

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: P368070

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

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368070
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)
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
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16685 lumens
Efficiency: N/A
Efficacy: 86.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

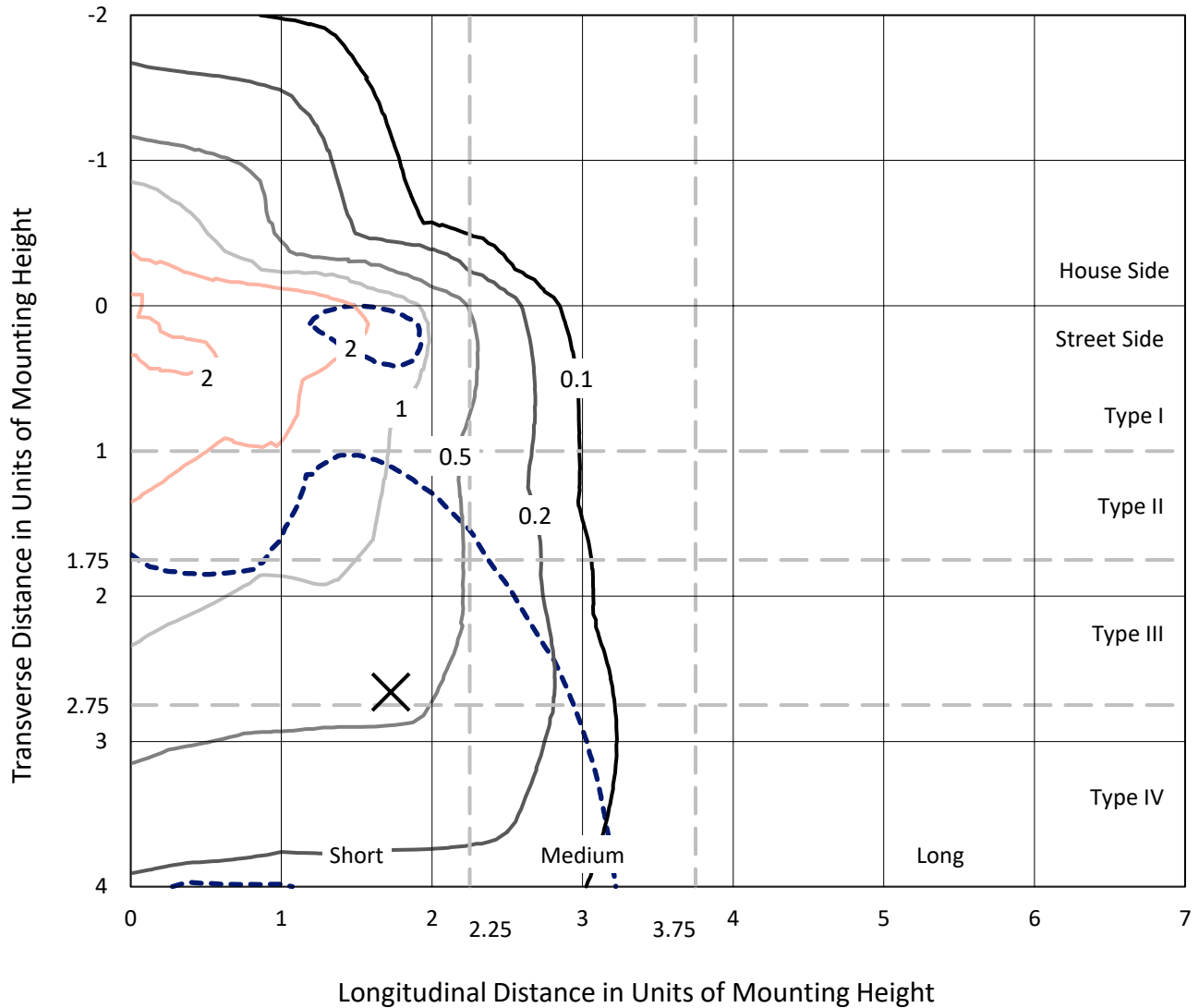
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

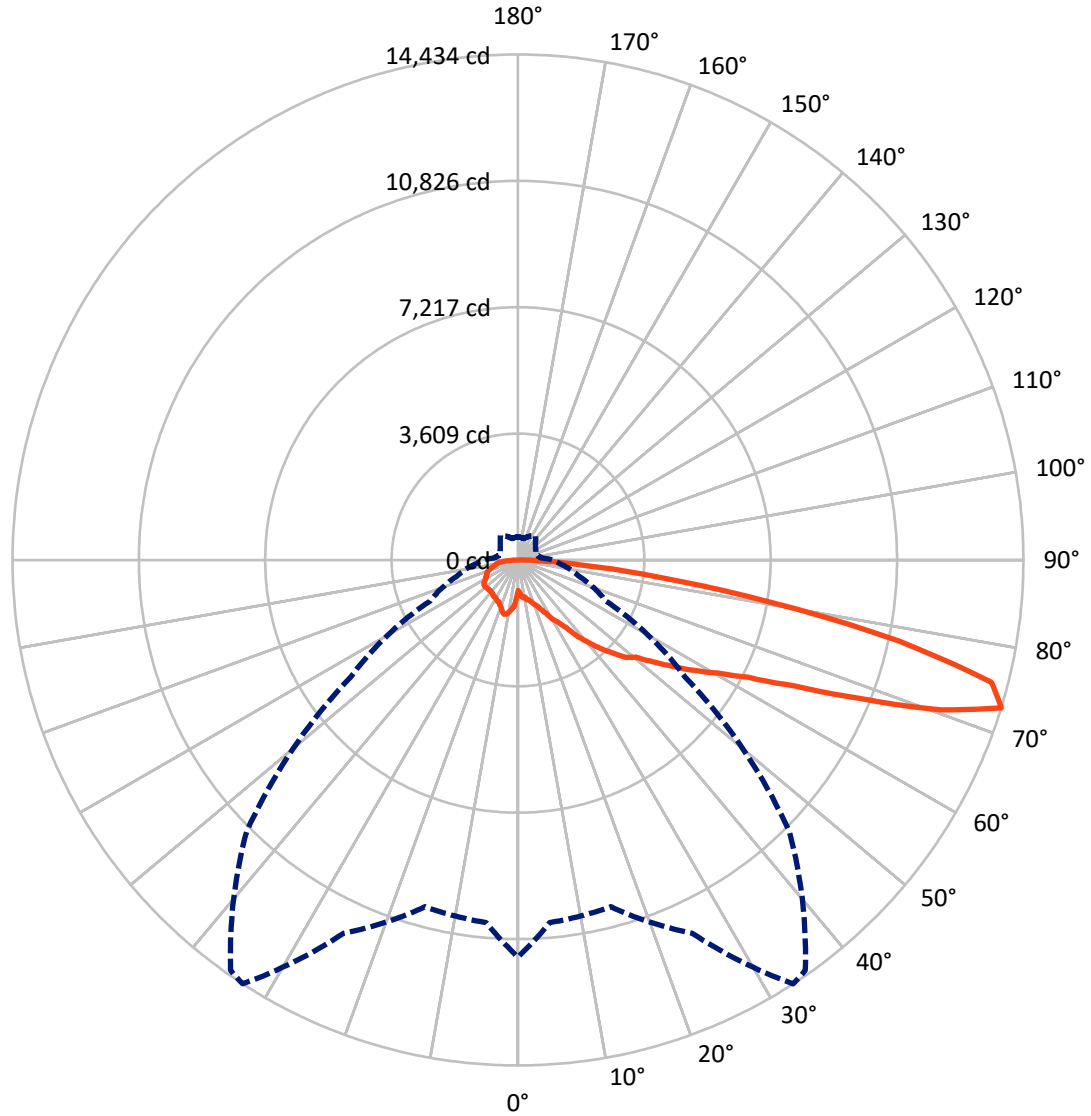
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.4 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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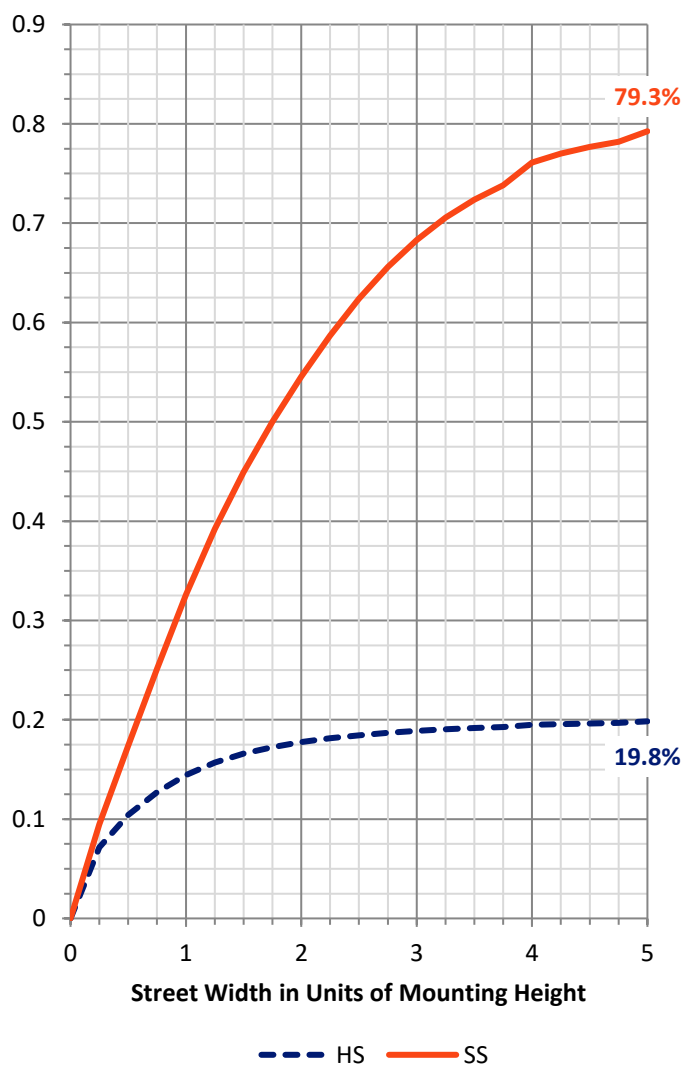
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3375.4	0.0	3375.4
	% Fixture	20.2	0.0	20.2
Street Side	Lumens	13309.7	0.0	13309.7
	% Fixture	79.8	0.0	79.8
Total	Lumens	16685.0	0.0	16685.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.3	0.7
10°-20°	444.6	2.7
20°-30°	810.7	4.9
30°-40°	1371.4	8.2
40°-50°	2281.6	13.7
50°-60°	3348.4	20.1
60°-70°	4283.4	25.7
70°-80°	3484.9	20.9
80°-90°	539.7	3.2
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°	16685.0	100.0
