

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: P368443

Luminaire Tested: **MSA-SA4B-830-U-T4FT-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368443
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-SA4B-830-U-T4FT-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 11561 lumens
Efficiency: N/A
Efficacy: 67.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

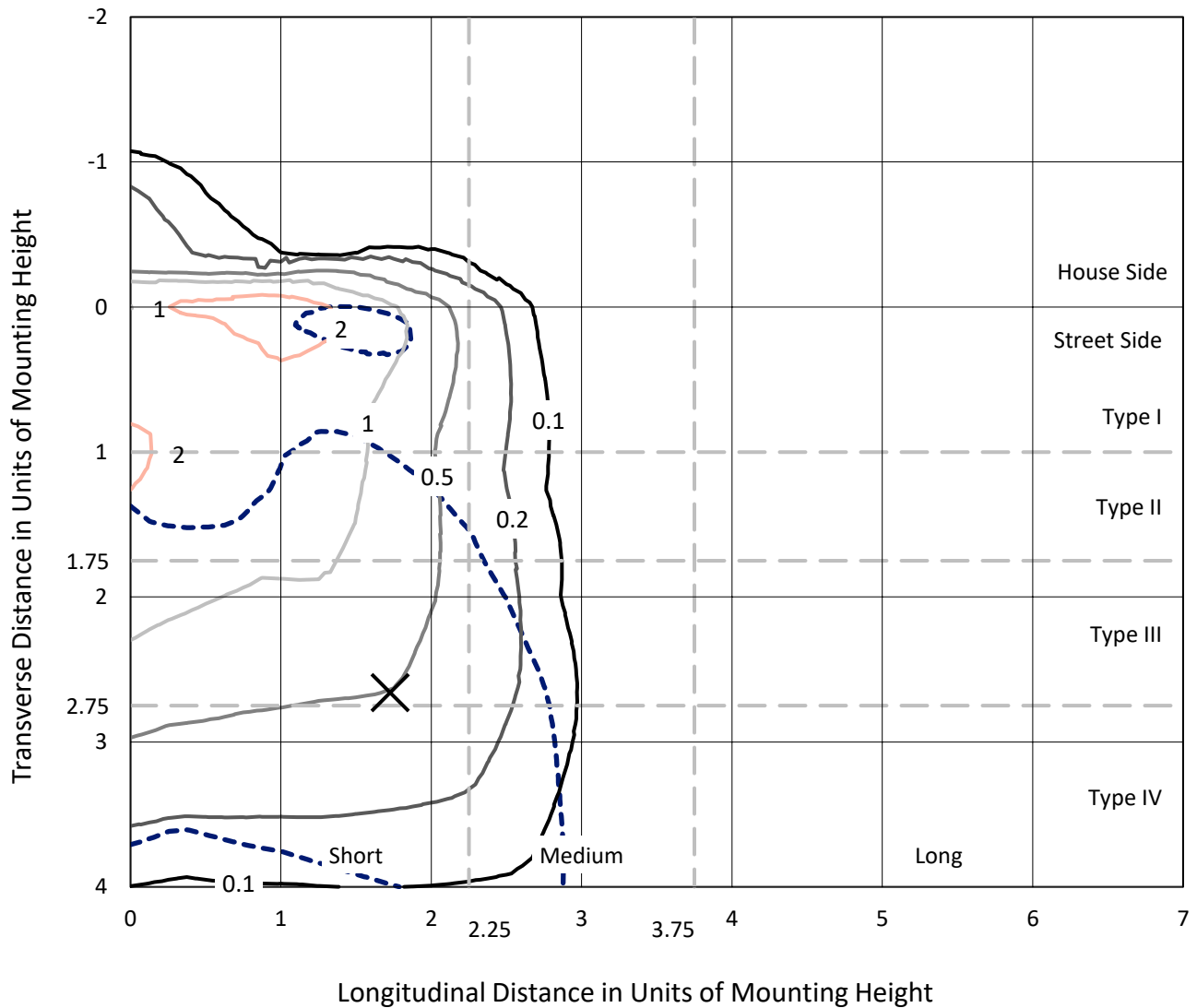
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P368443
 CATALOG NUMBER: MSA-SA4B-830-U-T4FT-HSS

