0	3041.8	119.0	107.3	118.4	118.4	110.0	98.3	88.6	81.7	87.2
60°	5800.6	2663.3	105.9	89.3	101.0	101.7	92.1	79.6	72.0	65.1	68.5
62.5°	5274.6	2250.8	92.7	77.5	87.2	87.9	76.1	64.4	58.8	51.2	54.0
65°	4222.6	1721.3	78.9	68.5	75.4	73.4	63.0	54.7	47.8	40.8	42.2
67.5°	2740.8	1062.4	68.5	62.3	63.7	61.6	53.3	47.8	40.1	34.6	35.3
70°	1227.1	457.5	60.2	56.1	55.4	51.9	45.0	44.3	39.5	34.6	34.6
72.5°	378.6	172.3	51.9	50.5	47.8	43.6	39.5	42.2	38.8	33.2	32.5
75°	149.5	78.9	42.9	42.9	41.5	36.0	35.3	38.1	36.0	30.5	29.1
77.5°	78.2	49.8	35.3	36.7	36.0	27.7	31.8	34.6	33.2	25.6	21.5
80°	46.4	30.5	26.3	29.8	29.1	19.4	24.2	22.1	15.9	7.6	2.1
82.5°	25.6	13.8	11.8	17.3	17.3	6.9	12.5	11.1	6.2	0.0	0.0
85°	12.5	9.7	9.0	9.7	6.9	2.1	6.2	6.2	3.5	0.0	0.0
87.5°	6.2	5.5	4.2	3.5	2.8	0.0	2.1	2.8	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)