0°-180°	16685.0	100.0

Coefficient of Utilization

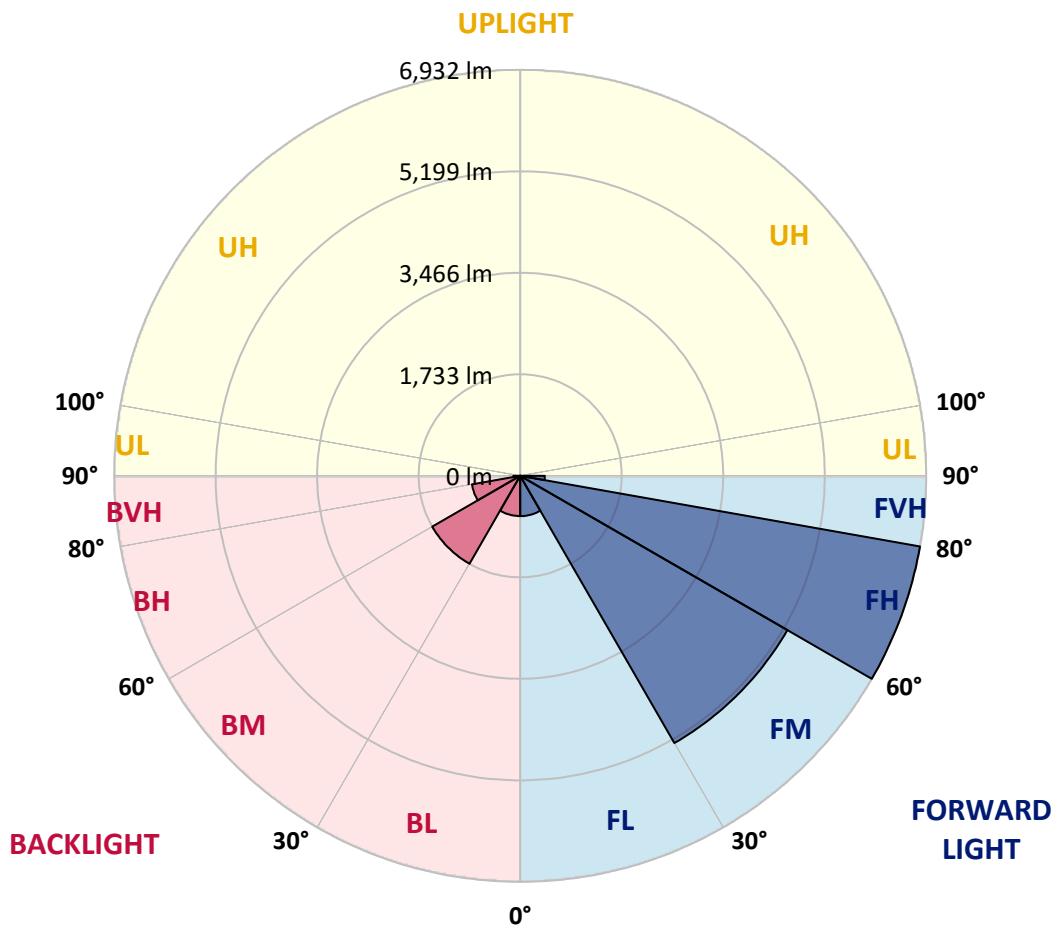


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	688.6	4.1			
FM (30°-60°)	5267.8	31.6			
FH (60°-80°)	6932.0	41.5			G3/7500
FVH (80°-90°)	421.3	2.5			G3/500
BL (0°-30°)	686.9	4.1	B2/1000		
BM (30°-60°)	1733.6	10.4	B2/2500		
BH (60°-80°)	836.4	5.0	B2/1000		G2/1000
BVH (80°-90°)	118.5	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	874.9	874.9	874.9	874.9	874.9	874.9	874.9	874.9	874.9	874.9	874.9
2.5°	991.9	960.7	909.5	908.1	936.5	942.7	961.4	962.8	969.7	958.6	1037.6
5°	1094.3	1061.1	1041.0	1047.9	1034.8	1050.7	1050.7	1096.4	1157.3	1227.9	1328.3
7.5°	1118.5	1094.3	1071.5	1088.8	1091.5	1076.3	1090.9	1198.1	1308.2	1378.8	1539.4
10°	1070.1	1045.9	1063.2	1068.7	1068.0	1102.6	1178.1	1263.9	1386.4	1516.5	1603.1
12.5°	1061.1	1078.4	1086.7	1096.4	1162.1	1172.5	1286.7	1375.3	1498.5	1612.7	1837.7
15°	1194.7	1217.5	1166.3	1162.8	1184.3	1194.0	1312.3	1401.6	1581.6	1773.3	1975.4
17.5°	1385.0	1393.3	1301.3	1254.2	1270.1	1277.7	1329.6	1441.8	1552.5	1906.9	2158.9
20°	1569.1	1574.7	1401.6	1296.4	1352.5	1360.8	1409.2	1473.6	1560.8	1981.7	2282.8
22.5°	1762.3	1727.0	1537.3	1404.4	1436.9	1439.0	1467.4	1502.7	1626.6	1969.9	2433.7