Iso-Footcandle Lines of Horizontal Illumination

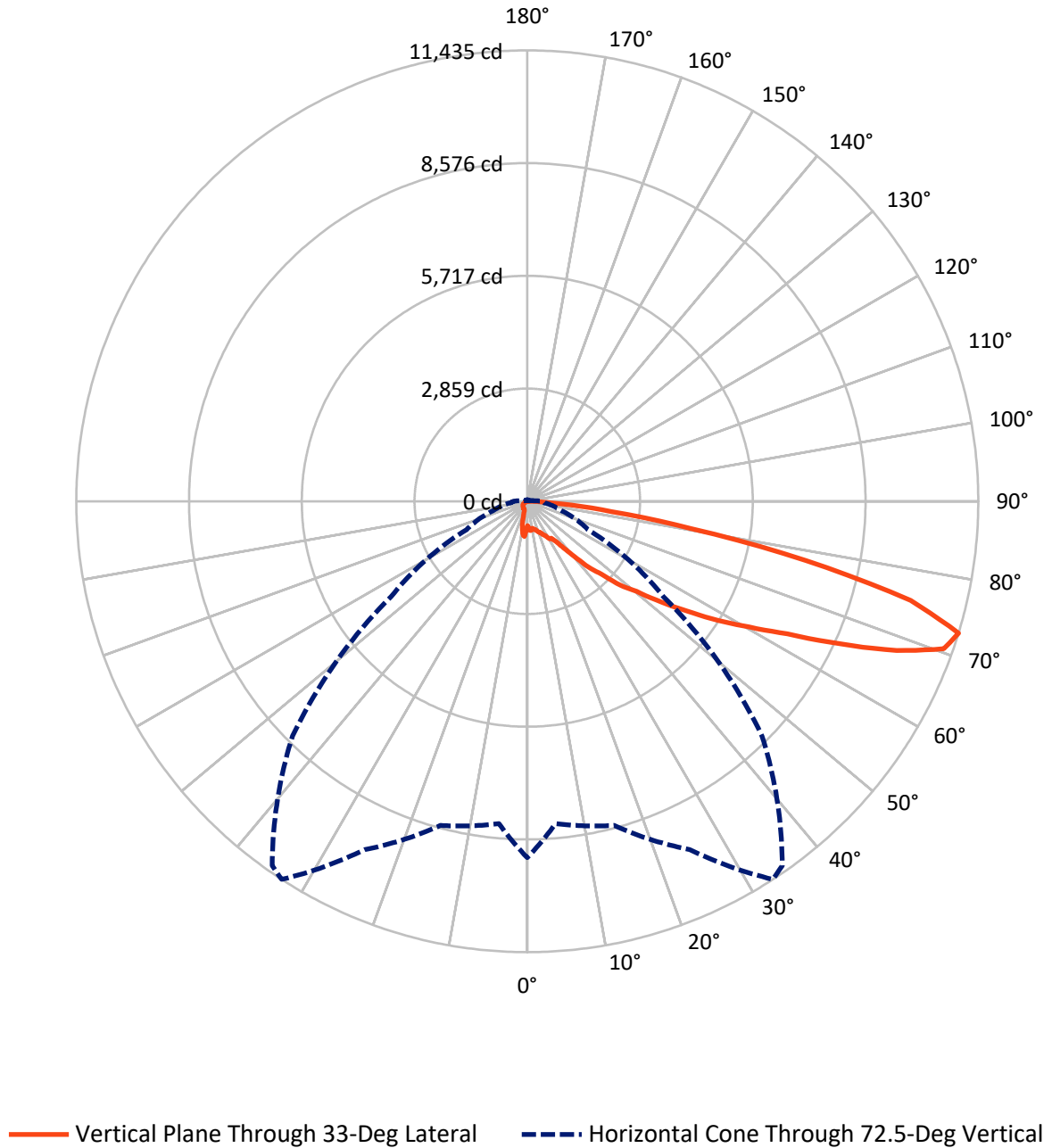
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.9 fc
 Type IV - Short - N/A

REPORT NUMBER: P368443
CATALOG NUMBER: MSA-SA4B-830-U-T4FT-HSS

Luminous Intensity Polar Plot



REPORT NUMBER: P368443
 CATALOG NUMBER: MSA-SA4B-830-U-T4FT-HSS

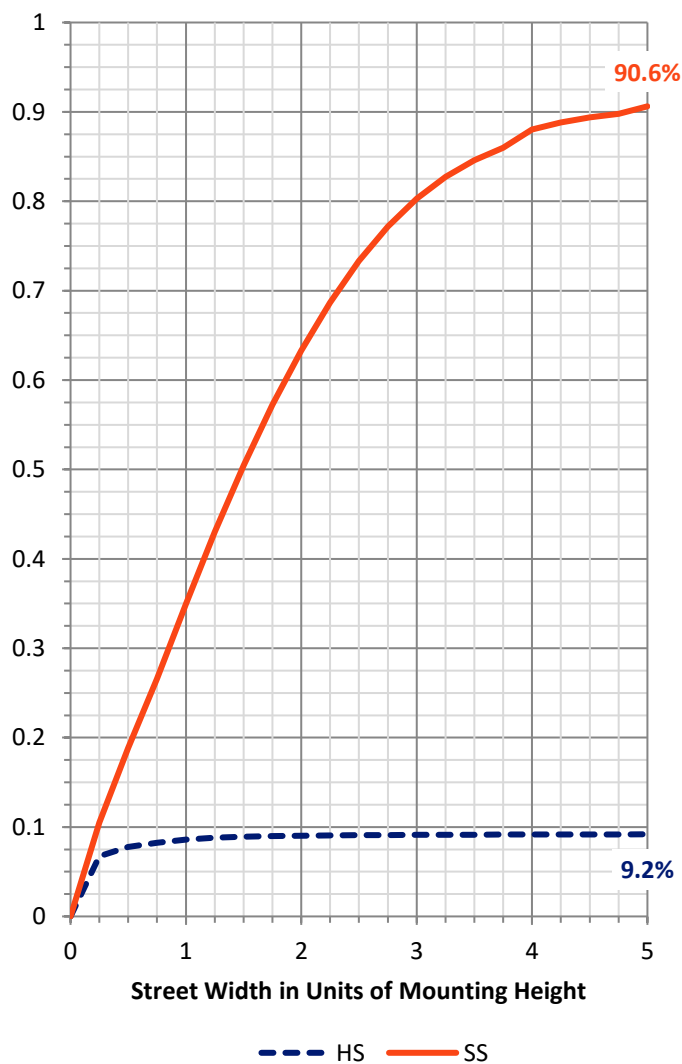
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1069.0	0.0	1069.0
	% Fixture	9.2	0.0	9.2
Street Side	Lumens	10492.0	0.0	10492.0
	% Fixture	90.8	0.0	90.8
Total	Lumens	11561.0	0.0	11561.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.6	0.7
10°-20°	237.2	2.1
20°-30°	402.2	3.5
30°-40°	736.1	6.4
40°-50°	1553.5	13.4
50°-60°	2599.2	22.5
60°-70°	3479.2	30.1
70°-80°	2272.6	19.7
80°-90°	201.5	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°	11561.0	100.0
0°-180°	11561.0	100.0