25°	1973.4	1951.2	1712.4	1585.1	1583.7	1555.3	1556.7	1607.2	1696.5	2095.9	2532.6
27.5°	2253.7	2256.5	1909.7	1841.2	1733.9	1715.2	1621.7	1715.9	1817.6	2097.3	2746.5
30°	2617.1	2549.9	2184.5	2073.7	1967.8	1928.4	1801.7	1882.0	1926.3	2217.0	2979.1
32.5°	2912.6	2893.2	2471.0	2303.5	2130.5	2176.2	2036.3	1965.7	2045.3	2423.3	3331.4
35°	3195.7	3132.0	2774.2	2556.2	2374.1	2346.4	2255.8	2267.5	2316.0	2684.2	3791.7
37.5°	3617.9	3583.3	3203.3	2854.5	2769.4	2656.5	2599.1	2635.8	2597.7	3018.5	4481.8
40°	4090.0	3889.3	3561.9	3251.1	3091.9	3012.3	3032.4	2997.8	2968.7	3393.7	5100.6
42.5°	4542.0	4359.3	3800.0	3660.2	3452.5	3485.7	3375.7	3399.9	3482.3	3926.0	5673.0
45°	5034.1	4638.9	4052.6	3929.4	3780.6	3822.8	3910.7	3884.4	4019.4	4553.8	6212.2
47.5°	5279.8	4904.0	4362.7	4162.0	4159.9	4072.0	4607.0	4665.2	4454.1	5018.9	6759.7
50°	5516.6	5146.9	4593.2	4457.5	4359.3	4547.5	5275.0	5141.4	4847.2	5552.5	7361.9
52.5°	5846.0	5424.5	4857.6	4713.0	4834.8	5009.2	5808.0	5781.7	5232.8	6101.4	7885.1
55°	6097.3	5671.6	5255.6	5121.3	5353.9	5524.9	6350.6	6192.1	5562.9	6504.3	8216.7
57.5°	6537.5	6100.7	5843.3	5544.9	5963.0	5960.2	6873.9	6751.4	5915.9	6835.1	8350.3
60°	7237.3	6724.4	6455.1	6111.1	6559.0	6718.8	7471.9	7118.9	6165.8	7044.2	8109.4
62.5°	8219.5	7610.4	7173.6	6833.1	7379.2	7668.5	8210.5	7386.8	6181.7	6984.6	7476.1
65°	9434.2	8693.6	8121.2	7761.2	8662.4	9075.7	9103.4	7552.2	6035.0	6369.3	6144.3
67.5°	10619.2	9786.5	9189.2	9257.7	10573.5	10769.4	10071.0	7690.6	5246.6	5114.4	4266.5
70°	11399.3	10496.7	10098.7	10825.5	12824.4	12623.7	10855.2	7325.9	4131.5	3315.5	2402.5
72.5°	11340.4	10395.6	10252.3	11757.1	14434.4	14309.1	10950.7	5826.0	2767.3	1812.8	1198.1
75°	9239.0	8504.6	8829.9	11130.0	13970.7	13964.4	9507.6	3606.2	1419.6	931.0	757.2
77.5°	5108.2	4823.0	5778.9	8427.1	11123.8	11180.5	6424.0	1635.6	765.5	659.6	570.3
80°	1789.2	1762.9	2504.3	4547.5	7317.6	7331.4	2987.4	748.2	556.5	499.1	418.8
82.5°	654.1	648.6	1038.2	2112.5	4029.1	4020.1	1133.1	465.8	412.5	353.0	276.2
85°	260.9	255.4	474.8	937.9	1850.8	1821.1	440.2	264.4	269.9	210.4	135.7
87.5°	72.0	74.8	161.3	293.5	566.9	525.4	110.7	89.3	109.4	85.8	42.9
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°	874.9	874.9	874.9	874.9	874.9	874.9	874.9	874.9	874.9	874.9	874.9
2.5°	1051.4	1058.3	989.8	1014.0	1045.2	1061.8	1070.1	1034.8	1046.6	1096.4	1094.3
5°	1349.0	1321.3	1295.0	1322.0	1304.0	1278.4	1320.0	1317.9	1344.9	1371.9	1378.1
7.5°	1571.2	1535.2	1522.8	1461.9	1400.9	1339.3	1392.6	1425.9	1432.8	1499.9	1528.3