Coefficient of Utilization



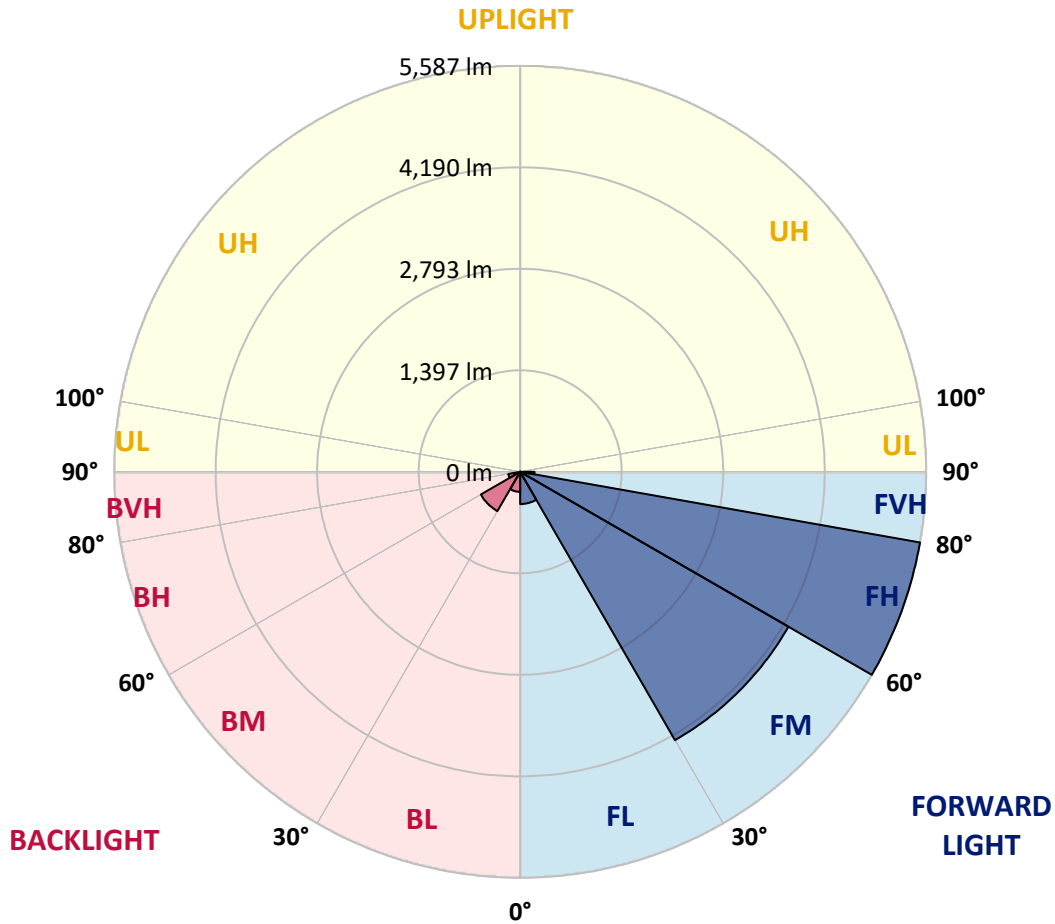
REPORT NUMBER: P368443
 CATALOG NUMBER: MSA-SA4B-830-U-T4FT-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	443.8	3.8			
FM (30°-60°)	4263.9	36.9			
FH (60°-80°)	5586.8	48.3			G3/7500
FVH (80°-90°)	197.6	1.7			G2/225
BL (0°-30°)	275.1	2.4	B1/500		
BM (30°-60°)	624.9	5.4	B1/1000		
BH (60°-80°)	165.0	1.4	B1/500		G1/500
BVH (80°-90°)	3.9	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