10°	1651.5	1637.7	1642.5	1562.2	1554.6	1560.8	1511.7	1458.4	1490.9	1463.2	1484.0
12.5°	1837.0	1871.6	1785.8	1731.1	1726.3	1688.2	1589.9	1555.3	1518.6	1556.7	1537.3
15°	1985.8	2050.2	1958.1	1861.9	1753.3	1694.4	1610.7	1558.1	1533.8	1542.1	1518.6
17.5°	2203.9	2264.1	2030.1	1882.7	1770.6	1684.0	1556.0	1443.9	1503.4	1508.2	1481.2
20°	2348.5	2352.7	2054.3	1831.5	1730.4	1580.2	1455.6	1357.3	1425.9	1495.8	1526.2
22.5°	2489.7	2458.6	2084.1	1790.6	1584.4	1439.0	1378.1	1371.9	1423.1	1481.9	1488.8
25°	2595.6	2600.5	2101.4	1775.4	1498.5	1300.6	1300.6	1345.6	1390.6	1530.4	1523.5
27.5°	2852.4	2663.5	2034.3	1705.5	1379.5	1219.6	1301.3	1361.5	1382.9	1534.5	1549.8
30°	3039.3	2916.1	2048.1	1585.7	1259.0	1181.5	1248.7	1324.1	1383.6	1558.8	1553.2
32.5°	3352.8	3021.3	2080.6	1417.6	1169.1	1167.0	1226.5	1306.1	1377.4	1532.5	1540.8
35°	3699.6	3331.4	1990.0	1289.5	1147.6	1158.7	1235.5	1267.4	1351.1	1522.1	1529.7
37.5°	4341.3	3493.4	1932.5	1190.5	1133.8	1165.6	1194.7	1243.8	1328.3	1470.2	1520.0
40°	4717.8	3827.0	1719.3	1133.1	1104.7	1160.1	1174.6	1216.1	1261.8	1407.9	1439.7
42.5°	5213.4	3932.2	1537.3	1069.4	1090.2	1137.2	1180.8	1191.2	1221.7	1309.6	1367.7
45°	5626.6	4011.1	1344.2	1018.2	1041.0	1187.8	1190.5	1185.7	1180.1	1212.7	1260.4
47.5°	6054.4	4222.9	1166.3	961.4	1022.3	1229.3	1195.4	1151.1	1128.2	1132.4	1176.7