REPORT NUMBER: P368443

CATALOG NUMBER: MSA-SA4B-830-U-T4FT-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	614.9	614.9	614.9	614.9	614.9	614.9	614.9	614.9	614.9	614.9	614.9
2.5°	733.0	704.8	663.7	666.3	673.3	679.1	694.5	688.1	675.9	675.2	733.0
5°	776.7	745.2	742.6	746.5	744.6	754.8	742.0	783.7	819.0	861.4	929.4
7.5°	755.5	740.7	722.1	741.4	740.7	735.6	743.9	828.7	914.0	967.9	1080.3
10°	694.5	677.8	691.9	698.4	693.9	716.3	772.2	841.5	943.5	1056.5	1111.1
12.5°	677.2	687.4	692.6	692.6	735.6	747.1	832.5	898.0	1019.3	1108.5	1267.1
15°	744.6	764.5	729.2	721.5	734.9	741.4	836.4	915.3	1070.6	1233.7	1366.5
17.5°	851.8	850.5	795.9	765.8	786.9	802.3	855.0	947.4	1038.5	1331.9	1524.4
20°	925.6	926.9	828.7	765.8	835.7	844.7	903.1	976.9	1048.8	1381.3	1627.8
22.5°	1020.6	986.6	878.1	817.1	864.6	872.9	937.1	995.5	1101.4	1375.5	1760.0
25°	1098.2	1076.4	939.7	897.3	939.7	928.1	986.6	1074.5	1157.9	1467.3	1837.7
27.5°	1218.9	1181.7	983.3	991.0	988.5	996.8	1010.3	1145.1	1257.4	1471.8	2017.4
30°	1331.2	1309.4	1080.9	1080.9	1105.9	1089.9	1099.5	1262.6	1353.7	1575.8	2219.6
32.5°	1447.4	1448.7	1195.8	1134.8	1114.9	1181.0	1245.9	1319.7	1469.9	1754.2	2529.0
35°	1754.9	1729.2	1416.0	1263.8	1247.8	1243.9	1347.9	1547.5	1675.9	1986.6	2945.5
37.5°	2374.3	2285.1	1889.7	1556.5	1496.2	1475.7	1593.8	1798.5	1926.3	2328.1	3634.3
40°	3009.7	2846.0	2407.0	2031.5	1835.7	1747.2	1884.5	2058.5	2285.7	2705.5	4271.6
42.5°	3567.5	3365.3	2796.6	2543.7	2288.9	2250.4	2121.4	2404.4	2799.2	3254.9	4896.2
45°	4111.2	3713.2	3143.2	2943.0	2633.6	2655.4	2611.8	2857.0	3332.6	3857.0	5450.1
47.5°	4485.4	4127.9	3568.2	3308.2	3184.3	3056.6	3403.2	3658.0	3807.6	4239.5	5928.9
50°	4888.5	4526.5	3933.4	3751.7	3588.7	3717.7	4167.7	4201.7	4189.5	4596.4	6255.0
52.5°	5409.0	4982.2	4352.5	4147.1	4239.5	4367.9	4887.2	4893.6	4529.0	4896.8	6489.9
55°	5890.4	5417.4	4910.9	4717.1	4910.3	5018.8	5594.5	5383.4	4726.7	5100.9	6605.5
57.5°	6568.9	6021.4	5653.6	5312.1	5703.7	5599.7	6216.5	5902.6	4948.8	5236.4	6563.1
60°	7426.4	6782.0	6413.6	6052.2	6472.0	6542.6	6823.7	6161.9	5034.8	5280.7	6308.3
62.5°	8298.7	7650.4	7165.8	6920.6	7396.9	7629.3	7386.0	6291.0	4931.5	5194.0	5731.3
65°	9380.9	8551.0	7984.9	7841.1	8723.6	9065.1	8051.0	6322.4	4731.9	4717.1	4608.0
67.5°	10122.3	9314.2	8794.9	9035.6	10101.7	10129.3	8647.9	6332.0	4059.8	3693.3	3024.5
70°	10298.2	9432.9	9200.6	9909.2	11201.3	10854.0	8840.5	5844.2	3011.0	2192.0	1382.6
72.5°	9040.1	8206.9	8509.3	9744.2	11434.9	11275.7	8414.9	4216.4	1695.2	876.8	424.3
75°	5545.1	5041.2	6383.4	8261.5	10037.6	9934.9	6565.0	2178.5	682.9	350.5	158.5
77.5°	2411.5	2239.5	3331.3	5481.6	7212.7	7120.9	3846.7	802.3	353.0	246.5	80.2
80°	797.8	774.1	1261.9	2595.7	4224.8	4143.9	1620.7	333.8	251.6	197.7	44.9
82.5°	189.4	188.1	440.3	1194.5	2152.2	2084.8	497.4	184.2	182.3	156.0	23.7
85°	47.5	48.8	122.0	488.5	874.2	770.9	129.7	91.8	128.4	105.9	12.2
87.5°	0.0	0.0	31.5	70.0	132.2	82.8	14.1	24.4	35.9	37.9	6.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P368443

CATALOG NUMBER: MSA-SA4B-830-U-T4FT-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	614.9	614.9	614.9	614.9	614.9	614.9	614.9	614.9	614.9	614.9	614.9
2.5°	745.9	738.8	681.0	695.1	717.0	715.0	729.2	718.3	708.6	756.1	751.6
5°	948.7	910.2	892.2	917.2	903.8	872.3	898.6	894.1	886.4	902.5	914.7
7.5°	1100.8	1065.5	1049.5	996.8	920.4	860.1	869.7	847.3	826.1	851.1	876.8
10°	1150.9	1131.6	1129.7	1027.0	955.1	867.8	764.5	675.2	651.5	620.0	634.2
12.5°	1286.9	1298.5	1226.0	1105.9	967.3	799.8	616.2	489.7	438.4	405.0	406.9
15°	1398.6	1439.1	1333.8	1118.1	851.1	609.8	410.2	296.5	264.5	256.1	253.5
17.5°	1564.9	1604.0	1367.2	1031.5	686.2	413.4	263.8	231.1	233.0	238.8	237.5
20°	1688.1	1682.3	1338.3	878.1	505.8	270.9	220.8	216.3	226.6	243.3	239.4
22.5°	1806.9	1767.1	1320.3	736.2	327.4	217.6	213.1	212.5	222.1	238.1	242.6
25°	1891.6	1898.0	1290.2	576.4	238.1	202.2	206.0	211.8	221.4	238.8	236.2
27.5°	2134.2	1954.5	1164.4	418.5	200.9	193.8	203.5	215.0	218.2	240.1	240.7
30°	2291.5	2167.6	1082.2	281.8	185.5	179.1	198.3	213.7	217.6	245.8	247.8
32.5°	2565.6	2259.4	987.2	209.2	172.7	174.6	186.8	207.3	225.3	255.5	256.7
35°	2906.4	2554.0	815.2	188.1	168.2	165.0	170.7	194.5	224.0	256.7	263.2
37.5°	3555.3	2730.5	646.4	182.3	168.2	162.4	168.2	182.3	220.2	269.6	283.1
40°	3989.9	3090.0	466.0	181.0	165.0	159.8	161.8	175.9	209.2	261.9	281.8
42.5°	4525.2	3241.4	343.4	177.8	161.8	154.0	155.3	173.3	198.3	245.8	260.6
45°	4963.6	3351.8	270.2	176.5	154.0	151.5	154.0	171.4	188.1	211.2	224.7
47.5°	5296.7	3480.2	217.0	168.2	152.1	151.5	148.3	160.5	170.7	176.5	185.5
50°	5540.6	3451.3	179.7	155.3	145.7	149.6	143.8	145.7	148.3	145.1	155.3
52.5°	5690.2	3347.3	149.6	139.9	138.0	141.2	134.2	128.4	123.9	121.3	127.7
55°	5744.7	3138.7	127.1	120.0	124.5	125.8	120.0	109.8	102.1	98.2	103.3
57.5°	5641.4	2821.0	110.4	99.5	109.8	109.8	102.1	91.1	82.2	75.7	80.9
60°	5379.5	2469.9	98.2	82.8	93.7	94.4	85.4	73.8	66.8	60.3	63.5
62.5°	4891.7	2087.4	86.0	71.9	80.9	81.5	70.6	59.7	54.6	47.5	50.1
65°	3916.0	1596.3	73.2	63.5	70.0	68.0	58.4	50.7	44.3	37.9	39.2
67.5°	2541.8	985.3	63.5	57.8	59.1	57.1	49.4	44.3	37.2	32.1	32.7
70°	1138.0	424.3	55.8	52.0	51.3	48.1	41.7	41.1	36.6	32.1	32.1
72.5°	351.1	159.8	48.1	46.9	44.3	40.4	36.6	39.2	35.9	30.8	30.2
75°	138.6	73.2	39.8	39.8	38.5	33.4	32.7	35.3	33.4	28.2	27.0
77.5°	72.5	46.2	32.7	34.0	33.4	25.7	29.5	32.1	30.8	23.7	19.9
80°	43.0	28.2	24.4	27.6	27.0	18.0	22.5	20.5	14.8	7.1	1.9
82.5°	23.7	12.8	10.9	16.0	16.0	6.4	11.6	10.3	5.8	0.0	0.0
85°	11.6	9.0	8.3	9.0	6.4	1.9	5.8	5.8	3.2	0.0	0.0
87.5°	5.8	5.1	3.9	3.2	2.6	0.0	1.9	2.6	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)