50°	6526.4	4376.6	1040.3	915.0	1026.5	1229.3	1218.9	1115.8	1070.1	1058.3	1104.7
52.5°	6941.7	4394.6	944.8	877.7	1009.2	1187.1	1234.8	1093.6	1016.8	988.4	1032.0
55°	7168.1	4166.8	875.6	843.7	964.9	1149.0	1226.5	1081.2	952.4	931.0	969.7
57.5°	7163.2	3788.9	816.8	796.7	914.3	1095.7	1180.1	1013.3	913.0	900.5	938.6
60°	6905.0	3345.9	771.8	757.9	862.4	1018.2	1097.1	969.0	874.9	868.7	910.2
62.5°	6319.5	2888.4	728.2	717.1	814.0	963.5	1057.6	919.9	835.4	834.8	874.2
65°	5175.3	2318.8	687.3	684.6	769.0	909.5	1020.3	878.4	794.6	808.4	848.6
67.5°	3566.0	1629.4	643.7	652.0	727.5	857.6	991.9	850.7	751.7	780.1	816.1
70°	1956.8	1007.8	595.3	611.9	674.9	797.4	947.6	805.7	695.6	739.2	764.2
72.5°	995.3	672.1	535.0	561.3	610.5	708.8	864.5	740.6	635.4	652.0	665.2
75°	668.6	506.0	467.9	497.0	532.3	624.3	766.9	679.7	578.0	575.9	590.4
77.5°	505.3	395.2	397.3	430.5	453.4	548.9	689.4	628.5	529.5	524.7	546.1
80°	369.6	299.7	319.8	354.4	375.2	492.8	638.9	571.7	463.8	444.4	462.4
82.5°	245.0	212.5	236.7	271.3	287.9	411.8	580.0	485.2	377.9	328.8	331.5
85°	115.6	111.4	141.2	157.8	179.3	255.4	434.0	335.7	240.9	199.3	208.3
87.5°	26.3	35.3	46.4	45.7	53.3	68.5	135.0	94.1	69.9	47.8	31.8
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)